Additional Information

Question 1

CDM Documents

USEPA SF
1447320

WASTE MANAGEMENT

CHEMICAL WASTE MANAGEMENT OF THE NW
17629 Cedar Springs Lane
Arlington, OR 97812
(541) 454-2643
(541) 454-3279 Fax

October 15, 2008

Lockheed Martin Corp
3313 W 2nd St
The Dalles OR 97058

This letter is to inform your office of the following errors or omissions identified on the manifest, land disposal certification, or other applicable manifest attachment which accompanied your waste shipment on:

Manifest Number:	**001777080FLE**	***Profile Number:***	**OR300466**
Shipment Date:	**10/8/08**	***CWMNW Load No.:***	**398992**
Error:		***Omission:***	**X**
Description:	**Section 5 is missing the generator's phone number.**		

This information has been corrected/added to our records. Please attach this letter to your original manifest as an addendum.

Becky Sumner
Chemical Waste Management of the Northwest, Inc.

21 340443 VP

Please print or type. (Form designed for use on elite (12-pitch) typewriter.) GW2088031-004 SC PPW 10/6/2008 Form Approved. OMB No. 2050-0039

UNIFORM HAZARDOUS WASTE MANIFEST

1. Generator ID Number: ORD052221025
2. Page 1 of: 1
3. Emergency Response Phone: (800) 483-3718
4. Manifest Tracking Number: 001777081 FLE

5. Generator's Name and Mailing Address:
Lockheed Martin Corporation
2950 North Hollywood Way, Suite 125
Burbank, CA 91505
Generator's Phone:

Generator's Site Address (if different than mailing address):
3313 West Second Street
The Dalles, OR 97058

6. Transporter 1 Company Name: Enviro Con Trucking Inc.
U.S. EPA ID Number: WAD988516829

7. Transporter 2 Company Name:
U.S. EPA ID Number:

8. Designated Facility Name and Site Address:
Chemical Waste Management
17629 Cedar Springs Lane
Arlington, OR 97812
Facility's Phone: (541) 454-2030
U.S. EPA ID Number: ORD089452353

9a. HM	9b. U.S. DOT Description (including Proper Shipping Name, Hazard Class, ID Number, and Packing Group (if any))	10. Containers No.	10. Containers Type	11. Total Quantity	12. Unit Wt./Vol.	13. Waste Codes
X	1. RQ, NA3077, HAZARDOUS WASTE, SOLID, N.O.S., (K088), 9, PG III (K088)	1	DT	32	T	K088
	2.					
	3.					
	4.					

14. Special Handling Instructions and Additional Information
1. DSOR300466 ERG#171

U3, 63900P, 31.95T

15. GENERATOR'S/OFFEROR'S CERTIFICATION: I hereby declare that the contents of this consignment are fully and accurately described above by the proper shipping name, and are classified, packaged, marked and labeled/placarded, and are in all respects in proper condition for transport according to applicable international and national governmental regulations. If export shipment and I am the Primary Exporter, I certify that the contents of this consignment conform to the terms of the attached EPA Acknowledgment of Consent.
I certify that the waste minimization statement identified in 40 CFR 262.27(a) (if I am a large quantity generator) or (b) (if I am a small quantity generator) is true.

Generator's/Offeror's Printed/Typed Name: William Bath
Signature: William Bath
Month 10 Day 08 Year 08

16. International Shipments ☐ Import to U.S. ☐ Export from U.S. Port of entry/exit:
Transporter signature (for exports only): Date leaving U.S.:

17. Transporter Acknowledgment of Receipt of Materials
Transporter 1 Printed/Typed Name: Richard Raines
Signature: R Raines
Month 10 Day 14 Year 08
Transporter 2 Printed/Typed Name:
Signature:
Month Day Year

18. Discrepancy
18a. Discrepancy Indication Space ☐ Quantity ☐ Type ☐ Residue ☐ Partial Rejection ☐ Full Rejection
Manifest Reference Number:

18b. Alternate Facility (or Generator)
U.S. EPA ID Number
Facility's Phone:

18c. Signature of Alternate Facility (or Generator)
Month Day Year

19. Hazardous Waste Report Management Method Codes (i.e., codes for hazardous waste treatment, disposal, and recycling systems)
1. H132 2. 3. 4.

20. Designated Facility Owner or Operator: Certification of receipt of hazardous materials covered by the manifest except as noted in Item 18a
Printed/Typed Name: Franco Gabbey
Signature: Franco Gabbey
Month 10 Day 14 Year 08

GENERATOR / INT'L / TRANSPORTER / DESIGNATED FACILITY

EPA Form 8700-22 (Rev. 3-05). Previous editions are obsolete. DESIGNATED FACILITY TO GENERATOR

To environmental protection, Think Green! Think W

Clean Harbors has the appropriate permits for and will accept the ...

AMS

WASTE MANAGEMENT

CHEMICAL WASTE MANAGEMENT OF THE NW
17629 Cedar Springs Lane
Arlington, OR 97812
(541) 454-2643
(541) 454-3279 Fax

October 15, 2008

Lockheed Martin Corp
3313 W 2nd St
The Dalles OR 97058

This letter is to inform your office of the following errors or omissions identified on the manifest, land disposal certification, or other applicable manifest attachment which accompanied your waste shipment on:

Manifest Number:	**001777081FLE**	***Profile Number:***	**OR300466**
Shipment Date:	**10/8/08**	***CWMNW Load No.:***	**398993**
Error:		***Omission:***	**X**
Description:	**Section 5 is missing the generator's phone number.**		

This information has been corrected/added to our records. Please attach this letter to your original manifest as an addendum.

Becky Sumner

Chemical Waste Management of the Northwest, Inc.

340944

GW2088031-004 SC PPW 10/6/2008

Please print or type. (Form designed for use on elite (12-pitch) typewriter.)

Form Approved. OMB No. 2050-0039

UNIFORM HAZARDOUS WASTE MANIFEST

1. Generator ID Number: ORD052221025
2. Page 1 of 1
3. Emergency Response Phone: (800)483-3718
4. Manifest Tracking Number: 001777082 FLE

5. Generator's Name and Mailing Address
Lockheed Martin Corporation
2950 North Hollywood Way, Suite 125
Burbank, CA 91505
Generator's Phone:

Generator's Site Address (if different than mailing address)
3313 West Second Street
The Dalles, OR 97058

6. Transporter 1 Company Name: Enviro Con Trucking Inc
U.S. EPA ID Number: WAD988516829

7. Transporter 2 Company Name:
U.S. EPA ID Number:

8. Designated Facility Name and Site Address
Chemical Waste Management
17629 Cedar Springs Lane
Arlington, OR 97812
Facility's Phone: (541) 454-2030
U.S. EPA ID Number: ORD089452353

9a. HM	9b. U.S. DOT Description (including Proper Shipping Name, Hazard Class, ID Number, and Packing Group (if any))	10. Containers No.	10. Containers Type	11. Total Quantity	12. Unit Wt./Vol.	13. Waste Codes
X	1. RQ, NA3077, HAZARDOUS WASTE, SOLID, N.O.S. (K088), 9, PG III (K088)	1	DT	3200 ~~3275~~	T	K088
	2.					
	3.					
	4.					

14. Special Handling Instructions and Additional Information
1. DSOR300466 ERG#171

10/14/08 ~~L14~~ L13, 67400P, 33.70T

15. GENERATOR'S/OFFEROR'S CERTIFICATION: I hereby declare that the contents of this consignment are fully and accurately described above by the proper shipping name, and are classified, packaged, marked and labeled/placarded, and are in all respects in proper condition for transport according to applicable international and national governmental regulations. If export shipment and I am the Primary Exporter, I certify that the contents of this consignment conform to the terms of the attached EPA Acknowledgment of Consent.
I certify that the waste minimization statement identified in 40 CFR 262.27(a) (if I am a large quantity generator) or (b) (if I am a small quantity generator) is true.

Generator's/Offeror's Printed/Typed Name: William Bath
Signature: William Bath
Month Day Year: 10 08 08

16. International Shipments ☐ Import to U.S. ☐ Export from U.S. Port of entry/exit:
Transporter signature (for exports only): Date leaving U.S.:

17. Transporter Acknowledgment of Receipt of Materials
Transporter 1 Printed/Typed Name: Les Short
Signature:
Month Day Year: 10 14 08
Transporter 2 Printed/Typed Name:
Signature:
Month Day Year:

18. Discrepancy
18a. Discrepancy Indication Space ☒ Quantity ☐ Type ☐ Residue ☐ Partial Rejection ☐ Full Rejection
Driver changed Total Qty 10/15/08
Manifest Reference Number:
18b. Alternate Facility (or Generator)
U.S. EPA ID Number
Facility's Phone:
18c. Signature of Alternate Facility (or Generator)
Month Day Year

19. Hazardous Waste Report Management Method Codes (i.e., codes for hazardous waste treatment, disposal, and recycling systems)
1. H132
2.
3.
4.

20. Designated Facility Owner or Operator: Certification of receipt of hazardous materials covered by the manifest except as noted in Item 18a
Printed/Typed Name: Janice Strand
Signature:
Month Day Year: 10 14 08

GENERATOR / INT'L / TRANSPORTER / DESIGNATED FACILITY

EPA Form 8700-22 (Rev. 3-05) Previous editions are obsolete.

DESIGNATED FACILITY TO GENERATOR

WASTE MANAGEMENT

CHEMICAL WASTE MANAGEMENT OF THE NW
17629 Cedar Springs Lane
Arlington, OR 97812
(541) 454-2643
(541) 454-3279 Fax

October 20, 2008

Lockheed Martin Corp
3313 W 2nd St
The Dalles OR 97058

This letter is to inform your office of the following errors or omissions identified on the manifest, land disposal certification, or other applicable manifest attachment which accompanied your waste shipment on:

Manifest Number:	001777082FLE	*Profile Number:*	OR300466
Shipment Date:	10/8/08	*CWMNW Load No.:*	398994
Error:		*Omission:*	X
Description:	Section 5 is missing the generator's phone number.		

This information has been corrected/added to our records. Please attach this letter to your original manifest as an addendum.

Becky Sumner

Chemical Waste Management of the Northwest, Inc.

G3 394095 VP

Please print or type. (Form designed for use on elite (12-pitch) typewriter.) GW2088031-004 SC PPW 10/6/2008 Form Approved. OMB No. 2050-0039

UNIFORM HAZARDOUS WASTE MANIFEST

1. Generator ID Number: ORD052221025
2. Page 1 of: 1
3. Emergency Response Phone: (800) 483-3718
4. Manifest Tracking Number: 002220539 FLE

5. Generator's Name and Mailing Address
Lockheed Martin Corporation
2950 North Hollywood Way, Suite 125
Burbank, CA 91505
Generator's Phone:

Generator's Site Address (if different than mailing address)
3313 West Second Street
The Dalles, OR 97058

6. Transporter 1 Company Name: Emerson Trucking ~~Clean Harbors Environmental Services Inc.~~ CCH 10-22-08
U.S. EPA ID Number: WAD988516829 ~~MAD039322250~~

7. Transporter 2 Company Name: Dir Ray Mohoff / Environ.
U.S. EPA ID Number:

8. Designated Facility Name and Site Address
Chemical Waste Management
17629 Cedar Springs Lane
Arlington, OR 97812
Facility's Phone: (541) 454-2030
U.S. EPA ID Number: ORD089452353

9a. HM	9b. U.S. DOT Description (including Proper Shipping Name, Hazard Class, ID Number, and Packing Group (if any))	10. Containers No.	10. Containers Type	11. Total Quantity	12. Unit Wt./Vol.	13. Waste Codes
X	1. RQ, NA3077, HAZARDOUS WASTE, SOLID, N.O.S., (K088), 9, PG III (RQ=10LBS)	1	DT	32	T	K008
	2.					
	3.					
	4.					

14. Special Handling Instructions and Additional Information
1.DSOR300466 ERG#171

L14, 64050P, 32.03T

15. GENERATOR'S/OFFEROR'S CERTIFICATION: I hereby declare that the contents of this consignment are fully and accurately described above by the proper shipping name, and are classified, packaged, marked and labeled/placarded, and are in all respects in proper condition for transport according to applicable international and national governmental regulations. If export shipment and I am the Primary Exporter, I certify that the contents of this consignment conform to the terms of the attached EPA Acknowledgment of Consent.
I certify that the waste minimization statement identified in 40 CFR 262.27(a) (if I am a large quantity generator) or (b) (if I am a small quantity generator) is true.

Generator's/Offeror's Printed/Typed Name: William Bath
Signature: William Bath
Month 10 Day 14 Year 08

16. International Shipments ☐ Import to U.S. ☐ Export from U.S. Port of entry/exit:
Transporter signature (for exports only): Date leaving U.S.:

17. Transporter Acknowledgment of Receipt of Materials
Transporter 1 Printed/Typed Name: GLEN GILMORE
Signature: Glen G Gilmore
Month 10 Day 16 Year 08
Transporter 2 Printed/Typed Name:
Signature:
Month Day Year

18. Discrepancy
18a. Discrepancy Indication Space ☐ Quantity ☐ Type ☐ Residue ☐ Partial Rejection ☐ Full Rejection
Manifest Reference Number:
18b. Alternate Facility (or Generator)
U.S. EPA ID Number
Facility's Phone:
18c. Signature of Alternate Facility (or Generator)
Month Day Year

19. Hazardous Waste Report Management Method Codes (i.e., codes for hazardous waste treatment, disposal, and recycling systems)
1. H132 2. 3. 4.

20. Designated Facility Owner or Operator: Certification of receipt of hazardous materials covered by the manifest except as noted in Item 18a
Printed/Typed Name: Janice Strand
Signature: [signature]
Month 10 Day 16 Year 08

GENERATOR / INT'L / TRANSPORTER / DESIGNATED FACILITY

EPA Form 8700-22 (Rev. 3-05) Previous editions are obsolete.
Clean Harbors has the appropriate permits for and will accept the waste the generator is shipping.
DESIGNATED FACILITY TO GENERATOR

AMS

WASTE MANAGEMENT

CHEMICAL WASTE MANAGEMENT OF THE NW
17629 Cedar Springs Lane
Arlington, OR 97812
(541) 454-2643
(541) 454-3279 Fax

October 20, 2008

Lockheed Martin Corp
3313 W 2nd St
The Dalles OR 97058

This letter is to inform your office of the following errors or omissions identified on the manifest, land disposal certification, or other applicable manifest attachment which accompanied your waste shipment on:

Manifest Number:	**002220539FLE**	***Profile Number:***	**OR300466**
Shipment Date:	**10/14/08**	***CWMNW Load No.:***	**399095**
Error:		***Omission:***	**X**
Description:	**Section 5 is missing the generator's phone number.**		

This information has been corrected/added to our records. Please attach this letter to your original manifest as an addendum.

Becky Sumner

Chemical Waste Management of the Northwest, Inc.

569 344041

GW2088031-004 SC PPW 10/6/2008

Please print or type. (Form designed for use on elite (12-pitch) typewriter.)

Form Approved. OMB No. 2050-0039

UNIFORM HAZARDOUS WASTE MANIFEST

1. Generator ID Number: ORD052221025
2. Page 1 of: 1
3. Emergency Response Phone: (800) 483-3718
4. Manifest Tracking Number: 002220550 FLE

5. Generator's Name and Mailing Address:
Lockheed Martin Corporation
2950 North Hollywood Way, Suite 125
Burbank, CA 91505
Generator's Phone:

Generator's Site Address (if different than mailing address):
3313 West Second Street
The Dalles, OR 97058

6. Transporter 1 Company Name: ~~Clean Harbors Environmental Services Inc~~ Environcon Trucking CCH 10-22-08
U.S. EPA ID Number: ~~MAD039322250~~ WAD988511 829

7. Transporter 2 Company Name: Per Ray Mohoff / Environcon
U.S. EPA ID Number:

8. Designated Facility Name and Site Address:
Chemical Waste Management
17629 Cedar Springs Lane
Arlington, OR 97812
Facility's Phone: (541) 454-2030
U.S. EPA ID Number: ORD089452353

9a. HM	9b. U.S. DOT Description (including Proper Shipping Name, Hazard Class, ID Number, and Packing Group (if any))	10. Containers No.	10. Containers Type	11. Total Quantity	12. Unit Wt./Vol.	13. Waste Codes
X	1. RQ, NA3077, HAZARDOUS WASTE, SOLID, N.O.S., (K088), 9, PG III (RQ=10LBS)	1	DT	32	T	K008
	2.			~~32 tons~~		
	3.					
	4.					

14. Special Handling Instructions and Additional Information
1.DSOR300466 ERG#171 L14 67500P 33.75T.

15. GENERATOR'S/OFFEROR'S CERTIFICATION: I hereby declare that the contents of this consignment are fully and accurately described above by the proper shipping name, and are classified, packaged, marked and labeled/placarded, and are in all respects in proper condition for transport according to applicable international and national governmental regulations. If export shipment and I am the Primary Exporter, I certify that the contents of this consignment conform to the terms of the attached EPA Acknowledgment of Consent.
I certify that the waste minimization statement identified in 40 CFR 262.27(a) (if I am a large quantity generator) or (b) (if I am a small quantity generator) is true.

Generator's/Offeror's Printed/Typed Name: William Bath
Signature: William Bath
Month 10 Day 14 Year 08

16. International Shipments ☐ Import to U.S. ☐ Export from U.S. Port of entry/exit:
Transporter signature (for exports only): Date leaving U.S.:

17. Transporter Acknowledgment of Receipt of Materials
Transporter 1 Printed/Typed Name: Steve Brewer
Signature: Steve Brewer
Month 10 Day 16 Year 08
Transporter 2 Printed/Typed Name:
Signature:
Month Day Year

18. Discrepancy
18a. Discrepancy Indication Space ☐ Quantity ☐ Type ☐ Residue ☐ Partial Rejection ☐ Full Rejection
Manifest Reference Number:
18b. Alternate Facility (or Generator)
U.S. EPA ID Number
Facility's Phone:
18c. Signature of Alternate Facility (or Generator)
Month Day Year

19. Hazardous Waste Report Management Method Codes (i.e., codes for hazardous waste treatment, disposal, and recycling systems)
1. H132 2. 3. 4.

20. Designated Facility Owner or Operator: Certification of receipt of hazardous materials covered by the manifest except as noted in Item 18a
Printed/Typed Name: Janice Strand
Signature: Janice Strand
Month 10 Day 16 Year 08

GENERATOR / INT'L / TRANSPORTER / DESIGNATED FACILITY

EPA Form 8700-22 (Rev. 3-05) Previous editions are obsolete.

DESIGNATED FACILITY TO GENERATOR

Clean Harbors has the appropriate permits for and will accept the waste the generator is shipping

AMS

WASTE MANAGEMENT

CHEMICAL WASTE MANAGEMENT OF THE NW
17629 Cedar Springs Lane
Arlington, OR 97812
(541) 454-2643
(541) 454-3279 Fax

October 20, 2008

Lockheed Martin Corp
3313 W 2nd St
The Dalles OR 97058

This letter is to inform your office of the following errors or omissions identified on the manifest, land disposal certification, or other applicable manifest attachment which accompanied your waste shipment on:

Manifest Number:	**002220550FLE**	***Profile Number:***	**OR300466**
Shipment Date:	**10/14/08**	***CWMNW Load No.:***	**399097**
Error:		***Omission:***	**X**
Description:	**Section 5 is missing the generator's phone number.**		

This information has been corrected/added to our records. Please attach this letter to your original manifest as an addendum.

Becky Sumner

Chemical Waste Management of the Northwest, Inc.

669 394046

Please print or type. (Form designed for use on elite (12-pitch) typewriter.) GW2088031-004 SC PPW 10/6/2008 Form Approved. OMB No. 2050-0039

UNIFORM HAZARDOUS WASTE MANIFEST

1. Generator ID Number: ORD052221025
2. Page 1 of: 1
3. Emergency Response Phone: (800) 483-3718
4. Manifest Tracking Number: 002220551 FLE

5. Generator's Name and Mailing Address
Lockheed Martin Corporation
2950 North Hollywood Way, Suite 125
Burbank, CA 91505
Generator's Phone:

Generator's Site Address (if different than mailing address)
3313 West Second Street
The Dalles, OR 97058

6. Transporter 1 Company Name: Envirocon Tracking CCH 10-22-08 ~~Clean Harbors Environmental Services Inc~~
U.S. EPA ID Number: WAD988516829 ~~MAD039322260~~

7. Transporter 2 Company Name: Per Kay Michelt / Envirocon.
U.S. EPA ID Number:

8. Designated Facility Name and Site Address
Chemical Waste Management
17629 Cedar Springs Lane
Arlington, OR 97812
Facility's Phone: (541) 454-2030
U.S. EPA ID Number: ORD089452353

9a. HM	9b. U.S. DOT Description (including Proper Shipping Name, Hazard Class, ID Number, and Packing Group (if any))	10. Containers No.	10. Containers Type	11. Total Quantity	12. Unit Wt./Vol.	13. Waste Codes
X	1. RQ, NA3077, HAZARDOUS WASTE, SOLID, N.O.S., (K088), 9, PG III (RQ=10LBS)	1	DT	33	T	K008
	2.					
	3.					
	4.					

14. Special Handling Instructions and Additional Information
1. DSOR300466 ERG#171

U4, 65500P, 32.75T

15. GENERATOR'S/OFFEROR'S CERTIFICATION: I hereby declare that the contents of this consignment are fully and accurately described above by the proper shipping name, and are classified, packaged, marked and labeled/placarded, and are in all respects in proper condition for transport according to applicable international and national governmental regulations. If export shipment and I am the Primary Exporter, I certify that the contents of this consignment conform to the terms of the attached EPA Acknowledgment of Consent.
I certify that the waste minimization statement identified in 40 CFR 262.27(a) (if I am a large quantity generator) or (b) (if I am a small quantity generator) is true.

Generator's/Offeror's Printed/Typed Name: William Bath
Signature: William Bath
Month 10 Day 14 Year 08

16. International Shipments ☐ Import to U.S. ☐ Export from U.S. Port of entry/exit:
Transporter signature (for exports only): Date leaving U.S.:

17. Transporter Acknowledgment of Receipt of Materials
Transporter 1 Printed/Typed Name: TYE LCC
Signature: [signature]
Month 10 Day 16 Year 08
Transporter 2 Printed/Typed Name:
Signature:
Month Day Year

18. Discrepancy
18a. Discrepancy Indication Space ☐ Quantity ☐ Type ☐ Residue ☐ Partial Rejection ☐ Full Rejection
Manifest Reference Number:
18b. Alternate Facility (or Generator)
U.S. EPA ID Number
Facility's Phone:
18c. Signature of Alternate Facility (or Generator)
Month Day Year

19. Hazardous Waste Report Management Method Codes (i.e., codes for hazardous waste treatment, disposal, and recycling systems)
1. H132 2. 3. 4.

20. Designated Facility Owner or Operator: Certification of receipt of hazardous materials covered by the manifest except as noted in Item 18a
Printed/Typed Name: Janice Strand
Signature: [signature]
Month 10 Day 16 Year 08

GENERATOR / INT'L / TRANSPORTER / DESIGNATED FACILITY

EPA Form 8700-22 (Rev. 3-05) Previous editions are obsolete.

DESIGNATED FACILITY TO GENERATOR

Clean Harbors has the appropriate permits for and will accept the ...

AMS

WASTE MANAGEMENT

CHEMICAL WASTE MANAGEMENT OF THE NW
17629 Cedar Springs Lane
Arlington, OR 97812
(541) 454-2643
(541) 454-3279 Fax

October 20, 2008

Lockheed Martin Corp
3313 W 2nd St
The Dalles OR 97058

This letter is to inform your office of the following errors or omissions identified on the manifest, land disposal certification, or other applicable manifest attachment which accompanied your waste shipment on:

Manifest Number:	**002220551FLE**	***Profile Number:***	**OR300466**
Shipment Date:	**10/14/08**	***CWMNW Load No.:***	**399096**
Error:		***Omission:***	**X**
Description:	**Section 5 is missing the generator's phone number.**		

This information has been corrected/added to our records. Please attach this letter to your original manifest as an addendum.

Becky Sumner

Chemical Waste Management of the Northwest, Inc.

26 399698 14

Please print or type. (Form designed for use on elite (12-pitch) typewriter.) GW2088031-004 SC PPW 10/6/2008 Form Approved. OMB No. 2050-0039

UNIFORM HAZARDOUS WASTE MANIFEST

1. Generator ID Number: ORD052221025
2. Page 1 of 1
3. Emergency Response Phone: (800) 483-3718
4. Manifest Tracking Number: 002220552 FLE

5. Generator's Name and Mailing Address
Lockheed Martin Corporation
2950 North Hollywood Way, Suite 125
Burbank, CA 91505
Generator's Phone:

Generator's Site Address (if different than mailing address)
3313 West Second Street
The Dalles, OR 97058

6. Transporter 1 Company Name: Environcon Tracking
~~Clean Harbors Environmental Services Inc~~ CCH 10-22-08
U.S. EPA ID Number: WAD988516227 ~~MAD039822250~~

7. Transporter 2 Company Name: Mr Ray Mahoff / Environcon
U.S. EPA ID Number:

8. Designated Facility Name and Site Address
Chemical Waste Management
17629 Cedar Springs Lane
Arlington, OR 97812
(541) 454-2030
Facility's Phone:
U.S. EPA ID Number: ORD089452353

9a. HM	9b. U.S. DOT Description (including Proper Shipping Name, Hazard Class, ID Number, and Packing Group (if any))	10. Containers No.	10. Containers Type	11. Total Quantity	12. Unit Wt./Vol.	13. Waste Codes
X	1. RQ, NA3077, HAZARDOUS WASTE, SOLID, N.O.S., (K088), 9, PG III (RQ=10LBS)	1	DT	32	T	K008
	2.					
	3.					
	4.					

14. Special Handling Instructions and Additional Information
1. DSOR300466 ERG#171
L14 ~~103950P~~ 3143T
62850 P.
RMS 10-20-08

15. **GENERATOR'S/OFFEROR'S CERTIFICATION:** I hereby declare that the contents of this consignment are fully and accurately described above by the proper shipping name, and are classified, packaged, marked and labeled/placarded, and are in all respects in proper condition for transport according to applicable international and national governmental regulations. If export shipment and I am the Primary Exporter, I certify that the contents of this consignment conform to the terms of the attached EPA Acknowledgment of Consent.
I certify that the waste minimization statement identified in 40 CFR 262.27(a) (if I am a large quantity generator) or (b) (if I am a small quantity generator) is true.

Generator's/Offeror's Printed/Typed Name: William Bath
Signature: William Bath
Month 10 Day 14 Year 08

16. International Shipments ☐ Import to U.S. ☐ Export from U.S. Port of entry/exit:
Transporter signature (for exports only): Date leaving U.S.:

17. Transporter Acknowledgment of Receipt of Materials
Transporter 1 Printed/Typed Name: Rick DeRemer
Signature: R DeRemer
Month 10 Day 16 Year 08
Transporter 2 Printed/Typed Name:
Signature:
Month Day Year

18. Discrepancy
18a. Discrepancy Indication Space ☐ Quantity ☐ Type ☐ Residue ☐ Partial Rejection ☐ Full Rejection
Manifest Reference Number:
18b. Alternate Facility (or Generator) U.S. EPA ID Number
Facility's Phone:
18c. Signature of Alternate Facility (or Generator) Month Day Year

19. Hazardous Waste Report Management Method Codes (i.e., codes for hazardous waste treatment, disposal, and recycling systems)
1. H132 2. 3. 4.

20. Designated Facility Owner or Operator: Certification of receipt of hazardous materials covered by the manifest except as noted in Item 18a
Printed/Typed Name: Janice Strand
Signature: Janice Strand
Month 10 Day 16 Year 08

GENERATOR — INT'L — TRANSPORTER — DESIGNATED FACILITY

EPA Form 8700-22 (Rev. 3-05) Previous editions are obsolete.

DESIGNATED FACILITY TO GENERATOR

RMS

WASTE MANAGEMENT

CHEMICAL WASTE MANAGEMENT OF THE NW
17629 Cedar Springs Lane
Arlington, OR 97812
(541) 454-2643
(541) 454-3279 Fax

October 20, 2008

Lockheed Martin Corp
3313 W 2nd St
The Dalles OR 97058

This letter is to inform your office of the following errors or omissions identified on the manifest, land disposal certification, or other applicable manifest attachment which accompanied your waste shipment on:

Manifest Number:	**002220552FLE**	***Profile Number:***	**OR300466**
Shipment Date:	**10/14/08**	***CWMNW Load No.:***	**399098**
Error:		***Omission:***	**X**
Description:	**Section 5 is missing the generator's phone number.**		

This information has been corrected/added to our records. Please attach this letter to your original manifest as an addendum.

Becky Sumner

Chemical Waste Management of the Northwest, Inc.

ID 344114 V4

Please print or type. (Form designed for use on elite (12-pitch) typewriter.) GW2088031-004 SC PPW 10/6/2008 Form Approved. OMB No. 2050-0039

UNIFORM HAZARDOUS WASTE MANIFEST

1. Generator ID Number: ORD052221025
2. Page 1 of 1
3. Emergency Response Phone: (800) 483-3718
4. Manifest Tracking Number: 002220553 FLE

5. Generator's Name and Mailing Address
Lockheed Martin Corporation
2950 North Hollywood Way, Suite 125
Burbank, CA 91505
Generator's Phone:

Generator's Site Address (if different than mailing address)
3313 West Second Street
The Dalles, OR 97058

6. Transporter 1 Company Name: Envirocon Trucking
~~Clean Harbors Environmental Services Inc~~ SCH 10-22-08
U.S. EPA ID Number: WAD988516829 ~~MAD039322250~~

7. Transporter 2 Company Name: Ian Kay Mohoff/Envirocon
U.S. EPA ID Number:

8. Designated Facility Name and Site Address
Chemical Waste Management
17629 Cedar Springs Lane
Arlington, OR 97812
Facility's Phone: (541) 454-2030
U.S. EPA ID Number: ORD089452353

9a. HM	9b. U.S. DOT Description (including Proper Shipping Name, Hazard Class, ID Number, and Packing Group (if any))	10. Containers No.	10. Containers Type	11. Total Quantity	12. Unit Wt./Vol.	13. Waste Codes
X	1. RQ, NA3077, HAZARDOUS WASTE, SOLID, N.O.S., (K088), 9, PG III (RQ=10LBS)	1	DT	33	T	K008
	2.					
	3.					
	4.					

14. Special Handling Instructions and Additional Information
1.DSOR300466 ERG#171

U4, 68300P, 34.15

15. GENERATOR'S/OFFEROR'S CERTIFICATION: I hereby declare that the contents of this consignment are fully and accurately described above by the proper shipping name, and are classified, packaged, marked and labeled/placarded, and are in all respects in proper condition for transport according to applicable international and national governmental regulations. If export shipment and I am the Primary Exporter, I certify that the contents of this consignment conform to the terms of the attached EPA Acknowledgment of Consent.
I certify that the waste minimization statement identified in 40 CFR 262.27(a) (if I am a large quantity generator) or (b) (if I am a small quantity generator) is true.

Generator's/Offeror's Printed/Typed Name: William Bath
Signature: William Bath
Month 10 Day 14 Year 08

16. International Shipments ☐ Import to U.S. ☐ Export from U.S. Port of entry/exit:
Transporter signature (for exports only): Date leaving U.S.:

17. Transporter Acknowledgment of Receipt of Materials
Transporter 1 Printed/Typed Name: Rodney Rollins
Signature: Rodney R
Month 10 Day 16 Year 08
Transporter 2 Printed/Typed Name:
Signature:
Month Day Year

18. Discrepancy
18a. Discrepancy Indication Space ☐ Quantity ☐ Type ☐ Residue ☐ Partial Rejection ☐ Full Rejection
Manifest Reference Number:

18b. Alternate Facility (or Generator)
U.S. EPA ID Number
Facility's Phone:

18c. Signature of Alternate Facility (or Generator)
Month Day Year

19. Hazardous Waste Report Management Method Codes (i.e., codes for hazardous waste treatment, disposal, and recycling systems)
1. H132 2. 3. 4.

20. Designated Facility Owner or Operator: Certification of receipt of hazardous materials covered by the manifest except as noted in Item 18a
Printed/Typed Name: Janice Strand
Signature: [signature]
Month 10 Day 16 Year 08

GENERATOR / INT'L / TRANSPORTER / DESIGNATED FACILITY

EPA Form 8700-22 (Rev. 3-05) Previous editions are obsolete.

DESIGNATED FACILITY TO GENERATOR

Clean Harbors has the appropriate permits for and will accept the waste the generator is shipping

AMS

WASTE MANAGEMENT

CHEMICAL WASTE MANAGEMENT OF THE NW
17629 Cedar Springs Lane
Arlington, OR 97812
(541) 454-2643
(541) 454-3279 Fax

October 20, 2008

Lockheed Martin Corp
3313 W 2nd St
The Dalles OR 97058

This letter is to inform your office of the following errors or omissions identified on the manifest, land disposal certification, or other applicable manifest attachment which accompanied your waste shipment on:

Manifest Number:	**002220553FLE**	***Profile Number:***	**OR300466**
Shipment Date:	**10/14/08**	***CWMNW Load No.:***	**399114**
Error:		***Omission:***	**X**
Description:	**Section 5 is missing the generator's phone number.**		

This information has been corrected/added to our records. Please attach this letter to your original manifest as an addendum.

Becky Sumner

Chemical Waste Management of the Northwest, Inc.

344115

GW2088031-004 SC PPW 10/6/2008

Please print or type. (Form designed for use on elite (12-pitch) typewriter.)

Form Approved. OMB No. 2050-0039

UNIFORM HAZARDOUS WASTE MANIFEST

1. Generator ID Number: ORD052221025
2. Page 1 of 1
3. Emergency Response Phone: (800) 483-3718
4. Manifest Tracking Number: 002220556 FLE

5. Generator's Name and Mailing Address
Lockheed Martin Corporation
2950 North Hollywood Way, Suite 125
Burbank, CA 91505
Generator's Phone:

Generator's Site Address (if different than mailing address)
3313 West Second Street
The Dalles, OR 97058

6. Transporter 1 Company Name: ~~Clean Harbors Environmental Services Inc~~ Envirocon Trucking CCH 10-22-08
U.S. EPA ID Number: ~~MAD039322250~~ WAD988576809

7. Transporter 2 Company Name: Per Ray Mohoff/Envirocon.
U.S. EPA ID Number:

8. Designated Facility Name and Site Address
Chemical Waste Management
17629 Cedar Springs Lane
Arlington, OR 97812
Facility's Phone: (541) 454-2030
U.S. EPA ID Number: ORD089452353

9a. HM	9b. U.S. DOT Description (including Proper Shipping Name, Hazard Class, ID Number, and Packing Group (if any))	10. Containers No.	10. Containers Type	11. Total Quantity	12. Unit Wt./Vol.	13. Waste Codes
X	1. RQ, NA3077, HAZARDOUS WASTE, SOLID, N.O.S., (K088), 9, PG III (RQ=10LBS)	1	DT	33	T	K008
	2.					
	3.					
	4.					

14. Special Handling Instructions and Additional Information
1.DSOR300466 ERG#171

U4, 67800P, 33.90T

15. **GENERATOR'S/OFFEROR'S CERTIFICATION:** I hereby declare that the contents of this consignment are fully and accurately described above by the proper shipping name, and are classified, packaged, marked and labeled/placarded, and are in all respects in proper condition for transport according to applicable international and national governmental regulations. If export shipment and I am the Primary Exporter, I certify that the contents of this consignment conform to the terms of the attached EPA Acknowledgment of Consent.
I certify that the waste minimization statement identified in 40 CFR 262.27(a) (if I am a large quantity generator) or (b) (if I am a small quantity generator) is true.

Generator's/Offeror's Printed/Typed Name: William Bath
Signature: William Bath
Month 10 Day 14 Year 08

16. International Shipments ☐ Import to U.S. ☐ Export from U.S. Port of entry/exit:
Transporter signature (for exports only): Date leaving U.S.:

17. Transporter Acknowledgment of Receipt of Materials
Transporter 1 Printed/Typed Name: Dustin D Scott
Signature: [signature]
Month 10 Day 16 Year 08
Transporter 2 Printed/Typed Name:
Signature:
Month Day Year

18. Discrepancy
18a. Discrepancy Indication Space ☐ Quantity ☐ Type ☐ Residue ☐ Partial Rejection ☐ Full Rejection
Manifest Reference Number:
18b. Alternate Facility (or Generator)
U.S. EPA ID Number
Facility's Phone:
18c. Signature of Alternate Facility (or Generator)
Month Day Year

19. Hazardous Waste Report Management Method Codes (i.e., codes for hazardous waste treatment, disposal, and recycling systems)
1. H132 2. 3. 4.

20. Designated Facility Owner or Operator: Certification of receipt of hazardous materials covered by the manifest except as noted in Item 18a
Printed/Typed Name: Janice Strand
Signature: [signature]
Month 10 Day 16 Year 08

GENERATOR / INT'L / TRANSPORTER / DESIGNATED FACILITY

EPA Form 8700-22 (Rev. 3-05) Previous editions are obsolete.

DESIGNATED FACILITY TO GENERATOR

Clean Harbors has the appropriate permits for and will accept the waste the generator is shipping.

WASTE MANAGEMENT

CHEMICAL WASTE MANAGEMENT OF THE NW
17629 Cedar Springs Lane
Arlington, OR 97812
(541) 454-2643
(541) 454-3279 Fax

October 20, 2008

Lockheed Martin Corp
3313 W 2nd St
The Dalles OR 97058

This letter is to inform your office of the following errors or omissions identified on the manifest, land disposal certification, or other applicable manifest attachment which accompanied your waste shipment on:

Manifest Number:	**002220556FLE**	***Profile Number:***	**OR300466**
Shipment Date:	**10/14/08**	***CWMNW Load No.:***	**399115**
Error:		***Omission:***	**X**
Description:	**Section 5 is missing the generator's phone number.**		

This information has been corrected/added to our records. Please attach this letter to your original manifest as an addendum.

Becky Sumner

Chemical Waste Management of the Northwest, Inc.

120 · 24114

GW2088031-004 SC PPW 10/6/2008

Please print or type. (Form designed for use on elite (12-pitch) typewriter.)

Form Approved. OMB No. 2050-0039

UNIFORM HAZARDOUS WASTE MANIFEST

1. Generator ID Number: ORD052221025
2. Page 1 of: 1
3. Emergency Response Phone: (800) 483-3718
4. Manifest Tracking Number: 002220557 FLE

5. Generator's Name and Mailing Address
Lockheed Martin Corporation
2950 North Hollywood Way, Suite 125
Burbank, CA 91505
Generator's Phone:

Generator's Site Address (if different than mailing address)
3313 West Second Street
The Dalles, OR 97058

6. Transporter 1 Company Name: Envirocon Tracking
~~Clean Harbors Environmental Services Inc~~ CCH 11-22-08
U.S. EPA ID Number: WAD988516824 ~~MAD039322250~~

7. Transporter 2 Company Name: Per Roy Mohoff/Envirocon.
U.S. EPA ID Number:

8. Designated Facility Name and Site Address
Chemical Waste Management
17629 Cedar Springs Lane
Arlington, OR 97812
Facility's Phone: (541) 454-2030
U.S. EPA ID Number: ORD089452353

9a. HM	9b. U.S. DOT Description (including Proper Shipping Name, Hazard Class, ID Number, and Packing Group (if any))	10. Containers No.	10. Containers Type	11. Total Quantity	12. Unit Wt./Vol.	13. Waste Codes
X	1. RQ, NA3077, HAZARDOUS WASTE, SOLID, N.O.S., (K088), 9, PG III (RQ-10LBS)	1	DT	33	T	K008
	2.					
	3.					
	4.					

14. Special Handling Instructions and Additional Information
1. DSOR300466 ERG#171

U4, 66400P, 33.20T

15. GENERATOR'S/OFFEROR'S CERTIFICATION: I hereby declare that the contents of this consignment are fully and accurately described above by the proper shipping name, and are classified, packaged, marked and labeled/placarded, and are in all respects in proper condition for transport according to applicable international and national governmental regulations. If export shipment and I am the Primary Exporter, I certify that the contents of this consignment conform to the terms of the attached EPA Acknowledgment of Consent.
I certify that the waste minimization statement identified in 40 CFR 262.27(a) (if I am a large quantity generator) or (b) (if I am a small quantity generator) is true.

Generator's/Offeror's Printed/Typed Name: William Bath
Signature: William Bath
Month 10 Day 14 Year 08

16. International Shipments ☐ Import to U.S. ☐ Export from U.S. Port of entry/exit:
Transporter signature (for exports only): Date leaving U.S.:

17. Transporter Acknowledgment of Receipt of Materials
Transporter 1 Printed/Typed Name: Richard L Grady
Signature: [signature]
Month 10 Day 16 Year 08
Transporter 2 Printed/Typed Name:
Signature:
Month Day Year

18. Discrepancy
18a. Discrepancy Indication Space ☐ Quantity ☐ Type ☐ Residue ☐ Partial Rejection ☐ Full Rejection
Manifest Reference Number:
18b. Alternate Facility (or Generator)
U.S. EPA ID Number
Facility's Phone:
18c. Signature of Alternate Facility (or Generator)
Month Day Year

19. Hazardous Waste Report Management Method Codes (i.e., codes for hazardous waste treatment, disposal, and recycling systems)
1. H132
2.
3.
4.

20. Designated Facility Owner or Operator: Certification of receipt of hazardous materials covered by the manifest except as noted in Item 18a
Printed/Typed Name: Janice Strand
Signature: [signature]
Month 10 Day 16 Year 08

GENERATOR / INT'L / TRANSPORTER / DESIGNATED FACILITY

EPA Form 8700-22 (Rev. 3-05) Previous editions are obsolete.

DESIGNATED FACILITY TO GENERATOR

Clean Harbors has the appropriate permits for and will accept the waste the generator is shipping.

ams

WASTE MANAGEMENT

CHEMICAL WASTE MANAGEMENT OF THE NW
17629 Cedar Springs Lane
Arlington, OR 97812
(541) 454-2643
(541) 454-3279 Fax

October 20, 2008

Lockheed Martin Corp
3313 W 2nd St
The Dalles OR 97058

This letter is to inform your office of the following errors or omissions identified on the manifest, land disposal certification, or other applicable manifest attachment which accompanied your waste shipment on:

Manifest Number:	**002220557FLE**	***Profile Number:***	**OR300466**
Shipment Date:	**10/14/08**	***CWMNW Load No.:***	**399116**
Error:		***Omission:***	**X**
Description:	**Section 5 is missing the generator's phone number.**		

This information has been corrected/added to our records. Please attach this letter to your original manifest as an addendum.

Becky Sumner

Chemical Waste Management of the Northwest, Inc.

121

349117

GW2088031-004 SC PPW 10/6/2008

Please print or type. (Form designed for use on elite (12-pitch) typewriter.)

Form Approved. OMB No. 2050-0039

UNIFORM HAZARDOUS WASTE MANIFEST

1. Generator ID Number: ORD052221025
2. Page 1 of: 1
3. Emergency Response Phone: (800)483-3718
4. Manifest Tracking Number: 002220558 FLE

5. Generator's Name and Mailing Address:
Lockheed Martin Corporation
2950 North Hollywood Way, Suite 125
Burbank, CA 91505

Generator's Site Address (if different than mailing address):
3313 West Second Street
The Dalles, OR 97058

Generator's Phone:

6. Transporter 1 Company Name: Environmental Services Inc — Environmental Tracking — CCH 10-22-08
U.S. EPA ID Number: MAD039322250 — MAD988516829

7. Transporter 2 Company Name: Dr Roy Mcholf / Environmental
U.S. EPA ID Number:

8. Designated Facility Name and Site Address:
Chemical Waste Management
17629 Cedar Springs Lane
Arlington, OR 97812
Facility's Phone: (541) 454-2030
U.S. EPA ID Number: ORD089452353

9a. HM	9b. U.S. DOT Description (including Proper Shipping Name, Hazard Class, ID Number, and Packing Group (if any))	10. Containers No.	10. Containers Type	11. Total Quantity	12. Unit Wt./Vol.	13. Waste Codes
X	1. RQ, NA3077, HAZARDOUS WASTE, SOLID, N.O.S., (K088), 9, PG III (RQ=10LBS)	1	DT	32	T	K008
	2.					
	3.					
	4.					

14. Special Handling Instructions and Additional Information
1.DSCR300466 XRG#171

L14, 65550P, 32.73

15. **GENERATOR'S/OFFEROR'S CERTIFICATION:** I hereby declare that the contents of this consignment are fully and accurately described above by the proper shipping name, and are classified, packaged, marked and labeled/placarded, and are in all respects in proper condition for transport according to applicable international and national governmental regulations. If export shipment and I am the Primary Exporter, I certify that the contents of this consignment conform to the terms of the attached EPA Acknowledgment of Consent.
I certify that the waste minimization statement identified in 40 CFR 262.27(a) (if I am a large quantity generator) or (b) (if I am a small quantity generator) is true.

Generator's/Offeror's Printed/Typed Name: William Bath — Signature: William Bath — Month 10 Day 14 Year 08

16. International Shipments ☐ Import to U.S. ☐ Export from U.S. Port of entry/exit:
Transporter signature (for exports only): Date leaving U.S.:

17. Transporter Acknowledgment of Receipt of Materials
Transporter 1 Printed/Typed Name: Richard Raines — Signature: R Raines — Month 10 Day 16 Year 08
Transporter 2 Printed/Typed Name: — Signature: — Month Day Year

18. Discrepancy
18a. Discrepancy Indication Space ☐ Quantity ☐ Type ☐ Residue ☐ Partial Rejection ☐ Full Rejection
Manifest Reference Number:
18b. Alternate Facility (or Generator) — U.S. EPA ID Number
Facility's Phone:
18c. Signature of Alternate Facility (or Generator) — Month Day Year

19. Hazardous Waste Report Management Method Codes (i.e., codes for hazardous waste treatment, disposal, and recycling systems)
1. H132 2. 3. 4.

20. Designated Facility Owner or Operator: Certification of receipt of hazardous materials covered by the manifest except as noted in Item 18a
Printed/Typed Name: Janice Strand — Signature: [signature] — Month 10 Day 16 Year 08

GENERATOR — INT'L — TRANSPORTER — DESIGNATED FACILITY

EPA Form 8700-22 (Rev. 3-05) Previous editions are obsolete.

DESIGNATED FACILITY TO GENERATOR

1.

AMS

WASTE MANAGEMENT

CHEMICAL WASTE MANAGEMENT OF THE NW
17629 Cedar Springs Lane
Arlington, OR 97812
(541) 454-2643
(541) 454-3279 Fax

October 20, 2008

Lockheed Martin Corp
3313 W 2nd St
The Dalles OR 97058

This letter is to inform your office of the following errors or omissions identified on the manifest, land disposal certification, or other applicable manifest attachment which accompanied your waste shipment on:

Manifest Number:	**002220558FLE**	***Profile Number:***	**OR300466**
Shipment Date:	**10/14/08**	***CWMNW Load No.:***	**399117**
Error:		***Omission:***	**X**
Description:	**Section 5 is missing the generator's phone number.**		

This information has been corrected/added to our records. Please attach this letter to your original manifest as an addendum.

Becky Sumner

Chemical Waste Management of the Northwest, Inc.

V 399119 VGP

Please print or type. (Form designed for use on elite (12-pitch) typewriter.) GW2088031-004 SC PPW 10/6/2008 Form Approved. OMB No. 2050-0039

UNIFORM HAZARDOUS WASTE MANIFEST

1. Generator ID Number	2. Page 1 of	3. Emergency Response Phone	4. Manifest Tracking Number
ORD052221025	1	(800) 483-3718	002220561 FLE

5. Generator's Name and Mailing Address
Lockheed Martin Corporation
2950 North Hollywood Way, Suite 125
Burbank, CA 91505
Generator's Phone:

Generator's Site Address (if different than mailing address)
3313 West Second Street
The Dalles, OR 97058

6. Transporter 1 Company Name: Environ. Tracking EPA 10-22-08 Per Kay Mahoff / Environ.
~~Clean Harbors Environmental Services Inc~~
U.S. EPA ID Number: WAD985516829 ~~MAD039322250~~

7. Transporter 2 Company Name
U.S. EPA ID Number

8. Designated Facility Name and Site Address
Chemical Waste Management
17629 Cedar Springs Lane
Arlington, OR 97512
Facility's Phone: (541) 454-2030
U.S. EPA ID Number: ORD089452353

9a. HM	9b. U.S. DOT Description (including Proper Shipping Name, Hazard Class, ID Number, and Packing Group (if any))	10. Containers No.	10. Containers Type	11. Total Quantity	12. Unit WL/Vol.	13. Waste Codes
X	1. RQ, NA3077, HAZARDOUS WASTE, SOLID, N.O.S., (K088), 9, PG III (RQ=10LBS)	1	DT	32	T	K008
	2.					
	3.					
	4.					

14. Special Handling Instructions and Additional Information
1.DSOR300466 ERG#171

U4, 66000P, 33.0T

15. GENERATOR'S/OFFEROR'S CERTIFICATION: I hereby declare that the contents of this consignment are fully and accurately described above by the proper shipping name, and are classified, packaged, marked and labeled/placarded, and are in all respects in proper condition for transport according to applicable international and national governmental regulations. If export shipment and I am the Primary Exporter, I certify that the contents of this consignment conform to the terms of the attached EPA Acknowledgment of Consent.
I certify that the waste minimization statement identified in 40 CFR 262.27(a) (if I am a large quantity generator) or (b) (if I am a small quantity generator) is true.

Generator's/Offeror's Printed/Typed Name: William Bath
Signature: William Bath
Month 10 Day 14 Year 08

16. International Shipments ☐ Import to U.S. ☐ Export from U.S. Port of entry/exit:
Transporter signature (for exports only): Date leaving U.S.:

17. Transporter Acknowledgment of Receipt of Materials
Transporter 1 Printed/Typed Name: Mark Ehler
Signature: Mark Ehler
Month 10 Day 16 Year 08
Transporter 2 Printed/Typed Name
Signature
Month Day Year

18. Discrepancy
18a. Discrepancy Indication Space ☐ Quantity ☐ Type ☐ Residue ☐ Partial Rejection ☐ Full Rejection
Manifest Reference Number:

18b. Alternate Facility (or Generator)
U.S. EPA ID Number
Facility's Phone:

18c. Signature of Alternate Facility (or Generator)
Month Day Year

19. Hazardous Waste Report Management Method Codes (i.e., codes for hazardous waste treatment, disposal, and recycling systems)

1.	2.	3.	4.
H132			

20. Designated Facility Owner or Operator: Certification of receipt of hazardous materials covered by the manifest except as noted in Item 18a
Printed/Typed Name: Janice Strand
Signature: Janice Strand
Month 10 Day 16 Year 08

GENERATOR / INT'L / TRANSPORTER / DESIGNATED FACILITY

EPA Form 8700-22 (Rev. 3-05) Previous editions are obsolete.

DESIGNATED FACILITY TO GENERATOR

Clean Harbors has the appropriate permits for and will accept the waste the generator is shipping.

AMS

WASTE MANAGEMENT

CHEMICAL WASTE MANAGEMENT OF THE NW
17629 Cedar Springs Lane
Arlington, OR 97812
(541) 454-2643
(541) 454-3279 Fax

October 20, 2008

Lockheed Martin Corp
3313 W 2nd St
The Dalles OR 97058

This letter is to inform your office of the following errors or omissions identified on the manifest, land disposal certification, or other applicable manifest attachment which accompanied your waste shipment on:

Manifest Number:	**002220561FLE**	***Profile Number:***	**OR300466**
Shipment Date:	**10/14/08**	***CWMNW Load No.:***	**399119**
Error:		***Omission:***	**X**
Description:	**Section 5 is missing the generator's phone number.**		

This information has been corrected/added to our records. Please attach this letter to your original manifest as an addendum.

Becky Sumner

Chemical Waste Management of the Northwest, Inc.

18 399118 VP

Please print or type. (Form designed for use on elite (12-pitch) typewriter.) GW2088031-004 SC PPW 10/6/2008 Form Approved. OMB No. 2050-0039

UNIFORM HAZARDOUS WASTE MANIFEST	1. Generator ID Number	2. Page 1 of	3. Emergency Response Phone	4. Manifest Tracking Number
	ORD052221025	1	(800) 483-3718	002220562 FLE

5. Generator's Name and Mailing Address
Lockheed Martin Corporation
2950 North Hollywood Way, Suite 126
Burbank, CA 91505
Generator's Phone:

Generator's Site Address (if different than mailing address)
3313 West Second Street
The Dalles, OR 97058

6. Transporter 1 Company Name Emerson Trucking
Clean Harbors Environmental Services Inc

U.S. EPA ID Number MAD982514829
MAD039322250

7. Transporter 2 Company Name pu Ray Mcloff / Emerson.

U.S. EPA ID Number

8. Designated Facility Name and Site Address
Chemical Waste Management
17629 Cedar Springs Lane
Arlington, OR 97812
Facility's Phone: (541) 454-2030

U.S. EPA ID Number
ORD089452353

9a. HM	9b. U.S. DOT Description (including Proper Shipping Name, Hazard Class, ID Number, and Packing Group (if any))	10. Containers No.	10. Containers Type	11. Total Quantity	12. Unit Wt./Vol.	13. Waste Codes		
X	1. RQ, NA3077, HAZARDOUS WASTE, SOLID, N.O.S., (K088), 9, PG III (RQ-10LBS)	1	DT	33	T	K088		
	2.							
	3.							
	4.							

14. Special Handling Instructions and Additional Information
1. D80R300466 ERG#171

L14, W552P, 33.25T

15. GENERATOR'S/OFFEROR'S CERTIFICATION: I hereby declare that the contents of this consignment are fully and accurately described above by the proper shipping name, and are classified, packaged, marked and labeled/placarded, and are in all respects in proper condition for transport according to applicable international and national governmental regulations. If export shipment and I am the Primary Exporter, I certify that the contents of this consignment conform to the terms of the attached EPA Acknowledgment of Consent.
I certify that the waste minimization statement identified in 40 CFR 262.27(a) (if I am a large quantity generator) or (b) (if I am a small quantity generator) is true.

Generator's/Offeror's Printed/Typed Name: William Bath | Signature: William Bath | Month: 10 | Day: 14 | Year: 08

INTL
16. International Shipments ☐ Import to U.S. ☐ Export from U.S. Port of entry/exit:
Transporter signature (for exports only): Date leaving U.S.:

TRANSPORTER
17. Transporter Acknowledgment of Receipt of Materials
Transporter 1 Printed/Typed Name: Cos Short | Signature: | Month: 10 | Day: 16 | Year: 08
Transporter 2 Printed/Typed Name: | Signature: | Month: | Day: | Year:

DESIGNATED FACILITY
18. Discrepancy
18a. Discrepancy Indication Space ☐ Quantity ☐ Type ☐ Residue ☐ Partial Rejection ☐ Full Rejection
Manifest Reference Number:
18b. Alternate Facility (or Generator) U.S. EPA ID Number
Facility's Phone:
18c. Signature of Alternate Facility (or Generator) Month: Day: Year:
19. Hazardous Waste Report Management Method Codes (i.e., codes for hazardous waste treatment, disposal, and recycling systems)
1. H132 2. 3. 4.
20. Designated Facility Owner or Operator: Certification of receipt of hazardous materials covered by the manifest except as noted in Item 18a
Printed/Typed Name: James Stuard | Signature: | Month: 10 | Day: 16 | Year: 08

EPA Form 8700-22 (Rev. 3-05) Previous editions are obsolete. DESIGNATED FACILITY TO GENERATOR

AMS

WASTE MANAGEMENT

CHEMICAL WASTE MANAGEMENT OF THE NW
17629 Cedar Springs Lane
Arlington, OR 97812
(541) 454-2643
(541) 454-3279 Fax

October 20, 2008

Lockheed Martin Corp
3313 W 2nd St
The Dalles OR 97058

This letter is to inform your office of the following errors or omissions identified on the manifest, land disposal certification, or other applicable manifest attachment which accompanied your waste shipment on:

Manifest Number:	**002220562FLE**	***Profile Number:***	**OR300466**
Shipment Date:	**10/14/08**	***CWMNW Load No.:***	**399118**
Error:		***Omission:***	**X**
Description:	**Section 5 is missing the generator's phone number.**		

This information has been corrected/added to our records. Please attach this letter to your original manifest as an addendum.

Becky Sumner

Chemical Waste Management of the Northwest, Inc.

19 399120

Please print or type. (Form designed for use on elite (12-pitch) typewriter.) GW2088031-004 SC PPW 10/6/2008 Form Approved. OMB No. 2050-0039

UNIFORM HAZARDOUS WASTE MANIFEST

1. Generator ID Number: ORD052221025
2. Page 1 of 1
3. Emergency Response Phone: (800) 483-3718
4. Manifest Tracking Number: 002220563 FLE

5. Generator's Name and Mailing Address:
Lockheed Martin Corporation
2950 North Hollywood Way, Suite 125
Burbank, CA 91505
Generator's Phone:

Generator's Site Address (if different than mailing address):
3313 West Second Street
The Dalles, OR 97058

6. Transporter 1 Company Name: Envirocon Trucking
~~Clean Harbors Environmental Services Inc~~ CH 10-22-08
U.S. EPA ID Number: WAD988511,829 ~~MAD039322250~~

7. Transporter 2 Company Name: Per Ray Mcbeff / Envirocon.
U.S. EPA ID Number:

8. Designated Facility Name and Site Address:
Chemical Waste Management
17629 Cedar Springs Lane
Arlington, OR 97812
(541) 454-2030
Facility's Phone:
U.S. EPA ID Number: ORD089452353

9a. HM	9b. U.S. DOT Description (including Proper Shipping Name, Hazard Class, ID Number, and Packing Group (if any))	10. Containers No.	10. Containers Type	11. Total Quantity	12. Unit Wt./Vol.	13. Waste Codes
X	1. RQ, NA3077, HAZARDOUS WASTE, SOLID, N.O.S., (K088), 9, PG III (RQ=10LBS)	1	DT	33	T	K008
	2.					
	3.					
	4.					

14. Special Handling Instructions and Additional Information
1.DSOR300466 ERG#171

L14, 66200P, 33, 10T

15. GENERATOR'S/OFFEROR'S CERTIFICATION: I hereby declare that the contents of this consignment are fully and accurately described above by the proper shipping name, and are classified, packaged, marked and labeled/placarded, and are in all respects in proper condition for transport according to applicable international and national governmental regulations. If export shipment and I am the Primary Exporter, I certify that the contents of this consignment conform to the terms of the attached EPA Acknowledgment of Consent.
I certify that the waste minimization statement identified in 40 CFR 262.27(a) (if I am a large quantity generator) or (b) (if I am a small quantity generator) is true.

Generator's/Offeror's Printed/Typed Name: William Bath
Signature: William Bath
Month 10 Day 14 Year 08

16. International Shipments ☐ Import to U.S. ☐ Export from U.S. Port of entry/exit:
Transporter signature (for exports only): Date leaving U.S.:

17. Transporter Acknowledgment of Receipt of Materials
Transporter 1 Printed/Typed Name: Eric Lucore
Signature: Eric Lucore
Month 10 Day 16 Year 08
Transporter 2 Printed/Typed Name:
Signature:
Month Day Year

18. Discrepancy
18a. Discrepancy Indication Space ☐ Quantity ☐ Type ☐ Residue ☐ Partial Rejection ☐ Full Rejection
Manifest Reference Number:
18b. Alternate Facility (or Generator)
U.S. EPA ID Number
Facility's Phone:
18c. Signature of Alternate Facility (or Generator)
Month Day Year

19. Hazardous Waste Report Management Method Codes (i.e., codes for hazardous waste treatment, disposal, and recycling systems)
1. H132 2. 3. 4.

20. Designated Facility Owner or Operator: Certification of receipt of hazardous materials covered by the manifest except as noted in Item 18a
Printed/Typed Name: Janice Strand
Signature: [signature]
Month 10 Day 16 Year 08

GENERATOR / INT'L / TRANSPORTER / DESIGNATED FACILITY

EPA Form 8700-22 (Rev. 3-05) Previous editions are obsolete.

DESIGNATED FACILITY TO GENERATOR

Clean Harbors has the appropriate permits for and will accept the waste the generator is shipping.

AMS

WASTE MANAGEMENT

CHEMICAL WASTE MANAGEMENT OF THE NW
17629 Cedar Springs Lane
Arlington, OR 97812
(541) 454-2643
(541) 454-3279 Fax

October 20, 2008

Lockheed Martin Corp
3313 W 2nd St
The Dalles OR 97058

This letter is to inform your office of the following errors or omissions identified on the manifest, land disposal certification, or other applicable manifest attachment which accompanied your waste shipment on:

Manifest Number:	**002220563FLE**	***Profile Number:***	**OR300466**
Shipment Date:	**10/14/08**	***CWMNW Load No.:***	**399120**
Error:		***Omission:***	**X**
Description:	**Section 5 is missing the generator's phone number.**		

This information has been corrected/added to our records. Please attach this letter to your original manifest as an addendum.

Becky Sumner

Chemical Waste Management of the Northwest, Inc.

1-7 399122 GW2088031-004 SC PPW 10/6/2008

Please print or type. (Form designed for use on elite (12-pitch) typewriter.)

Form Approved. OMB No. 2050-0039

UNIFORM HAZARDOUS WASTE MANIFEST

1. Generator ID Number: ORD052221025
2. Page 1 of 1
3. Emergency Response Phone: (800)483-3718
4. Manifest Tracking Number: 002220565 FLE

5. Generator's Name and Mailing Address: Lockheed Martin Corporation, 2950 North Hollywood Way, Suite 125, Burbank, CA 91505

Generator's Site Address (if different than mailing address): 3313 West Second Street, The Dalles, OR 97058

Generator's Phone:

6. Transporter 1 Company Name: Clean Harbors Environmental Services Inc — Envirocon Trucking CCH 10-22-08

U.S. EPA ID Number: MAD039322250 WAD988514859

7. Transporter 2 Company Name: Pie Ray Mohoff / Envirocon.

U.S. EPA ID Number:

8. Designated Facility Name and Site Address: Chemical Waste Management, 17629 Cedar Springs Lane, Arlington, OR 97812

U.S. EPA ID Number: ORD089452353

Facility's Phone: (541) 454-2030

9a. HM	9b. U.S. DOT Description (including Proper Shipping Name, Hazard Class, ID Number, and Packing Group (if any))	10. Containers No.	10. Containers Type	11. Total Quantity	12. Unit Wt./Vol.	13. Waste Codes
X	1. RQ, NA3077, HAZARDOUS WASTE, SOLID, N.O.S., (K038), 9, PG III (RQ=10LBS)	1	DT	32	T	K008
	2.					
	3.					
	4.					

14. Special Handling Instructions and Additional Information: 1.DSOR300466 KRG#171

L14, 65400P, 32.70T

15. **GENERATOR'S/OFFEROR'S CERTIFICATION:** I hereby declare that the contents of this consignment are fully and accurately described above by the proper shipping name, and are classified, packaged, marked and labeled/placarded, and are in all respects in proper condition for transport according to applicable international and national governmental regulations. If export shipment and I am the Primary Exporter, I certify that the contents of this consignment conform to the terms of the attached EPA Acknowledgment of Consent.
I certify that the waste minimization statement identified in 40 CFR 262.27(a) (if I am a large quantity generator) or (b) (if I am a small quantity generator) is true.

Generator's/Offeror's Printed/Typed Name: William Bath — Signature: William Bath — Month 10 Day 14 Year 08

16. International Shipments ☐ Import to U.S. ☐ Export from U.S. Port of entry/exit:
Transporter signature (for exports only): Date leaving U.S.:

17. Transporter Acknowledgment of Receipt of Materials

Transporter 1 Printed/Typed Name: Pat Turner — Signature: [signature] — Month 10 Day 16 Year 08

Transporter 2 Printed/Typed Name: — Signature: — Month Day Year

18. Discrepancy

18a. Discrepancy Indication Space ☐ Quantity ☐ Type ☐ Residue ☐ Partial Rejection ☐ Full Rejection

Manifest Reference Number:

18b. Alternate Facility (or Generator) — U.S. EPA ID Number

Facility's Phone:

18c. Signature of Alternate Facility (or Generator) — Month Day Year

19. Hazardous Waste Report Management Method Codes (i.e., codes for hazardous waste treatment, disposal, and recycling systems)

1.	2.	3.	4.
H132			

20. Designated Facility Owner or Operator: Certification of receipt of hazardous materials covered by the manifest except as noted in Item 18a

Printed/Typed Name: Janice Strand — Signature: [signature] — Month 10 Day 16 Year 08

GENERATOR — INT'L — TRANSPORTER — DESIGNATED FACILITY

EPA Form 8700-22 (Rev. 3-05) Previous editions are obsolete.

Clean Harbors has the appropriate permits for and will accept the waste the generator is shipping.

DESIGNATED FACILITY TO GENERATOR

AM:

WASTE MANAGEMENT

CHEMICAL WASTE MANAGEMENT OF THE NW
17629 Cedar Springs Lane
Arlington, OR 97812
(541) 454-2643
(541) 454-3279 Fax

October 20, 2008

Lockheed Martin Corp
3313 W 2nd St
The Dalles OR 97058

This letter is to inform your office of the following errors or omissions identified on the manifest, land disposal certification, or other applicable manifest attachment which accompanied your waste shipment on:

Manifest Number:	**002220565FLE**	***Profile Number:***	**OR300466**
Shipment Date:	**10/14/08**	***CWMNW Load No.:***	**399122**
Error:		***Omission:***	**X**
Description:	**Section 5 is missing the generator's phone number.**		

This information has been corrected/added to our records. Please attach this letter to your original manifest as an addendum.

Becky Sumner

Chemical Waste Management of the Northwest, Inc.

54712S GW2088031-004 SC PPW 10/6/2008

Please print or type. (Form designed for use on elite (12-pitch) typewriter.) Form Approved. OMB No. 2050-0039

UNIFORM HAZARDOUS WASTE MANIFEST	1. Generator ID Number ORD052221025	2. Page 1 of 1	3. Emergency Response Phone (800)483-3718	4. Manifest Tracking Number 002220566 FLE

GENERATOR

5. Generator's Name and Mailing Address
Lockheed Martin Corporation
2950 North Hollywood Way, Suite 126
Burbank, CA 91505
Generator's Phone:

Generator's Site Address (if different than mailing address)
2313 West Second Street
The Dalles, OR 97058

6. Transporter 1 Company Name
Clean Harbors Environmental Services Inc
Environmental Trucking CCH 10-22-08 — U.S. EPA ID Number MAD039322250 (MAD982576 Orig)
Per Ray Mehoff / Environ.

7. Transporter 2 Company Name — U.S. EPA ID Number

8. Designated Facility Name and Site Address
Chemical Waste Management
17629 Cedar Springs Lane
Arlington, OR 97812
(541) 454-2030
Facility's Phone:
U.S. EPA ID Number ORD089452353

9a. HM	9b. U.S. DOT Description (including Proper Shipping Name, Hazard Class, ID Number, and Packing Group (if any))	10. Containers No.	10. Containers Type	11. Total Quantity	12. Unit Wt./Vol.	13. Waste Codes		
X	1. RQ, NA3077, HAZARDOUS WASTE, SOLID, N.O.S., (K088), 9, PG III (RQ=10LBS)	1	DT	33	T	K088		
	2.							
	3.							
	4.							

14. Special Handling Instructions and Additional Information
1. D80R300466 ERG# 171

U4, 66350P, 33, 1BT

15. GENERATOR'S/OFFEROR'S CERTIFICATION: I hereby declare that the contents of this consignment are fully and accurately described above by the proper shipping name, and are classified, packaged, marked and labeled/placarded, and are in all respects in proper condition for transport according to applicable international and national governmental regulations. If export shipment and I am the Primary Exporter, I certify that the contents of this consignment conform to the terms of the attached EPA Acknowledgment of Consent.
I certify that the waste minimization statement identified in 40 CFR 262.27(a) (if I am a large quantity generator) or (b) (if I am a small quantity generator) is true.

Generator's/Offeror's Printed/Typed Name: William Bath — Signature: William Bath — Month 10 Day 14 Year 08

INT'L

16. International Shipments ☐ Import to U.S. ☐ Export from U.S. Port of entry/exit:
Transporter signature (for exports only): Date leaving U.S.:

TRANSPORTER

17. Transporter Acknowledgment of Receipt of Materials

Transporter 1 Printed/Typed Name: KENT SMITH — Signature: K Smith — Month 10 Day 16 Year 08

Transporter 2 Printed/Typed Name — Signature — Month Day Year

DESIGNATED FACILITY

18. Discrepancy

18a. Discrepancy Indication Space ☐ Quantity ☐ Type ☐ Residue ☐ Partial Rejection ☐ Full Rejection

Manifest Reference Number:

18b. Alternate Facility (or Generator) — U.S. EPA ID Number
Facility's Phone:

18c. Signature of Alternate Facility (or Generator) — Month Day Year

19. Hazardous Waste Report Management Method Codes (i.e., codes for hazardous waste treatment, disposal, and recycling systems)

1.	2.	3.	4.
H132			

20. Designated Facility Owner or Operator: Certification of receipt of hazardous materials covered by the manifest except as noted in Item 18a

Printed/Typed Name: Janice Stard — Signature — Month 10 Day 16 Year 08

EPA Form 8700-22 (Rev. 3-05) Previous editions are obsolete.

DESIGNATED FACILITY TO GENERATOR

Clean Harbors has the appropriate permits for and will accept the waste the generator is shipping.

AMS

WASTE MANAGEMENT

CHEMICAL WASTE MANAGEMENT OF THE NW
17629 Cedar Springs Lane
Arlington, OR 97812
(541) 454-2643
(541) 454-3279 Fax

October 20, 2008

Lockheed Martin Corp
3313 W 2nd St
The Dalles OR 97058

This letter is to inform your office of the following errors or omissions identified on the manifest, land disposal certification, or other applicable manifest attachment which accompanied your waste shipment on:

Manifest Number:	**002220566FLE**	***Profile Number:***	**OR300466**
Shipment Date:	**10/14/08**	***CWMNW Load No.:***	**399123**
Error:		***Omission:***	**X**
Description:	**Section 5 is missing the generator's phone number.**		

This information has been corrected/added to our records. Please attach this letter to your original manifest as an addendum.

Becky Sumner

Chemical Waste Management of the Northwest, Inc.

399124

Please print or type. (Form designed for use on elite (12-pitch) typewriter.) GW2088031-004 SC PPW 10/6/2008 Form Approved. OMB No. 2050-0039

UNIFORM HAZARDOUS WASTE MANIFEST	1. Generator ID Number	2. Page 1 of	3. Emergency Response Phone	4. Manifest Tracking Number
	ORD052221025	1	(800) 483-3718	002220567 FLE

5. Generator's Name and Mailing Address
Lockheed Martin Corporation
2950 North Hollywood Way, Suite 125
Burbank, CA 91505
Generator's Phone:

Generator's Site Address (if different than mailing address)
3313 West Second Street
The Dalles, OR 97058

6. Transporter 1 Company Name Envirocon Trucking ~~Clean Harbors Environmental Services Inc~~ SCH 10-22-08 U.S. EPA ID Number WAD988516829 ~~MAD039322250~~

7. Transporter 2 Company Name Fr. Roy Moheff/Envirocon. U.S. EPA ID Number

8. Designated Facility Name and Site Address
Chemical Waste Management
17629 Cedar Springs Lane
Arlington, OR 97812
Facility's Phone: (541) 454-2030
U.S. EPA ID Number ORD089452353

9a. HM	9b. U.S. DOT Description (including Proper Shipping Name, Hazard Class, ID Number, and Packing Group (if any))	10. Containers No.	10. Containers Type	11. Total Quantity	12. Unit Wt./Vol.	13. Waste Codes
X	1. RQ, NA3077, HAZARDOUS WASTE, SOLID, N.O.S., (K088), 9, PG III (RQ=10LBS)	1	DT	32	T	K008
	2.					
	3.					
	4.					

14. Special Handling Instructions and Additional Information
1.DSOR300466 ERG#171

L14, 63250P, 31.63T

15. GENERATOR'S/OFFEROR'S CERTIFICATION: I hereby declare that the contents of this consignment are fully and accurately described above by the proper shipping name, and are classified, packaged, marked and labeled/placarded, and are in all respects in proper condition for transport according to applicable international and national governmental regulations. If export shipment and I am the Primary Exporter, I certify that the contents of this consignment conform to the terms of the attached EPA Acknowledgment of Consent.
I certify that the waste minimization statement identified in 40 CFR 262.27(a) (if I am a large quantity generator) or (b) (if I am a small quantity generator) is true.

Generator's/Offeror's Printed/Typed Name: William Bath Signature: William Bath Month 10 Day 14 Year 08

16. International Shipments ☐ Import to U.S. ☐ Export from U.S. Port of entry/exit:
Transporter signature (for exports only): Date leaving U.S.:

17. Transporter Acknowledgment of Receipt of Materials
Transporter 1 Printed/Typed Name: GLEN GILMORE Signature: Glen Gilmore Month 10 Day 16 Year 08
Transporter 2 Printed/Typed Name: Signature: Month Day Year

18. Discrepancy
18a. Discrepancy Indication Space ☐ Quantity ☐ Type ☐ Residue ☐ Partial Rejection ☐ Full Rejection
Manifest Reference Number:
18b. Alternate Facility (or Generator) U.S. EPA ID Number
Facility's Phone:
18c. Signature of Alternate Facility (or Generator) Month Day Year

19. Hazardous Waste Report Management Method Codes (i.e., codes for hazardous waste treatment, disposal, and recycling systems)
1. H132 2. 3. 4.

20. Designated Facility Owner or Operator: Certification of receipt of hazardous materials covered by the manifest except as noted in Item 18a
Printed/Typed Name: Janice Strand Signature: [signature] Month 10 Day 16 Year 08

GENERATOR / INT'L / TRANSPORTER / DESIGNATED FACILITY

EPA Form 8700-22 (Rev. 3-05) Previous editions are obsolete.

DESIGNATED FACILITY TO GENERATOR

Clean Harbors has the appropriate permits for and will accept the waste the generator is shipping.

AMS

WASTE MANAGEMENT

CHEMICAL WASTE MANAGEMENT OF THE NW
17629 Cedar Springs Lane
Arlington, OR 97812
(541) 454-2643
(541) 454-3279 Fax

October 20, 2008

Lockheed Martin Corp
3313 W 2nd St
The Dalles OR 97058

This letter is to inform your office of the following errors or omissions identified on the manifest, land disposal certification, or other applicable manifest attachment which accompanied your waste shipment on:

Manifest Number:	**002220567FLE**	***Profile Number:***	**OR300466**
Shipment Date:	**10/14/08**	***CWMNW Load No.:***	**399124**
Error:		***Omission:***	**X**
Description:	**Section 5 is missing the generator's phone number.**		

This Information has been corrected/added to our records. Please attach this letter to your original manifest as an addendum.

Becky Sumner

Chemical Waste Management of the Northwest, Inc.

399125 GW2088091-004 SC PPW 10/6/2008

Please print or type. (Form designed for use on elite (12-pitch) typewriter.)

Form Approved. OMB No. 2050-0039

UNIFORM HAZARDOUS WASTE MANIFEST	1. Generator ID Number	2. Page 1 of	3. Emergency Response Phone	4. Manifest Tracking Number
	ORD052221025	1	(800) 483-3718	002220568 FLE

GENERATOR

5. Generator's Name and Mailing Address
Lockheed Martin Corporation
2950 North Hollywood Way, Suite 125
Burbank, CA 91505
Generator's Phone:

Generator's Site Address (if different than mailing address)
3313 West Second Street
The Dalles, OR 97058

6. Transporter 1 Company Name
Clean Harbors Environmental Services Inc

U.S. EPA ID Number
MAD039322250

7. Transporter 2 Company Name

U.S. EPA ID Number

8. Designated Facility Name and Site Address
Chemical Waste Management
17629 Cedar Springs Lane
Arlington, OR 97812
Facility's Phone: (541) 454-2030

U.S. EPA ID Number
ORD089452353

9a. HM	9b. U.S. DOT Description (including Proper Shipping Name, Hazard Class, ID Number, and Packing Group (if any))	10. Containers No.	10. Containers Type	11. Total Quantity	12. Unit Wt./Vol.	13. Waste Codes
X	1. RQ, NA9077, HAZARDOUS WASTE, SOLID, N.O.S., (K088), 9, PG III (RQ-10LBS)	1	DT	32	T	K088
	2.					
	3.					
	4.					

14. Special Handling Instructions and Additional Information
1. DSCR300466 ERG#171

U4, 64300P, 32.15T

15. GENERATOR'S/OFFEROR'S CERTIFICATION: I hereby declare that the contents of this consignment are fully and accurately described above by the proper shipping name, and are classified, packaged, marked and labeled/placarded, and are in all respects in proper condition for transport according to applicable international and national governmental regulations. If export shipment and I am the Primary Exporter, I certify that the contents of this consignment conform to the terms of the attached EPA Acknowledgment of Consent.
I certify that the waste minimization statement identified in 40 CFR 262.27(a) (if I am a large quantity generator) or (b) (if I am a small quantity generator) is true.

Generator's/Offeror's Printed/Typed Name: William Bath | Signature: William Bath | Month: 10 | Day: 14 | Year: 08

INTL

16. International Shipments ☐ Import to U.S. ☐ Export from U.S. Port of entry/exit:
Transporter signature (for exports only): Date leaving U.S.:

TRANSPORTER

17. Transporter Acknowledgment of Receipt of Materials

Transporter 1 Printed/Typed Name: Rick DeRemer | Signature: " | Month: 10 | Day: 16 | Year: 08

Transporter 2 Printed/Typed Name: | Signature: | Month: | Day: | Year:

DESIGNATED FACILITY

18. Discrepancy

18a. Discrepancy Indication Space ☐ Quantity ☐ Type ☐ Residue ☐ Partial Rejection ☐ Full Rejection

Manifest Reference Number:

18b. Alternate Facility (or Generator) U.S. EPA ID Number

Facility's Phone:

18c. Signature of Alternate Facility (or Generator) Month: Day: Year:

19. Hazardous Waste Report Management Method Codes (i.e., codes for hazardous waste treatment, disposal, and recycling systems)

1.	2.	3.	4.
H132			

20. Designated Facility Owner or Operator: Certification of receipt of hazardous materials covered by the manifest except as noted in Item 18a

Printed/Typed Name: Janice Strand | Signature: | Month: 10 | Day: 16 | Year: 08

EPA Form 8700-22 (Rev. 3-05) Previous editions are obsolete.

DESIGNATED FACILITY TO GENERATOR

WASTE MANAGEMENT

CHEMICAL WASTE MANAGEMENT OF THE NW
17629 Cedar Springs Lane
Arlington, OR 97812
(541) 454-2643
(541) 454-3279 Fax

October 20, 2008

Lockheed Martin Corp
3313 W 2nd St
The Dalles OR 97058

This letter is to inform your office of the following errors or omissions identified on the manifest, land disposal certification, or other applicable manifest attachment which accompanied your waste shipment on:

Manifest Number:	**002220568FLE**	***Profile Number:***	**OR300466**
Shipment Date:	**10/14/08**	***CWMNW Load No.:***	**399125**
Error:		***Omission:***	**X**
Description:	**Section 5 is missing the generator's phone number.**		

This information has been corrected/added to our records. Please attach this letter to your original manifest as an addendum.

Becky Sumner

Chemical Waste Management of the Northwest, Inc.

MG69 399126

GW2088031-004 SC PPW 10/6/2008

Please print or type. (Form designed for use on elite (12-pitch) typewriter.)

Form Approved. OMB No. 2050-0039

UNIFORM HAZARDOUS WASTE MANIFEST

1. Generator ID Number: ORD052221025
2. Page 1 of: 1
3. Emergency Response Phone: (800) 483-3718
4. Manifest Tracking Number: 002220569 FLE

5. Generator's Name and Mailing Address:
Lockheed Martin Corporation
2950 North Hollywood Way, Suite 125
Burbank, CA 91505
Generator's Phone:

Generator's Site Address (if different than mailing address):
3313 West Second Street
The Dalles, OR 97058

6. Transporter 1 Company Name: Envirocon Tracking ~~Clean Harbors Environmental Services Inc~~ CCH 10-22-08
U.S. EPA ID Number: WAD988516829 ~~MAD039322250~~

7. Transporter 2 Company Name: Pr Roy Mohoff /Envirocon.
U.S. EPA ID Number:

8. Designated Facility Name and Site Address:
Chemical Waste Management
17629 Cedar Springs Lane
Arlington, OR 97512
Facility's Phone: (541) 454-2030
U.S. EPA ID Number: ORD089452353

9a. HM	9b. U.S. DOT Description (including Proper Shipping Name, Hazard Class, ID Number, and Packing Group (if any))	10. Containers No.	10. Containers Type	11. Total Quantity	12. Unit Wt./Vol.	13. Waste Codes
x	1. RQ, NA3077, HAZARDOUS WASTE, SOLID, N.O.S., (K088), 9, PG III (RQ=10LBS)	1	DT	33	T	K008
	2.					
	3.					
	4.					

14. Special Handling Instructions and Additional Information
1.DSOR300466 ERG#171

L14, 66900P, 33.45.

15. GENERATOR'S/OFFEROR'S CERTIFICATION: I hereby declare that the contents of this consignment are fully and accurately described above by the proper shipping name, and are classified, packaged, marked and labeled/placarded, and are in all respects in proper condition for transport according to applicable international and national governmental regulations. If export shipment and I am the Primary Exporter, I certify that the contents of this consignment conform to the terms of the attached EPA Acknowledgment of Consent.
I certify that the waste minimization statement identified in 40 CFR 262.27(a) (if I am a large quantity generator) or (b) (if I am a small quantity generator) is true.

Generator's/Offeror's Printed/Typed Name: William Bath
Signature: William Bath
Month 10 Day 14 Year 08

16. International Shipments ☐ Import to U.S. ☐ Export from U.S. Port of entry/exit:
Transporter signature (for exports only): Date leaving U.S.:

17. Transporter Acknowledgment of Receipt of Materials
Transporter 1 Printed/Typed Name: TYE LEE
Signature:
Month 10 Day 16 Year 08
Transporter 2 Printed/Typed Name:
Signature:
Month Day Year

18. Discrepancy
18a. Discrepancy Indication Space ☐ Quantity ☐ Type ☐ Residue ☐ Partial Rejection ☐ Full Rejection
Manifest Reference Number:
18b. Alternate Facility (or Generator)
U.S. EPA ID Number
Facility's Phone:
18c. Signature of Alternate Facility (or Generator)
Month Day Year

19. Hazardous Waste Report Management Method Codes (i.e., codes for hazardous waste treatment, disposal, and recycling systems)
1. H132 2. 3. 4.

20. Designated Facility Owner or Operator: Certification of receipt of hazardous materials covered by the manifest except as noted in Item 18a
Printed/Typed Name: Janice Stand
Signature:
Month 10 Day 16 Year 08

GENERATOR / INT'L / TRANSPORTER / DESIGNATED FACILITY

EPA Form 8700-22 (Rev. 3-05) Previous editions are obsolete.

DESIGNATED FACILITY TO GENERATOR

Clean Harbors has the appropriate permits for and will accept the waste the generator is shipping

WASTE MANAGEMENT

CHEMICAL WASTE MANAGEMENT OF THE NW
17629 Cedar Springs Lane
Arlington, OR 97812
(541) 454-2643
(541) 454-3279 Fax

October 20, 2008

Lockheed Martin Corp
3313 W 2nd St
The Dalles OR 97058

This letter is to inform your office of the following errors or omissions identified on the manifest, land disposal certification, or other applicable manifest attachment which accompanied your waste shipment on:

Manifest Number:	**002220569FLE**	***Profile Number:***	**OR300466**
Shipment Date:	**10/14/08**	***CWMNW Load No.:***	**399126**
Error:		***Omission:***	**X**
Description:	**Section 5 is missing the generator's phone number.**		

This information has been corrected/added to our records. Please attach this letter to your original manifest as an addendum.

Becky Sumner

Chemical Waste Management of the Northwest, Inc.

399079

GW2088031-004 SC PPW 10/6/2008

Please print or type. (Form designed for use on elite (12-pitch) typewriter.) Form Approved. OMB No. 2050-0039

UNIFORM HAZARDOUS WASTE MANIFEST	1. Generator ID Number	2. Page 1 of	3. Emergency Response Phone	4. Manifest Tracking Number
	ORD052221025	1	(800) 483-3718	002220570 FLE

GENERATOR

5. Generator's Name and Mailing Address
Lockheed Martin Corporation
2950 North Hollywood Way, Suite 125
Burbank, CA 91505
Generator's Phone:

Generator's Site Address (if different than mailing address)
3313 West Second Street
The Dalles, OR 97058

6. Transporter 1 Company Name: Environcon Trucking
Clean Harbors Environmental Services Inc CH 10-22-08
U.S. EPA ID Number: WAD988516829
MAD039322250

7. Transporter 2 Company Name: Per Ray Mahoff / Environcon.
U.S. EPA ID Number:

8. Designated Facility Name and Site Address
Chemical Waste Management
17629 Cedar Springs Lane
Arlington, OR 97812
Facility's Phone: (541) 454-2030
U.S. EPA ID Number
ORD089452353

9a. HM	9b. U.S. DOT Description (including Proper Shipping Name, Hazard Class, ID Number, and Packing Group (if any))	10. Containers No.	10. Containers Type	11. Total Quantity	12. Unit Wt./Vol.	13. Waste Codes		
X	1. RQ, NA3077, HAZARDOUS WASTE, SOLID, N.O.S., (K088), 9, PG III (RQ-10LBS)	1	DT	33	T	K088		
	2.							
	3.							
	4.							

14. Special Handling Instructions and Additional Information
1.D80R300466 **ERG#171**

L14, 68100P, 34.05T

15. **GENERATOR'S/OFFEROR'S CERTIFICATION:** I hereby declare that the contents of this consignment are fully and accurately described above by the proper shipping name, and are classified, packaged, marked and labeled/placarded, and are in all respects in proper condition for transport according to applicable international and national governmental regulations. If export shipment and I am the Primary Exporter, I certify that the contents of this consignment conform to the terms of the attached EPA Acknowledgment of Consent.
I certify that the waste minimization statement identified in 40 CFR 262.27(a) (if I am a large quantity generator) or (b) (if I am a small quantity generator) is true.

Generator's/Offeror's Printed/Typed Name: William Bath
Signature: William Bath
Month: 10 Day: 14 Year: 08

INT'L

16. International Shipments ☐ Import to U.S. ☐ Export from U.S. Port of entry/exit:
Transporter signature (for exports only): Date leaving U.S.:

TRANSPORTER

17. Transporter Acknowledgment of Receipt of Materials
Transporter 1 Printed/Typed Name: Rodney Rollins
Signature: Rodney R
Month: 10 Day: 15 Year: 08
Transporter 2 Printed/Typed Name:
Signature:
Month: Day: Year:

DESIGNATED FACILITY

18. Discrepancy
18a. Discrepancy Indication Space ☐ Quantity ☐ Type ☐ Residue ☐ Partial Rejection ☐ Full Rejection
Manifest Reference Number:
18b. Alternate Facility (or Generator) U.S. EPA ID Number
Facility's Phone:
18c. Signature of Alternate Facility (or Generator) Month: Day: Year:

19. Hazardous Waste Report Management Method Codes (i.e., codes for hazardous waste treatment, disposal, and recycling systems)

1.	2.	3.	4.
H132			

20. Designated Facility Owner or Operator: Certification of receipt of hazardous materials covered by the manifest except as noted in Item 18a
Printed/Typed Name: Francie Gabbey
Signature: Francie Gabbey
Month: 10 Day: 16 Year: 08

EPA Form 8700-22 (Rev. 3-05) Previous editions are obsolete.

DESIGNATED FACILITY TO GENERATOR

Clean Harbors has the appropriate permits for and will accept this waste this shipment is in conformance

WASTE MANAGEMENT

CHEMICAL WASTE MANAGEMENT OF THE NW
17629 Cedar Springs Lane
Arlington, OR 97812
(541) 454-2643
(541) 454-3279 Fax

October 20, 2008

Lockheed Martin Corp
3313 W 2nd St
The Dalles OR 97058

This letter is to inform your office of the following errors or omissions identified on the manifest, land disposal certification, or other applicable manifest attachment which accompanied your waste shipment on:

Manifest Number:	**002220570FLE**	***Profile Number:***	**OR300466**
Shipment Date:	**10/14/08**	***CWMNW Load No.:***	**399079**
Error:		***Omission:***	**X**
Description:	**Section 5 is missing the generator's phone number.**		

This information has been corrected/added to our records. Please attach this letter to your original manifest as an addendum.

Becky Sumner

Chemical Waste Management of the Northwest, Inc.

22 OMU44 4

Please print or type. (Form designed for use on elite (12-pitch) typewriter.) GW2088031-004 SC PPW 10/6/2008 Form Approved. OMB No. 2050-0039

UNIFORM HAZARDOUS WASTE MANIFEST

1. Generator ID Number	2. Page 1 of	3. Emergency Response Phone	4. Manifest Tracking Number
ORD052221026	1	(800) 483-3719	002220571 FLE

GENERATOR

5. Generator's Name and Mailing Address
Lockheed Martin Corporation
2980 North Hollywood Way, Suite 125
Burbank, CA 91505
Generator's Phone:

Generator's Site Address (if different than mailing address)
8313 West Second Street
The Dalles, OR 97058

TRANSPORTER

6. Transporter 1 Company Name: Envirocon Trucking ~~Clean Harbors Environmental Services Inc~~ Inv 10.22.08 Per Ray Mohoff / Envirocon.
U.S. EPA ID Number: WAD988516829 ~~MAD039322250~~

7. Transporter 2 Company Name
U.S. EPA ID Number

DESIGNATED FACILITY

8. Designated Facility Name and Site Address
Chemical Waste Management
17629 Cedar Springs Lane
Arlington, OR 97812
Facility's Phone: (541) 454-2030
U.S. EPA ID Number: ORD089452353

9a. HM	9b. U.S. DOT Description (including Proper Shipping Name, Hazard Class, ID Number, and Packing Group (if any))	10. Containers No.	10. Containers Type	11. Total Quantity	12. Unit Wt./Vol.	13. Waste Codes		
X	1. RQ, NA3077, HAZARDOUS WASTE, SOLID, N.O.S., (K088), 9, PG III (RQ-10LBS)	1	DT	33	T	K088		
	2.							
	3.							
	4.							

14. Special Handling Instructions and Additional Information
1. DSCR300466 ERG#171

U4, 65100P, 32.55T

15. **GENERATOR'S/OFFEROR'S CERTIFICATION:** I hereby declare that the contents of this consignment are fully and accurately described above by the proper shipping name, and are classified, packaged, marked and labeled/placarded, and are in all respects in proper condition for transport according to applicable international and national governmental regulations. If export shipment and I am the Primary Exporter, I certify that the contents of this consignment conform to the terms of the attached EPA Acknowledgment of Consent.
I certify that the waste minimization statement identified in 40 CFR 262.27(a) (if I am a large quantity generator) or (b) (if I am a small quantity generator) is true.

Generator's/Offeror's Printed/Typed Name: William Bath
Signature: William Bath
Month: 10 Day: 14 Year: 08

INT'L

16. International Shipments ☐ Import to U.S. ☐ Export from U.S. Port of entry/exit:
Transporter signature (for exports only): Date leaving U.S.:

TRANSPORTER

17. Transporter Acknowledgment of Receipt of Materials

Transporter 1 Printed/Typed Name: KENT SMITH
Signature:
Month: 10 Day: 16 Year: 08

Transporter 2 Printed/Typed Name
Signature
Month Day Year

DESIGNATED FACILITY

18. Discrepancy

18a. Discrepancy Indication Space ☐ Quantity ☐ Type ☐ Residue ☐ Partial Rejection ☐ Full Rejection

Manifest Reference Number:

18b. Alternate Facility (or Generator)
U.S. EPA ID Number
Facility's Phone:

18c. Signature of Alternate Facility (or Generator)
Month Day Year

19. Hazardous Waste Report Management Method Codes (i.e., codes for hazardous waste treatment, disposal, and recycling systems)

1.	2.	3.	4.
H132			

20. Designated Facility Owner or Operator: Certification of receipt of hazardous materials covered by the manifest except as noted in Item 18a

Printed/Typed Name: Janice Strand
Signature:
Month: 10 Day: 16 Year: 08

EPA Form 8700-22 (Rev. 3-05) Previous editions are obsolete.

DESIGNATED FACILITY TO GENERATOR

Please Purchase from the recommended generator for used will transport the waste to the disposal to obtain a

1 of 5

WASTE MANAGEMENT

CHEMICAL WASTE MANAGEMENT OF THE NW
17629 Cedar Springs Lane
Arlington, OR 97812
(541) 454-2643
(541) 454-3279 Fax

October 20, 2008

Lockheed Martin Corp
3313 W 2nd St
The Dalles OR 97058

This letter is to inform your office of the following errors or omissions identified on the manifest, land disposal certification, or other applicable manifest attachment which accompanied your waste shipment on:

Manifest Number:	**002220571FLE**	***Profile Number:***	**OR300466**
Shipment Date:	**10/14/08**	***CWMNW Load No.:***	**399094**
Error:		***Omission:***	**X**
Description:	**Section 5 is missing the generator's phone number.**		

This information has been corrected/added to our records. Please attach this letter to your original manifest as an addendum.

Becky Sumner

Chemical Waste Management of the Northwest, Inc.

1569 399/21 10

GW2088031-004 SC PPW 10/6/2008

Please print or type. (Form designed for use on elite (12-pitch) typewriter.)

Form Approved. OMB No. 2050-0039

UNIFORM HAZARDOUS WASTE MANIFEST	1. Generator ID Number	2. Page 1 of	3. Emergency Response Phone	4. Manifest Tracking Number
	ORD052221025	1	(800) 483-3718	002220572 FLE

5. Generator's Name and Mailing Address
Lockheed Martin Corporation
2950 North Hollywood Way, Suite 125
Burbank, CA 91505
Generator's Phone:

Generator's Site Address (if different than mailing address)
3313 West Second Street
The Dalles, OR 97058

6. Transporter 1 Company Name
~~Clean Harbors Environmental Services Inc.~~ Green Co. Trucking CCH 10-22-08
U.S. EPA ID Number WAD988516829 ~~MAD039322250~~

7. Transporter 2 Company Name
Per Ray Mohoff / Envirocon.
U.S. EPA ID Number

8. Designated Facility Name and Site Address
Chemical Waste Management
17629 Cedar Springs Lane
Arlington, OR 97812
Facility's Phone: (541) 454-2030
U.S. EPA ID Number
ORD089452353

9a. HM	9b. U.S. DOT Description (including Proper Shipping Name, Hazard Class, ID Number, and Packing Group (if any))	10. Containers No.	10. Containers Type	11. Total Quantity	12. Unit Wt./Vol.	13. Waste Codes
X	1. RQ, NA3077, HAZARDOUS WASTE, SOLID, N.O.S., (K088), 9, PG III (RQ=10LBS)	1	DT	32	T	K008
	2.			32 Tons		
	3.					
	4.					

14. Special Handling Instructions and Additional Information
1.DSCR300466 ERG#171

L14, 61900P, 30,957

15. GENERATOR'S/OFFEROR'S CERTIFICATION: I hereby declare that the contents of this consignment are fully and accurately described above by the proper shipping name, and are classified, packaged, marked and labeled/placarded, and are in all respects in proper condition for transport according to applicable international and national governmental regulations. If export shipment and I am the Primary Exporter, I certify that the contents of this consignment conform to the terms of the attached EPA Acknowledgment of Consent.
I certify that the waste minimization statement identified in 40 CFR 262.27(a) (if I am a large quantity generator) or (b) (if I am a small quantity generator) is true.

Generator's/Offeror's Printed/Typed Name: William Bath
Signature: William Bath
Month 10 Day 14 Year 08

16. International Shipments ☐ Import to U.S. ☐ Export from U.S. Port of entry/exit:
Transporter signature (for exports only): Date leaving U.S.:

17. Transporter Acknowledgment of Receipt of Materials
Transporter 1 Printed/Typed Name: Steve Brewer
Signature: Steve Brewer
Month 10 Day 16 Year 08
Transporter 2 Printed/Typed Name
Signature
Month Day Year

18. Discrepancy
18a. Discrepancy Indication Space ☐ Quantity ☐ Type ☐ Residue ☐ Partial Rejection ☐ Full Rejection
Manifest Reference Number:

18b. Alternate Facility (or Generator)
U.S. EPA ID Number
Facility's Phone:

18c. Signature of Alternate Facility (or Generator)
Month Day Year

19. Hazardous Waste Report Management Method Codes (i.e., codes for hazardous waste treatment, disposal, and recycling systems)
1. H132 2. 3. 4.

20. Designated Facility Owner or Operator: Certification of receipt of hazardous materials covered by the manifest except as noted in Item 18a
Printed/Typed Name: Janice Stuart
Signature: [signature]
Month 10 Day 16 Year 08

GENERATOR / INT'L / TRANSPORTER / DESIGNATED FACILITY

EPA Form 8700-22 (Rev. 3-05) Previous editions are obsolete.

DESIGNATED FACILITY TO GENERATOR

WASTE MANAGEMENT

CHEMICAL WASTE MANAGEMENT OF THE NW
17629 Cedar Springs Lane
Arlington, OR 97812
(541) 454-2643
(541) 454-3279 Fax

October 20, 2008

Lockheed Martin Corp
3313 W 2nd St
The Dalles OR 97058

This letter is to inform your office of the following errors or omissions identified on the manifest, land disposal certification, or other applicable manifest attachment which accompanied your waste shipment on:

Manifest Number:	**002220572FLE**	***Profile Number:***	**OR300466**
Shipment Date:	**10/14/08**	***CWMNW Load No.:***	**399127**
Error:		***Omission:***	**X**
Description:	**Section 5 is missing the generator's phone number.**		

This information has been corrected/added to our records. Please attach this letter to your original manifest as an addendum.

Becky Sumner

Chemical Waste Management of the Northwest, Inc.

344071

Please print or type. (Form designed for use on elite (12-pitch) typewriter.) GW2088031-004 SC PPW 10/6/2008 Form Approved. OMB No. 2050-0039

UNIFORM HAZARDOUS WASTE MANIFEST	1. Generator ID Number	2. Page 1 of	3. Emergency Response Phone	4. Manifest Tracking Number
	ORD052221025	1	(800) 483-3718	002220573 FLE

5. Generator's Name and Mailing Address
Lockheed Martin Corporation
2950 North Hollywood Way, Suite 125
Burbank, CA 91505
Generator's Phone:

Generator's Site Address (if different than mailing address)
3313 West Second Street
The Dalles, OR 97058

6. Transporter 1 Company Name: ENVIROCON TRUCKING ~~Clean Harbors Environmental Services Inc~~ CCH 10-22-08 PER RAY MONDEF / ENVIROCON. U.S. EPA ID Number: WAD988516829 ~~MAD039322250~~

7. Transporter 2 Company Name: U.S. EPA ID Number:

8. Designated Facility Name and Site Address
Chemical Waste Management
17629 Cedar Springs Lane
Arlington, OR 97812
Facility's Phone: (541) 454-2030
U.S. EPA ID Number: ORD089452353

9a. HM	9b. U.S. DOT Description (including Proper Shipping Name, Hazard Class, ID Number, and Packing Group (if any))	10. Containers No.	Type	11. Total Quantity	12. Unit Wt./Vol.	13. Waste Codes
X	1. RQ, NA3077, HAZARDOUS WASTE, SOLID, N.O.S., (K088), 9, PG III (RQ=10LBS)	1	DT	~~33~~ 35	T	K008
	2.					
	3.					
	4.					

14. Special Handling Instructions and Additional Information
1. DSOR300466 ERG#171

L14, 70950P, 35.48T

15. GENERATOR'S/OFFEROR'S CERTIFICATION: I hereby declare that the contents of this consignment are fully and accurately described above by the proper shipping name, and are classified, packaged, marked and labeled/placarded, and are in all respects in proper condition for transport according to applicable international and national governmental regulations. If export shipment and I am the Primary Exporter, I certify that the contents of this consignment conform to the terms of the attached EPA Acknowledgment of Consent.
I certify that the waste minimization statement identified in 40 CFR 262.27(a) (if I am a large quantity generator) or (b) (if I am a small quantity generator) is true.

Generator's/Offeror's Printed/Typed Name: William Bath Signature: William Bath Month 10 Day 14 Year 08

16. International Shipments ☐ Import to U.S. ☐ Export from U.S. Port of entry/exit:
Transporter signature (for exports only): Date leaving U.S.:

17. Transporter Acknowledgment of Receipt of Materials
Transporter 1 Printed/Typed Name: Eric Lucore Signature: Eric Lucore Month 10 Day 15 Year 08
Transporter 2 Printed/Typed Name: Signature: Month Day Year

18. Discrepancy
18a. Discrepancy Indication Space ☒ Quantity ☐ Type ☐ Residue ☐ Partial Rejection ☐ Full Rejection
Driver changed Total Qty 10/15/08 Manifest Reference Number:
18b. Alternate Facility (or Generator) U.S. EPA ID Number
Facility's Phone:
18c. Signature of Alternate Facility (or Generator) Month Day Year

19. Hazardous Waste Report Management Method Codes (i.e., codes for hazardous waste treatment, disposal, and recycling systems)
1. H132 2. 3. 4.

20. Designated Facility Owner or Operator: Certification of receipt of hazardous materials covered by the manifest except as noted in Item 18a
Printed/Typed Name: Janice Strand Signature: Janice Strand Month 10 Day 16 Year 08

GENERATOR / INT'L / TRANSPORTER / DESIGNATED FACILITY

EPA Form 8700-22 (Rev. 3-05) Previous editions are obsolete.

DESIGNATED FACILITY TO GENERATOR

Clean Harbors has the appropriate permits for and will accept the waste the Generator is shipping.

AMS

WASTE MANAGEMENT

CHEMICAL WASTE MANAGEMENT OF THE NW
17629 Cedar Springs Lane
Arlington, OR 97812
(541) 454-2643
(541) 454-3279 Fax

October 20, 2008

Lockheed Martin Corp
3313 W 2nd St
The Dalles OR 97058

This letter is to inform your office of the following errors or omissions identified on the manifest, land disposal certification, or other applicable manifest attachment which accompanied your waste shipment on:

Manifest Number:	002220573FLE	***Profile Number:***	OR300466
Shipment Date:	10/14/08	***CWMNW Load No.:***	399091
Error:		***Omission:***	X
Description:	Section 5 is missing the generator's phone number.		

This information has been corrected/added to our records. Please attach this letter to your original manifest as an addendum.

Becky Sumner

Chemical Waste Management of the Northwest, Inc.

399134

Please print or type. (Form designed for use on elite (12-pitch) typewriter.) GW2088031-004 SC PPW 10/6/2008

Form Approved. OMB No. 2050-0039

UNIFORM HAZARDOUS WASTE MANIFEST	1. Generator ID Number	2. Page 1 of	3. Emergency Response Phone	4. Manifest Tracking Number
	ORD052221025	1	(800) 483-3718	002220603 FLE

5. Generator's Name and Mailing Address
Lockheed Martin Corporation
2950 North Hollywood Way, Suite 125
Burbank, CA 91505
Generator's Phone:

Generator's Site Address (if different than mailing address)
3313 West Second Street
The Dalles, OR 97058
WAD988516829

6. Transporter 1 Company Name ENVIROCON TRUCKING INC.
~~Clean Harbors Environmental Services Inc~~
U.S. EPA ID Number ~~MAD039322250~~

7. Transporter 2 Company Name
U.S. EPA ID Number

8. Designated Facility Name and Site Address
Chemical Waste Management
17629 Cedar Springs Lane
Arlington, OR 97812
Facility's Phone: (541) 454-2030
U.S. EPA ID Number ORD089452353

9a. HM	9b. U.S. DOT Description (including Proper Shipping Name, Hazard Class, ID Number, and Packing Group (if any))	10. Containers No.	10. Containers Type	11. Total Quantity	12. Unit Wt./Vol.	13. Waste Codes
X	1. RQ, NA3077, HAZARDOUS WASTE, SOLID, N.O.S., (K088), 9, PG III (RQ=10LBS)	1	DT	33	T	K008
	2.					
	3.					
	4.					

14. Special Handling Instructions and Additional Information
1.DSOR300466 ERG#171

L14,63150P,31SBT

15. GENERATOR'S/OFFEROR'S CERTIFICATION: I hereby declare that the contents of this consignment are fully and accurately described above by the proper shipping name, and are classified, packaged, marked and labeled/placarded, and are in all respects in proper condition for transport according to applicable international and national governmental regulations. If export shipment and I am the Primary Exporter, I certify that the contents of this consignment conform to the terms of the attached EPA Acknowledgment of Consent.
I certify that the waste minimization statement identified in 40 CFR 262.27(a) (if I am a large quantity generator) or (b) (if I am a small quantity generator) is true.

Generator's/Offeror's Printed/Typed Name: William Bath
Signature: William Bath
Month 10 Day 15 Year 08

16. International Shipments ☐ Import to U.S. ☐ Export from U.S. Port of entry/exit:
Transporter signature (for exports only): Date leaving U.S.:

17. Transporter Acknowledgment of Receipt of Materials
Transporter 1 Printed/Typed Name: ROB NEWSOM
Signature: Rob Newsom
Month 10 Day 00 Year 08

Transporter 2 Printed/Typed Name
Signature
Month Day Year

18. Discrepancy
18a. Discrepancy Indication Space ☐ Quantity ☐ Type ☐ Residue ☐ Partial Rejection ☐ Full Rejection
Manifest Reference Number:

18b. Alternate Facility (or Generator)
U.S. EPA ID Number
Facility's Phone:

18c. Signature of Alternate Facility (or Generator)
Month Day Year

19. Hazardous Waste Report Management Method Codes (i.e., codes for hazardous waste treatment, disposal, and recycling systems)
1. A132 2. 3. 4.

20. Designated Facility Owner or Operator: Certification of receipt of hazardous materials covered by the manifest except as noted in Item 18a
Printed/Typed Name: Janice Strand
Signature: [signature]
Month 10 Day 16 Year 08

GENERATOR / INT'L / TRANSPORTER / DESIGNATED FACILITY

EPA Form 8700-22 (Rev. 3-05) Previous editions are obsolete.

DESIGNATED FACILITY TO DESTINATION STATE (IF REQUIRED)

Clean Harbors has the appropriate permits for and will accept the waste the generator is shipping.

WASTE MANAGEMENT

CHEMICAL WASTE MANAGEMENT OF THE NW
17629 Cedar Springs Lane
Arlington, OR 97812
(541) 454-2643
(541) 454-3279 Fax

October 20, 2008

Lockheed Martin Corp
3313 W 2nd St
The Dalles OR 97058

This letter is to inform your office of the following errors or omissions identified on the manifest, land disposal certification, or other applicable manifest attachment which accompanied your waste shipment on:

Manifest Number:	**002220603FLE**	***Profile Number:***	**OR300466**
Shipment Date:	**10/15/08**	***CWMNW Load No.:***	**399134**
Error:		***Omission:***	**X**
Description:	**Section 5 is missing the generator's phone number.**		

This information has been corrected/added to our records. Please attach this letter to your original manifest as an addendum.

Becky Sumner

Chemical Waste Management of the Northwest, Inc.

399132

Please print or type. (Form designed for use on elite (12-pitch) typewriter.) GW2088031-004 SC PPW 10/6/2008

Form Approved. OMB No. 2050-0039

UNIFORM HAZARDOUS WASTE MANIFEST	1. Generator ID Number	2. Page 1 of	3. Emergency Response Phone	4. Manifest Tracking Number
	ORD052221025	1	(800) 483-9718	002220604 FLE

GENERATOR

5. Generator's Name and Mailing Address
Lockheed Martin Corporation
2950 North Hollywood Way, Suite 125
Burbank, CA 91505
Generator's Phone:

Generator's Site Address (if different than mailing address)
3313 West Second Street
The Dalles, OR 97058
WAD 988516829

6. Transporter 1 Company Name
~~Clean Harbors Environmental Services Inc~~ ENVIROCON TRUCKING INC.
U.S. EPA ID Number
~~MAD000922250~~ (A)

7. Transporter 2 Company Name
U.S. EPA ID Number

8. Designated Facility Name and Site Address
Chemical Waste Management
17629 Cedar Springs Lane
Arlington, OR 97812
Facility's Phone: **(541) 454-2030**
U.S. EPA ID Number
ORD089452353

9a. HM	9b. U.S. DOT Description (including Proper Shipping Name, Hazard Class, ID Number, and Packing Group (if any))	10. Containers No.	10. Containers Type	11. Total Quantity	12. Unit Wt./Vol.	13. Waste Codes		
X	1. RQ, NA3077, HAZARDOUS WASTE, SOLID, N.O.S., (K088), 9, PG III (RQ-10LBS)	1	DT	33	T	K088		
	2.							
	3.							
	4.							

14. Special Handling Instructions and Additional Information
1.DSOR300466 ERG#171

U4, 68050P 34.43T

15. GENERATOR'S/OFFEROR'S CERTIFICATION: I hereby declare that the contents of this consignment are fully and accurately described above by the proper shipping name, and are classified, packaged, marked and labeled/placarded, and are in all respects in proper condition for transport according to applicable international and national governmental regulations. If export shipment and I am the Primary Exporter, I certify that the contents of this consignment conform to the terms of the attached EPA Acknowledgment of Consent.
I certify that the waste minimization statement identified in 40 CFR 262.27(a) (if I am a large quantity generator) or (b) (if I am a small quantity generator) is true.

Generator's/Offeror's Printed/Typed Name: William Bath
Signature: William Bath
Month: 10 Day: 15 Year: 08

INTL

16. International Shipments ☐ Import to U.S. ☐ Export from U.S. Port of entry/exit:
Transporter signature (for exports only): Date leaving U.S.:

TRANSPORTER

17. Transporter Acknowledgment of Receipt of Materials
Transporter 1 Printed/Typed Name: Desta D Scott
Signature:
Month: 10 Day: 16 Year: 08
Transporter 2 Printed/Typed Name:
Signature:
Month: Day: Year:

DESIGNATED FACILITY

18. Discrepancy
18a. Discrepancy Indication Space ☐ Quantity ☐ Type ☐ Residue ☐ Partial Rejection ☐ Full Rejection
Manifest Reference Number:
18b. Alternate Facility (or Generator) U.S. EPA ID Number
Facility's Phone:
18c. Signature of Alternate Facility (or Generator) Month: Day: Year:

19. Hazardous Waste Report Management Method Codes (i.e., codes for hazardous waste treatment, disposal, and recycling systems)

1.	2.	3.	4.
H132			

20. Designated Facility Owner or Operator: Certification of receipt of hazardous materials covered by the manifest except as noted in Item 18a
Printed/Typed Name: Janice Stuard
Signature:
Month: 10 Day: 16 Year: 08

EPA Form 8700-22 (Rev. 3-05) Previous editions are obsolete.

DESIGNATED FACILITY TO DESTINATION STATE (IF REQUIRED)

Clean Harbors has the appropriate permits for and will accept the waste this generator is shipping

WASTE MANAGEMENT

CHEMICAL WASTE MANAGEMENT OF THE NW
17629 Cedar Springs Lane
Arlington, OR 97812
(541) 454-2643
(541) 454-3279 Fax

October 20, 2008

Lockheed Martin Corp
3313 W 2nd St
The Dalles OR 97058

This letter is to inform your office of the following errors or omissions identified on the manifest, land disposal certification, or other applicable manifest attachment which accompanied your waste shipment on:

Manifest Number:	**002220604FLE**	***Profile Number:***	**OR300466**
Shipment Date:	**10/15/08**	***CWMNW Load No.:***	**399132**
Error:		***Omission:***	**X**
Description:	**Section 5 is missing the generator's phone number.**		

This information has been corrected/added to our records. Please attach this letter to your original manifest as an addendum.

Becky Sumner

Chemical Waste Management of the Northwest, Inc.

399133

Please print or type. (Form designed for use on elite (12-pitch) typewriter.) GW2088031-004 SC PPW 10/6/2008

Form Approved. OMB No. 2050-0039

UNIFORM HAZARDOUS WASTE MANIFEST	1. Generator ID Number	2. Page 1 of	3. Emergency Response Phone	4. Manifest Tracking Number
	ORD052221025	1	(800) 483-3718	002220605 FLE

5. Generator's Name and Mailing Address
Lockheed Martin Corporation
2950 North Hollywood Way, Suite 125
Burbank, CA 91505
Generator's Phone:

Generator's Site Address (if different than mailing address)
3313 West Second Street
The Dalles, OR 97058

6. Transporter 1 Company Name: ~~Clean Harbors Environmental Services Inc~~ ENVIROCON TRUCKING INC. U.S. EPA ID Number: WAD 988516829

7. Transporter 2 Company Name: U.S. EPA ID Number:

8. Designated Facility Name and Site Address
Chemical Waste Management
17629 Cedar Springs Lane
Arlington, OR 97812
Facility's Phone: (541) 454-2030
U.S. EPA ID Number: ORD089452353

9a. HM	9b. U.S. DOT Description (Including Proper Shipping Name, Hazard Class, ID Number, and Packing Group (if any))	10. Containers No.	10. Containers Type	11. Total Quantity	12. Unit Wt./Vol.	13. Waste Codes		
X	1. RQ, NA3077, HAZARDOUS WASTE, SOLID, N.O.S., (K088), 9, PG III (RQ=10LBS)	1	DT	33	T	K088		
	2.							
	3.							
	4.							

14. Special Handling Instructions and Additional Information
1. DSOR300466 ERG#171

U4, 69250P, 34.63T

15. GENERATOR'S/OFFEROR'S CERTIFICATION: I hereby declare that the contents of this consignment are fully and accurately described above by the proper shipping name, and are classified, packaged, marked and labeled/placarded, and are in all respects in proper condition for transport according to applicable international and national governmental regulations. If export shipment and I am the Primary Exporter, I certify that the contents of this consignment conform to the terms of the attached EPA Acknowledgment of Consent.
I certify that the waste minimization statement identified in 40 CFR 262.27(a) (if I am a large quantity generator) or (b) (if I am a small quantity generator) is true.

Generator's/Offeror's Printed/Typed Name: William Bath | Signature: William Bath | Month 10 | Day 15 | Year 08

GENERATOR

16. International Shipments ☐ Import to U.S. ☐ Export from U.S. Port of entry/exit:
Transporter signature (for exports only): Date leaving U.S.:

INT'L

17. Transporter Acknowledgment of Receipt of Materials

Transporter 1 Printed/Typed Name: Rodney Rollins | Signature | Month 10 | Day 16 | Year 08

TRANSPORTER

Transporter 2 Printed/Typed Name | Signature | Month | Day | Year

18. Discrepancy

18a. Discrepancy Indication Space ☐ Quantity ☐ Type ☐ Residue ☐ Partial Rejection ☐ Full Rejection

Manifest Reference Number:

18b. Alternate Facility (or Generator) U.S. EPA ID Number
Facility's Phone:

18c. Signature of Alternate Facility (or Generator) Month | Day | Year

DESIGNATED FACILITY

19. Hazardous Waste Report Management Method Codes (i.e., codes for hazardous waste treatment, disposal, and recycling systems)

1.	2.	3.	4.
H132			

20. Designated Facility Owner or Operator: Certification of receipt of hazardous materials covered by the manifest except as noted in Item 18a

Printed/Typed Name: Tanner Stard | Signature | Month 10 | Day 16 | Year 08

EPA Form 8700-22 (Rev. 3-05) Previous editions are obsolete.

DESIGNATED FACILITY TO DESTINATION STATE (IF REQUIRED)

Clean Harbors has the appropriate permits for and will accept the waste the generator is shipping.

WASTE MANAGEMENT

CHEMICAL WASTE MANAGEMENT OF THE NW
17629 Cedar Springs Lane
Arlington, OR 97812
(541) 454-2643
(541) 454-3279 Fax

October 20, 2008

Lockheed Martin Corp
3313 W 2nd St
The Dalles OR 97058

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Shipment Date:	**10/15/08**	***CWMNW Load No.:***	**399133**
Error:		***Omission:***	**X**
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Becky Sumner

Chemical Waste Management of the Northwest, Inc.

Photo No. 1	10/14/08

Description:

Loading dump trucks from MW9 landfill.

Photo No. 2	10/14/08

Description:

Cross section view of MW9 landfill. Waste (darker) and cover (lighter) material is visually different.

Photo No. 3	10/14/08

Description:

Cross section view of MW9 landfill. Exploration boring (bentonite chips) visible on left side of image.

Photo No. 4	10/14/08

Description:

Concrete filled 4" schedule 40 PVC from previously abandoned-in-place monitoring well MW-9B.

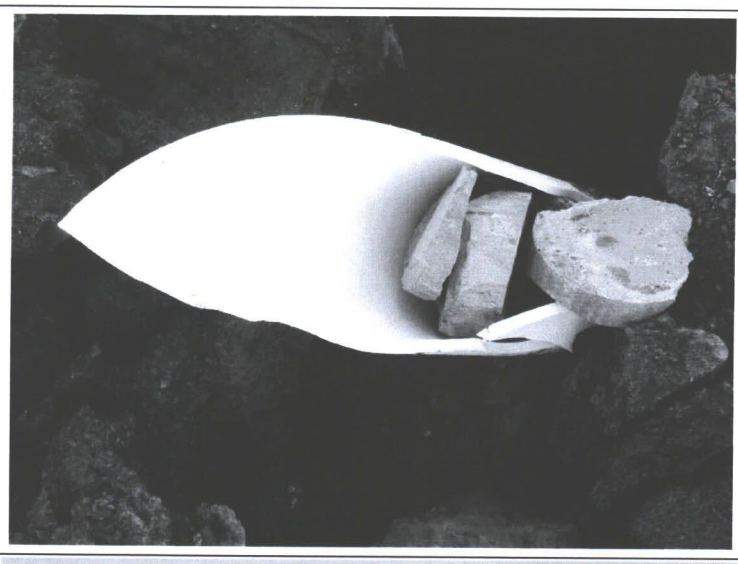


Photo No. 5	10/14/08

Description:

MW-9B (left cone) and MW-9s (right cone) in place during waste removal activities.

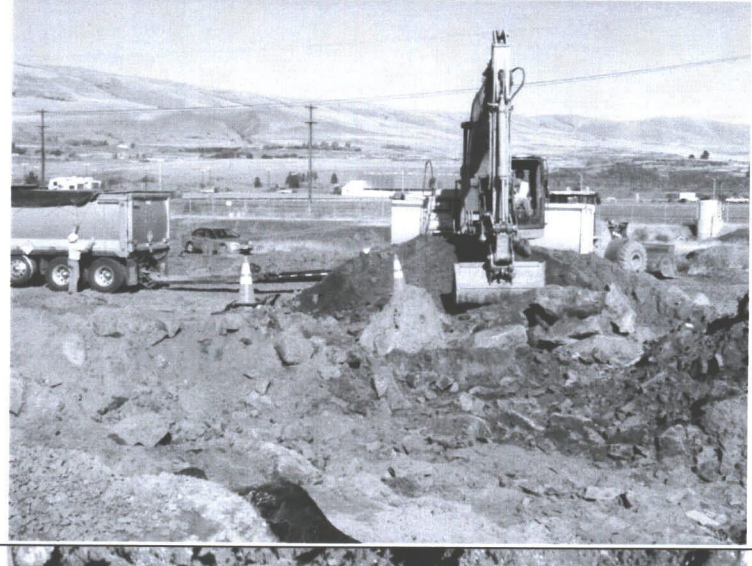


Photo No. 6	10/15/08

Description:

Blue cyanide precipitate on rock in MW8 landfill.

URS	Appendix C: Photographic Log	
Lockheed Martin Corporation	CERCLA Landfill, The Dalles, OR	Job No. 25696853

Photo No. 7	10/16/08

Description:

Steel casing from previously abandoned monitoring well MW-8B.

Photo No. 8	10/15/08

Description:

Sample MW9-N location (typical). New geotextile being placed over former landfill footprint visible.

Photo No. 9	10/15/08

Description:
Sample locations MW9-S (foreground) and MW9-N, along with remaining monitoring wells MW-9B (left) and MW-9s (right) post waste removal. New geotextile on graded landfill area.

URS	Appendix C: Photographic Log	
Lockheed Martin Corporation	CERCLA Landfill, The Dalles, OR	Job No. 25696853

Photo No. 10	11/3/08

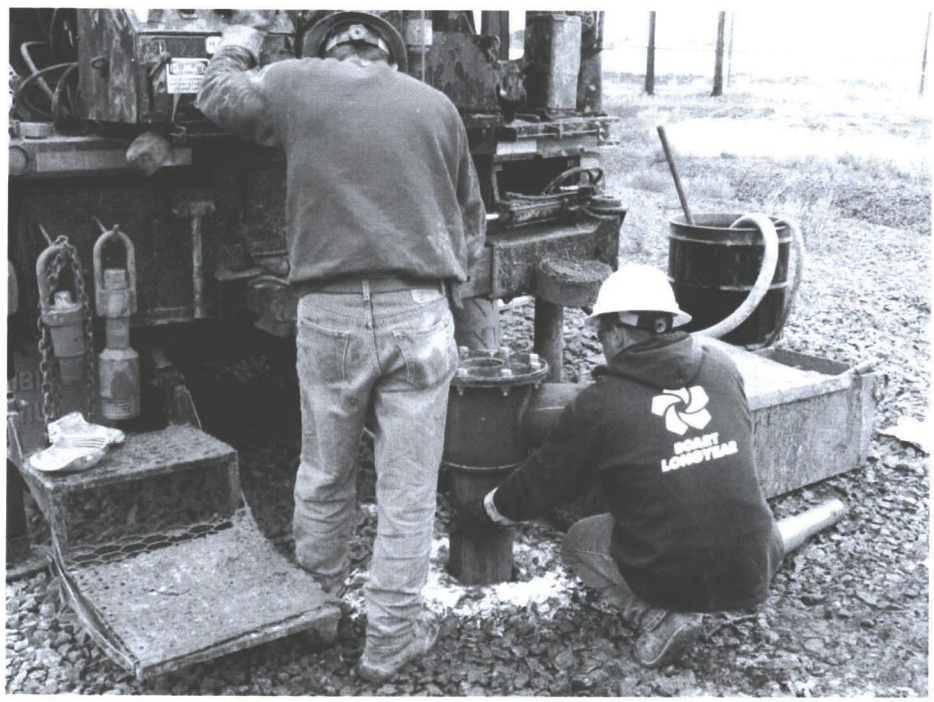
Description:

Boart Longyear abandoning monitoring well MW-9s through overdrilling with mud rotary drill rig. PVC from well visible extending from drill casing.

Photo No. 11	11/3/08

Description:

Boart Longyear installing conductor casing for air rotary installation of MW-42s.



Apex Labs

12232 S.W. Garden Place
Tigard, OR 97223
503-718-2323 Phone
503-718-0333 Fax

Monday, November 3, 2008

Alicia Voss
URS
115 SW Columbia STE 1500
Portland, OR 97201-5850

RE: LMC The Dalles / 25696853

Enclosed are the results of analyses for work order A810230, which was received by the laboratory on 10/23/2008 at 11:20:00AM.

Thank you for using Apex Labs. We appreciate your business and strive to provide the highest quality services to the environmental industry.

If you have any questions concerning this report or the services we offer, please feel free to contact me by email at: dthomas@apex-labs.com, or by phone at 503-718-2323.

Apex Laboratories

Darwin Thomas, Business Development Director

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Apex Labs

12232 S.W. Garden Place
Tigard, OR 97223
503-718-2323 Phone
503-718-0333 Fax

URS 115 SW Columbia STE 1500 Portland, OR 97201-5850	Project: **LMC The Dalles** Project Number: 25696853 Project Manager: Alicia Voss	**Reported:** 11/03/08 09:43

ANALYTICAL REPORT FOR SAMPLES

SAMPLE INFORMATION

Sample ID	Laboratory ID	Matrix	Date Sampled	Date Received
MW9-N-081015	A810230-01	Soil	10/15/08 00:00	10/23/08 11:20
MW9-S-081015	A810230-02	Soil	10/15/08 00:00	10/23/08 11:20
MW9-E-081015	A810230-03	Soil	10/15/08 00:00	10/23/08 11:20
MW9-W-081015	A810230-04	Soil	10/15/08 00:00	10/23/08 11:20
MW8-N-081016	A810230-05	Soil	10/16/08 00:00	10/23/08 11:20
MW8-S-081016	A810230-06	Soil	10/16/08 00:00	10/23/08 11:20
MW8-E-081016	A810230-07	Soil	10/16/08 00:00	10/23/08 11:20
MW8-W-081016	A810230-08	Soil	10/16/08 00:00	10/23/08 11:20

Apex Laboratories

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Apex Labs

12232 S.W. Garden Place
Tigard, OR 97223
503-718-2323 Phone
503-718-0333 Fax

URS	Project: **LMC The Dalles**	
115 SW Columbia STE 1500	Project Number: 25696853	**Reported:**
Portland, OR 97201-5850	Project Manager: Alicia Voss	11/03/08 09:43

ANALYTICAL SAMPLE RESULTS

Anions by EPA 300.0 (Ion Chromatography)

Analyte	Result	MDL	Reporting Limit	Units	Dilution	Date Analyzed	Method	Notes
MW9-N-081015 (A810230-01)			**Matrix: Soil**					
Fluoride	**41.2**	---	11.2	mg/kg dry	1	10/28/08 12:43	EPA 300.0	
MW9-S-081015 (A810230-02)			**Matrix: Soil**					
Fluoride	ND	---	11.8	mg/kg dry	1	10/28/08 14:06	EPA 300.0	
MW9-E-081015 (A810230-03)			**Matrix: Soil**					
Fluoride	**15.8**	---	11.9	mg/kg dry	1	10/28/08 14:27	EPA 300.0	
MW9-W-081015 (A810230-04)			**Matrix: Soil**					
Fluoride	ND	---	11.4	mg/kg dry	1	10/28/08 14:48	EPA 300.0	
MW8-N-081016 (A810230-05)			**Matrix: Soil**					
Fluoride	**191**	---	11.6	mg/kg dry	1	10/28/08 15:09	EPA 300.0	
MW8-S-081016 (A810230-06)			**Matrix: Soil**					
Fluoride	**340**	---	11.7	mg/kg dry	1	10/28/08 15:29	EPA 300.0	
MW8-E-081016 (A810230-07)			**Matrix: Soil**					
Fluoride	**285**	---	11.6	mg/kg dry	1	10/28/08 17:13	EPA 300.0	
MW8-W-081016 (A810230-08)			**Matrix: Soil**					
Fluoride	**414**	---	11.5	mg/kg dry	1	10/29/08 12:48	EPA 300.0	

Apex Laboratories

Darwin Thomas, Business Development Director

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Tigard, OR 97223
503-718-2323 Phone
503-718-0333 Fax

URS	Project: **LMC The Dalles**	
115 SW Columbia STE 1500	Project Number: 25696853	**Reported:**
Portland, OR 97201-5850	Project Manager: Alicia Voss	11/03/08 09:43

ANALYTICAL SAMPLE RESULTS

PAH by EPA 8270C SIM

Analyte	Result	MDL	Reporting Limit	Units	Dilution	Date Analyzed	Method	Notes
MW9-N-081015 (A810230-01RE1)			**Matrix: Soil**					
Acenaphthene	ND	---	32.0	ug/kg dry	1	10/28/08 12:17	EPA 8270C (SIM)	
Acenaphthylene	ND	---	32.0	"	"	"	"	
Anthracene	**65.6**	---	32.0	"	"	"	"	
Benz(a)anthracene	**231**	---	32.0	"	"	"	"	
Benzo(a)pyrene	**170**	---	32.0	"	"	"	"	
Benzo(b+k)fluoranthene(s)	**532**	---	64.1	"	"	"	"	Q-26
Benzo(g,h,i)perylene	**149**	---	32.0	"	"	"	"	
Chrysene	**308**	---	32.0	"	"	"	"	
Dibenz(a,h)anthracene	**39.1**	---	32.0	"	"	"	"	
Fluoranthene	**568**	---	32.0	"	"	"	"	
Fluorene	**35.0**	---	32.0	"	"	"	"	
Indeno(1,2,3-cd)pyrene	**150**	---	32.0	"	"	"	"	
Naphthalene	**39.0**	---	32.0	"	"	"	"	
Phenanthrene	**331**	---	32.0	"	"	"	"	
Pyrene	**446**	---	32.0	"	"	"	"	
Surrogate: Nitrobenzene-d5 (Surr)			*Recovery: 46 %*	*Limits: 35-120 %*	"	"	"	
2-Fluorobiphenyl (Surr)			*56 %*	*Limits: 45-120 %*	"	"	"	
p-Terphenyl-d14 (Surr)			*53 %*	*Limits: 30-120 %*	"	"	"	

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URS 115 SW Columbia STE 1500 Portland, OR 97201-5850	Project: **LMC The Dalles** Project Number: 25696853 Project Manager: Alicia Voss	**Reported:** 11/03/08 09:43

ANALYTICAL SAMPLE RESULTS

PAH by EPA 8270C SIM

Analyte	Result	MDL	Reporting Limit	Units	Dilution	Date Analyzed	Method	Notes
MW9-S-081015 (A810230-02RE1)			**Matrix: Soil**					
Acenaphthene	ND	---	42.6	ug/kg dry	1	10/27/08 16:29	EPA 8270C (SIM)	
Acenaphthylene	ND	---	42.6	"	"	"	"	
Anthracene	ND	---	42.6	"	"	"	"	
Benz(a)anthracene	ND	---	42.6	"	"	"	"	
Benzo(a)pyrene	ND	---	42.6	"	"	"	"	
Benzo(b)fluoranthene	ND	---	42.6	"	"	"	"	
Benzo(k)fluoranthene	ND	---	42.6	"	"	"	"	
Benzo(g,h,i)perylene	ND	---	42.6	"	"	"	"	
Chrysene	ND	---	42.6	"	"	"	"	
Dibenz(a,h)anthracene	ND	---	42.6	"	"	"	"	
Fluoranthene	ND	---	42.6	"	"	"	"	
Fluorene	ND	---	42.6	"	"	"	"	
Indeno(1,2,3-cd)pyrene	ND	---	42.6	"	"	"	"	
Naphthalene	ND	---	42.6	"	"	"	"	
Phenanthrene	ND	---	42.6	"	"	"	"	
Pyrene	ND	---	42.6	"	"	"	"	
Surrogate: Nitrobenzene-d5 (Surr)			*Recovery: 63 %*	*Limits: 35-120 %*	"	"	"	
2-Fluorobiphenyl (Surr)			*64 %*	*Limits: 45-120 %*	"	"	"	
p-Terphenyl-d14 (Surr)			*69 %*	*Limits: 30-120 %*	"	"	"	

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URS 115 SW Columbia STE 1500 Portland, OR 97201-5850	Project: **LMC The Dalles** Project Number: 25696853 Project Manager: Alicia Voss	**Reported:** 11/03/08 09:43

ANALYTICAL SAMPLE RESULTS

PAH by EPA 8270C SIM

Analyte	Result	MDL	Reporting Limit	Units	Dilution	Date Analyzed	Method	Notes
MW9-E-081015 (A810230-03)			**Matrix: Soil**					
Acenaphthene	ND	---	35.3	ug/kg dry	1	10/28/08 11:24	EPA 8270C (SIM)	
Acenaphthylene	ND	---	35.3	"	"	"	"	
Anthracene	ND	---	35.3	"	"	"	"	
Benz(a)anthracene	ND	---	35.3	"	"	"	"	
Benzo(a)pyrene	ND	---	35.3	"	"	"	"	
Benzo(b+k)fluoranthene(s)	ND	---	70.5	"	"	"	"	Q-26
Benzo(g,h,i)perylene	ND	---	35.3	"	"	"	"	
Chrysene	**39.9**	---	35.3	"	"	"	"	
Dibenz(a,h)anthracene	ND	---	35.3	"	"	"	"	
Fluoranthene	**61.1**	---	35.3	"	"	"	"	
Fluorene	ND	---	35.3	"	"	"	"	
Indeno(1,2,3-cd)pyrene	ND	---	35.3	"	"	"	"	
Naphthalene	ND	---	35.3	"	"	"	"	
Phenanthrene	ND	---	35.3	"	"	"	"	
Pyrene	**49.5**	---	35.3	"	"	"	"	
Surrogate: Nitrobenzene-d5 (Surr)			*Recovery: 59 %*	*Limits: 35-120 %*	"	"	"	
2-Fluorobiphenyl (Surr)			*65 %*	*Limits: 45-120 %*	"	"	"	
p-Terphenyl-d14 (Surr)			*69 %*	*Limits: 30-120 %*	"	"	"	

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URS	Project: **LMC The Dalles**	
115 SW Columbia STE 1500	Project Number: 25696853	**Reported:**
Portland, OR 97201-5850	Project Manager: Alicia Voss	11/03/08 09:43

ANALYTICAL SAMPLE RESULTS

PAH by EPA 8270C SIM

Analyte	Result	MDL	Reporting Limit	Units	Dilution	Date Analyzed	Method	Notes
MW9-W-081015 (A810230-04)			**Matrix: Soil**					
Acenaphthene	ND	---	36.0	ug/kg dry	1	10/27/08 17:22	EPA 8270C (SIM)	
Acenaphthylene	ND	---	36.0	"	"	"	"	
Anthracene	ND	---	36.0	"	"	"	"	
Benz(a)anthracene	**65.8**	---	36.0	"	"	"	"	
Benzo(a)pyrene	**63.9**	---	36.0	"	"	"	"	
Benzo(b+k)fluoranthene(s)	**183**	---	71.9	"	"	"	"	Q-26
Benzo(g,h,i)perylene	**59.2**	---	36.0	"	"	"	"	
Chrysene	**100**	---	36.0	"	"	"	"	
Dibenz(a,h)anthracene	ND	---	36.0	"	"	"	"	
Fluoranthene	**153**	---	36.0	"	"	"	"	
Fluorene	ND	---	36.0	"	"	"	"	
Indeno(1,2,3-cd)pyrene	**56.3**	---	36.0	"	"	"	"	
Naphthalene	ND	---	36.0	"	"	"	"	
Phenanthrene	**52.0**	---	36.0	"	"	"	"	
Pyrene	**127**	---	36.0	"	"	"	"	
Surrogate: Nitrobenzene-d5 (Surr)			*Recovery: 59 %*	*Limits: 35-120 %*	"	"	"	
2-Fluorobiphenyl (Surr)			*62 %*	*Limits: 45-120 %*	"	"	"	
p-Terphenyl-d14 (Surr)			*67 %*	*Limits: 30-120 %*	"	"	"	

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URS 115 SW Columbia STE 1500 Portland, OR 97201-5850	Project: **LMC The Dalles** Project Number: 25696853 Project Manager: Alicia Voss	**Reported:** 11/03/08 09:43

ANALYTICAL SAMPLE RESULTS

PAH by EPA 8270C SIM

Analyte	Result	MDL	Reporting Limit	Units	Dilution	Date Analyzed	Method	Notes
MW8-N-081016 (A810230-05)			**Matrix: Soil**					
Acenaphthene	ND	---	29.9	ug/kg dry	1	10/27/08 17:48	EPA 8270C (SIM)	
Acenaphthylene	ND	---	29.9	"	"	"	"	
Anthracene	ND	---	29.9	"	"	"	"	
Benz(a)anthracene	**125**	---	29.9	"	"	"	"	
Benzo(a)pyrene	**127**	---	29.9	"	"	"	"	
Benzo(b+k)fluoranthene(s)	**319**	---	59.9	"	"	"	"	Q-26
Benzo(g,h,i)perylene	**104**	---	29.9	"	"	"	"	
Chrysene	**173**	---	29.9	"	"	"	"	
Dibenz(a,h)anthracene	ND	---	29.9	"	"	"	"	
Fluoranthene	**266**	---	29.9	"	"	"	"	
Fluorene	ND	---	29.9	"	"	"	"	
Indeno(1,2,3-cd)pyrene	**94.7**	---	29.9	"	"	"	"	
Naphthalene	ND	---	29.9	"	"	"	"	
Phenanthrene	**114**	---	29.9	"	"	"	"	
Pyrene	**222**	---	29.9	"	"	"	"	
Surrogate: Nitrobenzene-d5 (Surr)			*Recovery: 69 %*	*Limits: 35-120 %*	"	"	"	
2-Fluorobiphenyl (Surr)			*70 %*	*Limits: 45-120 %*	"	"	"	
p-Terphenyl-d14 (Surr)			*76 %*	*Limits: 30-120 %*	"	"	"	

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URS	Project: **LMC The Dalles**	
115 SW Columbia STE 1500	Project Number: 25696853	**Reported:**
Portland, OR 97201-5850	Project Manager: Alicia Voss	11/03/08 09:43

ANALYTICAL SAMPLE RESULTS

PAH by EPA 8270C SIM

Analyte	Result	MDL	Reporting Limit	Units	Dilution	Date Analyzed	Method	Notes
MW8-S-081016 (A810230-06RE1)			**Matrix: Soil**					
Acenaphthene	ND	---	40.9	ug/kg dry	1	10/27/08 18:14	EPA 8270C (SIM)	
Acenaphthylene	ND	---	40.9	"	"	"	"	
Anthracene	ND	---	40.9	"	"	"	"	
Benz(a)anthracene	ND	---	40.9	"	"	"	"	
Benzo(a)pyrene	ND	---	40.9	"	"	"	"	
Benzo(b)fluoranthene	**47.7**	---	40.9	"	"	"	"	
Benzo(k)fluoranthene	ND	---	40.9	"	"	"	"	
Benzo(b+k)fluoranthene(s)	ND	---	81.8	"	"	"	"	
Chrysene	ND	---	40.9	"	"	"	"	
Dibenz(a,h)anthracene	ND	---	40.9	"	"	"	"	
Fluoranthene	**51.9**	---	40.9	"	"	"	"	
Fluorene	ND	---	40.9	"	"	"	"	
Indeno(1,2,3-cd)pyrene	ND	---	40.9	"	"	"	"	
Naphthalene	ND	---	40.9	"	"	"	"	
Phenanthrene	ND	---	40.9	"	"	"	"	
Pyrene	**42.2**	---	40.9	"	"	"	"	
Surrogate: Nitrobenzene-d5 (Surr)			*Recovery: 87 %*	*Limits: 35-120 %*	"	"	"	
2-Fluorobiphenyl (Surr)			*83 %*	*Limits: 45-120 %*	"	"	"	
p-Terphenyl-d14 (Surr)			*88 %*	*Limits: 30-120 %*	"	"	"	

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URS	Project: **LMC The Dalles**	
115 SW Columbia STE 1500	Project Number: 25696853	**Reported:**
Portland, OR 97201-5850	Project Manager: Alicia Voss	11/03/08 09:43

ANALYTICAL SAMPLE RESULTS

PAH by EPA 8270C SIM

Analyte	Result	MDL	Reporting Limit	Units	Dilution	Date Analyzed	Method	Notes
MW8-E-081016 (A810230-07)			**Matrix: Soil**					
Acenaphthene	ND	---	39.0	ug/kg dry	1	10/27/08 18:41	EPA 8270C (SIM)	
Acenaphthylene	ND	---	39.0	"	"	"	"	
Anthracene	ND	---	39.0	"	"	"	"	
Benz(a)anthracene	ND	---	39.0	"	"	"	"	
Benzo(a)pyrene	ND	---	39.0	"	"	"	"	
Benzo(b)fluoranthene	ND	---	39.0	"	"	"	"	
Benzo(k)fluoranthene	ND	---	39.0	"	"	"	"	
Benzo(g,h,i)perylene	ND	---	39.0	"	"	"	"	
Chrysene	ND	---	39.0	"	"	"	"	
Dibenz(a,h)anthracene	ND	---	39.0	"	"	"	"	
Fluoranthene	ND	---	39.0	"	"	"	"	
Fluorene	ND	---	39.0	"	"	"	"	
Indeno(1,2,3-cd)pyrene	ND	---	39.0	"	"	"	"	
Naphthalene	ND	---	39.0	"	"	"	"	
Phenanthrene	ND	---	39.0	"	"	"	"	
Pyrene	ND	---	39.0	"	"	"	"	
Surrogate: Nitrobenzene-d5 (Surr)			*Recovery: 79 %*	*Limits: 35-120 %*	"	"	"	
2-Fluorobiphenyl (Surr)			*78 %*	*Limits: 45-120 %*	"	"	"	
p-Terphenyl-d14 (Surr)			*84 %*	*Limits: 30-120 %*	"	"	"	

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URS	Project: **LMC The Dalles**	
115 SW Columbia STE 1500	Project Number: 25696853	**Reported:**
Portland, OR 97201-5850	Project Manager: Alicia Voss	11/03/08 09:43

ANALYTICAL SAMPLE RESULTS

PAH by EPA 8270C SIM

Analyte	Result	MDL	Reporting Limit	Units	Dilution	Date Analyzed	Method	Notes
MW8-W-081016 (A810230-08)			**Matrix: Soil**					
Acenaphthene	ND	---	36.9	ug/kg dry	1	10/27/08 19:07	EPA 8270C (SIM)	
Acenaphthylene	ND	---	36.9	"	"	"	"	
Anthracene	ND	---	36.9	"	"	"	"	
Benz(a)anthracene	**60.4**	---	36.9	"	"	"	"	
Benzo(a)pyrene	**64.4**	---	36.9	"	"	"	"	
Benzo(b+k)fluoranthene(s)	**168**	---	73.7	"	"	"	"	Q-26
Benzo(g,h,i)perylene	**56.9**	---	36.9	"	"	"	"	
Chrysene	**92.1**	---	36.9	"	"	"	"	
Dibenz(a,h)anthracene	ND	---	36.9	"	"	"	"	
Fluoranthene	**144**	---	36.9	"	"	"	"	
Fluorene	ND	---	36.9	"	"	"	"	
Indeno(1,2,3-cd)pyrene	**49.3**	---	36.9	"	"	"	"	
Naphthalene	ND	---	36.9	"	"	"	"	
Phenanthrene	**67.4**	---	36.9	"	"	"	"	
Pyrene	**114**	---	36.9	"	"	"	"	
Surrogate: Nitrobenzene-d5 (Surr)			*Recovery: 64 %*	*Limits: 35-120 %*	"	"	"	
2-Fluorobiphenyl (Surr)			*65 %*	*Limits: 45-120 %*	"	"	"	
p-Terphenyl-d14 (Surr)			*69 %*	*Limits: 30-120 %*	"	"	"	

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URS 115 SW Columbia STE 1500 Portland, OR 97201-5850	Project: **LMC The Dalles** Project Number: 25696853 Project Manager: Alicia Voss	**Reported:** 11/03/08 09:43

ANALYTICAL SAMPLE RESULTS

Percent Dry Weight by D2216

Analyte	Result	MDL	Reporting Limit	Units	Dilution	Date Analyzed	Method	Notes
MW9-N-081015 (A810230-01)			**Matrix: Soil**					
% Solids	**88.8**	---	1.00	% by Weight	1	10/24/08 07:45	D2216	
MW9-S-081015 (A810230-02)			**Matrix: Soil**					
% Solids	**85.2**	---	1.00	% by Weight	1	10/24/08 07:45	D2216	
MW9-E-081015 (A810230-03)			**Matrix: Soil**					
% Solids	**84.4**	---	1.00	% by Weight	1	10/24/08 07:45	D2216	
MW9-W-081015 (A810230-04)			**Matrix: Soil**					
% Solids	**87.2**	---	1.00	% by Weight	1	10/24/08 07:45	D2216	
MW8-N-081016 (A810230-05)			**Matrix: Soil**					
% Solids	**86.8**	---	1.00	% by Weight	1	10/24/08 07:45	D2216	
MW8-S-081016 (A810230-06)			**Matrix: Soil**					
% Solids	**84.7**	---	1.00	% by Weight	1	10/24/08 07:45	D2216	
MW8-E-081016 (A810230-07)			**Matrix: Soil**					
% Solids	**86.4**	---	1.00	% by Weight	1	10/24/08 07:45	D2216	
MW8-W-081016 (A810230-08)			**Matrix: Soil**					
% Solids	**87.0**	---	1.00	% by Weight	1	10/24/08 07:45	D2216	

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URS	Project: **LMC The Dalles**	
115 SW Columbia STE 1500	Project Number: 25696853	**Reported:**
Portland, OR 97201-5850	Project Manager: Alicia Voss	11/03/08 09:43

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ANALYTICAL SAMPLE RESULTS (Subcontracted)

Determination of Conventional Chemistry Parameters

Analyte	Result	MDL	Reporting Limit	Units	Dilution	Date Analyzed	Method	Notes
MW9-N-081015 (A810230-01)			**Matrix: Soil**					
Cyanide, total	**11.5**	---	0.7	mg/kg dry	2	10/27/08 09:42	EPA 9010B	
Cyanide, complexed	**10.7**	---	0.7	"	"	10/29/08 11:00	"	
Cyanide, amenable	**0.8**	---	0.7	"	"	"	"	
% Solids	**90.3**	---	0.1	%	1	10/28/08 07:40	SM 2540 G	
MW9-S-081015 (A810230-02)			**Matrix: Soil**					
Cyanide, total	**1.1**	---	0.4	mg/kg dry	1	10/27/08 09:42	EPA 9010B	
Cyanide, complexed	**1.4**	---	0.4	"	"	10/29/08 11:00	"	
Cyanide, amenable	ND	---	0.4	"	"	"	"	
% Solids	**86.1**	---	0.1	%	"	10/28/08 07:40	SM 2540 G	
MW9-E-081015 (A810230-03)			**Matrix: Soil**					
Cyanide, total	**9.7**	---	0.7	mg/kg dry	2	10/27/08 09:42	EPA 9010B	
Cyanide, complexed	**8.4**	---	0.7	"	"	10/29/08 11:00	"	
Cyanide, amenable	**1.4**	---	0.7	"	"	"	"	
% Solids	**83.7**	---	0.1	%	1	10/28/08 07:40	SM 2540 G	
MW9-W-081015 (A810230-04)			**Matrix: Soil**					
Cyanide, total	**2.7**	---	0.4	mg/kg dry	1	10/27/08 09:42	EPA 9010B	
Cyanide, complexed	**2.8**	---	0.4	"	"	10/29/08 11:00	"	
Cyanide, amenable	ND	---	0.4	"	"	"	"	
% Solids	**88.4**	---	0.1	%	"	10/28/08 07:40	SM 2540 G	
MW8-N-081016 (A810230-05)			**Matrix: Soil**					
Cyanide, total	**80.4**	---	3.5	mg/kg dry	10	10/27/08 09:42	EPA 9010B	
Cyanide, complexed	**76.5**	---	14.0	"	40	10/29/08 11:00	"	
Cyanide, amenable	**3.9**	---	3.5	"	"	"	"	
% Solids	**87.4**	---	0.1	%	1	10/28/08 07:40	SM 2540 G	
MW8-S-081016 (A810230-06)			**Matrix: Soil**					
Cyanide, total	**191**	---	14.0	mg/kg dry	40	10/27/08 09:42	EPA 9010B	
Cyanide, complexed	**125**	---	14.0	"	"	10/29/08 11:00	"	

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URS	Project: **LMC The Dalles**	
115 SW Columbia STE 1500	Project Number: 25696853	**Reported:**
Portland, OR 97201-5850	Project Manager: Alicia Voss	11/03/08 09:43

Keystone Laboratories, Inc. - Newton

ANALYTICAL SAMPLE RESULTS (Subcontracted)

Determination of Conventional Chemistry Parameters

Analyte	Result	MDL	Reporting Limit	Units	Dilution	Date Analyzed	Method	Notes
MW8-S-081016 (A810230-06)			**Matrix: Soil**					
Cyanide, amenable	**66.2**	---	14.0	mg/kg dry	40	"	EPA 9010b	
% Solids	**88.1**	---	0.1	%	1	10/28/08 07:40	SM 2540 G	
MW8-E-081016 (A810230-07)			**Matrix: Soil**					
Cyanide, total	**142**	---	7.0	mg/kg dry	20	10/27/08 09:42	EPA 9010B	
Cyanide, complexed	**64.1**	---	7.0	"	"	10/29/08 11:00	"	
Cyanide, amenable	**78.1**	---	7.0	"	"	"	"	
% Solids	**86.7**	---	0.1	%	1	10/28/08 07:40	SM 2540 G	
MW8-W-081016 (A810230-08)			**Matrix: Soil**					
Cyanide, total	**194**	---	14.0	mg/kg dry	40	10/27/08 09:42	EPA 9010B	
Cyanide, complexed	**143**	---	14.0	"	"	10/29/08 11:00	"	
Cyanide, amenable	**50.6**	---	14.0	"	"	"	"	
% Solids	**86.7**	---	0.1	%	1	10/28/08 07:40	SM 2540 G	

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URS 115 SW Columbia STE 1500 Portland, OR 97201-5850	Project: **LMC The Dalles** Project Number: 25696853 Project Manager: Alicia Voss	**Reported:** 11/03/08 09:43

QUALITY CONTROL (QC) SAMPLE RESULTS

Anions by EPA 300.0 (Ion Chromatography)

Analyte	Result	MDL	Reporting Limit	Units	Dil.	Spike Amount	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch 8100374 - Method Prep: Non-Aq							**Soil**					
Blank (8100374-BLK1)						**Analyzed: 10/28/08 12:02**						
EPA 300.0												
Fluoride	ND	---	9.00	mg/kg wet	1	---	---	---	---	---	---	
LCS (8100374-BS1)						**Analyzed: 10/28/08 12:22**						
EPA 300.0												
Fluoride	35.8	---	9.00	mg/kg wet	1	36.0	---	100	85-115%	---	---	
Duplicate (8100374-DUP1)			**Source: A810230-01**			**Analyzed: 10/28/08 13:25**						
EPA 300.0												
Fluoride	**36.9**	---	11.3	mg/kg dry	1	---	41.2	---	---	11	20%	
Matrix Spike (8100374-MS1)			**Source: A810230-01**			**Analyzed: 10/28/08 13:46**						
EPA 300.0												
Fluoride	77.5	---	11.2	mg/kg dry	1	44.9	41.2	81	75-125%	---	---	

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URS 115 SW Columbia STE 1500 Portland, OR 97201-5850	Project: **LMC The Dalles** Project Number: 25696853 Project Manager: Alicia Voss	**Reported:** 11/03/08 09:43

QUALITY CONTROL (QC) SAMPLE RESULTS

PAH by EPA 8270C SIM

Analyte	Result	MDL	Reporting Limit	Units	Dil.	Spike Amount	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch 8100331 - EPA 3546							**Soil**					
Blank (8100331-BLK1)							**Analyzed: 10/27/08 15:10**					
EPA 8270C (SIM)												
Acenaphthene	ND	---	25.0	ug/kg wet	1	---	---	---	---	---	---	
Acenaphthylene	ND	---	25.0	"	"	---	---	---	---	---	---	
Anthracene	ND	---	25.0	"	"	---	---	---	---	---	---	
Benz(a)anthracene	ND	---	25.0	"	"	---	---	---	---	---	---	
Benzo(a)pyrene	ND	---	25.0	"	"	---	---	---	---	---	---	
Benzo(b)fluoranthene	ND	---	25.0	"	"	---	---	---	---	---	---	
Benzo(k)fluoranthene	ND	---	25.0	"	"	---	---	---	---	---	---	
Benzo(g,h,i)perylene	ND	---	25.0	"	"	---	---	---	---	---	---	
Chrysene	ND	---	25.0	"	"	---	---	---	---	---	---	
Dibenz(a,h)anthracene	ND	---	25.0	"	"	---	---	---	---	---	---	
Fluoranthene	ND	---	25.0	"	"	---	---	---	---	---	---	
Fluorene	ND	---	25.0	"	"	---	---	---	---	---	---	
Indeno(1,2,3-cd)pyrene	ND	---	25.0	"	"	---	---	---	---	---	---	
Naphthalene	ND	---	25.0	"	"	---	---	---	---	---	---	
Phenanthrene	ND	---	25.0	"	"	---	---	---	---	---	---	
Pyrene	ND	---	25.0	"	"	---	---	---	---	---	---	
Surr: Nitrobenzene-d5 (Surr)			*Recovery: 90 %*		*Limits: 35-120 %*			*Dilution: 1x*				
2-Fluorobiphenyl (Surr)			*84 %*		*45-120 %*			*"*				
p-Terphenyl-d14 (Surr)			*92 %*		*30-120 %*			*"*				
LCS (8100331-BS1)							**Analyzed: 10/27/08 15:36**					
EPA 8270C (SIM)												
Acenaphthene	316	---	25.0	ug/kg wet	1	333	---	95	45-120%	---	---	
Acenaphthylene	346	---	25.0	"	"	"	---	104	"	---	---	
Anthracene	337	---	25.0	"	"	"	---	101	55-120%	---	---	
Benz(a)anthracene	320	---	25.0	"	"	"	---	96	50-120%	---	---	
Benzo(a)pyrene	355	---	25.0	"	"	"	---	106	"	---	---	
Benzo(b)fluoranthene	359	---	25.0	"	"	"	---	108	45-120%	---	---	
Benzo(k)fluoranthene	359	---	25.0	"	"	"	---	108	45-125%	---	---	
Benzo(g,h,i)perylene	350	---	25.0	"	"	"	---	105	40-125%	---	---	
Chrysene	320	---	25.0	"	"	"	---	96	55-120%	---	---	
Dibenz(a,h)anthracene	326	---	25.0	"	"	"	---	98	40-125%	---	---	
Fluoranthene	352	---	25.0	"	"	"	---	106	55-120%	---	---	
Fluorene	334	---	25.0	"	"	"	---	100	50-120%	---	---	

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URS	Project: **LMC The Dalles**	
115 SW Columbia STE 1500	Project Number: 25696853	**Reported:**
Portland, OR 97201-5850	Project Manager: Alicia Voss	11/03/08 09:43

QUALITY CONTROL (QC) SAMPLE RESULTS

PAH by EPA 8270C SIM

Analyte	Result	MDL	Reporting Limit	Units	Dil.	Spike Amount	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch 8100331 - EPA 3546							**Soil**					
LCS (8100331-BS1)							**Analyzed: 10/27/08 15:36**					
Indeno(1,2,3-cd)pyrene	340	---	25.0	ug/kg wet	"	"	---	102	40-120%	---	---	
Naphthalene	301	---	25.0	"	"	"	---	90	"	---	---	
Phenanthrene	315	---	25.0	"	"	"	---	95	50-120%	---	---	
Pyrene	341	---	25.0	"	"	"	---	102	45-125%	---	---	
Surr: Nitrobenzene-d5 (Surr)			*Recovery: 90 %*		*Limits: 35-120 %*		*Dilution: 1x*					
2-Fluorobiphenyl (Surr)			*88 %*		*45-120 %*		"					
p-Terphenyl-d14 (Surr)			*96 %*		*30-120 %*		"					

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115 SW Columbia STE 1500	Project Number: 25696853	**Reported:**
Portland, OR 97201-5850	Project Manager: Alicia Voss	11/03/08 09:43

QUALITY CONTROL (QC) SAMPLE RESULTS

Percent Dry Weight by D2216

Analyte	Result	MDL	Reporting Limit	Units	Dil.	Spike Amount	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch 8100322 - Dry Weight							**Soil**					

No Client related Batch QC samples analyzed for this batch. See notes page for more information.

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URS 115 SW Columbia STE 1500 Portland, OR 97201-5850	Project: **LMC The Dalles** Project Number: 25696853 Project Manager: Alicia Voss	**Reported:** 11/03/08 09:43

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QUALITY CONTROL (QC) SAMPLE RESULTS

Determination of Conventional Chemistry Parameters

Analyte	Result	MDL	Reporting Limit	Units	Dil.	Spike Amount	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch 1J82706 - Wet Chem Preparation							**Soil**					
Blank (1J82706-BLK1)						**Analyzed: 10/27/08 08:15**						
EPA 9010B												
Cyanide, total	ND	---	0.007	mg/kg wet	1	---	---	---	---	---	---	
LCS (1J82706-BS1)						**Analyzed: 10/27/08 08:15**						
EPA 9010B												
Cyanide, total	0.0199	---	0.007	mg/kg wet	1	0.0200000	---	99.4	63-138%	---	---	
Matrix Spike (1J82706-MS1)			**Source: A810230-01**			**Analyzed: 10/27/08 08:15**						
EPA 9010B												
Cyanide, total	13.0	---	0.7	mg/kg dry	2	2.19291	11.5	70.1	60-140%	---	---	
Matrix Spike Dup (1J82706-MSD1)			**Source: A810230-01**			**Analyzed: 10/27/08 08:15**						
EPA 9010B												
Cyanide, total	12.8	---	0.7	mg/kg dry	2	2.12965	11.5	63.6	60-140%	1.42	25%	

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QUALITY CONTROL (QC) SAMPLE RESULTS

Determination of Conventional Chemistry Parameters

Analyte	Result	MDL	Reporting Limit	Units	Dil.	Spike Amount	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch 1J82804 - Wet Chem Preparation							**Soil**					
Duplicate (1J82804-DUP1)			**Source: A810230-08**			**Analyzed: 10/28/08 07:40**						
SM 2540 G												
% Solids	**86.1**	---	0.1	%	1	---	86.7	---	---	0.694	20%	

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URS 115 SW Columbia STE 1500 Portland, OR 97201-5850	Project: **LMC The Dalles** Project Number: 25696853 Project Manager: Alicia Voss	**Reported:** 11/03/08 09:43

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QUALITY CONTROL (QC) SAMPLE RESULTS

Determination of Conventional Chemistry Parameters

Analyte	Result	MDL	Reporting Limit	Units	Dil.	Spike Amount	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch 1J82823 - Wet Chem Preparation							**Soil**					
Blank (1J82823-BLK1)						**Analyzed: 10/29/08 11:00**						
EPA 9010B												
Cyanide, complexed	ND	---	0.4	mg/kg wet	1	---	---	---	---	---	---	
LCS (1J82823-BS1)						**Analyzed: 10/29/08 11:00**						
EPA 9010B												
Cyanide, complexed	0.02	---	0.007	mg/kg wet	1	0.0200000	---	96.7	63-138%	---	---	

Apex Laboratories

Darwin Thomas, Business Development Director

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URS	Project: **LMC The Dalles**	
115 SW Columbia STE 1500	Project Number: 25696853	**Reported:**
Portland, OR 97201-5850	Project Manager: Alicia Voss	11/03/08 09:43

SAMPLE PREPARATION INFORMATION

Anions by EPA 300.0 (Ion Chromatography)

Prep: Method Prep: Non-Aq

Lab Number	Matrix	Method	Sampled	Prepared	Sample Initial/Final	Default Initial/Final	RL Prep Factor
Batch: 8100374							
A810230-01	Soil	EPA 300.0	10/15/08 00:00	10/28/08 10:40	4.5089g/45mL	5g/50mL	1.00
A810230-02	Soil	EPA 300.0	10/15/08 00:00	10/28/08 10:40	4.4834g/45mL	5g/50mL	1.00
A810230-03	Soil	EPA 300.0	10/15/08 00:00	10/28/08 10:40	4.4987g/45mL	5g/50mL	1.00
A810230-04	Soil	EPA 300.0	10/15/08 00:00	10/28/08 10:40	4.5082g/45mL	5g/50mL	1.00
A810230-05	Soil	EPA 300.0	10/16/08 00:00	10/28/08 10:40	4.4849g/45mL	5g/50mL	1.00
A810230-06	Soil	EPA 300.0	10/16/08 00:00	10/28/08 10:40	4.5224g/45mL	5g/50mL	1.00
A810230-07	Soil	EPA 300.0	10/16/08 00:00	10/28/08 10:40	4.5007g/45mL	5g/50mL	1.00
A810230-08	Soil	EPA 300.0	10/16/08 00:00	10/28/08 10:40	4.5019g/45mL	5g/50mL	1.00

PAH by EPA 8270C SIM

Prep: EPA 3546

Lab Number	Matrix	Method	Sampled	Prepared	Sample Initial/Final	Default Initial/Final	RL Prep Factor
Batch: 8100331							
A810230-01RE1	Soil	EPA 8270C (SIM)	10/15/08 00:00	10/23/08 11:07	13.18g/5mL	15g/5mL	1.14
A810230-02RE1	Soil	EPA 8270C (SIM)	10/15/08 00:00	10/23/08 14:53	10.32g/5mL	15g/5mL	1.45
A810230-03	Soil	EPA 8270C (SIM)	10/15/08 00:00	10/23/08 11:07	12.6g/5mL	15g/5mL	1.19
A810230-04	Soil	EPA 8270C (SIM)	10/15/08 00:00	10/23/08 11:07	11.96g/5mL	15g/5mL	1.25
A810230-05	Soil	EPA 8270C (SIM)	10/16/08 00:00	10/23/08 11:07	14.43g/5mL	15g/5mL	1.04
A810230-06RE1	Soil	EPA 8270C (SIM)	10/16/08 00:00	10/23/08 14:53	10.82g/5mL	15g/5mL	1.39
A810230-07	Soil	EPA 8270C (SIM)	10/16/08 00:00	10/23/08 11:07	11.12g/5mL	15g/5mL	1.35
A810230-08	Soil	EPA 8270C (SIM)	10/16/08 00:00	10/23/08 11:07	11.69g/5mL	15g/5mL	1.28

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URS	Project: **LMC The Dalles**	
115 SW Columbia STE 1500	Project Number: 25696853	**Reported:**
Portland, OR 97201-5850	Project Manager: Alicia Voss	11/03/08 09:43

Keystone Laboratories, Inc. - Newton

SAMPLE PREPARATION INFORMATION

Determination of Conventional Chemistry Parameters

Prep: Wet Chem Preparation

Lab Number	Matrix	Method	Sampled	Prepared	Sample Initial/Final	Default Initial/Final	RL Prep Factor
Batch: 1J82706							
A810230-01	Soil	EPA 9010B	10/15/08 00:00	10/27/08 09:42	1.01g/50ml	1g/50mL	0.99
A810230-02	Soil	EPA 9010B	10/15/08 00:00	10/27/08 09:42	1g/50ml	1g/50mL	1.00
A810230-03	Soil	EPA 9010B	10/15/08 00:00	10/27/08 09:42	1g/50ml	1g/50mL	1.00
A810230-04	Soil	EPA 9010B	10/15/08 00:00	10/27/08 09:42	1g/50ml	1g/50mL	1.00
A810230-05	Soil	EPA 9010B	10/16/08 00:00	10/27/08 09:42	1g/50ml	1g/50mL	1.00
A810230-06	Soil	EPA 9010B	10/16/08 00:00	10/27/08 09:42	1g/50ml	1g/50mL	1.00
A810230-07	Soil	EPA 9010B	10/16/08 00:00	10/27/08 09:42	1g/50ml	1g/50mL	1.00
A810230-08	Soil	EPA 9010B	10/16/08 00:00	10/27/08 09:42	1g/50ml	1g/50mL	1.00
Batch: 1J82804							
A810230-01	Soil	SM 2540 G	10/15/08 00:00	10/28/08 07:40	10g/10ml	10g/10mL	NA
A810230-02	Soil	SM 2540 G	10/15/08 00:00	10/28/08 07:40	10g/10ml	10g/10mL	NA
A810230-03	Soil	SM 2540 G	10/15/08 00:00	10/28/08 07:40	10g/10ml	10g/10mL	NA
A810230-04	Soil	SM 2540 G	10/15/08 00:00	10/28/08 07:40	10g/10ml	10g/10mL	NA
A810230-05	Soil	SM 2540 G	10/16/08 00:00	10/28/08 07:40	10g/10ml	10g/10mL	NA
A810230-06	Soil	SM 2540 G	10/16/08 00:00	10/28/08 07:40	10g/10ml	10g/10mL	NA
A810230-07	Soil	SM 2540 G	10/16/08 00:00	10/28/08 07:40	10g/10ml	10g/10mL	NA
A810230-08	Soil	SM 2540 G	10/16/08 00:00	10/28/08 07:40	10g/10ml	10g/10mL	NA
Batch: 1J82823							
A810230-01	Soil	EPA 9010B	10/15/08 00:00	10/29/08 11:00	1.02g/50ml	1g/50mL	0.98
A810230-02	Soil	EPA 9010B	10/15/08 00:00	10/29/08 11:00	1.01g/50ml	1g/50mL	0.99
A810230-03	Soil	EPA 9010B	10/15/08 00:00	10/29/08 11:00	1.03g/50ml	1g/50mL	0.97
A810230-04	Soil	EPA 9010B	10/15/08 00:00	10/29/08 11:00	1g/50ml	1g/50mL	1.00
A810230-05	Soil	EPA 9010B	10/16/08 00:00	10/29/08 11:00	1.03g/50ml	1g/50mL	0.97
A810230-06	Soil	EPA 9010B	10/16/08 00:00	10/29/08 11:00	1.05g/50ml	1g/50mL	0.95
A810230-07	Soil	EPA 9010B	10/16/08 00:00	10/29/08 11:00	1.05g/50ml	1g/50mL	0.95
A810230-08	Soil	EPA 9010B	10/16/08 00:00	10/29/08 11:00	1.02g/50ml	1g/50mL	0.98

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URS	Project: **LMC The Dalles**	
115 SW Columbia STE 1500	Project Number: 25696853	**Reported:**
Portland, OR 97201-5850	Project Manager: Alicia Voss	11/03/08 09:43

Notes and Definitions

Qualifiers:

Q-26 Peak separation for Benzo(b) and Benzo(k)fluoranthenes does not meet method specified criteria. Reported result includes the combined area of the two isomers and should be considered the total of Benzo(b+k)Fluoranthenes.

Notes and Conventions:

DET Analyte DETECTED

ND Analyte NOT DETECTED at or above the reporting limit

NR Not Reported

dry Sample results reported on a dry weight basis

RPD Relative Percent Difference

MDL If MDL is not listed, data has been evaluated to the Method Reporting Limit only.

WMSC Water Miscible Solvent Correction has been applied to Results and MRLs for volatiles soil samples per EPA 8000C.

Batch QC Unless specifically stated, all analyses include full Batch QC, including Sample Duplicates, Matrix Spikes and/or Matrix Spike Duplicates, in order to meet or exceed method and regulatory requirements. This report contains only results for Batch QC derived from samples included in this report. Complete Batch QC results are available upon request. In cases where there is insufficient sample provided for Sample Duplicates and/or Matrix Spikes, a Lab Control Sample Duplicate (LCS Dup) is analyzed to demonstrate accuracy and precision of the extraction and analysis.

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URS	Project: LMC The Dalles	
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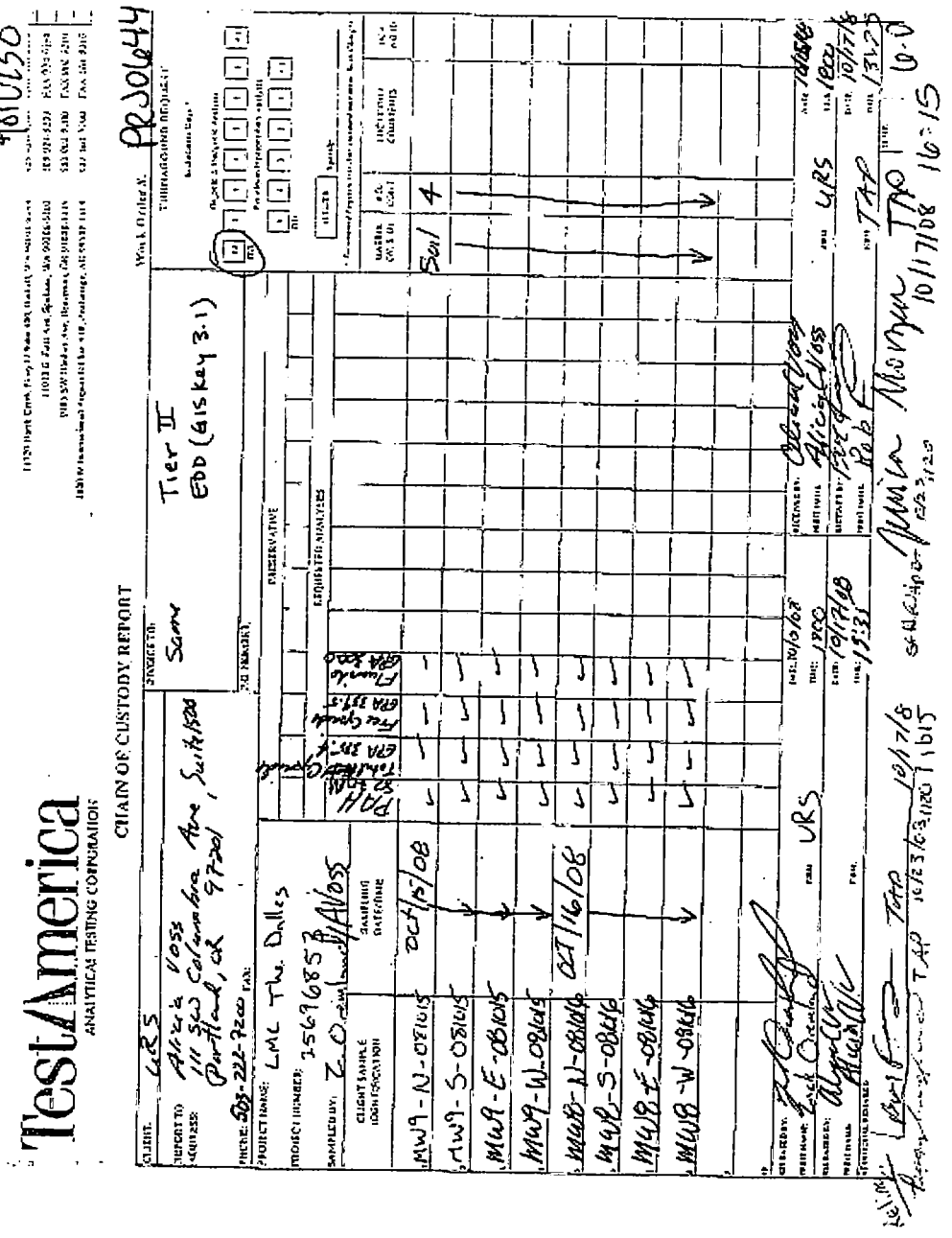
Portland, OR 97201-5850	Project Manager: Alicia Voss	11/03/08 09:43



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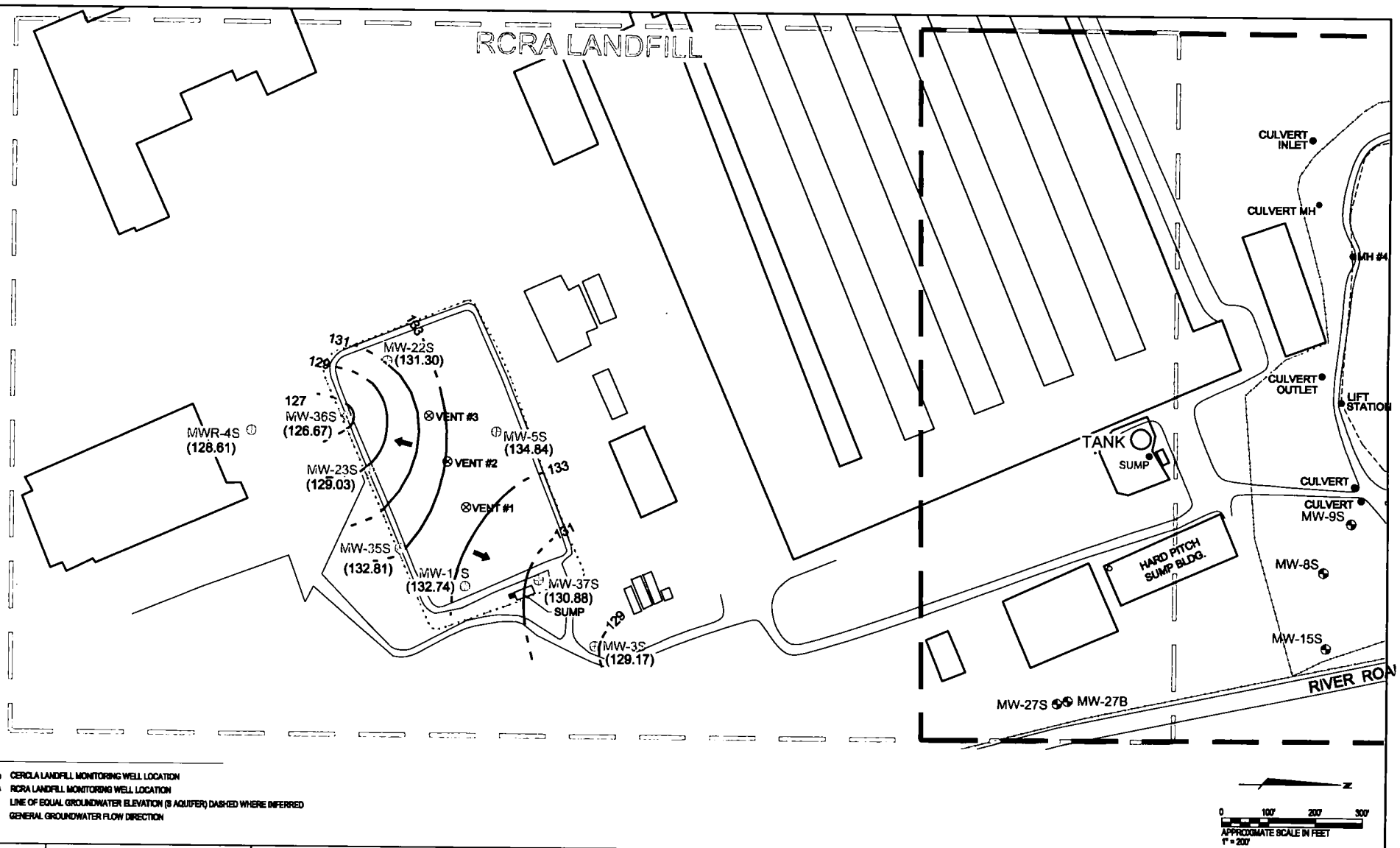

Drafter: D. KUDLICKI	Arcadia G&M 1610 B Street, Suite 100 Helena, MT 59601 Tel: 406-449-7001 Fax: 406-449-3063 www.arcadia-us.com	RCRA LANDFILL GROUNDWATER ELEVATION MAP S AQUIFER, SEPTEMBER 2006 LMC SITE THE DALLES, OREGON	Project Number: GP000677.0012
Project Manager: KW. SMITH			Drawing Date: 01/08/07
Task Manager: M. RISHER			Figure: 4b
Technical Reviewer: M. RISHER / KW. SMITH			

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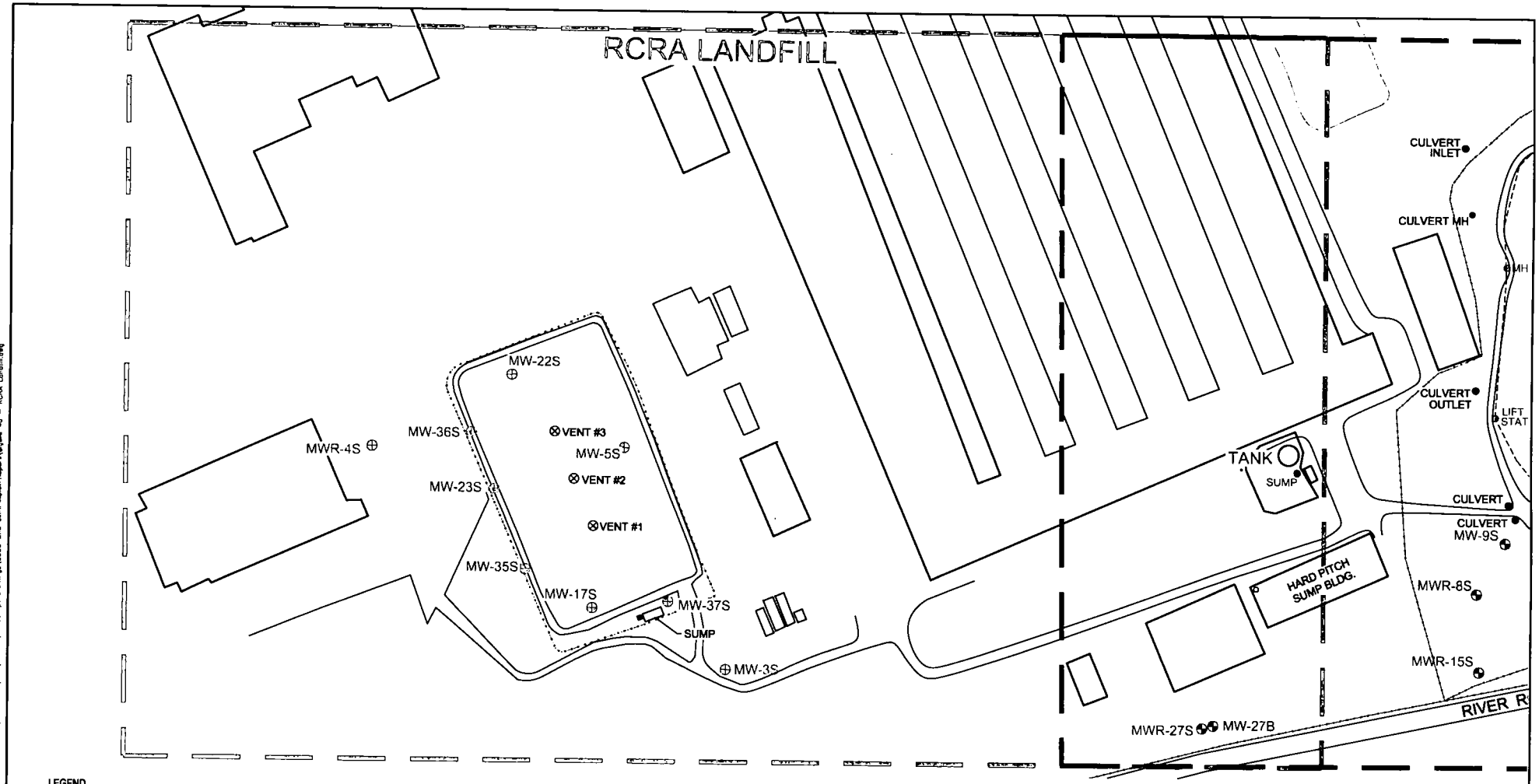

LEGEND

MW-41S ⊕ CERCLA LANDFILL MONITORING WELL LOCATION

MW-37S ⊕ RCRA LANDFILL MONITORING WELL LOCATION

Drafter	D. KUDLICKI
Project Manager	KW. SMITH
Task Manager	M. RISHER
Technical Review	M. RISHER / KW. SMITH

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RCRA LANDFILL

LMC SITE
THE DALLES, OREGON

Project Number	GP000677.0012
Drawing Date	7/8/08
Figure	4a

Acad Version : R16.1s (LMS Tech) Date\Time : Fri, 05 Jan 2007 - 4:48pm
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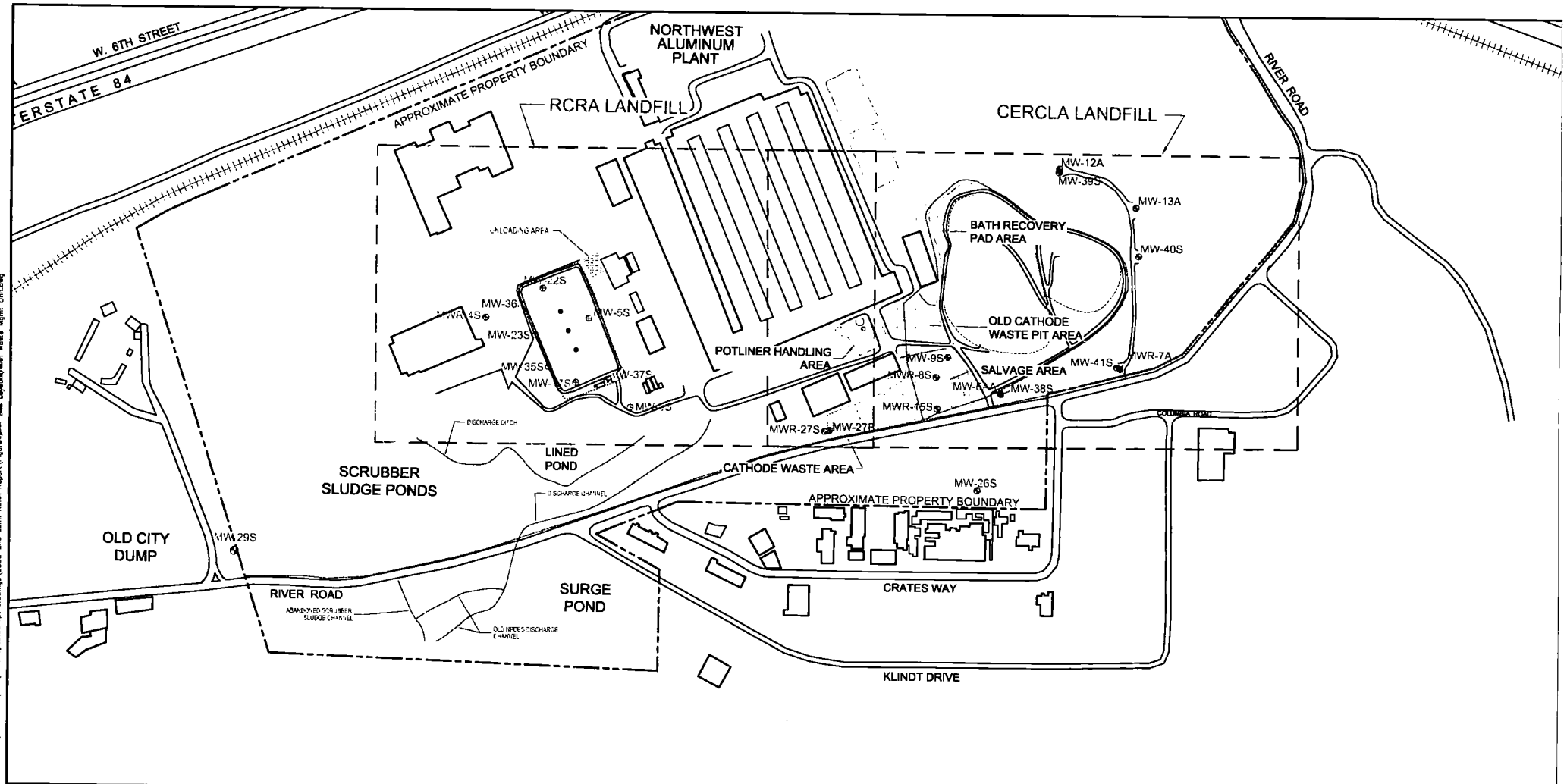

LEGEND

MW-41S CERCLA LANDFILL MONITORING WELL LOCATION
MW-37S RCRA LANDFILL MONITORING WELL LOCATION
LINED POND. REMEDIATED.
RECYCLE POND. REMEDIATED AND IN USE.
OLD CITY DUMP WAS CAPPED IN PLACE.
SCRUBBER SLUDGE POND MATERIAL HAS BEEN CONSOLIDATED AND CAPPED IN PLACE.
UNLOADING AREA. REMEDIATED.
CATHODE WASTE, POTLINER HANDLING, SALVAGE, BATH RECOVERY AREA AND METAL PAD STORAGE AREAS HAVE BEEN REMEDIATED.
CATHODE WASTE AREA. NOT REMEDIATED.
TARGET REMEDIATION AREAS FROM CONSENT DECREE.
NOTE: ALL WASTE AREAS ARE APPROXIMATE.

N

0 250 500 750
APPROXIMATE SCALE IN FEET
1" = 500'

Drafter	A. QUINONES/D. KUDLICKI
Project Manager	KW. SMITH
Task Manager	M. RISHER
Technical Review	M. RISHER / KW. SMITH

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LMC SITE LAYOUT

WITH HISTORICAL WASTE MANAGEMENT AREAS

THE DALLES, OREGON

Project Number: GP000677.0012
Drawing Date: 7/8/05
Figure: 3

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Acad Version : R16.1s (LMS Tech) Date\Time : Fri, 05 Jan 2007 - 4:41pm Current Plotstyle : ByColor
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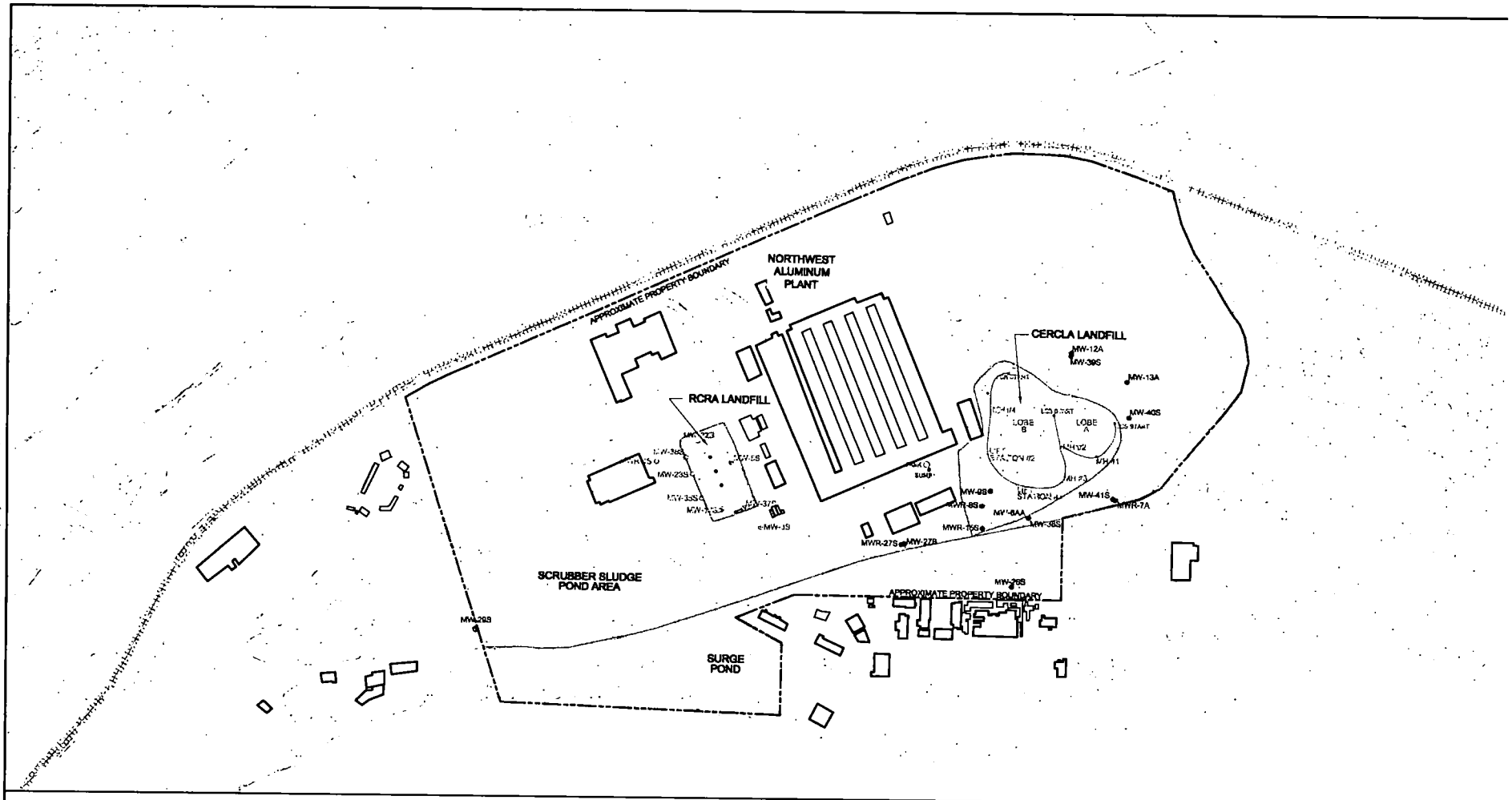

LEGEND

MW-41S ⊕ CERCLA LANDFILL MONITORING WELL LOCATION

MW-37S ⊕ RCRA LANDFILL MONITORING WELL LOCATION

MH #4 ○ MANHOLE

0 350 700

APPROXIMATE SCALE IN FEE

1" = 700'

Creator	A. GUSHONEBID, KUDLICKI
Project Manager	KW. SMITH
Task Manager	M. RISHER
Technical Review	M. RISHER / KW. SMITH

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LMC SITE CONTOUR MAP

THE DALLES, OREGON

Project Number: GP00

Drawing Date: 7/8/05

Figure

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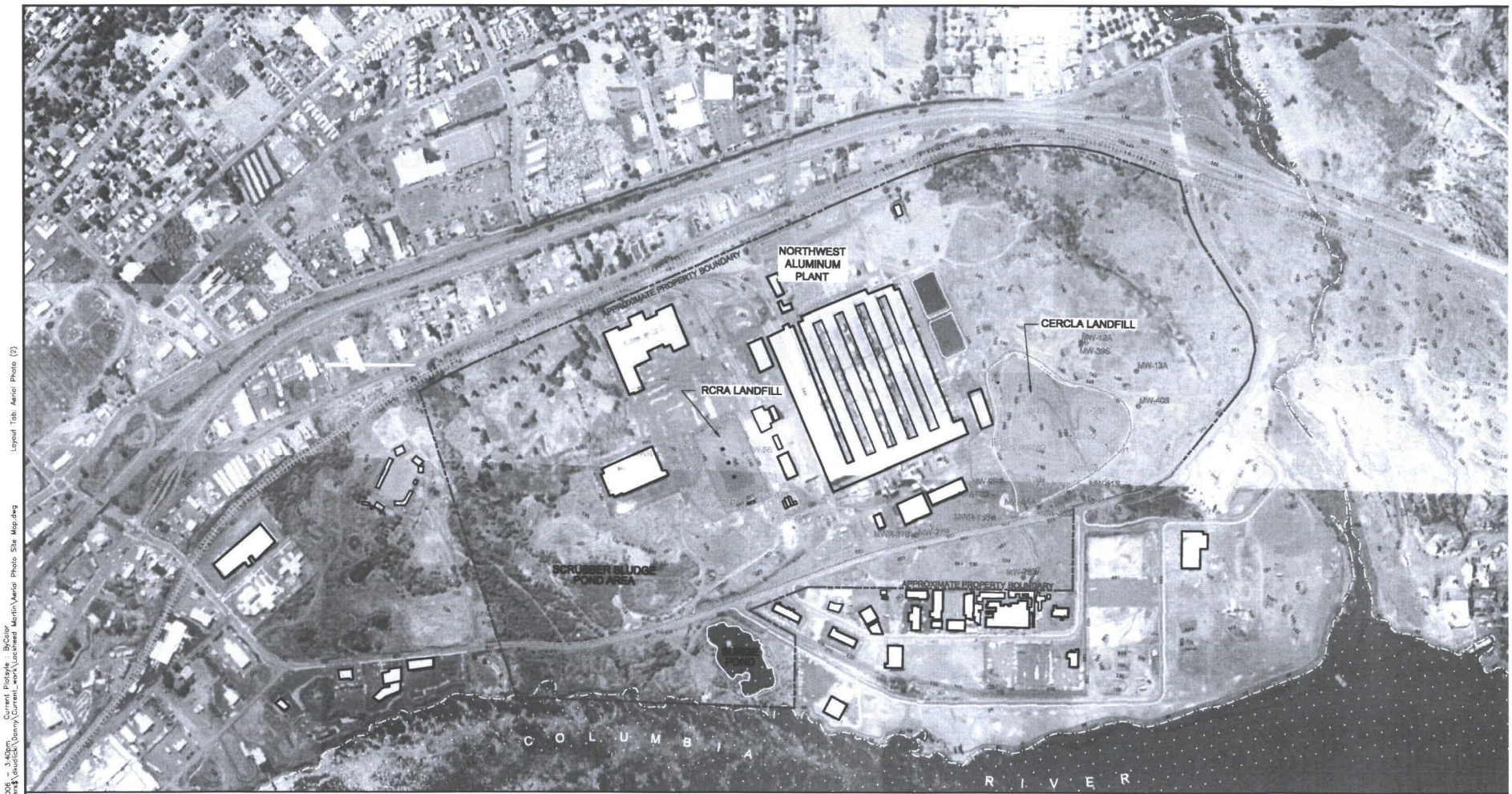

LEGEND

MW-41S CERCAL LANDFILL MONITORING WELL LOCATION

RCRA LANDFILL MONITORING WELL LOCATION

MH #4 MANHOLE

0 350 700

APPROXIMATE SCALE IN FEE
1" = 700'

Acad Version : R18.2s (LMS Tech) Date\Time : Mon, 24 Jul 2006 - 3:40pm Current Plotstyle : ByColor
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Project Manager	KW. SMITH
Task Manager	M. RISHER
Technical Review	M. RISHER / KW SMITH

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LOCKHEED MARTIN CORPORATION
SITE LOCATION MAP

THE DALLES, OREGON

Project Number	GP00
Drawing Date	7/6/06
Figure	

EPA/ROD/R10-02/042
2002

EPA Superfund
Record of Decision:

REYNOLDS METALS COMPANY
EPA ID: ORD009412677
OU 01
TROUTDALE, OR
09/30/2002

Reynolds Metals Company (RMC)
Superfund Site
Troutdale, Oregon

Record of Decision

for

Interim Remedial Action

September 30, 2002

PART 1: THE DECLARATION

Site Name and Location

The Reynolds Metals Company's (RMC) facility, currently owned by Alcoa, Inc., is located on Sundial Road in Troutdale, Oregon. The Environmental Protection Agency (EPA) identification number is ORD009412677.

This Record of Decision (ROD) is an interim action.

Statement of Basis and Purpose

This decision document presents the Selected Remedy for the RMC Site, which was chosen in accordance with Comprehensive Environmental Response Compensation And Liability Act (CERCLA), as amended, and to the extent practicable, the National Contingency Plan (NCP). This decision is based on the Administrative Record file for this Site.

The State of Oregon concurs with the Selected Remedy.

Assessment of Site

The response action selected in this ROD is necessary to protect the public health or welfare or the environment from actual or threatened releases of hazardous substances into the environment. Such a release or threat of release may present an imminent and substantial endangerment to public health, welfare, or the environment.

Description of Selected Remedy

The Selected Interim Action Remedy for the RMC Site consists of :

- Removing contaminated process residue from Company Lake
- Excavating contaminated waste and soil from the south landfill area
- Excavating contaminated waste material from the eastern portion of the north landfill area, and installing a riprap (soil and rocks) cover over the western portion of the landfill
- Off-site disposal of excavated waste material at a permitted disposal facility
- Installing extraction wells in the east potliner and scrap yard areas to remove and

contain groundwater contaminated with high levels of fluoride

- Modifying the operation of existing production wells to limit the further spread of fluoride in the groundwater
- Discharging groundwater from the combined production wells/focused extraction system to the Columbia River
- Monitoring groundwater to evaluate the effectiveness of source removal and focused extraction
- Limiting future use (through the use of engineering and institutional controls) of shallow groundwater and portions of the property to ensure the remedy remains protective.

Statutory Determinations

The Selected Interim Action is protective of human health and the environment, complies with Federal and State requirements that are applicable or relevant and appropriate for this limited-scope action and is cost-effective. This action is interim and is not intended to utilize permanent solutions and alternative technologies. Because this action does not constitute the final remedy for the Site, the statutory preference for remedies that employ treatment that reduces toxicity, mobility, or volume as a principal element will be addressed in the final response action. Because this remedy will result in hazardous substances remaining on-site above levels that allow for unlimited use and unrestricted exposure, a review will be conducted within five years after initiation of remedial action to ensure that the remedy continues to provide adequate protection of human health and the environment. Because this is an interim action ROD, review of this Site and of this remedy will be ongoing as EPA continues to develop final remedial alternatives for this Site.

Authorizing Signature

_____ _____

Michael F Gearheard, Director
Environmental Cleanup Office
EPA - Region 10

Date

PART 2: THE DECISION SUMMARY

1. SITE NAME, LOCATION, AND BRIEF DESCRIPTION

The RMC facility, currently owned by Alcoa, is a primary aluminum reduction plant where alumina is reduced to aluminum. The plant is located about 20 miles east of Portland, Oregon, and 1.25 miles north of the City of Troutdale, Oregon (see Figure 1). The property is bordered by the Columbia River to the north, the Sandy River to the east, the Troutdale Airport to the south, and Salmon Creek to the west. Alcoa owns the 80.25 acre plant area and approximately 715 acres of surrounding rural land. A US Army Corps of Engineers (COE) dike runs approximately east-west through the northern portion of the property, then turns south at the eastern property boundary. Site areas north and east of the dike are located within the 100 year flood plain.

The plant process buildings occupy the central portion of the Site. Site areas north of the dike are wooded with heavy vegetation in some areas. The surrounding area to the west and south is mainly used for agriculture and commercial purposes.

EPA is the lead agency for this Site and the Oregon Department of Environmental Quality (DEQ) is the support agency involved.

2.0 SITE HISTORY AND ENFORCEMENT ACTIVITIES

2.1 Site History

The plant was constructed for the US Government in 1941 to produce aluminum for wartime operations. RMC first leased the plant from the government in 1946 and purchased it in 1949. Alcoa Inc. recently acquired Reynolds Metals Company, including the Troutdale aluminum reduction facility. Operations at the Troutdale plant were suspended in the fall of 2000, and Alcoa recently announced permanent closure of the facility.

2.2 Actions to Date

RMC has conducted several early cleanup actions on the Site since it was added to the National Priorities List (NPL) in December 1994. The early actions were removal actions completed under EPA oversight in areas identified as high priority source areas of contamination. The following summarizes the cleanup actions undertaken at specific sources of contamination at the Site.

Cryolite Ponds - Three settling ponds south of the main production facility were used for

storage and disposal of cryolite, a waste material containing high levels of fluoride and other metals. RMC has excavated and disposed of approximately 13,900 tons of cryolite at an off-site disposal facility.

East Potliner - An area located east of the main facility was formerly used to store spent potliner, a production waste containing high levels of fluoride, cyanide, and polyaromatic hydrocarbons (PAHs). More than 11,000 tons of potliner and contaminated soil were excavated from this area and transported to an off-site disposal facility.

PCB Spill Area - Soil adjacent to the casthouse building was contaminated with PCBs. The concrete and siding outside the building were also contaminated by PCBs, and the casthouse contained PCB contaminated dust. A cleanup inside and outside the building resulted in more than 580 tons of PCB contaminated soil and debris being removed from the Site and disposed at an off-site disposal facility.

The Bakehouse Sumps - A network of 21 dewatering sumps that were located around the bakehouse to keep shallow groundwater out of the subsurface bake pits contained fluoride, cyanide, and PAHs. RMC cleaned out the contaminated sumps and disposed the waste material off-site. Surface water runoff was redirected to prevent further contamination from surface sources.

Diesel Spill Area - Two acres east of the main facility were heavily contaminated with diesel fuel and oil. Reynolds has excavated and disposed of more than 2,600 tons of contaminated soil from this area.

Production Well Abandonments - Nine wells located at the plant site that were no longer in use needed to be decommissioned properly to prevent them from acting as conduits for the spread of contamination in shallow groundwater.

Company Lake Process Residue - an estimated 3,300 cubic yards of contaminated process residue was excavated from a portion of Company Lake and transported to a permitted off-site disposal facility in October, 2001. This partial removal of process residue provided information about the feasibility of dewatering Company Lake and removing the waste using conventional mechanical equipment,

Scrap Yard - Removal of contaminated waste material from the scrap yard area will be completed this fall. An estimated 3,800 cubic yards of waste material that is contaminated with fluoride, metals, and PAHs will be excavated from the north portion of the scrap yard area. The waste material is a primary source of contamination in the South Plant area.

Other early actions completed during the remedial investigation include removal of PCB-contaminated soil from the South Wetlands area and removal of contaminated sediments and process residue from south ditch. Waste from these areas was transported to an off-site disposal facility for disposal.

2.3 Investigation History

Several investigations were conducted at this Site prior to the initiation of the RI/FS. PRC Environmental Management conducted a Site reconnaissance in January 1993 and prepared a report *Final Site Inspection Prioritization Report*, October 19, 1993. RMC investigations were conducted by CH2M Hill in 1994 and 1995.

2.4 Enforcement History

The Site was placed on the Superfund National Priorities List (NPL) in 1994. On September 29, 1995 EPA and RMC signed a Consent Order for preparation of an Remedial Investigation and Feasibility Study (RI/FS) and performance of early actions at the Site under EPA's oversight. RMC has undertaken several early cleanup actions and recently completed the RI/FS, which provided the results of the site investigation and analysis of cleanup alternatives.

3. HIGHLIGHTS OF COMMUNITY PARTICIPATION

The Proposed Plan, Remedial Investigation Report, Feasibility Study Report, and Human Health and Ecological Baseline Risk Assessment Reports, as well as other technical and site-related documents were made available to the public in August 2002. They can be found in the Administrative Record file, which is located at the Gresham Regional Library, located at 385 NW Miller in Gresham, OR and the Superfund Records Center, EPA Region 10, 1200 Sixth Avenue, Seattle, Washington.

The public comment period for the Proposed Plan was held from August 29, 2002 to September 28, 2002. The notice of availability of the Proposed Plan and opportunity to comment was published in the Oregonian on August 28, 2002. A fact sheet summarizing the Proposed Plan was mailed to approximately 50 people on EPA's mailing list for the Site. Copies of the Proposed Plan were mailed to persons who requested copies based on the fact sheet or the public notice. No comments were received during the 30-day public comment period.

Fact sheets were issued periodically from 1995-2002, most recently in October 2001 and August 2002, providing the public with information about the Superfund process and EPA activities at the Site. A community relations plan for the Site was prepared in May 1995.

4. SCOPE AND ROLE OF RESPONSE ACTION

The early cleanup actions, described in Section 2.2 removed several sources of contamination and highly contaminated material (potliner, cryolite and other waste material) above the water table that was the source of groundwater contamination. The Selected Remedy addresses additional sources of contamination, including process and nonprocess waste and contaminated soils that pose a risk to human health and the environment and are sources of contamination in groundwater. The Selected Remedy also begins the cleanup of contaminated groundwater.

The groundwater remedy uses a phased approach to restoration. Highly-contaminated groundwater will be extracted to prevent further plume migration associated with specific sources. EPA will evaluate the effectiveness of source control and focused extraction of groundwater to confirm that intermediate and deep groundwater will be restored in a reasonable time frame.

This ROD is an interim action for this Site and, to the extent practicable, will be consistent with any planned actions. The Selected Remedy does not address the buildings and other structures in the plant process area. Alcoa announced that plant will be closed permanently. Future investigations and cleanup actions are anticipated as a result of the plant closure and Alcoa's recent decision to demolish the plant.

5.0 SITE CHARACTERISTICS

This section summarizes information obtained as part of RI/FS activities at the Site. It focuses on the Site characteristics that will be addressed by the interim remedy. This section presents sources of contamination, subsequent sampling strategies, and documented types of contamination and affected media.

Figure 2 shows key Site features..

5.1 Overview

Topography and Climate

The Site topography is generally flat (20 feet to 30 feet elevation), with some minor variation to the north and northeast. The plant process buildings occupy the central portion of the Site. The eastern part of the plant area within the dike consists of open fields and storage areas.

The study area is characterized by a mild, temperate marine climate with moderately warm, dry summers and wet winters. The average annual precipitation in the area is approximately 37 inches per

year. The average daily maximum temperature for the study area is 62 degrees F and the average daily minimum temperature is 44 degrees F.

Floodplains and Wetlands

The areas north and east of the COE dike are within the 100 year floodplain of the Columbia and Sandy Rivers. These areas are currently undeveloped and characterized by cottonwood-ash riparian forest and areas vegetated with blackberries and Scot's broom thickets.

Seasonal wetlands at the Site contain hydric soils and characteristic hydrophytic plants that are capable of withstanding periods of summer drying. The primary locations of seasonal wetlands are the south wetlands area south of the main plant, the low areas in Fairview Farms, the low areas northeast of the scrap yard, low areas adjacent to Company Lake and in the forest outside the COE dike,

Geologic conditions

The RMC Site is located in the eastern portion of the "Portland Basin," a term describing a 20-mile wide and 45-mile -long northwest -southeaset trending structural depression. The basin is filled with a complex system of unconsolidated and consolidated alluvial sediments, containing important water-bearing zones.

Hydrogeologic conditions

Two regional aquifer systems exist under the Site. The Unconsolidated Sedimentary Aquifer (USA) is the uppermost aquifer, and the Sand and Gravel Aquifer (SGA) is the deeper unit. The unconsolidated sediments within the uppermost regional groundwater system beneath the facility have been subdivided into four water-bearing zones for purposes of investigation. The four zones are the silt unit (generally 0 - 30 feet deep), the upper grey sand (up to 50 feet deep), the intermediate sand (up to 100 feet deep), and the deep sand/gravel. The silt unit exists in the southern portion of the Site but does generally not occur in northern portion of the Site. Groundwater generally discharges to the Columbia River in the northern portion of the Site and the Sandy River in the eastern portion of the Site.

5.2 Sources of Contamination

Facility operations, including past waste disposal, spills, leaks, and other releases, were primarily responsible for soil and groundwater contamination. The waste material on the RMC Site

includes process and nonprocess residues from the aluminum reduction plant. Process wastes are primarily associated with the reduction areas, the carbon plant, and the casthouse. Nonprocess wastes include demolition debris, scrap equipment, construction materials and general refuse.

5.3 Sampling Strategy

The RI/FS began in 1996 and focused on establishing the nature and extent of soil and groundwater contamination. The RI included sampling of waste, soils, groundwater, surface water and sediments. Waste and soils were characterized through surface and subsurface individual and composite samples. Test pits were excavated in the old landfill areas, including the north landfill, south landfill, and scrap yard areas to allow direct observation of buried materials and to provide access for subsurface sample collection.

Groundwater was sampled using a system of 50 groundwater monitoring wells that were installed on or adjacent to RMC property. The monitoring wells were installed at different depth in the aquifer, and were generally classified as shallow, intermediate and deep wells. Direct push sampling also measured fluoride in groundwater at depths up to 50 feet below ground. Semi-annual monitoring has been conducted at selected groundwater monitoring wells for the past several years.

5.4 Nature and Extent of Contamination

The following describes the findings of the investigation by source area.

Soil and Debris Areas

North Landfill - north landfill is a 2.4 acre landfill located north of the COE dike. The landfill contains mostly carbon waste, refractory brick, demolition waste, solid waste, and miscellaneous debris. Constituents identified include fluoride, cyanide, metals, PAHs, total petroleum hydrocarbons (TPH), volatile organic compounds (VOCs) and PCBs. An access road passes through the landfill. The eastern portion of the landfill has significantly higher levels of PAHs and a higher proportion of black carbon material compared to the western portion of the landfill. Surface composite soil data indicate total PAH concentrations of about 2,000 mg/kg for the east side soils samples and about 30 mg/kg for samples collected on the west side. Subsurface composite data are similar, with PAH concentrations of 2,500 mg/kg on the east side and about 225 mg/kg for samples collected on the west side. Flouride concentrations in surface composite samples ranged from 400 mg/kg and 12,000 mg/kg.

Leaching of constituents from contaminated waste material appears to be the most significant mechanism for transport of constituents to groundwater. PAHs and PCBs, which have low solubilities and do not readily migrate appear to be confined to waste materials and soil. Fluoride is mobile and

the primary contaminant in groundwater. Once in groundwater, fluoride can migrate to the Columbia or Sandy Rivers via groundwater discharge.

South Landfill - south landfill is a 5.8 acre landfill used for general plant waste disposal from the early days of operation until about the late 1960s. Constituents identified include fluoride, cyanide, metals, PAHs, PCBs, and TPH. The average flouride concentration of 12,500 mg/kg was estimated based on the results of surface and subsurface sampling. Fluoride has migrated from the south landfill to shallow groundwater. A low permeability silt layer beneath the landfill provides a natural barrier that limits leaching of contaminants to intermediate and deep groundwater.

Scrap Yard - scrap yard is a 5.7 acre former storage area. Soil samples collected from the scrap yard area identified fluoride, cyanide, PAHs, PCBs, and metals. Fluoride levels averaged over 30,000 mg/kg in the waste material, with the concentrations decreasing with depth. Scrap yard is the source of fluoride and metals contamination in the intermediate-depth sand and deep sand/gravel units lying between scrap yard and the production wells.

Wastewater Discharge Areas

Company Lake - a 14 acre lake north of the COE dike. During operations, stormwater and treated wastewater entered the lake from a discharge pipe at the southern end. The outfall ditch drains from the northwestern corner of Company Lake into the Columbia River. Process residue (up to 4 ft thick) from historical discharges have accumulated in the bottom of Company Lake and contains fluoride, PAHs, TPH, cyanide, and low levels of PCBs. Elevated fluoride concentrations exist in the shallow and intermediate zone groundwater beneath and adjacent to Company Lake.

South Ditch - has been part of the plant's wastewater conveyance system. The eastern part of the ditch has been used to transport stormwater, and the west portion received facility wastewater, cooling water, groundwater, and stormwater. Constituents detected in south ditch include fluoride, cyanide, metals and PAHs. Sediments were removed from portions of the ditch as part of an early action.

Groundwater

Flow patterns within the silt unit are controlled primarily by infiltration and the influences of localized surface water features. Silt unit groundwater generally moves vertically into the UGS and horizontally over limited distances toward surface water features. The horizontal conductivity of the silt unit is approximately 1 to 2 feet per day.

Groundwater flow direction in the UGS and deeper zones beneath the RMC facility is from the

south and southeast to the north and northwest, with groundwater discharging to the Columbia and Sandy Rivers. Groundwater flow is strongly influenced by pumping from the RMC production wells and surface water features. Estimated hydraulic conductivities are 2 to 35 ft/day for the UGS, 100 to 150 ft/day for the intermediate sand, and 75 to 175 ft/day for the deep sand zones.

Fluoride concentrations exceed the federal and state Safe Drinking Water Act standards, known as maximum contaminant levels (MCLs), of 4 mg/L beneath the RMC facility, with peak values up to 1,100 mg/l in the silt unit beneath south landfill. Highest concentrations were measured in the South Plant area beneath and adjacent to the scrap yard, south landfill, and east potliner areas. Six metals (antimony, arsenic, beryllium, chromium, lead, and nickel) were detected above MCLs; recent groundwater data shows that metals and cyanide above the MCL are not widespread and generally limited to the shallow silt unit. The distribution of metals above the MCL suggests that east potliner, scrap yard, and south landfill are the sources of these contaminants in groundwater.

Fluoride contamination beneath the facility is widespread and varies with depth. Figures 3, 4, and 5 the distribution of the flouride plumes for shallow, intermediate and deep groundwater.

6. CURRENT AND POTENTIAL FUTURE SITE AND RESOURCE USES

6.1 Land Use

The Site is currently zoned for heavy industrial use for the plant property south of the dike and east of Sundial Road. Land use is reasonably expected to remain industrial for the plant site. Other surrounding property to the south and west is zoned urban future and heavy manufacturing. Property to the west and south of the site is currently used for a variety of commercial and industrial purposes. RMC property north of the dike is zoned urban future/significant environmental concern (SEC) and flood fringe(FF). The purpose of the SEC overlay is to protect and maintain significant environmental natural and manmade features of public value, and an SEC permit is required for most activities allowed under the urban future designation. The FF zoning overlay applies to areas within the 100-year flood boundary. Further development of the RMC property north and east of the COE dike is not likely because the area is subject to flooding.

6.2 Groundwater Use

A survey of groundwater uses within a 1-mile radius of the Site was conducted to identify local groundwater uses. The survey identified 17 domestic wells, 5 municipal wells, and irrigation and industrial wells. Only two active wells are potentially downgradient from RMC, including an industrial well at Sundial Marine Tug & Barge Works, Inc (223 ft deep) and a domestic well (not currently used for drinking water consumption) at Gresham Sand & Gravel (127 ft deep).

On-site deep production wells supplied process water and drinking water for the aluminum reduction facility. Tap water is a composite from multiple production wells. RMC also provides bottled water for use by its employees.

6.3 Surface Water Use

The RMC Site is located adjacent to the Columbia and Sandy Rivers. Beneficial uses designated by the State of Oregon for the Sandy River Basin, which includes the Columbia River from River Mile 86 to 120, are shown in Table 1.

When the facility was in operation it discharged treated wastewater and stormwater to the Columbia River under an NPDES permit. Wastewater from facility operations is not being produced or discharged since the plant ceased operations in the fall of 2000. Stormwater runoff discharges to the Columbia River via Company Lake. Groundwater with elevated levels of fluoride reaches the Columbia north of the plant site.

6.4 Endangered Species

The Columbia River and Sandy Rivers are habitat for documented threatened or endangered species. Several species of special-status fish, including Snake River fall Chinook salmon, spring Chinook salmon, and sockeye salmon, occur in the Columbia and Sandy Rivers (see Table 2 for listing and status). Two terrestrial species that potentially could occur in area
are federally listed: the bald eagle (threatened) and the American peregrine falcon (endangered).

7.0 SUMMARY OF SITE RISKS

7.1 Overview

RMC conducted a baseline risk assessment as part of the RI/FS to determine the potential current and future effects of contaminants on human health and the environment. The baseline risk assessment estimates the likelihood of health or environmental problems if no cleanup action were taken at the Site.

7.2 Human Health Risks

The baseline risk assessment includes a human health exposure assessment, which identified potential exposure scenarios by which contaminants of concern in Site media could contact humans and

quantified the intensity and extent of the exposures. The human health toxicity assessment quantified the relationship between estimated exposure (dose) to a contaminants of concern and the increased likelihood of adverse effects. Risks of contracting cancer due to Site exposure were evaluated based on toxicity factors (cancer slope factors or CSFs) from IRIS. Quantification of non-cancer injuries relies on published reference doses (RfDs). Standard EPA default assumptions were used in baseline risk assessment except as noted in Table 3.

CSFs are used to estimate the probability that a person would develop cancer given exposure to site-specific contaminants. This site-specific risk is in addition to the risk of developing cancer due to other causes over a lifetime. Consequently, the risk estimates generated in risk assessments are frequently referred to as "incremental" or "excess lifetime" cancer risks.

RfDs represent a daily contaminant intake below which no adverse human health effects are expected to occur. To evaluate noncarcinogenic health effects, the human health impact of contaminants is approximated using a hazard index (HI). Hazard index values are calculated by comparing the estimates of site-specific human exposure doses with RfDs. Values greater than 1.0 represent a potential risk.

Detailed information regarding the exposure assessment and toxicity assessment is contained in the baseline risk assessment reports. This section provides a summary of the results of the human health risk assessment.

The human health risk assessment assumed that most of the Site will have industrial uses. Residential use also was evaluated for the Fairview Farms area, which is located west of the main plant area.

7.3 Human Health Risk Characterization

Cancer Risks for Current Exposures

The likelihood of any kind of cancer resulting from a Superfund site is expressed as a probability. For example, a "1 in 10,000" chance would mean that for every 10,000 people in the area, an extra cancer case may occur as a result of long-term exposure to site contaminants. EPA generally requires remedial action at sites where the excess cancer risk from exposure to contaminants exceeds 1 in 10,000.

The baseline risk assessment for the RMC Site indicates that the human population with the highest potential for increased cancer risk would be maintenance workers, trespassers, and trench workers. The risk was estimated at individual source areas. Reasonable maximum exposure (RME)

risk estimates exceed a cumulative lifetime cancer risk target of 1 in 100,000 for north landfill, south landfill, scrap yard, Company Lake, and the eastern portion of south ditch. The RME portrays the highest level of human exposure that could reasonably be expected to occur from Site contaminants. The cancer risk for exposure to contaminated soil is primarily from PAHs.

Cancer Risks for Future Exposures

The future population with the highest potential for increased cancer risk are trench workers who would be working at south landfill and scrap yard, and on-site maintenance workers who may come in direct contact with contaminated soil and waste material on the Site. The risk assessment estimated that approximately 1 person out of 10,000 with highest exposure (ie, a trench worker) may develop cancer due to the contamination. These cancer risks for exposure to soil are primarily due to carcinogenic PAHs.

Non-Cancer Risks

Non-cancer risks are measured by an evaluation system called the Hazard Index (HI) that generates a numeric value. Any HI value greater than 1.0 may indicate a need for action. The increased risk of non-cancer health impacts for current or future industrial workers on the Site did not exceed 1.0 for the individual source areas.

Groundwater risk

Risk associated with current exposure to groundwater did not exceed the HI of 1.0. Risk estimates for potential future exposure to fluoride in groundwater showed that the future off-site residential exposure scenario resulted in an HI of 3.3. The future off-site residential exposure was based on a hypothetical well located in the northeast portion of the Fairview Farms area. Future exposure from on-site consumption of groundwater would be greater if shallow or intermediate groundwater within the fluoride plume were used for drinking water

7. 4 Ecological Risks

The ecological risk assessment is an appraisal of the actual or potential effects of contamination at the Site on plants and animals. It includes an identification of assessment endpoints and representative measures of exposure and measures of effect. Ecological exposure estimates are quantified for selected representative ecological receptors and expressed as a hazard quotient.

7.5 Ecological Risk Characterization

The baseline ecological risk assessment concluded that ecological hazard quotients (HQs) for

fluoride (for mallards and heron) and PAHs (mink) exceed corresponding background levels by at least 1. Company Lake contributes the greatest percentage of the estimated sitewide risk for fluoride and PAHs. Based on the estimated home ranges and the availability of suitable off-site habitat for the mallard and mink in the Sandy delta, the risks may be acceptable. The smaller home range for the heron, however, makes the fluoride in Company Lake a potentially unacceptable risk.

The baseline risk assessment included ecological risk estimates for groundwater discharging to the Columbia and Sandy Rivers. There are no ambient water quality criteria for fluoride available, so water aquatic toxicity data from literature sources were used to estimate toxicity potential. RMC also recently submitted a technical memorandum on the predicted effect if groundwater pumping is ceased, which included an analysis of updated projections of fluoride concentrations in groundwater and estimated future discharges of fluoride-contaminated groundwater to the Columbia and Sandy Rivers. The analysis showed that fluoride discharges to the Sandy River would expected to increase over the next few years and continue for several decades if pumping is discontinued.

7.6 Uncertainties

Risks to human health may be over- or underestimated based on the appropriateness of the assumptions regarding exposure, the availability and assumptions associated with the derivation of toxicity factors. However, the uncertainties in any risk assessment affect the estimations of risk such that EPA believes that the estimates are only accurate to within an order of magnitude. Risks to ecological receptors may be over- or underestimated based on the appropriateness of the representative receptor species and home range estimates.

7.7 Basis for Response Action

PAHs and fluoride were the primary risk drivers for the source areas evaluated for this interim action. PAHs and other contaminants are commingled with fluoride in each of the source areas. Fluoride is leaching from the waste material that will be addressed in each of the source areas and is contributing to contamination of groundwater beneath the Site. Fluoride contamination in groundwater exceeds the MCL of 4 mg/l established under the Safe Drinking Water Act.

The response actions selected in this ROD area necessary to protect the public health and welfare and the environment from hazardous substances that occur in the north landfill, south landfill, and Company Lake areas and in groundwater plumes beneath the Site.

8.0 REMEDIAL ACTION OBJECTIVES

The remedial action objectives for the Site:

1) Prevent human exposure through direct contact (ingestion inhalation, and dermal contact) with contaminated soil and debris that would result in unacceptable excess lifetime cancer risk or above a Hazard Index of 1 based on industrial exposure scenarios.

2)Restore and maintain use of the intermediate and deep groundwater as a drinking water source. The goal for restoration is the federal and state safe drinking water standard.

3) Minimize the migration of contaminants from waste and soils to groundwater, reduce fluoride in shallow and intermediate groundwater, and control migration of contaminant plumes in groundwater.

4) Control migration of plumes to control the migration of fluoride to the Sandy River.

Cleanup goals for the RMC Site will be based on human and ecological risks, including the state of Oregon's environmental cleanup law which requires no more than one in 1,000,000 excess cancer risk for individual contaminants and above 1 in 100,000 for additive carcinogenic contaminants. Cleanup goals will also be based on reducing the volume of wastes leaching to groundwater. The contaminants with the highest direct contact risks in the waste areas addressed by this interim action are commingled with fluoride, the primary contaminant in groundwater.

9.0. DESCRIPTION OF ALTERNATIVES

9.1 Common Components of Alternatives

With the exception of the No Action alternative, each of the remedial alternatives share certain components, such as institutional controls and short- and long-term monitoring. Brief discussions of the common alternative components are provided below.

Engineering and Institutional Controls

Engineering controls are construction or equipment such as fencing and warning signs, barriers and other restrictive devices as well as personal protective gear for workers. Institutional controls are mechanisms such as restrictive easements, covenants and other deed restrictions relying on governmental or legal institutions and systems to protect receptors from contaminants of concern. The groundwater use restrictions are expected to be permanent for shallow contaminated groundwater (the

silt unit) in the south plant area. There are no current or projected uses of shallow groundwater at this Site. Ownership and use of the Site will require implementation of the Groundwater Institutional Control Plan required as part of the Selected Remedy in the Record of Decision.

Currently, the north landfill is partially fenced to prevent access from the access road that connects the plant site to the areas north of the dike.

Monitoring

Site monitoring will be conducted for all alternatives. Although specific monitoring requirements vary depending upon the alternative, it is assumed that three types of monitoring will be carried out. Short-term monitoring will be performed during remedial action implementation to ensure compliance with water quality requirements, conformational monitoring will be implemented immediately following the action to ensure the actions was implemented as designed. Long-term groundwater monitoring will be performed to ensure the performance of the remedy. Specific monitoring programs will be developed for the Site during remedial design.

9.2 Description of the Alternatives

Cleanup options for the individual sources of contamination were combined into three sitewide alternatives in the feasibility study. Following the initial EPA and DEQ review, further evaluation of a partial excavation option for north landfill was considered. EPA also evaluated cleanup alternatives for the scrap yard area, a significant source of groundwater contamination, and decided it was appropriate to proceed with an early removal action. The scrap yard alternatives considered in the feasibility study are included in the discussion below. The no action alternative and the sitewide alternatives are described below.

The FS assumed that consolidation and disposal of excavated waste material would be accomplished by construction of a new landfill on the Reynolds Metals Company property or off-site disposal at a permitted or licensed hazardous waste disposal facility. The on-site landfill would be located inside the Corps of Engineers dike. The actual location and sizing of the on-site disposal facility would be designed later. For cost estimating purposes, the FS assumed that all waste would be disposed in a new on-site waste disposal facility that would be constructed on RMC property.

No Action Alternative

The no action alternative provides a baseline for comparing other alternatives. It establishes the risk levels and Site conditions if no remedial actions are implemented. No changes or restrictions would be made that would affect activities at the Site. No engineering or institutional controls would be put in place and no actions would be initiated to reduce hazard levels at the Site.

Cessation of Pumping Proposal

All of the sitewide alternatives in the feasibility study included continued pumping of specific production wells to provide hydraulic containment of contaminated groundwater. RMC recently submitted an evaluation of a "no pumping" proposal as an additional alternative for groundwater. This proposal would include groundwater monitoring but would discontinue operation of the production wells.

Alternative A

Alternative A includes a permeable cap or riprap cover at the north landfill, a soil and vegetation cap at south landfill areas, a gravel cap in the north area of scrap yard, and a permeable multilayer cap for Company Lake sediments.

To contain groundwater, the production wells would be operated to maintain a "capture zone" for contaminated groundwater. Wells PW07 and PWO8 will be pumped at an estimated 600 gallons per minute to keep fluoride and other chemicals of concern in the intermediate and deep zones under the facility. This alternative also includes institutional controls for groundwater and land use.

Alternative B

Alternative B would construct a permeable cap/riprap cover at north landfill, excavate the waste layer in the north portion of scrap yard, dredge process residue at Company Lake, and place institutional controls for south landfill. The Feasibility study assumed that excavated and dredged material would be consolidated in a new on-site landfill.

The groundwater action includes production well operation as described in Alternative A, and installs and operates an extraction well on the north side of scrap yard and an extraction well on the western portion of east potliner. The Feasibility study assumed that the wells would pump approximately 20 gallons per minute each from the US zone. The Feasibility study also assumed that extracted groundwater would be treated by calcium fluoride precipitation in the plant's wastewater treatment facility and discharged to the Columbia River.

This alternative also includes institutional controls for groundwater and land use.

Alternative C

This alternative consists of excavation of the waste layers from north and south landfills, the northern portion of scrap yard, and the process residue at Company Lake. The feasibility study assumed that excavated and dredged material would be disposed in a new on-site landfill.

The groundwater action includes production well operation and focused extraction as described in Alternative B, plus an additional extraction well at south landfill and three extraction wells adjacent to

Company Lake. Treatment of groundwater would be by reverse osmosis, followed by treatment by calcium fluoride precipitation in the wastewater treatment system prior to discharge with plant wastewater.

This alternative also includes institutional controls for groundwater and land use.

The Preferred Alternative

EPA's preferred alternative modifies and combines options from Alternatives B and C. It includes excavation of the eastern portion of north landfill, excavating the waste material from south landfill, and excavating the process residue from Company Lake by dewatering and mechanical removal. Excavated material would be transported to a permitted off-site disposal facility. Groundwater would be addressed by hydraulic containment through production well operation and enhanced focused extraction of groundwater in the south plant area. The combined flow from the production wells and focused extraction wells would be discharged to the Columbia River. The anticipated flow would be approximately 1240 gallons per minute with an initial fluoride concentration of about 4 to 5 mg/l, assuming there would be no treatment prior to discharge. The fluoride concentration would decrease over time as concentrations in groundwater in the south plant area decreased. Institutional controls would be required to ensure appropriate land use and groundwater use would continue and to protect the remedies that are put in place.

TABLE 4: Costs Associated with the Alternatives

ALTERNATIVE	CAPITAL COST	ANNUAL OP. & MAINT. COST	NET PRESENT VALUE*
No Action	**N/A**	**N/A**	**N/A**
No Pumping Proposal	**N/A**	**N/A**	**N/A**
Alternative A	**$ 6,078,000**	**$ 207,000**	**$ 8,111,000**
Alternative B	**$10,463,000**	**$ 229,000**	**$12,637,000**
Alternative C	**$19,196,000**	**$ 416,000**	**$23,998,000**
Preferred Alt.	**$17,751,000**	**$ 284,000**	**$21,282,000**

*** based on 30 years operation and maintenance and 7 per cent discount rate**

10.0 COMPARATIVE ANALYSIS OF ALTERNATIVES

This section summarizes and compares the cleanup alternatives based on the nine criteria. This analysis focuses on the primary distinguishing factors EPA considered in selecting its Preferred Alternative. The "no action" alternative is not described in detail because it does not provide overall protection of human health and the environment and EPA cannot select an alternative that does not satisfy this threshold criteria.

10.1 Overall Protection of Human Health and the Environment *evaluates whether an alternative achieves and maintains adequate protection of human health and the environment.*

All alternatives, except the "no action" alternative, would provide adequate protection of human health and the environment by eliminating, reducing, or controlling risks to people and wildlife. Exposure to contamination would be prevented through engineering and institutional controls. Alternative A addresses surface exposure risk by capping north landfill, south landfill, scrap yard and Company Lake sediments. The permeable caps proposed would not prevent leakage of contaminated source materials to groundwater, however, and restoration of beneficial uses of groundwater would take hundreds of years. Excavating the waste layers under Alternatives B and C would eliminate exposure for workers and trespassers by eliminating direct surface contact with chemicals of concern in surface soils/waste and it would also reduce sources of groundwater contamination. The Preferred Alternative would provide overall protection similar to Alternatives B and C.

10.2 Compliance with Applicable or Relevant and Appropriate Requirements (ARARS) *evaluates how each alternative complies with federal and state statutes and regulations that pertain to the site.*

All soil alternatives would meet their respective Applicable Relevant and Appropriate Requirements (ARAR's) from Federal and State laws. Achieving compliance with the maximum contaminant levels for fluoride in intermediate and deep groundwater is estimated to take 5 to 10 years after the source control actions have been completed.

10.3 Long-term Effectiveness and Permanence *evaluates the ability of an alternative to maintain protection of human health and the environment over time.*

Alternative C and the Preferred Alternative provide the best long-term effectiveness and permanence by maximizing contaminant removal and minimizing maintenance for source areas. Groundwater remediation is improved by addition of focused extraction wells.

Alternative A is lower in long-term effectiveness because several landfill caps would need to be

maintained, and there is potential for exposure if the cap fails. Additionally, the caps would not prevent further leaching of fluoride to groundwater. For north landfill and Company Lake there would be a greater likelihood of washout of contaminants during severe flooding events. Groundwater remediation would rely on effectiveness of production well optimization but sources of groundwater contamination would not be addressed.

Alternative B includes removal of waste layer in Company Lake, which provides more long term protection than capping. Alternative B also provides greater protection of groundwater than Alternative A by removing source material from scrap yard and Company Lake, and removing of contaminated groundwater from the upper grey sands in the south plant area. The Preferred Alternative adds another measure of long-term protectiveness by removing additional north landfill waste material from the floodplain of the Columbia and Sandy Rivers. Both on-site and off-site disposal would be effective, but off-site disposal has the advantage of reducing future maintenance and monitoring at the Site.

10.4 Reduction of Toxicity, Mobility, and Volume of Contaminants through Treatment *evaluates an alternative's use of treatment to reduce the harmful effects of principal contaminants, their ability to move in the environment, and the amount of contamination present.*

The alternatives for soil cleanup do not include treatment of waste material to reduce toxicity, mobility, or volume of contaminants. EPA has a policy that principal threats, highly concentrated waste that cannot be reliably contained, should be treated. Highly concentrated waste was excavated and disposed off-site as part of early cleanup actions, and the contaminated material being addressed by the proposed action is not considered to be principal threat waste. All of the alternatives, except for Alternative A, include removal of source material to reduce leaching of contaminants to groundwater. Alternative A includes capping, which would be less effective than source removal in reducing migration of contamination to groundwater.

All of the groundwater alternatives use plume containment to address the fluoride contamination in groundwater, except for RMC's "no pumping" scenario . Alternatives B and C assumed treatment of fluoride in extracted groundwater to reduce toxicity, but the treatment processes evaluated have not been shown to be effective in treating the concentrations. EPA will continue to evaluate potential treatment options as part of design for the focused extraction system under the Selected Remedy.

10.5 Short-term Effectiveness *evaluates the length of time needed to implement an alternative and the risks the alternative poses to workers, residents, and the environment during implementation.*

Alternatives B, C, and the Preferred Alternative involve excavation, handling and transport of

contaminated waste and present a potential for short-term exposure. The contaminants of concern are not volatile, so the risk of release is principally limited to wind blown waste material or surface water runoff containing Site contaminants. Releases can be controlled by careful materials handling, and appropriate engineering controls. Short-term risks to workers can be further reduced by adherence to proper health and safety protocols.

Company Lake will be drained under the Preferred Alternative to allow excavation of the contaminated process residue by mechanical equipment. During normal facility operations, process wastewater and stormwater from the RMC facility is discharged to Company Lake prior to discharge to the Columbia River. Process wastewater is not currently being discharged to Company Lake because the plant is shut down. Stormwater would bypass Company Lake and discharge directly to the Columbia River during and after construction of the remedy. Stormwater discharges would continue to be regulated in accordance with RMC's existing permit.

10.6 Implementability *evaluates the technical and administrative feasibility of implementing the alternative.*

All soil remedies use available and proven technologies. Alternative A is the easiest to implement because it does not involve excavation and transport of contaminated materials. Excavating the process residue from Company Lake will require draining the lake to allow mechanical removal. Reynolds Metals Company conducted a pilot removal from a portion of the lake in September, 2001 which demonstrated that dewatering can be achieved by a combination of eliminating inflow to the lake and limited pumping from the lake to the Columbia River.

The effectiveness of groundwater extraction will need to be determined by future monitoring and evaluation. Changes to the groundwater extraction system, including increasing pumping rates, adding more wells and pretreatment of contaminated groundwater may needed based on future evaluations.

10.7 Cost *includes estimated capital and operation and maintenance costs as well as present worth costs.*

Cost estimates are expected to be accurate within a range of +50 to -30 percent. Alternative A is the least cost alternative, with an estimated present value cost of approximately $8,111,000. Alternative B is the next lowest cost alternative, with an estimated present value cost of $12,637, 000. Alternative C is the highest cost, with an estimated present value cost of $23,998,000. EPA's Preferred Alternative combines elements from alternatives B and C and has an estimated present value cost of $21,000,000.

10.8 State/Support Agency Acceptance *evaluates whether the State of Oregon agrees with the U.S. EPA's analyses and recommendations of the RI/FS and the Proposed Plan*

The State of Oregon supports the Preferred Alternative.

10.9 Community Acceptance *evaluates whether the local community agrees with U.S. EPA's analyses and preferred alternative.*

The public comment period for the Proposed Plan was held from August 29, 2002 to September 28, 2002. EPA did not receive any comments on the Proposed Plan during the public comment period.

11.0 THE SELECTED ALTERNATIVE

Based on consideration of CERCLA requirements and analysis of the alternatives using the nine criteria, EPA has determined that the Preferred Alternative is the most appropriate remedy for continuing the cleanup at the RMC Site. It includes the following:

- Removing contaminated process residue from Company Lake
- Excavating contaminated waste and soil from the south landfill area
- Excavating contaminated waste material from the eastern portion of the north landfill area, and installing a riprap (soil and rocks) cover over the western portion of the landfill
- Off-site disposal of excavated waste material at a permitted disposal facility
- Installing extraction wells in the east potliner and scrap yard areas to remove and contain groundwater contaminated with high levels of fluoride
- Modifying the operation of existing production wells to limit the further spread of fluoride in the groundwater
- Discharging groundwater from the combined production well and focused extraction system to the Columbia River through the existing NPDES outfall
- Monitoring groundwater to evaluate the effectiveness of source removal and focused extraction
- Limiting future use (through the use of engineering and institutional controls) of shallow groundwater and portions of the property to ensure the remedy remains protective

Each of these components are further described below:

Remove contaminated process residue from Company Lake

The process residue is Company Lake will be removed by dewatering the Lake and excavating the waste material using conventional mechanical equipment. Company Lake contains an estimated 112,400 kg of fluoride in the process residue at an average concentration of 23,200 mg/kg. Sampling results from the Company Lake partial removal action conducted in the fall of 2001 demonstrated that removal of the process waste would also meet target risk criteria for PAHs.

The cleanup goal for Company Lake is removal of the process waste material. The waste material is dark and easily distinguished from underlying sediment. The estimated volume is approximately 43,500 cubic yards. Removal of the waste material will be verified by visual observation and post-removal sampling. The goals for waste material removal will be met by removing visible contamination as well as reduction of fluoride levels below 1,000 mg/kg, and PAH levels below 36 mg/kg.

Excavating contaminated waste and soil from south landfill

For south landfill removal of the contaminant mass that contributes to fluoride contamination in groundwater will also meet target risk criteria for direct contact risk. The south landfill waste contains approximately 44,400 cubic yards of waste material, representing an estimated 681,000 kg of fluoride. This represents approximately 71 percent of the total fluoride mass of this source area (landfill waste and underlying sand and silt). The cleanup goal is removal of the waste material with fluoride levels above 4,000 mg/kg, and PAH levels consistent with PAH levels stated immediately below for the eastern portion of the north landfill, which will be confirmed by verification sampling.

Excavating contaminated waste material from the eastern portion of the north landfill area, and installing a riprap cover over the western portion of the landfill

All waste material located east of the access road in the north landfill will be removed. Removal of the waste material will be confirmed by verification sampling for PAHs and fluoride. PAHs and fluoride are commingled in this landfill. EPA and DEQ target risk criteria will be attained by removing the waste material, which contains carcinogenic PAHs, from the eastern portion of the landfill. Waste removal will meet risk based remedial goals of 1 x 10-5 for excess lifetime cancer risks for potential future trench workers (the reasonable maximum exposure case from the risk assessment), by reducing concentrations of benzo(a)pyrene and dibenzo(a,h) anthracene below 36 mg/kg. The cleanup goal for fluoride is 4,000 mg/kg.

A riprap cover will be installed over the western portion of the landfill to protect the landfill contents from washout. The western portion of north landfill contains low levels of contaminants and removal is not required as part of the selected interim action.

Installing extraction wells in the east potliner and scrap yard areas to remove and contain groundwater contaminated with high levels of fluoride

Two extraction wells will be installed in the upper grey sands horizon of aquifer in the south plant area near the east potliner area and the scrap yard area, respectively. An estimated 20 gpm will be pumped to extract contaminated groundwater. The extracted groundwater will be combined with production well water and discharged to the Columbia River via the existing NPDES permitted outfall.

The predicted fluoride concentration in the extracted groundwater is 75 mg/l. Based on the estimated flow of 40 gpm and 75 mg/l fluoride concentration, which will be combined with the production well water estimated at 1200 gpm and 2 mg/l fluoride concentration, the combined flow will be below 5 mg/l at the point of discharge to the Columbia River. If the measured concentration of fluoride from the focused extraction wells is higher than the predicted concentrations, EPA will re-evaluate whether the focused extraction water can be effectively treated to reduce fluoride concentrations.

Modifying the operation of existing production wells to limit the further spread of fluoride in the groundwater

Production Wells No PW 07 and PW 08 will be operated to provide hydraulic containment of the fluoride plumes in the south plant area. The estimated pumping rates will be approximately 600 gpm each.

Discharging groundwater from the combined production well and focused extraction system to the Columbia River through the existing NPDES outfall

The combined flow from the production wells and focused extraction wells will be discharged directly to the Columbia River. There are no ambient water quality criteria for fluoride available, so water aquatic toxicity data from literature sources were used to estimate toxicity potential. EPA has determined that 5 mg/l will be the standard for fluoride discharge for this action, and believes that treatment will not be needed to meet this standard based on predicted fluoride concentrations. EPA believes that the 5 mg/l standard for fluoride at the predicted flowrates will be protective of aquatic species in the Columbia River. For other constituents that may be present, EPA will use ambient water quality criteria for protection of aquatic organisms as the standard. The point of compliance will be at discharge to the Columbia River, the same as the location of the NPDES compliance point for the previous discharges under the NPDES permit for RMC.

Monitoring groundwater to evaluate the effectiveness of source removal and focused extraction

The cleanup goal for fluoride in intermediate and deep groundwater is the MCL. After construction of the selected remedy, the focused extraction and production well pumping system will be monitored on a regular basis and its performance will be evaluated. Operation and monitoring for a period of five years after completion of the source control actions may be necessary to provide enough information to determine if the groundwater extraction system is adequate to maintain hydraulic control of the contaminated plume. Some adjustments of the extraction system may be needed to enhance remedy performance, including adjusting the rate of extraction or installing additional groundwater extraction wells.

The fluoride cleanup levels for the source areas were selected to achieve significant removal of fluoride-containing source material for each area. The 4,000 mg/kg level for south landfill and north landfill were based on an empirical relationship between fluoride sources and levels in groundwater that was presented in the FS. The level for Company Lake was set at 1,000 mg/kg based on results that were achieved during the partial removal action in the fall of 2001.

Groundwater monitoring will address the effectiveness of mass removal in reducing fluoride contamination in groundwater, fluoride capture and mass removal, intermediate and deep zone water quality performance in meeting MCLs.

Cleanup of shallow groundwater is not being conducted under this interim action. Cleanup of shallow groundwater does not appear to be feasible in a reasonable time-frame in the south plant area based on existing information because of low yields in this portion of the aquifer. EPA will re-evaluate shallow groundwater as part of the final remedy for this Site.

Limiting future use (through the use of engineering and institutional controls) of shallow groundwater and portions of the property to ensure the remedy remains protective

Implementation of this ROD will require a detailed Engineering and Institutional Control Plan. including a specific Groundwater Institutional Control Plan, to ensure adequate protection for as long as may be necessary.

11.2 Estimated Outcomes of the Selected Remedy

The Selected Remedy will greatly reduce the environmental impacts associated with the current waste contamination because waste that poses a direct contact risk and is a source of groundwater contamination will be removed from the Site to a permitted off-site disposal facility. Human health risk will be reduced to by at least an order of magnitude. The implementation period for this alternative is approximately 2 years for waste removal and 5 to 10 years for groundwater extraction. The short-term

impacts are minimal and do not persist through the entire period (i.e., only during construction phases).

The Preferred Alternative was selected over the other alternatives because it is expected to achieve substantial and long-term risk reduction. EPA's preference for this alternative is based on the evaluation of the alternatives against the established criteria. It meets EPA's threshold criteria for protection of human health and the environment. Based on current information, EPA believes that contaminated soil and debris can be reliably removed from the Site, and treatment of soil and debris was not found to be practicable or cost effective.

The groundwater remedy uses a phased approach to groundwater restoration. Groundwater response activities will be implemented in a series of steps so that information gathered in earlier phases can be used to refine subsequent objectives or actions. Containment of the fluoride plume will be confirmed by sampling of monitoring wells, including new wells that will be installed to assess progress.

The beneficial use of the aquifer is as a source of water for industrial uses and for drinking. Groundwater extracted from the deep portions of the aquifer has been used for this purpose both on and off-site. Based on the information obtained during the RI/FS, EPA and DEQ believe that the Preferred Alternative will restore beneficial uses in the intermediate and deep portions of the aquifer and significantly reduce the mass of fluoride in a reasonable time frame.

12.0 STATUTORY DETERMINATIONS

Based on information currently available, EPA and DEQ believe the Selected Remedy provides the best balance of tradeoffs among the alternatives with respect to the evaluation criteria. The EPA expects the Preferred Alternative to satisfy the statutory requirement in CERCLA section 121(b) to: 1) be protective of human health and the environment; 2) comply with ARARs; 3) be cost-effective.

Under CERCLA Section 121 and the NCP, the lead agency must select remedies that are protective of human health and the environment, comply with applicable or relevant and appropriate requirements, are cost-effective, and utilize permanent solutions and alternative treatment technologies or resource recovery technologies to the maximum extent practicable. In addition, CERCLA includes a preference for remedies that employ treatment that permanently and significantly reduces the volume, toxicity, or mobility or hazardous wastes as a principal element and a bias against off-site disposal of untreated wastes. The following sections discuss how the Selected Remedy meets these statutory requirements.

12.1 Protection of Human Health and the Environment:

The Selected Remedy will be protective of human health and the environment. Human health risk and ecological risk for the sources addressed by this action will be reduced below EPA and DEQ target risk criteria. Implementation of this remedy may create some short term risk to the environment through air dispersion of contaminants, however engineering controls and construction techniques will be utilized to minimize any short term impacts.

12.2 Compliance with Applicable or Relevant and Appropriate Requirements (ARARs)

The Selected Remedy will comply with all applicable or relevant and appropriate requirements as follows:

Safe Drinking Water Act - maximum contaminant levels
The Safe Drinking Water Act regulations establish maximum levels of contaminants in public drinking water sources (40 CFR Part 141). The NCP states that MCLs are potentially relevant and appropriate during remediation of groundwater or surface waters that are current or potential sources of drinking water. Federal MCLs are relevant and appropriate for the RMC Site. Constituents of concern for groundwater at RMC and corresponding MCLs are listed in Table 5.

Clean Water Act - water quality criteria
EPA has established federal water quality criteria under Section 304 of the Clean Water Act. Water quality criteria are set for human health and protection of aquatic life. CERCLA Section 121(d) requires water quality criteria be attained if relevant and appropriate to the circumstances of the site. Water quality criteria are relevant and appropriate at RMC for determining acceptable contaminant levels in the Columbia and Sandy Rivers. Applicable water quality criteria for the discharges of focused extraction and production well water from RMC are listed in Table 6.

Oregon Water Quality Standards
Oregon Water Quality Standards under OAR 340-041 for the Willamette Basin (Columbia River) and Sandy River Basin State are relevant and appropriate for the discharges of focused extraction and production well water from RMC.

Toxic Substances Control Act Regulations (40 CFR 761)
TSCA regulates disposal, handling and cleanup of material contaminated with PCBs. PCBs have not been identified in Scrap Yard, south landfill, north landfill, or company lake at concentrations that would trigger TSCA. If regulated concentrations are identified during the interim actions, TSCA regulations on handling and disposal will be applicable if such regulated wastes are encountered.

Federal Endangered Species Act of 1973 (16 U.S.C. 1531 et seq., 50 C.F.R. Part 200, 402)

This statute and implementing regulations are applicable to any remedial actions performed at this Site as this area is potential habitat for threatened and/or endangered species, in addition to any consultation which may be required with species-listing federal Agencies under Section 7 of the ESA. The state and federal endangered species acts, ORS 496.012 and 16 U.S.C. 1351 and the Migratory Bird Treaty Act, 16 U.S.C. Section 703 requires protection for certain plant and animal species and their habitat. The Columbia River is habitat for documented threatened or endangered species. Federally listed Snake River fall Chinook salmon, spring Chinook salmon, and sockeye salmon migrate in the Columbia River. The Columbia River is also within the Pacific flyway, a bird migration corridor.

Requirements for consultation with National Marine Fisheries Service, US Fish and Wildlife and Oregon Fish and Wildlife are would be applicable for response actions that could affect a protected species or its habitat.

U.S. Fish and Wildlife Coordination Act (16 U.S.C. 661 et seq.)

RMC shorelines provide potential habitat for bald eagles and other avian species, and the Columbia River and Sandy Rivers are used as a salmonid migratory route. This act prohibits water pollution with any substance deleterious to fish, plant life, or bird life, and requires consultation with the U.S. Fish and Wildlife Service and appropriate state agencies. Criteria are established regarding site selection, navigational impacts, and habitat remediation. These requirements are anticipated to be relevant and appropriate for remedial activities on the site.

National Archaeological and Historic Preservation Act

Archaeological sites and cultural resources are protected under the National Archaelogical and Historic Preservation Act, Executive Order 11593 and state statute (ORS 358.905). The State Historic Preservation Office (SHPO), in consultation with federal agencies, reviews projects under NHPA. Standards for excavation may be applicable for construction in previously undisturbed areas. Consultation with SHPO will be needed to assess the planned excavations and their potential for affecting protected resources.

Wild and Scenic Rivers Act

The segment of the Sandy River adjacent to the RMC facility is designated as a recreational and scenic river under the Federal Wild and Scenic Rivers Act (16 U.S.C. Section 1271) and Oregon Waterways Act (ORS 390.805). Federal agencies may not assist in construction of a water resource project that would have a direct and adverse impact on free-flowing characteristics of a designated river or that would unreasonably diminish the scenic, recreational, and fish and wildlife values present in the river corridor.

Oregon Environmental Cleanup Law (ORS 465.200)

The Oregon Environmental Cleanup Law is patterned after CERCLA, and is applicable to the extent that standards are more stringent than federal standards. The level of contaminants assumed to be

protective of human health and the environment are an excess lifetime cancer risk of 10-6 for individual carcinogens, a cumulative excess lifetime cancer risk of 10-5, and a hazard index of less than or equal to 1 for systemic toxicants with similar endpoints. For protection of ecological receptors, the acceptable level of risk is at the point before significant adverse impacts are expected to occur.

State Discharge Permit Program/NPDES Program
The Oregon state NPDES program provides conditions for authorizing direct discharges to surface waters and specifies point source standards for such discharges. These standards are applicable to discharges to surface waters resulting from focused extraction of groundwater.

Siting Requirements for Waste Management Facilities
Federal regulations (40 C.F.R. 257.3 and 40 C.F.R. Part 258 Subpart B, and state regulations OAR 340-95-030 establish minimum siting criteria for solid waste landfills. These requirements may be relevant and appropriate to containment of waste material in north landfill if waste is left in place. North landfill is located in the floodplain, and siting criteria requirements for floodplains require controls to prevent washout of solid waste that may pose a hazard to human life, wildlife, or land or water resources.

Executive Order 11988, Protection of Floodplains
This Executive Order requires that actions taken in floodplains should avoid adverse effects, minimize potential harm, and restore and preserve natural and beneficial values of floodplains.
E.O. 11988 is applicable to the north landfill and Company Lake actions.

Well Installation Requirements
The Oregon Water Resources Department regulates the construction, abandonment, maintenance and use of water wells and monitoring wells. The requirements in OAR 690 200 through 240 would apply to wells constructed, operated or abandoned as part of the remedial action.

Oregon Solid Waste Management Rules (OAR 340-093 through -097) are applicable to the disposal of solid waste from the RMC Site. Section 340 093-0170 is applicable to the disposal of cleanup materials contaminated with hazardous substances that are not in themselves hazardous substances, such as petroleum contaminated soil. Such material must be disposed only in landfills meeting the RCRA Subpart D design criteria and that have been authorized to receive this type of material by DEQ. Section 340 093-0190 is applicable to the disposal of special wastes, including construction and demolition debris and oil wastes. Wastes from the RMC site will be disposed in a landfill approved for handling such special wastes.

Oregon Hazardous Wastes Management Rules (OAR 340-100 through -120) are applicable to waste at the site which exhibits a characteristic of hazardous wastes. Based on the RI data and history

of past facility operations, waste at the source areas addressed in this interim action does not contain state-only or listed hazardous wastes.

If RCRA TCLP or listed waste is encountered during cleanup, then waste sent off-site will comply with the Oregon RCRA rules pertaining to the generation, transportation and treatment, storage and disposal of hazardous waste.

Oregon General Emission Standards for Particulate Matter (OAR 340-021) is applicable to emission of particulates, including fugitive emissions, from cleanup activities that generate particulate emissions, such as dust generated from earthwork or other disturbance of on-site waste and soils.

12.3 Cost-Effectiveness

In EPA's judgment, the Selected Remedy is cost effective and represents a reasonable value for the money to be spent. In making this determination, the following definition was used: "A remedy shall be cost-effective if its costs are proportional to its overall effectiveness". (NCP 300.430(f)(ii)(D)). The Selected Alternative provides greater protection of human health and the environment than the other alternatives that meet the same cleanup goal, at a lower cost. The relationship of the overall effectiveness of this remedial alternative was determined to be proportional to its costs and hence this alternative represents a reasonable value for the money to be spent.

12.4 Utilization of Permanent Solutions and Alternative Treatment (or Resource Recovery) Technologies to the Maximum Extent Practicable

The Selected Remedy is an interim action that may represent a permanent solution for the individual source areas. This criteria will be evaluated based on performance monitoring addressed in the final remedial action for this Site.

12.5 Preference for Treatment as a Principal Element

Because this action does not constitute the final remedy for the RMC Site, the statutory preference for remedies that employ treatment that reduces toxicity, mobility, or volume as a principal element will not be satisfied by this interim action. Previous actions conducted at this Site addressed highly contaminated waste sources, and the contaminated material being addressed by this interim action is not considered to be principle threat waste.

The groundwater portion of the interim action uses plume extraction and containment to reduce the mobility of fluoride in groundwater. Treatment processes evaluated in the FS were not shown to be

effective in reducing predicted contaminant concentrations. If the actual concentrations of fluoride in extracted groundwater are significantly higher than predicted in the FS, EPA will re-evaluate options for treatment to reduce toxicity and volume.

12.6 Five-Year Review Requirements

Because this remedy will result in hazardous substances, pollutants, or contaminants remaining on-site above levels that allow for unlimited use and unrestricted exposure, a statutory review will be conducted within five years after initiation of remedial action to ensure that the remedy is, or will be, protective of human health and the environment.

13.0 DOCUMENTATION OF SIGNIFICANT CHANGES FROM THE PREFERRED ALTERNATIVE IN THE PROPOSED PLAN

The Proposed Plan was released for public comment on August 29, 2002. It identified the Preferred Alternative, previously described in this document, for remediation. No comments were received during the 30-day public comment period. EPA did not make any significant changes to the Preferred Alternative in the Selected Remedy.

FIVE-YEAR REVIEW REPORT

First Five-Year Review Report
for
Reynolds Metals Superfund Site
City of Troutdale
Multnomah County, Oregon

July 2008

PREPARED BY:
United States Environmental Protection Agency
Region 10

Approved by:

Daniel D. Opalski, Director
Office of Environmental Cleanup
US EPA Region 10

7/21/2008
Date

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Attachment 1 – List of Documents reviewed
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Figure 2 - Site Features and Evaluation Area
Figure 3 - Shallow Silt Zone Fluoride Plume
Figure 4 - Fluoride mass removal
Figure 5 - Upper Grey Sands Fluoride Plume
Figure 6 – Intermediate Depth Fluoride Plume

List of Acronyms

ARAR	Applicable or Relevant and Appropriate Requirement
CD	Consent Decree
CERCLA	Comprehensive Environmental Response, Compensation, and Liability Act
EPA	United States Environmental Protection Agency
CFR	Code of Federal Regulations
DEQ	Oregon Department of Environmental Quality
MCL	Maximum Contaminant Level
NCP	National Contingency Plan
NPL	National Priorities List
O&M	Operation and Maintenance
PAH	Polyaromatic Hydrocarbon
PCB	Polychlorinated Biphenyl
PRP	Potentially Responsible Party
RA	Remedial Action
RD	Remedial Design
RI/FS	Remedial Investigation/Feasibility Study
RI/RA	Remedial Investigation/Risk Assessment
ROD	Record of Decision
SDWA	Safe Drinking Water Act

Executive Summary

The remedy for the Reynolds Metals Superfund Site in Troutdale, Oregon included excavation and off-site disposal of contaminated waste, soil and debris, capping the western portion of the north landfill area and two small areas on the Company Lake shoreline, construction and operation of a focused extraction/production well optimization (FE/PWO) system to remove fluoride from groundwater and provide hydraulic containment to control plume migration, groundwater monitoring, and institutional controls. The interim Record of Decision (ROD) for the source areas was signed on Sept 30, 2002. A final ROD was signed on September 29, 2006. The site achieved construction completion with the signing of the Preliminary Close-Out Report on September 29, 2006. The trigger for this five-year review was the initiation of remedial action in July 2003.

This review included the following components:

- Public notification
- Review of key project documents
- Review of groundwater monitoring data
- Assessment of effectiveness and protectiveness of institutional controls
- On-site inspection
- Five-year Review Report development and review

Based on the results of this five-year review, EPA concludes that the remedy is protective in the short-term because (1) the remedy was constructed and is being completed in accordance with the requirements of the ROD, (2) the remedy is functioning as designed, and (3) the operation, maintenance and monitoring at the Site is being performed in accordance with the Operations and Sitewide Monitoring Plans and protects the integrity of the remedy. The findings of the five-year review indicate that the groundwater remedy has been implemented as designed and is currently being evaluated for its effectiveness. Data indicate that fluoride levels have been reduced in portions of the plume in the Company Lake area and the South Plant Area since the completion of the source control actions and initiation of the FE/PWO system operation. EPA will continue to evaluate system performance and opportunities for optimizing the FE/PWO system. Current land use is consistent with the controls and the ROD and Consent Decree. Institutional Controls are in place on the former plant site to protect those materials that were capped on site and to prevent the use of former plant site groundwater for drinking until such time as the remedy achieves cleanup goals in groundwater. However, in order to remain protective in the long term, the Consent Decree that has been signed and filed with Oregon District Court requires that Institutional Controls be established on adjacent properties that overlie the plume to ensure wells will not be installed and used for drinking water while the groundwater remains above cleanup levels.

Five-Year Review Summary Form

SITE IDENTIFICATION		
Site name *(from WasteLAN)*: Reynolds Metals		
EPA ID *(from WasteLAN)*: ORD009412677		
Region: 10	**State:** OR	**City/County:** Multnomah
SITE STATUS		
NPL status: Active		
Remediation status (choose all that apply): Construction complete; O&M ongoing		
Multiple OUs?* No	**Construction completion date:** 9/29/06	
Has site been put into reuse? No, but re-use planning is underway		
REVIEW STATUS		
Lead agency: EPA		
Author name: Chip Humphrey		
Author title: RPM	**Author affiliation:** US EPA Region 10	
Review period:** 4/30/08 to 7/20/08		
Date(s) of site inspection: 6/9/2008		
Type of review: Post SARA		
Review number: 1 (first)		
Triggering action: RA Start		
Triggering action date *(from WasteLAN)*: 7/22/2003		
Due date *(five years after triggering action date)*: 7/22/08		

* ["OU" refers to operable unit.]
** [Review period should correspond to the actual start and end dates of the Five-Year Review in WasteLAN.]

Five-Year Review Summary Form, cont'd.

Issues:

The ROD and Consent Decree require that institutional controls be placed to ensure that the remedy remains protective. This requirement has been satisfied for all property that was owned by RMC and recently sold to the Port of Portland. This property represents the majority of the property affected by the ICs. Four additional properties were identified where ICs need to be implemented. Current uses at these properties are compatible with the assumptions in the ROD remedial action. The Consent Decree, which was filed in Oregon District Court in January 2008, requires that RMC and Alcoa implement ICs for these additional properties.

Recommendations and Follow-up Actions:

EPA will ensure compliance by RMC and Alcoa with the requirements of the Consent Decree for property that is owned or controlled by parties other than RMC/Alcoa where access and land and water restrictions are needed. RMC has provided Title searches and is currently negotiating these agreements.

Protectiveness Statement(s):

The remedy at this site currently protects human health and the environment because contaminated soils have been remediated, the groundwater system is operational and functioning as intended, Institutional Controls are in place on the former plant site to protect those materials that were capped on site and to prevent the use of former plant site groundwater for drinking until such time as the remedy achieves cleanup goals in groundwater, and there are no drinking water wells on adjacent properties with access to contaminated groundwater. However, in order to remain protective in the long term, required institutional controls need to be established on adjacent properties that overlie the plume to ensure wells will not be installed and used for drinking water while the groundwater remains above cleanup levels. A Consent Decree was filed with Oregon District Court in January; and will be binding on the parties upon entry by the Court, which requires that RMC and Alcoa implement the institutional controls on the adjacent properties.

1. INTRODUCTION

The purpose of the Five-Year Review is to determine whether the remedy at a site is protective of human health and the environment. The methods, findings, and conclusions of reviews are documented in Five-Year Review reports. In addition, Five-Year Review reports identify issues found during the review, if any, and identify recommendations to address them.

The Agency is preparing this Five-Year Review report pursuant to CERCLA §121 and the National Contingency Plan (NCP). CERCLA §121 states:

> *If the President selects a remedial action that results in any hazardous substances, pollutants, or contaminants remaining at the site, the President shall review such remedial action no less often than each five years after the initiation of such remedial action to assure that human health and the environment are being protected by the remedial action being implemented. In addition, if upon such review it is the judgment of the President that action is appropriate at such site in accordance with section [104] or [106], the President shall take or require such action. The President shall report to the Congress a list of facilities for which such review is required, the results of all such reviews, and any actions taken as a result of such reviews.*

The Agency interpreted this requirement further in the NCP; 40 CFR §300.430(f)(4)(ii) states:

> *If a remedial action is selected that results in hazardous substances, pollutants, or contaminants remaining at the site above levels that allow for unlimited use and unrestricted exposure, the lead agency shall review such action no less often than every five years after the initiation of the selected remedial action.*

The United States Environmental Protection Agency (EPA), Region 10, conducted this statutory five-year review of the remedy implemented at the Reynolds Metals Company Superfund Site ("RMC Site" or "Site") in Portland, Oregon. A statutory review is required because the implemented remedy resulted in hazardous substances, pollutants or contaminants being left at the RMC Site. This review was conducted by the Remedial Project Manager (RPM) for the Site from April 2008 through July 2008. This report documents the results of the review.

This is the first five-year review for the RMC Site and addresses the entire site. The triggering action for this statutory review is the start of remedial action under the Interim ROD in July 2003. The five-year review is required due to the fact that hazardous substances, pollutants, or contaminants remain at the Site above levels that allow for unlimited use and unrestricted exposure.

2. SITE CHRONOLOGY

Table 1. Chronology of Site activities

Event	Date
EPA investigation documenting contamination	1993
NPL listing	Dec 1994
RI/FS Consent Order signed	August 1995
Removal Actions Conducted	1995 - 2000
RI/FS Reports	June 2000
Interim ROD signed	Sept 2002
Unilateral Order issued for Interim Remedial Action – Soil and waste areas	July 2003
Contractor mobilized to start site preparation	July 2003
Cleanup of waste areas	2003 - 2005
Second Unilateral Oder for RD and Remedial Action – Groundwater FE/PWO System Installation	August 2005
Groundwater system start-up	November 2005
Plant Demolition/additional soil cleanup	2003 - 2006
Post-Demolition Remedial Investigation and Baseline Risk Assessment Report	June 2006
Final ROD signed – Continued operation of groundwater system and institutional controls	Sept 2006
Construction Completion/Preliminary Closeout Report	Sept 2006
Consent Decree signed	October 2007
Consent Decree filed with Court	January 2008

3. BACKGROUND

3.1 Physical Characteristics

The Reynolds Metals Company (RMC) Site is located approximately 20 miles east of Portland, Oregon, and just over one mile north of the City of Troutdale. The property is bordered by the Columbia River to the north, the Sandy River to the east, the Troutdale Airport to the south, and Salmon Creek to the west. (Figure 1) RMC operated a primary aluminum reduction plant where aluminum was produced from the raw material alumina. Approximately 108 acres of the 800-acre site were occupied by the former plant area.

3.2 Land and Resource Use

The plant was constructed for the US Government in 1941 to produce aluminum for wartime operations. The Aluminum Company of America (now Alcoa) operated the plant for the federal government from approximately 1941 to 1946. RMC leased the plant from the government in 1946 and purchased it in 1949. RMC operated the plant until 2000. In May 2000, RMC was acquired by a wholly owned subsidiary of Alcoa. That subsidiary (RLM Acquisition Corp.) merged with RMC, with RMC the surviving corporation. Alcoa suspended operations at the Troutdale plant in the fall of 2000, and Alcoa later announced permanent closure of the facility. The plant buildings were subsequently demolished, with demolition taking place from 2003 through January 2006. Alcoa sold the property to the Port of Portland in 2008.

A US Army Corps of Engineers (COE) dike runs approximately east-west through the northern portion of the property, then turns south at the eastern property boundary. Site areas north and east of the dike are located within the 100 year floodplain. These areas are currently undeveloped and characterized by cottonwood-ash riparian forest and areas vegetated with blackberries and Scot's broom thickets.

Seasonal wetlands at the Site contain hydric soils and characteristic hydrophytic plants that are capable of withstanding periods of summer drying. The primary locations of seasonal wetlands are the south wetlands area south of the main plant, low areas in Fairview Farms, low areas northeast of the former scrap yard area, low areas adjacent to Company Lake, and in the forest outside the COE dike.

The Site is mostly level, with less than 20 to 30 feet of variation in elevation. Geologically, the RMC Site is located in the eastern portion of the "Portland Basin," a term describing a 20 mile-wide by 45 mile-long northwest-southeast trending structural depression. The basin is filled with a complex system of unconsolidated and consolidated alluvial sediments containing important water-bearing zones.

3.3 Investigation Areas

Soil and Debris Areas

The RMC site was divided into four areas for the post-demolition investigation and evaluation of site soil conditions. These key site reference areas are shown in Figure 2.

- Outside the Dike
- Fairview Farms
- South Wetlands area
- East (former plant) area

The area Outside the Dike refers to the portion of the RMC site that is to the north and east outside of the US Army Corps of Engineers dike. This area is within the flood plain of the Columbia River, and includes Company Lake, East Lake and the western portion of the north landfill.

The Fairview Farms area is 227 acres located west of Sundial Road. This area was used for cultivated crops and cattle grazing. Although this area was not used for historical plant operations, there were some stormwater overflows from the plant to an adjacent ditch.

The South Wetlands area is 28 acres located south of the former plant. This area was used as a settling pond for wastewater discharges during the early years of plant operations. It is a low-lying area with thick vegetation and some standing water.

The East Area (Figure 3) is 254 acres and includes the area where the former RMC plant was located. The area is generally flat, and currently has no structures or aboveground improvements except for groundwater monitoring and extraction wellheads, and a small building that houses equipment for the groundwater system. The south landfill, scrap yard, and east potliner areas were located within the East Area.

Groundwater

Groundwater generally discharges to the Columbia River in the northern portion of the Site and to the Sandy River in the eastern portion of the site. Two regional aquifer systems exist under the Site. The Sand and Gravel Aquifer (SGA) is the deeper unit. The Unconsolidated Sedimentary Aquifer (USA) - is the uppermost aquifer and the focus of investigation and cleanup of this site. The unconsolidated sediments in this aquifer have been subdivided into four water-bearing zones for purposes of investigation:

- silt unit (generally 0-30 feet deep, and present mainly in the East Area)
- upper grey sand (up to 50 feet deep)
- intermediate sand (up to 100 feet deep)
- deep sand/gravel (greater than 100 feet deep)

3.4 History of Contamination/NPL Listing

EPA conducted site investigations at RMC in 1994 that documented contamination is several former waste disposal areas at the site. Contaminants included fluoride, PAHs, cyanide, metals and PCBs. EPA placed the Site on the Superfund National Priorities List (NPL) in 1994. On September 29, 1995, EPA and RMC signed an Administrative Order on Consent (AOC) for RMC to prepare a RI/FS and perform early actions at the Site under EPA's oversight. RMC completed the early cleanup actions as well as the RI/FS, which presents the results of the site investigation and analysis of cleanup alternatives.

3.5 Removal Actions

RMC conducted several early cleanup actions on the Site between 1995 and 2002 to remove contaminated soil and waste material. These actions targeted various waste disposal and spill areas and areas that were sources of groundwater contamination. The early actions were completed as time-critical removal actions under EPA oversight. The following summarizes the cleanup actions undertaken at specific sources of contamination at the Site.

The Bakehouse Sumps - A network of 21 dewatering sumps that were located around the bakehouse to keep shallow groundwater out of the subsurface bake pits contained fluoride, cyanide, and PAHs. RMC cleaned out the contaminated sumps and disposed of 283 tons of the waste at a permitted off-site disposal facility. Surface water runoff was redirected to prevent recontamination from surface sources.

Casthouse PCB Spill Area - Soil adjacent to the casthouse building was contaminated with PCBs. The concrete and siding outside the building were also contaminated by PCBs, and the casthouse contained PCB contaminated dust. RMC conducted a cleanup inside and outside the building, including excavation of contaminated soil adjacent to the building. The cleanup included excavation and off-site disposal of 515 tons of PCB contaminated soil and debris in a permitted off-site disposal facility.

Cryolite Ponds - Three settling ponds south of the main production facility were used for storage and disposal of cryolite, a waste material containing high levels of fluoride and other metals. RMC excavated and disposed of approximately 13,900 tons of cryolite at a permitted off-site disposal facility.

Diesel Spill Area - Two acres east of the main facility were heavily contaminated with diesel fuel and oil. RMC excavated and disposed of 2,650 tons of contaminated soil from this area at a permitted off-site disposal facility.

East Potliner - An area located east of the main facility was formerly used to store spent potliner, a production waste containing high levels of fluoride, cyanide, and polyaromatic hydrocarbons (PAHs). More than 11,542 tons of spent potliner and contaminated soil were excavated from this area and transported to a permitted off-site disposal facility.

ESP Containment Area – Excavation and off-site disposal of 1,193 tons of contaminated material in permitted disposal facility.

Fairview Farms - Excavation and off-site disposal of 150 tons of debris from four piles in a permitted off-site disposal facility.

Production Well Abandonments - Nine wells located at the plant site that were no longer in use were decommissioned to prevent them from acting as conduits for the spread of contamination in shallow groundwater.

Company Lake Process Residue - an estimated 3,300 cubic yards of contaminated process residue was excavated from a portion of Company Lake and transported to a permitted off-site disposal facility in October, 2001. This partial removal of process residue provided information about the feasibility of dewatering Company Lake and removing the waste using conventional mechanical equipment.

Scrap Yard – This 5.7-acre area was located in the East Area and was used as a storage area for the plant. Soil in the scrap yard was contaminated with fluoride, cyanide, PAHs, PCBs, and metals. Fluoride levels averaged over 30,000 mg/kg in the soils, with the concentrations decreasing with depth. The scrap yard was the source of fluoride and metals contamination in the intermediate sand and sand/gravel water bearing zones, located between the scrap yard and the production wells. This area was cleaned up primarily through early removal actions. Additional waste removal was completed as part of plant demolition activities. Following cleanup from removal actions, mean total fluoride was 489 mg/kg and PAHs were 1.0 mg/kg.

South Wetlands - Excavation and off-site disposal of 90 tons of PCB-contaminated process residue and soil.

West South Ditch - Excavation and off-site disposal of 8,775 tons of process residue, soil and sediment (includes the hot spot portion of east south ditch).

3.6 Remedial Investigation and Feasibility Study

RMC conducted an RI/FS under EPA and DEQ oversight from 1996 through 2000. The findings of the RI/FS, including the results of the baseline risk assessment, were the basis for the Interim ROD that was signed on September 30, 2002.

3.7 Basis for Remedial Actions

The RI/FS showed there were high levels of contamination in soil, waste and debris and in the eastern portion north landfill, south landfill, scrap yard area and high levels of contamination in the process residue that was located at the bottom of Company Lake. It also showed that there

was a significant plume of fluoride in groundwater beneath the RMC facility. Exposures to waste, soils and debris and Company Lake sediments were associated with significant human health risks. The contaminated materials in the waste areas previously described were determined to be the primary sources of groundwater contamination.

4. REMEDIAL ACTIONS

4.1 Interim Remedial Action

Selected Remedy

In September 2002, EPA issued a ROD for Interim Remedial Action (Interim ROD). The selected remedy included the following:

- Removing contaminated process residue from Company Lake
- Excavating contaminated waste and soil from the south landfill area
- Excavating contaminated waste material from the eastern portion of the north landfill area, and installing a riprap (soil and rocks) cover over the western portion of the landfill
- Off-site disposal of excavated waste material at a permitted disposal facility
- Installing extraction wells in the east potliner and scrap yard areas to remove and contain groundwater contaminated with high levels of fluoride
- Modifying the operation of existing production wells to limit the further spread of fluoride in the groundwater
- Discharging groundwater from the combined production wells/focused extraction (FE/PWO) system to the Columbia River
- Monitoring groundwater to evaluate the effectiveness of source removal and focused extraction
- Limiting future use (through the use of engineering and institutional controls) of shallow groundwater and portions of the property to ensure the remedy remains protective.

Cleanup levels for soils and waste that were established in the Interim ROD for the individual waste areas are described below. The cleanup level for fluoride contaminated-groundwater established in the Interim ROD was 4 mg/l, the drinking water MCL.

The standard for fluoride established in the Interim ROD for discharge of groundwater from the FE/PWO system to the Columbia River was 5mg/l.

4.2 Remedy Implementation – Interim ROD

Remedial Construction Activities – Soils

Cleanup of the waste areas required by the Interim ROD was carried out under a Unilateral Order

(UAO) issued by EPA in 2003.

North Landfill – An estimated 10,509 tons of contaminated waste and soil from eastern portion was excavated and disposed off-site in a permitted landfill. The western portion was capped to prevent direct contact and to provide flood protection. Confirmation sampling was conducted to verify that cleanup levels for the eastern portion established in the ROD (4,000 mg/kg for fluoride, 36 mg/kg for carcinogenic PAHs) were met, with mean post-cleanup levels of 437 mg/kg for fluoride and less than 1 mg/kg for carcinogenic PAHs.

Company Lake - The lake was drained in 2003 and 2004 and an estimated 90,850 tons of the process residue and underlying sediment was excavated and disposed of at an off-site disposal facility. Small quantities of process residue could not be removed because of concerns over slope stability at portions of the west and southeastern ends of the lake, and these areas were capped. Cleanup goals established in the Interim ROD for Company Lake were 1,000 mg/kg for fluoride and 36 mg/kg for PAHs. Following cleanup, mean total fluoride was 481 mg/kg, and PAHs were 1.35 mg/kg.

South Landfill - Excavation and off-site disposal of 66,038 tons of waste and soil was completed for this area. Cleanup goals established in the Interim ROD for the south landfill were 4,000 mg/kg for fluoride and 36 mg/kg for carcinogenic PAHs. Following cleanup mean levels of fluoride were 427 mg/kg and carcinogenic PAHs were 1.9 mg/kg.

Remedial Construction Activities - Groundwater

Construction and start-up operation of the groundwater was completed under a second UAO issued by EPA in August 2005.

Construction of the FE/PWO system was completed in October 2005. The system is designed to provide hydraulic containment of contaminated groundwater and restore groundwater quality. Two extraction wells, FE02 and FE03, were installed in the scrap yard and east potliner areas. Production wells include PW07 and PW08, with backup capacity provided by wells PW03 and 05. Startup performance monitoring began in early November, 2005, followed by 5 months of operation and performance evaluation. EPA reviewed the results of the startup performance evaluation, which is documented in the *Focused Extraction/Production Well Optimization System Startup Performance Monitoring Results and Conclusions Technical Memorandum (CH2M Hill June 2006),* and determined that the system is operating as designed. The ongoing monitoring program will include evaluation of changes in the fluoride plume over time and of plume containment. Selected monitoring wells will also be sampled periodically for VOCs and total cyanide analysis. Groundwater monitoring as described in *Addendum 1 - Site-wide Groundwater Monitoring Plan (2006-2010)* is underway.

4.3. Plant Demolition

The RMC facility was demolished from 2003 through January 2006. All of the plant structures

and most of the foundations were removed as part of the demolition. The decision to demolish the plant was made by Alcoa based on its own business consideration and was not part of the cleanup activities under CERCLA. Alcoa chose to conduct the demolition, cleanup activities and dispose of contaminated materials that it removed consistent with the soil cleanup levels that were used in the Interim ROD and State soil cleanup levels and disposal requirements. The demolition activities provided the opportunity to complete additional investigation and cleanup of the area next to and beneath the plant. EPA and DEQ provided oversight of the sampling, cleanup and disposal activities during site demolition.

4.4 Post Demolition RI/RA

A post-demolition Remedial Investigation (RI) was conducted during plant demolition and completed after post-demolition sampling of the plant area. The Risk Assessment (RA) for the RMC site was updated in June 2006 to reflect post-demolition site conditions.

The post-demolition RI was a comprehensive data gathering and analysis program that evaluated Site conditions following the plant demolition. Soil investigations, including surface and subsurface sampling, were conducted at 56 assessment areas. In addition, geophysical techniques, such as electromagnetic and resistivity surveys, were completed to identify buried material. Soil samples were analyzed for fluoride, PAHs, cyanide, PCBs, pesticides, metals, VOCs, and semivolatile organic compounds (SVOCs). The assessment areas were combined into four general areas for investigation and evaluation: outside the dike, Fairview Farms, the south wetlands and the East (former plant) area.

The Post-Demolition RA concluded that noncarcinogenic health impacts did not exceed 1.0 for the Fairview Farms Area, Outside the Dike Area, East Area, or the South Wetland Area. The results of the Human Health Risk Assessment confirmed that the soils at the site are within EPA's acceptable risk range, and within DEQ's acceptable risk range for all contaminants except for a minor exceedance for one chemical, benzo(a)pyrene, in the East Area.

4.5. Final ROD

Selected Remedy

The final ROD for the RMC Site was signed on September 27, 2006 and selected the following remedial actions:

- Use institutional controls (IC) to ensure protection of future users of the Site and that future uses of the Site, including groundwater use, are compatible with the cleanup levels achieved. ICs are necessary to restrict residential use of the Site, restrict the use of groundwater that exceeds MCLs as a drinking water source, and protect the integrity of the cap. The ICs will include:

- A legal description of the property with a corresponding map will be prepared to clearly identify the property where the ICs will be implemented.
- A restrictive easement or covenant that runs with the land to prohibit residential use of the property, and identify conditions (i.e., additional protective measures, such as capping or special soil handling requirements) under which non-industrial site uses would be considered. For groundwater, the restrictions will include a prohibition on use of Site groundwater that exceeds MCLs for drinking water, prohibition of other groundwater uses that would interfere with the successful operation of the groundwater FE/PWO system, and access for inspection and continued operation of the system.
- Use restrictions on the capped areas to protect the integrity of the existing cap or require suitable capping to allow for intended use of the area.

- Continued operation of the groundwater focused extraction/production well optimization (FE/PWO) system until groundwater cleanup levels are achieved or EPA approves modification, reduction or suspension of the operation of the system. Groundwater from the FE/PWO system will continue to be discharged pursuant to the fluoride standard established in the Interim ROD and the existing Oregon DEQ NPDES permit # 100757 or as modified by DEQ.

- Maintenance and monitoring of capped areas to ensure protection of human health and the environment, including inspections of the capped areas to verify cap integrity and making repairs when problems are observed. A cap inspection and maintenance plan will be required to be submitted to EPA for approval and implementation, and will be implemented in accordance with the approved plan.
- Monitoring groundwater to evaluate the effectiveness of the completed and ongoing cleanup actions. Monitoring and reporting for the first five years is expected to be carried out in accordance with the Site-wide Groundwater Monitoring Plan (2006-2010). An addendum to the Site-wide Groundwater Monitoring Plan will be developed and submitted for approval by EPA and DEQ, following completion of the February 2007 groundwater monitoring event, that provides criteria for evaluating performance of the focused extraction system and scrap yard soil source removal on long-term decline in fluoride concentrations in the silt unit and protectiveness for the underlying drinking water. A second addendum to the Site-wide Groundwater Monitoring Plan will be developed and submitted for approval by the EPA and DEQ at the completion of the five-year monitoring period defining long-term monitoring and reporting for the site.

The ROD further concluded that the shallow silt zone in the South Plant area is not a usable source of drinking water because of low yields in this portion of the aquifer, and attainment of groundwater cleanup levels is not required for this area. The completed source control actions and the focused extraction system are expected to reduce and control the migration of fluoride from the silt zone to the underlying portions of the aquifer.

4.6 Remedy Implementation

EPA and RM/Alcoa signed a Consent Decree on October 1, 2007 that requires RMC to implement the remedy that was selected in the final ROD. The Consent Decree was filed in Oregon District Court in January 2008. In the meantime, the second Unilateral Order is still in effect which requires RMC to operate and maintain the FE/PWO and conduct groundwater monitoring at the site and RMC has proceeded with implementation of the institutional controls and the cap maintenance and monitoring program.

4.7 Operation and Maintenance

Cap Maintenance and Monitoring – inspections and necessary repairs. The purpose of the inspection established in the final O&M Plan was to evaluate land use, vegetation, cap integrity and previous repairs. The inspection schedule is annually for 5 years during the dry season with repairs to be implemented as soon as practical.

RMC has been conducting groundwater remediation and long-term monitoring and maintenance activities according to the approved Operations Plan to protect the integrity of the remedy. The Port of Portland, under an agreement with RMC, assumed operations and maintenance of the FE/PWO system in January, 2008.

4.8 Attainment of Groundwater Cleanup Levels

The purpose of completed source control actions and the groundwater FE/PWO extraction is to expedite the attainment of site-wide groundwater cleanup levels. The cleanup level is the drinking water MCL for fluoride 4mg.l. RMC will continue groundwater extraction until cleanup levels are achieved. The projected time frame for extraction is an estimated 10 to 15 years beginning with the implementation of FE/PWO system in November 2005. In effort to achieve this timeframe RMC has completed several modifications to FE/PWO system including installation of two new extraction wells. FE04 and FE05 to provide pumping capacity that was limited by iron bacteria fouling in extraction well FE02 and FE03. The ability of FE/PWO system to achieve RAOs and cleanup levels within the projected time frame cannot be fully determined until the system has been operated, implemented and modified as necessary, and the plume response monitored over time. Progress towards attainment of groundwater cleanup levels was evaluated as part of the *2007 Annual Groundwater Monitoring and FE/PWO System Operation Report (CH2M Hill December 2007)* and *Addendum 1 to the Sitewide Groundwater Monitoring Report (2006-2010).*

4.9 Groundwater Extraction System Monitoring

Groundwater extraction system monitoring is conducted through periodic sampling and analysis of groundwater samples from extraction wells, selected monitoring wells, and the discharge to confirm that the system performance objectives are being achieved. Performance is evaluated with respect to the following:

Performance is evaluated with respect to the following:

- Hydraulic response to pumping
- Water quality and concentration trends
- Water levels
- Total contaminant mass removed and mass removal rate

Results from these evaluations are presented in annual reports and activities are summarized in monthly progress reports in accordance with the requirements of the Sitewide Groundwater Monitoring Plan. Groundwater quality data are compared to Safe Drinking Water Act MCLs which were established as the cleanup levels for the UGS, intermediate and deep groundwater zones. Discharge data is compared to NPDES permitted discharge levels.

The groundwater monitoring network is composed of 41 monitoring wells. Evaluation of the groundwater monitoring results is organized by areas/zones as described below. The wells and fluoride plumes for the silt, UGS and intermediate zones are shown in Figures 3, 5 and 6.

North Plant Area

Monitoring wells in this area provide data for assessment of groundwater conditions north of the Corps of Engineers dike. Company Lake and north landfill were the sources of groundwater contamination in this area. Water quality data from wells MW23-025, MW27-045, MW57-025, MW27-081, and MW29-090 are being used to evaluate the effectiveness of the source control actions in Company Lake and north landfill and progress towards achieving the groundwater RAOs.

South Plant Area

The south plant area is east of the former location of the main plant. Removal actions were completed in the east potliner area in 1996 and the scrap yard areas in 2004 to address sources of fluoride that was leaching into the underlying groundwater. The FE/PWO system, including extraction wells FE02 and FE03 with target pumping rates of 20 gallons per minute (gpm) each, were installed in this area and began operation in November 2005 to further decrease fluoride concentrations and prevent downward migration of fluoride contamination into the intermediate and deep zones.

Eleven wells provide information that is used to assess groundwater quality in the south plant area: two wells in the silt unit, MW11-017 and MW13-022 (silt) and 9 wells in the UGS unit, MW34-038, MW35-038, MW58-042, FE03-045, MW02-034, MW55-046, MW56-046, FE01-046, and FE02-046.

South Landfill Area

Three wells are used to monitor compliance with water quality criteria. MW19-013, MW26-012 (silt), and MW26-050 (UGS). Soil contaminated with fluoride was removed from this former landfill area, and fluoride does not exceed the MCL in the UGS zone groundwater.

Intermediate and Deep Groundwater Zones

The intermediate and deep groundwater zones include areas of groundwater contamination in the central portion of the site. The migration of fluoride to these zones is believed to be a result of historical production well pumping. The focused extraction wells are designed to cut off the downward migration of fluoride to these zones. The following wells are used for performance and water quality monitoring: MW10-90, MW10-165, MW29-090, MW29-179, MW32-040, MW32-165, MW33-033, MW33-095, MW 33-165, MW48-165, PW3, PW5, PW7, and PW8.

4.10 Discharge of Extracted Groundwater

Effluent water from the FE/PWO system is discharged directly to the Columbia River under NPDES permit. The NPDES permit for the discharge from the groundwater system limits cyanide levels in the discharge to 0.025 mg/l monthly average and 0.05 mg/l daily maximum. There is no permit limit for PAHs, as this constituent was dropped from the list of parameters based on data that showed that PAHs were not being detected in the discharge. The NPDES permit limits fluoride levels to 5 mg/l.

5. PROGRESS SINCE THE LAST FIVE-YEAR REIVEW

This is the first five year review for the RMC Site.

6. FIVE-YEAR REVIEW PROCESS

6.1 Administrative Components

EPA notified representatives of the RMC, DEQ and the natural resource trustees of the initiation of the five-year review in May, 2007. Chip Humphrey, the EPA remedial project manager, conducted the RMC five-year review.

6.2 Community Notification

Activities to involve the community in the five-year review process were initiated in May 2008. A notice announcing initiation of the five-year review process and soliciting information about the Site was published in the Oregonian newspaper on May 19, 2007.

EPA will be issuing another notice to announce the availability of this five-year review. The results of the review and the report will be available to the public at the EPA Oregon Operations Office and the EPA Region 10 website.

6.3 Standards Review

The remedies selected in the 2002 and 2006 RODs are intended to be protective of human health and the environment and to comply with ARARs. The ARARs have been reviewed to identify any new or updated state or federal regulatory standards that might affect the protectiveness of the remedy. No new or updated ARARs were identified in the course of this five-year review.

6.4 Document Review

This five-year review consisted of a review of relevant documents including the ROD, O&M plan, groundwater monitoring and FE/PWO system operations reports, and the easements and protective covenants for the individual properties. Attachment 1 shows a complete listing of the documents reviewed.

6.5 Data Review

RMC has conducted groundwater monitoring at the Site since the late 1980s. RMC has provided a semi-annual reports in the past and currently provides an annual report of groundwater monitoring activities and results. A summary of groundwater results is included in the December 2007 Groundwater Monitoring and FE/PWO System Operation Report. It includes a summary of groundwater monitoring through August 2007, including water levels and analytical results. The report also provides NPDES monitoring results for March through October 2007. EPA also reviewed results for activities that have been conducted since the December 2007 report, including the groundwater monitoring results for the February 2008 monitoring event and NPDES permit discharge monitoring reports through April 2008.

Groundwater Quality

A summary of average fluoride concentrations for August 2005 through August 2007 is presented in Table 2 below.

Table 2. Average Fluoride Concentration by Groundwater Zone

Monitoring Area	Zone	August 2005 Avg fluoride (mg/l)	August 2007 Avg fluoride (mg/l)	Fluoride MCL
North Plant (company Lake/north landfill)	UGS	13.0	14.6	5
North Plant	Intermediate	16.5	14.8	5
North Plant	Deep	7.2	7.9	5
South Plant	Silt	193	108	N/A

South Plant	**UGS**	**45.2**	**42.2**	**5**
South Landfill	**Silt**	**85.2**	**59.3**	**N/A**
South Landfill	**UGS**	**1.2**	**0.9**	**5**
Plant Interior	**Intermediate**	**48.4**	**11.8**	**5**
Plant Interior	**Deep**	**18.3**	**21.1**	**5**

Note: Drinking water MCL applies to UGS, intermediate and deep zones only per 2006 ROD.

The report provided a statistical evaluation of the monitoring results indicating trends, (increasing, decreasing, stable). While EPA does not disagree with this evaluation, EPA considers this to be a preliminary evaluation based on the limited time that the FE/PWO system has been in operation. In addition, although the groundwater report indicates that levels are generally decreasing EPA believes that it is premature to evaluate the effect of these reductions on cleanup time.

Mass Removal

As of May 27, 2008 the FE/PWO system has removed 40,467 lbs of fluoride from groundwater at the Site. Figure 4 displays a time series plot for total fluoride mass removed at extraction wells. For April 2008, FE04 operated at an average of 51.1 gpm at a concentration of 2.0 milligrams per liter (mg/l) of fluoride and FE05 operated at an average of 51.3 gpm at a concentration of 28.6 mg/l of fluoride. These recent results indicate that while the combined results of wells FE04 and FE05 are meeting pumping goals, the majority of the fluoride mass is being removed is by well FE05. EPA will continue to assess the trends for these wells to determine if modifications are necessary to improve the performance of well FE04 in removing fluoride.

FE/PWO Hydraulic Containment and Capture

Groundwater contour maps, comparison of data to groundwater flow models prepared for the Feasibility Study, and sampling results from selected monitoring wells are presented in the report *Addendum 1 – Sitewide Groundwater Monitoring Plan (2006 through 2010) at RMC Troutdale.* Based on the evaluation for the period since the FE/PWO system was placed into operation in November 2005, it appears that the FE/PWO system is providing hydraulic containment of the fluoride plume in the South Plant area as required by the ROD. EPA will continue to evaluate the annual groundwater monitoring reports to determine if any modifications to the system are needed in the future to ensure that the degree of control groundwater movement is consistent with the cleanup objectives.

6.6 Site Inspection

Inspection at the Site was conducted on June 9, 2008 by Chip Humphrey, the EPA RPM. Representatives of DEQ (Mavis Kent) RMC (Steve Shaw) and the Port of Portland (David Breen) participated in the on-site inspection. The purpose of the inspection was to assess the protectiveness of the remedy, including the condition of the capped areas, operation of the

groundwater focused extraction/production well optimization system, groundwater monitoring, and current and planned uses of the site.

No significant issues were identified during the inspection. The following observations were noted:

- The Port of Portland, the current owner of the Site, is conducting operation and maintenance at the Site under an agreement with RMC. Contractors for the Port were onsite the day of the inspection performing routine preventative maintenance on wells FE04 and FE05. This included mixing and injecting a chlorine/surfactant mixture to protect the pumps and intake screens from biofouling/scaling from iron bacteria.
- The institutional controls that are in place include prohibitions on the use or disturbance of capped areas (North landfill and the two small areas adjacent to Company Lake), and any other activities or actions that might interfere with the implemented remedy. No activities were observed that would have violated the institutional controls, and the controls were determined to be effective in preventing unacceptable exposures. The former plant property and the surrounding area uses were consistent with land use assumptions and restrictions identified in the 2006 ROD, and no new uses of groundwater were observed.
- RMC provided the results of their August 2007 cap maintenance inspection. Items noted in the inspection (burrow holes in the capped areas and minor settlement) have been repaired.

6.7 Institutional Controls Review

RMC/Port of Portland Property

The ROD and Consent Decree (CD) require institutional controls (Easement and Equitable Servitudes) that implement environmental restrictions which run with the land on the property that the Port of Portland recently purchased from Reynolds. The Consent Decree does not require that the Easement and Equitable Servitudes be recorded until after the date of the lodging of the Consent Decree. However, Reynolds provided to EPA advance notice of the sale of the property to the Port of Portland on December 11, 2007 and provided documentation to EPA that the Easement and Equitable Servitudes were recorded with Multnomah County on December 21, 2007.

The restrictions on the disturbance of capped areas and prohibition on residential use of the property and drinking water use of contaminated groundwater are described in the Consent Decree Appendix B, Exhibit 4. The Port's deed contains explicit prohibitions on disturbing the capped contaminated areas, and restricts residential development and drinking water use of fluoride-contaminated groundwater. According to the Special Warranty Deed [Multnomah County recording number 2007-216745] provided by the Port of Portland, the property was conveyed to the Port subject to the special exceptions shown in Exhibit B of the document ("Permitted Encumbrances"), including the Notice to Successors in Title, Easement and

Equitable Servitudes.

The Easements and Equitable Servitudes were reviewed by EPA and are consistent with the requirements of the ROD and Consent Decree. As part of the interviews with RMC's environmental manager, the overall status of the institutional controls were also assessed. The ICs for the plant site appear to be functioning as intended in the ROD. The Consent Decree also requires that IC's for specific adjacent properties (see third party properties below) be established.

Third Party Properties

Three properties surrounded by the RMC Site have groundwater beneath their property that exceeds the MCL for fluoride. Groundwater is not currently used for drinking water at these properties. Institutional controls to prohibit the use of groundwater for drinking water are required under the Consent Decree to ensure that the remedy remains protective. The three properties are: Bonneville Power Administration, Pacific Power, and Fort James Corporation. In addition, property currently owned by Morse Brothers Inc. to the northwest of the RMC property has groundwater under the site that contains fluoride above the MCL. It also has subsurface soil that contains low-level contamination from a portion of the former Company Lake that was filled prior to the site investigation (approximately 8 to 20 feet below the ground surface). Although levels in the subsurface soil did not warrant cleanup, EPA has determined, and the Consent Decree requires, that institutional controls are needed to protect workers and the public if this material were excavated in the future. RMC is currently negotiating easements to implement institutional controls for these properties.

7. Technical Assessment

Question A: *Is the remedy functioning as intended by the decision documents?*

Yes. The results of the Site inspection and review of documents, ARARs, and risk assumptions, indicate that the remedy is functioning as intended by the Final ROD. The excavation and off-site disposal of contaminated waste, soils and debris from the Site has achieved the remedial objectives to prevent direct contact with or ingestion of contaminants. The groundwater FE/PWO system has been installed and has been operational since November 2005, and initial indications are that it is functioning as intended by the decision documents.

The Remedial Action Objectives (RAOs) for the final Remedial Action at this Site as stated in the Final ROD are:

Soils/Direct Contact RAOs

- *Reduce human exposure through direct contact (ingestion, inhalation, and dermal contact) with contaminated soil and debris that would result in unacceptable excess*

lifetime cancer risk or above a Hazard Index of 1.0 for the reasonably anticipated (non-residential) future land uses.

Soil and debris removals were conducted to meet this objective. Based on the results of the post-demolition RI and RA, the Final ROD concluded that reduction of human exposure through direct contact with contaminated soil and debris has been achieved. The Site no longer poses an unacceptable risk based on the exposure scenarios evaluated. However, future Site use will need to be restricted to non-residential uses to meet this objective, and the north landfill cap and the two small capped areas in Company Lake will need to be maintained.

The capped areas provide protection from direct contact exposures. Institutional controls limit future use of the Site to uses compatible with the industrial cleanup levels selected and achieved for this Site. Observed uses of the Site during the five-year review were compatible with the cleanup levels selected and achieved.

Access is provided and future use of the property is limited to industrial or other uses compatible with the cleanup under the terms of the Easement and Equitable Servitudes that were granted by property owners. The Easements and Equitable Servitudes were finalized and recorded with Multnomah County for the RMC property, which was subsequently sold to the Port of Portland. The Easements and Equitable Servitudes are in effect for the Port of Portland property. Current land use is consistent with the assumptions used and restrictions required by the Amended ROD.

Groundwater RAOs

- *Restore and maintain use of the groundwater (except the shallow silt zone) as a drinking water source. The restoration goal is the federal and state safe drinking water standard (MCL).*

- *Minimize the migration of contaminants from waste and soils to groundwater at concentrations that are protective for underlying drinking water, reduce the fluoride mass in shallow and intermediate groundwater, and control migration of fluoride and other constituents of concern in groundwater.*

- *Reduce and control the migration of fluoride in groundwater to the Sandy River.*

Sources of potential groundwater contamination were addressed through the removal and remedial actions that were completed prior to and as a part of the 2002 Interim Action ROD. The groundwater FE/PWO system is operational and is providing hydraulic containment of the fluoride plume. Operation and maintenance of the groundwater system and groundwater monitoring appears to be effective, in the short term, in reducing fluoride levels and containing the spread of the fluoride plume in Site groundwater.

RMC is maintaining the remedy in accordance with the final ROD, the Operations Plan, and the

Sitewide Groundwater Monitoring Plan. The ROD estimated annual operation and maintenance costs of $231,000 for 10 years, and $88,000 for monitoring only costs for an additional 5 years. Costs for groundwater monitoring were based on sampling and analysis of the monitoring wells as described in the Site-wide Groundwater Monitoring Plan (2006-2010). An additional $50,000 in the first year costs was included as a contingency for modifications to the monitoring well network and institutional controls.

Total O&M cost for the first 26 months of operation from November 2005 through January 2008 was $856,546. In this total, $252,082 was spent on design and installation of the two relocated focused extraction wells. O&M costs include; power, NPDES monitoring, groundwater monitoring, & FE/PWO system maintenance.

O&M annual costs are slightly higher than the original estimates and were affected by the iron bacteria fouling problem that affected the capacity of the original focused extraction wells, FE02 and FE03. This ultimately required installation of two new wells, FE04 and FE05 and new preventative measures to protect the wells and pumps.

There were no additional opportunities for system optimization observed during this review. However, EPA noted that fluoride concentrations in groundwater extraction well FE04 are below projected levels and evaluation of this trend will continue to be assessed as part of the annual groundwater reporting requirements. EPA will continue to assess the adequacy of the FE/PWO system and the monitoring well network to ensure that it provides sufficient data to evaluate the effectiveness of the remedy.

The institutional controls that are in place include prohibitions on the disturbance of the capped areas, and any other activities or actions that might interfere with the implemented remedy and are adequately meeting the RAOs. The ICs were implemented by means of an Easement and Equitable Servitudes that were recorded for the property. A title search report was completed in August 2007 for RMC. A title search report for the Port of Portland was completed to confirm that the covenants and easements are in effect and have no compromising encumbrances that would make them ineffective. No activities were observed that would have violated the institutional controls or result in unacceptable exposures.

Question B: *Are the exposure assumptions, toxicity data, cleanup levels, and remedial action objectives (RAOs) used at the time of the remedy selection still valid?*

Yes. The exposure assumptions, toxicity data, cleanup levels, and remedial action objectives (RAOs) used at the time of the remedy selection are still valid. No significant changes to the remedial action objectives or cleanup levels are necessary based on the results of the five-year review.

There have been no changes in the physical conditions of the Site that would affect the protectiveness of the remedy. As required by the remedy, groundwater monitoring is being conducted to evaluate groundwater quality relative to the Safe Drinking Water maximum

contaminant level of 4 mg/l of fluoride. EPA will review monitoring data and annual reports evaluate progress towards meeting the groundwater cleanup goal.

Discharge monitoring data was reviewed for the period from March 2007 through April 2008. The results showed that fluoride levels in the discharge ranged from 0.2 mg/l to 2.4 mg/l, which were within the permitted discharge limit of 5 mg/l established by the 2006 ROD. Cyanide levels ranged from non-detect to 0.01 mg/l (permit limit is 0.025 mg/l monthly average, 0.05 daily maximum), and aluminum was not detected in any samples (detection limit 0.05 mg/l). PAHs were not detected in the discharge and this parameter has been dropped from the NPDES permit.

There have been no significant changes in ARARs and no new standards affecting the protectiveness of the remedy.

Changes in Exposure Pathways, Toxicity, and Other Contaminant Characteristics
There have been no significant changes to the standardized risk assessment methodology since the completion of the Post-Demolition Residual Risk Assessment Report in June 2006. No significant changes in the exposure pathways or toxicity that could affect the protectiveness of the remedy were identified during the five-year review.

The remedial action objectives described in A above are still valid for this Site.

Question C: *Has any other information come to light that could call into question the protectiveness of the remedy?*

No other information that calls into question the protectiveness of the remedy was identified during the five-year review.

Technical Assessment Summary

According to the Site inspection and documents and data reviewed, the remedy for site soils has been completed and the groundwater remedy is operational and is functioning as intended by the ROD. Although there have been a number of changes in the physical conditions of the Site, the changes have not affected the protectiveness of the remedy. ICs are in place and are expected to effectively prevent exposure to residual contamination remaining on Site. ICs for the property that was not owned by RMC are being negotiated and expected to be implemented in accordance with the Consent Decree. ARARs for groundwater will be achieved through continued operation of the groundwater FE/PWO system as required by the 2006 ROD. No changes in the toxicity factors for the contaminants of concern were identified since the ROD was issued. No other information was identified during the five-year review that calls into question the protectiveness of the remedy.

8. Issues

Issue	Currently Affects Protectiveness (Y/N)	Affects Future Protectiveness (Y/N)
The ROD and Consent Decree require that institutional controls be placed to ensure that the remedy remains protective. This requirement has been satisfied for all property that was owned by RMC and recently sold to the Port of Portland. This property represents the majority of the property affected by the ICs. Additional properties were identified for which ICs need to be implemented. Current uses at these properties are compatible with the assumptions in the ROD remedial action. Implementation of the ICs is needed to ensure that the remedy remains protective.	N	Y

9. Recommendations and Follow-Up Actions

Issue	Recommendations Follow-up Actions	Party Responsible	Oversight Agency	Milestone Date	Affects Protectiveness (Y/N)	
					Current	Future
Implement IC's for third party easements	EPA will ensure compliance by RMC and Alcoa with the requirements of the Consent Decree for property that is owned or controlled by parties other than RMC/Alcoa where access and land and water restrictions are needed. RMC has provided title searches and is currently negotiating these agreements.	PRPs	EPA/DEQ	12/1/08	N	Y

10. Protectiveness Statement

The remedy at this site currently protects human health and the environment because contaminated soils have been remediated, and the groundwater treatment system is operational and functioning as intended. Institutional Controls are in place on the former plant site to protect those materials that were capped on site and to prevent use of former plant site groundwater for drinking until such time as the remedy achieves cleanup goals in groundwater, and there are no drinking water wells on adjacent properties with access to contaminated groundwater. However, in order for the remedy to remain protective in the long term, the Consent Decree requires that Institutional Controls be established on adjacent properties that overlie the plume to ensure wells will not be installed and used for drinking water consumption while groundwater remains above cleanup levels

11. Next Review

The next five-year review for the Reynolds Metals Superfund Site is required by the end of July 2013, five years from the date of this review.

ATTACHMENTS

Site Location Map
Site Plan
List of Documents Reviewed

ATTACHMENT 1

List of Documents Reviewed

Interim Action Record of Decision, Reynolds Metals Superfund Site (US Environmental Protection Agency, September 2002)

Final Record of Decision, Reynolds Metals Superfund Site (US Environmental Protection Agency, September 2006).

Operations Plan-Focused Extraction Production Well Optimization System for the RMC-Troutdale Facility (CH2M Hill, August 2005).

Contaminated Media Management Plan for the Former Reynolds Metals Company Facility in Troutdale, Oregon (CH2M Hill, October 2007)

Cap Maintenance and Monitoring Plan at RMC-Troutdale (CH2M Hill, May 2007)

Addendum 1 - Sitewide Groundwater Monitoring Plan (2006 through 2010) at RMC-Troutdale (CH2M Hill, May 2007)

2007 Groundwater Monitoring and FE/PWO System Operation Report (CH2M Hill, December 2007)

Consent Decree for Settlement Between the United States and Reynolds Metals Company and Alcoa, Inc., regarding the Reynolds Metals Superfund Site, Troutdale Oregon (October 2007)

Environmental Protection Easements and Declaration of Restrictive Covenants, Multnomah County Recording Number 2007-216745, December 21, 2007.

Title Insurance Policy No. 262059 for Port of Portland, Chicago Title Insurance Company

UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
REGION 10
OREGON OPERATIONS OFFICE
805 SW Broadway, Suite 500
Portland, Oregon 97205

July 18, 2008

Reply to: OOO

MEMORANDUM

SUBJECT: Reynolds Metals Five-Year Review

FROM: Chip Humphrey
Remedial Project Manager

TO: Daniel D. Opalski, Director
Office of Environmental Cleanup

THRU: Deb Yamamoto, Unit Manager
Site Cleanup Unit#2

Attached for your signature is the Five-Year Review for the Reynolds Metals Superfund Site. The Five-Year Review due date is July 22, 2008. This final report incorporates all comments on the draft report from Tim Brincefield, Emily Johnson (HQ) and Joan Shirley (ORC).

The review findings are that the Site is protective in the short-term. The soils cleanup is complete and the groundwater system has been installed and is functioning as required by the final ROD and Consent Decree. Groundwater cleanup is projected to take between 10 to 15 years. Institutional Controls, including the Easements and Equitable Servitudes recorded in Multnomah County, are in place for all of the property formerly owned by Reynolds/Alcoa and now owned by the Port of Portland. There are four smaller properties with underlying contaminated groundwater from the Reynolds Site where the IC's (easements restricting groundwater use) still need to be completed. Reynolds is currently negotiating easements with the property owners. The Consent Decree, which was filed with the Court in January 2008 and is expected to be entered in the next few weeks, requires Reynolds to provide draft easements within 45 days of the effective date of the Decree.

The property sale of a portion of the property to Fed Ex still appears to be moving forward, pending entry of the Decree and agreement by the Port on infrastructure improvements.

Please let me know if you would like a briefing on the review or status of the Site.

Printed on Recycled Paper

Figure 1 - Vicinity Map

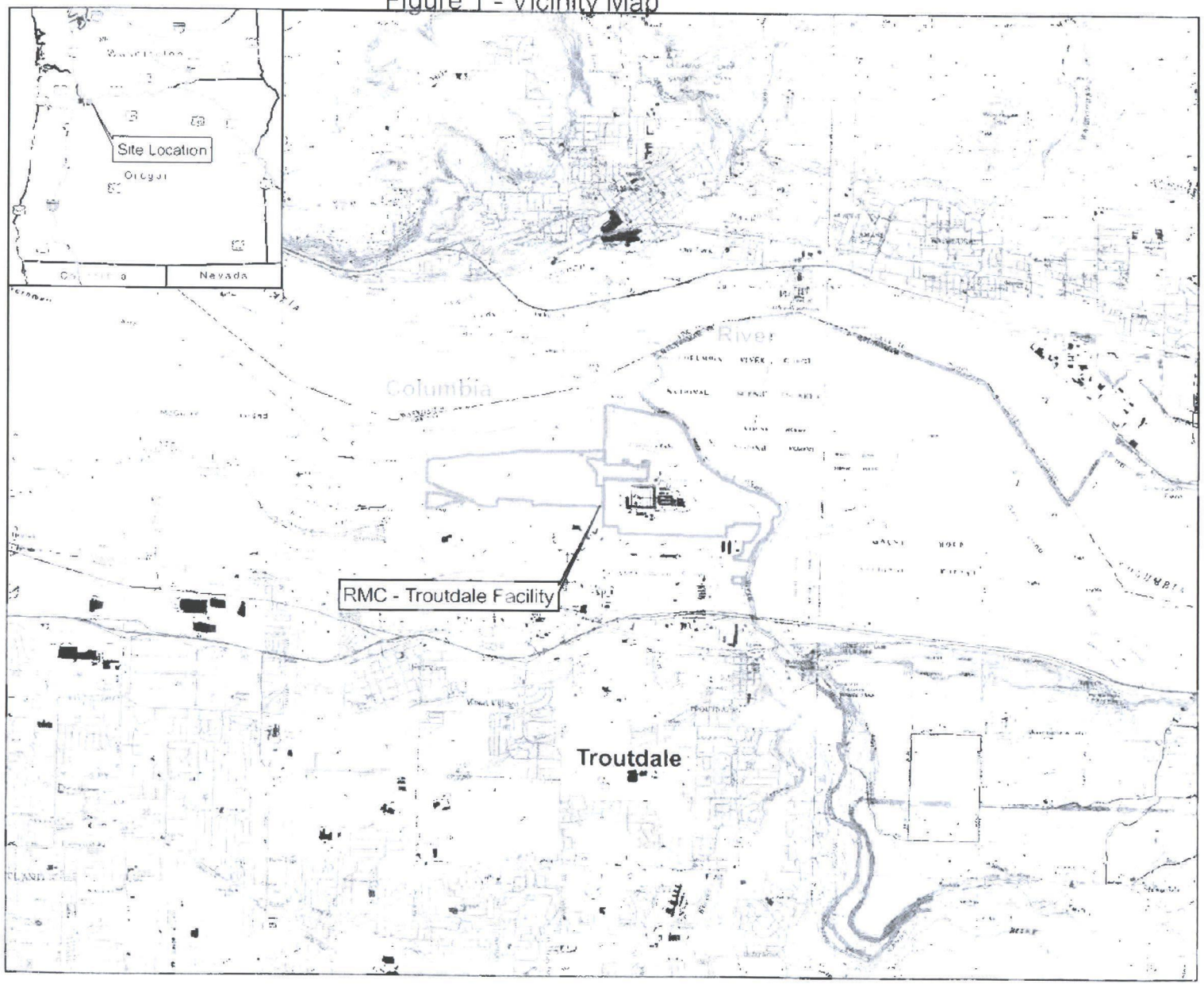


Figure 2 - Site Features and Evaluation Area

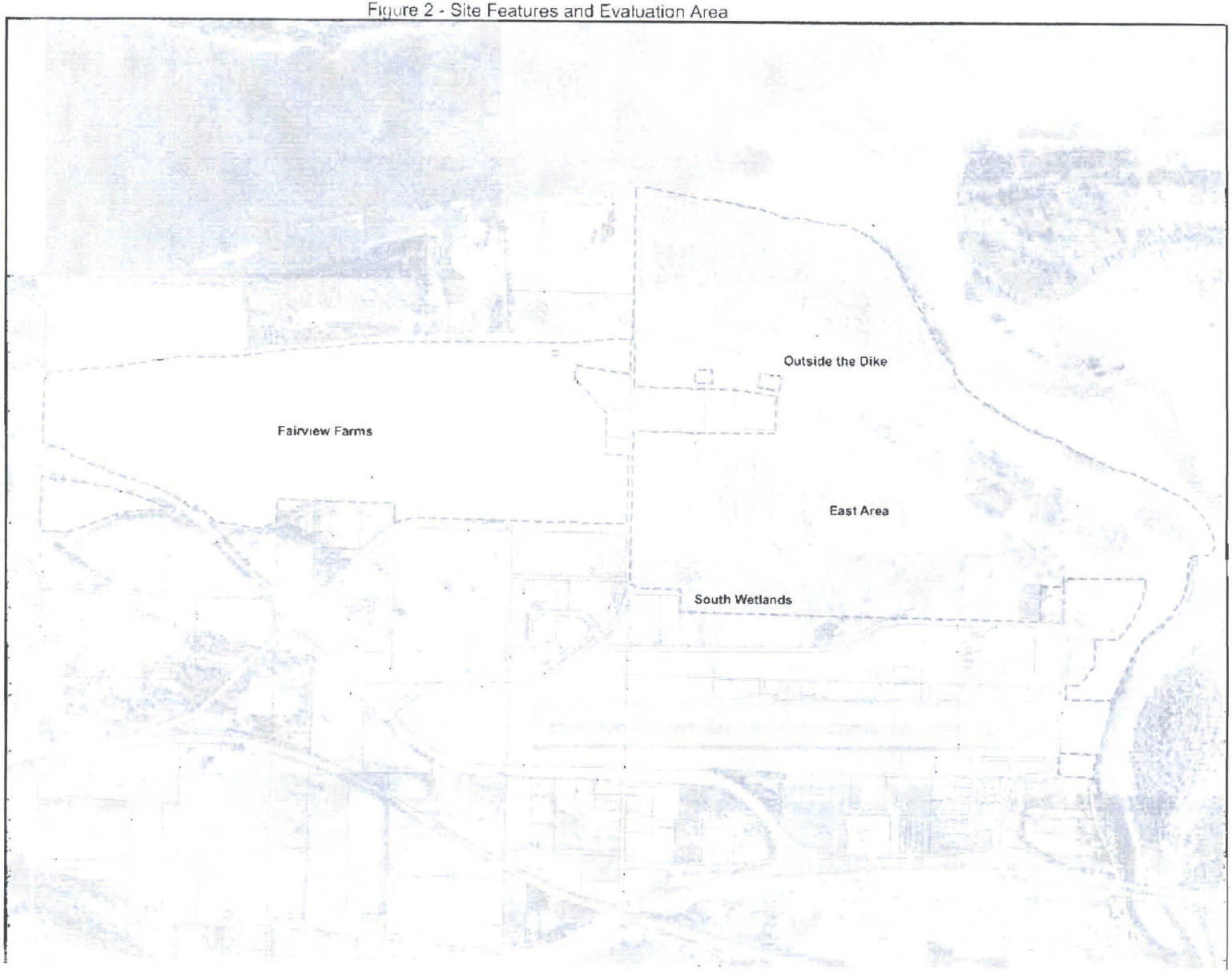
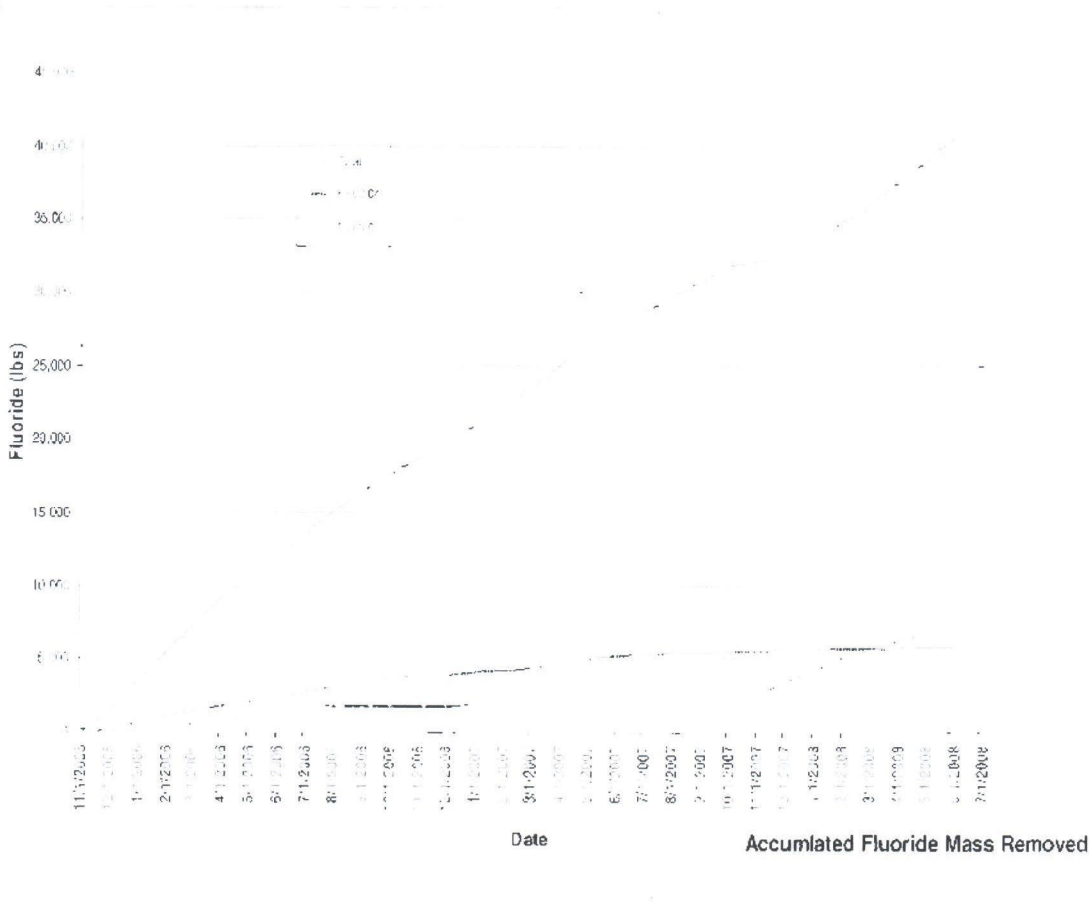


Figure 3 Fluoride Mass Removed – FE/PWO System



Oregon
Theodore R. Kulongoski, Governor

Department of Environmental Quality
Eastern Region The Dalles Office
400 East Scenic Drive, Suite 307
The Dalles, OR 97058
(541) 298-7255
FAX (541) 298-7330

February 25, 2009

Pamela S. Pawelek
PNW Environmental Manager
Waste Connections, Inc.
P.O. Box 61726
Vancouver, WA 98666

RE: Warning Letter with Opportunity to Correct
Wasco County Landfill, Inc.
WL-ERD-LQ-2009-0001
Solid Waste Disposal Site No. 53
Wasco County

Dear Ms. Pawelek:

On January 29, 2009, the Department of Environmental Quality (DEQ) conducted an inspection at Wasco County Landfill (WCL) located at 2550 Steele Road, The Dalles, Oregon. During the inspection, the DEQ requested a copy of the Department-approved special waste management plan for accepting and disposing of hazardous substance contaminated waste from cleanup of a site used by Recycled Aluminum Metals Company (RAMCO) to dispose of a salt cake waste that was generated by extracting aluminum from dross (i.e., a by-product received from primary aluminum smelters).

In response to DEQ's request, the site manager for WCL provided a copy of their internal instructions for managing the RAMCO cleanup waste, but these hadn't received Department review or approval. In follow-up to the site inspection, the DEQ inspector also contacted Waste Connections, Inc., the owner of WCL, and researched the Department's file records. Neither effort yielded a Department-approved special waste management plan authorizing disposal of the RAMCO cleanup waste.

Based upon the inspection of your facility and follow-up research, the Department has concluded that WCL, Inc. is responsible for the following violation of Oregon environmental law:

VIOLATIONS:

(1) OAR 340-093-0170(3)(d)(B) requires: *"A Special Waste Management Plan pursuant to OAR 340-094-0040(11)(b)(J). . . is approved by the Department which specifically addresses the management of the cleanup materials . . . "*. WCL disposed of ~49,000 tons of RAMCO cleanup waste without a special waste management plan approved by the Department. Receiving or managing a cleanup material contaminated with hazardous

substances without a Department-approved special waste management plan is a Class 2 violation according to OAR 340-012-0065(2)(e).

Class I violations are the most serious violations; Class III violations are the least serious.

A total of approximately 49,000 tons of RAMCO contaminated cleanup waste was disposed at WCL from February 2007 to February 2008. Concerns with the RAMCO waste include self-heating and ammonia-generating properties when in contact with water. Disposal of the RAMCO waste began just several months after another waste stream (anhydrous magnesium chloride salt) with similar concerns was implicated in two landfill fires at the WCL. Several States around the country have developed special requirements for disposal of aluminum production wastes such as the RAMCO waste. For example, the Ohio EPA published a November 2006 memorandum advising solid waste landfill owners/operators in their state to manage these wastes in a manner which minimizes the potential exothermic reaction, including discontinuing leachate recirculation in areas where such wastes have been historically disposed.

With specific regard to the RAMCO waste - the State of Washington, the contractor conducting the cleanup, and WCL all operated under criteria they had mutually established for safely handling, transporting, and disposing of this waste. Yet, the Oregon DEQ was not informed, and therefore could not review the adequacy of WCL's disposal operations. Consequently, Oregon inspectors could have been put at risk, particularly when inspecting leachate recirculation activities in landfill areas used to dispose of the RAMCO waste.

Corrective Action(s) Requested:

1) In the site Operations Plan, due July 20, 2009, include a special waste management plan designed to cover most cleanup materials contaminated with hazardous substances, but also specifying that for contaminated cleanup waste with additional or different concerns WCL will submit a waste-specific special waste management plan to the Department for review and approval prior to acceptance and disposal;

2) In the site Operations Plan, due July 20, 2009, describe how leachate recirculation will be conducted in a manner that minimizes the potential for the RAMCO waste to react exothermically with leachate; and

3) Do not accept any more RAMCO cleanup waste until WCL has a Department-approved special waste management plan for that waste.

Should the cited violation remain uncorrected or should you repeat the violation, this matter may be referred to the Department's Office of Compliance and Enforcement for formal enforcement action, including assessment of civil penalties and/or a Department order. Civil penalties can be assessed for each day of violation.

If you believe any of the facts in this Warning Letter are in error, you may provide information to me at the office at the address shown at the top of this letter. The Department will consider new information you submit and take appropriate action.

The Department endeavors to assist you in your compliance efforts. Should you have any questions about the content of this letter, please feel free to contact me in writing or by phone at 541/298-7255 ext.23.

Sincerely,

Joe Gingerich, P.E.
Environmental Engineer
Solid Waste Program

Cc: Nancy Mitchell, Wasco County Landfill
Elizabeth Druback, Manager, Solid Waste Program, DEQ ER
Office of Compliance and Enforcement, DEQ Headquarters

Washington State Department of Ecology

May 13, 2008

TO: File

FROM: Jared Mathey – Air Quality Compliance Inspector JM 5-13-08

SUBJECT: April 15, 2008 – Air Quality Compliance Inspection
Start Time: 12:20 pm End Time: 2:36 pm

SOURCE: Roosevelt Regional Landfill
Physical Address: 500 Roosevelt Grade Road
Roosevelt, WA 99356
Mailing Address: P.O. Box 338
Roosevelt, WA 99356

CONTACT: Art Mains – Environmental Manager – Office (800) 275-5641 / Cell (541) 288-6858

BACKGROUND

DRIVING DIRECTIONS: From the intersection of Hwy 14 and Roosevelt Grade Road in Roosevelt, drive 4.4 miles north on Roosevelt Grade Road (a.k.a., East Road, Middle Road). Just past the top of the grade, Roosevelt Regional Landfill is on the east side of the Road. Enter the Landfill (watch for garbage trucks), stop at the Landfill's main office to sign in.

PROCESS: MSW Landfill / Ash Monofill / and Landfill Gas Flare

ORDERS AND APPLICABLE FEDERAL REGULATIONS:

- AOP No. 03AQ-C005 2nd Revision, issued 11/16/05
- NOC Order No. DE 90-C153 4th Revision, issued 11/16/05, for the MSW landfill
- NOC Order No. DE 93AQ-C163 3rd Revision, issued 11/16/05, for the Ash Monofill
- NOC Order No. DE 98AQ-C131 1st Revision, issued 4/13/04, for the LFG flare
- 40 CFR Part 60, Subpart WWW (MSW landfill NSPS)
- 40 CFR Part 61, Subpart M (asbestos NESHAP)
- 40 CFR Part 63, Subpart AAAA (landfill NESHAP)

INSPECTION

Note: This was an unannounced inspection. The facility was operating during my inspection.

I met Art Mains at the Roosevelt Regional Landfill front office. I made introductions and explained I was there for an Air Quality Compliance Inspection of the facility. I signed in and Art walked me to a conference room.

Art showed me the following information I asked for:

- Quarterly surface monitoring records from 3/24/08
- Flare temperature and SCFM charts from January 2008 to March 2008
- Monthly visible emissions surveys conducted on 10/6/07, 11/14/07, 12/13/07, 1/10/08, 2/11/08, and 3/11/08, for the following emission sources:
    - MSW active cell
    - Ash Monofill active face
    - Property line
    - Landfill gas flare
    - Source wide
- Operations and Maintenance (O&M) Manuals for the following:
    - RDC flare
    - Gas collection system
    - SSM Plan
- Operations Plan
- Ash Monofill & MSW Landfill Closure Plans
- Ash Monofill & MSW Landfill Post Closure Plans
- Electronic landfill gas collection maps on the CAD system
- Landfill gas collection and control system shut down
    - System shut down on 1/17/08 for maintenance
- Fugitive Dust Control Plan (FDCP)
- Fourth quarter 2007 monitoring reports for PM_{10}
- Annual municipal solid waste and ash weight records from January 2008 to April 2008
- Forth quarter 2007 ash sampling records
- Electronic records of monthly BTU content of landfill gas from 1/14/08 to 3/26/08
- Monthly safety system checks for 3/17/08 to 3/31/08
- Dates portable rock crusher was on-site crushing rock – 12/13/08 to 12/22/08
- AOP No. 03AQ-C005 2nd Revision
- NOC Order No. DE 90-C153 4th Revision
- NOC Order No. DE 93AQ-C163 3rd Revision
- NOC Order No. DE 98AQ-C131 1st Revision

Art showed me the flare charts, and explained they were having problems with the flow meter spiking because of moisture in the landfill gas pipe. Art told me their primary landfill gas blower was down from June 2007, to September 2007. Art explained they have their new blower online now. I asked Art what they would have done if their back up blower broke down while waiting for the primary blower to be repaired. Art told me they could get a replacement blower within a day if there were any problems with the backup. Art told me they did extra surface monitoring during the back up blower operation time. I asked Art to see records of their complaints. Art told me since my last inspection, they have not received any complaints about their facility. Art explained their PM_{10} monitors were not running today.

After I finished reviewing the facility records, Art walked me outside where I observed a 150 kilowatt Caterpillar emergency diesel generator. I asked Art how many hours the emergency generator operated since installed. Art called a technician who turned on the hour meter on the digital display. I observed there was 1,788 hours of use on the emergency diesel generator.

Art took me on a visual inspection of the landfill's operations. I observed water application on the haul roads up to the active faces and around the tipping areas. I observed two tippers at two separate active landfill faces. The conditions were very windy and I observed a considerable amount of blowing garbage at both tipping areas.

Art drove me to cell 16, which was under construction. I observed the liner and liner cover were laid down and heavy equipment was in the process of laying down crushed rock over the liner. I observed visible emissions from the crushed rock being transferred by heavy equipment over the liner.

Art drove me to the rock crushing pit, PM_{10} air samplers, and Ash Monofill. I observed a truck tipping ash onto the active face of the Ash Monofill and a dozer flattening the ash material. I observed steam emissions from the ash coming out of the tipping truck.

Leaving the Ash Monofill, we stopped at the crushed rock stockpiles. I observed a significant amount of visible emissions from the loading of crushed rock into dump trucks. I told Art they needed to abide by their 20 percent opacity limit listed in their permit. I told Art they should apply water to the crushed rock piles in order to keep visible emissions down from transferring and working with the material. I did not take any Method 9 reading during my inspection. Art told me he would take care of the problem.

Art drove me to the landfill gas flare where I observed a new blower adjacent to the existing back up blower. We walked over to the flare control panel where I observed the current flow rate and flare temperature was 4,200 scfm and 1,792 degrees Fahrenheit, respectively.

Art drove me back to the main office where I signed out and thanked Art for his time. I departed the facility.

POTENTIAL COMPLIANCE ISSUE

- During the Air Quality Compliance Inspection, Ecology observed significant visible emissions from the loading of dump trucks at the crushed rock stockpiles. Condition 5.1.4 from Air Operating Permit (AOP) No. 03AQ-C005 2nd Revision, states opacity shall not exceed 20% for more than three minutes in any one hour. Ecology did not conduct opacity readings during the inspection.

Increase PENALTY RIDER

BOND AMOUNT $2,899,806.00 BOND NO. 553682

To be attached and form a part of Bond No. 553682 dated the 1st day of April, 2008, executed by Evergreen National Indemnity Company as surety, on behalf of Regional Disposal Company DBA Roosevelt Regional MSW Landfill as current principal of record, and in favor of Klickitat County Department of Public Health, as Obligee, and in the amount of Two Million Eight Hundred Ninety Nine Thousand Eight Hundred Six Dollars and 00/100 ($2,899,806.00).

In consideration of the agreed premium charged for this bond, it is understood and agreed that Evergreen National Indemnity Company hereby consents that effective from the 10th day of February, 2009, said bond shall be amended as follows:

THE BOND PENALTY SHALL BE Increased:

FROM: Two Million Eight Hundred Ninety Nine Thousand Eight Hundred Six Dollars and 00/100 ($2,899,806.00)

TO: Three Million Two Hundred Seventy Three Thousand Five Hundred Sixty Four Dollars and 00/100 ($3,273,564.00)

The Increase of said bond penalty shall be effective as of the 10th day of February, 2009, and does hereby agree that the continuity of protection under said bond subject to changes in penalty shall not be impaired hereby, provided that the aggregate liability of the above mentioned bond shall not exceed the amount of liability assumed by it at the time the act and/or acts of default were committed and in no event shall such liability be cumulative.

Signed, sealed and dated this 10th day of February, 2009.

Regional Disposal Company DBA Roosevelt Regional MSW Landfill
PRINCIPAL

BY: _____
Jo Lynn White, Secretary

Evergreen National Indemnity Company
SURETY

BY: _____
Sarabeth Scott, ATTORNEY-IN-FACT

THE ABOVE BOND IS HEREBY AGREED TO AND ACCEPTED BY:

Klickitat County Department of Public Health
OBLIGEE

BY: _____
TITLE

COPY

EVERGREEN NATIONAL INDEMNITY COMPANY
COLUMBUS, OHIO
POWER OF ATTORNEY

PRINCIPAL_____ EFFECTIVE DATE_____

CONTRACT AMOUNT_____ AMOUNT OF BOND $_____

POWER NO.

KNOW ALL MEN BY THESE PRESENTS: That the Evergreen National Indemnity Company, a corporation in the State of Ohio does hereby nominate, constitute and appoint:

Johanne S. Puckett and Sarabeth Scott

its true and lawful Attorney(s)-In-Fact to make, execute, attest, seal and deliver for and on its behalf, as Surety, and as its act and deed, where required, any and all bonds, undertakings, recognizances and written obligations in the nature thereof, PROVIDED, however, that the obligation of the Company under this Power of Attorney shall not exceed

This Power of Attorney is granted and is signed by facsimile pursuant to the following Resolution adopted by its Board of Directors on the 23rd day of July, 2004:

"RESOLVED, That any two officers of the Company have the authority to make, execute and deliver a Power of Attorney constituting as Attorney(s)-in-fact such persons, firms, or corporations as may be selected from time to time.

FURTHER RESOLVED, that the signatures of such officers and the Seal of the Company may be affixed to any such Power of Attorney or any certificate relating thereto by facsimile; and any such Power of Attorney or certificate bearing such facsimile signatures or facsimile seal shall be valid and binding upon the Company; and any such powers so executed and certified by facsimile signatures and facsimile seal shall be valid and binding upon the Company in the future with respect to any bond or undertaking to which it is attached."

IN WITNESS WHEREOF, the Evergreen National Indemnity Company has caused its corporate seal to be affixed hereunto, and these presents to be signed by its duly authorized officers this 15th day of March, 2007.

EVERGREEN NATIONAL INDEMNITY COMPANY

Charles D. Hamm, Jr., President

Timothy C. Ellis, Vice President

Notary Public)
State of Ohio) SS:

On this 15th day of March, 2007, before the subscriber, a Notary for the State of Ohio, duly commissioned and qualified, personally came Charles D. Hamm, Jr. and Timothy C. Ellis of the Evergreen National Indemnity Company, to me personally known to be the individuals and officers described herein, and who executed the preceding instrument and acknowledged the execution of the same and being by me duly sworn, deposed and said that they are the officers of said Company aforesaid, and that the seal affixed to the preceding instrument is the Corporate Seal of said Company, and the said Corporate Seal and signatures as officers were duly affixed and subscribed to the said instrument by the authority and direction of said Corporation, and that the resolution of said Company, referred to in the preceding instrument, is now in force.

IN TESTIMONY WHEREOF, I have hereunto set my hand and affixed my official seal at Columbus, Ohio, the day and year above written.

SUE E. DUFFY
NOTARY PUBLIC, STATE OF OHIO
MY COMMISSION EXPIRES AUG. 5, 2009

State of Ohio) SS:

Notary Public State of Ohio
My Commission expires August 5, 2009

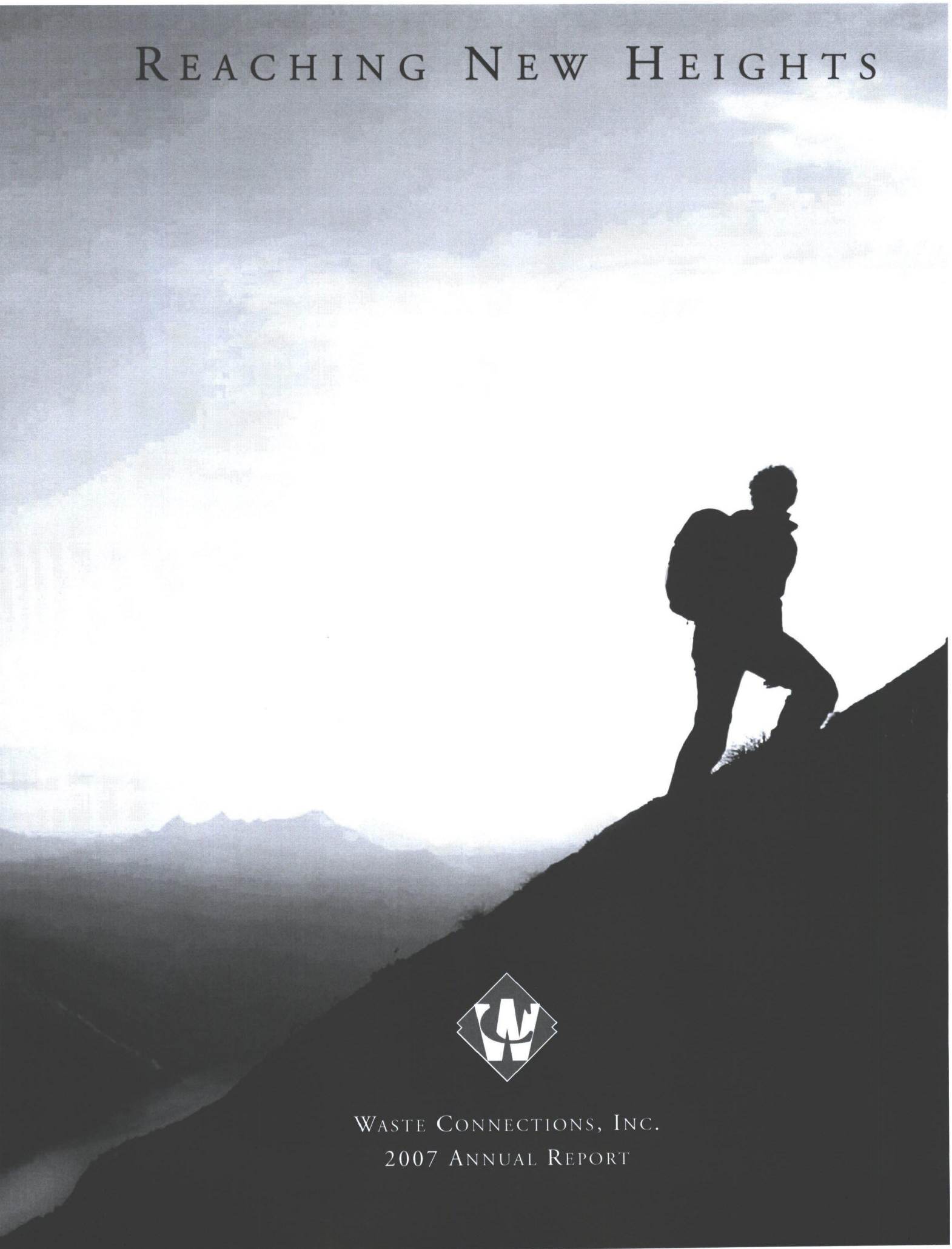
I, the undersigned, Secretary of the Evergreen National Indemnity Company, a stock corporation of the State of Ohio, DO HEREBY CERTIFY that the foregoing Power of Attorney remains in full force and has not been revoked; and furthermore that the Resolution of the Board of Directors, set forth herein above, is now in force.

Signed and sealed in Columbus, Ohio this 10th day of February 2009

Charles D. Hamm, Jr., Secretary

Any reproduction or facsimile of this form is void and invalid.

Reaching New Heights



Waste Connections, Inc.

2007 Annual Report

Waste Connections

Statement of Values

Purpose

Honoring our commitments provides our stakeholders peace of mind and establishes us as the premier solid waste services company in the markets we serve. This creates a safe and rewarding environment for our employees while protecting the health and welfare of the communities we serve, thereby increasing value for our shareholders.

Operating Values

Safety

We strive to assure complete safety of our employees, our customers and the public in all of our operations. Protection from accident or injury is paramount in all we do.

Integrity

We define integrity as "saying what you will do and then doing it." We keep our promises to our customers, our employees and our stockholders. Do the right thing, at the right time, for the right reason.

Customer Service

We provide our customers the best possible service in a courteous, effective manner, showing respect for those we are fortunate to serve.

To Be a Great Place to Work

We maintain a growth culture where our employees can maximize their potential personally and professionally. Our objective is to provide an environment where people enjoy what they do and take pride in their work. We wish to embody a work hard, play harder culture.

To Be the Premier Solid Waste Services Company in the U.S.

We continue to provide superior returns, remain environmentally responsible, and continue to grow in a disciplined way, deploying resources intelligently and benefiting communities we live in. We remain a "different breed".

Vision of the Future

Our goal is to create an environment where self directed, empowered employees strive to consistently fulfill our constituent commitments and seek to create positive impacts through interactions with customers, communities, and fellow employees, always relying on our Operating Values as the foundation for our existence.

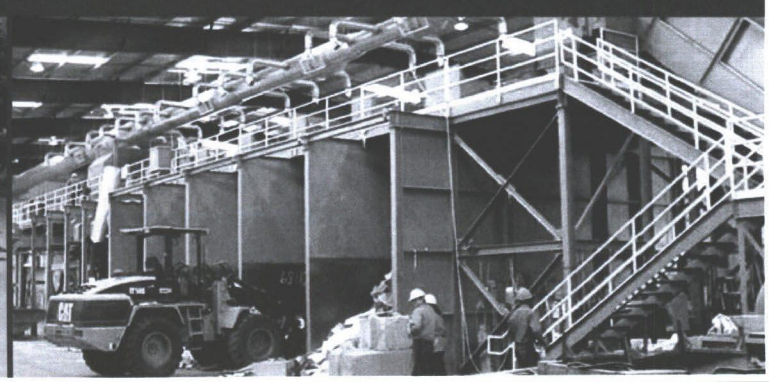
DIFFERENTIATED MARKETS

PACIFIC NORTHWEST REGION

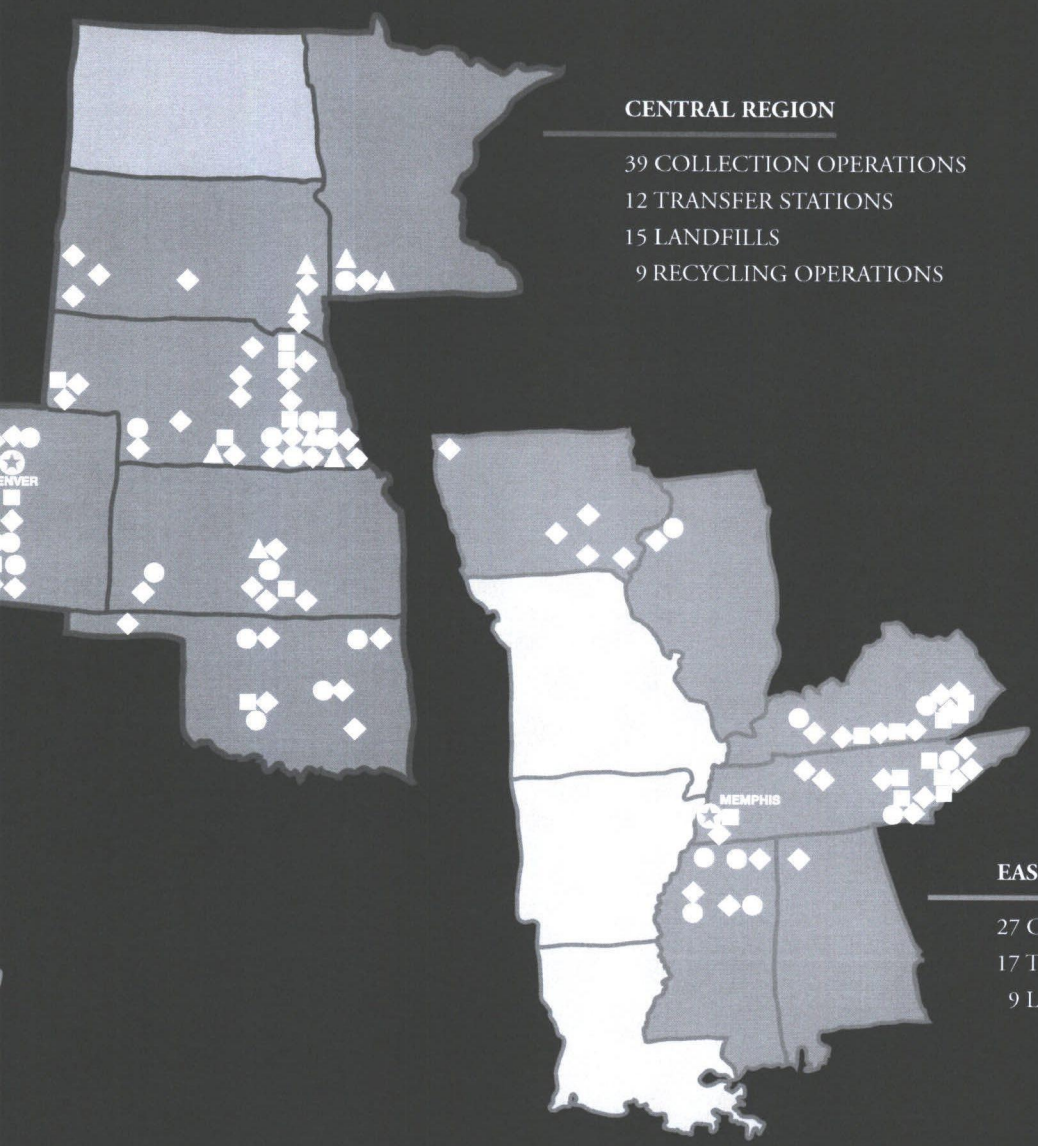
32 COLLECTION OPERATIONS
14 TRANSFER STATIONS
3 LANDFILLS
11 RECYCLING OPERATIONS
5 INTERMODAL

WESTERN REGION

29 COLLECTION OPERATIONS
5 TRANSFER STATIONS
8 LANDFILLS
9 RECYCLING OPERATIONS



DIFFERENTIATED RESULTS



MAP LEGEND

- ◆ COLLECTION
- ■ TRANSFER
- ● DISPOSAL
- ▲ RECYCLING
- INTERMODAL
- ✪ REGIONAL OFFICE
- ★ CORPORATE HEADQUARTERS

CENTRAL REGION

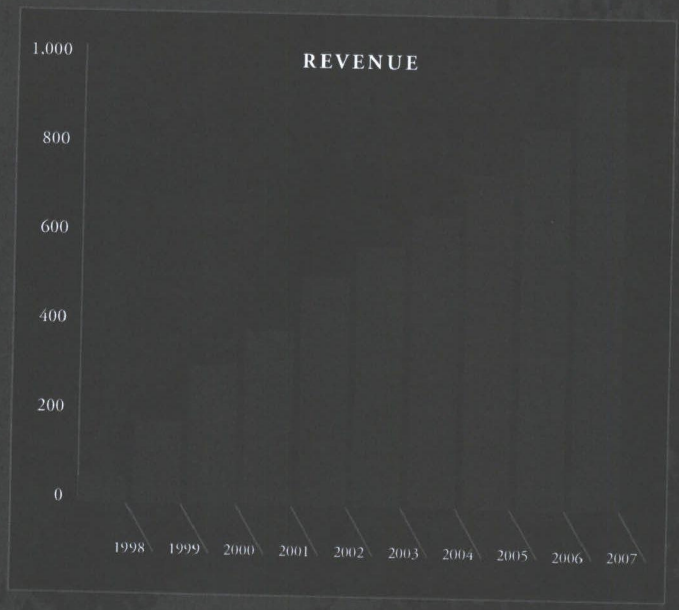
39 COLLECTION OPERATIONS
12 TRANSFER STATIONS
15 LANDFILLS
9 RECYCLING OPERATIONS

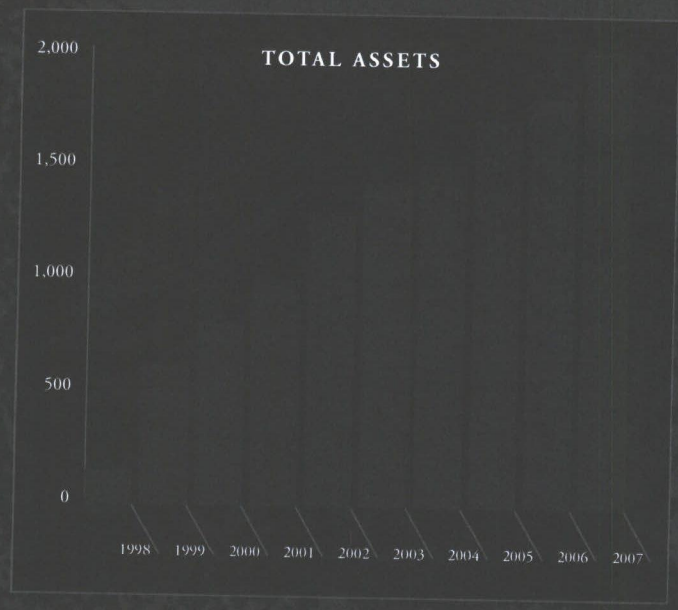
EASTERN REGION

27 COLLECTION OPERATIONS
17 TRANSFER STATIONS
9 LANDFILLS

Ten Year Financial Highlights

($ millions)





Stockholder Returns

Waste Connections vs S&P 500 Index

(May 1998 IPO to December 31, 2007)

Source: Yahoo! Finance. For comparison of most recent cumulative five year total return calculated in compliance with SEC requirements, see page 23 of our enclosed Annual Report on Form 10-K.

Letter to Stockholders

Reaching New Heights . . . takes discipline and perseverance. Developing and sustaining a differentiated strategy may not always be popular or well received, but for Waste Connections it has been, and should continue to be, extremely rewarding for our customers, employees and stockholders.

We expected and delivered record financial results in 2007. Revenue grew 16.3% to $958.5 million. Operating income increased 20.8% to $207.0 million. Net income was $99.1 million, an increase of 28%. Diluted earnings per share were $1.42, up 29.1%. Free cash flow reached $106.2 million, and return on invested capital expanded approximately 100 basis points. We invested more than $250 million for capital expenditures and acquisitions to build foundations for future growth, and we returned over $100 million to stockholders through our repurchase of approximately 5% of our outstanding common stock. These record results were made possible by both the continuing support of our customers and the communities we serve, and the tireless efforts of our 5,000 employees.

Waste Connections has become the premier provider of solid waste services in secondary markets in the Western and Southern United States. We have approximately 250 collection operations, transfer stations, landfills, recycling facilities and intermodal facilities across 23 states. We entered 2008 with a revenue run-rate in excess of $1 billion and an enterprise value approaching $3 billion.

Superior Performance Demonstrated Throughout Economic Cycles

Our differentiated strategy within the solid waste industry targets markets that have strong demographic growth trends and where competitive barriers exist. Approximately 50% of our revenues are derived from markets where we have long-term exclusive arrangements to provide our services.

We avoid highly competitive, large urban markets. While targeting large urban markets has been the preferred strategy for larger companies in our industry, we believe it is difficult to predictably translate revenue from these markets into sustainable value creation during varying economic cycles. Waste acts like a commodity in urban America where barriers-to-entry are minimal. Thus, we avoid this market strategy. This understanding of the solid waste business underlies our unwavering commitment to a differentiated strategy.

Many strategies and markets perform well during strong economic times. In fact, our improving operating performance in 2007 may be hard to differentiate from the results of other solid waste companies. Several factors over the past two years—healthy economy, higher fuel costs and increased fleet and equipment costs—allowed many companies in our sector to increase prices and offset cost pressures. Volume growth during a weakening economy in 2007, though, was a notable contributor and key differentiator in comparing

our results to other companies in our sector. Our focus on exclusive markets and areas with higher demographic growth resulted in positive volume growth of 4.0% for Waste Connections compared to a volume decline ranging between 1.5% and 4.5% for larger solid waste companies.

Fewer strategies work well during a recession. We believe our differentiated strategy has proven itself to be more resilient in a weak economy—an important distinction given the difficult economic climb ahead. During the weak economic period earlier this decade, our organic growth and operating margins held up comparably better than those of larger urban-based solid waste companies. Put simply, our strategy may not be the most popular, but our discipline and perseverance has proven to pay off over the long term in both good economies and bad.

Strategy + Culture = Results

While our strategy may position us for success, it's our culture that delivers it. Our approach to business starts with the Statement of Values reflected on the inside cover of this report. We also have adopted the principles of Servant Leadership which flips the "old school" hierarchical managerial style on its head. Our managers are trained to help their employees become more successful at work and in their lives. Servant Leadership holds management accountable to employees, rather than solely holding employees accountable. Our managers are measured not only by the financial performance of their operations, but also by the feedback of their employees on management's embodiment of these principles. Benefits already realized from the adoption of Servant Leadership include an increase in our employees' satisfaction with their jobs, reduced employee turnover and a decrease in accident frequency.

Our culture embraces accountability to attain superior results. We accept that our success is also measured by the continuing positive impact we have within our local communities. Our employees support hundreds of local organizations through direct contributions, volunteering or fundraising. Plus, we cap off each year with a Christmas bike drive building thousands of bicycles company-wide to donate to local charities and military bases for distribution to deserving youth.

A Decade Delivering Results

Waste Connections celebrated its tenth anniversary in 2007. Our differentiated strategy has produced superior financial results and stockholder returns. Any measurement of growth in revenue, operating income, net income or earnings per share over the past decade would be quite impressive. We recognize that growth rates naturally slow as a company executing a disciplined growth strategy matures. Given our tremendous growth, we are particularly pleased that we've continued to increase net income and earnings

per share at a compounded double digit rate over the past five years. As stockholders, you have been rewarded. Since our IPO in May 1998 at a split-adjusted price of $5.33 per share, our stock price has risen almost 500%, or more than 10x the S&P 500 Index over a comparable period.

Reaching New Heights . . . best describes not only what we've accomplished in our first decade as a company, but also how we feel about our continuing prospects. Our differentiated strategy provides growth plus return of cash to stockholders; our footprint has broadened to 23 states; our financial strength has been rated investment grade by S&P; our pool of identified acquisition candidates is as robust as ever; and, our emphasis on people, training and development has improved both management depth and employee retention. These functional pillars provide tremendous strength as we enter our next decade.

We thank you for your continued support.

Ronald J. Mittelstaedt
CHAIRMAN AND
CHIEF EXECUTIVE OFFICER

Steven F. Bouck
PRESIDENT

Worthing F. Jackman
EXECUTIVE VICE PRESIDENT AND
CHIEF FINANCIAL OFFICER

UNITED STATES
SECURITIES AND EXCHANGE COMMISSION
Washington, D.C. 20549

FORM 10-K

(Mark One)

☑ ANNUAL REPORT PURSUANT TO SECTION 13 OR 15(d) OF THE SECURITIES EXCHANGE ACT OF 1934

For the fiscal year ended December 31, 2007

OR

☐ TRANSITION REPORT PURSUANT TO SECTION 13 OR 15(d) OF THE SECURITIES EXCHANGE ACT OF 1934

For the transition period from _____ to _____

Commission File No. 1-31507

WASTE CONNECTIONS, INC.

(Exact name of registrant as specified in its charter)

Delaware	(b) (6)
(State or other jurisdiction of incorporation or organization)	
35 Iron Point Circle Suite 200 Folsom, California	95630
(Address of principal executive offices)	(Zip Code)

(916) 608-8200
(Registrant's telephone number, including area code)

Securities registered pursuant to Section 12(b) of the Act:

Common Stock, par value $.01 per share	New York Stock Exchange
(Title of each class)	(Name of each exchange on which registered)

Securities registered pursuant to Section 12(g) of the Act: None

Indicate by check mark if the registrant is a well-known seasoned issuer, as defined in Rule 405 of the Securities Act.

Yes ☑ No ☐

Indicate by check mark if the registrant is not required to file reports pursuant to Section 13 or Section 15(d) of the Act.

Yes ☐ No ☑

Indicate by check mark whether the registrant (1) has filed all reports required to be filed by Section 13 or 15(d) of the Securities Exchange Act of 1934 during the preceding 12 months (or for such shorter period that the registrant was required to file such reports), and (2) has been subject to such filing requirements for the past 90 days.

Yes ☑ No ☐

Indicate by check mark if disclosure of delinquent filers pursuant to Item 405 of Regulation S-K is not contained herein, and will not be contained, to the best of registrant's knowledge, in definitive proxy or information statements incorporated by reference in Part III of this Form 10-K or any amendment to this Form 10-K. ☐

Indicate by check mark whether the registrant is a large accelerated filer, an accelerated filer, a non-accelerated filer, or a smaller reporting company. See the definitions of "large accelerated filer," "accelerated filer" and "smaller reporting company" in Rule 12b-2 of the Exchange Act. (Check one):

☑ Large accelerated filer ☐ Accelerated filer ☐ Non-accelerated filer ☐ Smaller reporting company

Indicate by check mark whether the registrant is a shell company (as defined in Rule 12b-2 of the Exchange Act).
Yes ☐ No ☑

As of June 29, 2007, the aggregate market value of voting and non-voting common stock held by non-affiliates of the registrant, based on the closing sales price for the registrant's common stock, as reported on the New York Stock Exchange, was $2,032,021,162.

Number of shares of common stock outstanding as of January 25, 2008: 67,064,357

DOCUMENTS INCORPORATED BY REFERENCE

Portions of the registrant's definitive Proxy Statement for the 2008 Annual Meeting of Stockholders are incorporated by reference into Part III hereof.

WASTE CONNECTIONS, INC.
ANNUAL REPORT ON FORM 10-K

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PART I

ITEM 1. BUSINESS

Our Company

Waste Connections, Inc. is an integrated solid waste services company that provides solid waste collection, transfer, disposal and recycling services in mostly secondary markets in the Western and Southern U.S. We serve approximately 1.5 million residential, commercial and industrial customers from operations in 23 states: Alabama, Arizona, California, Colorado, Idaho, Illinois, Iowa, Kansas, Kentucky, Minnesota, Mississippi, Montana, Nebraska, Nevada, New Mexico, Oklahoma, Oregon, South Dakota, Tennessee, Texas, Utah, Washington and Wyoming. As of December 31, 2007, we owned or operated a network of 126 solid waste collection operations, 48 transfer stations, 29 recycling operations and 35 active landfills. In addition, we provided intermodal services for the rail haul movement of cargo containers in the Pacific Northwest through a network of five intermodal facilities.

We are a leading provider of solid waste services in most of our markets. We have focused on secondary markets mostly in the Western and Southern U.S. because we believe that those areas offer:

- opportunities to enter into exclusive arrangements;
- more competitive barriers to entry;
- less competition from larger solid waste services companies;
- projected economic and population growth rates that will contribute to the growth of our business; and
- a number of independent solid waste services companies suitable for acquisition.

Our senior management team has extensive experience in operating, acquiring and integrating solid waste services businesses, and we intend to continue to focus our efforts on balancing internal and acquisition-based growth. We anticipate that a part of our future growth will come from acquiring additional solid waste collection, transfer and disposal businesses and, therefore, we expect that additional acquisitions could continue to affect period-to-period comparisons of our operating results.

Waste Connections, Inc. is a Delaware corporation organized in 1997.

Our Operating Strategy

Our operating strategy seeks to improve financial returns and deliver superior stockholder value creation within the solid waste industry. We seek to avoid highly competitive, large urban markets and instead target markets where we can provide non-integrated or integrated solid waste services under exclusive arrangements or where we can operate on an integrated basis while attaining high market share. The key components of our operating strategy, which are tailored to the competitive and regulatory factors that affect our markets, are as follows:

Control the Waste Stream. In markets where waste collection services are provided under exclusive arrangements, or where waste disposal is municipally funded or available at multiple municipal sources, we believe that controlling the waste stream by providing collection services is often more important to our profitability and growth than owning or operating landfills. In addition, contracts in some Western U.S. markets dictate the disposal facility to be used. The large size of many western states increases the cost of interstate and long haul disposal, heightening the effects of regulations that direct waste disposal, which may make it more difficult for a landfill to obtain the disposal volume necessary to operate profitably. In markets with these characteristics, we believe that landfill ownership or vertical integration is not as critical to our success.

Provide Vertically Integrated Services. In markets where we believe that owning landfills is a strategic element to a collection operation because of competitive and regulatory factors, we generally focus on providing integrated services, from collection through disposal of solid waste in landfills that we own or operate.

Manage on a Decentralized Basis. We manage our operations on a decentralized basis. This places decision-making authority close to the customer, enabling us to identify and address customers' needs quickly in a cost-effective manner. We believe that decentralization provides a low-overhead, highly efficient operational structure that allows us to expand into geographically contiguous markets and operate in relatively small communities that larger competitors may not find attractive. We believe that this structure gives us a strategic competitive advantage, given the relatively rural nature of much of the Western and Southern U.S., and makes us an attractive buyer to many potential acquisition candidates.

We currently deliver our services from approximately 143 operating locations grouped into four regions. We manage and evaluate our business in this manner on the basis of the regions' geographic characteristics, interstate waste flow, revenue base, employee base, regulatory structure and acquisition opportunities. Each region has a regional vice president and a regional controller, reporting directly to our corporate management. These regional officers are responsible for operations and accounting in their regions and supervise their regional staff.

Each operating location has a district or site manager who has autonomous service and decision-making authority for his or her operations and is responsible for maintaining service quality, promoting safety, implementing marketing programs and overseeing day-to-day operations, including contract administration. Local managers also help identify acquisition candidates and are responsible for integrating acquired businesses into our operations and obtaining the permits and other governmental approvals required for us to operate.

Implement Operating Standards. We develop company-wide operating standards, which are tailored for each of our markets based on industry norms and local conditions. We implement cost controls and employee training and safety procedures and establish a sales and marketing plan for each market. By internalizing the waste stream of acquired operations, we can further increase operating efficiencies and improve capital utilization. We use a wide-area information system network, implement financial controls and consolidate certain accounting, personnel and customer service functions. While regional and district management operate with a high degree of autonomy, our senior officers monitor regional and district operations and require adherence to our accounting, purchasing, marketing and internal control policies, particularly with respect to financial matters. Our executive officers regularly review the performance of regional officers, district managers and operations. We believe we can improve the profitability of existing and newly acquired operations by establishing operating standards, closely monitoring performance and streamlining certain administrative functions.

Our Growth Strategy

We tailor the components of our growth strategy to the markets in which we operate and into which we hope to expand.

Acquire Additional Exclusive Arrangements. Our operations include market areas where we have exclusive arrangements, including franchise agreements, municipal contracts and governmental certificates, under which we are the exclusive service provider for a specified market. These exclusive rights and contractual arrangements create a barrier to entry that is usually overcome by the acquisition of a company with such exclusive rights or contractual arrangements or by a competitive re-bid. We devote significant resources to securing additional franchise agreements and municipal contracts through competitive bidding and by acquiring other companies. In bidding for franchises and municipal contracts and evaluating acquisition candidates holding governmental certificates, our management team draws on its experience in the waste industry and knowledge of local service areas in existing and target markets. Our district managers maintain relationships with local governmental officials within their service areas, and sales representatives may be assigned to cover specific municipalities. These personnel focus on maintaining, renewing and renegotiating existing franchise agreements and municipal contracts and securing additional agreements and contracts while maintaining acceptable financial returns. We believe our ability to offer comprehensive rail haul disposal services in the Pacific Northwest improves our competitive position in bidding for such contracts in that region.

Generate Internal Growth. To generate continued internal revenue growth, we focus on increasing market penetration in our current and adjacent markets, soliciting new residential, commercial and industrial customers in markets where such customers have the option to choose a particular waste collection service and marketing upgraded or additional services (such as compaction or automated collection) to existing customers. We also focus on raising prices and instituting surcharges, when appropriate, to offset cost increases. Where possible, we intend to leverage our franchise-based platforms to expand our customer base beyond our exclusive market territories. As customers are added in existing markets, our revenue per routed truck increases, which generally increases our collection efficiencies and profitability. In markets in which we have exclusive contracts, franchises and certificates, we expect internal volume growth generally to track population and business growth.

Expand Through Acquisitions. We intend to expand the scope of our operations by continuing to acquire solid waste companies in new markets and in existing or adjacent markets that are combined with or "tucked in" to our existing operations. We focus our acquisition efforts on markets that we believe provide significant growth opportunities for a well-capitalized market entrant and where we can create economic and operational barriers to entry by new competitors. This focus typically highlights markets in which we can either: (1) provide waste collection services under franchises, exclusive contracts or other arrangements; or (2) gain a leading market position and provide vertically integrated collection and disposal services. We believe that our experienced management, decentralized operating strategy, financial strength, size and public company status make us an attractive buyer to certain solid waste collection and disposal acquisition candidates. We have developed an acquisition discipline based on a set of financial, market and

management criteria to evaluate opportunities. Once an acquisition is closed, we seek to integrate it while minimizing disruption to the ongoing operations of both Waste Connections and the acquired business.

In new markets, we often use an initial acquisition as an operating base and seek to strengthen the acquired operation's presence in that market by providing additional services, adding new customers and making "tuck-in" acquisitions of other solid waste companies in that market or adjacent markets. We believe that many suitable "tuck-in" acquisition opportunities exist within our current and targeted market areas that provide us with opportunities to increase our market share and route density.

The U.S. solid waste services industry experienced significant consolidation during the 1990s. The consolidation trend has continued, but at a slower pace. The solid waste services industry remains regional in nature with acquisition opportunities available in selected markets. Some of the remaining independent landfill and collection operators lack the capital resources, management skills and/or technical expertise necessary to comply with stringent environmental and other governmental regulations and compete with larger, more efficient, integrated operators. In addition, many of the remaining independent operators may wish to sell their businesses to achieve liquidity in their personal finances or as part of their estate planning. Due to the prevalence of exclusive arrangements and the reduced pace of consolidation, we believe the Western markets contain the largest and most attractive number of acquisition opportunities.

SOLID WASTE SERVICES

Residential, Commercial and Industrial Collection Services

We serve approximately 1.5 million residential, commercial and industrial customers from operations in 23 states. Our services are generally provided under one of the following arrangements: (1) governmental certificates; (2) exclusive franchise agreements; (3) exclusive municipal contracts; (4) residential subscriptions; (5) residential contracts; or (6) commercial and industrial service agreements.

Governmental certificates, exclusive franchise agreements and exclusive municipal contracts grant us rights to provide services within specified areas at established rates. Governmental certificates, or G Certificates, are unique to the State of Washington. The Washington Utilities and Transportation Commission, or the WUTC, awards G Certificates to solid waste collection service providers in unincorporated areas and electing municipalities. These certificates typically grant the holder the exclusive and perpetual right to provide specific residential, commercial and/or industrial waste services in a defined territory at specified rates subject to divestiture and/or cancellation by the WUTC on specified limited grounds. Franchise agreements typically provide an exclusive period of seven years or longer for a specified territory. These arrangements specify a broad range of services to be provided, establish rates for the services and often give the service provider a right of first refusal to extend the term of the agreement. Municipal contracts typically provide a shorter service period and a more limited scope of services than franchise agreements and generally require competitive bidding at the end of the contract term. We do not expect that the loss of any current contracts in negotiation for renewal or contracts likely to terminate in 2008 will have a material adverse effect on our revenues or cash flows. No individual contract or customer accounted for more than 5% of our total revenues for the year ended December 31, 2007.

We provide residential waste services, other than those we perform under exclusive arrangements, under contracts with homeowners' associations, apartment owners, mobile home park operators or on a subscription basis with individual households. We set base residential fees on a contract basis primarily based on route density, the frequency and level of service, the distance to the disposal or processing facility, weight and type of waste collected, type of equipment and containers furnished, the cost of disposal or processing and prices charged by competitors in that market for similar services. Collection fees are paid either by the municipalities from tax revenues or directly by the residents receiving the services. We provide 20- to 96-gallon carts to residential customers.

We provide commercial and industrial services, other than those we perform under exclusive arrangements, under customer service agreements generally ranging from one to three years in duration. We determine fees under these agreements by such factors as collection frequency, level of service, route density, the type, volume and weight of the waste collected, type of equipment and containers furnished, the distance to the disposal or processing facility, the cost of disposal or processing and prices charged by competitors in our collection markets for similar services. Collection of larger volumes of commercial and industrial waste streams generally helps improve our operating efficiencies, and consolidation of these volumes allows us to negotiate more favorable disposal prices. We provide one- to ten-cubic yard containers to commercial customers and ten- to 50-cubic yard containers to industrial customers. For an additional fee, we install on the premises of large volume customers stationary compactors that compact waste prior to collection.

Landfill Disposal Services

We own solid waste landfills to achieve vertical integration in markets where the economic and regulatory environments make landfill ownership attractive. Where our operations are vertically integrated, we eliminate third-party disposal costs and generally realize higher margins and stronger operating cash flows. The fees charged at disposal facilities, which are known as tipping fees, are based on market factors and take into account the type and weight or volume of solid waste deposited and the type and size of the vehicles used to transport waste.

Our landfill facilities consisted of the following at December 31, 2007:

Owned and operated landfills	25
Operated landfills under limited-term operating agreements	7
Operated landfills under life-of-site agreements	3
	35

We own landfills in California, Colorado, Illinois, Kansas, Kentucky, Minnesota, Mississippi, Nebraska, New Mexico, Oklahoma, Oregon, Tennessee and Washington. In addition, we operate, but do not own, landfills in California, Mississippi, Nebraska and New Mexico. With the exception of two landfills located in Mississippi and Colorado, that only accept construction and demolition waste, all landfills that we own or operate are municipal solid waste landfills.

Under landfill operating agreements, the owner of the property, generally a municipality, usually owns the permit and we operate the landfill for a contracted term, which may be the life of the landfill. Where the contracted term is not the life of the landfill, the property owner is generally responsible for final capping, closure and post-closure obligations. We are responsible for all final capping, closure and post-closure obligations at the three operated landfills for which we have life-of-site agreements. Our operating contracts for which the contracted term is less than the life of the landfill have expiration dates from 2008 to 2017.

Based on remaining permitted capacity as of December 31, 2007, and projected annual disposal volumes, the average remaining landfill life for our owned and operated landfills and landfills operated, but not owned, under life-of-site agreements, is estimated to be approximately 49 years. Many of our existing landfills have the potential for expanded disposal capacity beyond the amount currently permitted. We monitor the available permitted in-place disposal capacity of our landfills on an ongoing basis and evaluate whether to seek capacity expansion. In making this evaluation, we consider various factors, including the following:

- whether the land where the expansion is being sought is contiguous to the current disposal site, and whether we either own it or the property is under an option, purchase, operating or other similar agreement;
- whether total development costs, final capping costs, and closure/post-closure costs have been determined;
- whether internal personnel have performed a financial analysis of the proposed expansion site and have determined that it has a positive financial and operational impact;
- whether internal personnel or external consultants are actively working to obtain the necessary approvals to obtain the landfill expansion permit; and
- whether we consider it probable that we will achieve the expansion (for a pursued expansion to be considered probable, there must be no significant known technical, legal, community, business or political restrictions or similar issues existing that could impair the success of the expansion).

We also regularly consider whether it is advisable, in light of changing market conditions and/or regulatory requirements, to seek to expand or change the permitted waste streams or to seek other permit modifications. We are currently seeking to expand permitted capacity at five of our landfills for which we consider expansions to be probable. Although we cannot be certain that all future expansions will be permitted as designed, the average remaining landfill life for our owned and operated landfills and landfills operated, but not owned, under life-of-site agreements is estimated to be approximately 52 years when considering remaining permitted capacity, probable expansion capacity and projected annual disposal volume.

The following table reflects estimated landfill capacity and airspace changes, as measured in tons, for owned and operated landfills and landfills operated, but not owned, under life-of-site agreements (in thousands):

	2006			2007		
	Permitted	Probable Expansion	Total	Permitted	Probable Expansion	Total
Balance, beginning of year	358,193	66,525	424,718	384,454	30,340	414,794
Acquired landfills	-	-	-	16,088	7,028	23,116
Permits granted	17,762	(17,762)	-	6,826	(6,826)	-
Airspace consumed	(7,215)	-	(7,215)	(8,238)	-	(8,238)
Changes in engineering estimates	15,714	(18,423)	(2,709)	1,965	(2,112)	(147)
Balance, end of year	384,454	30,340	414,794	401,095	28,430	429,525

The estimated remaining operating lives for the landfills we own and landfills we operate under life-of-site agreements, based on remaining permitted and probable expansion capacity and projected annual disposal volume, in years, as of December 31, 2006 and December 31, 2007, are shown in the tables below. The estimated remaining operating lives include assumptions that the operating permits are renewed.

	2006					
	0 to 10	11 to 20	21 to 40	41 to 50	51+	Total
Owned and operated landfills	1	4	6	1	12	24
Operated landfills under life-of-site agreements	-	-	2	-	1	3
	1	4	8	1	13	27

	2007					
	0 to 10	11 to 20	21 to 40	41 to 50	51+	Total
Owned and operated landfills	1	5	6	2	11	25
Operated landfills under life-of-site agreements	-	-	2	-	1	3
	1	5	8	2	12	28

The disposal tonnage that we received in 2006 and 2007 at all of our landfills is shown in the tables below (tons in thousands):

	Three months ended								Twelve months ended December 31, 2006
	March 31, 2006		June 30, 2006		September 30, 2006		December 31, 2006		
	Number of Sites	Total Tons	Number of Sites	Total Tons	Number of Sites	Total Tons	Number of Sites	Total Tons	
Owned landfills or landfills operated under life-of-site agreements	27	1,655	27	1,828	27	1,888	27	1,844	7,215
Operated landfills	8	269	8	266	8	258	8	240	1,033
	35	1,924	35	2,094	35	2,146	35	2,084	8,248

	Three months ended								Twelve months ended December 31, 2007
	March 31, 2007		June 30, 2007		September 30, 2007		December 31, 2007		
	Number of Sites	Total Tons	Number of Sites	Total Tons	Number of Sites	Total Tons	Number of Sites	Total Tons	
Owned landfills or landfills operated under life-of-site agreements	28	1,769	28	2,122	30	2,211	28	2,136	8,238
Operated landfills	8	245	8	261	7	244	7	234	984
	36	2,014	36	2,383	37	2,455	35	2,370	9,222

Transfer Station Services

We have an active program to acquire, develop, own and operate transfer stations in markets proximate to our collection operations. Transfer stations receive, compact and load solid waste to be transported to landfills via truck, rail or barge. Transfer stations extend our direct-haul reach and link collection operations with distant disposal facilities. We owned or operated 48 transfer stations at December 31, 2007. Currently, we own transfer stations in California, Colorado, Kansas, Kentucky, Montana, Nebraska, Oklahoma, Oregon, Tennessee and Washington. In addition, we operate, but do not own, transfer stations in Idaho, Kentucky, Nebraska, Tennessee, Washington and Wyoming. We believe that transfer stations benefit us by:

- concentrating the waste stream from a wider area, which increases the volume of disposal at our landfill facilities and gives us greater leverage in negotiating more favorable disposal rates at other landfills;
- improving utilization of collection personnel and equipment; and
- building relationships with municipalities and private operators that deliver waste, which can lead to additional growth opportunities.

Recycling Services

We offer residential, commercial, industrial and municipal customers recycling services for a variety of recyclable materials, including cardboard, office paper, plastic containers, glass bottles and ferrous and aluminum metals. We own or operate 29 recycling processing operations and sell other collected recyclable materials to third parties for processing before resale. Certain of our municipal recycling contracts in Washington specify certain benchmark resale prices for recycled commodities. To the extent the prices we actually receive for the processed recycled commodities collected under those contracts exceed the prices specified in the contracts, we share the excess with the municipality, after recovering any previous shortfalls resulting from actual market prices falling below the prices specified in the contracts. To reduce our exposure to commodity price volatility and risk with respect to recycled materials, we have adopted a pricing strategy of charging collection and processing fees for recycling volume collected from third parties. We believe that recycling will continue to be an important component of local and state solid waste management plans due to the public's increasing environmental awareness and expanding regulations that mandate or encourage recycling.

INTERMODAL SERVICES

Intermodal logistics is the movement of containers using two or more modes of transportation, usually including a rail or truck segment. In November 2004, we entered the intermodal services business in the Pacific Northwest through the acquisition of Northwest Container Services, Inc., which provides repositioning, storage, maintenance and repair of cargo containers for international shipping companies. We provide these services for containerized cargo primarily to international shipping companies importing and exporting goods through the Pacific Northwest. As of December 31, 2007, we owned five intermodal operations in

Washington and Oregon. Our fleet of doublestack railcars provides dedicated direct-line haul services among terminals in Portland, Tacoma and Seattle. We have contracts with the Burlington Northern Santa Fe and Union Pacific railroads for the movement of containers among our five intermodal operations. We also provide our customers container and chassis sales and leasing services.

We intend to further expand our intermodal business through cross-selling efforts with our solid waste services operations. We believe that a significant amount of solid waste is transported currently by truck, rail and barge from primarily the Seattle-Tacoma and Metro Portland areas to remote landfills in Eastern Washington and Eastern Oregon. We believe our ability to market both intermodal and disposal services will enable us to more effectively compete for these volumes.

SALES AND MARKETING

We employ sales and marketing personnel as necessary to extend or renew existing contracts, solicit new contracts or customers in markets where we are not the exclusive provider of solid waste or intermodal services, expand our presence into areas adjacent to or contiguous with our existing markets, and market additional services to existing customers. In many of our existing markets, we provide waste collection, transfer and disposal services to municipalities and governmental authorities under exclusive arrangements, and, therefore, do not contract directly with individual customers. In addition, because we have grown primarily through acquisitions, we have generally assumed existing franchise agreements, municipal contracts and G Certificates from the acquired companies, rather than obtaining new contracts through marketing efforts or bid processes.

COMPETITION

The solid waste services industry is highly competitive and requires substantial labor and capital resources. In addition to us, the industry includes: three national, publicly-held solid waste companies – Allied Waste Industries, Inc., Republic Services, Inc. and Waste Management, Inc.; several regional, publicly-held and privately-owned companies; and several thousand small, local, privately-owned companies. Certain of the markets in which we compete or will likely compete are served by one or more large, national solid waste companies, as well as by numerous regional and local solid waste companies of varying sizes and resources, some of which we believe have accumulated substantial goodwill in their markets. We also compete with operators of alternative disposal facilities, including incinerators, and with counties, municipalities and solid waste districts that maintain their own waste collection and disposal operations. Public sector operators may have financial advantages over us because of their access to user fees and similar charges, tax revenues and tax-exempt financing.

We compete for collection, transfer and disposal volume based primarily on the price and, to a lesser extent, quality of our services. From time to time, competitors may reduce the price of their services in an effort to expand their market shares or service areas or to win competitively bid municipal contracts. These practices may cause us to reduce the price of our services or, if we elect not to do so, to lose business. We provide a significant amount of our residential, commercial and industrial collection services under exclusive franchise and municipal contracts and G Certificates, some of which are subject to periodic competitive bidding.

The U.S. solid waste services industry has undergone significant consolidation, and we encounter competition in our efforts to acquire collection operations, transfer stations and landfills. We generally compete for acquisition candidates with publicly-owned regional and national waste management companies. Accordingly, it may become uneconomical for us to make further acquisitions or we may be unable to locate or acquire suitable acquisition candidates at price levels and on terms and conditions that we consider appropriate, particularly in markets we do not already serve. Competition in the disposal industry is also affected by the increasing national emphasis on recycling and other waste reduction programs, which may reduce the volume of waste deposited in landfills.

The intermodal services industry is also highly competitive. We compete against other intermodal rail services companies, trucking companies and railroads, many of which have greater financial and other resources than we do. Competition is based primarily on price, reliability and quality of service.

REGULATION

Introduction

Our operations, including landfills, waste transportation, transfer stations, vehicle maintenance shops and fueling facilities are all subject to extensive and evolving federal, state and local environmental laws and regulations, the enforcement of which has become increasingly stringent. The environmental regulations that affect us are administered by the Environmental Protection Agency, or the EPA, and other federal, state and local environmental, zoning, health and safety agencies. The WUTC regulates the portion of our collection business in Washington performed under G Certificates. We currently comply in all material respects with applicable federal, state and local environmental laws, permits, orders and regulations. In addition, we attempt to anticipate future regulatory

requirements and plan in advance as necessary to comply with them. We do not presently anticipate incurring any material costs to bring our operations into environmental compliance with existing or expected future regulatory requirements, although we can give no assurance that this will not change in the future.

The principal federal, state and local statutes and regulations that apply to our operations are described below. Certain of the statutes described below contain provisions that authorize, under certain circumstances, lawsuits by private citizens to enforce the provisions of the statutes. In addition to penalties, some of those statutes authorize an award of attorneys' fees to parties that successfully bring such an action. Enforcement actions under these statutes may include both civil and criminal penalties, as well as injunctive relief in some instances.

The Resource Conservation and Recovery Act of 1976, or RCRA

RCRA regulates the generation, treatment, storage, handling, transportation and disposal of solid waste and requires states to develop programs to ensure the safe disposal of solid waste. RCRA divides solid waste into two groups, hazardous and nonhazardous. Wastes are generally classified as hazardous if they either: (1) are specifically included on a list of hazardous wastes; or (2) exhibit certain characteristics defined as hazardous. Household wastes are specifically designated as nonhazardous. Wastes classified as hazardous under RCRA are subject to much stricter regulation than wastes classified as nonhazardous, and businesses that deal with hazardous waste are subject to regulatory obligations in addition to those imposed on handlers of nonhazardous waste. From the date of inception through December 31, 2007, to our knowledge, we did not transport hazardous wastes under circumstances that would subject us to hazardous waste regulations under Subtitle C of RCRA. Some of our ancillary operations, such as vehicle maintenance operations, may generate hazardous wastes. We manage these wastes in substantial compliance with applicable laws.

In October 1991, the EPA adopted the Subtitle D Regulations governing solid waste landfills. The Subtitle D Regulations, which generally became effective in October 1993, include location restrictions, facility design standards, operating criteria, closure and post-closure requirements, financial assurance requirements, groundwater monitoring requirements, groundwater remediation standards and corrective action requirements. In addition, the Subtitle D Regulations require that new landfill sites meet more stringent liner design criteria (typically, composite soil and synthetic liners or two or more synthetic liners) intended to keep leachate out of groundwater and have extensive collection systems to carry away leachate for treatment prior to disposal. Groundwater monitoring wells must also be installed at virtually all landfills to monitor groundwater quality and, indirectly, the effectiveness of the leachate collection system. The Subtitle D Regulations also require, where certain regulatory thresholds are exceeded, that facility owners or operators control emissions of methane gas generated at landfills in a manner intended to protect human health and the environment. Each state is required to revise its landfill regulations to meet these requirements or such requirements will be automatically imposed by the EPA on landfill owners and operators in that state. Each state is also required to adopt and implement a permit program or other appropriate system to ensure that landfills in the state comply with the Subtitle D Regulations. Various states in which we operate or may operate in the future have adopted regulations or programs as stringent as, or more stringent than, the Subtitle D Regulations.

RCRA also regulates underground storage of petroleum and other regulated materials. RCRA requires registration, compliance with technical standards for tanks, release detection and reporting, and corrective action, among other things. Certain of our facilities and operations are subject to these requirements.

The Federal Water Pollution Control Act of 1972, or the Clean Water Act

The Clean Water Act regulates the discharge of pollutants from a variety of sources, including solid waste disposal sites and transfer stations, into waters of the United States. If run-off from our owned or operated transfer stations or run-off or collected leachate from our owned or operated landfills is discharged into streams, rivers or other surface waters, the Clean Water Act would require us to apply for and obtain a discharge permit, conduct sampling and monitoring and, under certain circumstances, reduce the quantity of pollutants in such discharge. Also, virtually all landfills are required to comply with the EPA's storm water regulations issued in November 1990, which are designed to prevent contaminated landfill storm water run-off from flowing into surface waters. We believe that our facilities comply in all material respects with the Clean Water Act requirements. Various states in which we operate or may operate in the future have been delegated authority to implement the Clean Water Act permitting requirements, and some of these states have adopted regulations that are more stringent than the federal Clean Water Act requirements. For example, states often require permits for discharges that may impact ground water as well as surface water.

The Comprehensive Environmental Response, Compensation, and Liability Act of 1980, or CERCLA

CERCLA established a regulatory and remedial program intended to provide for the investigation and cleanup of facilities where or from which a release of any hazardous substance into the environment has occurred or is threatened. CERCLA's primary

mechanism for remedying such problems is to impose strict joint and several liability for cleanup of facilities on current owners and operators of the site, former owners and operators of the site at the time of the disposal of the hazardous substances, any person who arranges for the transportation, disposal or treatment of the hazardous substances, and the transporters who select the disposal and treatment facilities, regardless of the care exercised by such persons. CERCLA also imposes liability for the cost of evaluating and remedying any damage to natural resources. The costs of CERCLA investigation and cleanup can be very substantial. Liability under CERCLA does not depend on the existence or disposal of "hazardous waste" as defined by RCRA; it can also be based on the release of even very small amounts of the more than 700 "hazardous substances" listed by the EPA, many of which can be found in household waste. In addition, the definition of "hazardous substances" in CERCLA incorporates substances designated as hazardous or toxic under the federal Clean Water Act, Clear Air Act and Toxic Substances Control Act. If we were found to be a responsible party for a CERCLA cleanup, the enforcing agency could hold us, or any other generator, transporter or the owner or operator of the contaminated facility, responsible for all investigative and remedial costs, even if others were also liable. CERCLA also authorizes the imposition of a lien in favor of the United States on all real property subject to, or affected by, a remedial action for all costs for which a party is liable. Subject to certain procedural restrictions, CERCLA gives a responsible party the right to bring a contribution action against other responsible parties for their allocable shares of investigative and remedial costs. Our ability to obtain reimbursement from others for their allocable shares of such costs would be limited by our ability to find other responsible parties and prove the extent of their responsibility, their financial resources, and other procedural requirements. Various state laws also impose strict joint and several liability for investigation, cleanup and other damages associated with hazardous substance releases.

The Clean Air Act

The Clean Air Act generally, through state implementation of federal requirements, regulates emissions of air pollutants from certain landfills based on factors such as the date of the landfill construction and tons per year of emissions of regulated pollutants. Larger landfills and landfills located in areas where the ambient air does not meet certain requirements of the Clean Air Act may be subject to even more extensive air pollution controls and emission limitations. In addition, the EPA has issued standards regulating the disposal of asbestos-containing materials. Air permits may be required to construct gas collection and flaring systems and composting operations, and operating permits may be required, depending on the potential air emissions. State air regulatory programs may implement the federal requirements but may impose additional restrictions. For example, some state air programs uniquely regulate odor and the emission of toxic air pollutants.

Climate Change Laws and Regulations

On September 27, 2006, California enacted AB32, the Global Warming Solutions Act of 2006, which established the first statewide program in the United States to limit greenhouse gas, or GHG, emissions and impose penalties for non-compliance. AB32 defines several steps – and sets corresponding deadlines – the California Air Resources Board, or the Board, is required to take to implement the program.

- By June 30, 2007, the Board was required to publish a list of discrete early action GHG emission reduction measures that could be implemented prior to the measures and limits to be adopted later under AB32. Pursuant to this requirement, in June 2007, the Board approved the Landfill Methane Capture Strategy as one of the first three early action measures. Board staff, in collaboration with California Integrated Waste Management Board staff, is developing a control measure to require enhanced control of methane emissions from municipal solid waste, or MSW, landfills. The control measure would require gas collection and control systems on landfills where these systems are not currently required and would establish statewide performance standards to maximize methane capture efficiencies. The Board is scheduled to consider this control measure for adoption in late 2008.
- By January 1, 2008, the Board was required to adopt regulations requiring the monitoring and annual reporting of GHG emissions from GHG emission sources in California. Pursuant to this requirement, the Board approved a Mandatory Reporting of Greenhouse Gas Emissions regulation on December 6, 2007. The mandatory reporting requirements generally do not cover landfill operations, unless the landfill operator also operates non-landfill facilities – e.g., electric generation facilities or general combustion sources using landfill gas – encompassed by the requirements.
- By January 1, 2008, the Board was required to articulate what the statewide GHG emissions level was in 1990 and approve a statewide GHG emissions limit that is equivalent to that level, to be achieved by 2020. Pursuant to this requirement, the Board approved the 2020 emissions goal of 427 million metric tons of carbon dioxide equivalent on December 6, 2007.
- In furtherance of achieving compliance with the state-wide 2020 limit, the Board, by January 1, 2011:
  - must adopt specific GHG emission limits, applicable to GHG emission sources, to become operative on January 1, 2012; and
  - may establish a system of market-based declining annual aggregate emission limits for sources or categories of sources that emit GHG, applicable from January 1, 2012, to December 31, 2020.

- By an unspecified date, the Board must make recommendations to the Governor and the Legislature of California on how to continue reductions of GHG emissions beyond 2020.
- By an unspecified date, the Board may adopt a schedule of fees to be paid by the sources of GHG emissions and used for purposes of carrying out AB32.

The Board estimates that fugitive methane emissions from landfills account for 1-2% of California's GHG emission inventory. The California Energy Commission, or CEC, with the participation of the Board, is funding a study to improve the overall estimation of GHG emissions from MSW landfills. This study is not expected to be completed until 2009. Board staff has indicated that landfill GHG reporting requirements will be developed in conjunction with the landfill early action measure and in light of the results of this CEC study.

Because landfill and collection operations emit GHG, our operations in California will be subject to regulations issued under AB32. These regulations could increase our costs for those operations. If we are unable to pass such higher costs through to our customers, our business, financial condition and operating results could be adversely affected.

These effects could also spread to our non-California operations because other states and the federal government may follow California's lead. For example, on January 12, 2007, U.S. Senators Barack Obama (D-IL), Joe Lieberman (I-CT) and John McCain (R-AZ) introduced legislation that would cut greenhouse gas emissions to 34% of 2004 levels by 2050. As another example of this trend toward increased regulation of GHG emissions, in February 2007 the Governors of Arizona, California, New Mexico, Oregon and Washington launched the Western Climate Initiative, a collaboration to develop regional strategies to address climate change. The Governor of Utah joined the Initiative later in the spring of 2007. In August 2007, the Initiative set an overall regional goal for reducing greenhouse gas emissions.

The Occupational Safety and Health Act of 1970, or the OSH Act

The OSH Act is administered by the Occupational Safety and Health Administration, or OSHA, and many state agencies whose programs have been approved by OSHA. The OSH Act establishes employer responsibilities for worker health and safety, including the obligation to maintain a workplace free of recognized hazards likely to cause death or serious injury, comply with adopted worker protection standards, maintain certain records, provide workers with required disclosures and implement certain health and safety training programs. Various OSHA standards may apply to our operations, including standards concerning notices of hazards, safety in excavation and demolition work, the handling of asbestos and asbestos-containing materials and worker training and emergency response programs.

Flow Control/Interstate Waste Restrictions

Certain permits and approvals and state and local regulations may limit a landfill's or transfer station's ability to accept waste that originates from specified geographic areas, import out-of-state waste or wastes originating outside the local jurisdictions or otherwise discriminate against non-local waste. These restrictions, generally known as flow control restrictions, are controversial, and courts have held that some state and local flow control schemes violate constitutional limits on state or local regulation of interstate commerce, while other state and local flow control schemes do not. In 2007, the U.S. Supreme Court upheld a flow control scheme directing waste to be processed at a municipally owned transfer station. This decision may result in certain state and local jurisdictions seeking to enforce flow control restrictions through local legislation or contractually. These actions could limit or prohibit the importation of out-of-state waste or direct that wastes be handled at specified facilities. Such actions could adversely affect our transfer stations and landfills. These restrictions could also result in higher disposal costs for our collection operations. If we were unable to pass such higher costs through to our customers, our business, financial condition and operating results could be adversely affected.

State and Local Regulations

Each state in which we now operate or may operate in the future has laws and regulations governing the generation, storage, treatment, handling, transportation and disposal of solid waste, occupational safety and health, water and air pollution and, in most cases, the siting, design, operation, maintenance, closure and post-closure maintenance of landfills and transfer stations. State and local permits and approval for these operations may be required and may be subject to periodic renewal, modification or revocation by the issuing agencies. In addition, many states have adopted statutes comparable to, and in some cases more stringent than, CERCLA. These statutes impose requirements for investigation and cleanup of contaminated sites and liability for costs and damages associated with such sites, and some provide for the imposition of liens on property owned by responsible parties.

Many municipalities also have or could enact ordinances, local laws and regulations affecting our operations. These include zoning and health measures that limit solid waste management activities to specified sites or activities, flow control provisions that direct or restrict the delivery of solid wastes to specific facilities, laws that grant the right to establish franchises for collection services and bidding for such franchises, and bans or other restrictions on the movement of solid wastes into a municipality.

Permits or other land use approvals with respect to a landfill, as well as state or local laws and regulations, may specify the quantity of waste that may be accepted at the landfill during a given time period and/or the types of waste that may be accepted at the landfill. Once an operating permit for a landfill is obtained, it generally must be renewed periodically.

There has been an increasing trend at the state and local level to mandate and encourage waste reduction at the source and waste recycling, and to prohibit or restrict the disposal in landfills of certain types of solid wastes, such as yard wastes, leaves, tires, computers and other electronic equipment waste, and painted wood and other construction and demolition debris. The enactment of regulations reducing the volume and types of wastes available for transport to and disposal in landfills could prevent us from operating our facilities at their full capacity.

Some state and local authorities enforce certain federal requirements in addition to state and local laws and regulations. For example, in some states, local or state authorities enforce requirements of RCRA, the OSH Act and parts of the Clean Air Act and the Clean Water Act instead of the EPA or OSHA, and in some states such laws are enforced jointly by state or local and federal authorities.

Public Utility Regulation

In many states, public authorities regulate the rates that landfill operators may charge. The adoption of rate regulation or the reduction of current rates in states in which we own or operate landfills could adversely affect our business, financial condition and operating results.

Solid waste collection services in all unincorporated areas of Washington and in electing municipalities in Washington are provided under G Certificates awarded by the WUTC. In association with the regulation of solid waste collection services in these areas, the WUTC also sets rates for regulated solid waste collection.

RISK MANAGEMENT, INSURANCE AND FINANCIAL SURETY BONDS

Risk Management

We maintain environmental and other risk management programs appropriate for our business. Our environmental risk management program includes evaluating existing facilities and potential acquisitions for environmental law compliance. We do not presently expect environmental compliance costs to increase materially above current levels, but we cannot predict whether future acquisitions will cause such costs to increase. We also maintain a worker safety program that encourages safe practices in the workplace. Operating practices at our operations emphasize minimizing the possibility of environmental contamination and litigation. Our facilities comply in all material respects with applicable federal and state regulations.

Insurance

We are effectively self-insured for automobile liability, property, general liability, workers' compensation, employer's liability claims, and employee group health insurance. Our loss exposure for insurance claims is generally limited to per incident deductibles. Losses in excess of deductible levels are insured subject to policy limits. Under our current insurance program, we carry per incident deductibles of $2 million for automobile liability claims, $1.5 million for workers' compensation and employer's liability claims, $1 million ($2 million aggregate) for general liability claims, $25,000 for property claims and $175,000 for employee group health insurance. During the 12-month policy term, our automobile liability policy will pay up to $3 million per incident, after we pay the $2 million per incident deductible. Additionally, we have an umbrella policy with a third-party insurance company for automobile liability, general liability and employer's liability that will pay, during the policy term, up to $50 million per incident in excess of the $5 million limit for automobile claims and in excess of the $1.5 million limit for employer's liability claims and will pay up to an aggregate of $50 million in excess of the $2 million aggregate limit for general liability claims. Since workers' compensation is a statutory coverage limited only by the various state jurisdictions, the umbrella coverage is not applicable. Also, our umbrella policy does not cover property claims, as the insurance limits for these claims are in accordance with the replacement values of the insured property. From time to time, actions filed against us include claims for punitive damages, which are generally excluded from coverage under all of our liability insurance policies.

We carry environmental protection insurance under a three-year (annual for the state of California) policy, expiring in November 2008, with coverage of $10 million per occurrence and a $20 million aggregate limit, after we pay the $250,000 per incident deductible. This insurance policy covers all owned or operated landfills and transfer stations. Subject to policy terms, insurance coverage is guaranteed for acquired and newly-constructed facilities, but each addition to the policy is underwritten on a site-specific basis and the premium is set according to the conditions found at the site. Our policy provides insurance for new pollution conditions that originate after the commencement of our coverage. Pollution conditions existing prior to the commencement of our coverage, if found, could be excluded from coverage.

Financial Surety Bonds

We use financial surety bonds for a variety of corporate guarantees. The financial surety bonds are primarily used for guaranteeing municipal contract performance and providing financial assurances to meet final capping, landfill closure and post-closure obligations as required under certain environmental regulations. In addition to surety bonds, such guarantees and obligations may also be met through alternative financial assurance instruments, including insurance, letters of credit and restricted asset deposits.

We own a 9.9% interest in a company that, among other activities, issues financial surety bonds to secure final capping, landfill closure and post-closure obligations for companies operating in the solid waste sector, including a portion of our own.

EMPLOYEES

At December 31, 2007, we employed 4,978 full-time employees, of which 381, or approximately 8% of our workforce, are employed under collective bargaining agreements, primarily with the Teamsters Union. These employees are subject to labor agreements that are renegotiated periodically. We do not have any collective bargaining agreements that are set to expire during 2008. We do not expect any significant disruption in our overall business in 2008 as a result of labor negotiations, employee strikes or organizational efforts.

EXECUTIVE OFFICERS OF THE REGISTRANT

The following table sets forth certain information concerning our executive officers and key employee as of January 31, 2008:

NAME	AGE	POSITIONS
Ronald J. Mittelstaedt [1]	44	Chief Executive Officer and Chairman
Steven F. Bouck	50	President
Darrell W. Chambliss	43	Executive Vice President and Chief Operating Officer
Robert D. Evans	61	Executive Vice President, General Counsel and Secretary
Worthing F. Jackman	43	Executive Vice President and Chief Financial Officer
David M. Hall	50	Senior Vice President – Sales and Marketing
Eric M. Merrill	55	Senior Vice President – People, Training and Development
Kenneth O. Rose	59	Senior Vice President – Administration
David G. Eddie	38	Vice President – Corporate Controller
Eric O. Hansen	42	Vice President – Chief Information Officer
Jerri L. Hunt [2]	56	Vice President – Employee Relations
James M. Little	46	Vice President – Engineering

[1] Member of the Executive Committee of the Board of Directors.
[2] Key employee.

Ronald J. Mittelstaedt has been Chief Executive Officer and a director of Waste Connections since the company was formed, and was elected Chairman in January 1998. Mr. Mittelstaedt also served as President from Waste Connections' formation through August 2004. Mr. Mittelstaedt has more than 19 years of experience in the solid waste industry. Mr. Mittelstaedt holds a B.A. degree in Business Economics with a finance emphasis from the University of California at Santa Barbara.

Steven F. Bouck has been President of Waste Connections since September 1, 2004. From February 1998 to that date, he served as Executive Vice President and Chief Financial Officer. Mr. Bouck held various positions with First Analysis Corporation from 1986 to 1998, focusing on financial services to the environmental industry. Mr. Bouck holds B.S. and M.S. degrees in Mechanical Engineering from Rensselaer Polytechnic Institute, and an M.B.A. in Finance from the Wharton School.

Darrell W. Chambliss has been Executive Vice President and Chief Operating Officer of Waste Connections since October 2003. From October 1, 1997 to that date, he served as Executive Vice President – Operations. Mr. Chambliss has more than 18 years of experience in the solid waste industry. Mr. Chambliss holds a B.S. degree in Business Administration from the University of Arkansas.

Robert D. Evans has been Executive Vice President, General Counsel and Secretary of Waste Connections since June 2002. From 1978 to that date, Mr. Evans was a partner in the San Francisco law firm of Shartsis Friese LLP. Prior to joining us, Mr. Evans had been Waste Connections' primary outside counsel since our formation. Mr. Evans holds a B.A. degree in Economics and a J.D. degree from the University of California at Berkeley. Mr. Evans has announced his intention to retire from Waste Connections in February 2008.

Worthing F. Jackman has been Executive Vice President – Chief Financial Officer of Waste Connections since September 1, 2004. Mr. Jackman served as Vice President – Finance and Investor Relations from April 2003 through August 2004. Mr. Jackman held various investment banking positions with Alex. Brown & Sons, now Deutsche Bank Securities, Inc., from 1991 through 2003, including most recently as a Managing Director within the Global Industrial & Environmental Services Group. In that capacity, he provided capital markets and strategic advisory services to companies in a variety of sectors, including solid waste services. Mr. Jackman serves as a director for Quanta Services, Inc. He holds a B.S. degree in Finance from Syracuse University and an M.B.A. from the Harvard Business School.

David M. Hall has been Senior Vice President – Sales and Marketing of Waste Connections since October 2005. From August 1998 through September 2005, Mr. Hall served as Vice President – Business Development. Mr. Hall has more than 20 years of experience in the solid waste industry with extensive operating and marketing experience in the Western U.S. Mr. Hall received a B.S. degree in Management and Marketing from Missouri State University.

Eric M. Merrill has been Senior Vice President – People, Training and Development of Waste Connections since June 2007. Mr. Merrill joined us in 1998 and since 2000 had served as Regional Vice President – Pacific Northwest Region. Mr. Merrill has over 19 years of experience in the solid waste industry. He holds a B.S. degree in Accounting from the University of Oregon.

Kenneth O. Rose has been Senior Vice President – Administration of Waste Connections since May 2002. He served as a consultant to Waste Connections in March and April 2002. From May 2000 to March 2002, he provided consulting services to WorldOil.Com, Inc. and Gulf Publishing Company. As Vice President – Administration for Coach USA, Inc., from October 1996 to April 2000, Mr. Rose was responsible for all corporate administrative activities in the United States, Canada and Mexico. Mr. Rose has 13 years experience in the solid waste industry. Prior to joining the waste industry, Mr. Rose held various administrative positions in the oil and offshore drilling industries from 1971 to 1989 with Standard Oil Company-Indiana, Gulf Oil Corporation and Chevron Corporation. Mr. Rose holds a B.S. degree in Accounting from the University of Wyoming.

David G. Eddie has been Vice President – Corporate Controller of Waste Connections since March 2004. From April 2003 to February 2004, Mr. Eddie served as Vice President – Public Reporting and Compliance. From May 2001 to March 2003, Mr. Eddie served as Director of Finance. Mr. Eddie served as Corporate Controller for International Fibercom, Inc. from April 2000 to May 2001. From September 1999 to April 2000, Mr. Eddie served as Waste Connections' Manager of Financial Reporting. From September 1994 to September 1999, Mr. Eddie held various positions, including Audit Manager, for PricewaterhouseCoopers LLP. Mr. Eddie is a Certified Public Accountant and holds a B.S. degree in Accounting from California State University, Sacramento.

Eric O. Hansen has been Vice President – Chief Information Officer of Waste Connections since July 2004. From January 2001 to July 2004, Mr. Hansen served as Vice President – Information Technology. From April 1998 to December 2000, Mr. Hansen served as Director of Management Information Systems. Mr. Hansen holds a B.S degree from Portland State University.

Jerri L. Hunt has been Vice President – Employee Relations of Waste Connections since June 2007. Ms. Hunt previously served as Vice President – Human Resources from May 2002 to June 2007, and as Vice President – Human Resources and Risk Management from December 1999 to April 2002. From 1994 to 1999, Ms. Hunt held various positions with First Union National Bank (including the Money Store, which was acquired by First Union National Bank), most recently Vice President of Human Resources. From 1989 to 1994, Ms. Hunt served as Manager of Human Resources and Risk Management for Browning-Ferris Industries, Inc. Ms. Hunt also served as a Human Resources Supervisor for United Parcel Service from 1976 to 1989. She holds a B.S. degree from California State University, Sacramento, and a Master's degree in Human Resources from Golden Gate University.

James M. Little has been Vice President – Engineering of Waste Connections since September 1999. Mr. Little held various management positions with Waste Management, Inc. (formerly USA Waste Services, Inc., which was acquired by Waste Management, Inc. and Chambers Development Co. Inc., which was acquired by USA Waste Services, Inc.) from April 1990 to September 1999, including Regional Environmental Manager and Regional Landfill Manager, and most recently Division Manager in Ohio, where he was responsible for the operations of ten operating companies in the Northern Ohio area. Mr. Little is a certified professional geologist and holds a B.S. degree in Geology from Slippery Rock University.

AVAILABLE INFORMATION

Our corporate website address is http://www.wasteconnections.com. The information on our website is not incorporated by reference in this annual report on Form 10-K. We make our reports on Forms 10-K, 10-Q and 8-K available on our website free of charge after we file them with the Securities and Exchange Commission, or SEC. The public may read and copy any materials we file with the SEC at the SEC's Public Reference Room at 100 F Street, NE, Washington, DC, 20549. The public may obtain information on the operation of the Public Reference Room by calling the SEC at 1-800-SEC-0330. The SEC maintains an internet website at http://www.sec.gov that contains reports, proxy and information statements, and other information regarding issuers that file electronically with the SEC.

ITEM 1A. RISK FACTORS

Certain statements contained in this Annual Report on Form 10-K are forward-looking in nature. These statements can be identified by the use of forward-looking terminology such as "believes," "expects," "may," "will," "should," or "anticipates," or the negative thereof or comparable terminology, or by discussions of strategy. Our business and operations are subject to a variety of risks and uncertainties and, consequently, actual results may differ materially from those projected by any forward-looking statements. Factors that could cause actual results to differ from those projected include, but are not limited to, those listed below and elsewhere in this report. There may be additional risks of which we are not presently aware or that we currently believe are immaterial which could have an adverse impact on our business. We make no commitment to revise or update any forward-looking statements in order to reflect events or circumstances that may change.

Risks Related to Our Business

We may be unable to compete effectively with larger and better capitalized companies and governmental service providers.

Our industry is highly competitive and requires substantial labor and capital resources. Some of the markets in which we compete or will likely compete are served by one or more large, national companies, as well as by regional and local companies of varying sizes and resources, some of which we believe have accumulated substantial goodwill in their markets. Some of our competitors may also be better capitalized than we are, have greater name recognition than we do, or be able to provide or be willing to bid their services at a lower price than we may be willing to offer. Our inability to compete effectively could hinder our growth or negatively impact our operating results.

We also compete with counties, municipalities and solid waste districts that maintain their own waste collection and disposal operations. These operators may have financial advantages over us because of their access to user fees and similar charges, tax revenues and tax-exempt financing.

Increases in the price of fuel may adversely affect our business and reduce our operating margins.

The market price of fuel is volatile and has risen substantially in recent years. We purchase diesel fuel at market prices, and such prices can fluctuate significantly. A significant increase in our fuel cost could adversely affect our business and reduce our operating margins and reported earnings.

Increases in labor and disposal and related transportation costs could impact our financial results.

Our continued success will depend on our ability to attract and retain qualified personnel. We compete with other businesses in our markets for qualified employees. From time to time, the labor supply is tight in some of our markets. A shortage of qualified employees would require us to enhance our wage and benefits packages to compete more effectively for employees, to hire more expensive temporary employees or to contract for services with more expensive third-party vendors. Labor is one of our highest costs and relatively small increases in labor costs per employee could materially affect our cost structure. If we fail to attract and retain qualified employees, control our labor costs or recover any increased labor costs through increased prices we charge for our services or otherwise offset such increases with cost savings in other areas, our operating margins could suffer. Disposal and related transportation costs are our second highest cost category. If we incur increased disposal and related transportation costs to dispose of solid waste, and if, in either case, we are unable to pass these costs on to our customers, our operating results would suffer.

Increases in insurance costs and the amount that we self-insure for various risks could reduce our operating margins and reported earnings.

We maintain insurance policies for automobile, general, employer's, environmental and directors and officers' liability as well as for employee group health insurance, property insurance and workers' compensation. We are effectively self-insured for automobile liability, property, general liability, workers' compensation, employer's liability and employee group health insurance by carrying high dollar per incident deductibles. We carry umbrella policies for certain types of claims to provide excess coverage over the underlying policies and per incident deductibles. The increased amounts that we self-insure could cause significant volatility in our operating margins and reported earnings based on the occurrence and claim costs of incidents, accidents and injuries. Our insurance accruals are based on claims filed and estimates of claims incurred but not reported and are developed by our management with assistance from our third-party actuary and our third-party claims administrator. To the extent these estimates are inaccurate, we may recognize substantial additional expenses in future periods that would reduce operating margins and reported earnings. From time to time, actions filed against us include claims for punitive damages, which are generally excluded from coverage under all of our

liability insurance policies. A punitive damage award could have an adverse effect on our reported earnings in the period in which it occurs. Significant increases in premiums on insurance that we retain also could reduce our margins.

We depend significantly on the services of the members of our senior, regional and district management team, and the departure of any of those persons could cause our operating results to suffer.

Our success depends significantly on the continued individual and collective contributions of our senior, regional and district management team. Key members of our management have entered into employment agreements, but we may not be able to enforce these agreements. The loss of the services of any member of our senior, regional or district management or the inability to hire and retain experienced management personnel could harm our operating results.

Our financial results are based upon estimates and assumptions that may differ from actual results.

In preparing our consolidated financial statements in accordance with U.S. generally accepted accounting principles, several estimates and assumptions are made that affect the accounting for and recognition of assets, liabilities, revenues and expenses. These estimates and assumptions must be made because certain information that is used in the preparation of our financial statements is dependent on future events, cannot be calculated with a high degree of precision from data available or is not capable of being readily calculated based on generally accepted methodologies. In some cases, these estimates are particularly difficult to determine and we must exercise significant judgment. The estimates and the assumptions having the greatest amount of uncertainty, subjectivity and complexity are related to our accounting for landfills, self-insurance, intangibles, allocation of acquisition purchase price, income taxes, asset impairments and litigation, claims and assessments. Actual results for all estimates could differ materially from the estimates and assumptions that we use, which could have an adverse effect on our financial condition and results of operations.

Efforts by labor unions could divert management attention and adversely affect operating results.

From time to time, labor unions attempt to organize our employees. Some groups of our employees are represented by unions, and we have negotiated collective bargaining agreements with most of these groups. We are currently engaged in negotiations with other groups of employees represented by unions. Additional groups of employees may seek union representation in the future. Negotiating collective bargaining agreements with these groups could divert management attention and adversely affect operating results. If we are unable to negotiate acceptable collective bargaining agreements, we might have to wait through "cooling off" periods, which are often followed by union-initiated work stoppages, including strikes or lock-outs. Additionally, any significant work stoppage or slowdown at ports or by railroad workers could reduce or interrupt the flow of cargo containers through our intermodal facilities. Depending on the type and duration of any labor disruptions, our operating expenses could increase significantly, which could adversely affect our financial condition, results of operations and cash flows.

Our results are vulnerable to economic conditions and seasonal factors affecting the regions in which we operate.

Our business and financial results would be harmed by downturns in the general economy of the regions in which we operate and other factors affecting those regions, such as state regulations affecting the solid waste services industry and severe weather conditions. Based on historic trends, we expect our operating results to vary seasonally, with revenues typically lowest in the first quarter, higher in the second and third quarters, and lower in the fourth quarter than in the second and third quarters. We expect the fluctuation in our revenues between our highest and lowest quarters to be in the range of approximately 9% to 12%. This seasonality reflects the lower volume of solid waste generated during the late fall, winter and early spring because of decreased construction and demolition activities during the winter months. In addition, some of our operating costs may be higher in the winter months. Adverse winter weather conditions slow waste collection activities, resulting in higher labor and operational costs. Greater precipitation in the winter increases the weight of collected waste, resulting in higher disposal costs, which are calculated on a per ton basis. Because of these factors, we expect operating income to be generally lower in the winter months, and our stock price may be negatively affected by these variations.

We may lose contracts through competitive bidding, early termination or governmental action.

We derive a significant portion of our revenues from market areas where we have exclusive arrangements, including franchise agreements, municipal contracts and G Certificates. Many of these arrangements are for a specified term and will be subject to competitive bidding in the future. For example, we have approximately 338 contracts, representing approximately 7.6% of our annual revenues that are set for expiration or automatic renewal through December 31, 2008. Although we intend to bid on additional municipal contracts and franchise agreements, we may not be the successful bidder. In addition, some of our customers may terminate their contracts with us before the end of the contract term.

Government action may also affect our exclusive arrangements. Municipalities may annex unincorporated areas within counties where we provide collection services. As a result, our customers in annexed areas may be required to obtain services from competitors that have been franchised by the annexing municipalities to provide those services. In addition, municipalities in which services are currently provided on a competitive basis may elect to franchise collection services. Unless we are awarded franchises by these municipalities, we will lose customers. Municipalities may also decide to provide services to their residents themselves, on an optional or mandatory basis, causing us to lose customers. Municipalities in Washington may, by law, annex any unincorporated territory, which could remove such territory from an area covered by a G Certificate issued to us by the WUTC. Such occurrences could subject more of our Washington operations to competitive bidding. Moreover, legislative action could amend or repeal the laws governing WUTC regulation, which could harm our competitive position by subjecting more areas to competitive bidding. If we are not able to replace revenues from contracts lost through competitive bidding or early termination or from the renegotiation of existing contracts with other revenues within a reasonable time period, our revenues could decline.

We may be subject in the normal course of business to judicial and administrative proceedings that could interrupt our operations, require expensive remediation, result in adverse judgments or settlements and create negative publicity.

Governmental agencies may impose fines or penalties on us relating to the conduct of our business, attempt to revoke or deny renewal of our operating permits, franchises or licenses for violations or alleged violations of environmental laws or regulations, or require us to remediate potential environmental problems relating to waste that we or our predecessors collected, transported, disposed of or stored. Individuals or citizens groups may also bring actions against us in connection with our operations. Any adverse outcome in such proceedings could harm our operations and financial results and create negative publicity, which could damage our reputation, competitive position and stock price.

Competition for acquisition candidates, consolidation within the waste industry and economic and market conditions may limit our ability to grow through acquisitions.

Most of our growth since our inception has been through acquisitions. Although we have identified numerous acquisition candidates that we believe are suitable, we may not be able to acquire them at prices or on terms and conditions favorable to us.

Other companies have adopted or may in the future adopt our strategy of acquiring and consolidating regional and local businesses. We expect that increased consolidation in the solid waste services industry will continue to reduce the number of attractive acquisition candidates. Moreover, general economic conditions and the environment for attractive investments may affect the desire of the owners of acquisition candidates to sell their companies. As a result, fewer acquisition opportunities may become available to us, which could cause us to reduce our rate of growth from acquisitions or make acquisitions on less attractive terms than we have in the past, such as at higher purchase prices.

Our growth and future financial performance depend significantly on our ability to integrate acquired businesses into our organization and operations.

A component of our growth strategy involves achieving economies of scale and operating efficiencies by growing through acquisitions. We may not achieve these goals unless we effectively combine the operations of acquired businesses with our existing operations. In addition, we are not always able to control the timing of our acquisitions. Our inability to complete acquisitions within the time frames that we expect may cause our operating results to be less favorable than expected, which could cause our stock price to decline.

Our acquisitions may not be successful, resulting in changes in strategy, operating losses or a loss on sale of the business acquired.

Even if we are able to make acquisitions on advantageous terms and are able to integrate them successfully into our operations and organization, some acquisitions may not fulfill our objectives in a given market due to factors that we cannot control, such as market position or customer base. As a result, operating margins could be less than we originally anticipated when we made those acquisitions. In addition, we may change our strategy with respect to that market or those businesses and decide to sell the operations at a loss, or keep those operations and recognize an impairment of goodwill and/or intangible assets.

Because we depend on railroads for our intermodal operations, our operating results and financial condition are likely to be adversely affected by any reduction or deterioration in rail service.

We depend on two major railroads for the intermodal services we provide – the Burlington Northern Santa Fe and Union Pacific. Consequently, a reduction in, or elimination of, rail service to a particular market is likely to adversely affect our ability to provide intermodal transportation services to some of our customers. In addition, the railroads are relatively free to adjust shipping rates up or

down as market conditions permit when existing contracts expire. Rate increases would result in higher intermodal transportation costs, reducing the attractiveness of intermodal transportation compared to solely truck or other transportation modes, which could cause a decrease in demand for our services. Our business could also be adversely affected by harsh weather conditions or other factors that hinder the railroads' ability to provide reliable transportation services.

Our decentralized decision-making structure could allow local managers to make decisions that adversely affect our operating results.

We manage our operations on a decentralized basis. Local managers have the authority to make many decisions concerning their operations without obtaining prior approval from executive officers, subject to compliance with general company-wide policies. Poor decisions by local managers could result in the loss of customers or increases in costs, in either case adversely affecting operating results.

We may incur additional charges related to capitalized expenditures, which would decrease our earnings.

In accordance with U.S. generally accepted accounting principles, we capitalize some expenditures and advances relating to acquisitions, pending acquisitions and landfill development projects. We expense indirect acquisition costs such as executive salaries, general corporate overhead and other corporate services as we incur those costs. We charge against earnings any unamortized capitalized expenditures and advances (net of any amount that we estimate we will recover, through sale or otherwise) that relate to any operation that is permanently shut down or determined to be impaired, any pending acquisition that is not consummated and any landfill development project that we do not expect to complete. Any such charges against earnings could decrease our stock price.

Each business that we acquire or have acquired may have liabilities that we fail or are unable to discover, including environmental liabilities.

As a successor owner, we may be legally responsible for liabilities that arise from businesses that we acquire. Even if we obtain legally enforceable representations, warranties and indemnities from the sellers of such businesses, they may not cover the liabilities fully. Some environmental liabilities, even if we do not expressly assume them, may be imposed on us under various regulatory schemes and other applicable laws. Our insurance program does not cover liabilities associated with some environmental issues that may exist prior to attachment of coverage. A successful uninsured claim against us could harm our financial condition.

Liabilities for environmental damage may adversely affect our business and earnings.

We are liable for any environmental damage that our solid waste facilities cause, including damage to neighboring landowners or residents, particularly as a result of the contamination of soil, groundwater or surface water, and especially drinking water. We may be liable for damage resulting from conditions existing before we acquired these facilities. We may also be liable for any on-site environmental contamination caused by pollutants or hazardous substances whose transportation, treatment or disposal we or our predecessors arranged. If we were to incur liability for environmental damage, environmental cleanups, corrective action or damage not covered by insurance or in excess of the amount of our coverage, our financial condition could be materially adversely affected.

The adoption of new accounting standards or interpretations could adversely affect our financial results.

Our implementation of and compliance with changes in accounting rules and interpretations could adversely affect our operating results or cause unanticipated fluctuations in our results in future periods. The accounting rules and regulations that we must comply with are complex and continually changing. Recent actions and public comments from the SEC have focused on the integrity of financial reporting generally. The Financial Accounting Standards Board, or FASB, has recently introduced several new or proposed accounting standards, or is developing new proposed standards, which would represent a significant change from current industry practices. In addition, many companies' accounting policies are being subject to heightened scrutiny by regulators and the public. While we believe that our financial statements have been prepared in accordance with U.S. generally accepted accounting principles, we cannot predict the impact of future changes to accounting principles or our accounting policies on our financial statements going forward.

Risks Related to Our Industry

Our financial and operating performance may be affected by the inability to renew landfill operating permits, obtain new landfills and expand existing ones.

We currently own and/or operate a number of landfills. Our ability to meet our financial and operating objectives may depend in part on our ability to renew landfill operating permits, acquire, lease and expand existing landfills and develop new landfill sites. It

has become increasingly difficult and expensive to obtain required permits and approvals to build, operate and expand solid waste management facilities, including landfills and transfer stations. Operating permits for landfills in states where we operate must generally be renewed every five to ten years. These operating permits often must be renewed several times during the permitted life of a landfill. The permit and approval process is often time consuming, requires numerous hearings and compliance with zoning, environmental and other requirements, is frequently challenged by citizens, public interest and other groups, and may result in burdensome terms and conditions being imposed on our operations. We may not be able to obtain new landfill sites or expand the permitted capacity of our landfills when necessary. Obtaining new landfill sites is important to our expansion into new, non-exclusive markets. If we do not believe that we can obtain a landfill site in a non-exclusive market, we may choose not to enter that market. Expanding existing landfill sites is important in those markets where the remaining lives of our landfills are relatively short. We may choose to forego acquisitions and internal growth in these markets because increased volumes would further shorten the lives of these landfills. Any of these circumstances could adversely affect our operating results.

Future changes in laws regulating the flow of solid waste in interstate commerce could adversely affect our operating results.

The U.S. Supreme Court has held that states may not regulate the flow of solid waste in interstate commerce if the effect would be to discriminate between interstate and intrastate commerce with respect to private facilities. In 2007, the U.S. Supreme Court upheld a flow control scheme directing waste to be processed at a municipally owned transfer station. If one or more of the municipalities or states in which we dispose of interstate waste takes action that would prohibit or increase the costs of our continued disposal of interstate waste, our operating results could be adversely affected.

Extensive and evolving environmental laws and regulations may restrict our operations and growth and increase our costs.

Existing environmental laws and regulations have become more stringently enforced in recent years because of greater public interest in protecting the environment. In addition, our industry is subject to regular enactment of new or amended federal, state and local statutes, regulations and ballot initiatives, as well as judicial decisions interpreting these requirements. These requirements impose substantial costs on us and may adversely affect our business. In addition, federal, state and local governments may change the rights they grant to, and the restrictions they impose on, solid waste services companies, and those changes could restrict our operations and growth.

Extensive regulations that govern the design, operation and closure of landfills may restrict our landfill operations or increase our costs of operating landfills.

Regulations that govern landfill operations include the regulations that establish minimum federal requirements adopted by the EPA in October 1991 under Subtitle D of RCRA. If we fail to comply with these regulations, we could be required to undertake investigatory or remedial activities, curtail operations or close landfills temporarily or permanently. Future changes to these regulations may require us to modify, supplement or replace equipment or facilities at substantial costs. If regulatory agencies fail to enforce these regulations vigorously or consistently, our competitors whose facilities are not forced to comply with the Subtitle D regulations or their state counterparts may obtain an advantage over us. Our financial obligations arising from any failure to comply with these regulations could harm our business and operating results.

Unusually adverse weather conditions may interfere with our operations, harming our operating results.

Our operations could be adversely affected, beyond the normal seasonal variations described above, by unusually long periods of inclement weather, which could interfere with collection, landfill and intermodal operations, reduce the volume of waste generated by our customers, delay the development of landfill capacity, and increase the costs we incur in connection with the construction of landfills and other facilities. Periods of particularly harsh weather may force us to temporarily suspend some of our operations.

Fluctuations in prices for recycled commodities that we sell and rebates we offer to customers may cause our revenues and operating results to decline.

We provide recycling services to some of our customers. The sale prices of and demands for recyclable commodities, particularly paper products, are frequently volatile and when they decline, our revenues and operating results may decline. Our recycling operations offer rebates to suppliers, based on the market prices of commodities we buy to process for resale. Therefore, if we recognize increased revenues resulting from higher prices for recyclable commodities, the rebates we pay to suppliers will also increase, which also may impact our operating results.

ITEM 1B. UNRESOLVED STAFF COMMENTS

None.

ITEM 2. PROPERTIES

As of December 31, 2007, we owned 126 collection operations, 36 transfer stations, 23 municipal solid waste landfills, 2 construction and demolition landfills, 29 recycling operations, and 5 intermodal operations and operated, but did not own, an additional 12 transfer stations and 10 municipal solid waste landfills. We lease certain of the sites on which these facilities are located. We lease various office facilities, including our corporate offices in Folsom, California, where we occupy approximately 31,000 square feet of space. We have signed a lease for new corporate offices of approximately 48,000 square feet in Folsom, California, which we expect to occupy in February 2009. We own various equipment, including waste collection and transportation vehicles, related support vehicles, doublestack rail cars, carts, containers, chassis and heavy equipment used in landfill and intermodal operations. We believe that our existing facilities and equipment are adequate for our current operations. However, we expect to make additional investments in property and equipment for expansion and replacement of assets in connection with future acquisitions.

ITEM 3. LEGAL PROCEEDINGS

Our subsidiary, High Desert Solid Waste Facility, Inc. (formerly known as Rhino Solid Waste, Inc.), owns undeveloped property in Chaparral, New Mexico, for which it sought a permit to operate a municipal solid waste landfill. After a public hearing, the New Mexico Environment Department, or the Department, approved the permit for the facility on January 30, 2002. Colonias Development Council, or the CDC, a nonprofit organization, opposed the permit at the public hearing and appealed the Department's decision to the courts of New Mexico, primarily on the grounds that the Department failed to consider the social impact of the landfill on the community of Chaparral, and failed to consider regional planning issues. On July 18, 2005, in *Colonias Dev. Council v. Rhino Envtl. Servs., Inc. (In re Rhino Envtl. Servs.), 2005 NMSC 24, 117 P.3d 939*, the New Mexico Supreme Court remanded the matter back to the Department to conduct a limited public hearing on certain evidence that CDC claims was wrongfully excluded from consideration by the hearing officer, and to allow the Department to reconsider the evidence already proffered concerning the impact of the landfill on the surrounding community's quality of life. The parties have agreed to reschedule the hearing for July 2008 to allow us time to explore a possible relocation of the landfill. At December 31, 2007, we had $9.0 million of capitalized expenditures related to this landfill development project. If we are not ultimately issued a permit to operate the landfill, we will be required to expense in a future period the $9.0 million of capitalized expenditures, less the recoverable value of the undeveloped property and other amounts recovered, which would likely have a material adverse effect on our reported income for that period.

We opened a municipal solid waste landfill in Harper County, Kansas in January 2006, following the issuance by the Kansas Department of Health and Environment, or the KDHE, of a final permit to operate the landfill. On October 3, 2005, landfill opponents filed a suit *(Board of Commissioners of Sumner County, Kansas, Tri-County Concerned Citizens and Dalton Holland v. Roderick Bremby, Secretary of the Kansas Department of Health and Environment, et al.)* in the District Court of Shawnee County, Kansas (Case No. 05-C-1264), seeking a judicial review of the order, alleging that a site analysis prepared for us and submitted to the KDHE as part of the process leading to the issuance of the permit was deficient in several respects. The action sought to stay the effectiveness of the permit and to nullify it. On April 7, 2006, the District Court issued an order denying the plaintiffs' request for judicial review on the grounds that they lack standing to bring the action. The plaintiffs appealed this decision to the Kansas Court of Appeals, and on October 12, 2007, the Court of Appeals issued an opinion reversing and remanding the District Court's decision. We are appealing the decision to the Kansas Supreme Court. While we believe that we will prevail in this case, a final adverse determination with respect to the permit would likely have a material adverse effect on our reported income in the future. We cannot estimate the amount of any such material adverse effect.

On October 25, 2006, a purported shareholder derivative complaint captioned *Travis v. Mittelstaedt, et al.* was filed in the United States District Court for the Eastern District of California, naming certain of our directors and officers as defendants, and naming us as a nominal defendant. On January 30, 2007, a similar purported derivative action, captioned *Pierce and Banister v. Mittelstaedt, et al.*, was filed in the same federal court as the *Travis* case. The *Travis* and *Pierce* and *Banister* cases have been consolidated. The consolidated complaint in the action alleges violations of various federal and California securities laws, breach of fiduciary duty, corporate waste, and related claims in connection with the timing of certain historical stock option grants. The consolidated complaint names as defendants certain of our current and former directors and officers, and names us as a nominal defendant. On June 22, 2007, we and the individual defendants filed motions to dismiss the consolidated action. The motions are pending.

On October 30, 2006, we were served with another purported shareholder derivative complaint, naming certain of our current and former directors and officers as defendants, and naming us as a nominal defendant. The suit, captioned *Nichols v. Mittelstaedt, et al.*

and filed in the Superior Court of California, County of Sacramento, contains allegations substantially similar to the consolidated federal action described above. On April 3, 2007, a fourth purported derivative action, captioned *Priest v. Mittelstaedt, et al.*, was filed in the Superior Court of California, County of Sacramento, and contains allegations substantially similar to the consolidated federal action and the *Nichols* suit. The *Nichols* and *Priest* suits have been stayed pending the outcome of the consolidated federal action. We have completed a review of our historical stock option granting practices, including all option grants since our initial public offering in May 1998, and reported the results of the review to the Audit Committee of our Board of Directors. The review identified a small number of immaterial exceptions to non-cash compensation expense attributable to administrative and clerical errors. These exceptions are not material to our current and historical financial statements, and the Audit Committee concluded that no further action was necessary. As with any litigation proceeding, we cannot predict with certainty the eventual outcome of this pending litigation, nor can we estimate the amount of any losses that might result.

In the normal course of our business and as a result of the extensive governmental regulation of the solid waste industry, we are subject to various other judicial and administrative proceedings involving federal, state or local agencies. In these proceedings, an agency may seek to impose fines on us or to revoke or deny renewal of an operating permit held by us. From time to time we may also be subject to actions brought by citizens' groups or adjacent landowners or residents in connection with the permitting and licensing of landfills and transfer stations, or alleging environmental damage or violations of the permits and licenses pursuant to which we operate.

In addition, we are a party to various claims and suits pending for alleged damages to persons and property, alleged violations of certain laws and alleged liabilities arising out of matters occurring during the normal operation of the waste management business. Except as noted in the legal cases described above, as of December 31, 2007, there is no current proceeding or litigation involving us that we believe will have a material adverse effect on our business, financial condition, results of operations or cash flows.

ITEM 4. SUBMISSION OF MATTERS TO A VOTE OF SECURITY HOLDERS

There were no matters submitted to a vote of security holders during the fourth quarter of 2007.

PART II

ITEM 5. MARKET FOR REGISTRANT'S COMMON EQUITY, RELATED STOCKHOLDER MATTERS AND ISSUER PURCHASES OF EQUITY SECURITIES

Our common stock is listed on the New York Stock Exchange under the symbol "WCN." The following table sets forth, for the periods indicated, the high and low prices per share of our common stock, as reported on the New York Stock Exchange. Prices have been adjusted to reflect our three-for-two stock split, in the form of a 50% stock dividend, effective as of March 13, 2007.

	HIGH	LOW
2006		
First Quarter	$ 26.67	$ 22.49
Second Quarter	27.09	23.50
Third Quarter	26.00	23.03
Fourth Quarter	28.00	25.01
2007		
First Quarter	$ 31.72	$ 27.18
Second Quarter	32.25	29.50
Third Quarter	33.33	29.05
Fourth Quarter	34.17	29.10
2008		
First Quarter (through January 25, 2008)	$ 31.44	$ 28.05

As of January 25, 2008, there were 95 record holders of our common stock.

We have never paid cash dividends on our common stock and do not currently anticipate paying any cash dividends on our common stock. We have the ability under our senior revolving credit facility to repurchase our common stock and pay dividends subject to us maintaining specified financial ratios.

On May 3, 2004, we announced that our Board of Directors authorized a common stock repurchase program for the repurchase of up to $200 million of our common stock over a two-year period. On July 25, 2005 and again on October 23, 2006, we announced that our Board of Directors approved an increase in, and extension of, the common stock repurchase program. We are now authorized to purchase up to $500 million of our common stock through December 31, 2008. Under the program, stock repurchases may be made in the open market or in privately negotiated transactions from time to time at management's discretion. The timing and amounts of any repurchases will depend on many factors, including our capital structure, the market price of our common stock and overall market conditions. As of December 31, 2007, we have repurchased 16.2 million shares of our common stock at a cost of $397.2 million, $388.3 million of which was under the program. The table below reflects repurchases we have made for the three months ended December 31, 2007 (in thousands, except share and per share amounts):

Period	Total Number of Shares Purchased	Average Price Paid Per Share[1]	Total Number of Shares Purchased as Part of Publicly Announced Program	Maximum Approximate Dollar Value of Shares that May Yet Be Purchased Under the Program
10/1/07 – 10/31/07	-	$ -	-	$ 158,035
11/1/07 – 11/30/07	586,000	32.38	586,000	139,061
12/1/07 – 12/31/07	889,800	30.70	889,800	111,744
	1,475,800	31.37	1,475,800	

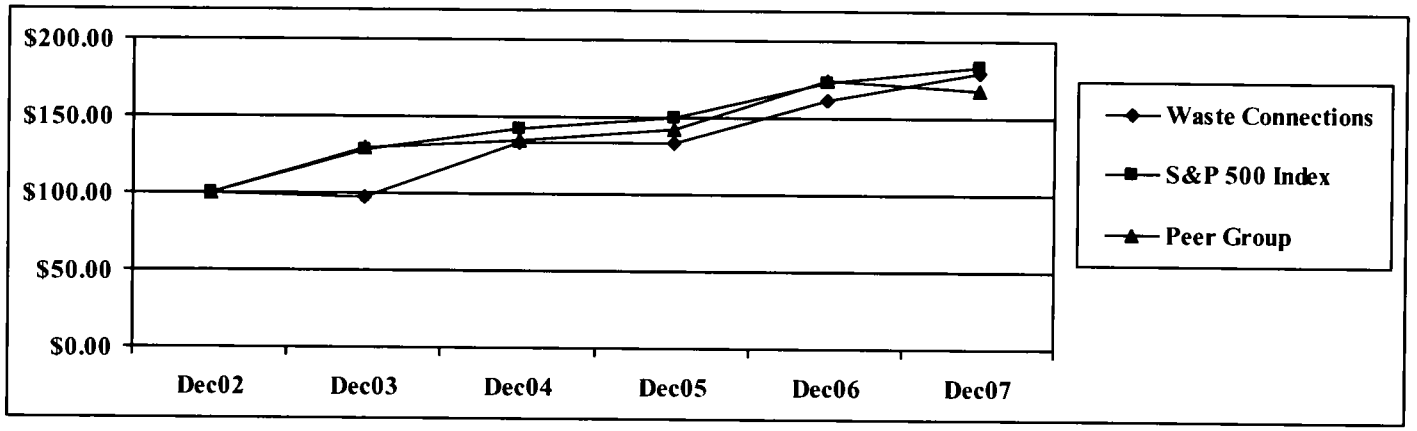
(1) This amount represents the weighted average price paid per common share. This price includes a per share commission paid for all repurchases.

Performance Graph

The following performance graph compares the total cumulative stockholder returns on our common stock over the past five fiscal years with the total cumulative returns for the S&P 500 Index and a peer group index selected by us. The graph assumes an investment of $100 in our common stock on December 31, 2002, and the reinvestment of all dividends (we have not paid any dividends during the period indicated). This chart has been calculated in compliance with SEC requirements and prepared by Standard & Poor's Compustat®.

The peer group consists of the following companies: Allied Waste Industries, Inc., Casella Waste Systems, Inc., Republic Services, Inc., Waste Industries USA, Inc. and Waste Management, Inc.

Comparison of Cumulative Five Year Total Return



	Cumulative Total Return					
	Base Period Dec02	Dec03	Dec04	Dec05	Dec06	Dec07
Waste Connections, Inc.	$100	$ 97.82	$133.06	$133.88	$161.73	$180.07
S&P 500 Index	100	128.68	142.69	149.70	173.34	182.86
Peer Group	100	129.44	134.93	141.24	174.56	167.96

THE STOCK PRICE PERFORMANCE INCLUDED IN THIS GRAPH IS NOT NECESSARILY INDICATIVE OF FUTURE STOCK PRICE PERFORMANCE.

ITEM 6. SELECTED FINANCIAL DATA

This table sets forth our selected financial data for the periods indicated. This data should be read in conjunction with, and is qualified by reference to, "Management's Discussion and Analysis of Financial Condition and Results of Operations" included in Item 7 of this Annual Report on Form 10-K and our audited consolidated financial statements, including the related notes and our independent registered public accounting firm's report and the other financial information included in Item 8 of this Annual Report on Form 10-K. The selected data in this section are not intended to replace the consolidated financial statements included in this report.

	YEARS ENDED DECEMBER 31,				
	2003	2004	2005 [a]	2006 [a]	2007 [a]
	(in thousands, except share and per share data)				
STATEMENT OF OPERATIONS DATA:					
Revenues	$ 541,797	$ 624,544	$ 721,899	$ 824,354	$ 958,541
Operating expenses:					
Cost of operations	299,901	354,901	416,883	492,766	566,089
Selling, general and administrative	51,244	61,223	72,395	84,541	99,565
Depreciation and amortization	45,071	54,630	64,788	74,865	85,628
Loss (gain) on disposal of assets	186	2,120	(216)	796	250
Operating income	145,395	151,670	168,049	171,386	207,009
Interest expense, net	(31,666)	(21,724)	(23,489)	(28,970)	(33,430)
Other income (expense), net	160	(2,817)	450	(3,759)	289
Income before income tax provision and minority interests	113,889	127,129	145,010	138,657	173,868
Minority interests	(10,549)	(11,520)	(12,422)	(12,905)	(14,870)
Income from continuing operations before income taxes	103,340	115,609	132,588	125,752	158,998
Income tax provision	(37,527)	(42,251)	(48,066)	(48,329)	(59,917)
Income from continuing operations	65,813	73,358	84,522	77,423	99,081
Loss on discontinued operations, net of tax	(499)	(1,087)	(579)	-	-
Cumulative effect of change in accounting principle, net of tax expense of $166	282	-	-	-	-
Net income	$ 65,596	$ 72,271	$ 83,943	$ 77,423	$ 99,081
Basic earnings per common share:					
Income from continuing operations	$ 1.03	$ 1.05	$ 1.21	$ 1.14	$ 1.45
Discontinued operations	(0.01)	(0.02)	(0.01)	-	-
Cumulative effect of change in accounting principle	-	-	-	-	-
Net income per common share	$ 1.02	$ 1.03	$ 1.20	$ 1.14	$ 1.45
Diluted earnings per common share:					
Income from continuing operations	$ 0.97	$ 1.02	$ 1.17	$ 1.10	$ 1.42
Discontinued operations	(0.01)	(0.02)	(0.01)	-	-
Cumulative effect of change in accounting principle	0.01	-	-	-	-
Net income per common share	$ 0.97	$ 1.00	$ 1.16	$ 1.10	$ 1.42
Shares used in calculating basic income per share [b]	63,736,416	69,872,162	70,050,974	68,136,126	68,238,523
Shares used in calculating diluted income per share [b]	73,961,217	74,205,326	72,316,952	70,408,673	69,994,713

	YEARS ENDED DECEMBER 31,				
	2003	2004	2005[a]	2006[a]	2007[a]
	(in thousands, except share and per share data)				
BALANCE SHEET DATA:					
Cash and equivalents	$ 5,276	$ 3,610	$ 7,514	$ 34,949	$ 10,298
Working capital (deficit)	(15,060)	(12,824)	(25,625)	10,368	(24,849)
Property and equipment, net	613,225	640,730	700,508	736,428	865,330
Total assets	1,395,952	1,491,483	1,676,307	1,773,891	1,981,958
Long-term debt	601,891	489,343	586,104	637,308	719,518
Total stockholders' equity	537,494	707,522	718,200	736,482	775,145

(a) For more information regarding this financial data, see the Management's Discussion and Analysis of Financial Condition and Results of Operations section included in this report. For disclosures associated with the impact of the adoption of new accounting pronouncements and the comparability of this information, see Note 1 of the consolidated financial statements.

(b) Shares have been adjusted to reflect our three-for-two stock split, paid as a 50% stock dividend, effective as of June 24, 2004 and our three-for-two stock split, paid as a 50% stock dividend, effective as of March 13, 2007.

ITEM 7. MANAGEMENT'S DISCUSSION AND ANALYSIS OF FINANCIAL CONDITION AND RESULTS OF OPERATIONS

The following discussion should be read in conjunction with the "Selected Financial Data," our consolidated financial statements and the related notes included elsewhere in this report.

Industry Overview

The solid waste industry is a local and highly competitive business, requiring substantial labor and capital resources. The participants compete for collection accounts primarily on the basis of price and, to a lesser extent, the quality of service, and compete for landfill business on the basis of tipping fees, geographic location and quality of operations. The solid waste industry has been consolidating and continues to consolidate as a result of a number of factors, including the increasing costs and complexity associated with waste management operations and regulatory compliance. Many small independent operators and municipalities lack the capital resources, management, operating skills and technical expertise necessary to operate effectively in such an environment. The consolidation trend has caused solid waste companies to operate larger landfills that have complementary collection routes that can use company-owned disposal capacity. Controlling the point of transfer from haulers to landfills has become increasingly important as landfills continue to close and disposal capacity moves further from collection markets.

Generally, the most profitable industry operators are those companies that are vertically integrated or enter into long-term collection contracts. A vertically integrated operator will benefit from: (1) the internalization of waste, which is bringing waste to a company-owned landfill; (2) the ability to charge third-party haulers tipping fees either at landfills or at transfer stations; and (3) the efficiencies gained by being able to aggregate and process waste at a transfer station prior to landfilling.

Executive Overview

We are an integrated solid waste services company that provides solid waste collection, transfer, disposal and recycling services in mostly secondary markets in the Western and Southern U.S. We also provide intermodal services for the rail haul movement of cargo containers in the Pacific Northwest through a network of five intermodal facilities. We seek to avoid highly competitive, large urban markets and instead target markets where we can provide either solid waste services under exclusive arrangements, or markets where we can be integrated and attain high market share. In markets where waste collection services are provided under exclusive arrangements, or where waste disposal is municipally funded or available at multiple municipal sources, we believe that controlling the waste stream by providing collection services under exclusive arrangements is often more important to our growth and profitability than owning or operating landfills.

Operating Results

Revenue in 2007 grew 16.3% as internal growth from operations owned at least 12 months and new contracts commenced in 2007 was 10.4% during the year, and acquisitions contributed an additional 5.9% growth in revenue. Internal growth increased from 7.6% in 2006 due primarily to the commencement of two long-term contracts in early 2007, broad-based pricing initiatives to offset or recover significant cost increases over the past two years, primarily in fuel and related items, and rising recycled commodity prices. Our local area management achieved pricing growth of 4.7% in 2007. Volume growth was 4.0% for the year, and we anticipate that volume growth will decrease in 2008 compared to 2007 due both to the anniversary of two new contracts that commenced in early 2007 and a more difficult economic environment.

The cost environment remained relatively stable during most of 2007, until the fourth quarter when fuel and insurance costs increased, along with unanticipated costs we incurred associated with a labor disruption in El Paso, Texas. Margin expansion during the first nine months of 2007 more than offset the margin decline experienced during the fourth quarter due to these cost pressures, resulting in our operating income margin for the full year increasing from 20.8% in 2006, to 21.6% in 2007. This 21.6% operating income margin exceeded the 21.2% outlook for 2007 that we publicly announced in February 2007.

Free Cash Flow

Free cash flow, a non-GAAP financial measure (refer to page 39 of this report for a definition and reconciliation of free cash flow), increased to $106.2 million in 2007, from $97.5 million in 2006. Free cash flow declined as a percentage of revenue to 11.1% in 2007, from 11.8% in 2006, due to a $27.7 million increase in capital expenditures during 2007, a majority of which was related to the commencement of a new long-term collection contract in the first quarter of 2007.

Capital Deployment

We believe our financial profile and operating performance provide us the flexibility to fund our growth strategy and repurchase stock while remaining within our targeted debt ratios. During 2007, we deployed approximately $343.9 million of capital as follows: $124.2 million for capital expenditures; $109.4 million for acquisitions; and $110.3 million for common stock repurchases. Despite these outlays, our leverage ratio, as defined in our credit facility, improved to approximately 2.4x of total debt to earnings before interest, taxes, depreciation and amortization, or EBITDA, at year-end 2007, from approximately 2.5x at year-end 2006. In June 2007, Standard and Poor's upgraded our credit rating to investment grade ("BBB-").

We maintain targeted leverage ratios between 2.5x and 2.75x EBITDA. As a result of the improvement in our capital structure, our Board of Directors in May 2004 authorized a $200 million common stock repurchase program in an effort to rebalance our capital structure. Our Board of Directors subsequently authorized a $100 million increase to the repurchase program in July 2005 and an additional $200 million increase in October 2006. Depending on acquisition activity, we expect to repurchase approximately $125 million of additional stock under the program in 2008, representing approximately 6% of outstanding shares based on the number of shares outstanding and our stock price as of January 31, 2008.

Critical Accounting Estimates and Assumptions

The preparation of financial statements in conformity with U.S. generally accepted accounting principles requires estimates and assumptions that affect the reported amounts of assets and liabilities, revenues and expenses and related disclosures of contingent assets and liabilities in the consolidated financial statements. As described by the SEC, critical accounting estimates and assumptions are those that may be material due to the levels of subjectivity and judgment necessary to account for highly uncertain matters or the susceptibility of such matters to change, and that have a material impact on the financial condition or operating performance of a company. Based on this definition, we believe the following are our critical accounting estimates.

Insurance liabilities. We maintain insurance policies for automobile, general, employer's, environmental and directors and officers' liability as well as for employee group health insurance, property insurance and workers' compensation. Our insurance accruals are based on claims filed and estimates of claims incurred but not reported and are developed by our management with assistance from our third-party actuary and third-party claims administrator. The insurance accruals are influenced by our past claims experience factors, which have a limited history, and by published industry development factors. If we experience insurance claims or costs above or below our historically evaluated levels, our estimates could be materially affected. The frequency and amount of claims or incidents could vary significantly over time, which could materially affect our self-insurance liabilities. Additionally, the actual costs to settle the self-insurance liabilities could materially differ from the original estimates and cause us to incur additional costs in future periods associated with prior year claims.

Income taxes. We use the liability method to account for income taxes. Accordingly, deferred tax assets and liabilities are determined based on differences between financial reporting and income tax bases of assets and liabilities and are measured using the enacted tax rates and laws that are expected to be in effect when the differences are expected to reverse. If our judgment and estimates concerning assumptions made in calculating our expected future income tax rates are incorrect, our deferred tax assets and liabilities would change. Based on our net deferred tax liability balance at December 31, 2007, each 0.1 percentage point change to our expected future income tax rate would change our net deferred tax liability balance and income tax expense by approximately $0.5 million.

Effective January 2007, we adopted the provisions of FASB Interpretation No. 48, *Accounting for Uncertainty in Income Taxes*, or FIN 48. FIN 48 clarifies the accounting for uncertainty in income taxes recognized in an enterprise's financial statements in accordance with SFAS No. 109, *Accounting for Income Taxes*. FIN 48 requires a company to evaluate whether the tax position taken by a company will more likely than not be sustained upon examination by the appropriate taxing authority. It also provides guidance on how a company should measure the amount of benefit that the company is to recognize in its financial statements. FIN 48 also provides guidance on derecognition, classification, interest and penalties, accounting in interim periods, disclosure and transition. Our reassessment of our tax positions in accordance with FIN 48 did not have a material impact on our results of operations, financial condition or liquidity. For additional information regarding the adoption of FIN 48, see Note 13, Income Taxes, of the Notes to Consolidated Financial Statements in Item 8 of this Annual Report on Form 10-K.

Accounting for landfills. We recognize landfill depletion expense as airspace of a landfill is consumed. Our landfill depletion rates are based on the remaining disposal capacity at our landfills, considering both permitted and expansion airspace. Landfill final capping, closure and post-closure liabilities are calculated by estimating the total obligation in current dollars, inflating the obligation based upon the expected date of the expenditure and discounting the inflated total to its present value using a credit-adjusted risk-free rate. The resulting final capping, closure and post-closure obligation is recorded on the balance sheet as an addition to site costs and amortized as depletion expense as the landfill's total airspace is consumed. The accounting methods discussed below require us to

make certain estimates and assumptions. Changes to these estimates and assumptions could have a material effect on our financial condition and results of operations. Any changes to our estimates are applied prospectively.

Landfill development costs. Landfill development costs include the costs of acquisition, construction associated with excavation, liners, site berms, groundwater monitoring wells and leachate collection systems. We estimate the total costs associated with developing each landfill site to its final capacity. Total landfill costs include the development costs associated with expansion airspace. Expansion airspace is described below. Landfill development costs depend on future events and thus actual costs could vary significantly from our estimates. Material differences between estimated and actual development costs may affect our cash flows by increasing our capital expenditures and thus affect our results of operations by increasing our landfill depletion expense.

Final capping, closure and post-closure obligations. We accrue for estimated final capping, closure and post-closure maintenance obligations at the landfills we own, and the landfills that we operate, but do not own, under life-of-site agreements. We could have additional material financial obligations relating to final capping, closure and post-closure costs at other disposal facilities that we currently own or operate or that we may own or operate in the future. In 2007, we calculated the net present value of our final capping, closure and post closure commitments assuming a 2.5% inflation rate and a 7.5% discount rate. The resulting final capping, closure and post-closure obligation is recorded on the balance sheet as an addition to site costs and amortized as depletion expense as the landfill's total airspace is consumed. Significant reductions in our estimates of the remaining lives of our landfills or significant increases in our estimates of the landfill final capping, closure and post-closure maintenance costs could have a material adverse effect on our financial condition and results of operations. Additionally, changes in regulatory or legislative requirements could increase our costs related to our landfills, resulting in a material adverse effect on our financial condition and results of operations.

We own two landfills for which the prior owners are obligated to reimburse us for certain costs we incur for final capping, closure and post-closure activities on the portion of the landfill utilized by the prior owners. We accrue the prior owner's portion of the final capping, closure and post-closure obligation within the balance sheet classification of other long-term liabilities, and a corresponding receivable from the prior owner in long-term other assets.

Disposal capacity. Our internal and third-party engineers perform surveys at least annually to estimate the remaining disposal capacity at our landfills. Our landfill depletion rates are based on the remaining disposal capacity, considering both permitted and expansion airspace, at the landfills that we own and at the landfills that we operate, but do not own, under life-of-site agreements. Our landfill depletion rates are based on the term of the operating agreement at our operated landfills that have capitalized expenditures. Expansion airspace consists of additional disposal capacity being pursued through means of expansion but is not actually permitted. Expansion airspace that meets certain internal criteria is included in our estimate of total landfill airspace. The internal criteria we use to determine when expansion airspace may be included as disposal capacity are as follows:

(1) the land where the expansion is being sought is contiguous to the current disposal site, and we either own the expansion property or it is under an option, purchase, operating or other similar agreement;
(2) total development costs, final capping costs, and closure/post-closure costs have been determined;
(3) internal personnel have performed a financial analysis of the proposed expansion site and have determined that it has a positive financial and operational impact;
(4) internal personnel or external consultants are actively working to obtain the necessary approvals to obtain the landfill expansion permit; and
(5) we consider it probable that we will achieve the expansion (for a pursued expansion to be considered probable, there must be no significant known technical, legal, community, business or political restrictions or similar issues existing that could impair the success of the expansion).

We may be unsuccessful in obtaining permits for expansion disposal capacity at our landfills. In such case, we will charge the previously capitalized development costs to expense. This will adversely affect our operating results and cash flows and could result in greater landfill depletion expense being recognized on a prospective basis.

We periodically evaluate our landfill sites for potential impairment indicators. Our judgments regarding the existence of impairment indicators are based on regulatory factors, market conditions and operational performance of our landfills. Future events could cause us to conclude that impairment indicators exist and that our landfill carrying costs are impaired. Any resulting impairment loss could have a material adverse effect on our financial condition and results of operations.

Impairment of intangible assets. We periodically evaluate acquired assets for potential impairment indicators. Our judgments regarding the existence of impairment indicators are based on regulatory factors, market conditions, anticipated cash flows and operational performance of our acquired assets. Future events could cause us to conclude that impairment indicators exist and that

goodwill or other intangibles associated with our acquired businesses are impaired. Any resulting impairment loss could reduce our net worth and have a material adverse effect on our financial condition and results of operations. As of December 31, 2007, goodwill and intangible assets represented 45.7% of our total assets.

Allocation of acquisition purchase price. We allocate acquisition purchase prices to identified intangible assets and tangible assets acquired and liabilities assumed based on their estimated fair values at the dates of acquisition, with any residual amounts allocated to goodwill.

From time to time, we consummate acquisitions in which we exchange operations we own for operations owned by another solid waste company. These exchange transactions require us to estimate the fair market value of either the operations we receive or the operations we dispose of, whichever is more clearly evident. To the extent that the fair market value of the operations we dispose of differs from the fair market value of the operations we obtain, cash is either paid or received to offset the difference in fair market values. One method we use to estimate the fair value of solid waste companies is based on a multiple of EBITDA. We determine the appropriate EBITDA multiple to be used in the valuation of exchange transactions based on factors such as the size of the transaction, the type and location of markets serviced, the existence of long-term contracts and the EBITDA multiples we have paid in other similar cash-based transactions.

Stock-based compensation. Effective January 2006, we adopted the provisions of SFAS 123(R) for our share-based compensation plans. We previously accounted for these plans under the recognition and measurement principles of APB 25 and related interpretations and disclosure requirements established by SFAS 123, *Accounting for Stock-Based Compensation.* We adopted SFAS 123(R) using the modified prospective method. Under this method, all share-based compensation cost is measured at the grant date, based on the estimated fair value of the award, and is recognized as expense over the employee's requisite service period. Prior periods are not restated.

Consistent with prior years, we use the Black-Scholes option pricing model which requires extensive use of accounting judgment and financial estimation, including estimates of the expected term option holders will retain their vested stock options before exercising them, the estimated volatility of our common stock price over the expected term, and the number of options that will be forfeited prior to the completion of their vesting requirements. Application of alternative assumptions could produce significantly different estimates of the fair value of stock-based compensation and, consequently, the related amounts recognized for the year ended December 31, 2007 in the Consolidated Statements of Income within this report.

Stock-based compensation expense recognized during the years ended December 31, 2006 and 2007, totaled approximately $3.5 million ($2.2 million net of taxes) and $6.1 million ($3.8 million net of taxes), respectively, and consisted of stock option, restricted stock unit and restricted stock expense. This expense was included in "Selling, general and administrative" expenses in our Consolidated Statements of Income within this Annual Report on Form 10-K. During the fourth quarter of 2005, we accelerated the vesting of all unvested stock options. As a result, stock-based compensation in periods subsequent to the acceleration was significantly reduced. A contra-equity balance of $2.2 million in "Deferred stock compensation" on our Consolidated Balance Sheet was reversed as a change in accounting policy upon the adoption of SFAS 123(R) to "Additional paid-in capital" as of January 1, 2006. The excess tax benefits associated with equity-based compensation were approximately $7.7 million and $14.1 million during the years ended December 31, 2006 and 2007, respectively.

General

Our solid waste revenues consist mainly of fees we charge customers for collection, transfer, disposal and recycling services. Our collection business also generates revenues from the sale of recyclable commodities, which have significant variability. A large part of our collection revenues comes from providing residential, commercial and industrial services. We frequently perform these services under service agreements, municipal contracts or franchise agreements with governmental entities. Our existing franchise agreements and all of our existing municipal contracts give us the exclusive right to provide specified waste services in the specified territory during the contract term. These exclusive arrangements are awarded, at least initially, on a competitive bid basis and subsequently on a bid or negotiated basis. We also provide residential collection services on a subscription basis with individual households. No single contract or customer accounted for more than 5% of our revenues for the years ended December 31, 2005, 2006 or 2007.

We charge transfer station and landfill customers a tipping fee on a per ton and/or per yard basis for disposing their solid waste at our transfer stations and landfill facilities. Many of our transfer station and landfill customers have entered into one to ten year disposal contracts with us, most of which provide for annual indexed price increases.

We typically determine the prices of our solid waste services by the collection frequency and level of service, route density, volume, weight and type of waste collected, type of equipment and containers furnished, the distance to the disposal or processing facility, the cost of disposal or processing and prices charged by competitors for similar services. The terms of our contracts sometimes limit our ability to pass on price increases. Long-term solid waste collection contracts often contain a formula, generally based on a published price index, that automatically adjusts fees to cover increases in some, but not all, operating costs, or that limit increases to less than 100% of the increase in the applicable price index.

Our revenues from intermodal services consist mainly of fees we charge customers for the movement of cargo containers between our intermodal facilities. We also generate revenue from the storage, maintenance and repair of cargo containers and the sale or lease of containers and chassis.

The table below shows for the periods indicated our total reported revenues attributable to services provided in thousands and as percentages of revenues.

	Years Ended December 31,					
	2005		2006		2007	
Collection	$ 517,536	62.9%	$ 602,762	64.2%	$ 693,675	63.8%
Disposal and transfer	227,715	27.7	259,190	27.6	298,954	27.5
Recycling and other	77,594	9.4	77,202	8.2	95,212	8.7
Total	$ 822,845	100.0%	$ 939,154	100.0%	$ 1,087,841	100.0%
Intercompany elimination	$ 100,946		$ 114,800		$ 129,300	

Cost of operations includes labor and benefits, tipping fees paid to third-party disposal facilities, vehicle and equipment maintenance, workers' compensation, vehicle and equipment insurance, insurance and employee group health claims expense, third-party transportation expense, fuel, the cost of materials we purchase for recycling, district and state taxes and host community fees and royalties. Our significant costs of operations in 2007 were labor, third-party disposal and transportation, cost of vehicle and equipment maintenance, taxes and fees, insurance and fuel. We use a number of programs to reduce overall cost of operations, including increasing the use of automated routes to reduce labor and workers' compensation exposure, utilizing comprehensive maintenance and health and safety programs, and increasing the use of transfer stations to further enhance internalization rates. We carry high-deductible insurance for automobile liability, property, general liability, workers' compensation, employer's liability and employer group health claims. If we experience insurance claims or costs above or below our historically evaluated levels, our estimates could be materially affected.

Selling, general and administrative, or SG&A, expenses include management, sales force, clerical and administrative employee compensation and benefits, legal, accounting and other professional services, bad debt expense and rent expense for our corporate headquarters.

Depreciation expense includes depreciation of equipment and fixed assets over their estimated useful lives using the straight-line method. Depletion expense includes depletion of landfill site costs and total future development costs as remaining airspace of the landfill is consumed. Remaining airspace at our landfills includes both permitted and expansion airspace. Amortization expense includes the amortization of definite-lived intangible assets, consisting primarily of long-term franchise agreements and contracts and non-competition agreements, over their estimated useful lives using the straight-line method. Goodwill and indefinite-lived intangible assets, consisting primarily of certain perpetual rights to provide solid waste collection and transportation services in specified territories, are not amortized.

We capitalize some third-party expenditures related to pending acquisitions or development projects, such as legal, engineering and interest expenses. We expense indirect acquisition costs, such as executive and corporate overhead, public relations and other corporate services, as we incur them. We charge against net income any unamortized capitalized expenditures and advances (net of any portion that we believe we may recover, through sale or otherwise) that may become impaired, such as those that relate to any operation that is permanently shut down and any pending acquisition or landfill development project that we believe will not be completed. We routinely evaluate all capitalized costs, and expense those related to projects that we believe are not likely to succeed. During the year ended December 31, 2007, we capitalized $0.2 million of interest related to landfill and facility development projects. At December 31, 2007, we had $0.1 million in capitalized expenditures relating to pending acquisitions.

At December 31, 2007, we had $9.0 million in capitalized expenditures for a landfill project in Chaparral, New Mexico, with respect to which we had obtained a permit to operate the landfill; on July 18, 2005, the Supreme Court of New Mexico ordered the New Mexico Environment Department to conduct an additional limited hearing to consider evidence that landfill opponents claim was

wrongfully excluded. The parties have agreed to reschedule the hearing for July 2008 to allow time to explore a possible relocation of the landfill. If we are not ultimately issued a permit to operate the landfill, we will be required to expense in a future period the capitalized expenditures for this project, less the recoverable value of the applicable property and any other amounts recovered, which would likely have a material adverse effect on our financial position and results of operations for that period.

We periodically evaluate our intangible assets for potential impairment indicators. If any impairment indicators are present, a test of recoverability is performed by comparing the carrying value of the asset or asset group to its undiscounted expected future cash flows. If the carrying values are in excess of undiscounted expected future cash flows, impairment is measured by comparing the fair value of the asset to its carrying value. If the fair value of an asset is determined to be less than the carrying amount of the asset or asset group, an impairment in the amount of the difference is recorded in the period that the impairment indicator occurs. As of December 31, 2006 and 2007, there have been no adjustments to the carrying amounts of intangibles resulting from these evaluations. Additionally, we test goodwill and indefinite-lived intangible assets for impairment annually. As a result of performing the tests for potential impairment, we determined that no impairment existed as of December 31, 2006 and 2007, and therefore, there were no write-downs to goodwill or indefinite-lived intangible assets. At December 31, 2006 and 2007, goodwill and other intangible assets represented 47.2% and 45.7% of total assets, respectively.

Results of Operations

The following table sets forth items in our consolidated statement of operations in thousands and as a percentage of revenues for the periods indicated:

	Years Ended December 31,					
	2005	As a % of 2005 Revenues	2006	As a % of 2006 Revenues	2007	As a % of 2007 Revenues
Revenues	$ 721,899	100.0%	$ 824,354	100.0%	$ 958,541	100.0%
Cost of operations	416,883	57.7	492,766	59.8	566,089	59.1
Selling, general and administrative	72,395	10.0	84,541	10.2	99,565	10.4
Depreciation and amortization	64,788	9.0	74,865	9.1	85,628	8.9
Loss (gain) on disposal of assets	(216)	-	796	0.1	250	-
Operating income	168,049	23.3	171,386	20.8	207,009	21.6
Interest expense, net	(23,489)	(3.3)	(28,970)	(3.5)	(33,430)	(3.5)
Other income (expense), net	450	-	(3,759)	(0.4)	289	-
Minority interests	(12,422)	(1.7)	(12,905)	(1.6)	(14,870)	(1.6)
Income tax provision	(48,066)	(6.7)	(48,329)	(5.9)	(59,917)	(6.2)
Loss on discontinued operations, net of tax	(579)	-	-	-	-	-
Net income	$ 83,943	11.6%	$ 77,423	9.4%	$ 99,081	10.3%

Years Ended December 31, 2007 and 2006

Revenues. Total revenues increased $134.1 million, or 16.3%, to $958.5 million for the year ended December 31, 2007, from $824.4 million for the year ended December 31, 2006. Acquisitions closed during, or subsequent to, the year ended December 31, 2006, increased revenues by approximately $51.9 million. Operating locations disposed of during the year ended December 31, 2006, contributed $3.6 million of revenues during the year ended December 31, 2006. During the year ended December 31, 2007, increased prices charged to our customers, increased volume in our existing business, and revenues generated from two long-term contracts that commenced in 2007 resulted in net revenue increases of approximately $38.2 million, $12.6 million and $20.2 million, respectively. Increased recyclable commodity prices and volume during the year ended December 31, 2007, increased revenues by $13.0 million. Other revenues increased by $1.8 million during the year ended December 31, 2007.

Cost of Operations. Total cost of operations increased $73.3 million, or 14.9%, to $566.1 million for the year ended December 31, 2007, from $492.8 million for the year ended December 31, 2006. The increase was attributable to operating costs associated with acquisitions closed during, or subsequent to, the year ended December 31, 2006, operating costs incurred to support two long-term contracts that commenced in 2007, increased diesel fuel prices, increased labor expenses resulting from employee pay rate increases, increased vehicle and equipment maintenance and repair costs, increased franchise taxes, landfill taxes, third party trucking expenses and increased disposal expenses resulting from higher disposal volumes.

Cost of operations as a percentage of revenues decreased 0.7 percentage points to 59.1% for the year ended December 31, 2007, from 59.8% for the year ended December 31, 2006. The decrease as a percentage of revenues was primarily attributable to leveraging existing personnel to support increased collection and disposal volumes, and increased prices charged to our customers being higher, on a percentage basis, than the majority of expense increases recognized subsequent to December 31, 2006. This decrease was partially offset by acquisitions closed during, or subsequent to, the year ended December 31, 2006, and the commencement of a long-term hauling contract in California that commenced in 2007, which had an operating margin below our company average.

SG&A. SG&A expenses increased $15.1 million, or 17.8%, to $99.6 million for the year ended December 31, 2007, from $84.5 million for the year ended December 31, 2006. The increase in SG&A expenses was primarily the result of additional personnel from acquisitions closed during, or subsequent to, the year ended December 31, 2006, SG&A costs incurred to support two long-term contracts that commenced in 2007, increased payroll expense due to increased headcount to support our base operations, increased equity compensation expense, cash compensation increases and increased bonus compensation expense based on the results of operations during the year ended December 31, 2007.

SG&A expenses as a percentage of revenues increased 0.2 percentage points to 10.4% for the year ended December 31, 2007, from 10.2% for the year ended December 31, 2006. The increase as a percentage of revenues was primarily attributable to increased equity and bonus compensation expense.

Depreciation and Amortization. Depreciation and amortization expense increased $10.7 million, or 14.4%, to $85.6 million for the year ended December 31, 2007, from $74.9 million for the year ended December 31, 2006. The increase was primarily attributable to depreciation of property and equipment and amortization of intangibles associated with acquisitions closed during, or subsequent to, the year ended December 31, 2006, higher landfill depletion expense due to increased disposal volumes at our landfills, and depreciation expense resulting from facilities, fleet and equipment purchased to support two long-term contracts that commenced in 2007.

Depreciation and amortization expense as a percentage of revenues decreased 0.2 percentage points to 8.9% for the year ended December 31, 2007, from 9.1% for the year ended December 31, 2006. The decrease in depreciation and amortization expense as a percentage of revenues for the year ended December 31, 2007 was the result of increased prices charged to our customers and leveraging our existing fleet and equipment to support increases in collection and landfill volumes.

Operating Income. Operating income increased $35.6 million, or 20.8%, to $207.0 million for the year ended December 31, 2007, from $171.4 million for the year ended December 31, 2006. The increase was primarily attributable to increased revenues, partially offset by increased operating costs, increased SG&A expenses to support the revenue growth and increased depreciation and amortization expenses.

Operating income as a percentage of revenues increased 0.8 percentage points to 21.6% for the year ended December 31, 2007, from 20.8% for the year ended December 31, 2006. The increase as a percentage of revenues was due to the previously described decreases in cost of operations and depreciation and amortization expenses as a percentage of revenues, partially offset by increased SG&A expense.

Interest Expense. Interest expense increased $4.4 million, or 15.4%, to $33.4 million for the year ended December 31, 2007, from $29.0 million for the year ended December 31, 2006. The increase was attributable to higher average borrowing rates on our credit facility, higher average debt balances and a $1.0 million reduction of interest expense for the year ended December 31, 2006 on our Floating Rate Convertible Subordinated Notes due 2022, or 2022 Notes, as a result of the timing of the conversion of the 2022 Notes into common stock by the note holders after we called the notes for redemption, partially offset by interest income on increased cash balances, and a reduction in our average interest rate on debt incurred outside of our credit facility resulting from completing our offering of our 3.75% Convertible Senior Notes due 2026, or 2026 Notes, on March 20, 2006. The higher average borrowing rates on our credit facility were the result of the expiration in the first quarter of 2007 of $250.0 million of interest rate swap agreements with a weighted-average fixed borrowing cost of 2.55%, plus applicable margin, which we were a party to during the year ended December 31, 2006. Upon the expiration of these interest rate swaps, we entered into $250.0 million of new interest rate swaps with a weighted-average fixed borrowing cost of 4.33%, plus applicable margin.

Other Income (Expense). Other income (expense) changed to an income total of $0.3 million for the year ended December 31, 2007, from an expense total of $3.8 million for the year ended December 31, 2006. Other expense in the year ended December 31, 2006, primarily consisted of $4.2 million of costs associated with the write-off of the unamortized debt issuance costs associated with our 2022 Notes.

Minority Interests. Minority interests increased $2.0 million, or 15.2%, to $14.9 million for the year ended December 31, 2007, from $12.9 million for the year ended December 31, 2006. The increase in minority interests was due to increased earnings by our majority-owned subsidiaries.

Income Tax Provision. Income taxes increased $11.6 million, or 24.0%, to $59.9 million for the year ended December 31, 2007, from $48.3 million for the year ended December 31, 2006.

Our effective tax rates for the years ended December 31, 2006 and 2007 were 38.4% and 37.7%, respectively. The decrease in the effective tax rate during the year ended December 31, 2007, was due to recording adjustments to reduce income tax expense by $2.1 million, resulting from the reconciliation of our current and deferred income tax liability accounts, the reversal of certain tax contingencies that expired in 2007, and the reconciliation of the income tax provision to the 2006 federal tax return, which was filed in September 2007.

Net Income. Net income increased $21.7 million, or 28.0%, to $99.1 million for the year ended December 31, 2007, from $77.4 million for the year ended December 31, 2006. The increase was primarily attributable to increased operating income partially offset by increased interest expense and increased income tax expense.

Years Ended December 31, 2006 and 2005

Revenues. Total revenues increased $102.5 million, or 14.2%, to $824.4 million for the year ended December 31, 2006, from $721.9 million for the year ended December 31, 2005. Acquisitions closed during, or subsequent to, the year ended December 31, 2005, increased revenues by approximately $47.7 million. During the year ended December 31, 2006, increased prices charged to our customers and increased volume in our existing business resulted in net revenue increases of approximately $37.2 million and $20.0 million, respectively. Decreases in intermodal services due to lower cargo volume and lower recyclable commodity prices and volume during the year ended December 31, 2006, decreased revenues by $2.4 million.

Cost of Operations. Total cost of operations increased $75.9 million, or 18.2%, to $492.8 million for the year ended December 31, 2006, from $416.9 million for the year ended December 31, 2005. The increase was attributable to operating costs associated with acquisitions closed during, or subsequent to, the year ended December 31, 2005, higher fuel costs resulting from market price changes in fuel and the expiration of our fixed-price fuel supply contract in 2005, increased insurance expenses due to increases in both total claims and average settlement rates per claim, increased franchise and landfill taxes, increased labor expenses, increased operating expenses resulting from three new landfills opened during December 2005 and January 2006, and increased third-party transportation costs and equipment maintenance costs associated with higher collection and disposal volumes.

Increases in total claims and our estimated average per claim cost for worker's compensation and automobile liability claims resulted in approximately $2.1 million of increased insurance expense during the year ended December 31, 2006, compared to the year ended December 31, 2005. Additionally, during the year ended December 31, 2006, we recorded additional development costs for existing insurance claims of approximately $4.4 million. These additional development costs were based on actuarially projected losses on open claims determined by our third-party administrator's review and a third party actuarial review of our estimated insurance liability, both of which are updated on a quarterly basis, and reviewed by us.

In 2005, we benefited from a fixed-price fuel supply contract that we entered into in late 2003 that fixed diesel prices on approximately 13 million gallons purchased during the year. This amount represented about 75% of our fuel consumption in 2005. We estimate that this contract saved us approximately $14.3 million on a pre-tax basis compared to market prices paid during the year ended December 31, 2005.

Cost of operations as a percentage of revenues increased 2.1 percentage points to 59.8% for the year ended December 31, 2006, from 57.7% for the year ended December 31, 2005. The increase as a percentage of revenues was primarily attributable to increased fuel costs, increased insurance costs, increased franchise and landfill taxes, third-party transportation costs, equipment maintenance costs, and acquisitions closed during, or subsequent to, the year ended December 31, 2005, having operating margins below our company average, partially offset by a decrease in disposal expenses resulting from increased internalization of collected waste volumes.

SG&A. SG&A expenses increased $12.1 million, or 16.8%, to $84.5 million for the year ended December 31, 2006, from $72.4 million for the year ended December 31, 2005. The increase in SG&A expenses during the year ended December 31, 2006 was primarily the result of additional personnel from acquisitions closed during, or subsequent to, the year ended December 31, 2005, increased payroll expense due to increased headcount to support our base operations and increased salaries and increased legal and other professional fees.

SG&A expenses as a percentage of revenues increased 0.2 percentage points to 10.2% for the year ended December 31, 2006, from 10.0% for the year ended December 31, 2005. The increase as a percentage of revenue was primarily attributable to increased equity compensation expense, cash compensation increases and higher legal and professional fees.

Depreciation and Amortization. Depreciation and amortization expense increased $10.1 million, or 15.6%, to $74.9 million for the year ended December 31, 2006, from $64.8 million for the year ended December 31, 2005. The increase was primarily attributable to depreciation and amortization associated with acquisitions closed during, or subsequent to, the year ended December 31, 2005, increased depletion expenses resulting from increases in disposal volumes at our landfills, and increased depreciation expense resulting from new facilities, fleet and equipment acquired subsequent to December 31, 2005, to support our base operations.

Depreciation and amortization expense as a percentage of revenues increased 0.1 percentage points to 9.1% for the year ended December 31, 2006, from 9.0% for the year ended December 31, 2005, due primarily to amortization expense associated with intangible assets acquired with acquisitions closed during, or subsequent to, the year ended December 31, 2005.

Operating Income. Operating income increased $3.4 million, or 2.0%, to $171.4 million for the year ended December 31, 2006, from $168.0 million for the year ended December 31, 2005. The increase was primarily attributable to increased revenues, offset by increased operating costs, increased insurance expenses resulting from increased costs per claim and higher projected losses on open claims, increased SG&A expenses to support the revenue growth and increased depreciation and amortization expenses.

Operating income as a percentage of revenues decreased 2.5 percentage points to 20.8% for the year ended December 31, 2006, from 23.3% for the year ended December 31, 2005. The decrease was due to the previously described percentage of revenue increases in cost of operations, including increased fuel costs and insurance expense, increased SG&A expense and increased depreciation and amortization expenses.

Interest Expense. Interest expense increased $5.5 million, or 23.3%, to $29.0 million for the year ended December 31, 2006, from $23.5 million for the year ended December 31, 2005. The increase was attributable to higher average debt balances and increased interest rates on floating rate debt not fixed under our swap agreements, partially offset by interest income on increased cash balances and a $1.0 million reduction of interest expense on our 2022 Notes as a result of the timing of the conversion of certain of the 2022 Notes into common stock by the note holders after we called the notes for redemption. The 2022 Notes converted into common stock prior to redemption by us were not entitled to receive interest accrued after May 1, 2006. We paid approximately $175 million in cash and issued 961,175 shares of our common stock in connection with the conversion and redemption of the 2022 Notes.

Other Income (Expense). Other income (expense) changed to an expense total of $3.8 million for the year ended December 31, 2006, from an income total of $0.5 million for the year ended December 31, 2005. Other expense in the year ended December 31, 2006, primarily consists of $4.2 million of costs associated with the write-off of the unamortized debt issuance costs associated with our 2022 Notes.

Minority Interests. Minority interests increased $0.5 million, or 3.9%, to $12.9 million for the year ended December 31, 2006, from $12.4 million for the year ended December 31, 2005. The increase in minority interests was due to increased earnings by our majority-owned subsidiaries.

Income Tax Provision. Income taxes increased $0.2 million, or 0.5%, to $48.3 million for the year ended December 31, 2006, from $48.1 million for the year ended December 31, 2005. Our effective tax rates were 36.2% and 38.4% for the years ended December 31, 2005 and 2006, respectively. The increase in our effective tax rate for the year ended December 31, 2006, was primarily due to three factors: (i) an increase in our estimated effective current tax rate to 38.0% and our estimated deferred tax rate to 38.4% as a result of the geographical apportionment of our state taxes; (ii) the recognition of an initial deferred tax liability from the impact of implementing a newly enacted Texas margin tax; and (iii) the recognition for tax purposes of a cumulative interest recapture associated with a change in our tax accounting method related to the timing of recognizing landfill closure and post-closure expenses. The increase was partially offset by a reduction in tax expense resulting from a detailed reconciliation and adjustment of deferred tax liabilities associated with property and equipment and intangible assets as well as the reserves related to the tax positions for which the statute of limitations expired in 2006.

The tax rate increases, partially offset by the reduction in deferred tax liabilities resulting from the reconciliation and adjustment of deferred tax liabilities associated with property and equipment and intangible assets, resulted in a $1.5 million adjustment to our deferred tax account balances and a corresponding increase to income tax expense. Recording an initial deferred tax liability due to the Texas margin tax resulted in a $0.3 million adjustment to our deferred tax account balances and a corresponding increase to income tax expense. The recognition for tax purposes of a cumulative interest recapture associated with a change in our tax accounting method associated with the timing of recognizing landfill closure and post-closure expenses resulted in a permanent $0.8 million increase to income tax expense. The reserves related to the tax positions for which the statute of limitations expired in 2006 resulted in a $1.7 million decrease to income tax expense.

Loss on Discontinued Operations. In the second quarter of 2005, we disposed of a hauling operation in Utah and exited a landfill operating contract with a finite term in California. The amount recorded as loss on discontinued operations for the year ended December 31, 2005 of $0.6 million consists of the net earnings for these operations.

Net Income. Net income decreased $6.5 million, or 7.8%, to $77.4 million for the year ended December 31, 2006, from $83.9 million for the year ended December 31, 2005. The decrease was primarily attributable to increased interest expense, increased minority interests expense and the write off of $4.2 million of unamortized debt issuance costs associated with our 2022 Notes, partially offset by increased operating income.

Liquidity and Capital Resources

Our business is capital intensive. Our capital requirements include acquisitions and fixed asset purchases. We expect that we will also make capital expenditures for landfill cell construction, landfill development, landfill closure activities and intermodal facility construction in the future. We plan to meet our capital needs through various financing sources, including internally generated funds and debt financings.

As of December 31, 2007, we had a working capital deficit of $24.8 million, including cash and equivalents of $10.3 million. Our working capital decreased $35.2 million from a positive balance of $10.4 million at December 31, 2006. Our strategy in managing our working capital is generally to apply the cash generated from our operations that remains after satisfying our working capital and capital expenditure requirements to reduce our indebtedness under our credit facility and to minimize our cash balances. The decrease in our working capital position from December 31, 2006, to December 31, 2007, resulted primarily from a decrease in our cash balances and an increase in current liabilities, partially offset by an increase in accounts receivable. For additional information regarding the changes in our cash balances, see the Consolidated Statements of Cash Flows in Item 8 of this Annual Report on Form 10-K.

For the year ended December 31, 2007, net cash provided by operating activities was $219.1 million, including $12.2 million provided by working capital for the period. The primary components of the reconciliation of net income to net cash provided by operating activities for the year ended December 31, 2007, consist of non-cash expenses, including $85.6 million of depreciation and amortization, $14.9 million of minority interests expense, $2.2 million of debt issuance cost amortization, a $12.4 million increase in net deferred tax liabilities, and $6.1 million of stock compensation expense, less $14.1 million of excess tax benefit associated with equity-based compensation reclassified to cash flows from financing activities.

For the year ended December 31, 2006, net cash provided by operating activities was $204.2 million, which included $9.7 million provided by working capital for the period. The primary components of the reconciliation of net income to net cash provided by operating activities for the year ended December 31, 2006, consist of non-cash expenses, including $74.9 million of depreciation and amortization, $12.9 million of minority interests expense, $6.2 million of debt issuance cost amortization, a $26.6 million increase in net deferred tax liabilities, and $3.5 million of stock compensation expense, less $7.7 million of excess tax benefit associated with equity-based compensation reclassified to cash flows from financing activities due to the adoption of SFAS 123(R).

For the year ended December 31, 2007, net cash used in investing activities was $235.6 million. Of this amount, $109.4 million was used to fund the cash portion of acquisitions and to pay a portion of acquisition costs that were included as a component of accrued liabilities at December 31, 2006. Cash used for capital expenditures was $124.2 million, which was primarily for investments in fixed assets, consisting of trucks, containers, other equipment and landfill development. The increase in capital expenditures of $27.7 million for the year ended December 31, 2007, as compared to the year ended December 31, 2006, is due primarily to capital expenditures associated with a new long-term contract in California as well as capital required to support the continued growth of our existing business. Other cash outflows from investing activities include $2.7 million paid to increase the balance in restricted assets. Other cash inflows from investing activities include $1.0 million received from the disposal of assets.

For the year ended December 31, 2006, net cash used in investing activities was $134.6 million. Of this, $38.6 million was used to fund the cash portion of acquisitions and to pay a portion of acquisition costs that were included as a component of accrued liabilities at December 31, 2005. Cash used for capital expenditures was $96.5 million, which was primarily for investments in fixed assets, consisting of trucks, containers, other equipment and landfill development. Other cash outflows from investing activities include $1.4 million paid to increase the balance in restricted assets. Other cash inflows from investing activities include $2.2 million received from the disposal of assets.

For the year ended December 31, 2007, net cash used in financing activities was $8.1 million, which included $35.6 million of proceeds from stock option and warrant exercises, an $8.8 million change in book overdraft, $14.1 million of excess tax benefit associated with equity-based compensation, and $57.4 million of net borrowings under our various debt arrangements, less $12.6 million of cash distributions to minority interest holders, and $110.3 million of repurchases of our common stock.

For the year ended December 31, 2006, net cash used in financing activities was $42.2 million, which included $44.9 million of net borrowings under our various debt arrangements for the funding of capital expenditures and acquisitions, $32.1 million of proceeds from stock option and warrant exercises, and $7.7 million of excess tax benefit associated with equity-based compensation, less $11.3 million of cash distributions to minority interests holders, an $8.9 million change in book overdraft, $6.6 million of debt issuance costs, and $100.2 million of repurchases of our common stock.

We made $124.2 million in capital expenditures during the year ended December 31, 2007. We expect to make capital expenditures of approximately $110.0 million in 2008 in connection with our existing business. We intend to fund our planned 2008 capital expenditures principally through existing cash, internally generated funds, and borrowings under our existing credit facility. In addition, we may make substantial additional capital expenditures in acquiring solid waste collection and disposal businesses. If we acquire additional landfill disposal facilities, we may also have to make significant expenditures to bring them into compliance with applicable regulatory requirements, obtain permits or expand our available disposal capacity. We cannot currently determine the amount of these expenditures because they will depend on the number, nature, condition and permitted status of any acquired landfill disposal facilities. We believe that our credit facility and the funds we expect to generate from operations will provide adequate cash to fund our working capital and other cash needs for the foreseeable future.

We have an $800 million senior revolving credit facility, or the credit facility, with a syndicate of banks for which Bank of America, N.A. acts as agent. As of December 31, 2005, $367.0 million was outstanding under our previous credit facility, exclusive of outstanding standby letters of credit of $55.7 million. As of December 31, 2006, $400.0 million was outstanding under our previous credit facility, exclusive of outstanding standby letters of credit of $59.1 million. The $33.0 million increase in outstanding borrowings under the credit facility in 2006 was primarily due to the combined total of payments for acquisitions, payments for the repurchase of common stock and increased cash balances being in excess of free cash flow plus proceeds from stock option and warrant exercises. As of December 31, 2007, $479.0 million was outstanding under the credit facility, exclusive of outstanding standby letters of credit of $68.3 million. The $79.0 million increase in outstanding borrowings under the credit facility in 2007 was primarily due to the combined total of payments for acquisitions, payment of debt assumed in acquisitions and payments for the repurchase of common stock being in excess of the decrease in our cash balances, plus free cash flow and proceeds from stock option and warrant exercises.

The credit facility requires interest payments as outlined in the credit agreement and matures in September 2012. Under the credit facility, there is no maximum amount of standby letters of credit that can be issued; however, the issuance of standby letters of credit reduces the amount of total borrowings available. The credit facility requires us to pay a commitment fee ranging from 0.15% to 0.20% of the unused portion of the facility. We are able to increase the maximum borrowings under the credit facility to $1.0 billion, provided that no event of default, as defined in the credit agreement, has occurred, although no existing lender has any obligation to increase its commitment. The borrowings under the credit facility bear interest, at our option, at either the base rate plus the applicable base rate margin on base rate loans, or the Eurodollar rate plus the applicable Eurodollar margin on Eurodollar loans. The base rate for any day is a fluctuating rate per annum equal to the higher of: (a) the federal funds rate plus one half of one percent (0.5%); and (b) the rate of interest in effect for such day as publicly announced from time to time by Bank of America as its "prime rate." The Eurodollar rate is determined by the administrative agent pursuant to a formula in the credit agreement governing the credit facility. The applicable margins under the credit facility vary depending on our leverage ratio, as defined in the credit agreement, and range from 0.625% to 1.125% for Eurodollar loans and 0.00% for base rate loans. The borrowings under the credit facility are not collateralized. The credit agreement governing the credit facility contains customary representations and warranties and places certain business, financial and operating restrictions on us relating to, among other things, indebtedness, liens and other encumbrances, investments, mergers and acquisitions, asset sales, sale and leaseback transactions, and dividends, distributions and redemptions of capital stock. The credit facility requires that we maintain specified financial ratios. As of December 31, 2006 and 2007, we were in compliance with all applicable covenants in our previous credit facility and the credit facility. We use the credit facility for acquisitions, capital expenditures, working capital, standby letters of credit and general corporate purposes.

On March 20, 2006, we completed the offering of $200 million aggregate principal amount of our 2026 Notes pursuant to a private placement. The terms and conditions of the 2026 Notes are set forth in the Indenture, dated as of March 20, 2006, between us and U.S. Bank National Association, as trustee. The 2026 Notes rank equally in right of payment to all of our other existing and future senior uncollateralized and unsubordinated indebtedness. The 2026 Notes rank senior in right of payment to all of our existing and future subordinated indebtedness and are subordinated in right of payment to our collateralized obligations to the extent of the assets collateralizing such obligations. The 2026 Notes bear interest at 3.75% per annum payable semi-annually in arrears on April 1 and October 1 of each year, beginning on October 1, 2006, until the maturity date of April 1, 2026.

The 2026 Notes are convertible into cash and, if applicable, shares of common stock based on an initial conversion rate of 29.4118 shares of common stock per $1,000 principal amount of 2026 Notes (which is equal to an initial conversion price of approximately $34.00 per share), subject to adjustment, and only under certain circumstances. Upon a surrender of the 2026 Notes for conversion, we will deliver cash equal to the lesser of the aggregate principal amount of notes to be converted and our total conversion obligation. We will deliver shares of our common stock in respect of the remainder, if any, of our conversion obligation. The holders of the 2026 Notes who convert their notes in connection with a change in control (as defined in the Indenture) may be entitled to a make-whole premium in the form of an increase in the conversion rate.

Holders may surrender the 2026 Notes for conversion into cash and, if applicable, shares of our common stock at any time prior to the close of business on the maturity date, if the closing sale price of our common stock for at least 20 trading days in the period of 30 consecutive trading days ending on the last trading day of the quarter preceding the quarter in which the conversion occurs, is more than 130% of the conversion price per share of our common stock on that 30th day.

Beginning on April 1, 2010, we may redeem in cash all or part of the 2026 Notes at a price equal to 100% of the principal amount plus accrued and unpaid interest, including additional interest, if any, and, if redeemed prior to April 1, 2011, an interest make-whole payment. The holders of the 2026 Notes can require us to repurchase all or a part of the 2026 Notes in cash on each of April 1, 2011, 2016 and 2021, and in the event of a change of control of Waste Connections, at a purchase price of 100% of the principal amount of the 2026 Notes plus any accrued and unpaid interest, including additional interest, if any. We are amortizing the $5.5 million debt issuance costs over a five-year term through the first put date, or April 1, 2011.

In April 2002, we sold $175 million of Floating Rate Convertible Subordinated Notes due 2022. In May and June 2006, we redeemed or converted all of the 2022 Notes. We paid approximately $175 million in cash and issued 1,441,763 shares of our common stock in connection with the conversion and redemption. We funded the conversion and redemption with borrowings under our credit facility. As a result of the redemption, we recorded a non-cash, pre-tax charge of $4.2 million ($2.6 million net of taxes) in other income (expense) for the write-off of unamortized debt issuance costs associated with the redemption of the 2022 Notes.

As of December 31, 2007, we had the following contractual obligations (in thousands):

	Payments Due by Period				
Recorded Obligations	**Total**	**Less Than 1 Year**	**1 to 3 Years**	**3 to 5 Years**	**Over 5 years**
Long-term debt	$ 732,833	$ 13,315	$ 7,569	$ 682,825	$ 29,124

Long-term debt payments include:

(1) $479.0 million in principal payments due 2012 related to our credit facility. Our credit facility bears interest, at our option, at either the base rate plus the applicable base rate margin (approximately 7.25% at December 31, 2007) on base rate loans, or the Eurodollar rate plus the applicable Eurodollar margin (approximately 5.8% at December 31, 2007) on Eurodollar loans. As of December 31, 2007, our credit facility allowed us to borrow up to $800 million.

(2) $200.0 million in principal payments due 2026 related to our 2026 Notes. Holders of the 2026 Notes may require us to purchase their notes in cash at a purchase price of 100% of the principal amount of the 2026 Notes plus accrued and unpaid interest, if any, upon a change in control, as defined in the indenture, or, for the first time, on April 1, 2011. The 2026 Notes bear interest at a rate of 3.75%.

(3) $11.3 million in principal payments related to our 2001 Wasco bonds. Our 2001 Wasco bonds consist of $2.8 million of bonds that bear interest at a rate of 7.0% and mature on March 1, 2012, and $8.5 million of bonds that bear interest at a rate of 7.25% and mature on March 1, 2021.

(4) $33.2 million in principal payments related to our California tax-exempt bonds. Our California tax-exempt bonds bear interest at variable rates (3.4% at December 31, 2007) and have maturity dates ranging from 2008 to 2018.

(5) $4.0 million in principal payments related to our notes payable to sellers. Our notes payable to sellers bear interest at rates between 5.5% and 7.5% at December 31, 2007 and have maturity dates ranging from 2009 to 2036.

(6) $5.3 million in principal payments related to our notes payable to third parties. Our notes payable to third parties bear interest at rates between 6.0% and 11.0% at December 31, 2007, and have maturity dates ranging from 2008 to 2010.

The total liability for uncertain tax positions under FIN 48 at December 31, 2007, is approximately $7 million (refer to Note 13 to the consolidated financial statements). We are not able to reasonably estimate the amount by which the liability will increase or decrease over time; however, at this time, we do not expect a significant payment related to these obligations within the next year.

	Amount of Commitment Expiration Per Period				
Unrecorded Obligations	**Total**	**Less Than 1 Year**	**1 to 3 Years**	**3 to 5 Years**	**Over 5 years**
Operating leases [1]	$ 67,450	$ 6,904	$ 14,256	$ 12,356	$ 33,934

(1) We are party to operating lease agreements as discussed in Note 10 to the consolidated financial statements. These lease agreements are established in the ordinary course of our business and are designed to provide us with access to facilities at competitive, market-driven prices. These arrangements have not materially affected our financial position, results of operations or liquidity during the year ended December 31, 2007, nor are they expected to have a material impact on our future financial position, results of operations or liquidity.

We have obtained standby letters of credit as discussed in Note 9 to the consolidated financial statements and financial surety bonds as discussed in Note 10 to the consolidated financial statements. These standby letters of credit and financial surety bonds are generally obtained to support our financial assurance needs and landfill operations. These arrangements have not materially affected our financial position, results of operations or liquidity during the year ended December 31, 2007, nor are they expected to have a material impact on our future financial position, results of operations or liquidity.

The minority interests holders of a majority-owned subsidiary of ours have a currently exercisable put option to require us to complete the acquisition of this majority-owned subsidiary by purchasing their minority ownership interests for fair market value. The put option calculates the fair market value of the subsidiary based on its current operating income before depreciation and amortization, as defined in the put option agreement. The put option does not have a stated termination date. At December 31, 2007, the minority interests holders' pro rata share of the subsidiary's fair market value is estimated to be worth between $93 million and $100 million. Because the put is calculated at fair market value, no amounts have been accrued relative to the put option. In the event the minority interests holders elect to exercise the put option, we intend to fund the transaction using borrowings from our credit facility.

From time to time we evaluate our existing operations and their strategic importance to us. If we determine that a given operating unit does not have future strategic importance, we may sell or otherwise dispose of those operations. Although we believe our operations would not be impaired by such dispositions, we could incur losses on them.

New Accounting Pronouncements

For a description of the new accounting standards that affect us, see Note 1 to our Consolidated Financial Statements included in this Annual Report on Form 10-K.

FREE CASH FLOW

We are providing free cash flow, a non-GAAP financial measure, because it is widely used by investors as a valuation and liquidity measure in the solid waste industry. This measure should be used in conjunction with GAAP financial measures. Management uses free cash flow as one of the principal measures to evaluate and monitor the ongoing financial performance of our operations. We define free cash flow as net cash provided by operating activities plus proceeds from disposal of assets and excess tax benefit associated with equity-based compensation, plus or minus change in book overdraft, less capital expenditures for property and equipment and distributions to minority interest holders. Other companies may calculate free cash flow differently. Our free cash flow for the years ended December 31, 2006 and 2007, is calculated as follows (in thousands):

	Years Ended December 31,	
	2006	2007
Net cash provided by operating activities	$ 204,234	$ 219,069
Change in book overdraft	(8,869)	8,835
Plus: Proceeds from disposal of assets	2,198	1,016
Plus: Excess tax benefit associated with equity-based compensation	7,728	14,137
Less: Capital expenditures for property and equipment	(96,519)	(124,234)
Less: Distributions to minority interest holders	(11,270)	(12,642)
Free cash flow	$ 97,502	$ 106,181

INFLATION

Other than volatility in fuel prices, inflation has not materially affected our operations. Consistent with industry practice, many of our contracts allow us to pass through certain costs to our customers, including increases in landfill tipping fees and, in some cases, fuel costs. Therefore, we believe that we should be able to increase prices to offset many cost increases that result from inflation in the ordinary course of business. However, competitive pressures or delays in the timing of rate increases under our contracts may require us to absorb at least part of these cost increases, especially if cost increases, such as recent increases in the price of fuel, exceed the average rate of inflation. Management's estimates associated with inflation have an impact on our accounting for landfill liabilities.

SEASONALITY

Based on historic trends, we expect our operating results to vary seasonally, with revenues typically lowest in the first quarter, higher in the second and third quarters and lower in the fourth quarter than in the second and third quarters. We expect the fluctuation

in our revenues between our highest and lowest quarters to be approximately 9% to 12%. This seasonality reflects the lower volume of solid waste generated during the late fall, winter and early spring because of decreased construction and demolition activities during winter months in the U.S. In addition, some of our operating costs may be higher in the winter months. Adverse winter weather conditions slow waste collection activities, resulting in higher labor and operational costs. Greater precipitation in the winter increases the weight of collected waste, resulting in higher disposal costs, which are calculated on a per ton basis.

ITEM 7A. QUANTITATIVE AND QUALITATIVE DISCLOSURES ABOUT MARKET RISK

In the normal course of business, we are exposed to market risk, including changes in interest rates and prices of certain commodities. We use hedge agreements to manage a portion of our risks related to interest rates. While we are exposed to credit risk in the event of non-performance by counterparties to our hedge agreements, in all cases such counterparties are highly rated financial institutions and we do not anticipate non-performance. We do not hold or issue derivative financial instruments for trading purposes. We monitor our hedge positions by regularly evaluating the positions at market and by performing sensitivity analyses.

At December 31, 2007, our derivative instruments consisted of nine interest rate swap agreements that effectively fix the interest rate on the applicable notional amounts of our variable rate debt as follows (dollars in thousands):

Date Entered	Notional Amount	Fixed Interest Rate Paid*	Variable Interest Rate Received	Effective Date	Expiration Date
September 2005	$ 175,000	4.33%	1-month LIBOR	February 2007	February 2009
September 2005	$ 75,000	4.34%	1-month LIBOR	March 2007	March 2009
December 2005	$ 150,000	4.76%	1-month LIBOR	June 2006	June 2009
November 2007	$ 50,000	4.37%	1-month LIBOR	February 2009	February 2011
November 2007	$ 50,000	4.37%	1-month LIBOR	February 2009	February 2011
November 2007	$ 75,000	4.37%	1-month LIBOR	February 2009	February 2011
November 2007	$ 75,000	4.40%	1-month LIBOR	March 2009	March 2011
November 2007	$ 50,000	4.29%	1-month LIBOR	June 2009	June 2011
November 2007	$ 100,000	4.35%	1-month LIBOR	June 2009	June 2011

* plus applicable margin.

All the interest rate swap agreements are considered highly effective as cash flow hedges for a portion of our variable rate debt, and we apply hedge accounting to account for these instruments. The notional amounts and all other significant terms of the swap agreements are matched to the provisions and terms of the variable rate debt being hedged.

We have performed sensitivity analyses to determine how market rate changes will affect the fair value of our market risk sensitive hedge positions and all other debt. Such an analysis is inherently limited in that it reflects a singular, hypothetical set of assumptions. Actual market movements may vary significantly from our assumptions. Fair value sensitivity is not necessarily indicative of the ultimate cash flow or earnings effect we would recognize from the assumed market rate movements. We are exposed to cash flow risk due to changes in interest rates with respect to the unhedged floating rate balances owed at December 31, 2006 and 2007, of $24.1 million and $114.8 million, respectively, including floating rate debt under our credit facility, various floating rate notes payable to third parties and floating rate municipal bond obligations. A one percent increase in interest rates on our variable-rate debt as of December 31, 2006 and 2007, would decrease our annual pre-tax income by approximately $0.2 million and $1.1 million, respectively. All of our remaining debt instruments are at fixed rates, or effectively fixed under the interest rate swap agreements described above; therefore, changes in market interest rates under these instruments would not significantly impact our cash flows or results of operations.

Although fuel and energy costs account for a relatively small portion of our total revenues, the market price of diesel fuel is unpredictable and can fluctuate significantly. We purchase all of our fuel at market prices. A significant increase in the price of fuel could adversely affect our business and reduce our operating margins. A $0.10 per gallon increase in the price of fuel over a one-year period would decrease our annual pre-tax income by approximately $2.2 million.

We market a variety of recyclable materials, including cardboard, office paper, plastic containers, glass bottles and ferrous and aluminum metals. We own and operate 29 recycling processing operations and sell other collected recyclable materials to third parties for processing before resale. Certain of our municipal recycling contracts in the state of Washington specify benchmark resale prices for recycled commodities. If the prices we actually receive for the processed recycled commodities collected under the contract exceed the prices specified in the contract, we share the excess with the municipality, after recovering any previous shortfalls resulting from actual market prices falling below the prices specified in the contract. To reduce our exposure to commodity price risk with

respect to recycled materials, we have adopted a pricing strategy of charging collection and processing fees for recycling volume collected from third parties. In the event of a decline in recycled commodity prices, a 10% decrease in average recycled commodity prices from the prices that were in effect at December 31, 2006 and 2007 would have had a $2.5 million and $3.9 million impact on revenues for the years ended December 31, 2006 and 2007, respectively.

ITEM 8. FINANCIAL STATEMENTS AND SUPPLEMENTARY DATA

INDEX TO CONSOLIDATED FINANCIAL STATEMENTS

WASTE CONNECTIONS, INC.

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REPORT OF INDEPENDENT REGISTERED PUBLIC ACCOUNTING FIRM

To the Board of Directors and Stockholders of
Waste Connections, Inc.:

In our opinion, the consolidated financial statements listed in the accompanying index present fairly, in all material respects, the financial position of Waste Connections, Inc. and its subsidiaries at December 31, 2007 and December 31, 2006, and the results of their operations and their cash flows for each of the three years in the period ended December 31, 2007 in conformity with accounting principles generally accepted in the United States of America. In addition, in our opinion, the financial statement schedule listed in the accompanying index presents fairly, in all material respects, the information set forth therein when read in conjunction with the related consolidated financial statements. Also in our opinion, the Company maintained, in all material respects, effective internal control over financial reporting as of December 31, 2007, based on criteria established in *Internal Control - Integrated Framework* issued by the Committee of Sponsoring Organizations of the Treadway Commission (COSO). The Company's management is responsible for these financial statements and financial statement schedule, for maintaining effective internal control over financial reporting and for its assessment of the effectiveness of internal control over financial reporting, included in Management's Report on Internal Control Over Financial Reporting under Item 9A. Our responsibility is to express opinions on these financial statements, on the financial statement schedule, and on the Company's internal control over financial reporting based on our integrated audits. We conducted our audits in accordance with the standards of the Public Company Accounting Oversight Board (United States). Those standards require that we plan and perform the audits to obtain reasonable assurance about whether the financial statements are free of material misstatement and whether effective internal control over financial reporting was maintained in all material respects. Our audits of the financial statements included examining, on a test basis, evidence supporting the amounts and disclosures in the financial statements, assessing the accounting principles used and significant estimates made by management, and evaluating the overall financial statement presentation. Our audit of internal control over financial reporting included obtaining an understanding of internal control over financial reporting, assessing the risk that a material weakness exists, and testing and evaluating the design and operating effectiveness of internal control based on the assessed risk. Our audits also included performing such other procedures as we considered necessary in the circumstances. We believe that our audits provide a reasonable basis for our opinions.

As discussed in Note 1 and Note 13, respectively, to the consolidated financial statements, the Company changed the manner in which it accounts for share-based compensation in 2006 and the manner in which it accounts for uncertainty in income taxes in 2007.

A company's internal control over financial reporting is a process designed to provide reasonable assurance regarding the reliability of financial reporting and the preparation of financial statements for external purposes in accordance with generally accepted accounting principles. A company's internal control over financial reporting includes those policies and procedures that (i) pertain to the maintenance of records that, in reasonable detail, accurately and fairly reflect the transactions and dispositions of the assets of the company; (ii) provide reasonable assurance that transactions are recorded as necessary to permit preparation of financial statements in accordance with generally accepted accounting principles, and that receipts and expenditures of the company are being made only in accordance with authorizations of management and directors of the company; and (iii) provide reasonable assurance regarding prevention or timely detection of unauthorized acquisition, use, or disposition of the company's assets that could have a material effect on the financial statements.

Because of its inherent limitations, internal control over financial reporting may not prevent or detect misstatements. Also, projections of any evaluation of effectiveness to future periods are subject to the risk that controls may become inadequate because of changes in conditions, or that the degree of compliance with the policies or procedures may deteriorate.

/s/ PricewaterhouseCoopers LLP
Sacramento, CA
February 11, 2008

WASTE CONNECTIONS, INC.
CONSOLIDATED BALANCE SHEETS
(IN THOUSANDS, EXCEPT SHARE AND PER SHARE AMOUNTS)

	December 31, 2006	December 31, 2007
ASSETS		
Current assets:		
Cash and equivalents	$ 34,949	$ 10,298
Accounts receivable, net of allowance for doubtful accounts of $3,489 and $4,387 at December 31, 2006 and 2007, respectively	100,269	123,882
Deferred income taxes	9,373	14,732
Prepaid expenses and other current assets	15,642	21,953
Total current assets	160,233	170,865
Property and equipment, net	736,428	865,330
Goodwill	750,397	811,049
Intangible assets, net	86,098	93,957
Restricted assets	15,917	19,300
Other assets, net	24,818	21,457
	$ 1,773,891	$ 1,981,958
LIABILITIES AND STOCKHOLDERS' EQUITY		
Current liabilities:		
Accounts payable	$ 53,010	$ 59,912
Book overdraft	-	8,835
Accrued liabilities	57,810	69,578
Deferred revenue	32,161	44,074
Current portion of long-term debt and notes payable	6,884	13,315
Total current liabilities	149,865	195,714
Long-term debt and notes payable	637,308	719,518
Other long-term liabilities	16,712	38,053
Deferred income taxes	205,532	223,308
Total liabilities	1,009,417	1,176,593
Commitments and contingencies (Note 10)		
Minority interests	27,992	30,220
Stockholders' equity:		
Preferred stock: $0.01 par value per share; 7,500,000 shares authorized; none issued and outstanding	-	-
Common stock: $0.01 par value per share; 150,000,000 shares authorized; 68,266,041 and 67,052,135 shares issued and outstanding at December 31, 2006 and 2007, respectively	455	670
Additional paid-in capital	310,229	254,284
Retained earnings	422,731	524,481
Accumulated other comprehensive income (loss)	3,067	(4,290)
Total stockholders' equity	736,482	775,145
	$ 1,773,891	$ 1,981,958

The accompanying notes are an integral part of these consolidated financial statements.

WASTE CONNECTIONS, INC.
CONSOLIDATED STATEMENTS OF INCOME
(IN THOUSANDS, EXCEPT SHARE AND PER SHARE AMOUNTS)

	Years Ended December 31,		
	2005	2006	2007
Revenues	$ 721,899	$ 824,354	$ 958,541
Operating expenses:			
Cost of operations	416,883	492,766	566,089
Selling, general and administrative	72,395	84,541	99,565
Depreciation and amortization	64,788	74,865	85,628
Loss (gain) on disposal of assets	(216)	796	250
Operating income	168,049	171,386	207,009
Interest expense, net	(23,489)	(28,970)	(33,430)
Other income (expense), net	450	(3,759)	289
Income before income tax provision and minority interests	145,010	138,657	173,868
Minority interests	(12,422)	(12,905)	(14,870)
Income from continuing operations before income taxes	132,588	125,752	158,998
Income tax provision	(48,066)	(48,329)	(59,917)
Income from continuing operations	84,522	77,423	99,081
Loss on discontinued operations, net of tax (Note 3)	(579)	-	-
Net income	$ 83,943	$ 77,423	$ 99,081
Basic earnings per common share:			
Income from continuing operations	$ 1.21	$ 1.14	$ 1.45
Discontinued operations	(0.01)	-	-
Net income per common share	$ 1.20	$ 1.14	$ 1.45
Diluted earnings per common share:			
Income from continuing operations	$ 1.17	$ 1.10	$ 1.42
Discontinued operations	(0.01)	-	-
Net income per common share	$ 1.16	$ 1.10	$ 1.42
Shares used in calculating basic income per share	70,050,974	68,136,126	68,238,523
Shares used in calculating diluted income per share	72,316,952	70,408,673	69,994,713

The accompanying notes are an integral part of these consolidated financial statements.

WASTE CONNECTIONS, INC.
CONSOLIDATED STATEMENTS OF STOCKHOLDERS' EQUITY AND COMPREHENSIVE INCOME
YEARS ENDED DECEMBER 31, 2005, 2006 AND 2007
(IN THOUSANDS, EXCEPT SHARE AMOUNTS)

		STOCKHOLDERS' EQUITY							
	COMPREHENSIVE INCOME	COMMON STOCK SHARES	COMMON STOCK AMOUNT	ADDITIONAL PAID-IN CAPITAL	ACCUMULATED OTHER COMPREHENSIVE INCOME (LOSS)	DEFERRED STOCK COMPENSATION	TREASURY STOCK SHARES	TREASURY STOCK AMOUNT	RETAINED EARNINGS	TOTAL
Balances at December 31, 2004		71,408,684	$ 476	$ 444,404	$ 2,875	$ (1,598)	-	$ -	$ 261,365	$ 707,522
Issuance of common stock warrants to consultants		-	-	136	-	-	-	-	-	136
Vesting of restricted stock		44,884	-	-	-	-	-	-	-	-
Cancellation of restricted stock		-	-	(591)	-	102	-	-	-	(489)
Issuance of unvested restricted stock		-	-	1,908	-	(1,908)	-	-	-	-
Amortization of deferred stock compensation		-	-	-	-	1,193	-	-	-	1,193
Exercise of stock options and warrants		2,171,365	14	36,040	-	-	-	-	-	36,054
Repurchase of common stock		(4,737,908)	(31)	(110,171)	-	-	159,900	(3,672)	-	(113,874)
Accelerated vesting of stock options		-	-	1,617	-	-	-	-	-	1,617
Stock compensation recognized as change in option terms		-	-	16	-	-	-	-	-	16
Stock options granted below fair market value		-	-	23	-	(23)	-	-	-	-
Amounts reclassified into earnings, net of taxes		-	-	-	(1,196)	-	-	-	-	(1,196)
Changes in fair value of interest rate swaps		-	-	-	3,278	-	-	-	-	3,278
Net income	$ 83,943	-	-	-	-	-	-	-	83,943	83,943
Other comprehensive income	3,290	-	-	-	-	-	-	-	-	-
Income tax effect of other comprehensive income	(1,208)	-	-	-	-	-	-	-	-	-
Comprehensive income	$ 86,025	-	-	-	-	-	-	-	-	-
Balances at December 31, 2005		68,887,025	$ 459	$ 373,382	$ 4,957	$ (2,234)	159,900	$ (3,672)	$ 345,308	$ 718,200
Vesting of restricted stock		56,628	-	-	-	-	-	-	-	-
Cancellation of restricted stock		(19,182)	-	(446)	-	-	-	-	-	(446)
Stock-based compensation		-	-	3,451	-	-	-	-	-	3,451
Exercise of stock options and warrants		2,082,708	14	32,132	-	-	-	-	-	32,146
Excess tax benefit associated with equity-based compensation		-	-	7,728	-	-	-	-	-	7,728
Repurchase of common stock		(4,182,900)	(28)	(100,217)	-	-	-	-	-	(100,245)
Retirement of treasury stock		-	-	(3,672)	-	-	(159,900)	3,672	-	-
Conversion of 2022 Floating Rate Convertible Subordinated Notes		1,441,762	10	(10)	-	-	-	-	-	-
Issuance of common stock warrants to consultants		-	-	115	-	-	-	-	-	115
Cumulative change from adoption of accounting policy – SFAS 123(R)		-	-	(2,234)	-	2,234	-	-	-	-
Amounts reclassified into earnings, net of taxes		-	-	-	(4,243)	-	-	-	-	(4,243)
Changes in fair value of interest rate swaps, net of taxes		-	-	-	2,353	-	-	-	-	2,353
Net income	$ 77,423	-	-	-	-	-	-	-	77,423	77,423
Other comprehensive loss	(2,887)	-	-	-	-	-	-	-	-	-
Income tax effect of other comprehensive loss	997	-	-	-	-	-	-	-	-	-
Comprehensive income	$ 75,533	-	-	-	-	-	-	-	-	-
Balances at December 31, 2006		68,266,041	$ 455	$ 310,229	$ 3,067	$ -	-	$ -	$ 422,731	736,482
Stock split		-	228	-	-	-	-	-	(228)	-
Vesting of restricted stock		168,268	2	(2)	-	-	-	-	-	-
Cancellation of restricted stock and warrants		(54,498)	(1)	(1,636)	-	-	-	-	-	(1,637)
Stock-based compensation		-	-	6,128	-	-	-	-	-	6,128
Exercise of stock options and warrants		2,246,454	22	35,598	-	-	-	-	-	35,620
Excess tax benefit associated with equity-based compensation		-	-	14,137	-	-	-	-	-	14,137
Repurchase of common stock		(3,574,130)	(36)	(110,293)	-	-	-	-	-	(110,329)
Issuance of common stock warrants to consultants		-	-	123	-	-	-	-	-	123
Cumulative change from adoption of accounting policy – FIN 48		-	-	-	-	-	-	-	2,897	2,897
Amounts reclassified into earnings, net of taxes		-	-	-	(2,320)	-	-	-	-	(2,320)
Changes in fair value of interest rate swaps, net of taxes		-	-	-	(5,037)	-	-	-	-	(5,037)
Net income	$ 99,081	-	-	-	-	-	-	-	99,081	99,081
Other comprehensive loss	(11,981)	-	-	-	-	-	-	-	-	-
Income tax effect of other comprehensive loss	4,624	-	-	-	-	-	-	-	-	-
Comprehensive income	$ 91,724	-	-	-	-	-	-	-	-	-
Balances at December 31, 2007		67,052,135	$ 670	$ 254,284	$ (4,290)	$ -	-	$ -	$ 524,481	$ 775,145

The accompanying notes are an integral part of these consolidated financial statements.

WASTE CONNECTIONS, INC.
CONSOLIDATED STATEMENTS OF CASH FLOWS
(IN THOUSANDS)

	Years Ended December 31,		
	2005	2006	2007
CASH FLOWS FROM OPERATING ACTIVITIES:			
Net income	$ 83,943	$ 77,423	$ 99,081
Adjustments to reconcile net income to net cash provided by operating activities:			
Loss (gain) on disposal of assets	(413)	796	250
Depreciation	61,968	70,785	81,287
Amortization of intangibles	3,070	4,080	4,341
Deferred income taxes, net of acquisitions	(792)	26,585	12,440
Minority interests	12,422	12,905	14,870
Amortization of debt issuance costs	2,001	6,238	2,182
Stock-based compensation	2,826	3,451	6,128
Interest income on restricted assets	(390)	(618)	(684)
Closure and post-closure accretion	681	623	1,155
Tax benefit associated with equity-based compensation	7,338	-	-
Excess tax benefit associated with equity-based compensation	-	(7,728)	(14,137)
Changes in operating assets and liabilities, net of effects from acquisitions:			
Accounts receivable, net	(9,933)	(4,928)	(17,514)
Prepaid expenses and other current assets	5,291	(1,083)	(8,077)
Accounts payable	18,060	(4,306)	2,888
Deferred revenue	4,818	324	7,870
Accrued liabilities	7,898	19,245	27,162
Other long-term liabilities	1,024	442	(173)
Net cash provided by operating activities	199,812	204,234	219,069
CASH FLOWS FROM INVESTING ACTIVITIES:			
Payments for acquisitions, net of cash acquired	(80,849)	(38,594)	(109,429)
Capital expenditures for property and equipment	(97,482)	(96,519)	(124,234)
Proceeds from disposal of assets	5,254	2,198	1,016
Decrease (increase) in restricted assets, net of interest income	661	(1,411)	(2,698)
Increase in other assets	(856)	(224)	(264)
Net cash used in investing activities	(173,272)	(134,550)	(235,609)
CASH FLOWS FROM FINANCING ACTIVITIES:			
Proceeds from long-term debt	232,631	666,035	626,000
Principal payments on notes payable and long-term debt	(159,688)	(621,161)	(568,607)
Change in book overdraft	208	(8,869)	8,835
Proceeds from option and warrant exercises	28,716	32,146	35,620
Excess tax benefit associated with equity-based compensation	-	7,728	14,137
Distributions to minority interest holders	(10,486)	(11,270)	(12,642)
Payments for repurchase of common stock	(113,874)	(100,245)	(110,329)
Debt issuance costs	(143)	(6,613)	(1,125)
Net cash used in financing activities	(22,636)	(42,249)	(8,111)
Net increase (decrease) in cash and equivalents	3,904	27,435	(24,651)
Cash and equivalents at beginning of year	3,610	7,514	34,949
Cash and equivalents at end of year	$ 7,514	$ 34,949	$ 10,298

The accompanying notes are an integral part of these consolidated financial statements.

WASTE CONNECTIONS, INC.
CONSOLIDATED STATEMENTS OF CASH FLOWS
(IN THOUSANDS)

SUPPLEMENTARY DISCLOSURES OF CASH FLOW INFORMATION AND NON-CASH TRANSACTIONS:

	Years Ended December 31,		
	2005	**2006**	**2007**
Cash paid for income taxes	$ 32,369	$ 15,006	$ 35,260
Cash paid for interest	$ 22,314	$ 28,534	$ 33,418
Conversion of 2022 Convertible Subordinated Notes to equity	$ -	$ 10	$ -
Fair value of warrants issued to third party consultants in exchange for services performed in connection with landfill development	$ 54	$ -	$ -
In connection with its acquisitions, the Company assumed liabilities as follows:			
Fair value of assets acquired	$ 112,802	$ 44,919	$ 162,425
Cash paid and warrants issued for current year acquisitions	(78,971)	(37,560)	(107,772)
Net assets used as consideration for acquisitions	-	(893)	-
Liabilities assumed and notes payable issued to sellers of businesses acquired	$ 33,831	$ 6,466	$ 54,653

The accompanying notes are an integral part of these consolidated financial statements.

1. ORGANIZATION, BUSINESS AND SUMMARY OF SIGNIFICANT ACCOUNTING POLICIES

Organization and Business

Waste Connections, Inc. ("WCI" or "the Company") was incorporated in Delaware on September 9, 1997, and commenced its operations on October 1, 1997, through the purchase of certain solid waste operations in the state of Washington. The Company is an integrated, non-hazardous solid waste services company that provides collection, transfer, disposal and recycling services to commercial, industrial and residential customers in the states of Alabama, Arizona, California, Colorado, Idaho, Illinois, Iowa, Kansas, Kentucky, Minnesota, Mississippi, Montana, Nebraska, Nevada, New Mexico, Oklahoma, Oregon, South Dakota, Tennessee, Texas, Utah, Washington and Wyoming. The Company also provides intermodal services for the movement of containers in the Pacific Northwest.

Basis of Presentation

These consolidated financial statements include the accounts of WCI and its wholly-owned and majority-owned subsidiaries. The consolidated entity is referred to herein as the Company. All significant intercompany accounts and transactions have been eliminated in consolidation.

Cash Equivalents

The Company considers all highly liquid investments with a maturity of three months or less at purchase to be cash equivalents. As of December 31, 2006 and 2007, cash equivalents consisted of demand money market accounts.

Concentrations of Credit Risk

Financial instruments that potentially subject the Company to concentrations of credit risk consist primarily of accounts receivable. The Company generally does not require collateral on its trade receivables. Credit risk on accounts receivable is minimized as a result of the large and diverse nature of the Company's customer base. The Company maintains allowances for losses based on the expected collectability of accounts receivable.

Revenue Recognition and Accounts Receivable

Revenues are recognized when persuasive evidence of an arrangement exists, the service has been provided, the price is fixed or determinable and collection is reasonably assured. Certain customers are billed in advance and, accordingly, recognition of the related revenues is deferred until the services are provided. In accordance with Emerging Issues Task Force ("EITF") 06-3, *How Taxes Collected from Customers and Remitted to Governmental Authorities Should Be Presented in the Income Statement (That Is, Gross versus Net Presentation)*, any tax assessed by a governmental authority that is directly imposed on a revenue-producing transaction between a seller and a customer is presented in the statements of income on a net basis (excluded from revenues).

The Company's receivables are recorded when billed or accrued and represent claims against third parties that will be settled in cash. The carrying value of the Company's receivables, net of the allowance for doubtful accounts, represents their estimated net realizable value. The Company estimates its allowance for doubtful accounts based on historical collection trends, type of customer such as municipal or non-municipal, the age of outstanding receivables and existing economic conditions. If events or changes in circumstances indicate that specific receivable balances may be impaired, further consideration is given to the collectability of those balances and the allowance is adjusted accordingly. Past-due receivable balances are written off when the Company's internal collection efforts have been unsuccessful in collecting the amount due.

Property and Equipment

Property and equipment are stated at cost. Improvements or betterments, not considered to be maintenance and repair, which add new functionality or significantly extend the life of an asset are capitalized. Third-party expenditures related to pending development projects, such as legal, engineering and interest expenses, are capitalized. Expenditures for maintenance and repair costs, including planned major maintenance activities, are charged to expense as incurred. The cost of assets retired or otherwise disposed of and the related accumulated depreciation are eliminated from the accounts in the year of disposal. Gains and losses resulting from disposals

of property and equipment are recognized in the period in which the property and equipment is disposed. Depreciation is computed using the straight-line method over the estimated useful lives of the assets or the lease term, whichever is shorter.

The estimated useful lives are as follows:

Buildings	20 years
Land improvements	3 - 20 years
Machinery and equipment	3 - 12 years
Rolling stock	5 - 10 years
Containers	5 - 12 years
Rail cars	20 years

Landfill Accounting

The Company utilizes the life cycle method of accounting for landfill costs. This method applies the costs to be capitalized associated with acquiring, developing, closing and monitoring the landfills over the associated consumption of landfill capacity. The Company utilizes the units of consumption method to amortize landfill development costs over the estimated remaining capacity of a landfill. Under this method, the Company includes future estimated construction costs using current dollars, as well as costs incurred to date, in the amortization base. When certain criteria are met, the Company includes expansion airspace, which has not been permitted, in the calculation of the total remaining capacity of the landfill.

- Landfill development costs. Landfill development costs include the costs of acquisition, construction associated with excavation, liners, site berms, groundwater monitoring wells and leachate collection systems. The Company estimates the total costs associated with developing each landfill site to its final capacity. This includes certain projected landfill site costs that are uncertain because they are dependent on future events and thus actual costs could vary significantly from estimates. The total cost to develop a site to its final capacity includes amounts previously expended and capitalized, net of accumulated depletion, and projections of future purchase and development costs, liner construction costs, operating construction costs and capitalized interest costs. Total landfill costs include the development costs associated with expansion airspace. Expansion airspace is addressed below.

- Final capping, closure and post-closure obligations. The Company accrues for estimated final capping, closure and post-closure maintenance obligations at the landfills it owns and the landfills that it operates, but does not own under life-of-site agreements. Accrued final capping, closure and post-closure costs represent an estimate of the current value of the future obligation associated with final capping, closure and post-closure monitoring of non-hazardous solid waste landfills currently owned or operated under life-of-site agreements by the Company. Final capping costs represent the costs related to installation of clay liners, drainage and compacted soil layers and topsoil constructed over areas of the landfill where total airspace capacity has been consumed. Closure and post-closure monitoring and maintenance costs represent the costs related to cash expenditures yet to be incurred when a landfill facility ceases to accept waste and closes. Accruals for final capping, closure and post-closure monitoring and maintenance requirements in the U.S. consider site inspection, groundwater monitoring, leachate management, methane gas control and recovery, and operating and maintenance costs to be incurred during the period after the facility closes. Certain of these environmental costs, principally capping and methane gas control costs, are also incurred during the operating life of the site in accordance with the landfill operation requirements of Subtitle D and the air emissions standards. Daily maintenance activities, which include many of these costs, are expensed as incurred during the operating life of the landfill. Daily maintenance activities include leachate disposal; surface water, groundwater, and methane gas monitoring and maintenance; other pollution control activities; mowing and fertilizing the landfill final cap; fence and road maintenance; and third party inspection and reporting costs. Site specific final capping, closure and post-closure engineering cost estimates are prepared annually for landfills owned or operated under life-of-site agreements by the Company for which it is responsible for final capping, closure and post-closure.

Since the adoption of Statement of Financial Accounting Standards ("SFAS") No. 143, *Accounting for Asset Retirement Obligations* ("SFAS 143"), landfill final capping, closure and post-closure liabilities are calculated by estimating the total obligation in current dollars, inflating the obligation based upon the expected date of the expenditure using an inflation rate (2.5% during 2006 and 2007) and discounting the inflated total to its present value using a discount rate (7.5% during 2006 and 2007). At December 31,

2006 and 2007, accruals for landfill final capping, closure and post-closure costs (including costs assumed through acquisitions) were $11,638 and $17,853, respectively.

In accordance with SFAS 143, final capping, closure and post-closure liability is recorded as an addition to site costs and amortized to depletion expense on a units-of-consumption basis as remaining landfill airspace is consumed. The impact of changes determined to be changes in estimates, based on an annual update, is accounted for on a prospective basis. Depletion expense resulting from final capping, closure and post-closure obligations recorded as a component of landfill site costs will generally be less during the early portion of a landfill's operating life and increase thereafter. The final capping, closure and post-closure liabilities reflect owned landfills and landfills operated under life-of-site agreements with estimated remaining lives, based on remaining permitted capacity, probable expansion capacity and projected annual disposal volumes that range from approximately 5 to 205 years, with an average remaining life of approximately 52 years. The costs for final capping, closure and post-closure obligations at landfills the Company owns or operates under life-of-site agreements are generally estimated based on interpretations of current requirements and proposed or anticipated regulatory changes.

The estimates for landfill final capping, closure and post-closure costs, including final capping costs, consider when the costs would actually be paid and factor in inflation and discount rates. Interest is accreted on the recorded liability using the corresponding discount rate. When using discounted cash flow techniques, reliable estimates of market premiums may not be obtainable. In the waste industry, there is no market for selling the responsibility for final capping, closure and post-closure obligations independent of selling the landfill in its entirety. Accordingly, the Company does not believe that it is possible to develop a methodology to reliably estimate a market risk premium and has therefore excluded any such market risk premium from its determination of expected cash flows for landfill asset retirement obligations. The possibility of changing legal and regulatory requirements and the forward-looking nature of these types of costs make any estimation or assumption less certain.

The following is a rollforward of the Company's final capping, closure and post-closure liability balance from December 31, 2005 to December 31, 2007:

Final capping, closure and post-closure liability at December 31, 2005	$ 15,906
Adjustments to final capping, closure and post-closure liabilities	(5,932)
Liabilities incurred	1,041
Accretion expense	623
Final capping, closure and post-closure liability at December 31, 2006	11,638
Adjustments to final capping, closure and post-closure liabilities	1,310
Liabilities incurred	1,354
Accretion expense	1,155
Closure payments	(1,008)
Assumption of closure liabilities from acquisitions	3,404
Final capping, closure and post-closure liability at December 31, 2007	$ 17,853

The Company recorded adjustments to its final capping, closure and post-closure liabilities for the year ended December 31, 2006, due to revisions in cost estimates and a change in the interim and final capping requirements for a landfill, which permits the Company to use less expensive materials to cap the landfill. The Company recorded adjustments to its final capping, closure and post-closure liabilities for the year ended December 31, 2007, due to revisions in cost estimates, a decrease in the expansion airspace at a landfill for which an expansion is being pursued, and estimated increases in annual volume at an owned landfill, causing the remaining life, in years, of the landfill to decrease. The Company performs its annual review of its cost and capacity estimates in the first quarter of each year.

At December 31, 2007, $17,098 of the Company's restricted assets balance was for purposes of settling future final capping, closure and post-closure liabilities.

- Disposal capacity. The Company's internal and third-party engineers perform surveys at least annually to estimate the disposal capacity at its landfills. This is done by using surveys and other methods to calculate, based on the terms of the permit, height restrictions and other factors, how much airspace is left to fill and how much waste can be disposed of at a landfill before it has reached its final capacity. The Company's landfill depletion rates are based on the remaining disposal capacity, considering both permitted and expansion airspace, at the landfills it owns, and certain landfills it operates, but does

not own, under life-of-site agreements. The Company's landfill depletion rates are based on the term of the operating agreement at its operated landfills that have capitalized expenditures. Expansion airspace consists of additional disposal capacity being pursued through means of an expansion but is not actually permitted. Expansion airspace that meets certain internal criteria is included in the estimate of total landfill airspace. The Company's internal criteria to determine when expansion airspace may be included as disposal capacity is as follows:

(1) The land where the expansion is being sought is contiguous to the current disposal site, and the Company either owns the expansion property or is under an option, purchase, operating or other similar agreement;
(2) Total development costs, final capping costs, and closure/post-closure costs have been determined;
(3) Internal personnel have performed a financial analysis of the proposed expansion site and have determined that it has a positive financial and operational impact;
(4) Internal personnel or external consultants are actively working to obtain the necessary approvals to obtain the landfill expansion permit; and
(5) Obtaining the expansion is considered probable (for a pursued expansion to be considered probable, there must be no significant known technical, legal, community, business, or political restrictions or similar issues existing that could impair the success of the expansion).

It is possible that the Company's estimates or assumptions could ultimately be significantly different from actual results. In some cases the Company may be unsuccessful in obtaining an expansion permit or the Company may determine that an expansion permit that the Company previously thought was probable has become unlikely. To the extent that such estimates, or the assumptions used to make those estimates, prove to be significantly different than actual results, or the belief that the Company will receive an expansion permit changes adversely in a significant manner, the costs of the landfill, including the costs incurred in the pursuit of the expansion, may be subject to impairment testing, as described below, and lower profitability may be experienced due to higher amortization rates, higher capping, closure and post-closure rates, and higher expenses or asset impairments related to the removal of previously included expansion airspace.

The Company periodically evaluates its landfill sites for potential impairment indicators. The Company's judgments regarding the existence of impairment indicators are based on regulatory factors, market conditions and operational performance of its landfills. Future events could cause the Company to conclude that impairment indicators exist and that its landfill carrying costs are impaired.

Allocation of Acquisition Purchase Price

A summary of the Company's acquisition purchase price allocation policies is as follows:

- The purchase price of acquisitions is allocated to identified intangible assets and tangible assets acquired and liabilities assumed based on their estimated fair values at the dates of acquisition, with any residual amounts allocated to goodwill.

- The Company accrues the payment of contingent purchase price if the events surrounding the contingency are deemed assured beyond a reasonable doubt.

Goodwill and Intangible Assets

Goodwill represents the excess of the purchase price over the estimated fair value of the net tangible and intangible assets of the acquired entities. Goodwill and intangible assets deemed to have indefinite lives are subject to annual impairment tests using a two-step process described below. Other intangible assets are amortized over their estimated useful lives.

The first step in the Company's annual impairment tests is a screen for potential impairment, while the second step measures the amount of the impairment, if any. At least annually in the fourth quarter of the year, the Company performs impairment tests of goodwill and indefinite-lived intangible assets based on the carrying values. As a result of performing the tests for potential impairment, the Company determined that no impairment existed as of December 31, 2006 or 2007 and therefore, there were no write-downs to any of its goodwill or indefinite-lived intangible assets.

The Company acquired indefinite-lived intangible assets, long-term franchise agreements, contracts and non-competition agreements in connection with certain of its acquisitions. The amounts assigned to indefinite-lived intangible assets consist of the

value of certain perpetual rights to provide solid waste collection and transportation services in specified territories. The estimated fair value of the acquired indefinite-lived intangible assets, long-term franchise agreements and contracts was determined by management based on the discounted net cash flows associated with the rights, agreements and contracts. The estimated fair value of the non-competition agreements reflects management's estimates based on the amount of revenue protected under such agreements. The amounts assigned to the franchise agreements, contracts, and non-competition agreements are being amortized on a straight-line basis over the expected term of the related agreements (ranging from 1 to 56 years). Indefinite-lived intangible assets are not amortized.

Restricted Assets

Restricted assets held by trustees consist principally of funds deposited in connection with landfill final capping, closure and post-closure obligations and other financial assurance requirements. Proceeds from these financing arrangements are directly deposited into trust funds, and the Company does not have the ability to utilize the funds in regular operating activities.

Asset Impairments

Long-lived assets consist primarily of property, plant and equipment, goodwill and other intangible assets. Property, plant, equipment and other intangible assets are carried on the Company's consolidated financial statements based on their cost less accumulated depreciation or amortization. The recoverability of these assets is tested whenever events or changes in circumstances indicate that their carrying amount may not be recoverable.

Typical indicators that an asset may be impaired include:

- A significant decrease in the market price of an asset or asset group;
- A significant adverse change in the extent or manner in which an asset or asset group is being used or in its physical condition;
- A significant adverse change in legal factors or in the business climate that could affect the value of an asset or asset group, including an adverse action or assessment by a regulator;
- An accumulation of costs significantly in excess of the amount originally expected for the acquisition or construction of a long-lived asset;
- Current period operating or cash flow losses combined with a history of operating or cash flow losses or a projection or forecast that demonstrates continuing losses associated with the use of a long-lived asset or asset group; or
- A current expectation that, more likely than not, a long-lived asset or asset group will be sold or otherwise disposed of significantly before the end of its previously estimated useful life.

If any of these or other indicators occur, a test of recoverability is performed by comparing the carrying value of the asset or asset group to its undiscounted expected future cash flows. If the carrying values are in excess of undiscounted expected future cash flows, impairment is measured by comparing the fair value of the asset to its carrying value. Fair value is determined by an internally developed discounted projected cash flow analysis of the asset. Cash flow projections are sometimes based on a group of assets, rather than a single asset. If cash flows cannot be separately and independently identified for a single asset, the Company will determine whether an impairment has occurred for the group of assets for which the projected cash flows can be identified. If the fair value of an asset is determined to be less than the carrying amount of the asset or asset group, an impairment in the amount of the difference is recorded in the period that the impairment indicator occurs. Several impairment indicators are beyond the Company's control, and whether or not they will occur cannot be predicted with any certainty. Estimating future cash flows requires significant judgment and projections may vary from cash flows eventually realized. There are other considerations for impairments of landfills and goodwill, as described below.

Landfills - There are certain indicators listed above that require significant judgment and understanding of the waste industry when applied to landfill development or expansion projects. For example, a regulator may initially deny a landfill expansion permit application though the expansion permit is ultimately granted. In addition, management may periodically divert waste from one

landfill to another to conserve remaining permitted landfill airspace. Therefore, certain events could occur in the ordinary course of business and not necessarily be considered indicators of impairment due to the unique nature of the waste industry.

Goodwill - The Company assesses whether goodwill is impaired on an annual basis in the fourth quarter of the year. This assessment is performed on each of the Company's four operating regions. If the Company determined the existence of goodwill impairment, the Company would measure that impairment based on the amount by which the book value of goodwill exceeds its implied fair value. The implied fair value of goodwill is determined by deducting the fair value of a reporting unit's identifiable assets and liabilities from the fair value of the reporting unit as a whole, as if that reporting unit had just been acquired and the purchase price were being initially allocated. Additional impairment assessments may be performed on an interim basis if the Company encounters events or changes in circumstances, such as those listed above, that would indicate that, more likely than not, the book value of goodwill has been impaired.

Fair Value of Financial Instruments

The Company's financial instruments consist primarily of cash, trade receivables, restricted assets, trade payables, debt instruments and interest rate swaps. As of December 31, 2006 and 2007, the carrying values of cash, trade receivables, restricted assets, and trade payables are considered to be representative of their respective fair values. The carrying values of the Company's debt instruments, excluding the 3.75% Convertible Senior Notes due 2026 (the "2026 Notes"), approximate their fair values as of December 31, 2006 and 2007, based on current borrowing rates for similar types of borrowing arrangements. The Company's 2026 Notes had a carrying value of $200,000 and a fair value of approximately $215,250 and $222,974 at December 31, 2006 and 2007, respectively, based on the publicly quoted trading price of these notes. The Company's interest rate swaps are recorded at their estimated fair values based on estimated cash flows calculated using interest rate yield curves as of December 31, 2006 and 2007.

Derivative Financial Instruments

The Company recognizes all derivatives on the balance sheet at fair value. Derivatives that are not hedges must be adjusted to fair value through income. If the derivative is a hedge, depending on the nature of the hedge, changes in the fair value of derivatives will either be offset against the change in fair value of the hedged assets, liabilities, or firm commitments through earnings or recognized in other comprehensive income (Note 12) until the hedged item is recognized in earnings. The ineffective portion of a derivative's change in fair value is immediately recognized in earnings. The Company classifies cash inflows and outflows from derivatives within net income on the statement of cash flows.

The Company's objective for utilizing derivative instruments is to reduce its exposure to fluctuations in cash flows due to changes in the variable interest rates of certain borrowings issued under its credit facility and other variable rate debt. The Company's strategy to achieve that objective involves entering into interest rate swaps that are specifically designated to certain variable rate instruments and accounted for as cash flow hedges.

At December 31, 2007, the Company's derivative instruments consisted of nine interest rate swap agreements as follows:

Date Entered	Notional Amount	Fixed Interest Rate Paid*	Variable Interest Rate Received	Effective Date	Expiration Date
September 2005	$ 175,000	4.33%	1-month LIBOR	February 2007	February 2009
September 2005	$ 75,000	4.34%	1-month LIBOR	March 2007	March 2009
December 2005	$ 150,000	4.76%	1-month LIBOR	June 2006	June 2009
November 2007	$ 50,000	4.37%	1-month LIBOR	February 2009	February 2011
November 2007	$ 50,000	4.37%	1-month LIBOR	February 2009	February 2011
November 2007	$ 75,000	4.37%	1-month LIBOR	February 2009	February 2011
November 2007	$ 75,000	4.40%	1-month LIBOR	March 2009	March 2011
November 2007	$ 50,000	4.29%	1-month LIBOR	June 2009	June 2011
November 2007	$ 100,000	4.35%	1-month LIBOR	June 2009	June 2011

* plus applicable margin.

All the interest rate swap agreements are considered highly effective as cash flow hedges for a portion of the Company's variable rate debt, and the Company applies hedge accounting to account for these instruments. The notional amounts and all other significant terms of the swap agreements are matched to the provisions and terms of the variable rate debt being hedged.

Income Taxes

The Company uses the liability method to account for income taxes. Under this method, deferred tax assets and liabilities are determined based on differences between the financial reporting and income tax bases of assets and liabilities and are measured using the enacted tax rates and laws that are expected to be in effect when the differences are expected to reverse. The Company assumes the deductibility of certain costs in its income tax filings and estimates the future recovery of deferred tax assets.

The Company adopted FASB Interpretation 48, *Accounting for Uncertainty in Income Taxes* ("FIN 48"), at the beginning of fiscal year 2007. FIN 48 requires the Company to evaluate whether the tax position taken by the Company will more likely than not be sustained upon examination by the appropriate taxing authority. It also provides guidance on how the Company should measure the amount of benefit that the Company is to recognize in its financial statements. Under FIN 48, the Company also classifies a liability for unrecognized tax benefits as current only to the extent the Company anticipates making a payment within one year.

For fiscal years before 2007, the Company accrued income tax reserves for contingencies based upon management's assessment of exposure associated with, for instance, permanent differences, tax credits and interest expense. The tax reserves were analyzed quarterly and adjustments were made as events occurred to warrant adjustments to the reserve. For example, if the statutory period for assessing tax on a given tax return or period lapsed, the reserve associated with that period was reversed.

Stock-Based Compensation

Effective the beginning of the first quarter of 2006, the Company adopted the provisions of SFAS No. 123 (revised 2004), *Share-Based Payment* ("SFAS 123(R)") for its share-based compensation plans. The Company previously accounted for these plans under the recognition and measurement principles of APB Opinion No. 25, *Accounting for Stock Issued to Employees* ("APB 25") and related interpretations and disclosure requirements established by SFAS 123, *Accounting for Stock-Based Compensation*. In March 2005, the Securities and Exchange Commission issued Staff Accounting Bulletin No. 107, *Share-Based Payment* ("SAB 107"), relating to SFAS 123(R). The Company has applied the provisions of SAB 107 in its adoption of SFAS 123(R).

Under APB 25, no expense was recorded in the income statement for the Company's stock options granted at fair market value. The pro forma effects on income for stock options were instead disclosed in a footnote to the financial statements. Expense was recorded in the income statement for restricted stock, restricted stock units, and stock options granted below fair market value on the date of grant.

The weighted average grant date fair values per share for options granted during 2005 and 2006 are as follows:

	2005	2006
Exercise prices equal to market price of stock	$ 6.74	$ 7.72
Exercise prices less than market price of stock	$ 17.67	$ -

During the year ended December 31, 2005, the Company issued 1,500 options at an exercise price less than the market price of the Company's common stock. The Company did not grant stock options during the year ended December 31, 2007.

For purposes of pro forma disclosures, the estimated fair value of the options is amortized to expense over the options' vesting period. The net income as reported for the year ended December 31, 2005 reflects the one-time charge of $1,617 ($1,021 net of tax) incurred by the Company related to the accelerated vesting of shares previously awarded to employees. The Company estimates that the acceleration eliminated $15,254 ($9,610 net of tax) in non-cash compensation expense that would have been recognized under the provisions of SFAS No. 123(R), over the three year period of 2006 to 2008 as the stock options vested. For additional information related to this modification of outstanding awards, refer to Note 11.

The following table summarizes the Company's pro forma net income and pro forma basic and diluted net income per share for the year ended December 31, 2005:

	Year Ended December 31, 2005
Net income, as reported	$ 83,943
Add: stock-based employee compensation expense included in reported net income, net of related tax effects	1,779
Deduct: total stock-based employee compensation expense determined under the fair value method for all awards, net of related tax effects	(16,495)
Pro forma net income	$ 69,227
Earnings per share:	
Basic – as reported	$ 1.20
Basic – pro forma	$ 0.99
Diluted – as reported	$ 1.16
Diluted – pro forma	$ 0.96

The Company's calculations of the fair value of stock options granted during the years ended December 31, 2005 and 2006 were made using the Black-Scholes option-pricing model. The fair value of the Company's stock option grants was estimated assuming no expected dividend yield and the following weighted average assumptions for the years ended December 31, 2005 and 2006:

	Years Ended December 31,	
	2005	2006
Expected life	3.4 years	4 years
Risk-free interest rate	4.0%	4.8%
Expected volatility	20%	20%

Expected life is calculated based on the weighted average historical life of stock options. Risk-free interest rate is based on the U.S. treasury yield curve for the period of the expected life of the stock option for the years ended December 31, 2005 and 2006. Expected volatility is calculated using the daily historical volatility over the last one year for the year ended December 31, 2005, and over the last three years for the year ended December 31, 2006.

The fair value of restricted stock and restricted stock units for the years ended December 31, 2005, 2006 and 2007 were determined based on the number of shares granted and the quoted price of the Company's common stock.

The Company adopted SFAS 123(R) using the modified prospective method. Under this method, all share-based compensation cost is measured at the grant date, based on the estimated fair value of the award, and is recognized on a straight-line basis as expense over the employee's requisite service period. Prior periods are not restated. The Company calculates potential windfalls and shortfalls under the treasury stock method by including the impact of pro forma deferred tax assets in the calculation of diluted earnings per common share. The Company also adopted FASB Staff Position No. FAS 123(R)-3, *Transition Election Related to Accounting for the Tax Effects of Share-Based Payment Awards* ("FSP 123(R)-3"). Under FSP 123(R)-3, the Company elected to use the short-cut method to calculate the historical pool of windfall tax benefits. The Company elected to use the tax law ordering approach for purposes of determining whether an excess of tax benefit has been realized.

Stock-based compensation expense recognized during the years ended December 31, 2005, 2006 and 2007, were approximately $2,826 ($1,803 net of taxes), $3,451 ($2,200 net of taxes) and $6,128 ($3,825 net of taxes), respectively, and consisted of stock option, restricted stock unit and restricted stock expense. The Company records stock-based compensation expense in "selling, general and administrative" expenses in the Consolidated Statements of Income. The incremental stock-based compensation expense recognized as a result of adopting SFAS 123(R) was $583 ($421 net of taxes), and $665 ($476 net of taxes), or approximately a $0.01 per share decrease to basic and diluted earnings per common share for the years ended December 31, 2006 and 2007, respectively, which represented the expense related to stock options less the impact of recognizing a forfeiture rate assumption related

to restricted stock and restricted stock units. A contra-equity balance of $2,234 in "Deferred stock compensation" on the Consolidated Balance Sheet was reversed as a change in accounting policy upon the adoption of SFAS 123(R) to "Additional paid-in capital" as of January 1, 2006. The total unrecognized compensation cost at December 31, 2007, related to unvested stock option, restricted stock unit and restricted stock awards was $17,082 and that future expense will be recognized over the remaining vesting period of the stock option, restricted stock unit and restricted stock awards which currently extends to 2012. The weighted average remaining vesting period of those awards is 1.54 years.

The excess tax benefit associated with equity-based compensation was approximately $7,728 and $14,137 during the years ended December 31, 2006 and 2007, respectively. Prior to the adoption of SFAS 123(R), the Company presented all tax benefits of deductions resulting from the exercise of stock options as an operating cash flow, in accordance with Emerging Issues Task Force ("EITF") Issue No. 00-15, *Classification in the Statement of Cash Flows of the Income Tax Benefit Received by a Company upon Exercise of a Nonqualified Employee Stock Option.* SFAS 123(R) requires the Company to reflect the tax savings resulting from tax deductions in excess of expense reflected in its financial statements as a financing cash flow.

Per Share Information

Basic net income per share is computed using the weighted average number of common shares outstanding. Diluted net income per share is computed using the weighted average number of common and potential common shares outstanding. Potential common shares are excluded from the computation if their effect is anti-dilutive.

Advertising Costs

Advertising costs are expensed as incurred. Advertising expense for the years ended December 31, 2005, 2006 and 2007 was $2,057, $2,147 and $2,252, respectively, which is included in selling, general and administrative expense in the Consolidated Statements of Income.

Insurance Liabilities

The Company is primarily self-insured for automobile liability, property, general liability, workers' compensation, employer's liability and employee group health claims. The Company's insurance accruals are based on claims filed and estimates of claims incurred but not reported and are developed by the Company's management with assistance from its third-party actuary and its third-party claims administrator. The insurance accruals are influenced by the Company's past claims experience factors, which have a limited history, and by published industry development factors. At December 31, 2006 and 2007, the Company's total accrual for self-insured liabilities was $28,686 and $34,662, respectively, which is included in accrued liabilities in the Consolidated Balance Sheets.

Segment Information

The Company identifies its operating segments based on management responsibility and geographic location. The Company considers each of its four operating regions that report stand-alone financial information and have segment managers that report to the Company's chief operating decision maker to be an operating segment. The Company has assessed and determined that it has met all of the aggregation criteria required under SFAS No. 131, "Disclosures About Segments of an Enterprise and Related Information" ("SFAS No. 131"), to aggregate its multiple operating segments into one reportable segment. Therefore, all four operating regions have been aggregated together and are reported as a single segment consisting of the collection, transfer, recycling and disposal of non-hazardous solid waste primarily in the Western and Southern United States.

Reclassifications

Certain amounts reported in the Company's prior year's financial statements have been reclassified to conform with the 2007 presentation.

New Accounting Pronouncements

FSP EITF 00-19-2. In December 2006, the FASB issued FASB Staff Position EITF 00-19-2, *Accounting for Registration Payment Arrangements* ("FSP EITF 00-19-2") which provides guidance on the accounting for registration payment arrangements. FSP EITF 00-19-2 specifies that the contingent obligation to make future payments or otherwise transfer consideration under a registration payment arrangement, whether issued as a separate agreement or included as a provision of a financial instrument or other agreement, should be separately recognized and measured in accordance with FASB Statement No. 5, *Accounting for Contingencies*. A registration payment arrangement is defined in FSP EITF 00-19-2 as an arrangement with both of the following characteristics: (1) the arrangement specifies that the issuer will endeavor (a) to file a registration statement for the resale of specified financial instruments and/or for the resale of equity shares that are issuable upon exercise or conversion of specified financial instruments and for that registration statement to be declared effective by the Securities and Exchange Commission within a specified grace period, and/or (b) to maintain the effectiveness of the registration statement for a specified period of time (or in perpetuity); and (2) the arrangement requires the issuer to transfer consideration to the counterparty if the registration statement for the resale of the financial instrument or instruments subject to the arrangement is not declared effective or if effectiveness of the registration statement is not maintained. FSP EITF 00-19-2 is effective for registration payment arrangements and the financial instruments subject to those arrangements that are entered into or modified subsequent to December 21, 2006. For registration payment arrangements and financial instruments subject to those arrangements that were entered into prior to the issuance of FSP EITF 00-19-2, this guidance shall be effective for financial statements issued for fiscal years beginning after December 15, 2006, and interim periods within those fiscal years. The adoption of FSP EITF 00-19-2 on January 1, 2007 did not have an impact on the Company's financial position or results of operations.

SFAS 141(R). In December 2007, the FASB issued SFAS No. 141(R), *Business Combinations* ("SFAS 141(R)"), which establishes principles and requirements for how the acquirer: (a) recognizes and measures in its financial statements the identifiable assets acquired, the liabilities assumed, and any noncontrolling interest in the acquiree; (b) recognizes and measures the goodwill acquired in the business combination or a gain from a bargain purchase; and (c) determines what information to disclose to enable users of the financial statements to evaluate the nature and financial effects of the business combination. SFAS 141(R) requires contingent consideration to be recognized at its fair value on the acquisition date and, for certain arrangements, changes in fair value to be recognized in earnings until settled. SFAS 141(R) also requires acquisition-related transaction and restructuring costs to be expensed rather than treated as part of the cost of the acquisition. SFAS 141(R) applies prospectively to business combinations for which the acquisition date is on or after the beginning of the first annual reporting period beginning on or after December 15, 2008. The Company is currently evaluating the impact this statement will have on its financial position and results of operations.

SFAS 157. In September 2006, the FASB issued SFAS No. 157, *Fair Value Measurements* ("SFAS 157"), which defines fair value, establishes a framework for measuring fair value in U.S. generally accepted accounting principles, and expands disclosures about fair value measurements. SFAS 157 applies under other existing accounting pronouncements that require or permit fair value measurements, as the FASB previously concluded in those accounting pronouncements that fair value is the relevant measurement attribute. Accordingly, SFAS 157 does not require any new fair value measurements. However, the application of this statement may change the current practice for fair value measurements. SFAS 157 is effective for financial statements issued for fiscal years beginning after November 15, 2007, and interim periods within those fiscal years. However, in November 2007, the FASB authorized its staff to draft a proposed FSP that would partially defer the effective date of SFAS 157 for one year for nonfinancial assets and nonfinancial liabilities that are recognized or disclosed at fair value in the financial statements on a nonrecurring basis. Examples of items that would be subject to the deferral if it is approved include the following:

- Nonfinancial assets and nonfinancial liabilities that are measured at fair value in a business combination or other new basis event, except those that are remeasured at fair value in subsequent periods;
- Reporting units measured at fair value in Step 1 of the goodwill impairment test under FASB Statement 142, *Goodwill and Other Intangible Assets* ("SFAS 142"), and nonfinancial assets and nonfinancial liabilities measured at fair value in Step 2 of that test;
- Indefinite-lived intangible assets measured at fair value for impairment assessment under SFAS 142;
- Long-lived asset groups measured at fair value under Step 2 of FASB Statement 144, *Accounting for the Impairment or Disposal of Long-Lived Assets*; and
- Asset retirement obligations measured at fair value upon initial recognition under FASB Statement 143, *Accounting for Asset Retirement Obligations*, or upon a remeasurement event.

The proposed FSP will not defer recognition and disclosure requirements for financial assets and financial liabilities or for nonfinancial assets and nonfinancial liabilities that are remeasured at least annually. The Company is currently evaluating the impact this statement will have on its financial position and results of operations.

SFAS 159. In February 2007, the FASB issued SFAS No. 159, *The Fair Value Option for Financial Assets and Financial Liabilities - Including an Amendment of FASB Statement No. 115* ("SFAS 159"). SFAS 159 permits entities to choose to measure many financial instruments and certain other items at fair value that are not currently required to be measured at fair value. SFAS 159 permits all entities to choose, at specified election dates, to measure eligible items at fair value (the "fair value option"). A business entity shall report unrealized gains and losses on items for which the fair value option has been elected in earnings at each subsequent reporting date. Upfront costs and fees related to items for which the fair value option is elected are recognized in earnings as incurred and not deferred. SFAS 159 also establishes presentation and disclosure requirements designed to facilitate comparisons between entities that choose different measurement attributes for similar types of assets and liabilities. SFAS 159 is effective as of the beginning of an entity's first fiscal year that begins after November 15, 2007. The Company is currently evaluating whether to adopt the fair value option permitted under this statement, including assessing the impact that the fair value option would have on the Company's financial position and results of operations if adopted.

SFAS 160. In December 2007, the FASB issued SFAS No. 160, *Noncontrolling Interests in Consolidated Financial Statements an Amendment of ARB No. 51* ("SFAS 160"), which establishes accounting and reporting standards for the noncontrolling interest in a subsidiary and for the deconsolidation of a subsidiary. SFAS 160 clarifies that a noncontrolling interest in a subsidiary is an ownership interest in the consolidated entity that should be reported as equity in the consolidated financial statements. SFAS 160 also requires consolidated net income to be reported at amounts that include the amounts attributable to both the parent and the noncontrolling interest. It also requires disclosure, on the face of the consolidated statement of income, of the amounts of consolidated net income attributable to the parent and to the noncontrolling interest. SFAS 160 also provides guidance when a subsidiary is deconsolidated and requires expanded disclosures in the consolidated financial statements that clearly identify and distinguish between the interests of the parent's owners and the interests of the noncontrolling owners of a subsidiary. SFAS 160 is effective for fiscal years, and interim periods within those fiscal years, beginning on or after December 15, 2008. The Company is currently evaluating the impact this statement will have on its financial position and results of operations.

2. USE OF ESTIMATES AND ASSUMPTIONS

In preparing the Company's consolidated financial statements, several estimates and assumptions are made that affect the accounting for and recognition of assets, liabilities, revenues and expenses. These estimates and assumptions must be made because certain of the information that is used in the preparation of the Company's consolidated financial statements is dependent on future events, cannot be calculated with a high degree of precision from data available or is simply not capable of being readily calculated based on generally accepted methodologies. In some cases, these estimates are particularly difficult to determine and the Company must exercise significant judgment. The most difficult, subjective and complex estimates and the assumptions that deal with the greatest amount of uncertainty are related to the Company's accounting for landfills, self-insurance, income taxes, allocation of acquisition purchase price and asset impairments, which are discussed in Note 1. An additional area that involves estimation is when the Company estimates the amount of potential exposure it may have with respect to litigation, claims and assessments in accordance with SFAS No. 5, *Accounting for Contingencies*. Actual results for all estimates could differ materially from the estimates and assumptions that the Company uses in the preparation of its consolidated financial statements.

3. DISCONTINUED OPERATIONS

In the second quarter of 2005, the Company disposed of a hauling operation in Utah and exited a landfill operating contract with a finite term in California. The results for the year ended December 31, 2005, have been restated to present the results for these operations as discontinued operations.

The table below reflects the discontinued operations as of December 31, 2005 as follows:

	Year Ended December 31, 2005
Revenues	$ 1,367
Operating expenses:	
Cost of operations	2,041
Selling, general and administrative	195
Depreciation and amortization	250
Gain on disposal of assets and operations	(197)
Operating loss	(922)
Other income, net	-
Loss from operations of discontinued operations	(922)
Income tax benefit	343
Loss on discontinued operations	$ (579)

4. ACQUISITIONS

The Company's growth strategy includes the acquisition of solid waste businesses located in markets with significant growth opportunities. Acquisitions are accounted for under the purchase method of accounting. The results of operations of the acquired businesses have been included in the Company's consolidated financial statements from their respective acquisition dates.

During 2005, the Company acquired Mountain Jack Environmental Services, Inc. and 17 non-hazardous solid waste businesses that were accounted for as purchases. Aggregate consideration for the acquisitions consisted of $78,889 in cash (net of cash acquired), $254 in notes payable to sellers, common stock warrants valued at $82 and the assumption of debt and long-term liabilities totaling $25,481. During the year ended December 31, 2005, the Company paid $1,960 of acquisition-related liabilities accrued at December 31, 2004.

During 2006, the Company acquired 14 non-hazardous solid waste collection, transfer and recycling businesses. Aggregate consideration for the acquisitions consisted of $37,445 in cash (net of cash acquired), $893 of net assets exchanged for new operations, common stock warrants valued at $115, and the assumption of debt totaling $3,266. During the year ended December 31, 2006, the Company paid or adjusted $1,149 of acquisition-related liabilities accrued at December 31, 2005.

During 2007, the Company acquired 15 non-hazardous solid waste collection, transfer, disposal and recycling businesses. Aggregate consideration for the acquisitions consisted of $107,649 in cash (net of cash acquired), common stock warrants valued at $123, and the assumption of debt totaling $31,249. During the year ended December 31, 2007, the Company paid or adjusted $1,780 of acquisition-related liabilities accrued at December 31, 2006.

The purchase prices have been allocated to the identified intangible assets and tangible assets acquired and liabilities assumed based on their estimated fair values at the dates of acquisition, with any residual amounts allocated to goodwill. The purchase price allocations are considered preliminary until the Company is no longer waiting for information that it has arranged to obtain and that is known to be available or obtainable. Although the time required to obtain the necessary information will vary with circumstances specific to an individual acquisition, the "allocation period" for finalizing purchase price allocations does not exceed one year from the consummation of a business combination.

As of December 31, 2007, the Company had four acquisitions for which purchase price allocations were preliminary, mainly as a result of pending working capital valuations. The Company believes the potential changes to its preliminary purchase price allocations will not have a material impact on its financial condition, results of operations or cash flows.

A summary of the purchase price allocations for acquisitions consummated in 2005 and 2006 and preliminary purchase price allocations for the acquisitions consummated in 2007 are as follows:

	2005 Acquisitions	2006 Acquisitions	2007 Acquisitions
Acquired Assets:			
Accounts receivable	$ 3,641	$ 902	$ 6,099
Prepaid expenses and other current assets	439	332	724
Property and equipment	23,910	12,580	82,749
Goodwill	62,628	27,571	60,653
Long-term franchise agreements and contracts	5,170	1,859	3,667
Indefinite-lived intangibles	6,646	-	-
Other intangibles	9,575	964	3,592
Non-competition agreements	793	120	4,941
Other assets	-	591	-
Assumed Liabilities:			
Deferred revenue	(1,984)	(879)	(4,043)
Accounts payable	(2,455)	(214)	(2,283)
Accrued liabilities	(2,432)	(1,558)	(4,812)
Notes issued to sellers	(254)	-	-
Debt and long-term liabilities assumed	(25,481)	(3,266)	(35,442)
Deferred income taxes	(1,225)	(549)	(8,073)
Total consideration, net	$ 78,971	$ 38,453	$ 107,772

The acquisitions completed in the years ended December 31, 2005, 2006 and 2007, were not material to the Company's results of operations.

Goodwill acquired in 2006 totaling $24,820 and long-term franchise agreements, contracts, and other intangibles acquired in 2006 totaling $1,460 are expected to be deductible for tax purposes. Goodwill acquired in 2007 totaling $58,886 and long-term franchise agreements, contracts, and other intangibles acquired in 2007 totaling $11,269 are expected to be deductible for tax purposes.

5. INTANGIBLE ASSETS

Intangible assets, exclusive of goodwill, consisted of the following at December 31, 2007:

	Gross Carrying Amount	Accumulated Amortization	Net Carrying Amount
Amortizable intangible assets:			
Long-term franchise agreements and contracts	$ 62,258	$ (9,470)	$ 52,788
Non-competition agreements	9,703	(4,404)	5,299
Other	17,063	(5,041)	12,022
	89,024	(18,915)	70,109
Nonamortized intangible assets:			
Indefinite-lived intangible assets	23,848	-	23,848
Intangible assets, exclusive of goodwill	$ 112,872	$ (18,915)	$ 93,957

The weighted-average amortization periods of long-term franchise agreements and contracts, non-competition agreements and other intangibles acquired during the year ended December 31, 2007 are 22.4 years, 12.4 years and 8.4 years, respectively.

Intangible assets, exclusive of goodwill, consisted of the following at December 31, 2006:

	Gross Carrying Amount	Accumulated Amortization	Net Carrying Amount
Amortizable intangible assets:			
Long-term franchise agreements and contracts	$ 58,592	$ (7,354)	$ 51,238
Non-competition agreements	4,761	(3,838)	923
Other	13,470	(3,381)	10,089
	76,823	(14,573)	62,250
Nonamortized intangible assets:			
Indefinite-lived intangible assets	23,848	-	23,848
Intangible assets, exclusive of goodwill	$ 100,671	$ (14,573)	$ 86,098

The weighted-average amortization periods of long-term franchise agreements and contracts, non-competition agreements and other intangibles acquired during the year ended December 31, 2006 are 10 years, 7 years and 9 years, respectively.

The amounts assigned to indefinite-lived intangible assets consist of the value of certain perpetual rights to provide solid waste collection and transportation services in specified territories. These indefinite-lived intangible assets were subject to amortization prior to the Company's adoption of SFAS No. 142.

Estimated future amortization expense for the next five years of amortizable intangible assets is as follows:

For the year ended December 31, 2008	$ 5,001
For the year ended December 31, 2009	$ 4,754
For the year ended December 31, 2010	$ 4,679
For the year ended December 31, 2011	$ 4,510
For the year ended December 31, 2012	$ 4,374

Total amortization expense for intangible assets was $3,070, $4,080 and $4,341 for the years ended December 31, 2005, 2006 and 2007, respectively.

6. PROPERTY AND EQUIPMENT

Property and equipment consists of the following:

	Year Ended December 31,	
	2006	2007
Landfill site costs	$ 516,490	$ 608,750
Rolling stock	216,941	274,719
Land, buildings and improvements	91,625	115,461
Containers	112,491	131,412
Machinery and equipment	105,955	122,107
Construction in progress	10,114	4,122
	1,053,616	1,256,571
Less accumulated depreciation and depletion	(317,188)	(391,241)
	$ 736,428	$ 865,330

The Company's landfill depletion expense for the years ended December 31, 2005, 2006 and 2007 was $16,844, $18,854 and $22,282, respectively.

7. OTHER ASSETS, NET

Other assets, net, consist of the following:

	Year Ended December 31,	
	2006	2007
Deferred financing costs	$ 9,028	$ 7,972
Investment in unconsolidated entity	5,300	5,300
Landfill closure receivable	3,473	3,397
Deposits	869	917
Unrealized interest-rate swap gains	2,493	-
Other	3,655	3,871
	$ 24,818	$ 21,457

8. ACCRUED LIABILITIES

Accrued liabilities consist of the following:

	Year Ended December 31,	
	2006	2007
Insurance claims	$ 28,686	$ 34,662
Payroll and payroll-related	14,389	18,872
Interest payable	2,797	2,674
Acquisition-related	2,522	4,852
Income taxes payable	2,933	-
Other	6,483	8,518
	$ 57,810	$ 69,578

9. LONG-TERM DEBT

Long-term debt consists of the following:

	Year Ended December 31,	
	2006	2007
Revolver under Credit Facility	$ 400,000	$ 479,000
2026 Convertible Senior Notes	200,000	200,000
2001 Wasco Bonds	11,740	11,285
California Tax-Exempt Bonds	20,090	33,225
Notes payable to sellers in connection with acquisitions, uncollateralized, bearing interest at 5.5% to 7.5%, principal and interest payments due periodically with due dates ranging from 2009 to 2036	4,867	3,994
Notes payable to third parties, collateralized by substantially all assets of certain subsidiaries of the Company, bearing interest at 6.0% to 11.0%, principal and interest payments due periodically with due dates ranging from 2008 to 2010	7,495	5,329
	644,192	732,833
Less – current portion	(6,884)	(13,315)
	$ 637,308	$ 719,518

Credit Facility

The Company has a senior revolving credit facility with a syndicate of banks for which Bank of America, N.A. acts as agent. The maximum borrowings available under the Company's previous credit facility and current credit facility, were $750,000 and $800,000

as of December 31, 2006 and 2007, respectively. There is no maximum amount of standby letters of credit that can be issued; however, the issuance of standby letters of credit reduces the amount of total borrowings available. As of December 31, 2006, $400,000 was outstanding under the previous credit facility, exclusive of outstanding standby letters of credit of $59,144. As of December 31, 2007, $479,000 was outstanding under the credit facility, exclusive of outstanding standby letters of credit of $68,260. The credit facility matures in September 2012.

The borrowings under the credit facility bear interest, at the Company's option, at either the base rate plus the applicable base rate margin (approximately 8.25% and 7.25% at December 31, 2006 and 2007, respectively) on base rate loans, or the Eurodollar rate plus the applicable Eurodollar margin (approximately 6.2% and 5.8% at December 31, 2006 and 2007, respectively) on Eurodollar loans. The applicable margins under the credit facility vary depending on the Company's leverage ratio, as defined in the credit agreement. As of December 31, 2006, these margins ranged from 0.75% to 1.375% for Eurodollar loans and 0.00% for base rate loans. As of December 31, 2007, these margins ranged from 0.625% to 1.125% for Eurodollar loans and 0.00% for base rate loans.

The credit facility requires the Company to pay an annual commitment fee on the unused portion of the facility. The commitment fee ranged from 0.15% to 0.25% as of December 31, 2006, and from 0.15% to 0.20% as of December 31, 2007.

The Company is able to increase the maximum borrowings under the credit facility to $1,000,000, provided that no event of default, as defined, has occurred, although no existing lender has any obligation to increase its commitment.

The borrowings under the credit facility are not collateralized. The credit facility contains customary representations and warranties and places certain business, financial and operating restrictions on the Company relating to, among other things, indebtedness, liens and other encumbrances, investments, mergers and acquisitions, asset sales, sale and leaseback transactions, and dividends, distributions and redemptions of capital stock. The credit agreement requires that the Company maintain specified financial ratios. As of December 31, 2006 and 2007, the Company was in compliance with all applicable covenants in the credit facility.

Floating Rate Convertible Subordinated Notes due 2022

In 2002, the Company issued Floating Rate Convertible Subordinated Notes due 2022 (the "2022 Notes") with an aggregate principal amount of $175,000 in an offering pursuant to Rule 144A of the Securities Act of 1933, as amended. The 2022 Notes were uncollateralized and ranked junior to all existing and future senior indebtedness, as defined in the indenture governing the 2022 Notes. The 2022 Notes bore interest at the 3-month LIBOR rate plus 50 basis points, payable quarterly (4.8%, as of December 31, 2005). The 2022 Notes required (subject to certain exceptions) payment of the principal value in cash and net share settle of the conversion value in excess of the principal value of the notes upon conversion and contained dividend protection provisions.

In April 2006, the Company called for redemption the $175,000 aggregate principal amount of its 2022 Notes, the redemption to occur on May 8 and June 5, 2006. Holders of the 2022 Notes had the right to convert their notes at any time prior to the end of the day that was two business days preceding the applicable redemption date. The Company paid approximately $175,000 in cash and issued 1,441,763 shares of its common stock in connection with the conversion and redemption. The Company funded the conversion and redemption with borrowings under its senior revolving credit facility. Additionally, the Company recorded a non-cash, pre-tax charge of $4,185 ($2,637 net of taxes) in other income (expense) for the write-off of unamortized debt issuance costs associated with the full $175,000 aggregate principal amount of the notes called for redemption.

Convertible Senior Notes due 2026

On March 20, 2006, the Company completed its offering of $200,000 aggregate principal amount of its 3.75% Convertible Senior Notes due 2026 in an offering pursuant to Rule 144A of the Securities Act of 1933, as amended. The terms and conditions of the 2026 Notes are set forth in the Indenture, dated as of March 20, 2006, between the Company and U.S. Bank National Association, as trustee. The 2026 Notes rank equally in right of payment to all of the Company's other existing and future senior uncollateralized and unsubordinated indebtedness. The 2026 Notes rank senior in right of payment to all of the Company's existing and future subordinated indebtedness and are subordinated in right of payment to the Company's collateralized obligations to the extent of the assets collateralizing such obligations. The 2026 Notes bear interest at 3.75% per annum payable semi-annually in arrears on April 1

and October 1 of each year, beginning on October 1, 2006, until the maturity date of April 1, 2026. The Company's obligations under the 2026 Notes are not guaranteed by any third party.

The 2026 Notes are convertible into cash and, if applicable, shares of common stock based on an initial conversion rate of 29.4118 shares of common stock per $1 principal amount of 2026 Notes (which is equal to an initial conversion price of approximately $34.00 per share), subject to adjustment, and only under certain circumstances. Upon a surrender of the 2026 notes for conversion, the Company will deliver cash equal to the lesser of the aggregate principal amount of notes to be converted and its total conversion obligation. The Company will deliver shares of its common stock in respect of the remainder, if any, of its conversion obligation. The holders of the 2026 Notes who convert their notes in connection with a change in control (as defined in the Indenture) may be entitled to a make-whole premium in the form of an increase in the conversion rate.

Holders may surrender notes for conversion into cash and, if applicable, shares of the Company's common stock at an initial conversion price of $34.00 per share (equivalent to an initial conversion rate of 29.4118 shares per $1 principal amount of notes) at any time prior to the close of business on the maturity date, if the closing sale price of the Company's common stock for at least 20 trading days in the period of 30 consecutive trading days ending on the last trading day of the quarter preceding the quarter in which the conversion occurs, is more than 130% of the conversion price per share of the Company's common stock on that 30th day.

Beginning on April 1, 2010, the Company may redeem in cash all or part of the 2026 Notes at a price equal to 100% of the principal amount plus accrued and unpaid interest, including additional interest, if any, and, if redeemed prior to April 1, 2011, an interest make-whole payment. The holders of the 2026 Notes can require the Company to repurchase all or a part of the 2026 Notes in cash on each of April 1, 2011, 2016 and 2021, and in the event of a change of control of the Company, at a purchase price of 100% of the principal amount of the 2026 Notes plus any accrued and unpaid interest, including additional interest, if any. The Company is amortizing the $5,534 debt issuance costs over a five-year term through the first put date, or April 1, 2011.

Wasco Bond

In December 1999, the Company completed a $13,600 tax-exempt bond financing for its Wasco subsidiary (the "Wasco Bond"). These funds were used for the acquisition, construction, furnishing, equipping and improving of a landfill located in Wasco County, Oregon. In March 2001, the Company refinanced the Wasco Bond by completing $13,600 of tax-exempt revenue bond financing through the issuance of three bonds (the "2001 Wasco Bonds"). At December 31, 2007, the 2001 Wasco Bonds consisted of $2,810 of 7.0% term bonds due March 1, 2012, and $8,475 of 7.25% term bonds due March 1, 2021. On an annual basis, the Company is required to remit principal payments. The principal payment requirements in 2006 and 2007 were $425 and $455, respectively. The total future principal payment requirements are as follows: $485 in 2008, $525 in 2009, $560 in 2010, $600 in 2011, $640 in 2012, and $8,475 thereafter.

California Tax-Exempt Bonds

In June 1998, the Company completed a $1,800 tax-exempt bond financing for its Madera subsidiary (the "Madera Bond"). These funds were used for specified capital expenditures and improvements, including installation of a landfill gas recovery system. The bond matures on May 1, 2016 and bears interest at variable rates based on market conditions for California tax-exempt bonds (approximately 3.9% and 3.4% at December 31, 2006 and 2007, respectively). The Madera Bond is backed by a letter of credit issued by Bank of America under the senior revolving credit facility for $1,829.

In July 1998, Cold Canyon Landfill, Inc., a wholly-owned subsidiary of the Company acquired in 2002, received a total of $5,845 from the completion of a tax-exempt bond financing (the "Cold Canyon Bond") through the California Pollution Control Financing Authority. These funds were used for specified capital expenditures and improvements. The outstanding balance of the Cold Canyon Bond was $5,845 at December 31, 2006 and 2007, with scheduled principal maturity of $5,845 in July 2008. The Cold Canyon Bond bears interest at variable rates based on market conditions for California tax-exempt bonds (approximately 3.9% and 3.4% at December 31, 2006 and 2007, respectively) and is backed by a letter of credit issued by Bank of America under the senior revolving credit facility for $5,931.

In June 1999, GreenWaste of Tehama, a wholly-owned subsidiary of the Company acquired in 2003, received a total of $3,435 from the completion of a tax-exempt bond financing (the "Tehama Bond") through the California Pollution Control Financing Authority. These funds were used to finance improvements to and expansion of certain solid waste disposal facilities. The

outstanding balance of the Tehama Bond was $700 and $640 at December 31, 2006 and 2007, respectively. The Tehama Bond matures on June 1, 2014 and bears interest at variable rates based on market conditions for California tax-exempt bonds (approximately 3.9% and 3.4% at December 31, 2006 and 2007, respectively), and is backed by a letter of credit issued by Bank of America under the senior revolving credit facility for $659. On an annual basis, the Company is required to remit principal payments. The principal payment requirements in 2006 and 2007 were $475 and $60, respectively. The total future principal payment requirements are as follows: $60 in 2008, $65 in 2009, $70 in 2010, $75 in 2011, $80 in 2012, and $290 thereafter.

In August 1997 and October 2001, GreenTeam of San Jose, a wholly-owned subsidiary of the Company acquired in 2003, received a total of $18,040 from the completion of a tax-exempt bond financing (the "San Jose Bonds") through California Pollution Control Financing Authority. These funds were used for specified capital expenditures and improvements. The outstanding balance of the San Jose Bonds was $11,745 and $9,440 at December 31, 2006 and 2007, respectively. The San Jose Bonds mature on August 1, 2012 and September 1, 2016 and bear interest at variable rates based on market conditions for California tax-exempt bonds (approximately 3.9% and 3.4% at December 31, 2006 and 2007, respectively) and are backed by a letter of credit issued by Bank of America under the senior revolving credit facility for $9,708. On an annual basis, the Company is required to remit principal payments. The principal payment requirements in 2006 and 2007 were $2,180 and $2,305, respectively. The total future principal payment requirements are as follows: $2,420 in 2008, $2,545 in 2009, $850 in 2010, $885 in 2011, $925 in 2012, and $1,815 thereafter.

In July 2007, the Company received a total of $15,500 (before expenses) from the completion of a tax-exempt bond financing (the "West Valley Bonds") through the California Pollution Control Financing Authority. These funds were used to finance the acquisition of trucks and other solid waste vehicles and equipment to service the West Valley Solid Waste Management Authority contract in Santa Clara County, California. The outstanding balance of the West Valley Bonds was $15,500 at December 31, 2007. The West Valley Bonds mature on August 1, 2018, and bear interest at variable rates based on market conditions for California tax-exempt bonds (approximately 3.4% at December 31, 2007) and are backed by a letter of credit issued by Bank of America under the senior revolving credit facility for $15,678.

The California tax-exempt bonds are remarketed weekly by a remarketing agent to effectively maintain a variable yield. If the remarketing agent is unable to remarket the bonds, then the remarketing agent can put the bonds to the Company. The Company has obtained standby letters of credit, issued under its senior revolving credit facility, to guarantee repayment of the bonds in this event. The Company classified these borrowings as long-term at December 31, 2007 because the borrowings are supported by standby letters of credit issued under the Company's senior revolving credit facility which is long-term.

As of December 31, 2007, aggregate contractual future principal payments by calendar year on long-term debt are due as follows:

2008	$ 13,315
2009	5,798
2010	1,771
2011	201,860
2012	480,965
Thereafter	29,124
	$ 732,833

10. COMMITMENTS AND CONTINGENCIES

COMMITMENTS

Leases

The Company leases its facilities and certain equipment under non-cancelable operating leases for periods ranging from one to 20 years, with renewal options for certain leases. The Company's total rent expense under operating leases during the years ended December 31, 2005, 2006 and 2007 was $7,422, $8,137 and $8,790, respectively.

As of December 31, 2007, future minimum lease payments under these leases, by calendar year, are as follows:

2008	$ 6,904
2009	7,137
2010	7,119
2011	6,332
2012	6,024
Thereafter	33,934
	$ 67,450

Financial Surety Bonds

The Company uses financial surety bonds for a variety of corporate guarantees. The two largest uses of financial surety bonds are for municipal contract performance guarantees and landfill final capping, closure and post-closure financial assurance required under certain environmental regulations. Environmental regulations require demonstrated financial assurance to meet final capping, closure and post-closure requirements for landfills. In addition to surety bonds, these requirements may also be met through alternative financial assurance instruments, including insurance, letters of credit and restricted asset deposits.

At December 31, 2006 and 2007, the Company had provided customers and various regulatory authorities with surety bonds in the aggregate amount of approximately $96,862 and $112,512, respectively, to secure its landfill final capping, closure and post-closure requirements and $56,876 and $51,813, respectively, to secure performance under collection contracts and landfill operating agreements.

In 2003, the Company paid $5,300 to acquire a 9.9% interest in a company that, among other activities, issues financial surety bonds to secure final capping, landfill closure and post-closure obligations for companies operating in the solid waste industry. The Company accounts for this investment under the cost method of accounting. There have been no identified events or changes in circumstances that may have a significant adverse effect on the fair value of the investment. This investee company and the parent company of the investee had written final capping, landfill closure and post-closure financial surety bonds for the Company, of which $79,405 and $86,806 were outstanding as of December 31, 2006 and 2007, respectively. The Company's reimbursement obligations under these bonds are secured by a pledge of its stock in the investee company.

Put Option

The minority interests holders of a majority-owned subsidiary of the Company have a currently exercisable put option to require the Company to complete the acquisition of this majority-owned subsidiary by purchasing their minority ownership interests for fair market value. The put option calculates the fair market value of the subsidiary based on its current operating income before depreciation and amortization, as defined in the put option agreement. The put option does not have a stated termination date. At December 31, 2007, the minority interests holders' pro rata share of the subsidiary's fair market value is estimated to be worth between approximately $93,365 and $100,450. Because the put is calculated at fair market value, no amounts have been accrued relative to the put option.

CONTINGENCIES

Environmental Risks

The Company is subject to liability for any environmental damage that its solid waste facilities may cause to neighboring landowners or residents, particularly as a result of the contamination of soil, groundwater or surface water, and especially drinking water, including damage resulting from conditions existing prior to the acquisition of such facilities by the Company. The Company may also be subject to liability for any off-site environmental contamination caused by pollutants or hazardous substances whose transportation, treatment or disposal was arranged by the Company or its predecessors. Any substantial liability for environmental damage incurred by the Company could have a material adverse effect on the Company's financial condition, results of operations or cash flows. As of December 31, 2007, the Company is not aware of any significant environmental liabilities.

Legal Proceedings

The Company's subsidiary, High Desert Solid Waste Facility, Inc. (formerly known as Rhino Solid Waste, Inc.), owns undeveloped property in Chaparral, New Mexico, for which it sought a permit to operate a municipal solid waste landfill. After a public hearing, the New Mexico Environment Department (the "Department") approved the permit for the facility on January 30, 2002. Colonias Development Council ("CDC"), a nonprofit organization, opposed the permit at the public hearing and appealed the Department's decision to the courts of New Mexico, primarily on the grounds that the Department failed to consider the social impact of the landfill on the community of Chaparral, and failed to consider regional planning issues. On July 18, 2005, in *Colonias Dev. Council v. Rhino Envtl. Servs., Inc. (In re Rhino Envtl. Servs.), 2005 NMSC 24, 117 P.3d 939*, the New Mexico Supreme Court remanded the matter back to the Department to conduct a limited public hearing on certain evidence that CDC claims was wrongfully excluded from consideration by the hearing officer, and to allow the Department to reconsider the evidence already proffered concerning the impact of the landfill on the surrounding community's quality of life. The parties have agreed to reschedule the hearing for July 2008 to allow the Company time to explore a possible relocation of the landfill. At December 31, 2007, the Company had $8,960 of capitalized expenditures related to this landfill development project. If the Company is not ultimately issued a permit to operate the landfill, the Company will be required to expense in a future period the $8,960 of capitalized expenditures, less the recoverable value of the undeveloped property and other amounts recovered, which would likely have a material adverse effect on the Company's reported income for that period.

The Company opened a municipal solid waste landfill in Harper County, Kansas in January 2006, following the issuance by the Kansas Department of Health and Environment ("KDHE") of a final permit to operate the landfill. On October 3, 2005, landfill opponents filed a suit *(Board of Commissioners of Sumner County, Kansas, Tri-County Concerned Citizens and Dalton Holland v. Roderick Bremby, Secretary of the Kansas Department of Health and Environment, et al.)* in the District Court of Shawnee County, Kansas (Case No. 05-C-1264), seeking a judicial review of the order, alleging that a site analysis prepared for the Company and submitted to the KDHE as part of the process leading to the issuance of the permit was deficient in several respects. The action sought to stay the effectiveness of the permit and to nullify it. On April 7, 2006, the District Court issued an order denying the plaintiffs' request for judicial review on the grounds that they lack standing to bring the action. The plaintiffs appealed this decision to the Kansas Court of Appeals, and on October 12, 2007, the Court of Appeals issued an opinion reversing and remanding the District Court's decision. The Company is appealing the decision to the Kansas Supreme Court. While the Company believes that it will prevail in this case, a final adverse determination with respect to the permit would likely have a material adverse effect on the Company's reported income in the future. The Company cannot estimate the amount of any such material adverse effect.

On October 25, 2006, a purported shareholder derivative complaint captioned *Travis v. Mittelstaedt, et al.* was filed in the United States District Court for the Eastern District of California, naming certain of the Company's directors and officers as defendants, and naming the Company as a nominal defendant. On January 30, 2007, a similar purported derivative action, captioned *Pierce and Banister v. Mittelstaedt, et al.*, was filed in the same federal court as the *Travis* case. The *Travis* and *Pierce* and *Banister* cases have been consolidated. The consolidated complaint in the action alleges violations of various federal and California securities laws, breach of fiduciary duty, corporate waste, and related claims in connection with the timing of certain historical stock option grants. The consolidated complaint names as defendants certain of the Company's current and former directors and officers, and names the Company as a nominal defendant. On June 22, 2007, the Company and the individual defendants filed motions to dismiss the consolidated action. The motions are pending.

On October 30, 2006, the Company was served with another purported shareholder derivative complaint, naming certain of the Company's current and former directors and officers as defendants, and naming the Company as a nominal defendant. The suit, captioned *Nichols v. Mittelstaedt, et al.* and filed in the Superior Court of California, County of Sacramento, contains allegations substantially similar to the consolidated federal action described above. On April 3, 2007, a fourth purported derivative action, captioned *Priest v. Mittelstaedt, et al.*, was filed in the Superior Court of California, County of Sacramento, and contains allegations substantially similar to the consolidated federal action and the *Nichols* suit. The *Nichols* and *Priest* suits have been stayed pending the outcome of the consolidated federal action. The Company has completed a review of its historical stock option granting practices, including all option grants since its initial public offering in May 1998, and reported the results of the review to the Audit Committee of its Board of Directors. The review identified a small number of immaterial exceptions to non-cash compensation expense attributable to administrative and clerical errors. These exceptions are not material to the Company's current and historical financial statements, and the Audit Committee concluded that no further action was necessary. As with any litigation proceeding, the Company cannot predict with certainty the eventual outcome of this pending litigation, nor can the Company estimate the amount of any losses that might result.

In the normal course of its business and as a result of the extensive governmental regulation of the solid waste industry, the Company is subject to various other judicial and administrative proceedings involving federal, state or local agencies. In these proceedings, an agency may seek to impose fines on the Company or to revoke or deny renewal of an operating permit held by the Company. From time to time the Company may also be subject to actions brought by citizens' groups or adjacent landowners or residents in connection with the permitting and licensing of landfills and transfer stations, or alleging environmental damage or violations of the permits and licenses pursuant to which the Company operates.

In addition, the Company is a party to various claims and suits pending for alleged damages to persons and property, alleged violations of certain laws and alleged liabilities arising out of matters occurring during the normal operation of the waste management business. Except as noted in the legal cases described above, as of December 31, 2007, there is no current proceeding or litigation involving the Company that the Company believes will have a material adverse effect on its business, financial condition, results of operations or cash flows.

Employees

At December 31, 2007, the Company employed 4,978 full-time employees, of which 381, or approximately 8% of its workforce, are employed under collective bargaining agreements primarily with the Teamsters Union. These employees are subject to labor agreements that are subject to renegotiation periodically. The Company does not have any collective bargaining agreements that are set to expire in 2008.

11. STOCKHOLDERS' EQUITY

Stock Split

On February 12, 2007, the Company announced that its Board of Directors had authorized a three-for-two stock split of its common stock, in the form of a 50% stock dividend, payable to stockholders of record as of February 27, 2007. Shares resulting from the split were issued on March 13, 2007. In connection therewith, the Company transferred $228 from retained earnings to common stock, representing the par value of additional shares issued. As a result of the stock split, fractional shares equal to 3,040 whole shares were repurchased for $132. All share and per share amounts for all periods presented have been adjusted to reflect the stock split.

Share Repurchase Program

The Company's Board of Directors has authorized a common stock repurchase program for the repurchase of up to $500,000 of common stock through December 31, 2008. Under the program, stock repurchases may be made in the open market or in privately negotiated transactions from time to time at management's discretion. The timing and amounts of any repurchases will depend on many factors, including the Company's capital structure, the market price of the common stock and overall market conditions. As of December 31, 2006 and 2007, the Company had repurchased 12,665,708 and 16,236,798 shares, respectively, of its common stock at a cost of $286,987 and $397,185, respectively. As of December 31, 2007, the remaining maximum dollar value of shares available for purchase under the program was approximately $111,744. The Company's policy related to repurchases of its common stock is to charge any excess of cost over par value entirely to additional paid-in capital.

Common Stock

Of the 82,947,865 shares of common stock authorized but unissued as of December 31, 2007, the following shares were reserved for issuance:

Stock option plans	7,783,493
2026 Convertible Senior Notes	5,882,354
Consultant Incentive Plan	288,197
Stock purchase warrants	5,000
2002 Restricted stock plan	15,403
	13,974,447

Restricted Stock and Stock Options

During 2002, the Company's Board of Directors adopted the 2002 Restricted Stock Plan in which selected employees, other than officers and directors, may participate. Restricted stock awards under the 2002 Restricted Stock Plan may or may not require a cash payment from a participant to whom an award is made. The awards become free of the stated restrictions over periods determined at the date of the grant, subject to continuing employment, the achievement of particular performance goals and/or the satisfaction of certain vesting provisions applicable to each award of shares. The Board of Directors authorizes the grant of any stock awards and determines the employees to whom shares are awarded, number of shares to be awarded, award period and other terms and conditions of the awards. Unvested shares of restricted stock may be forfeited and revert to the Company if a plan participant resigns from the Company and its subsidiaries, is terminated for cause or violates the terms of any noncompetition or nonsolicitation agreements to which that plan participant is bound (if such plan participant has been terminated without cause). A total of 213,750 shares of the Company's common stock were reserved for issuance under the 2002 Restricted Stock Plan. As of December 31, 2007, 10,531 shares of common stock were available for future grants of restricted stock under the 2002 Restricted Stock Plan. The fair value of restricted stock for the years ended December 31, 2005, 2006 and 2007, was determined based on the number of shares granted and the quoted price of the Company's common stock.

The following table summarizes activity for the 2002 Restricted Stock Plan:

	Year Ended December 31,		
	2005	2006	2007
Restricted shares granted	16,125	-	-
Weighted average grant-date fair value of shares granted	$ 22.01	$ -	$ -
Total fair value of restricted shares granted	$ 355	$ -	$ -
Restricted shares becoming free of restrictions	38,975	46,346	41,263
Weighted average restriction period (in years)	3.0	-	-

In 1997, the Company's Board of Directors adopted the 1997 Stock Option Plan in which all officers, employees, directors and consultants may participate. Options granted under the 1997 Stock Option Plan may either be incentive stock options or nonqualified stock options, generally have a term of 10 years from the date of grant, and will vest over periods determined at the date of grant. The exercise prices of the options are determined by the Company's Board of Directors and, in the case of incentive stock options, will be at least 100% or 110% of the fair market value of the Company's common stock on the date of grant as provided for in the 1997 Stock Option Plan. The 1997 Stock Option Plan provides for the reservation of common stock for issuance thereunder equal to 7,875,000 shares. As of December 31, 2007, options for 80,600 shares of common stock were available for future grants under the 1997 Stock Option Plan.

In 2002, the Company's Board of Directors authorized two additional equity-based compensation plans: the 2002 Stock Option Plan and 2002 Senior Management Equity Incentive Plan. A total of 5,625,000 shares of the Company's common stock were reserved for future issuance under the 2002 Stock Option Plan. Participation in the 2002 Stock Option Plan is limited to consultants and employees, other than officers and directors. Options granted under the 2002 Stock Option Plan are nonqualified stock options and have a term of no longer than 10 years from the date they are granted. Options generally become exercisable in installments pursuant to a vesting schedule set forth in each option agreement. The Board of Directors authorizes the granting of options and determines the employees and consultants to whom options are to be granted, the number of shares subject to each option, the exercise price, option term, vesting schedule and other terms and conditions of the options. A total of 6,750,000 shares of the Company's common stock were reserved for future issuance under the 2002 Senior Management Equity Incentive Plan. The Company's stockholders approved the 2002 Senior Management Equity Incentive Plan on May 16, 2002. Participation in the 2002 Senior Management Equity Incentive Plan is limited to officers and directors of the Company and its subsidiaries. Options granted under the 2002 Senior Management Equity Incentive Plan may be either incentive stock options or nonqualified stock options and have a term of no longer than 10 years from the date they are granted. Options generally become exercisable in installments pursuant to a vesting schedule set forth in each option agreement. The Board of Directors authorizes the granting of options and determines the officers and directors to whom options are to be granted, the number of shares subject to each option, the exercise price, option term, vesting schedule and other terms and conditions of the options. In the case of incentive stock options, the exercise price will be at least 100% or 110% of the fair market value of the Company's common stock on the date of grant as provided for in the 2002 Senior Management Equity Incentive

Plan. As of December 31, 2007, options for 128,636 and 1,588,652 shares of common stock were available for future grants under the 2002 Stock Option Plan and 2002 Senior Management Equity Incentive Plan, respectively.

In 2004, the Company's Board of Directors authorized the 2004 Equity Incentive Plan. On May 25, 2006, the stockholders of the Company approved the Second Amended and Restated 2004 Equity Incentive Plan. A total of 2,775,000 shares of the Company's common stock were reserved for future issuance under the 2004 Equity Incentive Plan, all of which may be used for grants of stock options, restricted stock, and/or restricted stock units. Participation in the 2004 Equity Incentive Plan is limited to consultants and employees, including officers and directors. Options granted under the 2004 Equity Incentive Plan are nonqualified stock options and have a term of no longer than five years from the date they are granted. Restricted stock, restricted stock units, and options generally vest in installments pursuant to a vesting schedule set forth in each option or restricted stock or unit agreement. The Board of Directors authorizes the granting of options, restricted stock and restricted stock units, and determines the employees and consultants to whom options, restricted stock, and restricted stock units are to be granted, the number of shares subject to each option, restricted stock, or restricted stock unit, the exercise price, term, vesting schedule and other terms and conditions of the options, restricted stock, or restricted stock units. The exercise prices of the options shall not be less than the fair market value of the Company's common stock on the date of grant. Restricted stock awards under the plan may or may not require a cash payment from a participant to whom an award is made; restricted stock unit awards under the plan do not require any cash payment from the participant to whom an award is made. The fair value of restricted stock units granted during the years ended December 31, 2005, 2006 and 2007, was determined based on the number of stock units granted and the quoted price of the Company's common stock. As of December 31, 2007, 782,020 shares of common stock were available to be issued pursuant to future awards granted under the 2004 Equity Incentive Plan.

The following table summarizes restricted stock units activity for the 2004 Equity Incentive Plan:

	Year Ended December 31,		
	2005	2006	2007
Restricted stock units granted	65,250	492,000	426,802
Weighted average grant-date fair value of restricted stock units granted	$ 23.80	$ 23.37	$ 29.08
Total fair value of restricted stock units granted	$ 1,553	$ 11,496	$ 12,413
Restricted stock units becoming free of restrictions	5,910	10,283	127,005
Weighted average restriction period (in years)	5.7	4.6	4.5

On October 27, 2005, the Company's Board of Directors accelerated the vesting of outstanding options previously awarded to employees. As a result of the accelerated vesting of stock options in advance of the effective date of SFAS 123R, *Share Based Payment*, the Company incurred a non-cash charge of approximately $1,617 ($1,021 net of taxes), which was based upon the in-the-money value at the time of acceleration associated only with an estimated number of options that might have been forfeited unexercisable pursuant to their original terms, absent acceleration.

As of December 31, 2005, 2006 and 2007, a total of 8,224,401, 6,148,214 and 4,031,781 options to purchase common stock were exercisable under all stock option plans, respectively.

A summary of the Company's stock option activity and related information for the years ended December 31, 2005, 2006 and 2007 is presented below:

	Number of Shares (Options)	Weighted Average Exercise Price
Outstanding as of December 31, 2004	8,188,944	$ 14.67
Granted	2,505,188	22.07
Forfeited	(381,750)	16.39
Exercised	(2,087,981)	13.75
Outstanding as of December 31, 2005	8,224,401	17.08
Granted	518,400	23.21
Forfeited	(31,725)	23.31
Exercised	(2,061,563)	15.59
Outstanding as of December 31, 2006	6,649,513	17.99
Granted	-	-
Forfeited	(8,186)	22.73
Exercised	(2,237,618)	15.92
Outstanding as of December 31, 2007	4,403,709	19.04

The following table summarizes information about stock options outstanding as of December 31, 2007:

	Options Outstanding			Options Exercisable		
Exercise Price	Shares	Weighted Average Exercise Price	Weighted Average Remaining Contractual Life (in years)	Shares	Weighted Average Exercise Price	Weighted Average Remaining Contractual Life (in years)
$ 5.00 to $11.00	205,473	$ 10.60	4.0	205,473	$ 10.60	4.0
$11.01 to $16.00	554,241	14.27	4.9	554,241	14.27	4.9
$16.01 to $20.00	1,322,710	16.63	6.1	1,322,710	16.63	6.1
$20.01 to $30.00	2,321,285	22.29	6.1	1,949,357	22.12	5.7
	4,403,709	19.04	5.8	4,031,781	18.65	5.6

The aggregate intrinsic value of options outstanding and options exercisable at December 31, 2007 was $52,245 and $49,382, respectively.

A summary of option activity under the foregoing stock option plans as of December 31, 2006, and changes during the year ended December 31, 2007, is presented below:

	Unvested Shares	Vested Shares	Total Shares	Weighted-Average Exercise Price
Outstanding at December 31, 2006	501,300	6,148,213	6,649,513	$ 17.99
Granted	-	-	-	-
Forfeited	(3,975)	(4,211)	(8,186)	22.73
Vested	(125,397)	125,397	-	-
Exercised	-	(2,237,618)	(2,237,618)	15.92
Outstanding at December 31, 2007	371,928	4,031,781	4,403,709	19.04

The total intrinsic value of stock options exercised during the years ended December 31, 2005, 2006 and 2007, was $20,116, $20,299 and $34,951, respectively. The total fair value of stock options vested during the years ended December 31, 2005, 2006 and 2007, was $35,300, $8 and $643, respectively.

A summary of activity related to restricted stock and restricted stock units under the 2002 Restricted Stock Plan and the 2004 Equity Incentive Plan as of December 31, 2006, and changes during the year ended December 31, 2007, is presented below:

	Unvested Shares	Weighted-Average Grant Date Fair Value Per Share
Outstanding at December 31, 2006	568,940	$ 23.48
Granted	426,802	29.08
Forfeited	(22,726)	25.52
Vested	(168,268)	23.98
Outstanding at December 31, 2007	804,748	26.29

Stock Purchase Warrants

In 2002, the Company's Board of Directors authorized the 2002 Consultant Incentive Plan, under which warrants to purchase the Company's common stock may be issued to certain consultants to the Company. Warrants awarded under the Consultant Incentive Plan are subject to a vesting schedule set forth in each warrant agreement. Historically, warrants issued have been fully vested and exercisable at the date of grant. The Board of Directors authorizes the issuance of warrants and determines the consultants to whom warrants are to be issued, the number of shares subject to each warrant, the purchase price, exercise date and period, warrant term and other terms and conditions of the warrants. The Board reserved 450,000 shares of the Company's common stock for future issuance under the Consultant Incentive Plan. As of December 31, 2007, 240,216 shares of common stock were available for future grants of warrants under the 2002 Consultant Incentive Plan. The Company issued 22,200, 15,395 and 14,137 warrants under the Consultant Incentive Plan during the years ended December 31, 2005, 2006 and 2007, respectively.

A summary of warrant activity as of December 31, 2006, and changes during the year ended December 31, 2007 is presented below:

	Warrants	Weighted-Average Exercise Price
Outstanding at December 31, 2006	55,518	$ 19.08
Granted	14,137	30.82
Forfeited	-	-
Exercised	(16,674)	13.17
Outstanding at December 31, 2007	52,981	24.07

The following table summarizes information about warrants outstanding as of December 31, 2006 and 2007:

Grant Date	Warrants Issued	Exercise Price	Fair Value of Warrants Issued	Outstanding at December 31, 2006	Outstanding at December 31, 2007
February 1998	450,000	$ 1.78	$ 954	10,048	5,000
Throughout 2002	145,373	11.57 to 16.45	577	1,125	-
Throughout 2003	92,250	12.98 to 16.37	173	1,125	-
Throughout 2004	64,575	15.50 to 18.25	223	5,625	-
Throughout 2005	22,200	19.75 to 25.25	136	22,200	18,449
Throughout 2006	15,395	22.73 to 27.47	115	15,395	15,395
Throughout 2007	14,137	29.70 to 34.02	123	-	14,137
				55,518	52,981

The warrants are exercisable when granted and expire between 2008 and 2012.

Warrants issued to consultants are valued using the Black-Scholes pricing model with assumed stock price volatility and risk-free interest rates similar to those used for stock options, and with a contractual life of ten years for warrants granted before 2002 and five years for warrants granted in 2002 and forward. Warrants issued to consultants are recorded as an element of the related cost of acquisitions or landfill development projects, based on the services provided by the consultant.

12. COMPREHENSIVE INCOME

Comprehensive income includes changes in the fair value of interest rate swaps that qualify for hedge accounting. The components of other comprehensive income (loss) and related tax effects for the years ended December 31, 2005, 2006 and 2007 are as follows:

	Year Ended December 31, 2005		
	Gross	Tax effect	Net of tax
Amounts reclassified into earnings	$ (1,904)	$ 708	$ (1,196)
Changes in fair value of interest rate swaps	5,194	(1,916)	3,278
	$ 3,290	$ (1,208)	$ 2,082

	Year Ended December 31, 2006		
	Gross	Tax effect	Net of tax
Amounts reclassified into earnings	$ (6,842)	$ 2,599	$ (4,243)
Changes in fair value of interest rate swaps	3,955	(1,602)	2,353
	$ (2,887)	$ 997	$ (1,890)

	Year Ended December 31, 2007		
	Gross	Tax effect	Net of tax
Amounts reclassified into earnings	$ (3,785)	$ 1,465	$ (2,320)
Changes in fair value of interest rate swaps	(8,196)	3,159	(5,037)
	$ (11,981)	$ 4,624	$ (7,357)

The estimated net amount of the existing unrealized gains as of December 31, 2007 (based on the interest rate yield curve at that date) included in accumulated other comprehensive income expected to be reclassified into pre-tax earnings within the next 12 months is $43. The timing of actual amounts reclassified into earnings is dependent on future movements in interest rates.

13. INCOME TAXES

The provision for income taxes before discontinued operations for the years ended December 31, 2005, 2006 and 2007 consists of the following:

	Years Ended December 31,		
	2005	2006	2007
Current:			
Federal	$ 45,676	$ 18,759	$ 40,526
State	3,182	2,985	6,951
Deferred:			
Federal	(761)	24,223	11,076
State	(31)	2,362	1,364
Provision before discontinued operations	$ 48,066	$ 48,329	$ 59,917

Significant components of deferred income tax assets and liabilities are as follows as of December 31, 2006 and 2007:

	2006	2007
Deferred income tax assets:		
Accounts receivable reserves	$ 1,341	$ 1,698
Accrued expenses	8,210	9,837
Self-insurance reserves	4,291	4,619
Net operating losses from acquired subsidiaries	298	113
Equity-based compensation	1,293	2,451
Interest rate swaps	-	2,709
State taxes	-	2,369
Other	-	308
Gross deferred income tax assets	15,433	24,104
Less: Valuation allowance	-	-
Net deferred income tax assets	15,433	24,104
Deferred income tax liabilities:		
Goodwill and other intangibles	(75,874)	(87,060)
Property and equipment	(116,853)	(126,725)
Landfill closure/post-closure	(11,180)	(12,523)
Interest rate swaps	(1,914)	-
Prepaid expenses	(4,990)	(6,372)
Other	(781)	-
Total deferred income tax liabilities	(211,592)	(232,680)
Net deferred income tax liability	$ (196,159)	$ (208,576)

As of the year ended December 31, 2007, the Company had requested written approval from the Internal Revenue Service ("IRS") to exclude probable expansion airspace from its calculation of landfill depreciation for tax purposes. On January 23, 2008, the Company received communication from the IRS that it was inclined to deny the request. The Company intends to meet with the IRS in February 2008 to pursue its approval. If the IRS approves the request, the Company would accelerate the timing of its landfill depreciation deductions, which would reduce the Company's tax payments in the year granted by approximately $11,000.

During the years ended December 31, 2006 and 2007, the Company reduced its taxes payable by $8,209 and $15,294, respectively, as a result of the exercise of non-qualified stock options, the vesting of restricted stock and restricted stock units, and the disqualifying disposition of incentive stock options. The excess tax benefit associated with equity-based compensation of $7,728 and $14,137 for the years ended December 31, 2006 and 2007, respectively, was recorded in additional paid-in capital.

The differences between the Company's income tax provision as presented in the accompanying statements of income and income tax provision computed at the federal statutory rate consist of the items shown in the following table as a percentage of pre-tax income:

	Years Ended December 31,		
	2005	2006	2007
Income tax provision at the statutory rate	35.0%	35.0%	35.0%
State taxes, net of federal benefit	1.3	2.9	3.9
Other	-	0.5	(1.2)
	36.3%	38.4%	37.7%

At December 31, 2007, the Company had approximately $293 of federal and state net operating loss ("NOL") carryforwards. During the years ended December 31, 2006 and 2007, the Company utilized $1,741 and $481 of net operating losses to reduce current tax expense by $661 and $186, respectively. At December 31, 2007, the federal and state NOL carryforwards have expiration dates through 2022. While the Company expects to realize the related deferred tax assets recorded, changes in estimates of future taxable income or in tax laws may alter this expectation.

During the year ended December 31, 2007, the Company recorded adjustments to income tax expense resulting from the reconciliation of its current and deferred income tax liability accounts, the reversal of certain tax contingencies that expired in 2007, and the reconciliation of the income tax provision to the 2006 federal and state tax returns, which were filed during 2007. The net impact of these adjustments was a decrease in income tax expense of $2,133 for the year ended December 31, 2007.

The Company and its subsidiaries are subject to U.S. federal income tax as well as to income tax of multiple state jurisdictions. The Company has concluded all U.S. federal income tax matters for years through 2003. The Company's 2004 U.S. federal income tax return was examined in 2007 by the IRS. The examination has been concluded and no changes were made as a result of such examination. All material state and local income tax matters have been concluded for years through 2002.

Effective January 1, 2007, the Company adopted FIN 48. As a result of the implementation of FIN 48, the changes to the Company's liability for uncertain tax positions was accounted for as a $2,897 adjustment to increase the beginning balance of retained earnings on the Company's balance sheet. At January 1 and December 31, 2007, the Company had approximately $6,702 and $6,716, respectively, of total gross unrecognized tax benefits. Of the total gross unrecognized tax benefits at January 1, and December 31, 2007, $2,618 and $3,402, respectively, (both net of the federal benefit on state amounts) represent the amount of unrecognized tax benefits that, if recognized, would favorably affect the effective income tax rate in any future periods. The Company does not anticipate the total amount of unrecognized tax benefits will significantly change by December 31, 2008.

The Company's continuing practice is to recognize interest and/or penalties related to income tax matters in income tax expense. The Company had approximately $453 and $851 accrued for interest, net of tax, at January 1 and December 31, 2007, respectively, and no accrual for penalties at January 1 and December 31, 2007. As such, the Company recognized, net of releases, approximately $398 for interest, net of tax, and no accrual for penalties during the year ended December 31, 2007.

A reconciliation of the change in the unrecognized tax benefits from January 1, 2007 to December 31, 2007 is as follows:

	Year Ended December 31, 2007
Unrecognized tax benefits at January 1, 2007	$ 6,702
Gross increases – tax positions in prior periods	918
Lapse of statute of limitations	(904)
Unrecognized tax benefits at December 31, 2007	$ 6,716

14. REVENUE BY SERVICE TYPE

The table below shows for the periods indicated the Company's total reported revenues by service line and intercompany eliminations.

	Years Ended December 31,		
	2005	2006	2007
Collection	$ 517,536	$ 602,762	$ 693,675
Disposal and transfer	227,715	259,190	298,954
Recycling and other	77,594	77,202	95,212
Total	$ 822,845	$ 939,154	$ 1,087,841
Intercompany elimination	$ 100,946	$ 114,800	$ 129,300

15. NET INCOME PER SHARE INFORMATION

The following table sets forth the calculation of the numerator and denominator used in the computation of basic and diluted net income per common share for the years ended December 31, 2005, 2006 and 2007:

	Years Ended December 31,		
	2005	2006	2007
Numerator:			
Net income for basic and diluted earnings per share	$ 83,943	$ 77,423	$ 99,081
Denominator:			
Basic shares outstanding	70,050,974	68,136,126	68,238,523
Dilutive effect of 2022 Convertible Subordinated Notes	584,631	393,026	-
Dilutive effect of stock options and warrants	1,637,990	1,746,783	1,592,418
Dilutive effect of restricted stock	43,357	132,738	163,772
Diluted shares outstanding	72,316,952	70,408,673	69,994,713

The Company's 2022 Notes were convertible, under certain circumstances, into a maximum of 8,137,002 shares of common stock until they were redeemed in May and June 2006 (see Note 9). The 2022 Notes required (subject to certain exceptions) payment of the principal value in cash and net share settle of the conversion value in excess of the principal value of the notes upon conversion. In accordance with EITF 04-8, *The Effect of Contingently Convertible Instruments on Diluted Earnings per Share* ("EITF 04-8"), the Company has included the dilutive effect of the conversion value in excess of the principal value of the notes.

The Company's 2026 Notes are convertible, under certain circumstances, into a maximum of 5,882,354 shares of common stock. The 2026 Notes require (subject to certain exceptions) payment of the principal value in cash and net share settle of the conversion value in excess of the principal value of the notes upon conversion. In accordance with EITF 04-8, these shares have not been included in the computation of diluted net income per share for the year ended December 31, 2007 because the conversion value was not in excess of the principal value of the notes. In addition, the conversion feature of the 2026 Notes meets all the requirements of EITF 00-19, *Accounting for Derivative Financial Instruments Indexed to, and Potentially Settled in, a Company's Own Stock*, to be accounted for as an equity interest and not as a derivative. Therefore, in the event the 2026 Notes become convertible, a holder electing to convert will receive a cash payment for the principal amount of the debt and net shares of the Company's common stock equal to the value of the conversion spread, which the Company will account for as a debt repayment with no gain or loss, and the issuance of common stock will be recorded in stockholders' equity.

Additionally, as of December 31, 2005, 2006 and 2007, the following stock options and warrants were not included in the computation of diluted net income per share because to do so would have been antidilutive:

	December 31, 2005		December 31, 2006		December 31, 2007	
	Number of Shares	Exercise Price Range	Number of Shares	Exercise Price Range	Number of Shares	Exercise Price Range
Outstanding options	67,500	$34.87 to $38.06	12,000	$25.37 to $26.59	-	$ -
Outstanding warrants	3,500	$37.17 to $37.87	12,338	$25.82 to $27.47	8,777	$31.09 to $34.02
	71,000		24,338		8,777	

16. EMPLOYEE BENEFIT PLANS

WCI has a voluntary savings and investment plan (the "WCI 401(k) Plan"). The WCI 401(k) Plan is available to all eligible, non-union employees of WCI. Under the WCI 401(k) Plan, WCI's contributions were 50% of the first 5% of the participating employee's base salary contributed in December 31, 2005, 2006 and 2007. The Murrey Companies, wholly-owned subsidiaries of the Company, have a voluntary savings and investment plan (the "Murrey 401(k) Plan"). The Murrey 401(k) Plan is available to all eligible, non-union employees of the Murrey Companies. Under the Murrey 401(k) Plan, the Murrey Companies' contributions are at the discretion of management. During the years ended December 31, 2005, 2006 and 2007, total employer expenses, including employer contributions, for the WCI and Murrey 401(k) Plans were approximately $3,203, $3,497 and $4,046, respectively.

Effective for compensation paid on and after July 1, 2004, the Company established a Deferred Compensation Plan for eligible employees, which was amended and restated effective January 1, 2008 (the "Deferred Compensation Plan"). The Deferred Compensation Plan is a non-qualified deferred compensation program under which the eligible participants, including officers and certain employees who meet a minimum salary threshold, may voluntarily elect to defer up to 80% of their base salaries, up to 100% of their bonuses and commissions and 100% of income from restricted stock vesting. Members of the Company's Board of Directors are eligible to participate in the Deferred Compensation Plan with respect to their Director fees. Although the Company periodically contributes the amount of its obligation under the plan to a trust on the benefit of the participants, the amounts of any compensation deferred under the Plan constitute an unsecured obligation of the Company to pay the participants in the future and, as such, are subject to the claims of other creditors in the event of insolvency proceedings. Participants may elect certain future distribution dates on which all or a portion of their accounts will be paid to them in cash, including in the case of a change in control of the Company. In addition to the amount of their contributions, the Company will pay participants a return based on the returns of various mutual funds or measurement funds selected by the participants. The measurement funds are used only to determine the amount of return the Company pays to participants and participant funds are not actually invested in the measurement fund. The total liability for deferred compensation at December 31, 2006 and 2007 was $1,577 and $2,578, respectively.

17. SELECTED QUARTERLY FINANCIAL DATA (UNAUDITED)

The following table summarizes the unaudited consolidated quarterly results of operations as reported for 2006:

	First Quarter	Second Quarter	Third Quarter	Fourth Quarter
Revenues	$ 190,169	$ 206,970	$ 216,547	$ 210,668
Operating income	39,155	40,803	47,531	43,897
Net income	15,723	19,200	21,873	20,627
Basic income per common share	0.23	0.28	0.32	0.30
Diluted income per common share	0.22	0.27	0.31	0.29

The following table summarizes the unaudited consolidated quarterly results of operations as reported for 2007:

	First Quarter	Second Quarter	Third Quarter	Fourth Quarter
Revenues	$ 218,951	$ 241,084	$ 250,775	$ 247,730
Operating income	46,422	53,758	57,104	49,725
Net income	22,380	25,266	28,682	22,754
Basic income per common share	0.33	0.37	0.42	0.34
Diluted income per common share	0.32	0.36	0.41	0.33

ITEM 9. CHANGES IN AND DISAGREEMENTS WITH ACCOUNTANTS ON ACCOUNTING AND FINANCIAL DISCLOSURE

None.

ITEM 9A. CONTROLS AND PROCEDURES

Disclosure Controls and Procedures

We carried out an evaluation, under the supervision and with the participation of our management, including our Chief Executive Officer and our Chief Financial Officer, of the effectiveness of the design and operation of our disclosure controls and procedures, as such term is defined in Rules 13a-15(e) and 15d-15(e) under the Securities Exchange Act of 1934, as amended. Based on this evaluation, our Chief Executive Officer and Chief Financial Officer concluded that our disclosure controls and procedures were effective as of December 31, 2007, at the reasonable assurance level such that information required to be disclosed in our Exchange Act reports: (1) is recorded, processed, summarized and reported within the time periods specified in the Securities and Exchange Commission's rules and forms; and (2) is accumulated and communicated to our management, including our Chief Executive Officer and Chief Financial Officer, as appropriate to allow timely decisions regarding required disclosure.

Management's Report on Internal Control over Financial Reporting

Our management is responsible for establishing and maintaining adequate internal control over financial reporting, as such term is defined in Rules 13a-15(f) and 15d-15(f) under the Securities Exchange Act of 1934, as amended. Internal control over financial reporting is a process designed to provide reasonable assurance regarding the reliability of financial reporting and the preparation of financial statements for external purposes in accordance with U.S. generally accepted accounting principles. This process includes policies and procedures that: (1) pertain to the maintenance of records that in reasonable detail accurately and fairly reflect our transactions and any dispositions of our assets; (2) provide reasonable assurance that transactions are recorded as necessary to permit preparation of financial statements in accordance with U.S. generally accepted accounting principles; (3) provide reasonable assurance that receipts and expenditures of ours are being made only in accordance with authorizations of our management; and (4) provide reasonable assurance that unauthorized acquisition, use or disposition of our assets that could have a material affect on our financial statements would be prevented or timely detected.

We carried out an evaluation, under the supervision and with the participation of our management, including our Chief Executive Officer and our Chief Financial Officer, of the effectiveness of the design and operation of our internal control over financial reporting as of December 31, 2007. In conducting our evaluation, we used the framework set forth in the report titled "Internal Control – Integrated Framework" published by the Committee of Sponsoring Organizations of the Treadway Commission. Based on the results of our evaluation, our management has concluded that our internal control over financial reporting was effective as of December 31, 2007.

The effectiveness of our internal control over financial reporting as of December 31, 2007, has been audited by PricewaterhouseCoopers LLP, our independent registered public accounting firm, as stated in its report which appears in Item 8 of this Annual Report of Form 10-K.

Changes in Internal Control Over Financial Reporting

Based on an evaluation under the supervision and with the participation of our management, including our Chief Executive Officer and Chief Financial Officer, there has been no change to our internal control over financial reporting that occurred during the three month period ended December 31, 2007, that has materially affected, or is reasonably likely to materially affect, our internal control over financial reporting.

ITEM 9B. OTHER INFORMATION

None.

PART III

ITEM 10. DIRECTORS, EXECUTIVE OFFICERS AND CORPORATE GOVERNANCE

Except as set forth above in Part I under "Executive Officers of the Registrant" and in the paragraph below, the information required by Item 10 has been omitted from this report, and is incorporated by reference to the sections "Election of Directors" and "Section 16(a) Beneficial Ownership Reporting Compliance" in our definitive Proxy Statement for the 2008 Annual Meeting of Stockholders, which we will file with the Commission pursuant to Regulation 14A within 120 days after the end of our 2007 fiscal year.

We have adopted a Code of Conduct and Ethics that applies to our officers, including our principal executive officer, principal financial officer, principal accounting officer and all other officers, directors and employees. We have also adopted Corporate Governance Guidelines to promote the effective functioning of our Board of Directors and its committees, to promote the interests of stockholders and to ensure a common set of expectations concerning how the Board, its committees and management should perform their respective functions. Our Code of Conduct and Ethics and our Corporate Governance Guidelines are available on our website at http://www.wasteconnections.com as are the charters of our Board's Audit, Nominating and Corporate Governance and Compensation Committees. Information on or that can be accessed through our website is not incorporated by reference to this report. We intend to satisfy the disclosure requirement under Item 5.05 of Form 8-K regarding any amendments to, or waiver from, a provision of our Code of Conduct by posting such information on our website.

Stockholders may also obtain copies of the Corporate Governance documents discussed above by contacting our Secretary at the address or phone number listed on the cover page of this Annual Report on Form 10-K.

ITEM 11. EXECUTIVE COMPENSATION

Information required by Item 11 has been omitted from this report and is incorporated by reference to the section "Executive Compensation" in our definitive Proxy Statement for the 2008 Annual Meeting of Stockholders.

ITEM 12. SECURITY OWNERSHIP OF CERTAIN BENEFICIAL OWNERS AND MANAGEMENT AND RELATED STOCKHOLDER MATTERS

Information required by Item 12 has been omitted from this report and is incorporated by reference to the sections "Principal Stockholders" and "Equity Compensation Plan Information" in our definitive Proxy Statement for the 2008 Annual Meeting of Stockholders.

ITEM 13. CERTAIN RELATIONSHIPS AND RELATED TRANSACTIONS, AND DIRECTOR INDEPENDENCE

Information required by Item 13 has been omitted from this report and is incorporated by reference to the sections "Certain Relationships and Related Transactions" and "Election of Directors" in our definitive Proxy Statement for the 2008 Annual Meeting of Stockholders.

ITEM 14. PRINCIPAL ACCOUNTING FEES AND SERVICES

Information required by Item 14 has been omitted from this report and is incorporated by reference to the section "Appointment of Independent Registered Public Accounting Firm" in our definitive Proxy Statement for the 2008 Annual Meeting of Stockholders.

PART IV

ITEM 15. EXHIBITS AND FINANCIAL STATEMENT SCHEDULES

(a) See Index to Consolidated Financial Statements on page 42. The following Financial Statement Schedule is filed herewith on page 84 and made a part of this Report:

Schedule II - Valuation and Qualifying Accounts

All other schedules for which provision is made in the applicable accounting regulations of the SEC are not required under the related instructions or are inapplicable, and therefore have been omitted.

(b) See Exhibit Index immediately following signature pages.

SIGNATURES

Pursuant to the requirements of Sections 13 or 15(d) of the Securities Exchange Act of 1934, the Registrant has duly caused this report to be signed on its behalf by the undersigned, thereunto duly authorized.

Waste Connections, Inc.

By: /s/ Ronald J. Mittelstaedt
Ronald J. Mittelstaedt
Chief Executive Officer and Chairman

Date: February 11, 2008

POWER OF ATTORNEY

KNOW ALL PERSONS BY THESE PRESENTS, that each person whose signature appears below constitutes and appoints Ronald J. Mittelstaedt and Worthing F. Jackman, jointly and severally, his true and lawful attorneys-in-fact, each with the power of substitution, for him in any and all capacities to sign any amendments to this Annual Report on Form 10-K, and to file the same with all exhibits thereto and other documents in connection therewith, with the Securities and Exchange Commission, hereby ratifying and confirming all that each of said attorneys-in-fact, or his substitutes, may do or cause to be done by virtue hereof.

Pursuant to the requirements of the Securities Exchange Act of 1934, this report has been signed below by the following persons on behalf of the Registrant and in the capacities and on the dates indicated.

Signature	Title	Date
/s/ Ronald J. Mittelstaedt Ronald J. Mittelstaedt	Chief Executive Officer and Chairman (principal executive officer)	February 11, 2008
/s/ Worthing F. Jackman Worthing F. Jackman	Executive Vice President and Chief Financial Officer (principal financial officer)	February 11, 2008
/s/ David G. Eddie David G. Eddie	Vice President – Corporate Controller (principal accounting officer)	February 11, 2008
/s/ Eugene V. Dupreau Eugene V. Dupreau	Director and Regional Vice President – Western Region	February 11, 2008
/s/ Michael W. Harlan Michael W. Harlan	Director	February 11, 2008
/s/ William J. Razzouk William J. Razzouk	Director	February 11, 2008
/s/ Robert H. Davis Robert H. Davis	Director	February 11, 2008
/s/ Edward E. Guillet Edward E. Guillet	Director	February 11, 2008

WASTE CONNECTIONS, INC.

SCHEDULE II - VALUATION AND QUALIFYING ACCOUNTS
Years Ended December 31, 2005, 2006 and 2007
(in thousands)

Description	Balance at Beginning of Year	Additions		Deductions (Write-offs, Net of Collections)	Balance at End of Year
		Charged to Costs and Expenses	Charged to Other Accounts		
Allowance for Doubtful Accounts:					
Year Ended December 31, 2005	$ 2,414	$ 3,220	$ -	$ (2,808)	$ 2,826
Year Ended December 31, 2006	2,826	3,664	-	(3,001)	3,489
Year Ended December 31, 2007	3,489	4,112	-	(3,214)	4,387

EXHIBIT INDEX

Exhibit Number	Description of Exhibits
3.1	Amended and Restated Certificate of Incorporation of the Registrant (incorporated by reference to the exhibit filed with the Registrant's Form 10-Q filed on July 24, 2007)
3.2	Amended and Restated Bylaws of the Registrant (incorporated by reference to the exhibit filed with the Registrant's Form 10-Q filed on July 22, 2004)
4.1	Form of Common Stock Certificate (incorporated by reference to the exhibit filed with the Registrant's Form S-1/A filed on May 6, 1998)
4.2	Indenture between the Registrant, as Issuer, and U.S. Bank National Association, as Trustee, dated as of March 20, 2006 (incorporated by reference to the exhibit filed with the Registrant's Form 8-K filed on March 23, 2006)
4.3	Registration Rights Agreement between Registrant, and Citigroup Global Markets Inc. and Banc of America Securities LLC, dated as of March 20, 2006 (incorporated by reference to the exhibit filed with the Registrant's Form 8-K filed on March 23, 2006)
4.4	Amended and Restated Revolving Credit and Term Loan Agreement, dated as of January 12, 2006 (incorporated by reference to the exhibit filed with the Registrant's Form 8-K filed on January 17, 2006)
4.5	First Amendment to Amended and Restated Revolving Credit and Term Loan Agreement, dated as of November 16, 2006 (incorporated by reference to the exhibit filed with the Registrant's Form 8-K filed on November 21, 2006)
4.6	Revolving Credit Agreement, dated as of September 27, 2007 (incorporated by reference to the exhibit filed with the Registrant's Form 8-K filed on October 3, 2007)
10.1 +	Employment Agreement between the Registrant and Eugene V. Dupreau, dated as of February 23, 1998 (incorporated by reference to the exhibit filed with the Registrant's Form S-1 filed on March 16, 1998)
10.2 +	Form of Warrant Agreement (incorporated by reference to the exhibit filed with the Registrant's Form S-1 filed on March 16, 1998)
10.3 +	Employment Agreement between the Registrant and James M. Little, dated as of September 13, 1999 (incorporated by reference to the exhibit filed with the Registrant's Form 10-K filed on March 13, 2000)
10.4 +	Second Amended Employment Agreement between the Registrant and Darrell Chambliss, dated as of June 1, 2000 (incorporated by reference to the exhibit filed with the Registrant's Form 10-Q filed on November 14, 2000)
10.5 +	Second Amended and Restated 1997 Stock Option Plan (incorporated by reference to the exhibit filed with the Registrant's Form S-8 filed on July 24, 2000)
10.6 +	Employment Agreement between the Registrant and Eric O. Hansen, dated as of January 1, 2001 (incorporated by reference to the exhibit filed with the Registrant's Form 10-Q filed on May 3, 2005)
10.7 * +	2002 Senior Management Equity Incentive Plan
10.8 * +	2002 Stock Option Plan
10.9 +	Employment Agreement between the Registrant and Kenneth O. Rose, dated as of May 1, 2002 (incorporated by reference to the exhibit filed with the Registrant's Form 10-Q filed on August 13, 2002)

Exhibit Number	Description of Exhibits
10.10 +	Employment Agreement between the Registrant and Robert D. Evans, dated as of May 10, 2002 (incorporated by reference to the exhibit filed with the Registrant's Form 10-Q filed on August 13, 2002)
10.11 +	2002 Restricted Stock Plan (incorporated by reference to the exhibit filed with the Registrant's Form S-8 filed on June 19, 2002)
10.12 * +	Consultant Incentive Plan
10.13 +	Employment Agreement between the Registrant and Worthing F. Jackman, dated as of April 11, 2003 (incorporated by reference to the exhibit filed with the Registrant's Form 10-Q filed on August 13, 2003)
10.14 * +	Nonqualified Deferred Compensation Plan, amended and restated as of January 1, 2008
10.15 +	Second Amended and Restated Employment Agreement between the Registrant and Steven Bouck, dated as of October 1, 2004 (incorporated by reference to the exhibit filed with the Registrant's Form 10-Q filed on October 22, 2004)
10.16 * +	Amended and Restated Compensation Plan for Independent Directors, dated December 7, 2007
10.17 +	Second Amended and Restated Employment Agreement between the Registrant and Ronald J. Mittelstaedt, dated as of March 1, 2004 (and as amended March 22, 2005) (incorporated by reference to the exhibit filed with the Registrant's Form 10-Q filed on May 3, 2005)
10.18 +	First Amended and Restated Employment Agreement between the Registrant and David M. Hall, dated as of October 1, 2005 (incorporated by reference to the exhibit filed with the Registrant's Form 8-K filed on October 4, 2005)
10.19 +	First Amended and Restated Employment Agreement between the Registrant and David Eddie, dated as of October 1, 2005 (incorporated by reference to the exhibit filed with the Registrant's Form 8-K filed on October 4, 2005)
10.20 * +	Second Amended and Restated 2004 Equity Incentive Plan
10.21 +	Form of Indemnification Agreement between the Registrant and each of its directors and officers (incorporated by reference to the exhibit filed with the Registrant's Form 10-Q filed on July 31, 2006)
10.22 +	Employment Agreement between Registrant and Eric M. Merrill, dated as of June 1, 2007 (incorporated by reference to the exhibit filed with the Registrant's Form 10-Q filed on July 24, 2007)
12.1 *	Statement regarding Computation of Ratios
21.1 *	Subsidiaries of the Registrant
23.1 *	Consent of Independent Registered Public Accounting Firm
24.1	Power of Attorney (see signature page of this Annual Report on Form 10-K)
31.1 *	Certification of Chief Executive Officer
31.2 *	Certification of Chief Financial Officer
32.1 *	Certificate of Chief Executive Officer and Chief Financial Officer

* Filed herewith.
+ Management contract or compensatory plan, contract or arrangement.

Corporate Information

EXECUTIVE OFFICERS

Ronald J. Mittelstaedt
Chairman and Chief Executive Officer

Steven F. Bouck
President

Darrell W. Chambliss
Executive Vice President and Chief Operating Officer

Worthing F. Jackman
Executive Vice President and Chief Financial Officer

David M. Hall
Senior Vice President - Sales and Marketing

Eric M. Merrill
Senior Vice President - People, Training and Development

Kenneth O. Rose
Senior Vice President - Administration

David G. Eddie
Vice President - Corporate Controller

Eric O. Hansen
Vice President - Chief Information Officer

Jerri L. Hunt
Vice President - Employee Relations

James M. Little
Vice President - Engineering

REGION OFFICERS

PACIFIC NORTHWEST REGION
Rob Nielsen, *Regional Vice President*
Brent Ditton, *Regional Controller*

WESTERN REGION
Eugene Dupreau, *Regional Vice President*
Blair Johnson, *Regional Controller*

CENTRAL REGION
Phil Rivard, *Regional Vice President*
Randy Baham, *Regional Controller*

EASTERN REGION
Chris Ruane, *Regional Vice President*
Blake Rhodes, *Regional Controller*

COMPANY OFFICES

35 Iron Point Circle
Suite 200
Folsom, CA 95630
Telephone: (916) 608-8200
Facsimile: (916) 608-8291

BOARD OF DIRECTORS

Ronald J. Mittelstaedt
Chairman and Chief Executive Officer

Robert H. Davis
President
Waste Systems International, Inc. - an international provider of turnkey waste systems

Eugene V. Dupreau
Western Regional Vice President

Edward E. "Ned" Guillet
Senior Vice President, Human Resources (retired)
The Gillette Company - a global consumer products company

Michael W. Harlan
President and Chief Executive Officer
U.S. Concrete, Inc. - a producer of concrete and related products

William J. Razzouk
Chief Executive Officer
Newgistics, Inc. - a provider of intelligent returns management solutions

STOCK MARKET INFORMATION

Waste Connections' common stock is traded on the New York Stock Exchange under the ticker symbol WCN.

ANNUAL MEETING

Stockholders are invited to attend our annual meeting of stockholders on May 15, 2008, at 10:00 a.m. at the Holiday Inn Express Hotel & Suites, 4360 Town Center Blvd., El Dorado Hills, CA 95762.

TRANSFER AGENT & REGISTRAR

Wells Fargo Shareowner Services
161 North Concord Exchange
South St Paul, MN 55075
Telephone: (800) 468-9716
Web site: www.wellsfargo.com/com/shareowner_services

INVESTOR RELATIONS

Additional copies of this report, Form 10-K, the Proxy Statement or other financial information are available to stockholders without charge by contacting our Investor Relations Department at (916) 608-8200. You may also contact us by visiting the Investor Relations page on the Company's Web site at www.wasteconnections.com.

WASTE CONNECTIONS, INC.

35 IRON POINT CIRCLE FOLSOM, CA 95630 TELEPHONE: (916) 608-8200 FAX: (916) 608-8291

INSPECTION REPORT

FACILITY: Wasco County Landfill **PERMIT NO:** 53 **DATE:** 1-29-09

TYPE OF FACILITY: Active Regional MSW Landfill

INSPECTOR/REVIEWER NAME: Joe Gingerich

COUNTY: Wasco **REGION:** Eastern Region

Enforcement Action: Will issue a Warning Letter with an opportunity to correct.

What Prompted This Inspection: Site Visit/Compliance Inspection

SUMMARY OF INSPECTION:

On January 29, 2009 Lorell Miller and Holly Pence from DEQ's Northwest Region, and Bruce Lumper, Lee Huckins and Joe Gingerich from DEQ's Eastern Region met, at the Wasco County Landfill (WCL) site, with Nancy Mitchell, site manager for WCL. The purpose of the inspection/tour was to provide DEQ peers from another DEQ region the opportunity to observe an Eastern Region landfill in operation and to inspect that operation.

The weather at the WCL site was cool, dry and partly sunny. The approximately 2-hr inspection/tour route involved driving to the top of the closed Phase I landfill area, then down to the stormwater discharge pump for the interim closed Phase III landfill area, and finally to the working face of the active Phase IV landfill area. One violation of the permit was noted, and several other observations were made which are concerning to the Department. More specifically, the Department offers the following observations and recommendations:

Ponding on top of Phase III - Ponded stormwater was observed on top of the inactive Phase III landfill area which has been closed with interim cover. Department staff also noted that portions of the Phase III exterior sideslopes were sparse on vegetation.

Recommendation – Consistent with past agreements, leachate head in Phase III should be minimized due to the compromised leak detection system. In the spirit of these agreements, the Phase III long-term interim cover should be graded to promote stormwater runoff and prevent ponding. To accomplish this, it would be acceptable to the Department to use select waste to achieve the necessary grades before covering again with interim cover soil. Also, as required by Permit Subsection 9.10, interim cover should be actively revegetated to reduce soil erosion.

Stockpile on Phase III – It appears that run-off from the ADC-qualified waste stockpile on top of the interim closed Phase III area could either drain into the Phase III perimeter stormwater system and/or to the area of ponding on top of Phase III.

Recommendation – Use of the Phase III ADC stockpile should be prioritized relative to using other ADC stockpiles. Given the desire to promote run-off from the interim cover over Phase III and the expanded lined area now available in Phase IV, future stockpiling of ADC-qualified waste should be restricted to the lined Phase IV area.

Phase III Perimeter stormwater system - Ponding of stormwater was observed in the Northwest corner of the Phase III perimeter stormwater system which is designed to collect and pump stormwater runoff from Phase III, the Eastern side of Phase I, and the Phase III west/east aligned access road. This ponding likely contributes to liquids accumulating in the Phase III secondary collection system thereby undermining that system's ability to detect a liner leak.

Recommendation – The Phase III perimeter stormwater system should be upgraded to prevent leakage from ponding by either lining the sump area and implementing a pumping schedule that will prevent ponding outside of the lined area, or by designing a gravity drain system to the site's stormwater retention pond so that stormwater will not pond in this critical area.

Photo of Phase III perimeter stormwater ponding.

County Access Road - The County access road to the WCL was mud-caked such that in the vicinity of the landfill entrance it looked more like a dirt road rather than a paved road.

Recommendation - Measures need to be implemented to either wash trucks prior to leaving the facility, or to improve onsite roads so that truck wheels aren't mud-caked when leaving the landfill site. Permit Subsection 9.7 requires "*...The permittee must use appropriate means, including truck washing, as needed to prevent haul trucks from tracking mud on external roadways outside the landfill boundaries. . .*" A description for how this will be accomplished must be included in the updated Operations Plan due July 20, 2009, as required by Permit Subsection 7.2.

Photo of mud-caked County Road where it intersects with the landfill access road.

Glass Stockpile. **-** Recycled glass stockpiled in Phase IV was spread across other waste, looking more like another lift of waste rather than glass stockpiled for subsequent use in onsite road-building. If the spreading of glass was done to further crush it prior to use then it seems that subsequent recovery of that crushed glass would either be contaminated with other waste or a considerable percentage would be lost to mixing with the in-place waste.

Recommendation **-** Glass stockpiles and ADC-qualified waste stockpiles should be organized piles designed to minimize contamination, and to be easily accessed for use with minimal wastage. Additional glass crushing at the landfill should be conducted in manner that allows optimal recovery of the crushed for approved use in landfill roadbeds. The updated Operations Plan due July 20, 2009 should ensure that glass used as road base will be managed as approved by Department letter dated June 6, 2006, including a description of how stockpiles will be located and managed and how any additional glass processing (crushing) will be conducted to optimize subsequent recovery of the crushed glass with minimal contamination or loss.

Photo of the recycled glass stockpile spread out in the active Phase IV landfill area.

Leachate Recirculation – The location of leachate recirculation appeared to be very close to the interior sideslope of Cell 3 in Phase IV. Given the method of recirculating leachate into an infiltration pond excavated into the surface of the waste, it seems that a significant amount of such recirculation could short-circuit into the landfill's sideslope collection system which would not be permitted by Permit Condition 5.5 requiring *". . . Leachate/condensate recirculation design and operation will not return appreciable amounts of leachate back to the leachate collection system."*

Recommendation - A detailed description of how leachate is managed and recirculated in compliance with Permit Subsections 5.5 and 9.15 must be included in the updated Operations Plan due July 20, 2009.

RAMCO Contaminated Cleanup Waste – A recent inquiry from EPA, brought to the Department's attention that, from February 2007 to February 2008, WCL disposed of over 49,000 tons of contaminated cleanup waste excavated from an unlined landfill, located in Dallesport, WA., that was used by Recycled Aluminum Metals Company (RAMCO) to dispose of a salt cake waste, generated by extracting aluminum from dross (i.e., a by-product received from primary aluminum smelters). Concerns with the RAMCO waste included self-heating and ammonia-generating properties when it contacted water. Although the Washington Department of Ecology exempted this waste from Washington's Dangerous Waste regulation, the RAMCO cleanup project still required treatment and special handling of the RAMCO waste for disposal at WCL. More specifically, the contractor removing the waste treated it by screening or crushing followed by aeration prior to hauling it to WCL where it was handled and disposed according to a *"Special Waste Permit and Instructions"* developed by WCI. Apparently assuming that disposal of the RAMCO waste was authorized under its solid waste permit, WCL did not seek Oregon DEQ review or approval of the implemented treatment and disposal procedures.

The Department has a different interpretation of WCL's solid waste permit which it communicated to WCI in both a July 12, 2001 letter transmitting the 2001 solid waste permit for the WCL, and an e-mail chain ending with a March 29, 2007 transmission from the Department to WCI. These documents clarified the Department's position that cleanup waste contaminated with hazardous substances must be disposed of in accordance with a special waste management plan approved by the Department. When asked for a copy of the relevant Department-approved special waste management plan for the RAMCO cleanup waste neither WCL nor WCI was able to produce such an approval.

WCI contends that it's operationally unrealistic to develop and obtain Department approval of a special waste management plan for each received cleanup waste contaminated by hazardous substances. The Department agrees that a special waste management plan could be developed for responsibly managing the majority of contaminated cleanup waste received by WCL. Yet, any cleanup waste with additional or different treatment or handling concerns would still have to be reviewed and approved by the Department on a case-by-case basis. This could be as simple as allowing the Department to review the *"Special Waste Permit and Instructions"* that WCI develops for such wastes prior to providing them to the landfill operations staff.

Recommendation - Given the Department's repeated clarification that disposal of cleanup materials contaminated by hazardous substances must be conducted in accordance with a special waste management plan approved by the Department, and that the RAMCO waste involved disposal of 49,000 tons of cleanup waste, having the potential to self-heat and generate ammonia when mixed with water, the decision by WCI to not seek Department review and approval of a special waste management plan for this waste is considered a violation of WCL's solid waste permit. Therefore, the Department will issue a warning letter, with an opportunity to correct, to WCL. Furthermore, the updated Operations Plan due July 20, 2009 should include a special waste management plan designed to cover most contaminated cleanup waste, but also clarifies that for contaminated cleanup waste with additional or different concerns WCI will submit a waste-specific special waste management plan to the Department for review and approval prior to acceptance and disposal.

Lastly, any time there are operational safety issues that could affect a Department inspector visiting the site WCL should alert that inspector of the possible danger just as they alert their own landfill staff. In the case of the RAMCO waste, Department inspectors should have been made aware that one of the largest waste streams being disposed of at the site had the potential to generate ammonia upon contact with water. Such an alert would allow Department inspectors to take proper precautions when inspecting site operations such as leachate recirculation which may have been conducted in a manner that potentially generated ammonia by coming into contact with buried RAMCO waste.

WASC 51353

STATE OF OREGON

WATER SUPPLY WELL REPORT

(as required by ORS 537.765)

Instructions for completing this report are on the last page of this form

WASC 51353

WELL ID # L 70765

(START CARD) # 168538

(1) OWNER:

Well Number:

Name Mike Honald

Address 5125 Cherry Heiths Rd.

City The Dalles State OR Zip 97058

(2) TYPE OF WORK:

☐ New Well ☐ Deepening ☒ Alteration (repair/recondition) ☐ Abandonment

(3) DRILL METHOD:

☒ Rotary Air ☐ Rotary Mud ☐ Cable ☐ Auger

☐ Other

(4) PROPOSED USE:

☒ Domestic ☐ Community ☐ Industrial ☐ Irrigation

☐ Thermal ☐ Injection ☐ Livestock ☐ Other

(5) BORE HOLE CONSTRUCTION:

Special Construction approval ☐ Yes ☒ No Depth of Completed Well 240 ft.

Explosives used ☐ Yes ☒ No Type Amount

HOLE Diameter	From	To	SEAL Material	From	To	Amount sacks or pounds

How was seal placed: Method ☐ A ☐ B ☐ C ☐ D ☐ E

☒ Other N/A

Backfill placed from ft. to ft. Material

Gravel placed from ft. to ft. Size of gravel

(6) CASING/LINER:

	Diameter	From	To	Gauge	Steel	Plastic	Welded	Threaded
Casing:					☐	☐	☐	☐
					☐	☐	☐	☐
					☐	☐	☐	☐
					☐	☐	☐	☐
Liner:					☐	☐	☐	☐
					☐	☐	☐	☐

Final location of shoe(s)

(7) PERFORATIONS/SCREENS:

☐ Perforations Method

☐ Screens Type Material

From	To	Slot size	Number	Diameter	Tele/pipe size	Casing	Liner
						☐	☐
						☐	☐
						☐	☐
						☐	☐
						☐	☐

(8) WELL TESTS: Minimum testing time is 1 hour

☐ Pump ☐ Baller ☒ Air ☐ Flowing Artesian

Yield gal/min	Drawdown	Drill stem at	Time
4	100%	220	1 hr.

Temperature of Water 60 Depth Artesian Flow found

Was a water analysis done? ☐ Yes By whom

Did any strata contain water not suitable for intended use? ☐ Too little

☐ Salty ☐ Muddy ☐ Odor ☐ Colored ☐ Other

Depth of strata:

(9) LOCATION OF WELL by legal description:

County Wasco Latitude Longitude

Township 1 N N or S. Range 13 E E or W. of WM.

Section 6A NE 1/4 NE 1/4

Tax lot 1000 Lot Block Subdivision

Street Address of Well (or nearest address) 5125 Cherry Height Rd., The Dalles, OR.

(10) STATIC WATER LEVEL:

170 ft. below land surface. Date 05/07/2005

Artesian pressure lb. per square inch. Date

(11) WATER BEARING ZONES:

Depth at which water was first found

From	To	Estimated Flow Rate	SWL

(12) WELL LOG:

Ground elevation

Material	From	To	SWL
Claystone Soft Gray	223	240	170
Clean out to 240 Pulled tools out clay will not stay open below casing.			

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RECEIVED AUG 01 2005 WATER RESOURCES DEPT SALEM, OREGON

Date started 05/06/2005 Completed 05/07/2005

(unbonded) Water Well Constructor Certification:

I certify that the work I performed on the construction, alteration, or abandonment of this well is in compliance with Oregon water supply well construction standards. Materials used and information reported above are true to my best knowledge and belief.

WWC Number

Signed Date

(bonded) Water Well Constructor Certification:

I accept responsibility for the construction, alteration, or abandonment work performed on this well during the construction dates reported above. All work performed during this time is in compliance with Oregon water supply well construction standards. This report is true to the best of my knowledge and belief.

WWC Number 790

Signed Date 06/27/2005

Charles Austin

ORIGINAL - WATER RESOURCES DEPARTMENT FIRST COPY - CONSTRUCTOR SECOND COPY - CUSTOMER

76693

RECEIVED
MAR 0 3 2005
WATER RESOURCES DEPT.
SALEM, OREGON

For Official Use Only by **The Oregon Water Resources Department:**

Received Date:

County Well Log ID # "WASC 51333

Well Identification Tag # L-76693

APPLICATION FOR WELL IDENTIFICATION TAG

LANDOWNER INFORMATION (This well is well # 1 of 1 wells on the property)

Current Landowner's Name: PLEASE PRINT Charlotte Lacy

Mailing Address: 1701 Cherry Heights

City: The Dalles State: Ore Zip: 97058 Phone #:

Mail Well Tag to (if other than above address): 207 West 3rd St. Century 21 Columbia Crest Gary Tenplin

(Note: If this is a shared well please see instructions) City? The Dalles OR 97058 Per Qwest online

WELL LOCATION INFORMATION (May also be referred to by County Assessor as the "Map Number")

Township #: 1 (North) or South (circle one) Range #: 13 (East) or West (circle one), Section #: 4 BC

Tax Lot #: 800 ____ 1/4 ____ 1/4 (if known) County: Wasco

Street Address of Well: 1701 Cherry Heights The Dalles Ore. 97058

WELL INFORMATION (Do not complete if well report is attached. Information on locating well reports is enclosed)

Type of Well (i.e. domestic, irrigation, etc): ____ Date Well Constructed: ____

Well Constructor/Company: ____

Well Depth (in feet): ____ Diameter of Well Casing (in inches): ____

Landowner Who Had Well Constructed or Previous Owner at the Time Well was Constructed (if known):

Other Information:

Mail form to: Janet Halladey, Well Identification Program
Oregon Water Resources Department
725 Summer St. NE, Suite A
Salem, OR 97301-1271 or fax to 503-986-0902.

9-04

Water Supply Well Report

WASC 51291

(as required by ORS 537.765)

Instructions for completing this report are on the last page of this form.

51291 Start Card # 169782

(1) Owner

Well Number: 1

Name: CITY OF THE DALLES

Street: 313 COURT ST

City: THE DALLES State: OR Zip Code: 97058

(2) Type of Work

☐ New ☐ Alter (Recondition) ☐ Alter (Repair)

☐ Deepening ☒ Abandonment

(3) Drill Method

☐ Rotary Air ☐ Rotary Mud ☐ Cable ☐ Auger

Other:

(4) Proposed Use

☐ Domestic ☐ Community ☐ Industrial ☐ Irrigation ☐ Injection

☐ Livestock ☐ Thermal Other:

(5) Bore Hole Construction

☐ Special Standards: Depth of completed well:

☐ Explosives Used: Amount: Type:

Hole			Seal			
Diameter	From	To	Mtrl	From	To	Sacks/lbs

How was seal placed? Other:

Back fill placed from: Material:

Filter pack from: Size:

(6) Casing / Liner

Casng/ Liner	Diameter	From	To	Gauge	Mtrl	Weld	Thrd	Shoe at	Shoe used

(7) Perforation / Screens

Perforations:

Mtrl	From	To	Width	Height	#Slots	Dia.	t/pSize	Casng/ Lnr	Method

Screens:

Mtrl	From	To	S Size	#Slots	Dia.	t/pSize	Type	Gauge

(8) Well Tests (Minimum testing time is one hour)

Type	Yield	Units	Drawdown	Stem at	Duration

Temperature of Water:

Was water analysis done? ☐ Depth of artesian flow:

by whom?

Did any strata contain water unsuitable for use? ☐ Too Little ☐ Salty

☐ Muddy ☐ Odor ☐ Colored other:

Depth of strata:

(9) Location of Hole by legal description

County: WASC Latitude: Longitude:

Township: 1.00 N Range: 13.00 E

Section: 8 NWSW Lot: Block:

Tax Lot: Subdivision:

Street Address of Well (or nearest address):

4375 MILL CREEK RD THE DALLES OR 97058

MAP, with location identified, must be attached.

(10) Static Water Level

Feet below land surface: Date:

Artesian Pressure: Date:

(11) Water Bearing Zones

Depth at which water was first found:

From	To	est Flow	swl

(12) Well Log

Ground Elevation:

Material	From	To	swl

WELL ABANDONMENT:

12" WELL WITH 140' 12" CASING
365' DEEP
12" CASING THOROUGHLY PERFORATED
ENTIRE LENGTH
ENTIRE WELL FILLED WITH CEMENT
GROUT FROM BOTTOM TO TOP

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SEP 28 2004
WATER RESOURCES
SALEM, OREGON

Date Started: 08 / 27 / 2004 Date Completed: 09 / 02 / 2004

(unbonded) Water Well Constructor Certification:

I certify that the work I perform on the construction, alteration, or abandonment of this well is in compliance with Oregon well construction standards. Materials used and information reported above are true to the best knowledge and belief.

Signed by: WWC #:

(bonded) Water Well Constructor Certification:

I accept responsibility for the construction, alteration, or abandonment work performed on this well during the construction dates reported above. All work performed during this time is in compliance with Oregon well construction standards. This report is true to the best of my knowledge and belief.

Signed by: CHARLES MOORE WWC #: 731

M-K DRILLING CO. Phone: 509-767-1342

Charles L Moore

IWASC 51291 ... IE, INC.

Phones (541) 296-3884 & (541) 298-5818
4120 River Road • Near Port Area • The Dalles, OR 97058

59824

TYGH VALLEY SAND & GRAVEL

(541) 483-2277

SAND - READY MIXED CONCRETE - GRAVEL - CRUSHED ROCK

REMIT TO: 4120 River Road • The Dalles, Oregon 97058

Reg. No. _____ Date 9-1-04

Sold To M-K Drilling

Address _____

Deliver To 4375 Mt Hood St

Address _____

Driver RD Truck No. 57 Total Yards. _____

TERMS OF SALE: All accounts due and payable 10th of month following purchase. 2% interest per month charged on past due accounts. That is 24% interest per year.

Q[illegible]		[illegible]		
	Yds.	READY - MIXED CONCRETE	MIX	
		% Calcium Chloride		
11,374 #		Cement (121 sk)		
		700 gal Water		
		City of T.D. job		

The following signature of the purchaser or his agent to whom delivery is made is a receipt for goods described above, and an acknowledgment that the terms of sale above printed are understood and agreed to. **The acceptance of this load of material by the purchaser signifies his agreement to all of the conditions and stipulations which are a part of this Sales Contract on back of this invoice.**

TOTAL

Rec'd By* [signature]

RET'N		DEPARTED 4:35	
OUT		ON JOB 4:35	43446
NET			

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WATER RESOURCES DEPT
SALEM, OREGON

WASC 51291

THE DALLES CONCRETE, INC.

Phones (541) 296-3884 & (541) 298-5818
4120 River Road • Near Port Area • The Dalles, OR 97058

59821

☐ TYGH VALLEY SAND & GRAVEL

(541) 483-2277

SAND - READY MIXED CONCRETE - GRAVEL - CRUSHED ROCK

REMIT TO: 4120 River Road • The Dalles, Oregon 97058

Reg. No. _____ Date 9-1-04

Sold To M-K Drilling

Address _____

Deliver To 4375 Mt Hood St.

Address _____

Driver [illegible] Truck No. 57 Total Yards. _____

TERMS OF SALE: All accounts due and payable 10th of month following purchase. 2% interest per month charged on past due accounts. That is 24% interest per year.

8½	Yds.	READY - MIXED CONCRETE 6sk MIX		
		% Calcium Chloride [illegible] Gr Mix		
			TOTAL	

The following signature of the purchaser [illegible] to whom delivery is made is a receipt for [illegible] sale above printed are understood and agreed to. The acceptance of this load of material by the purchaser signifies his agreement to all of the conditions and [illegible] which are a part of this Sales Contract on back of this invoice.

Rec'd By* [illegible]

RET'N		DEPARTED	43446
OUT	2:15	ON JOB	43496
NET			

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DEC 06 2004
WATER RESOURCES DEPT
SALEM, OREGON

WASC 51231

WELL I.D.# L24381

STATE OF OREGON
WATER SUPPLY WELL REPORT
(as required by ORS 537.765)

(START CARD) # W 095958

Instructions for completing this report are on the last page of this form.

(1) OWNER: Well Number

(b) (6)

(2) TYPE OF WORK

☒ New Well ☐ Deepening ☐ Alteration (repair/recondition) ☐ Abandonment

(3) DRILL METHOD:

☒ Rotary Air ☐ Rotary Mud ☐ Cable ☐ Auger

☐ Other

(4) PROPOSED USE:

☒ Domestic ☐ Community ☐ Industrial ☐ Irrigation

☐ Thermal ☐ Injection ☐ Livestock ☐ Other

(5) BORE HOLE CONSTRUCTION:

Special Construction approval ☐ Yes ☒ No Depth of Completed Well 242 ft.

Explosives used ☐ Yes ☒ No Type Amount

HOLE Diameter	From	To	SEAL Material	From	To	Sacks or pounds
10"	0	18	Bentonite	0	18	12 sacks
6"	18	242				

How was seal placed: Method ☐ A ☐ B ☐ C ☐ D ☐ E

☒ Other Pour in oversize hole

Backfill placed from ft. to ft. Material

Gravel placed from ft. to ft. Size of gravel

(6) CASING/LINER:

	Diameter	From	To	Gauge	Steel	Plastic	Welded	Threaded
Casing:	6"	+1	19	.250	☒	☐	☒	☐
					☐	☐	☐	☐
					☐	☐	☐	☐
					☐	☐	☐	☐
Liner:					☐	☐	☐	☐
					☐	☐	☐	☐

Final location of shoe(s) 19 ft

(7) PERFORATIONS/SCREENS:

☐ Perforations Method

☐ Screens Type Material

From	To	Slot size	Number	Diameter	Tele/pipe size	Casing	Liner
						☐	☐
						☐	☐
						☐	☐
						☐	☐
						☐	☐

(8) WELL TESTS: Minimum testing time is 1 hour

☐ Pump ☐ Bailer ☒ Air ☐ Flowing Artesian

Yield gal/min	Drawdown	Drill stem at	Time
10 GPM		230	1 hr.

Temperature of water 55° Depth Artesian Flow Found

Was a water analysis done? ☐ Yes By whom

Did any strata contain water not suitable for intended use? ☐ Too little

☐ Salty ☐ Muddy ☐ Odor ☐ Colored ☐ Other

Depth of strata:

(9) LOCATION OF WELL by legal description:

County Wasco Latitude Longitude

Township 1 N N or S Range 13 E E or W. WM.

Section 6 SW 1/4 SW 1/4

Tax Lot 500 Lot Block Subdivision

(b) (6)

(10) STATIC WATER LEVEL:

182 ft. below land surface. Date 12-3-03

Artesian pressure lb. per square inch. Date

(11) WATER BEARING ZONES:

Depth at which water was first found 202

From	To	Estimated Flow Rate	SWL
202	209	10 GPM	182

(12) WELL LOG:

Ground Elevation Approx. 1000 ft

Material	From	To	SWL
Sandstone rocky brown	0	30	
Sandstone light brown	30	50	
Sandstone gray brown	50	65	
Sandstone, brown	65	70	
Sandstone gray brown	70	115	
San dstone brown	115	124	
Sandstone gray	124	144	
Sandstone brown	144	169	
Sandstone course gray	169	174	
Sandstone gray brown	174	189	
Sandstone brown	189	202	182
Sandstone gray course WB	202	209	182
Sandstone brown	209	242	182

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DEC 10 2003

WATER RESOURCES DEPT
SALEM, OREGON

Date started Nov. 20, 2003 Completed Dec 3, 2003

(unbonded) Water Well Constructor Certification:

I certify that the work I performed on the construction, alteration, or abandonment of this well is in compliance with Oregon water supply well construction standards. Materials used and information reported above are true to the best of my knowledge and belief.

WWC Number

Signed Date

(bonded) Water Well Constructor Certification:

I accept responsibility for the construction, alteration, or abandonment work performed on this well during the construction dates reported above. All work performed during this time is in compliance with Oregon water supply well construction standards. This report is true to the best of my knowledge and belief.

WWC Number 569

Signed Gilbert C Clayton Date 12-6-03

ORIGINAL & FIRST COPY-WATER RESOURCES DEPARTMENT SECOND COPY-CONSTRUCTOR THIRD COPY-CUSTOMER

WASC 51230 WELL I.D.# _____

STATE OF OREGON
WATER SUPPLY WELL REPORT
(as required by ORS 537.765)

(START CARD) # W-095957

Instructions for completing this report are on the last page of this form.

(1) OWNER: Well Number
(b) (6)

(2) TYPE OF WORK
☐ New Well ☐ Deepening ☐ Alteration (repair/recondition) ☒ Abandonment

(3) DRILL METHOD:
☒ Rotary Air ☐ Rotary Mud ☐ Cable ☐ Auger
☐ Other

(4) PROPOSED USE:
☒ Domestic ☐ Community ☐ Industrial ☐ Irrigation
☐ Thermal ☐ Injection ☐ Livestock ☐ Other

(5) BORE HOLE CONSTRUCTION:
Special Construction approval ☐ Yes ☒ No Depth of Completed Well ____ ft.
Explosives used ☐ Yes ☒ No Type ____ Amount ____

HOLE Diameter	From	To	SEAL Material	From	To	Sacks or pounds
10"	0	18	Pressure			
8"	18	60	grouted	0	60	43 sacks
						cement

How was seal placed: Method ☐ A ☐ B ☐ C ☐ D ☐ E
☐ Other
Backfill placed from ____ ft. to ____ ft. Material ____
Gravel placed from ____ ft. to ____ ft. Size of gravel ____

(6) CASING/LINER:

	Diameter	From	To	Gauge	Steel	Plastic	Welded	Threaded
Casing:					☐	☐	☐	☐
					☐	☐	☐	☐
					☐	☐	☐	☐
					☐	☐	☐	☐
Liner:					☐	☐	☐	☐
					☐	☐	☐	☐

Final location of shoe(s)

(7) PERFORATIONS/SCREENS:
☐ Perforations Method
☐ Screens Type Material

From	To	Slot size	Number	Diameter	Tele/pipe size	Casing	Liner
						☐	☐
						☐	☐
						☐	☐
						☐	☐
						☐	☐

(8) WELL TESTS: Minimum testing time is 1 hour
☐ Pump ☐ Bailer ☐ Air ☐ Flowing Artesian

Yield gal/min	Drawdown	Drill stem at	Time
			1 hr.

Temperature of water 55° Depth Artesian Flow Found ____
Was a water analysis done? ☐ Yes By whom ____
Did any strata contain water not suitable for intended use? ☒ Too little
☐ Salty ☐ Muddy ☐ Odor ☐ Colored ☐ Other ____
Depth of strata: 190 ft

(9) LOCATION OF WELL by legal description:
County Wasco Latitude ____ Longitude ____
Township 1 N N or S Range 13 E E or W. WM.
Section 6 NW 1/4 SW 1/4
Tax Lot 500 Lot ____ Block ____ Subdivision ____
Street Address of Well (or nearest address) 5490 Cherry Height Road, The Dalles OR

(10) STATIC WATER LEVEL:
____ ft. below land surface. Date ____
Artesian pressure ____ lb. per square inch. Date ____

(11) WATER BEARING ZONES:
Depth at which water was first found 190

From	To	Estimated Flow Rate	SWL
190	200	4 GPM	160

(12) WELL LOG:
Ground Elevation approx. 980 ft

Material	From	To	SWL
Soil brown	0	6	
Sandstone brown	6	24	
Sandstone rocky brown	24	64	
Sandstone brown silty	64	139	
Sandstone, light brown	139	190	
Sandstone, gray brown	190	200	160
Sandstone, brown	200	220	
Sandstone light brown	220	260	
Sandstone, brown	260	340	
Pulled casing & sealed			
60 ft with cement grout			
43 sacks. Abandonment because			
of small amount of water.			

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SALEM, OREGON

Date started Oct. 1 2003 Completed Nov. 20, 2003

(unbonded) Water Well Constructor Certification:
I certify that the work I performed on the construction, alteration, or abandonment of this well is in compliance with Oregon water supply well construction standards. Materials used and information reported above are true to the best of my knowledge and belief.

WWC Number ____
Signed ____ Date ____

(bonded) Water Well Constructor Certification:
I accept responsibility for the construction, alteration, or abandonment work performed on this well during the construction dates reported above. All work performed during this time is in compliance with Oregon water supply well construction standards. This report is true to the best of my knowledge and belief.

WWC Number 569
Signed Gilbert J Clayton Date 12-8-03

ORIGINAL & FIRST COPY-WATER RESOURCES DEPARTMENT SECOND COPY-CONSTRUCTOR THIRD COPY-CUSTOMER

WASC 51224

STATE OF OREGON
GEOTECHNICAL HOLE REPORT
(as required by OAR 690-240-035)

(1) OWNER/PROJECT: Hole Number B-1

Name CITY OF THE DALLES

Address 313 COURT STREET

City THE DALLES State OREGON Zip 97058

(2) TYPE OF WORK

☑ New ☐ Deepening ☐ Alteration (repair/recondition) ☒ Abandonment

(3) CONSTRUCTION:

☐ Rotary Air ☐ Hand Auger ☑ Hollow Stem Auger

☐ Rotary Mud ☐ Cable Tool ☐ Push Probe ☐ Other

(4) TYPE OF HOLE:

☑ Uncased Temporary ☐ Cased Permanent

☐ Uncased Permanent ☐ Slope Stability ☐ Other

(5) USE OF HOLE: GEOTECHNICAL

(6) BORE HOLE CONSTRUCTION:

Special Construction approval ☐ Yes ☑ No Depth of Completed Hole 20 ft.

HOLE			SEAL			
Diameter	From	To	Material	From	To	Sacks or pounds
8	20	0	BENT CHIPS	20	0	10 SKS

Backfill placed from ____ ft. to ____ ft. Material ____

Filter Pack placed from ____ ft. to ____ ft. Size of pack ____

(7) CASING/SCREEN:

	Diameter	From	To	Gauge	Steel	Plastic	Welded	Threaded
Casing:	N/A				☐	☐	☐	☐
					☐	☐	☐	☐
					☐	☐	☐	☐
					☐	☐	☐	☐
Screen:					☐	☐	☐	☐
					☐	☐	☐	☐

Slot size ____

(8) WELL TEST:

☐ Pump ☐ Bailer ☐ Air ☐ Flowing Artesian

Permeability ____ Yield ____ GPM ____

Conductivity ____ PH ____

Temperature of water NONE °F Depth artesian flow found ____ ft.

Was water analysis done? ☐ Yes ☐ No

By whom? ____

Depth of strata analyzed. From ____ ft. to ____ ft.

Remarks: ____

(9) LOCATION OF HOLE by legal description:

County WASCO Latitude ____ Longitude ____

Township 1 N Range 13 E WM.

Section 3 NW 1/4 SW 1/4

Tax Lot R.O.W. Lot ____ Block ____ Subdivision ____

Street Address of Well (or nearest address) INTERSECTION OF OAK AND 10TH STREET RIGHT OF WAY

Map with location indentified must be attached

(10) STATIC WATER LEVEL:

NONE ft. below land surface. Date 6/4/03

Artesian pressure ____ lb. per square inch. Date ____

(11) SUBSURFACE LOG:

Ground Elevation ____

Material Description	From	To	SWL
BROWN SAND	0	18	
WEATHERED BASALT	18	20	

Date Started 6/4/03 Date Completed 6/4/03

(12) ABANDONMENT LOG:

Material Description	From	To	Sacks or Pounds
BENT CHIPS	20	0	10 SKS

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WATER RESOURCES DEPT.
SALEM, OREGON

Date started 6/4/03 Date Completed 6/4/03

Professional Certification

(to be signed by a licensed water supply or monitoring well constructor, or registered geologist or civil engineer).

I accept responsibility for the construction, alteration, or abandonment work performed on during the construction dates reported above. All work performed during this time is in compliance with Oregon geotechnical hole construction standards. This report is true to the best of my knowledge and belief.

License or Registration Number 10491

Signed ____ Date 6/11/03

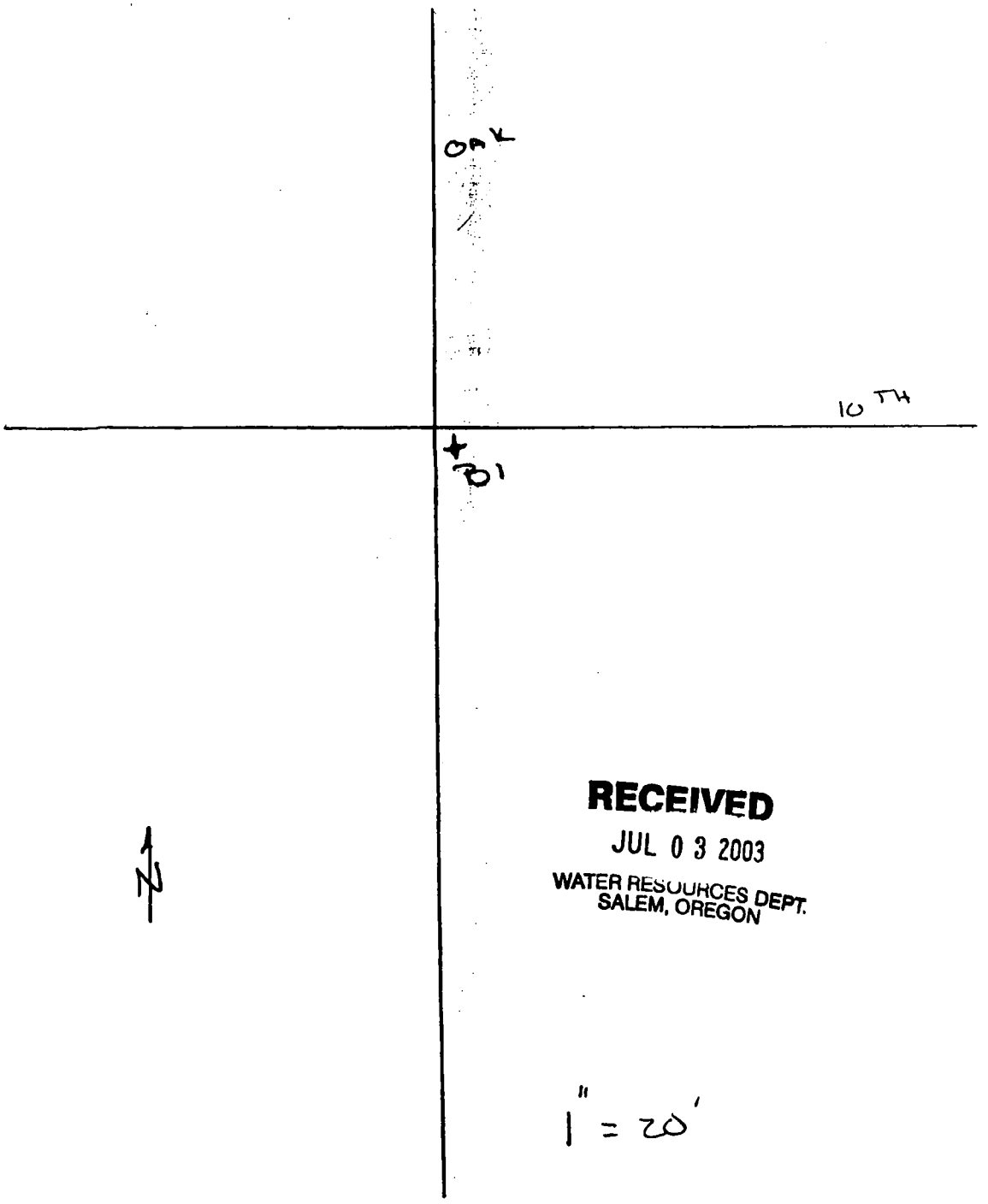
MIKE KADRMAS

Affiliation SUBSURFACE TECHNOLOGIES

THIS REPORT MUST BE SUBMITTED TO THE WATER RESOURCES DEPARTMENT WITHIN 30 DAYS OF COMPLETION OF WORK

ORIGINAL & FIRST COPY-WATER RESOURCES DEPARTMENT SECOND COPY-CONSTRUCTOR THIRD COPY-CUSTOMER

WASC 51224



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WATER RESOURCES DEPT.
SALEM, OREGON

1" = 20'

WASC 51220

STATE OF OREGON
GEOTECHNICAL HOLE REPORT
(as required by OAR 690-240-035)

(1) OWNER/PROJECT: Hole Number 2

(b) (6)

(2) TYPE OF WORK

☒ New ☐ Deepening ☐ Alteration (repair/recondition) ☐ Abandonment

(3) CONSTRUCTION:

☐ Rotary Air ☒ Hand Auger ☐ Hollow Stem Auger
☐ Rotary Mud ☐ Cable Tool ☐ Push Probe ☐ Other

(4) TYPE OF HOLE:

☒ Uncased Temporary ☐ Cased Permanent
☐ Uncased Permanent ☐ Slope Stability ☐ Other

(5) USE OF HOLE: Environmental Sampling

(6) BORE HOLE CONSTRUCTION:

Special Construction approval ☐ Yes ☒ No Depth of Completed Hole 5.5 ft.

HOLE Diameter	From	To	SEAL Material	From	To	Sacks or pounds
3 1/2"	0	5.5				

Backfill placed from ____ ft. to ____ ft. Material ____
Filter Pack placed from ____ ft. to ____ ft. Size of pack ____

(7) CASING/SCREEN:

	Diameter	From	To	Gauge	Steel	Plastic	Welded	Threaded
Casing:					☐	☐	☐	☐
					☐	☐	☐	☐
					☐	☐	☐	☐
					☐	☐	☐	☐
Screen:					☐	☐	☐	☐
					☐	☐	☐	☐

Slot size ____

(8) WELL TEST:

☐ Pump ☐ Bailer ☐ Air ☐ Flowing Artesian
Permeability ____ Yield ____ GPM ____
Conductivity ____ PH ____
Temperature of water ____ °F/C Depth artesian flow found ____ ft.
Was water analysis done? ☐ Yes ☐ No
By whom? ____
Depth of strata analyzed. From ____ ft. to ____ ft.
Remarks: ____

(9) LOCATION OF HOLE by legal description:

County Wasco Latitude 45.599N Longitude 121.188W
Township 1 (N) or S Range 13 (E) or W. WM.
Section 4 NE 1/4 SE 1/4
Tax Lot ____ Lot 1000 Block 5 Subdivision ____
Street Address of Well (or nearest address) 1015 Liberty St. The Dalles, OR 97058

Map with location identified must be attached

(10) STATIC WATER LEVEL:

None Found ft. below land surface. Date 6/3/03
Artesian pressure ____ lb. per square inch. Date ____

(11) SUBSURFACE LOG:

Ground Elevation ____

Material Description	From	To	SWL
Silt	0	5.5'	

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Date Started 6/3/03 Date Completed 6/3/03

(12) ABANDONMENT LOG:

Material Description	From	To	Sacks or Pounds
Bentonite Chips	1	5.5'	1/3 sack
Soil Cap	0	1'	

Date started 6/3/03 Date Completed 6/3/03

Professional Certification

(to be signed by a licensed water supply or monitoring well constructor, or Oregon registered geologist or civil engineer).

I accept responsibility for the construction, alteration, or abandonment work performed during the construction dates reported above. All work performed during this time is in compliance with Oregon's geotechnical hole construction standards. This report is true to the best of my knowledge and belief.

License or Registration Number G1487

Signed William R. Cuthbertson Date 6/18/03

Affiliation 3 Kings Environmental, Inc.

THIS REPORT MUST BE SUBMITTED TO THE WATER RESOURCES DEPARTMENT WITHIN 30 DAYS OF COMPLETION OF WORK

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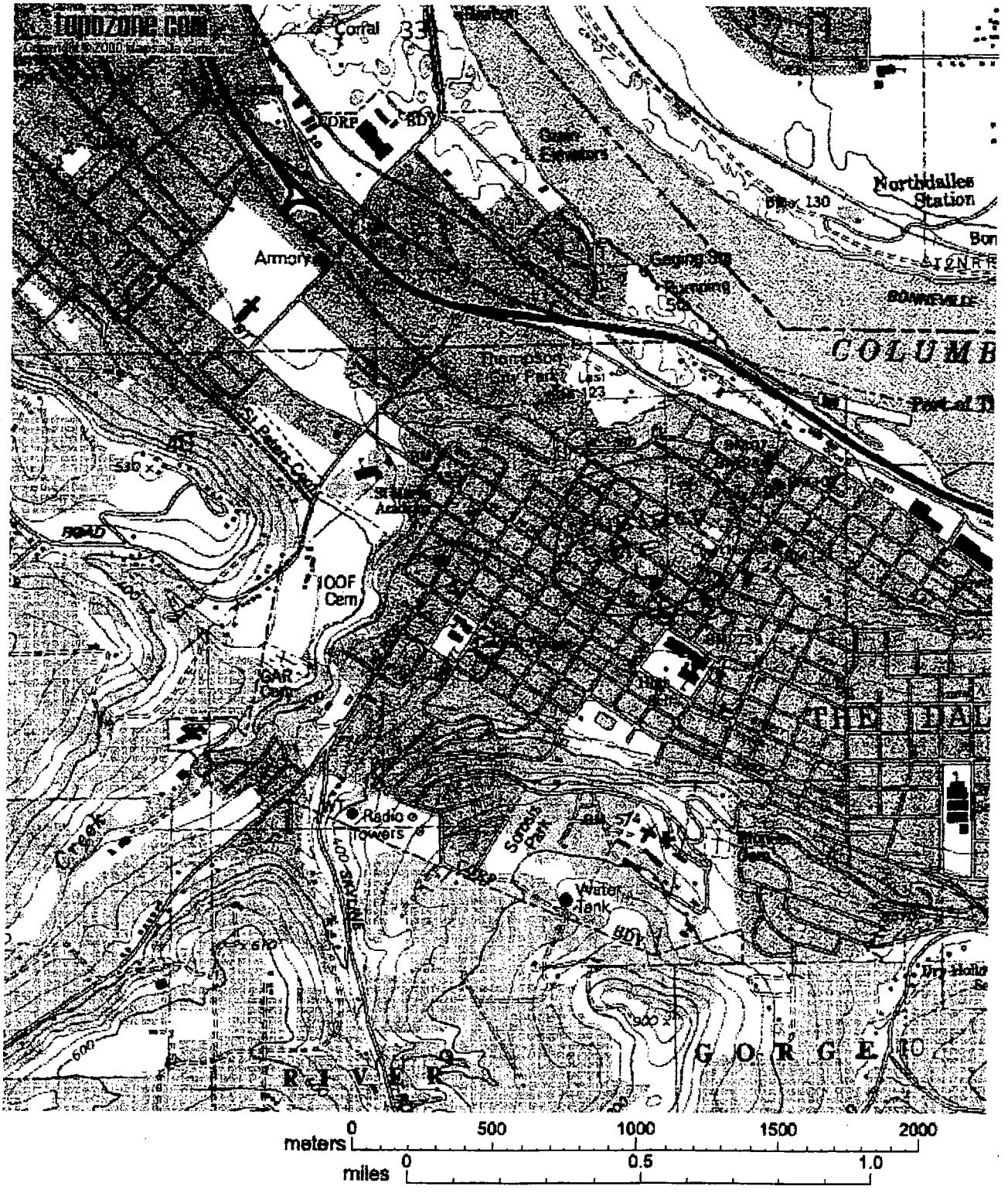
SALEM, OREGON

TopoZone.com

Target is 45.5983°N, 121.1881°W - **THE DALLES SOUTH** quad [Quad Info]



WASC 51219

STATE OF OREGON
GEOTECHNICAL HOLE REPORT
(as required by OAR 690-240-035)

(1) OWNER/PROJECT: Hole Number 1

(b) (6)

(2) TYPE OF WORK

☒ New ☐ Deepening ☐ Alteration (repair/recondition) ☐ Abandonment

(3) CONSTRUCTION:

☐ Rotary Air ☒ Hand Auger ☐ Hollow Stem Auger

☐ Rotary Mud ☐ Cable Tool ☐ Push Probe ☐ Other _____

(4) TYPE OF HOLE:

☒ Uncased Temporary ☐ Cased Permanent

☐ Uncased Permanent ☐ Slope Stability ☐ Other _____

(5) USE OF HOLE: Environmental Sampling

(6) BORE HOLE CONSTRUCTION:

Special Construction approval ☐ Yes ☒ No Depth of Completed Hole 5.5 ft.

HOLE Diameter	From	To	SEAL Material	From	To	Sacks or pounds
3½"	0	5.5				

Backfill placed from _____ ft. to _____ ft. Material _____

Filter Pack placed from _____ ft. to _____ ft. Size of pack _____

(7) CASING/SCREEN:

	Diameter	From	To	Gauge	Steel	Plastic	Welded	Threaded
Casing:					☐	☐	☐	☐
					☐	☐	☐	☐
					☐	☐	☐	☐
					☐	☐	☐	☐
Screen:					☐	☐	☐	☐
					☐	☐	☐	☐

Slot size _____

(8) WELL TEST:

☐ Pump ☐ Bailer ☐ Air ☐ Flowing Artesian

Permeability _____ Yield _____ GPM _____

Conductivity _____ PH _____

Temperature of water _____ °F/C Depth artesian flow found _____ ft.

Was water analysis done? ☐ Yes ☐ No

By whom? _____

Depth of strata analyzed. From _____ ft. to _____ ft.

Remarks: _____

(9) LOCATION OF HOLE by legal description:

County Wasco Latitude 45.599N Longitude 121.188 W

Township 1N (N) or S Range 13 (E) or W. WM.

Section 4 NE 1/4 SE 1/4

Tax Lot _____ Lot 1000 Block 5 Subdivision _____

Street Address of Well (or nearest address) 1015 Liberty St. The Dalles, OR 97058

Map with location identified must be attached

(10) STATIC WATER LEVEL:

None Found ft. below land surface. Date 6/3/03

Artesian pressure _____ lb. per square inch. Date _____

(11) SUBSURFACE LOG:

Ground Elevation _____

Material Description	From	To	SWL
SILT	0	5.5'	

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JUN 20 2003
WATER RESOURCES DEPT
SALEM, OREGON

Date Started 6/3/03 Date Completed 6/3/03

(12) ABANDONMENT LOG:

Material Description	From	To	Sacks or Pounds
Bentonite Chips	1	5.5'	1/3 sack
Soil Cap	0	1'	

Date started 6/3/03 Date Completed 6/3/03

Professional Certification

(to be signed by a licensed water supply or monitoring well constructor, or Oregon registered geologist or civil engineer).

I accept responsibility for the construction, alteration, or abandonment work performed during the construction dates reported above. All work performed during this time is in compliance with Oregon's geotechnical hole construction standards. This report is true to the best of my knowledge and belief.

License or Registration Number G1487

Signed William R. Cullaldson Date 6/18/03

Affiliation 3 Kings Environmental, Inc.

THIS REPORT MUST BE SUBMITTED TO THE WATER RESOURCES DEPARTMENT WITHIN 30 DAYS OF COMPLETION OF WORK

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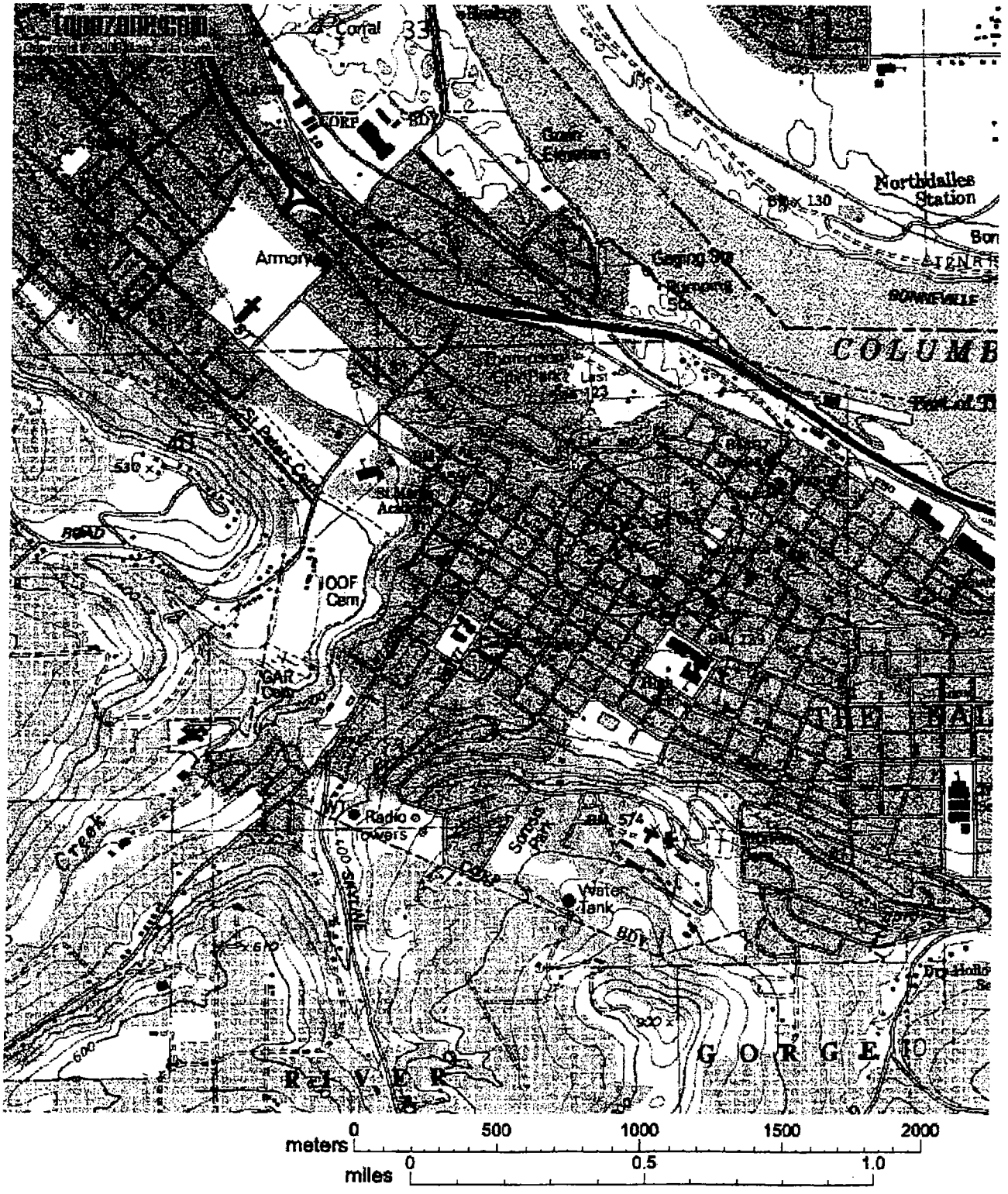
SALEM, OREGON

TopoZone.com

Target is 45.5983°N, 121.1881°W - **THE DALLES SOUTH** quad [Quad Info]



WASC 51180

STATE OF OREGON
WATER SUPPLY WELL REPORT
(as required by ORS 537.765)
Instructions for completing this report are on the last page of this form.

WELL I.D. # L 54988
START CARD # 123775

(1) LAND OWNER
(b) (6)

(2) TYPE OF WORK
☐ New Well ☐ Deepening ☒ Alteration (repair/recondition) ☐ Abandonment

(3) DRILL METHOD:
☐ Rotary Air ☐ Rotary Mud ☒ Cable ☐ Auger
☐ Other

(4) PROPOSED USE:
☐ Domestic ☒ Community ☐ Industrial ☐ Irrigation
☐ Thermal ☐ Injection ☐ Livestock ☐ Other

(5) BORE HOLE CONSTRUCTION:
Special Construction approval ☐ Yes ☒ No Depth of Completed Well 467 ft.
Explosives used ☐ Yes ☒ No Type _____ Amount _____

HOLE Diameter	From	To	SEAL Material	From	To	Sacks or pounds

How was seal placed: Method ☐ A ☐ B ☐ C ☐ D ☐ E
☐ Other
Backfill placed from _____ ft. to _____ ft. Material _____
Gravel placed from _____ ft. to _____ ft. Size of gravel _____

(6) CASING/LINER:

	Diameter	From	To	Gauge	Steel	Plastic	Welded	Threaded
Casing:	6"	+1	400	.250	☒	☐	☒	☐
					☐	☐	☐	☐
					☐	☐	☐	☐
					☐	☐	☐	☐
Liner:	6"	+1	400	.250	☒	☐	☒	☐
					☐	☐	☐	☐

Drive Shoe used ☐ Inside ☒ Outside ☐ None
Final location of shoe(s) 400'

(7) PERFORATIONS/SCREENS:
☐ Perforations Method _____
☐ Screens Type _____ Material _____

From	To	Slot size	Number	Diameter	Tele/pipe size	Casing	Liner
						☐	☐
						☐	☐
						☐	☐
						☐	☐

(8) WELL TESTS: Minimum testing time is 1 hour
☐ Pump ☒ Bailer ☐ Air ☐ Flowing Artesian

Yield gal/min	Drawdown	Drill stem at	Time
30 gal	NONE		1 hr.

Temperature of water 58 Depth Artesian Flow Found _____
Was a water analysis done? NO ☐ Yes By whom _____
Did any strata contain water not suitable for intended use? ☒ Too little
☐ Salty ☐ Muddy ☐ Odor ☐ Colored ☐ Other _____
Depth of strata: _____

(9) LOCATION OF WELL by legal description:
County WASCO Latitude _____ Longitude _____
Township 1 N or S Range 13 E or W. WM.
Section 5 NE 1/4 SW 1/4
Tax Lot 1800 Lot _____ Block _____ Subdivision _____
Street Address of Well (or nearest address) 1976 Chorry Heights

(10) STATIC WATER LEVEL:
329 ft. below land surface. Date 7-20-2003
Artesian pressure _____ lb. per square inch Date _____

(11) WATER BEARING ZONES:
Depth at which water was first found _____

From	To	Estimated Flow Rate	SWL

(12) WELL LOG:
Ground Elevation _____

Material	From	To	SWL
Ran Liner Below Clay Layer 380 to 400' Drilled the Bottom out to 467' Cleaned out.			

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WATER RESOURCES DEPT
SALEM, OREGON

Date started 7-20 Completed 7-23-2003

(unbonded) Water Well Constructor Certification:
I certify that the work I performed on the construction, alteration, or abandonment of this well is in compliance with Oregon water supply well construction standards. Materials used and information reported above are true to the best of my knowledge and belief.
WWC Number 1669
Signed Jody Kant Date 8-05-2003

(bonded) Water Well Constructor Certification:
I accept responsibility for the construction, alteration, or abandonment work performed on this well during the construction dates reported above. All work performed during this time is in compliance with Oregon water supply well construction standards. This report is true to the best of my knowledge and belief.
WWC Number 1669
Signed Jody Kant Date 8-05-2003

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WASC 51140

STATE OF OREGON
GEOTECHNICAL HOLE REPORT
(as required by OAR 690-240-035)

(1) OWNER/PROJECT: Hole Number SI-1
Name CITY OF THE DALLES
Address 100 UNION STREET
City THE DALLES State OREGON Zip

(2) TYPE OF WORK
☑ New ☐ Deepening ☐ Alteration (repair/recondition) ☐ Abandonment

(3) CONSTRUCTION:
☐ Rotary Air ☐ Hand Auger ☑ Hollow Stem Auger
☐ Rotary Mud ☐ Cable Tool ☐ Push Probe ☐ Other

(4) TYPE OF HOLE:
☐ Uncased Temporary ☐ Cased Permanent
☐ Uncased Permanent ☑ Slope Stability ☐ Other

(5) USE OF HOLE: SLOPE STABILITY

(6) BORE HOLE CONSTRUCTION:
Special Construction approval ☐ Yes ☑ No Depth of Completed Hole 70 ft.

HOLE			SEAL			
Diameter	From	To	Material	From	To	Sacks or pounds
8	0	70	BENT CEMENT			
			GROUT	70	1	180 GAL

Backfill placed from ____ ft. to ____ ft. Material ____
Filter Pack placed from ____ ft. to ____ ft. Size of pack ____

(7) CASING/SCREEN:

	Diameter	From	To	Gauge	Steel	Plastic	Welded	Threaded
Casing:	2.75"	66	0		☐	☑	☐	☐
					☐	☐	☐	☐
					☐	☐	☐	☐
					☐	☐	☐	☐
Screen:					☐	☐	☐	☐
					☐	☐	☐	☐

Slot size ____

(8) WELL TEST:
☐ Pump ☐ Bailer ☐ Air ☐ Flowing Artesian
Permeability ____ Yield ____ GPM ____
Conductivity ____ PH ____
Temperature of water 58 °F Depth artesian flow found ____ ft.
Was water analysis done? ☐ Yes ☑ No
By whom? ____
Depth of strata analyzed. From ____ ft. to ____ ft.
Remarks: ____

(9) LOCATION OF HOLE by legal description:
County WASCO Latitude ____ Longitude ____
Township 1 N Range 13 E WM.
Section 3 NW 1/4 NW 1/4
Tax Lot R-O-W Lot ____ Block ____ Subdivision ____
Street Address of Well (or nearest address) I 84 MEDIAN BETWEEN EAST AND WEST LANES (UNION STREET UNDERPASS)

Map with location indentified must be attached

(10) STATIC WATER LEVEL:
23 ft. below land surface. Date 11/14/02
Artesian pressure ____ lb. per square inch. Date ____

(11) SUBSURFACE LOG:
Ground Elevation ____

Material Description	From	To	SWL
BASE ROCK	0	2	
RIP RAP	2	4	
LT BROWN SAND	4	63	23
WEATHERED ROCK	63	70	

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WATER RESOURCES DEPT
SALEM, OREGON

Date Started 11/14/02 Date Completed 11/14/02

(12) ABANDONMENT LOG:

Material Description	From	To	Sacks or Pounds
BENT CEMENT GROUT	70	1	180 GAL
FLUSH MOUNTMONUMENT			
CONCRETED IN PLACE	1	0	

Date started 11/14/02 Date Completed 11/14/02

Professional Certification
(to be signed by a licensed water supply or monitoring well constructor, or registered geologist or civil engineer).

I accept responsibility for the construction, alteration, or abandonment work performed on during the construction dates reported above. All work performed during this time is in compliance with Oregon geotechnical hole construction standards. This report is true to the best of my knowledge and belief.

License or Registration Number 10491
Signed ____ Date 11/27/02
MIKE KADRMAS
Affiliation SUBSURFACE TECHNOLOGIES

THIS REPORT MUST BE SUBMITTED TO THE WATER RESOURCES DEPARTMENT WITHIN 30 DAYS OF COMPLETION OF WORK

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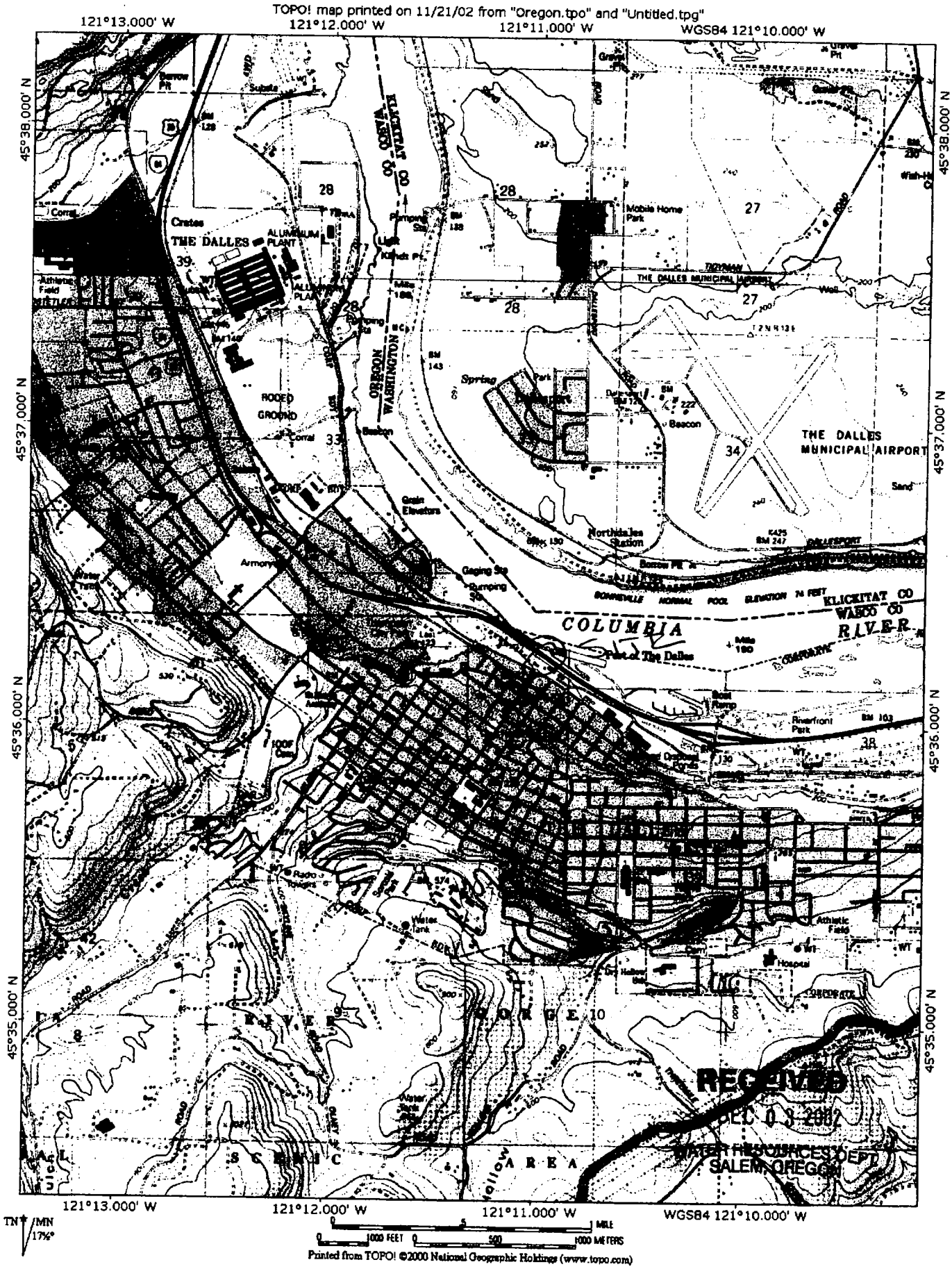

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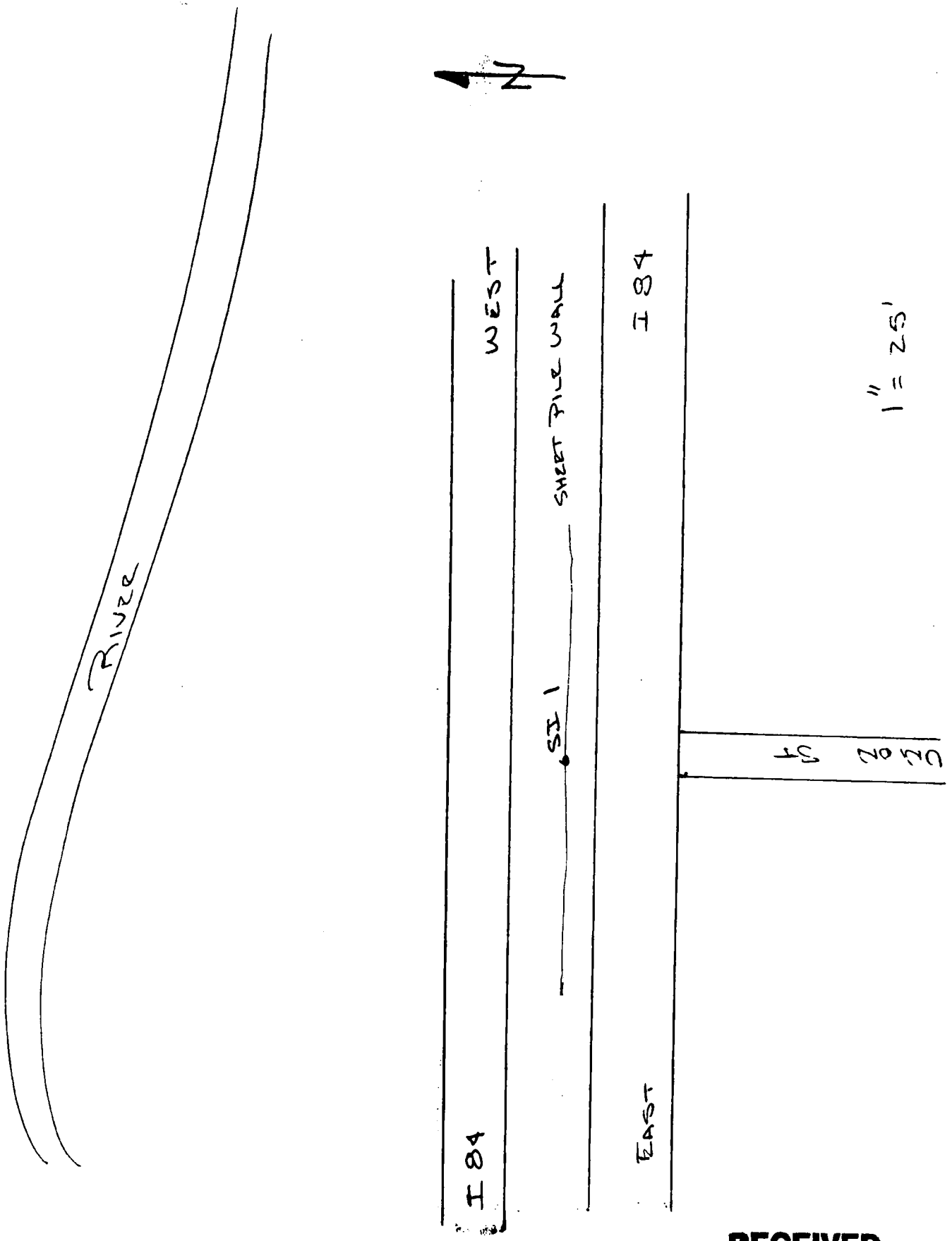
SALEM, OREGON

WASC 51140



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SALEM, OREGON

WASC 51126

STATE OF OREGON
MONITORING WELL REPORT
(as required by ORS 537.765 & OAR 690-240-095)

Instructions for completing this report are on the last page of this form.

Start Card # 148089

(1) OWNER/PROJECT:
WELL NO. B-1

Name CITY OF THE DALLES

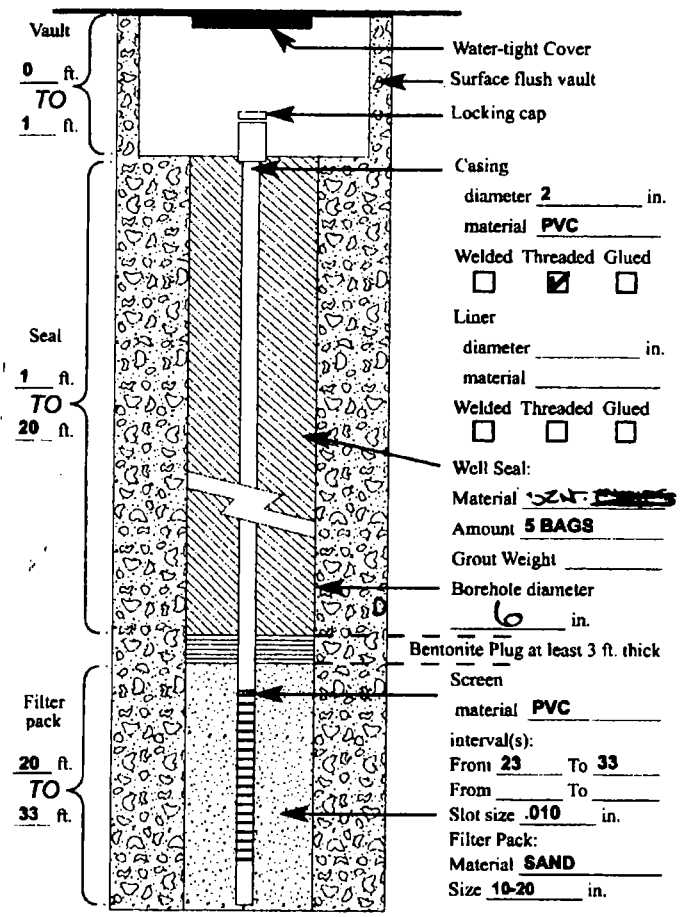
Address 100 UNION STREET

City THE DALLES State OREGON Zip

(2) TYPE OF WORK:
☐ New construction ☐ Alteration (Repair/Recondition)
☐ Conversion ☐ Deepening ☑ Abandonment

(3) DRILLING METHOD:
☐ Rotary Air ☑ Rotary Mud ☐ Cable
☐ Hollow Stem Auger ☐ Other

(4) BORE HOLE CONSTRUCTION:
Special Standards Yes ☐ No ☑ Depth of completed well 33 ft.



(5) WELL TEST:
☐ Pump ☐ Bailer ☐ Air ☐ Flowing Artesian
Permeability Yield GPM
Conductivity pH
Temperature of Water NONE °F Depth artesian flow found ft.
Was water analysis done? ☐ Yes ☐ No
By whom?
Depth of strata to be analyzed. From ft. to ft.
Remarks

Name of supervising Geologist/Engineer

(6) LOCATION OF WELL By legal description
Well Location: County WASCO
Township 1 N Range 13 E Section 3
1. NW ¼ of NW ¼ of above section.
2. Either Street address of well location ON UNION ST. 250 FEET N OF UNION AND EAST 1 ST
or Tax lot number of well location R-O-W
3. ATTACH MAP WITH LOCATION IDENTIFIED. Map shall include approximate scale and north arrow.

(7) STATIC WATER LEVEL:
NONE Ft. below land surface Date
Artesian Pressure lb/sq in. Date

(8) WATER BEARING ZONES:
Depth at which water was first found NONE

From	To	Est. Flow Rate	SWL

(9) WELL LOG:
Ground elevation

Material	From	To	SWL
SANDY GRAVEL	0	33	
ABANDONMENT OF PIEZOMETER			
ON 11/14/02 REMOVED FLUSH			
MOUNT MONUMENT AND FILLED			
WITH BENT CEMENT GROUT FROM			
33 FEET TO O FEET 14 #/GAL	33	0	

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WATER RESOURCES DEPT
SALEM, OREGON

Date started 11/14/02 Completed 11/14/02

(unbonded) Monitor Well Constructor Certification:
I certify that the work I performed on the construction, alteration, or abandonment of this well is in compliance with Oregon well construction standards. Materials used and information reported above are true to the best knowledge and belief.

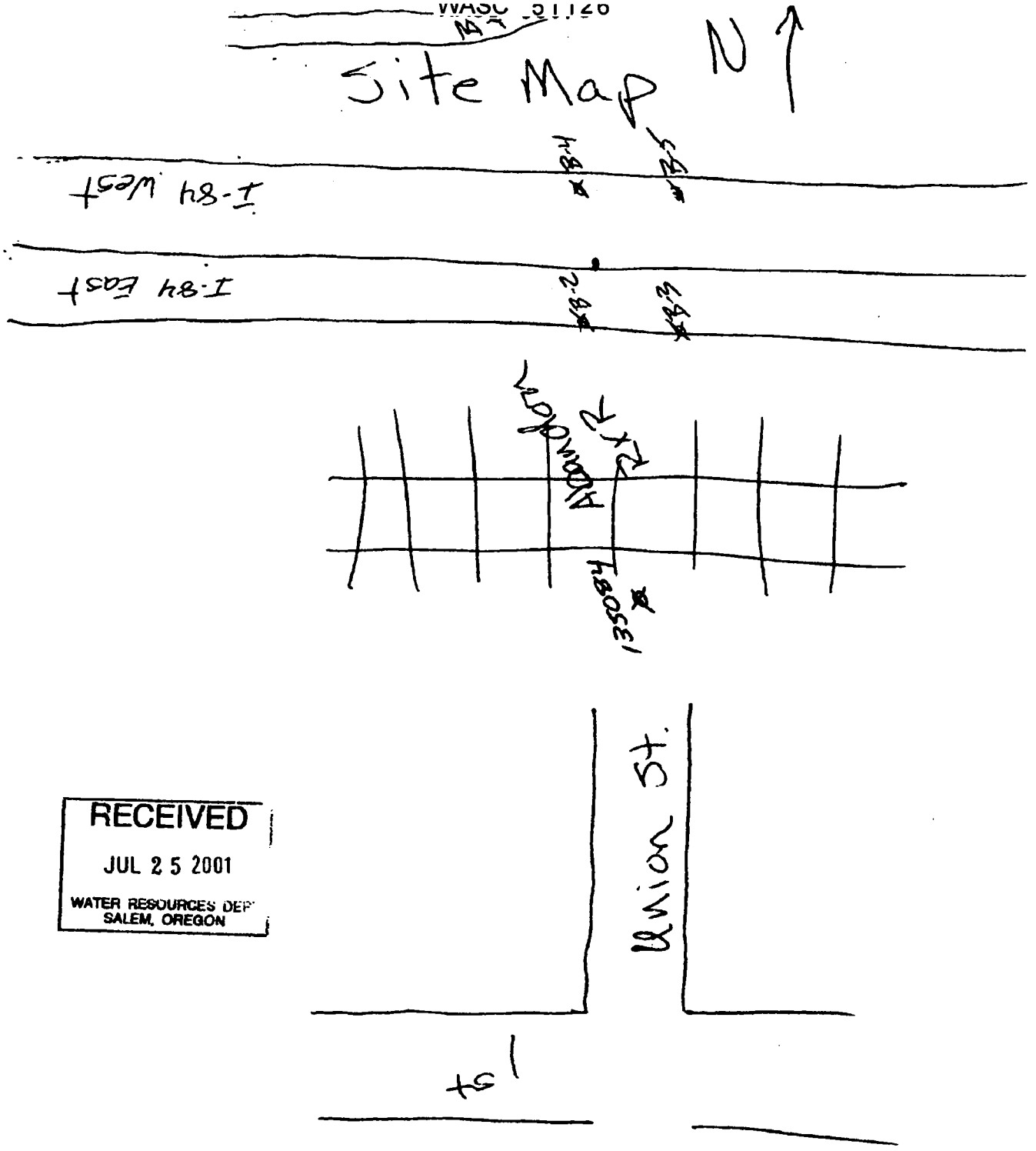
Signed Date 11/22/02 MWC Number 10491

(bonded) Monitor Well Constructor Certification:
I accept responsibility for the construction, alteration, or abandonment work performed on this well during the construction dates reported above. All work performed during this time is in compliance with Oregon well construction standards. This report is true to the best of my knowledge and belief.

Signed Date 11/21/02 MWC Number 10459

WASC 51126

Site Map



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SALEM, OREGON

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DEC 16 2004
WATER RESOURCES DEPT
SALEM, OREGON

STATE OF OREGON

Water Supply Well Report

(as required by ORS 537.765)

WASC 51097

WASC

Received Date: 09-19-2002

Well ID Tag # L 24224

Start Card # 143142

Instructions for completing this report are on the last page of this form.

(1) Owner

Well Number: 2

Name: (b) (6)

Street:

City:

(2) Type of Work

[X] New [ ] Alter (Recondition) [ ] Alter (Repair)

[ ] Deepening [ ] Abandonment

(3) Drill Method

[X] Rotary Air [ ] Rotary Mud [ ] Cable [ ] Auger

Other:

(4) Proposed Use

[X] Domestic [ ] Community [ ] Industrial [ ] Irrigation [ ] Injection

[ ] Livestock [ ] Thermal Other:

(5) Bore Hole Construction

[ ] Special Standards: Depth of completed well: 930.00 ft.

[ ] Explosives Used: Amount: Type:

Hole			Seal			
Diameter	From	To	Mtrl	From	To	Sacks/lbs
10.00	0.00	19.00	BE	0.00	19.00	12
6.00	19.00	930.00				

How was seal placed? A Other:

Back fill placed from: Material:

Filter pack from: Size:

(6) Casing / Liner

Csng/ Liner	Diameter	From	To	Gauge	Mtrl	Weld	Thrd	Shoe at	Shoe used
C	6.00	0.00	19.00	.250	S	X		19	

(7) Perforation / Screens

Perforations:

Mtrl	From	To	Width	Height	#Slots	Dia.	t/pSize	Csng/ Lnr	Method

Screens:

Mtrl	From	To	S Size	#Slots	Dia.	t/pSize	Type	Gauge

(8) Well Tests (Minimum testing time is one hour)

Type	Yield	Units	Drawdown	Stem at	Duration
A	25.00	G	100.00	920.00	1.00

Temperature of Water: 55 F

Was water analysis done? [ ] Depth of artesian flow:

by whom?

Did any strata contain water unsuitable for use? [ ] Too Little [ ] Salty

[ ] Muddy [ ] Odor [ ] Colored other:

Depth of strata:

(9) Location of Hole by legal description

County: WASC Latitude: Longitude:

Township: 1.00 N Range: 13.00 E

Section: 6 SENW Lot: Block:

Tax Lot: 1400 Subdivision: AYRES ACRES TRACT 1

Street Address of Well (or nearest address):

CHERRY HTS & AYRES DR THE DALLES OR 97058

MAP, with location identified, must be attached.

(10) Static Water Level

Feet below land surface: 750.0 Date: 09 / 16 / 2002

Artesian Pressure: Date:

(11) Water Bearing Zones

Depth at which water was first found: 881.00 ft.

From	To	est Flow	swl
881.00	930.00	25.00	750

(12) Well Log

Ground Elevation:

Material	From	To	swl
TOP SOIL	0.00	2.00	
BROWN CLAYSTONE, COARSE	2.00	268.00	
BROWN CLAYSTONE	268.00	308.00	
GREEN CLAYSTONE	308.00	412.00	
WHITE CLAYSTONE	412.00	431.00	
WHITE CLAYSTONE W/SANDSTONE	431.00	444.00	
BROWN SANDSTONE, COARSE	444.00	881.00	
BROWN SANDSTONE, COARSE	881.00	930.00	750
WATERBEARING	881.00	930.00	750

Date Started: 09 / 13 / 2002 Date Completed: 09 / 16 / 2002

(unbonded) Water Well Constructor Certification:

I certify that the work I perform on the construction, alteration, or abandonment of this well is in compliance with Oregon well construction standards. Materials used and information reported above are true to the best knowledge and belief.

Signed by: WWC #:

(bonded) Water Well Constructor Certification:

I accept responsibilty for the constuction, alteration, or abandonment work performed on this well during the construction dates reported above. All work performed during this time is in compliance with Oregon well construction standards. This report is true to the best of my knowledge and belief.

Signed by: CHARLES MOORE WWC #: 731

M-K DRILLING CO. Phone: 509-767-1342

WASC 51096

STATE OF OREGON
Water Supply Well Report
(as required by ORS 537.765)

WASC

Received Date: 09-19-2002
Well ID Tag # L 24220
Start Card # 143123

Instructions for completing this report are on the last page of this form.

(1) Owner
Well Number: 1
Name: (b) (6)
Street:
City:

(2) Type of Work
[X] New [ ] Alter (Recondition) [ ] Alter (Repair)
[ ] Deepening [ ] Abandonment

(3) Drill Method
[X] Rotary Air [ ] Rotary Mud [ ] Cable [ ] Auger
Other:

(4) Proposed Use
[X] Domestic [ ] Community [ ] Industrial [ ] Irrigation [ ] Injection
[ ] Livestock [ ] Thermal Other:

(5) Bore Hole Construction
[ ] Special Standards: Depth of completed well 350'
[ ] Explosives Used: Amount: Type:

Hole Diameter	From	To	Seal Mtrl	From	To	Sacks/lbs
10"	top	19'	B	top	19'	14.5
6"	19'	726	B	350'	370'	10

How was seal placed? Other:
Back fill placed from: Material:
Filter pack from: Size:

(6) Casing / Liner

Csng/ Liner	Diameter	From	To	Gauge	Mtrl	Weld	Thrd	Shoe at	Shoe used
C	6.00	0.00	19.00	.250	S	X		19	

(7) Perforation / Screens
Perforations:

Mtrl	From	To	Width	Height	#Slots	Dia.	t/pSize	Csng/ Lnr	Method

Screens:

Mtrl	From	To	S Size	#Slots	Dia.	t/pSize	Type	Gauge

(8) Well Tests (Minimum testing time is one hour)

Type	Yield	Units	Drawdown	Stem at	Duration
A	0.00	G	100.00	716.00	1.00

Temperature of Water:
Was water analysis done? [ ] Depth of artesian flow:
by whom?
Did any strata contain water unsuitable for use? [ ] Too Little [ ] Salty
[ ] Muddy [ ] Odor [ ] Colored other:
Depth of strata:

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(9) Location of Hole by legal description
County: WASC Latitude: Longitude:
Township: 1.00 N Range: 13.00 E
Section: 6 SENW Lot: Block:
Tax Lot: 1400 Subdivision: AYRES ACRES TRACT 1
Street Address of Well (or nearest address):
CHERRY HTS & AYRES DR THE DALLES OR 97058
MAP, with location identified, must be attached.

(10) Static Water Level
Feet below land surface: 0.0 Date: 09 / 12 / 2002
Artesian Pressure: Date:

(11) Water Bearing Zones
Depth at which water was first found:

From	To	est Flow	swl

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(12) Well Log
Ground Elevation:

Material	From	To	swl
TOP SOIL	0.00	1.00	
BROWN CLAY	1.00	4.00	
BROWN SANDSTONE, COARSE	4.00	72.00	
BROWN SANDSTONE W/BASALT	72.00	83.00	
BROWN SANDSTONE, COARSE	83.00	145.00	
BRN SANDSTONE & BASALT RYOLITE	145.00	168.00	
BROWN SANDSTONE W/PINK	168.00	286.00	
SANDSTONE, FINE	168.00	286.00	
BROWN CLAYSTONE	286.00	310.00	
BROWN & GREEN CLAYSTONE	310.00	328.00	
GREEN CLAYSTONE	328.00	410.00	
WHITE CLAYSTONE W/BASALT	410.00	426.00	
SANDSTONE W/BASALT & RYOLITE	426.00	546.00	
BROWN SANDSTONE, FINE	546.00	670.00	
BROWN SANDSTONE, FINE, SOFT	670.00	701.00	
BROWN SANDSTONE W/BASALT	701.00	726.00	

Well Backfilled + plugged at 350'
SWL 295'
well is seeping a small amount of water at 286'

Date Started: 09 / 09 / 2002 Date Completed: 09 / 12 / 2002

(unbonded) Water Well Constructor Certification:
I certify that the work I perform on the construction, alteration, or abandonment of this well is in compliance with Oregon well construction standards. Materials used and information reported above are true to the best knowledge and belief.
Signed by: WWC #:

(bonded) Water Well Constructor Certification:
I accept responsibilty for the constuction, alteration, or abandonment work performed on this well during the construction dates reported above. All work performed during this time is in compliance with Oregon well construction standards. This report is true to the best of my knowledge and belief.
Signed by: CHARLES MOORE WWC #: 731
M-K DRILLING CO. Phone: 509-767-1342

WASC 51075

STATE OF OREGON
WATER SUPPLY WELL REPORT
(as required by ORS 537.765)
Instructions for completing this report are on the last page of this form

WELL ID # L **L56325**
(START CARD) # **134439**

(1) OWNER: Well Number:
Name (b) (6)
Address
City

(2) TYPE OF WORK:
[X] New Well [ ] Deepening [ ] Alteration (repair/recondition) [ ] Abandonment

(3) DRILL METHOD:
[X] Rotary Air [ ] Rotary Mud [ ] Cable [ ] Auger
[ ] Other

(4) PROPOSED USE:
[X] Domestic [ ] Community [ ] Industrial [ ] Irrigation
[ ] Thermal [ ] Injection [ ] Livestock [ ] Other

(5) BORE HOLE CONSTRUCTION:
Special Construction approval [ ] Yes [X] No Depth of Completed Well **182** ft.
Explosives used [ ] Yes [X] No Type Amount

HOLE Diameter	From	To	SEAL Material	From	To	Amount sacks or pounds
8"			Bentonite	0	18	10 Bags
12"	0	18				
8"	18	163				
6"	163	182				

How was seal placed: Method [ ] A [ ] B [ ] C [ ] D [ ] E
[X] Other **Bentonite poured dry**
Backfill placed from ft. to ft. Material
Gravel placed from ft. to ft. Size of gravel

(6) CASING/LINER:

	Diameter	From	To	Gauge	Steel	Plastic	Welded	Threaded
Casing:	8"	+1.5	18.5	.250	[X]	[ ]	[X]	[ ]
Liner:	6"	-3	163	.250	[X]	[ ]	[X]	[ ]

Final location of shoe(s) **Driveshoe at 163**

(7) PERFORATIONS/SCREENS:
[ ] Perforations Method
[ ] Screens Type Material

From	To	Slot size	Number	Diameter	Tele/pipe size	Casing	Liner
						[ ]	[ ]

(8) WELL TESTS: Minimum testing time is 1 hour
[ ] Pump [ ] Bailer [X] Air [ ] Flowing Artesian

Yield gal/min	Drawdown	Drill stem at	Time
20		182	1 hr.

Temperature of Water **54** Depth Artesian Flow found
Was a water analysis done? [ ] Yes By whom
Did any strata contain water not suitable for intended use? [ ] Too little
[ ] Salty [ ] Muddy [ ] Odor [ ] Colored [ ] Other
Depth of strata:

(9) LOCATION OF WELL by legal description:
County **Waso** Latitude Longitude
Township **1N** N or S. Range **13E** E or W. of WM.
Section **6** **SW** 1/4 **NW** 1/4
Tax lot **702** Lot Block Subdivision
Street Address of Well (or nearest address) **3740 Sandlin Rd. The Dalles, Or.**

(10) STATIC WATER LEVEL:
122 ft. below land surface. Date **05/25/2002**
Artesian pressure lb. per square inch. Date

(11) WATER BEARING ZONES:
Depth at which water was first found **160**

From	To	Estimated Flow Rate	SWL
160	182	20	122

(12) WELL LOG:
Ground elevation

Material	From	To	SWL
Soil	0	4	
Clay Hard Brown	4	21	
Sandstone Fine Hard Tan	21	50	
Sandstone Fine Med Gray	50	67	
Sandstone Fine Med Tan	67	94	
Sandstone Coarse Med Brown	94	100	
Clay Yellow	100	104	
Sandstone Med. Med. Tan	104	124	
Sandstone Fine Med. Brown	124	130	
Sandstone Coarse Soft Brown W/White Crystals	130	146	
Sand Fine Caving Gray	146	160	
Gravel Med. Multi-Color W/B	160	182	122

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SALEM, OREGON

Date started **05/23/2002** Completed **05/25/2002**

(unbonded) Water Well Constructor Certification:
I certify that the work I performed on the construction, alteration, or abandonment of this well is in compliance with Oregon water supply well construction standards. Materials used and information reported above are true to my best knowledge and belief.
WWC Number
Signed Date

(bonded) Water Well Constructor Certification:
I accept responsibility for the construction, alteration, or abandonment work performed on this well during the construction dates reported above. All work performed during this time is in compliance with Oregon water supply well construction standards. This report is true to the best of my knowledge and belief.
WWC Number **790**
Signed Date **05/25/2002**
Charles Austin

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WASC 51074

STATE OF OREGON
WATER SUPPLY WELL REPORT
(as required by ORS 537.765)
Instructions for completing this report are on the last page of this form

WELL ID # L **L42235**
(START CARD) # **148829**

(1) OWNER: Well Number:
(b) (6)

(2) TYPE OF WORK:
| |New Well | |Deepening |X|Alteration (repair/recondition) | |Abandonment

(3) DRILL METHOD:
|X|Rotary Air | |Rotary Mud | |Cable | |Auger
| |Other

(4) PROPOSED USE:
|X|Domestic | |Community | |Industrial | |Irrigation
| |Thermal | |Injection | |Livestock | |Other

(5) BORE HOLE CONSTRUCTION:
Special Construction approval | |Yes |X|No Depth of Completed Well ft.
Explosives used | |Yes |X|No Type Amount

HOLE Diameter	From	To	SEAL Material	From	To	Amount sacks or pounds

How was seal placed: Method | |A | |B | |C | |D | |E
|X|Other **N/A**
Backfill placed from ft. to ft. Material
Gravel placed from ft. to ft. Size of gravel

(6) CASING/LINER:

	Diameter	From	To	Gauge	Steel	Plastic	Welded	Threaded
Casing:								
Liner:	6"	-5	325	.250	X		X	

Final location of shoe(s)

(7) PERFORATIONS/SCREENS:
|X|Perforations Method **Torch**
| |Screens Type Material

From	To	Slot size	Number	Diameter	Tele/pipe size	Casing	Liner
265	305	1/8"	160	6"	6"		X

(8) WELL TESTS: Minimum testing time is 1 hour
| |Pump | |Bailer | |Air | |Flowing Artesian

Yield gal/min	Drawdown	Drill stem at	Time
15		320	1 hr.

Temperature of Water **58** Depth Artesian Flow found
Was a water analysis done? | |Yes By whom
Did any strata contain water not suitable for intended use? | |Too little
| |Salty | |Muddy | |Odor | |Colored | |Other
Depth of strata:

(9) LOCATION OF WELL by legal description:
County **Wasco** Latitude Longitude
Township **1N** N or S. Range **13E** E or W. of WM.
Section **6B** **SE** 1/4 **NW** 1/4
Tax lot **1500** Lot Block Subdivision
Street Address of Well (or nearest address) **5240 Cherry Heights Rd. The Dalles, Or. 97058**

(10) STATIC WATER LEVEL:
249 ft. below land surface. Date **05/23/2002**
Artesian pressure lb. per square inch. Date

(11) WATER BEARING ZONES:
Depth at which water was first found

From	To	Estimated Flow Rate	SWL

(12) WELL LOG:
Ground elevation

Material	From	To	SWL
Installed 6" Liner			

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SALEM, OREGON

Date started **05/21/2002** Completed **05/23/2002**

(unbonded) Water Well Constructor Certification:
I certify that the work I performed on the construction, alteration, or abandonment of this well is in compliance with Oregon water supply well construction standards. Materials used and information reported above are true to my best knowledge and belief.

Signed WWC Number
Date

(bonded) Water Well Constructor Certification:
I accept responsibility for the construction, alteration, or abandonment work performed on this well during the construction dates reported above. All work performed during this time is in compliance with Oregon water supply well construction standards. This report is true to the best of my knowledge and belief.

Signed **Charles Austin** WWC Number **790**
Date **05/23/2002**

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WASC 51009

STATE OF OREGON

WATER SUPPLY WELL REPORT

(as required by ORS 537.765)

Instructions for completing this report are on the last page of this form

WELL ID # L **L42235**

(START CARD) # **143082**

(1) OWNER:

Well Number:

(b) (6)

(2) TYPE OF WORK:

[X] New Well [ ] Deepening [ ] Alteration (repair/recondition) [ ] Abandonment

(3) DRILL METHOD:

[X] Rotary Air [ ] Rotary Mud [ ] Cable [ ] Auger
[ ] Other

(4) PROPOSED USE:

[X] Domestic [ ] Community [ ] Industrial [ ] Irrigation
[ ] Thermal [ ] Injection [ ] Livestock [ ] Other

(5) BORE HOLE CONSTRUCTION:

Special Construction approval [ ] Yes [X] No Depth of Completed Well **320** ft.
Explosives used [ ] Yes [X] No Type Amount

HOLE Diameter	From	To	SEAL Material	From	To	Amount sacks or pounds
12"	0	18	Bentonite	0	18	9 Bags
8"	18	320				

How was seal placed: Method [ ] A [ ] B [X] C [ ] D [ ] E
[ ] Other
Backfill placed from ft. to ft. Material
Gravel placed from ft. to ft. Size of gravel

(6) CASING/LINER:

	Diameter	From	To	Gauge	Steel	Plastic	Welded	Threaded
Casing:	8"	+2	18	.250	[X]	[ ]	[X]	[ ]
					[ ]	[ ]	[ ]	[ ]
					[ ]	[ ]	[ ]	[ ]
					[ ]	[ ]	[ ]	[ ]
Liner:					[ ]	[ ]	[ ]	[ ]
					[ ]	[ ]	[ ]	[ ]

Final location of shoe(s)

(7) PERFORATIONS/SCREENS:

[ ] Perforations Method
[ ] Screens Type Material

From	To	Slot size	Number	Diameter	Tele/pipe size	Casing	Liner
						[ ]	[ ]
						[ ]	[ ]
						[ ]	[ ]
						[ ]	[ ]
						[ ]	[ ]

(8) WELL TESTS: Minimum testing time is 1 hour

[ ] Pump [ ] Bailer [X] Air [ ] Flowing Artesian

Yield gal/min	Drawdown	Drill stem at	Time
15		320	1 hr.

Temperature of Water **58** Depth Artesian Flow found
Was a water analysis done? [ ] Yes By whom
Did any strata contain water not suitable for intended use? [ ] Too little
[ ] Salty [ ] Muddy [ ] Odor [ ] Colored [ ] Other
Depth of strata:

(9) LOCATION OF WELL by legal description:

County **Wasco** Latitude Longitude
Township **1N** N or S. Range **13E** E or W. of WM.
Section **6B** **SE** 1/4 **NW** 1/4
Tax lot **1500** Lot Block Subdivision
Street Address of Well (or nearest address) **5240 Cherry Heights Rd., The Dalles, Or.**

(10) STATIC WATER LEVEL:

249 ft. below land surface. Date **10/10/2001**
Artesian pressure lb. per square inch. Date

(11) WATER BEARING ZONES:

Depth at which water was first found **265**

From	To	Estimated Flow Rate	SWL
265	305	15	249

(12) WELL LOG:

Ground elevation

Material	From	To	SWL
Soil Sandy Brown	0	1	
Claystone Hard Brown	1	22	
Sandstone & Clay Hard Brown	22	30	
Sandstone Coarse Hard Brown	30	95	
Rock Soft Black	95	104	
Sandstone Porous White	104	119	
Sandstone Fine Brown	119	130	
Rock Soft Porous Brown	130	140	
Gravel Med. Cemented Brown	140	150	
Sandstone Fine Hard Brown	150	165	
Sandstone Coarse	165	200	
Rock Soft Black	200	215	
Sandstone Coarse Hard Brown	215	245	
Sandstone Coarse Multi Color	245	265	
Gravel Med. Multi Color W/B	265	305	
Claystone Hard Brown	305	320	249

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Date started **10/08/2001** Completed **10/10/2001**

(unbonded) Water Well Constructor Certification:

I certify that the work I performed on the construction, alteration, or abandonment of this well is in compliance with Oregon water supply well construction standards. Materials used and information reported above are true to my best knowledge and belief.

Signed WWC Number
Date

(bonded) Water Well Constructor Certification:

I accept responsibility for the construction, alteration, or abandonment work performed on this well during the construction dates reported above. All work performed during this time is in compliance with Oregon water supply well construction standards. This report is true to the best of my knowledge and belief.

Signed WWC Number **790**
Date **10/10/2001**
Charles Austin

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WASC 50980

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STATE OF OREGON
GEOTECHNICAL HOLE REPORT
(as required by OAR 690-240-035)

(1) OWNER/PROJECT: Hole Number B-5
Name City of the Dalles
Address 100 Union St.
City The Dalles State OR Zip

(2) TYPE OF WORK
☒ New ☐ Deepening ☐ Alteration (repair/recondition) ☒ Abandonment

(3) CONSTRUCTION:
☐ Rotary Air ☐ Hand Auger ☐ Hollow Stem Auger
☒ Rotary Mud ☐ Cable Tool ☐ Push Probe ☐ Other

(4) TYPE OF HOLE:
☒ Uncased Temporary ☐ Cased Permanent
☐ Uncased Permanent ☐ Slope Stability ☐ Other

(5) USE OF HOLE:
Soil Samples

(6) BORE HOLE CONSTRUCTION:
Special Construction approval ☐ Yes ☒ No Depth of Completed Hole 86 ft.

HOLE Diameter	From	To	SEAL Material	From	To	Sacks or pounds
5	0	86				

Backfill placed from ____ ft. to ____ ft. Material ____
Filter Pack placed from ____ ft. to ____ ft. Size of pack ____

(7) CASING/SCREEN:

	Diameter	From	To	Gauge	Steel	Plastic	Welded	Threaded
Casing:					☐	☐	☐	☐
					☐	☐	☐	☐
					☐	☐	☐	☐
					☐	☐	☐	☐
Screen:					☐	☐	☐	☐
					☐	☐	☐	☐

Slot size ____

(8) WELL TEST:
☐ Pump ☐ Bailer ☐ Air ☐ Flowing Artesian
Permeability ____ Yield ____ GPM ____
Conductivity ____ PH ____
Temperature of water ____ °F/C Depth artesian flow found ____ ft.
Was water analysis done? ☐ Yes ☒ No
By whom? ____
Depth of strata analyzed. From ____ ft. to ____ ft.
Remarks: ____

(9) LOCATION OF HOLE by legal description:
County Wasco Latitude ____ Longitude ____
Township 1 ○ N or S Range 13 ○ E or W. WM.
Section 3 NW 1/4 NW 1/4
Tax Lot R.O.W Lot ____ Block ____ Subdivision ____
Street Address of Well (or nearest address) On Union St. 280' N of Union + East 1st St.

Map with location identified must be attached

(10) STATIC WATER LEVEL:
____ ft. below land surface. Date ____
Artesian pressure ____ lb. per square inch. Date ____

(11) SUBSURFACE LOG:
Ground Elevation ____

Material Description	From	To	SWL
Silts & Gravels	0	86	

Date Started 6/25/01 Date Completed 6/25/01

(12) ABANDONMENT LOG:

Material Description	From	To	Sacks or Pounds
Bent.	0	86	90 gal

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Date started 6/25/01 Date Completed 6/25/01

Professional Certification
(to be signed by a licensed water supply or monitoring well constructor, or Oregon registered geologist or civil engineer).

I accept responsibility for the construction, alteration, or abandonment work performed during the construction dates reported above. All work performed during this time is in compliance with Oregon's geotechnical hole construction standards. This report is true to the best of my knowledge and belief.

License or Registration Number 10076
Signed Bradley James W. Date 7/23/01
Affiliation ____

THIS REPORT MUST BE SUBMITTED TO THE WATER RESOURCES DEPARTMENT WITHIN 30 DAYS OF COMPLETION OF WORK

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WASC 50979

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STATE OF OREGON
GEOTECHNICAL HOLE REPORT
(as required by OAR 690-240-035)

(1) OWNER/PROJECT: Hole Number B-4
Name City of The Dalles
Address 100 Union St.
City The Dalles State OR Zip

(2) TYPE OF WORK
☒ New ☐ Deepening ☐ Alteration (repair/recondition) ☒ Abandonment

(3) CONSTRUCTION:
☐ Rotary Air ☐ Hand Auger ☐ Hollow Stem Auger
☒ Rotary Mud ☐ Cable Tool ☐ Push Probe ☐ Other

(4) TYPE OF HOLE:
☒ Uncased Temporary ☐ Cased Permanent
☐ Uncased Permanent ☐ Slope Stability ☐ Other

(5) USE OF HOLE:
Soil Samples

(6) BORE HOLE CONSTRUCTION:
Special Construction approval ☐ Yes ☒ No Depth of Completed Hole 91 ft.

HOLE Diameter	From	To	SEAL Material	From	To	Sacks or pounds
5	0	91				

Backfill placed from ____ ft. to ____ ft. Material ____
Filter Pack placed from ____ ft. to ____ ft. Size of pack ____

(7) CASING/SCREEN:

	Diameter	From	To	Gauge	Steel	Plastic	Welded	Threaded
Casing:					☐	☐	☐	☐
					☐	☐	☐	☐
					☐	☐	☐	☐
					☐	☐	☐	☐
Screen:					☐	☐	☐	☐
					☐	☐	☐	☐

Slot size ____

(8) WELL TEST:
☐ Pump ☐ Bailer ☐ Air ☐ Flowing Artesian
Permeability ____ Yield ____ GPM ____
Conductivity ____ PH ____
Temperature of water ____ °F/C Depth artesian flow found ____ ft.
Was water analysis done? ☐ Yes ☐ No
By whom? ____
Depth of strata analyzed. From ____ ft. to ____ ft.
Remarks: ____

(9) LOCATION OF HOLE by legal description:
County Wasco Latitude ____ Longitude ____
Township 1 ☐ N or S Range 13 ☒ E or W. WM.
Section 3 NW 1/4 NW 1/4
Tax Lot R.O.W Lot ____ Block ____ Subdivision ____
Street Address of Well (or nearest address) On Union St. 250' N of Union & East 1st St.

Map with location identified must be attached

(10) STATIC WATER LEVEL:
____ ft. below land surface. Date ____
Artesian pressure ____ lb. per square inch. Date ____

(11) SUBSURFACE LOG:
Ground Elevation ____

Material Description	From	To	SWL
Silt & Gravels	0	91	

Date Started 6/25/01 Date Completed 6/25/01

(12) ABANDONMENT LOG:

Material Description	From	To	Sacks or Pounds
Bent.	0	91	100 gal

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SALEM, OREGON

Date started 6/25/01 Date Completed 6/25/01

Professional Certification
(to be signed by a licensed water supply or monitoring well constructor, or Oregon registered geologist or civil engineer).

I accept responsibility for the construction, alteration, or abandonment work performed during the construction dates reported above. All work performed during this time is in compliance with Oregon's geotechnical hole construction standards. This report is true to the best of my knowledge and belief.

License or Registration Number 10076
Signed Bradley James Wi Date 7/23/01
Affiliation ____

THIS REPORT MUST BE SUBMITTED TO THE WATER RESOURCES DEPARTMENT WITHIN 30 DAYS OF COMPLETION OF WORK

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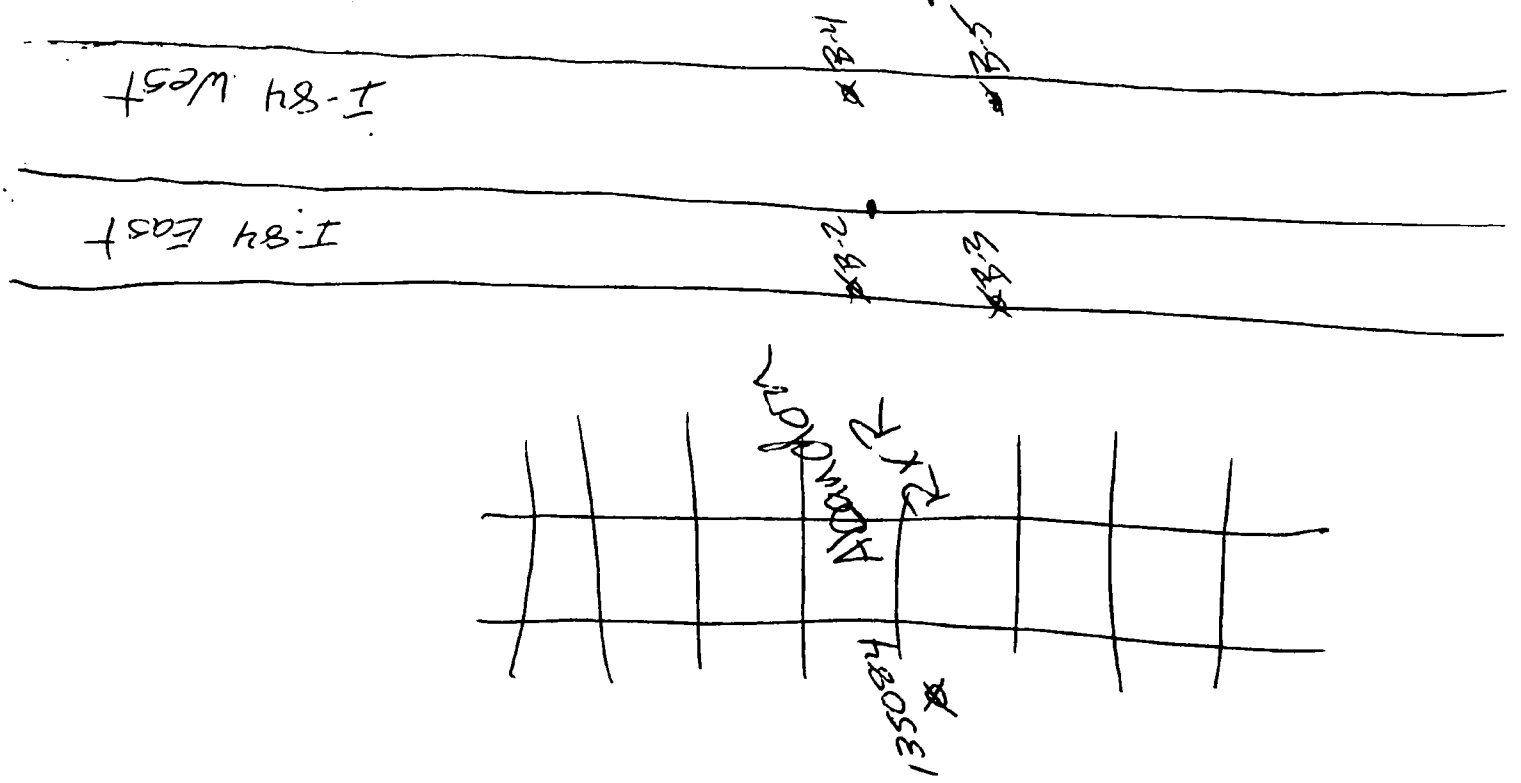
WASC 50979

Site Map

N



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STATE OF OREGON
GEOTECHNICAL HOLE REPORT
(as required by OAR 690-240-035)

(1) OWNER/PROJECT: Hole Number B-3
Name City of the Dalles
Address 100 Union St.
City The Dalles State OR Zip

(2) TYPE OF WORK
☒ New ☐ Deepening ☐ Alteration (repair/recondition) ☒ Abandonment

(3) CONSTRUCTION:
☐ Rotary Air ☐ Hand Auger ☐ Hollow Stem Auger
☒ Rotary Mud ☐ Cable Tool ☐ Push Probe ☐ Other

(4) TYPE OF HOLE:
☒ Uncased Temporary ☐ Cased Permanent
☐ Uncased Permanent ☐ Slope Stability ☐ Other

(5) USE OF HOLE: Soil Samples

(6) BORE HOLE CONSTRUCTION:
Special Construction approval ☐ Yes ☒ No Depth of Completed Hole 91 ft.

HOLE Diameter	From	To	SEAL Material	From	To	Sacks or pounds
8	0	91				

Backfill placed from ____ ft. to ____ ft. Material ____
Filter Pack placed from ____ ft. to ____ ft. Size of pack ____

(7) CASING/SCREEN:

	Diameter	From	To	Gauge	Steel	Plastic	Welded	Threaded
Casing:					☐	☐	☐	☐
					☐	☐	☐	☐
					☐	☐	☐	☐
					☐	☐	☐	☐
Screen:					☐	☐	☐	☐
					☐	☐	☐	☐

Slot size ____

(8) WELL TEST:
☐ Pump ☐ Bailer ☐ Air ☐ Flowing Artesian
Permeability ____ Yield ____ GPM ____
Conductivity ____ PH ____
Temperature of water ____ °F/C Depth artesian flow found ____ ft.
Was water analysis done? ☐ Yes ☐ No
By whom? ____
Depth of strata analyzed. From ____ ft. to ____ ft.
Remarks: ____

(9) LOCATION OF HOLE by legal description:
County Wasco Latitude ____ Longitude ____
Township 1 (N) or S Range 13 (E) or W. WM.
Section 3 NW 1/4 NW 1/4
Tax Lot ROW Lot ____ Block ____ Subdivision ____
Street Address of Well (or nearest address) On Union St. 280' N of Union East 1st St.

Map with location identified must be attached

(10) STATIC WATER LEVEL:
____ ft. below land surface. Date ____
Artesian pressure ____ lb. per square inch. Date ____

(11) SUBSURFACE LOG:
Ground Elevation ____

Material Description	From	To	SWL
Silts & Gravels	0	91	

Date Started 6/25/01 Date Completed 6/25/01

(12) ABANDONMENT LOG:

Material Description	From	To	Sacks or Pounds
Bent. Grout	0	91	100 gallons

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Date started 6/25/01 Date Completed 6/25/01

Professional Certification
(to be signed by a licensed water supply or monitoring well constructor, or Oregon registered geologist or civil engineer).

I accept responsibility for the construction, alteration, or abandonment work performed during the construction dates reported above. All work performed during this time is in compliance with Oregon's geotechnical hole construction standards. This report is true to the best of my knowledge and belief.

License or Registration Number 10076
Signed Bradley James W. Date 7/23/01
Affiliation ____

THIS REPORT MUST BE SUBMITTED TO THE WATER RESOURCES DEPARTMENT WITHIN 30 DAYS OF COMPLETION OF WORK

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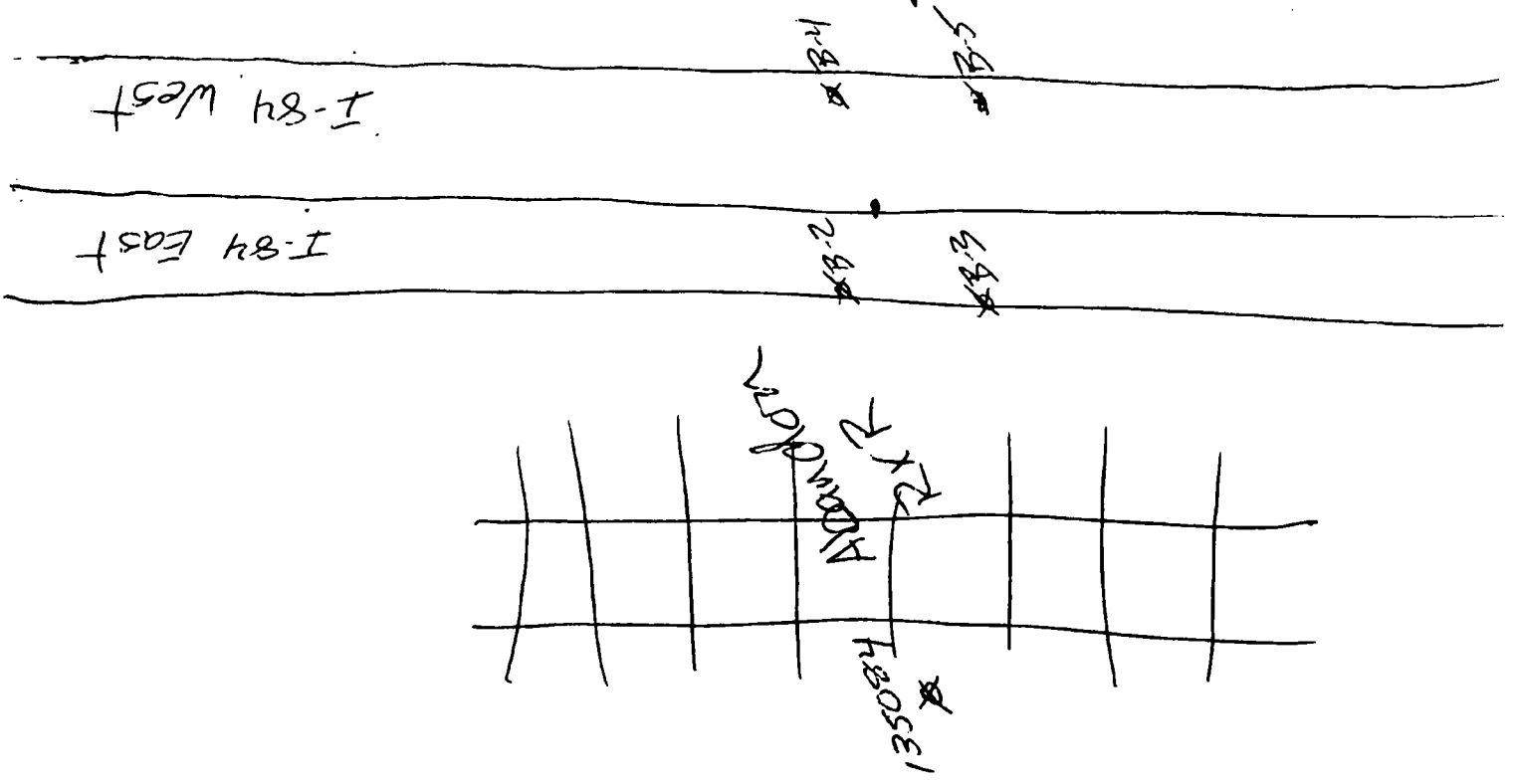
WASC 50978

MW

Site Map

N



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WASC 50977

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STATE OF OREGON
GEOTECHNICAL HOLE REPORT
(as required by OAR 690-240-035)

(1) OWNER/PROJECT: Hole Number B-2
Name City of The Dalles
Address 400 Union St.
City The Dalles State OR Zip

(2) TYPE OF WORK
☒ New ☐ Deepening ☐ Alteration (repair/recondition) ☒ Abandonment

(3) CONSTRUCTION:
☐ Rotary Air ☐ Hand Auger ☐ Hollow Stem Auger
☒ Rotary Mud ☐ Cable Tool ☐ Push Probe ☐ Other

(4) TYPE OF HOLE:
☒ Uncased Temporary ☐ Cased Permanent
☐ Uncased Permanent ☐ Slope Stability ☐ Other

(5) USE OF HOLE: Soil Samples

(6) BORE HOLE CONSTRUCTION:
Special Construction approval ☐ Yes ☒ No Depth of Completed Hole 50 ft.

HOLE Diameter	From	To	SEAL Material	From	To	Sacks or pounds
5	0	50				

Backfill placed from ____ ft. to ____ ft. Material ____
Filter Pack placed from ____ ft. to ____ ft. Size of pack ____

(7) CASING/SCREEN:

	Diameter	From	To	Gauge	Steel	Plastic	Welded	Threaded
Casing:					☐	☐	☐	☐
					☐	☐	☐	☐
					☐	☐	☐	☐
					☐	☐	☐	☐
Screen:					☐	☐	☐	☐
					☐	☐	☐	☐

Slot size ____

(8) WELL TEST:
☐ Pump ☐ Bailer ☐ Air ☐ Flowing Artesian
Permeability ____ Yield ____ GPM ____
Conductivity ____ PH ____
Temperature of water ____ °F/C Depth artesian flow found ____ ft.
Was water analysis done? ☐ Yes ☒ No
By whom? ____
Depth of strata analyzed. From ____ ft. to ____ ft.
Remarks: ____

(9) LOCATION OF HOLE by legal description:
County Wasco Latitude ____ Longitude ____
Township 1 (N) or S Range 13 (E) or W. WM.
Section 3 NW 1/4 NW 1/4
Tax Lot Row Lot ____ Block ____ Subdivision ____
Street Address of Well (or nearest address) On Union St. 200' N of Union & East 1st St.

Map with location identified must be attached

(10) STATIC WATER LEVEL:
____ ft. below land surface. Date ____
Artesian pressure ____ lb. per square inch. Date ____

(11) SUBSURFACE LOG:
Ground Elevation ____

Material Description	From	To	SWL
Silts & Gravels	0	30	

Date Started 6/25/01 Date Completed 6/25/01

(12) ABANDONMENT LOG:

Material Description	From	To	Sacks or Pounds
Bentonite	0	30	7 bags

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WATER RESOURCES DEPT.
SALEM, OREGON

Date started 6/25/01 Date Completed 6/25/01

Professional Certification
(to be signed by a licensed water supply or monitoring well constructor, or Oregon registered geologist or civil engineer).

I accept responsibility for the construction, alteration, or abandonment work performed during the construction dates reported above. All work performed during this time is in compliance with Oregon's geotechnical hole construction standards. This report is true to the best of my knowledge and belief.

License or Registration Number 10076
Signed Bradley James W. Date 7/23/01
Affiliation ____

THIS REPORT MUST BE SUBMITTED TO THE WATER RESOURCES DEPARTMENT WITHIN 30 DAYS OF COMPLETION OF WORK

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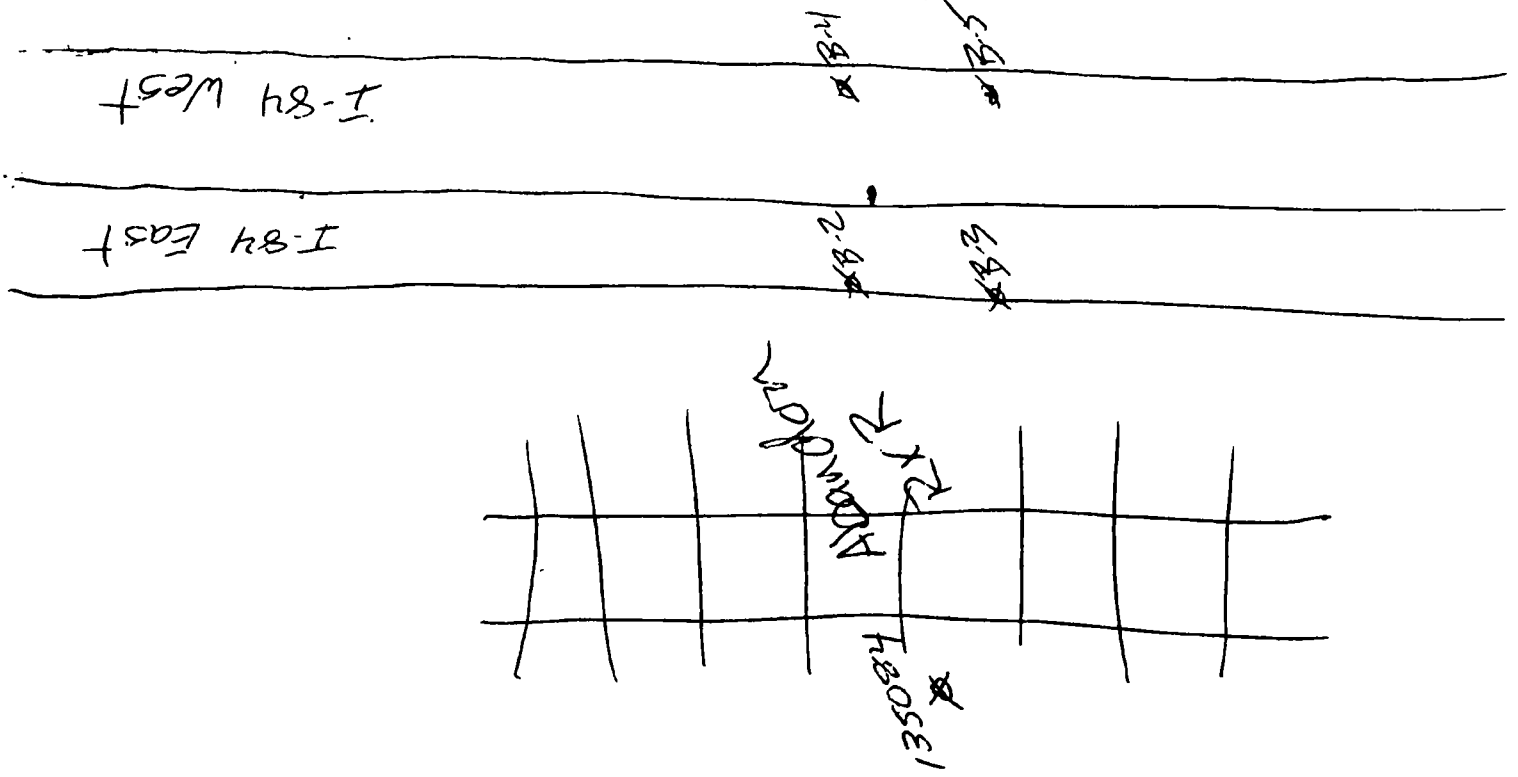
WASC 50977

Site Map

N



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MONITORING WELL REPORT

WASC 50976

(as required by ORS 537.765 & OAR 690-240-095)

Instructions for completing this report are on the last page of this form.

Well ID# L47842

Start Card # 135084

(1) OWNER/PROJECT WELL NO. B-1

Name City of The Dalles

Address 100 Union St.

City The Dalles State OR Zip

(2) TYPE OF WORK

☒ New construction ☐ Alteration (Repair/Recondition)

☐ Conversion ☐ Deepening ☐ Abandonment

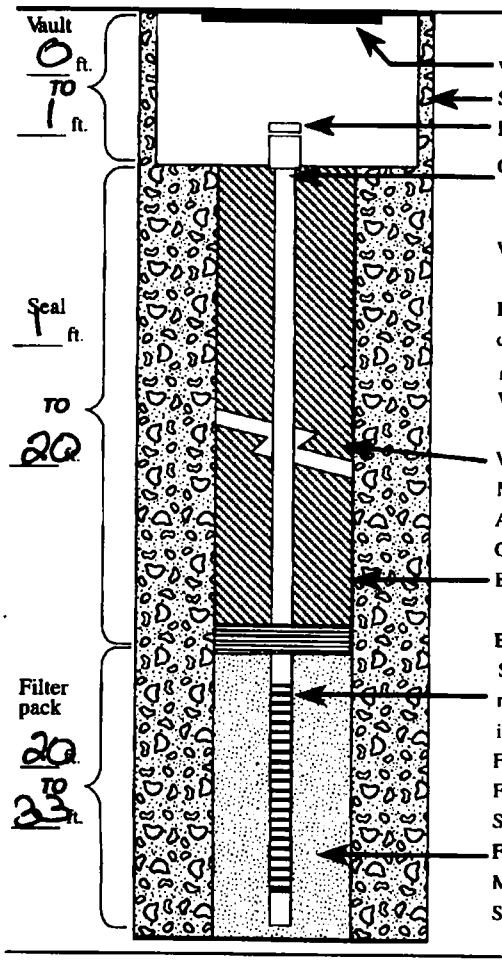
(3) DRILLING METHOD

☐ Rotary Air ☒ Rotary Mud ☐ Cable

☐ Hollow Stem Auger ☐ Other

(4) BORE HOLE CONSTRUCTION:

Special Standards ☐ Yes ☒ No Depth of Completed Well 33 ft.



(5) WELL TESTS:

☐ Pump ☐ Bailer ☐ Air ☐ Flowing Artesian

Permeability ____ Yield ____ GPM

Conductivity ____ PH ____

Temperature of water ____ °F/C Depth artesian flow found ____ ft.

Was water analysis done? ☐ Yes ☐ No

By whom? ____

Depth of strata to be analyzed. From ____ ft. to ____ ft.

Remarks: ____

Name of supervising Geologist/Engineer ____

(6) LOCATION OF WELL By legal description:

County Wasco Latitude ____ Longitude ____

Township 1 (N or S) Range 13E (E or W) Section 3

NW 1/4 of NW 1/4 of above section.

Street address of well location On Union St. 250' N of Union & East 1st

Tax lot number of well location R-O-W

ATTACH MAP WITH LOCATION IDENTIFIED. Map shall include approximate scale and north arrow.

(7) STATIC WATER LEVEL:

None Ft. below land surface. Date ____

Artesian Pressure ____ lb/sq. in. Date ____

(8) WATER BEARING ZONES:

Depth at which water was first found ____

From	To	Est. Flow Rate	SWL

(9) WELL LOG:

Ground Elevation ____

Material	From	To	SWL
Sandy Gravels	0	33	

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Date started 6/25/01 Completed 6/25/01

(unbonded) Monitor Well Constructor Certification:

I certify that the work I performed on the construction, alteration, or abandonment of this well is in compliance with Oregon water supply well construction standards. Materials used and information reported above are true to the best of my knowledge and belief.

Signed Bradley James W. MWC Number 1007G Date 7/25/01

(bonded) Monitor Well Constructor Certification:

I accept responsibility for the construction, alteration, or abandonment work performed on this well during the construction dates reported above. All work performed during this time is in compliance with Oregon water supply well construction standards. This report is true to the best of my knowledge and belief.

Signed ____ MWC Number 1001G Date 7/26/01

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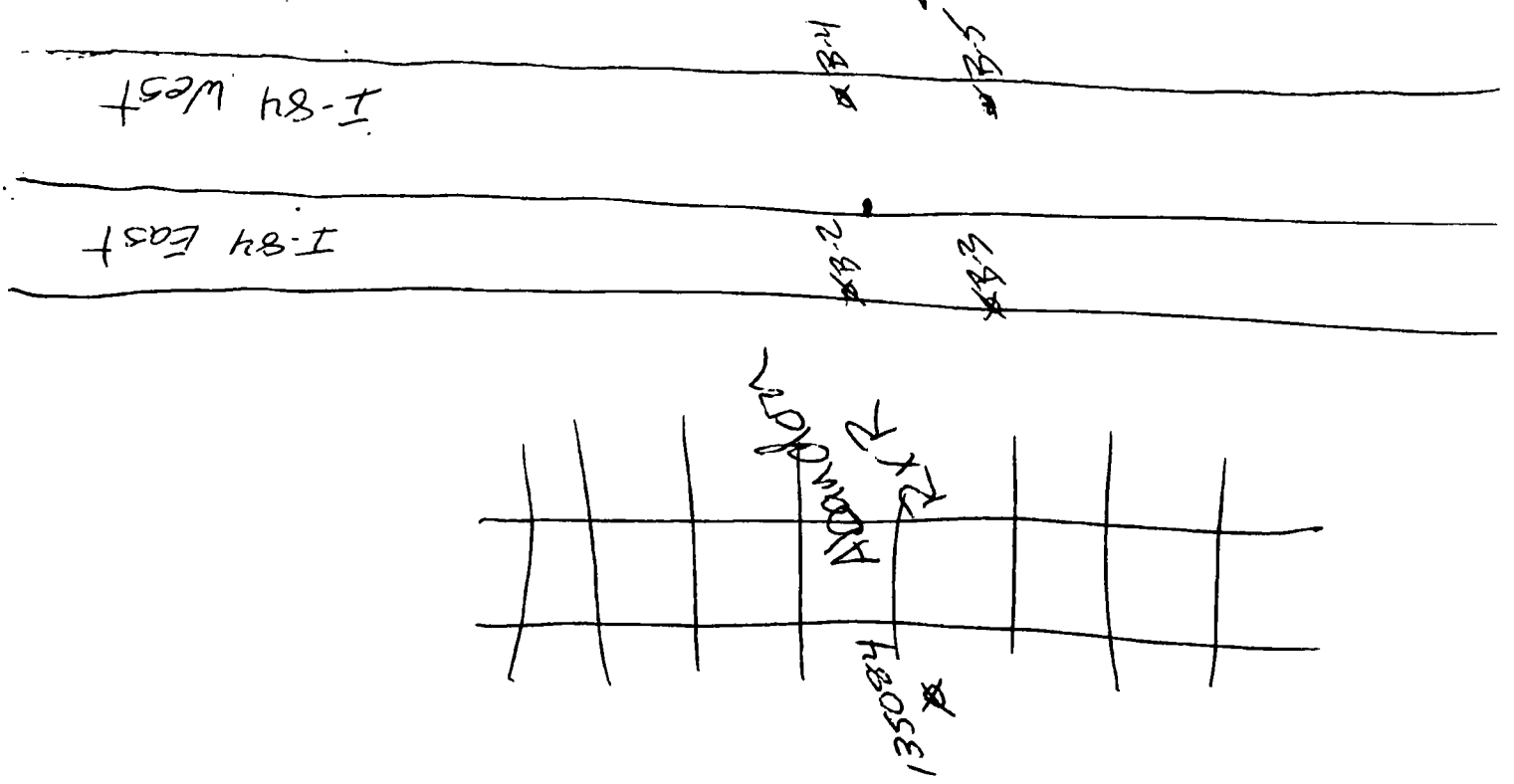
WASC 50976

Site Map

N



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SALEM, OREGON

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STATE OF OREGON

Water Supply Well Report

(as required by ORS 537.765)

Received Date: 06-04-2001

Well ID Tag # L 24233

Start Card # 130663

Instructions for completing this report are on the last page of this form.

(1) Owner

Well Number: 1

Name: (b) (6)

Street: (b) (6)

City: THE DALLES State: OR Zip Code: 97058

(2) Type of Work

☐ New ☐ Alter (Recondition) ☐ Alter (Repair)

☒ Deepening ☐ Abandonment

(3) Drill Method

☒ Rotary Air ☐ Rotary Mud ☐ Cable ☐ Auger

Other:

(4) Proposed Use

☒ Domestic ☐ Community ☐ Industrial ☐ Irrigation ☐ Injection

☐ Livestock ☐ Thermal Other:

(5) Bore Hole Construction

☐ Special Standards: Depth of completed well: 900.00 ft.

☐ Explosives Used: Amount: Type:

Hole			Seal			
Diameter	From	To	Mtrl	From	To	Sacks/lbs
6	320	900				

How was seal placed? Other:

Back fill placed from: Material:

Filter pack from: Size:

(6) Casing / Liner

Csng/ Liner	Diameter	From	To	Gauge	Mtrl	Weld	Thrd	Shoe at	Shoe used

(7) Perforation / Screens

Perforations:

Mtrl	From	To	Width	Height	#Slots	Dia.	t/pSize	Csng/ Lnr	Method

Screens:

Mtrl	From	To	S Size	#Slots	Dia.	t/pSize	Type	Gauge

(8) Well Tests *(Minimum testing time is one hour)*

Type	Yield	Units	Drawdown	Stem at	Duration
A	30.00	G	100	890	1.00

Temperature of Water: 56.00 F

Was water analysis done? ☐ Depth of artesian flow:

by whom?

Did any strata contain water unsuitable for use? ☐ Too Little ☐ Salty

☐ Muddy ☐ Odor ☐ Colored other:

Depth of strata:

(9) Location of Hole by legal description

County: WASC Latitude: Longitude:

Township: 1.00 N Range: 13.00 E

Section: 6 NENW Lot: Block:

Tax Lot: 300 Subdivision:

Street Address of Well (or nearest address):

5236 CHERRY HEIGHTS RD THE DALLES

MAP, with location identified, must be attached.

(10) Static Water Level

Feet below land surface: 725.00 Date: 08 / 04 / 2000

Artesian Pressure: Date:

(11) Water Bearing Zones

Depth at which water was first found: 725.00 ft.

From	To	est Flow	swl
840	880	30	725

(12) Well Log

Ground Elevation:

Material	From	To	swl
BROWN CLAY, HARD	320	333	
SANDSTONE,TAN	333	620	
SANDSTONE, BROWN	620	700	
SANDSTONE, TAN	700	840	
SANDSTONE,COARSE,WATERBEARING	840	880	
SANDSTONE,TAN	880	900	

Date Started: 08 / 01 / 2000 Date Completed: 08 / 04 / 2000

(unbonded) Water Well Constructor Certification:

I certify that the work I perform on the construction, alteration, or abandonment of this well is in compliance with Oregon well construction standards. Materials used and information reported above are true to the best knowledge and belief.

Signed by: KARL F MOORE JR MWC #: 1256

(bonded) Water Well Constructor Certification:

I accept responsibilty for the constuction, alteration, or abandonment work performed on this well during the construction dates reported above. All work performed during this time is in compliance with Oregon well construction standards. This report is true to the best of my knowledge and belief.

Signed by: CHARLES MOORE MWC #: 731

M-K DRILLING CO. Phone: 509-767-1342

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WATER RESOURCES DEPT.
SALEM, OREGON

STATE OF OREGON
GEOTECHNICAL HOLE REPORT
(as required by OAR 690-240-035)

(1) OWNER/PROJECT: Hole Number 1

Name Oregon Child. Dev. Code C/O ESD 112

Address 2500 NE 65th AVE

City Vancouver State WA Zip 98661

(2) TYPE OF WORK

☑ New ☐ Deepening ☐ Alteration (repair/recondition) ☒ Abandonment

(3) CONSTRUCTION:

☐ Rotary Air ☐ Hand Auger ☑ Hollow Stem Auger

☐ Rotary Mud ☐ Cable Tool ☐ Push Probe ☐ Other

(4) TYPE OF HOLE:

☒ Uncased Temporary ☐ Cased Permanent

☐ Uncased Permanent ☐ Slope Stability ☐ Other

(5) USE OF HOLE:

Geotech

(6) BORE HOLE CONSTRUCTION:

Special Construction approval ☐ Yes ☒ No Depth of Completed Hole 25 ft.

HOLE Diameter	From	To	SEAL Material	From	To	Sacks or pounds
8"	0	25	Chips	0	25	12 50# Bgs

Backfill placed from 0 ft. to 25 ft. Material chips

Filter Pack placed from ____ ft. to ____ ft. Size of pack N/A

(7) CASING/SCREEN:

	Diameter	From	To	Gauge	Steel	Plastic	Welded	Threaded
Casing:		N/A			☐	☐	☐	☐
					☐	☐	☐	☐
					☐	☐	☐	☐
					☐	☐	☐	☐
Screen:					☐	☐	☐	☐
					☐	☐	☐	☐

Slot size N/A

(8) WELL TEST:

☐ Pump ☐ Bailer ☐ Air ☐ Flowing Artesian

Permeability ____ Yield ____ GPM ____

Conductivity ____ PH ____

Temperature of water N/A °F/C Depth artesian flow found ____ ft.

Was water analysis done? ☐ Yes ☐ No

By whom? ____

Depth of strata analyzed. From ____ ft. to ____ ft.

Remarks: ____

(9) LOCATION OF HOLE by legal description:

County Wasco Latitude ____ Longitude ____

Township 1N N or S Range 13E E or W. WM.

Section 4 NW 1/4 NW 1/4

Tax Lot 100 Lot ____ Block ____ Subdivision ____

Street Address of Well (or nearest address) W. 10th St. The Dalles, OR

Map with location identified must be attached

(10) STATIC WATER LEVEL:

N/A ft. below land surface. Date ____

Artesian pressure ____ lb. per square inch. Date ____

(11) SUBSURFACE LOG:

Ground Elevation ____

Material Description	From	To	SWL
Dark Brown Silt	0'	13'	
Grey Sand	13'	15'	
Grey Sand Silt: weathered	15'	25'	
BASALT			

Date Started 5-21-01 Date Completed 5-21-01

(12) ABANDONMENT LOG:

Material Description	From	To	Sacks or Pounds
chips	0	25	12 50# Bgs

Date started 5-21-01 Date Completed 5-21-01

Professional Certification

(to be signed by a licensed water supply or monitoring well constructor, or Oregon registered geologist or civil engineer).

I accept responsibility for the construction, alteration, or abandonment work performed during the construction dates reported above. All work performed during this time is in compliance with Oregon's geotechnical hole construction standards. This report is true to the best of my knowledge and belief.

License or Registration Number 1091

Signed ____ Date 5-21-01

Affiliation CASCADE DRILLING, INC-OREGON

THIS REPORT MUST BE SUBMITTED TO THE WATER RESOURCES DEPARTMENT WITHIN 30 DAYS OF COMPLETION OF WORK

OR1077

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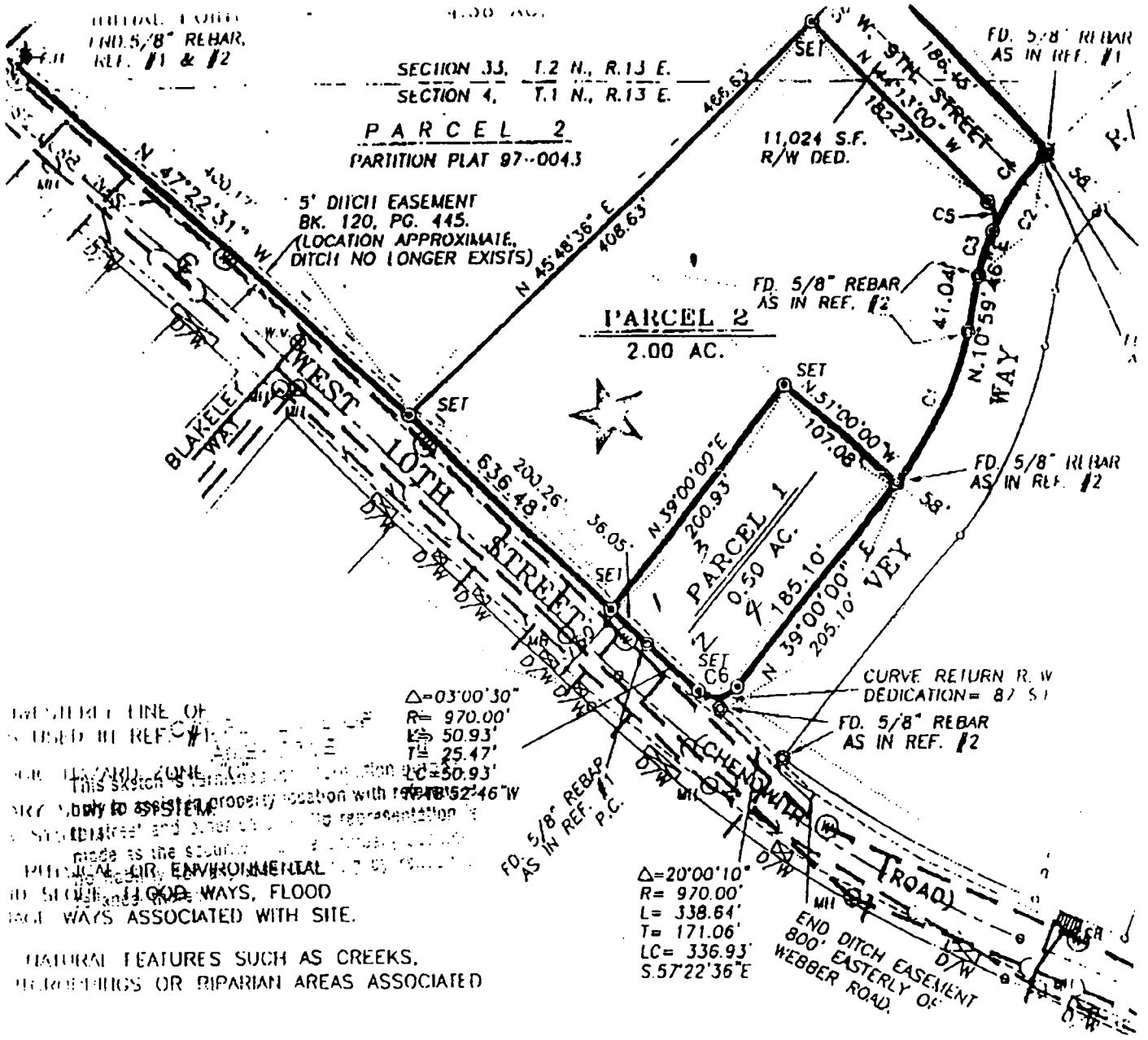

[illegible] LINE OF
[illegible] USED IN REF. #1

[illegible] ZONE
This sketch is [illegible] location with respect to adjoining streets and other [illegible] is made as the [illegible] representation
[illegible] TO SYSTEM.

POTENTIAL GEOLOGIC OR ENVIRONMENTAL [illegible]
TO STEEP SLOPES, FLOOD WAYS, FLOOD [illegible] WAYS ASSOCIATED WITH SITE.

NATURAL FEATURES SUCH AS CREEKS, [illegible] OR RIPARIAN AREAS ASSOCIATED

[illegible] TO WEST 10TH STREET AND [illegible] WEBBER STREET.

[illegible]	ARC LENGTH	TANGENT	CHORD ANGLE	CHORD LENGTH
[illegible]	118.28'	60.35'	N24°59'53"E	117.11'
[illegible]	106.12'	54.24'	S28°24'11"W	103.51'
[illegible]	34.55	17.33	S16°43'05"W	34.50
[illegible]	70.56	35.78	S34°07'30"W	70.08
[illegible]	23.27	13.15	N10°53'18"W	21.98
[illegible]	31.63'	20.22'	N84°18'30"E	28.44'

ENGINEER / SURVEYOR:

TENNESON ENGINEERING CORP.
409 Lincoln Street,
The Dalles, Oregon. 97058
Ph. 541-296-9177
FAX 541-296-6657

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WATER RESOURCES DEPT
SALEM, OREGON

WASC 50950

JUN 0 1 2001

WATER RESOURCES DEPT
SALEM, OREGON

STATE OF OREGON
GEOTECHNICAL HOLE REPORT
(as required by OAR 690-240-035)

(1) OWNER/PROJECT: Hole Number 2

Name Oregon Child. Dev. Code C/O ESD112

Address 2500 NE 65th Ave

City Vancouver State WA Zip 98661

(2) TYPE OF WORK

☑ New ☐ Deepening ☐ Alteration (repair/recondition) ☑ Abandonment

(3) CONSTRUCTION:

☐ Rotary Air ☐ Hand Auger ☑ Hollow Stem Auger

☐ Rotary Mud ☐ Cable Tool ☐ Push Probe ☐ Other

(4) TYPE OF HOLE:

☒ Uncased Temporary ☐ Cased Permanent

☐ Uncased Permanent ☐ Slope Stability ☐ Other

(5) USE OF HOLE:

Geotech

(6) BORE HOLE CONSTRUCTION:

Special Construction approval ☐ Yes ☒ No Depth of Completed Hole 13 ft.

HOLE Diameter	From	To	SEAL Material	From	To	Sacks or pounds
8"	0'	13'	Chips	0	13'	4

Backfill placed from 0 ft. to 13 ft. Material chips

Filter Pack placed from ____ ft. to ____ ft. Size of pack N/A

(7) CASING/SCREEN:

	Diameter	From	To	Gauge	Steel	Plastic	Welded	Threaded
Casing:		N/A			☐	☐	☐	☐
Screen:					☐	☐	☐	☐

Slot size N/A

(8) WELL TEST:

☐ Pump ☐ Bailer ☐ Air ☐ Flowing Artesian

Permeability ____ Yield ____ GPM ____

Conductivity ____ PH ____

Temperature of water N/A °F/C Depth artesian flow found ____ ft.

Was water analysis done? ☐ Yes ☐ No

By whom? ____

Depth of strata analyzed. From ____ ft. to ____ ft.

Remarks: ____

(9) LOCATION OF HOLE by legal description:

County Wasco Latitude ____ Longitude ____

Township 1N N or S Range 13E E or W. WM.

Section 4 NW 1/4 NW 1/4

Tax Lot 100 Lot ____ Block ____ Subdivision ____

Street Address of Well (or nearest address) W. 10th St. The Dalles, OR

Map with location identified must be attached

(10) STATIC WATER LEVEL:

N/A ft. below land surface. Date 5-21-01

Artesian pressure ____ lb. per square inch. Date ____

(11) SUBSURFACE LOG:

Ground Elevation ____

Material Description	From	To	SWL
Dark Brown Silt	0'	8'	
Grey Sand: Silt	8'	11'	
Grey Sand: Silt: Weather Basalt	11'	13'	

Date Started 5-21-01 Date Completed 5-21-01

(12) ABANDONMENT LOG:

Material Description	From	To	Sacks or Pounds
Chips	0	13	4 Sacks

Date started 5-21-01 Date Completed 5-21-01

Professional Certification

(to be signed by a licensed water supply or monitoring well constructor, or Oregon registered geologist or civil engineer).

I accept responsibility for the construction, alteration, or abandonment work performed during the construction dates reported above. All work performed during this time is in compliance with Oregon's geotechnical hole construction standards. This report is true to the best of my knowledge and belief.

License or Registration Number 1049

Signed ____ Date 4/2/01

Affiliation CASCADE DRILLING, INC-OREGON

THIS REPORT MUST BE SUBMITTED TO THE WATER RESOURCES DEPARTMENT WITHIN 30 DAYS OF COMPLETION OF WORK

DR1077

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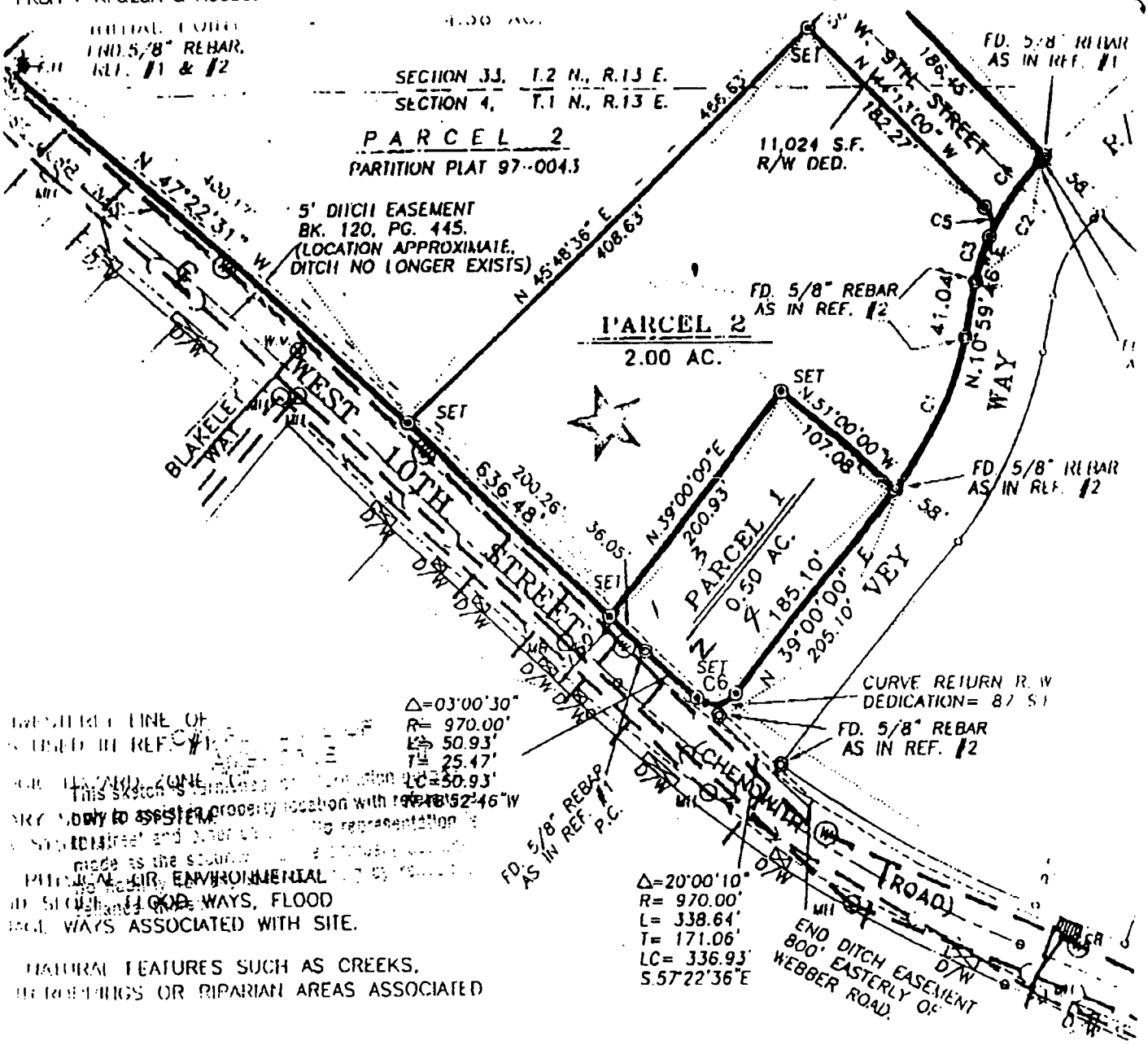

PHYSICAL OR ENVIRONMENTAL
SLOPE, FLOOD WAYS, FLOOD
WAYS ASSOCIATED WITH SITE.

NATURAL FEATURES SUCH AS CREEKS,
OUTCROPPINGS OR RIPARIAN AREAS ASSOCIATED

CLESS TO WEST 10TH STREET AND
WEBBER STREET.

	ARC LENGTH	TANGENT	CHORD ANGLE	CHORD LENGTH
00'	118.28'	60.35'	N24°59'53"E	117.11'
00'	105.12'	54.24'	S28°24'11"W	103.51'
00	34.55	17.33	S16°43'05"W	34.50
00	70.56	35.78	S34°07'30"W	70.08
00	23.27	13.15	N10°53'18"W	21.98
00'	31.63'	20.22'	N84°18'30"E	28.44'

ENGINEER / SURVEYOR:
TENNESON ENGINEERING CORP
409 Lincoln Street,
The Dalles, Oregon. 97058
Ph. 541-296-9177
FAX 541-296-6657

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SALEM, OREGON

WASC 50949

JUN 01 2001

WATER RESOURCES DEPT.
SALEM, OREGON

STATE OF OREGON
GEOTECHNICAL HOLE REPORT
(as required by OAR 690-240-035)

(1) OWNER/PROJECT: Hole Number 3
Name Oregon Child. Dev. Code C/O ESD 112
Address 2500 NE 65th Ave
City Vancouver State WA Zip 98661

(2) TYPE OF WORK
☒ New ☐ Deepening ☐ Alteration (repair/recondition) ☒ Abandonment

(3) CONSTRUCTION:
☐ Rotary Air ☐ Hand Auger ☒ Hollow Stem Auger
☐ Rotary Mud ☐ Cable Tool ☐ Push Probe ☐ Other

(4) TYPE OF HOLE:
☐ Uncased Temporary ☐ Cased Permanent
☐ Uncased Permanent ☐ Slope Stability ☐ Other

(5) USE OF HOLE:
Geotech

(6) BORE HOLE CONSTRUCTION:
Special Construction approval ☐ Yes ☒ No Depth of Completed Hole 16 ft.

HOLE Diameter	From	To	SEAL Material	From	To	Sacks or pounds
8"	0	16	Chips	0'	16'	6

Backfill placed from 0 ft. to 16 ft. Material chips
Filter Pack placed from ____ ft. to ____ ft. Size of pack N/A

(7) CASING/SCREEN:

	Diameter	From	To	Gauge	Steel	Plastic	Welded	Threaded
Casing:					☐	☐	☐	☐
					☐	☐	☐	☐
		N/A			☐	☐	☐	☐
					☐	☐	☐	☐
Screen:					☐	☐	☐	☐
					☐	☐	☐	☐

Slot size N/A

(8) WELL TEST:
☐ Pump ☐ Bailer ☐ Air ☐ Flowing Artesian
Permeability ____ Yield ____ GPM ____
Conductivity ____ PH ____
Temperature of water N/A °F/C Depth artesian flow found ____ ft.
Was water analysis done? ☐ Yes ☐ No
By whom? ____
Depth of strata analyzed. From ____ ft. to ____ ft.
Remarks: ____

(9) LOCATION OF HOLE by legal description:
County Wasco Latitude ____ Longitude ____
Township 1N N or S Range 13E E or W. WM.
Section 4 NW 1/4 NW 1/4
Tax Lot 100 Lot ____ Block ____ Subdivision ____
Street Address of Well (or nearest address) W. 10th St. The Dalles, OR

Map with location identified must be attached

(10) STATIC WATER LEVEL:
N/A ft. below land surface. Date 5/21/01
Artesian pressure ____ lb. per square inch. Date ____

(11) SUBSURFACE LOG:
Ground Elevation ____

Material Description	From	To	SWL
Dark brown Silt	0	12'	
Sand, Silt, weathered Basalt	12'	16'	

Date Started 5-21-01 Date Completed 5-21-01

(12) ABANDONMENT LOG:

Material Description	From	To	Sacks or Pounds
Chips	0	16	6 50# bgs

Date started 5-21-01 Date Completed 5-21-01

Professional Certification
(to be signed by a licensed water supply or monitoring well constructor, or Oregon registered geologist or civil engineer).

I accept responsibility for the construction, alteration, or abandonment work performed during the construction dates reported above. All work performed during this time is in compliance with Oregon's geotechnical hole construction standards. This report is true to the best of my knowledge and belief.

License or Registration Number 1091
Signed ____ Date 5/21/01
Affiliation CASCADE DRILLING, INC-OREGON

THIS REPORT MUST BE SUBMITTED TO THE WATER RESOURCES DEPARTMENT WITHIN 30 DAYS OF COMPLETION OF WORK

OR1077

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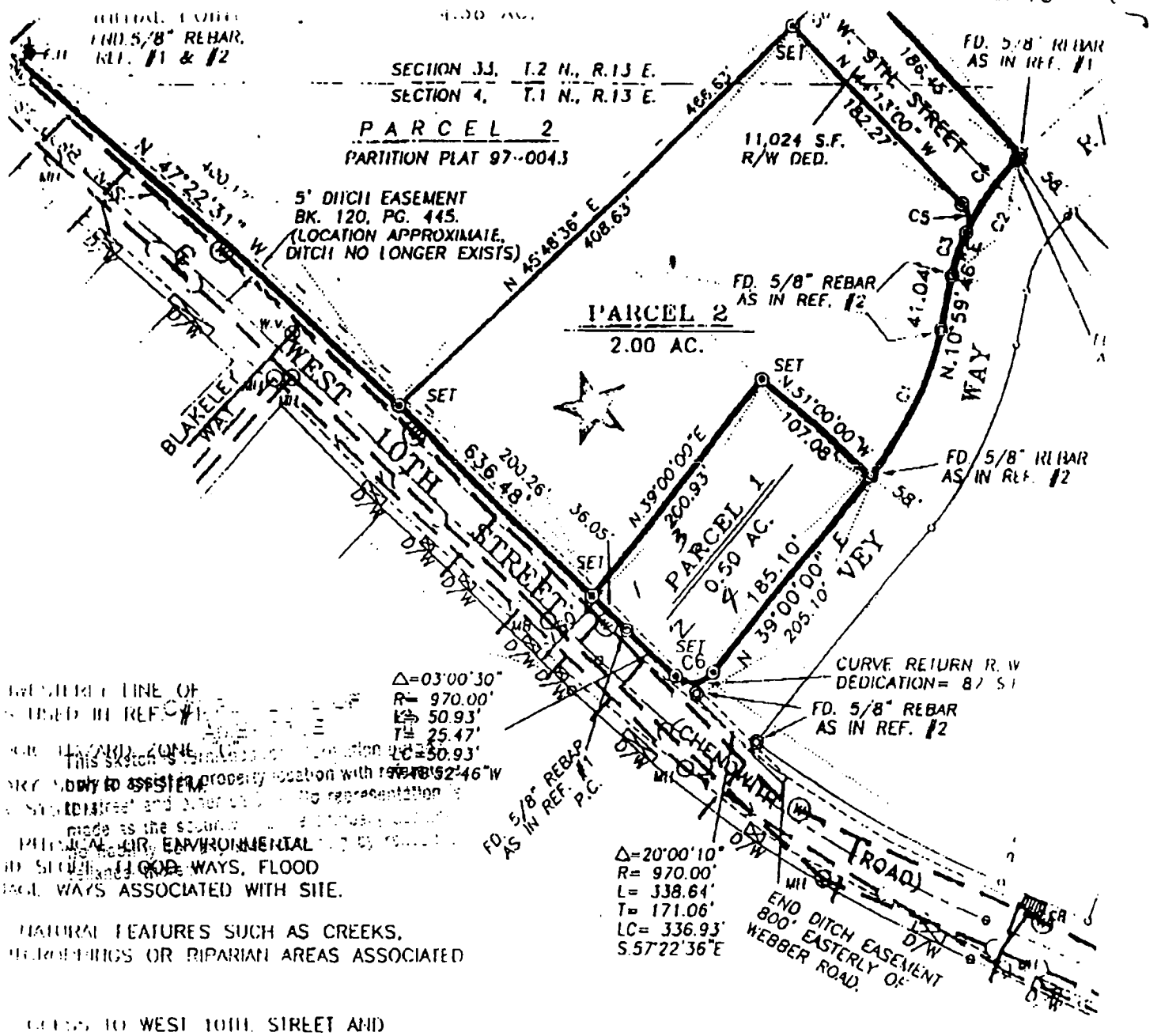

FD. 5/8" REBAR & CAP AS IN REF. #1 & #2

N 47°22'31" W 468.63'

N 45°48'36" E 408.63'

S 44°11'29" W 200.26'

636.48'

N 39°00'00" E 300.93'

36.05'

N 51°00'00" W 107.08'

N 39°00'00" E 205.10'

S 52°46" W

N 44°11'00" W 182.27'

186.45'

58.

41.04'

PRIMARY USE OF SITE IS FOR ENVIRONMENTAL [illegible] OF SURFACE WATER WAYS, FLOOD [illegible] WAYS ASSOCIATED WITH SITE.

NATURAL FEATURES SUCH AS CREEKS, [illegible] OR RIPARIAN AREAS ASSOCIATED

ACCESS TO WEST 10TH STREET AND [illegible] WEBBER STREET.

	ARC LENGTH	TANGENT	CHORD ANGLE	CHORD LENGTH
	118.28'	60.35'	N24°59'53"E	117.11'
	105.12'	54.24'	S28°24'11"W	103.51'
	34.55	17.33	S16°43'05"W	34.50
	70.56	35.78	S34°07'30"W	70.08
	23.27	13.15	N10°53'18"W	21.98
	31.63'	20.22'	N84°18'30"E	28.44'

ENGINEER / SURVEYOR:

TENNESON ENGINEERING CORP.
409 Lincoln Street,
The Dalles, Oregon. 97058
Ph. 541-296-9177
FAX 541-296-6657

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WATER RESOURCES DEPT
SALEM, OREGON

WASC 50948

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WATER RESOURCES DEPT.
SALEM, OREGON

STATE OF OREGON
GEOTECHNICAL HOLE REPORT
(as required by OAR 690-240-035)

(1) OWNER/PROJECT: Hole Number 4

Name Oregon Child. Dev. Code C/O ESD 112

Address 2500 NE 65th Ave

City Vancouver State WA Zip 98661

(2) TYPE OF WORK

☑ New ☐ Deepening ☐ Alteration (repair/recondition) ☒ Abandonment

(3) CONSTRUCTION:

☐ Rotary Air ☐ Hand Auger ☑ Hollow Stem Auger

☐ Rotary Mud ☐ Cable Tool ☐ Push Probe ☐ Other

(4) TYPE OF HOLE:

☒ Uncased Temporary ☐ Cased Permanent

☐ Uncased Permanent ☐ Slope Stability ☐ Other

(5) USE OF HOLE:

Geotech

(6) BORE HOLE CONSTRUCTION:

Special Construction approval ☐ Yes ☒ No Depth of Completed Hole 15' ft.

HOLE Diameter	From	To	SEAL Material	From	To	Sacks or pounds
8"	0	15'	Chips	0	15	7

Backfill placed from 0 ft. to 15 ft. Material chips

Filter Pack placed from ____ ft. to ____ ft. Size of pack N/A

(7) CASING/SCREEN:

	Diameter	From	To	Gauge	Steel	Plastic	Welded	Threaded
Casing:					☐	☐	☐	☐
					☐	☐	☐	☐
					☐	☐	☐	☐
		N/A			☐	☐	☐	☐
Screen:					☐	☐	☐	☐
					☐	☐	☐	☐

Slot size N/A

(8) WELL TEST:

☐ Pump ☐ Bailer ☐ Air ☐ Flowing Artesian

Permeability ____ Yield ____ GPM ____

Conductivity ____ PH ____

Temperature of water N/A °F/C Depth artesian flow found ____ ft.

Was water analysis done? ☐ Yes ☐ No

By whom? ____

Depth of strata analyzed. From ____ ft. to ____ ft.

Remarks: ____

(9) LOCATION OF HOLE by legal description:

County Wasco Latitude ____ Longitude ____

Township 1N N or S Range 13E E or W. WM.

Section 4 NW 1/4 NW 1/4

Tax Lot 100 Lot ____ Block ____ Subdivision ____

Street Address of Well (or nearest address) W. 10th St. The Dalles, OR

Map with location identified must be attached

(10) STATIC WATER LEVEL:

N/A ft. below land surface. Date 5-21-01

Artesian pressure ____ lb. per square inch. Date ____

(11) SUBSURFACE LOG:

Ground Elevation ____

Material Description	From	To	SWL
Dark Brown Silt	0'	15'	

Date Started 5-21-01 Date Completed 5-21-01

(12) ABANDONMENT LOG:

Material Description	From	To	Sacks or Pounds
Chips	0	15	7 50# Bgs

Date started 5-21-01 Date Completed 5-21-01

Professional Certification

(to be signed by a licensed water supply or monitoring well constructor, or Oregon registered geologist or civil engineer).

I accept responsibility for the construction, alteration, or abandonment work performed during the construction dates reported above. All work performed during this time is in compliance with Oregon's geotechnical hole construction standards. This report is true to the best of my knowledge and belief.

License or Registration Number 1045 1

Signed ____ Date 6

Affiliation CASCADE DRILLING, INC-OREGON

THIS REPORT MUST BE SUBMITTED TO THE WATER RESOURCES DEPARTMENT WITHIN 30 DAYS OF COMPLETION OF WORK

DR1077

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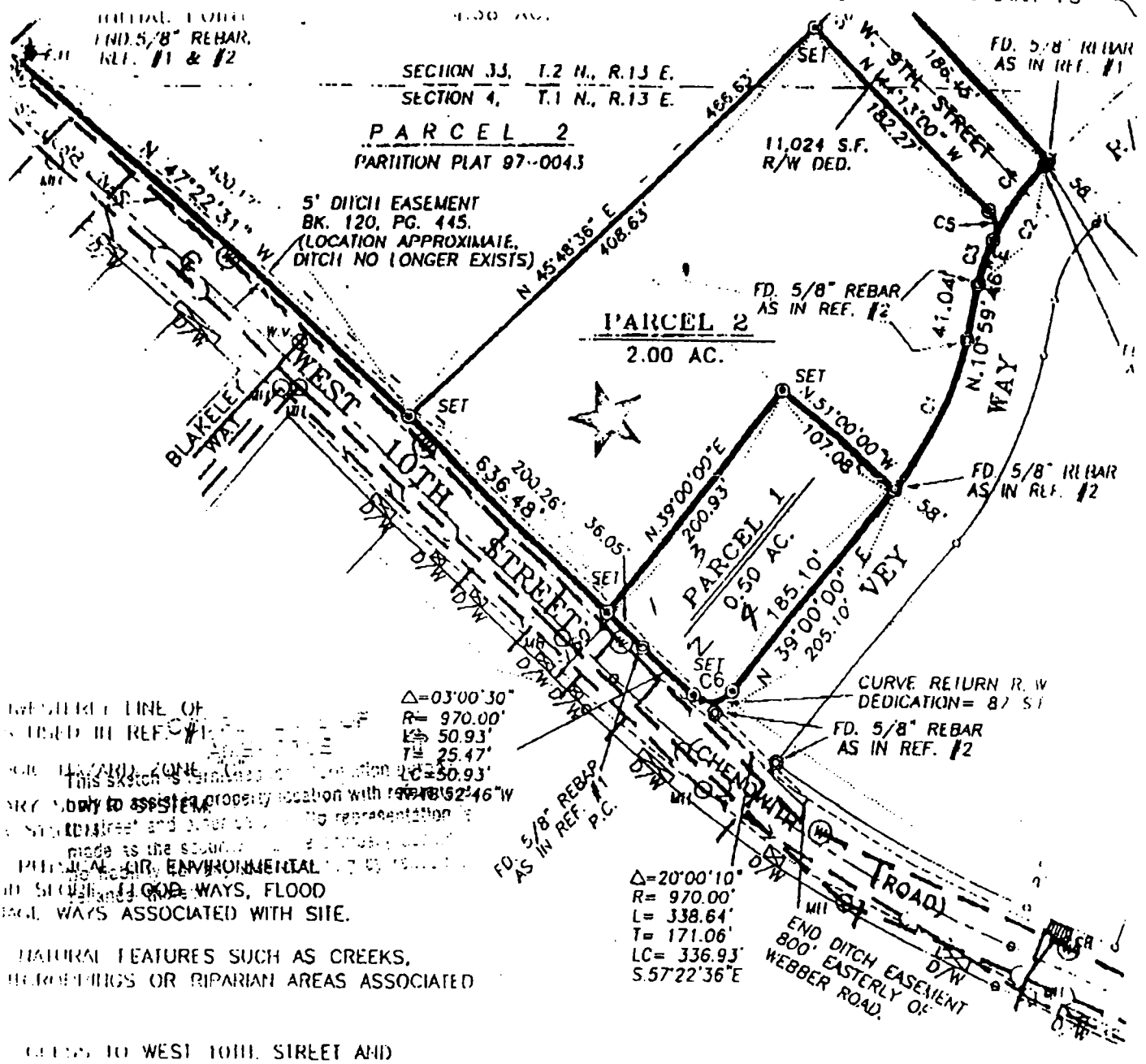

This sketch is furnished to assist in property location with reference to roads only. It is not a survey and does not represent a property survey made on the ground. Tenneson Engineering Corp. and its employees assume no liability for any person's reliance on any dimensions or other information shown hereon.

PHYSICAL, AIR, ENVIRONMENTAL OR SUBSURFACE FLOOD WAYS, FLOOD PLAIN WAYS ASSOCIATED WITH SITE.

NATURAL FEATURES SUCH AS CREEKS, WATERWAYS OR RIPARIAN AREAS ASSOCIATED

ACCESS TO WEST 10TH STREET AND WEBBER STREET.

	ARC LENGTH	TANGENT	CHORD ANGLE	CHORD LENGTH
	118.28'	60.35'	N24°59'53"E	117.11'
	105.12'	54.24'	S28°24'11"W	103.51'
	34.55'	17.33	S16°43'05"W	34.50'
	70.56'	35.78	S34°07'30"W	70.08
	23.27	13.15	N10°53'18"W	21.98
	31.63'	20.22'	N84°18'30"E	28.44'

ENGINEER / SURVEYOR:
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FAX 541-296-6657

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APR 16 2001

WATER RESOURCES DEPT.
SALEM, OREGON

STATE OF OREGON
GEOTECHNICAL HOLE REPORT
(as required by OAR 690-240-035)

(1) OWNER/PROJECT: Hole Number B-2

Name The Dalles School District

Address West 2nd Street

City The Dalles State OR Zip 97058

(2) TYPE OF WORK

[X] New [ ] Deepening [ ] Alteration (repair/recondition) [X] Abandonment

(3) CONSTRUCTION:

[ ] Rotary Air [ ] Hand Auger [ ] Hollow Stem Auger

[X] Rotary Mud [ ] Cable Tool [ ] Push Probe [ ] Other

(4) TYPE OF HOLE:

[X] Uncased Temporary [ ] Cased Permanent

[ ] Uncased Permanent [ ] Slope Stability [ ] Other

(5) USE OF HOLE:

Geotechnical Study

(6) BORE HOLE CONSTRUCTION:

Special Construction approval [ ] Yes [X] No Depth of Completed Hole 30 ft.

HOLE Diameter	From	To	SEAL Material	From	To	Sacks or pounds
5	0	30				
			N/A			

Backfill placed from ____ ft. to ____ ft. Material ____

Filter Pack placed from ____ ft. to ____ ft. Size of pack ____

(7) CASING/SCREEN:

	Diameter	From	To	Gauge	Steel	Plastic	Welded	Threaded
Casing:					[ ]	[ ]	[ ]	[ ]
		N/A			[ ]	[ ]	[ ]	[ ]
					[ ]	[ ]	[ ]	[ ]
					[ ]	[ ]	[ ]	[ ]
Screen:					[ ]	[ ]	[ ]	[ ]
					[ ]	[ ]	[ ]	[ ]

Slot size ____

(8) WELL TEST:

[ ] Pump [ ] Bailer [ ] Air [ ] Flowing Artesian

Permeability ____ Yield ____ GPM ____

Conductivity ____ PH ____

Temperature of water N/A °F/C Depth artesian flow found ____ ft.

Was water analysis done? [ ] Yes [ ] No

By whom? ____

Depth of strata analyzed. From ____ ft. to ____ ft.

Remarks: ____

(9) LOCATION OF HOLE by legal description:

County Wasco Latitude ____ Longitude ____

Township 1 (N) or S Range 13 (E) or W. WM.

Section 10 NE 1/4 NE 1/4

Tax Lot 100 Lot ____ Block ____ Subdivision ____

Street Address of Well (or nearest address) ____

12th & H Street, The Dalles Middle School

Map with location identified must be attached

(10) STATIC WATER LEVEL:

None ft. below land surface. Date ____

Artesian pressure ____ lb. per square inch. Date ____

(11) SUBSURFACE LOG:

Ground Elevation ____

Material Description	From	To	SWL
Gravels	0	3	
Silty Sand	3	22	
Clays-Silts	22	30	

Date Started ____ Date Completed ____

(12) ABANDONMENT LOG:

Material Description	From	To	Sacks or Pounds
Bentonite	0	30	7 bags

Date started 3/16/01 Date Completed 3/16/01

Professional Certification

(to be signed by a licensed water supply or monitoring well constructor, or Oregon registered geologist or civil engineer).

I accept responsibility for the construction, alteration, or abandonment work performed during the construction dates reported above. All work performed during this time is in compliance with Oregon's geotechnical hole construction standards. This report is true to the best of my knowledge and belief.

License or Registration Number 10329

Signed ____ Date 4/13/01

Affiliation Geo-Tech Explorations, Inc.

THIS REPORT MUST BE SUBMITTED TO THE WATER RESOURCES DEPARTMENT WITHIN 30 DAYS OF COMPLETION OF WORK

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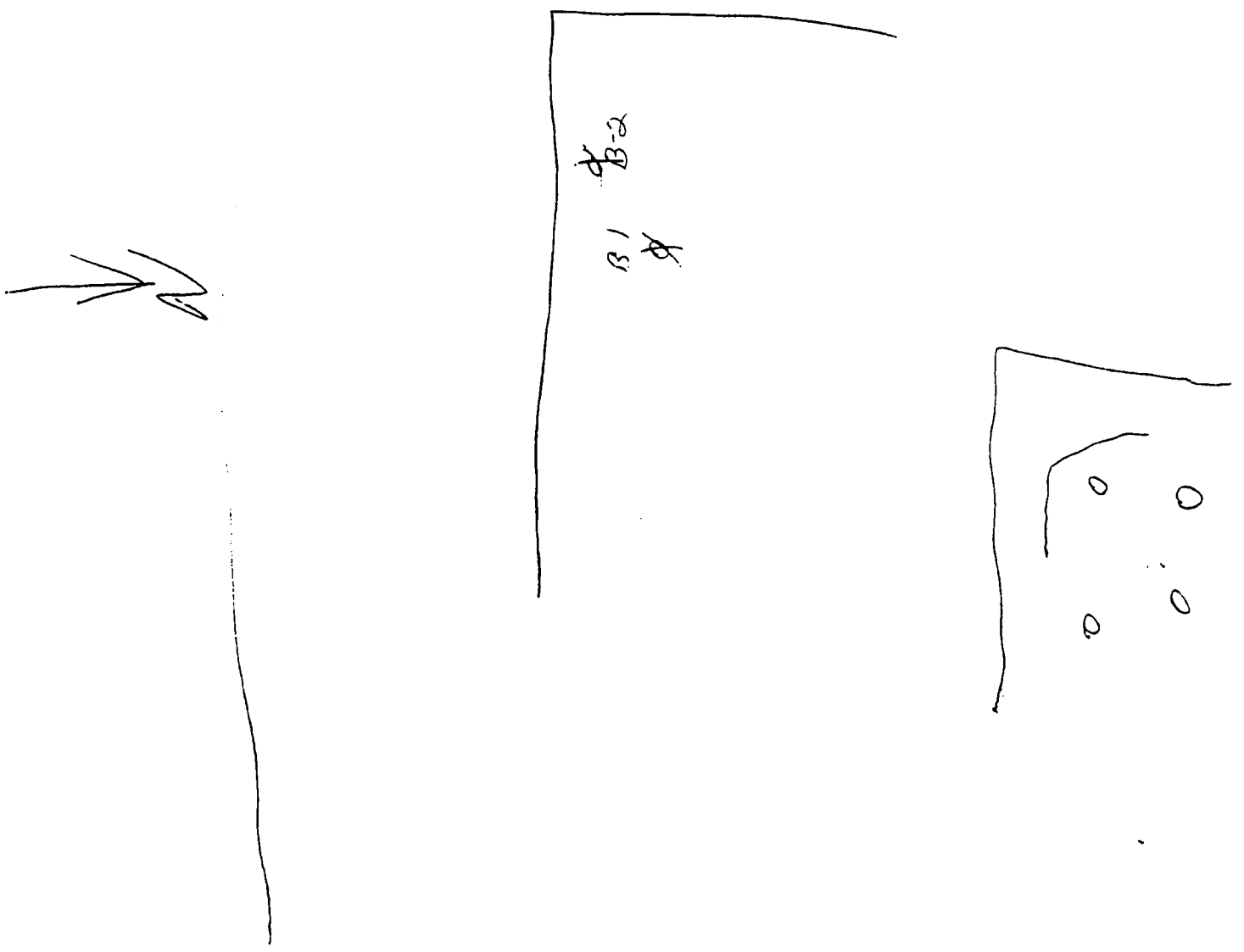
SALEM, OREGON



APR 16 2001

WASC 50933

STATE OF OREGON
GEOTECHNICAL HOLE REPORT
(as required by ORS 537.765)

WATER RESOURCES DEPT.
SALEM, OREGON

(1) OWNER/PROJECT: Hole Number B-1

Name The Dalles School District

Address West 2nd Street

City The Dalles State OR Zip 97058

(2) TYPE OF WORK

[X] New [ ] Deepening [ ] Alteration (repair/recondition) [X] Abandonment

(3) CONSTRUCTION:

[ ] Rotary Air [ ] Hand Auger [ ] Hollow Stem Auger

[X] Rotary Mud [ ] Cable Tool [ ] Push Probe [ ] Other _____

(4) TYPE OF HOLE:

[X] Uncased Temporary [ ] Cased Permanent

[ ] Uncased Permanent [ ] Slope Stability [ ] Other _____

(5) USE OF HOLE:

Geotechnical Study

(6) BORE HOLE CONSTRUCTION:

Special Construction approval [ ] Yes [X] No Depth of Completed Hole 85 ft.

HOLE Diameter	From	To	SEAL Material	From	To	Sacks or pounds
5	0	85				

Backfill placed from _____ ft. to _____ ft. Material _____

Filter Pack placed from _____ ft. to _____ ft. Size of pack _____

(7) CASING/SCREEN:

	Diameter	From	To	Gauge	Steel	Plastic	Welded	Threaded
Casing:					[ ]	[ ]	[ ]	[ ]
					[ ]	[ ]	[ ]	[ ]
			N/A		[ ]	[ ]	[ ]	[ ]
					[ ]	[ ]	[ ]	[ ]
Screen:					[ ]	[ ]	[ ]	[ ]
					[ ]	[ ]	[ ]	[ ]

Slot size _____

(8) WELL TEST:

[ ] Pump [ ] Bailer [ ] Air [ ] Flowing Artesian

Permeability _____ Yield _____ GPM _____

Conductivity _____ PH _____

Temperature of water _____ °F/C Depth artesian flow found _____ ft.

Was water analysis done? [ ] Yes [ ] No

By whom? N/A

Depth of strata analyzed. From _____ ft. to _____ ft.

Remarks: _____

(9) LOCATION OF HOLE by legal description:

County Wasco Latitude _____ Longitude _____

Township 1 (N) or S Range 13 (E) or W. WM.

Section 10 NE 1/4 NE 1/4

Tax Lot 100 Lot _____ Block _____ Subdivision _____

Street Address of Well (or nearest address) 12th & H Street, Dalles Middle School

Map with location identified must be attached

(10) STATIC WATER LEVEL:

None ft. below land surface. Date _____

Artesian pressure _____ lb. per square inch. Date _____

(11) SUBSURFACE LOG:

Ground Elevation _____

Material Description	From	To	SWL
Gravels	0	3	
Silty Sand	3	22	
Clays-Silt	22	83	
Weathered basalt	83	85	

Date Started 3 Date Completed _____

(12) ABANDONMENT LOG:

Material Description	From	To	Sacks or Pounds
Bentonite Grout	0	85	17 bags

Date started 3/16/01 Date Completed 3/16/01

Professional Certification

(to be signed by a licensed water supply or monitoring well constructor, or Oregon registered geologist or civil engineer).

I accept responsibility for the construction, alteration, or abandonment work performed during the construction dates reported above. All work performed during this time is in compliance with Oregon's geotechnical hole construction standards. This report is true to the best of my knowledge and belief.

License or Registration Number 10328

Signed _____ Date 4/13/01

Affiliation Geo-Tech Explorations, Inc.

THIS REPORT MUST BE SUBMITTED TO THE WATER RESOURCES DEPARTMENT WITHIN 30 DAYS OF COMPLETION OF WORK

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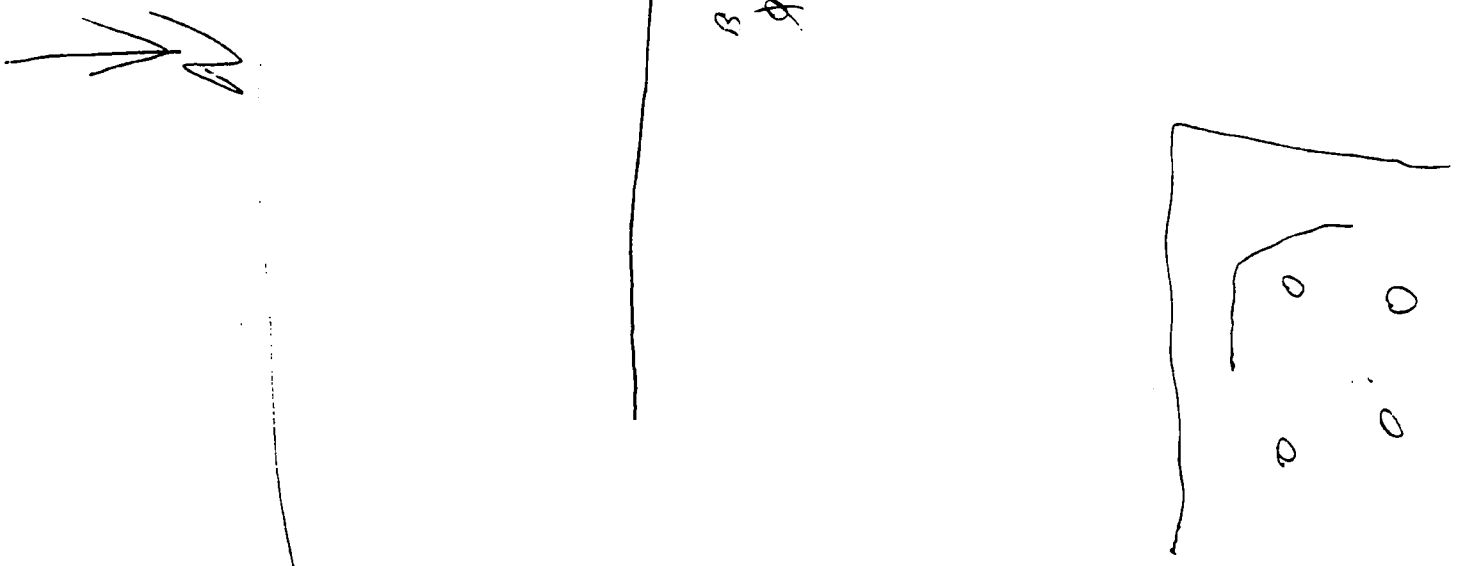
WATER RESOURCES DEPT.
SALEM, OREGON



GEOTECHNICAL HOLE REPORT
(as required by OAR 690-240-035)

50921

(1) OWNER/PROJECT: Hole Number B-5
Name The Dalles Middle School
Address West 2nd Street
City The Dalles State OR Zip 97058

(2) TYPE OF WORK
[ ] New [ ] Deepening [ ] Alteration (repair/recondition) [X] Abandonment

(3) CONSTRUCTION:
[ ] Rotary Air [ ] Hand Auger [ ] Hollow Stem Auger
[ ] Rotary Mud [ ] Cable Tool [ ] Push Probe [ ] Other

(4) TYPE OF HOLE:
[ ] Uncased Temporary [ ] Cased Permanent
[X] Uncased Permanent [ ] Slope Stability [ ] Other

(5) USE OF HOLE:
Soil Samples

(6) BORE HOLE CONSTRUCTION:
Special Construction approval [ ] Yes [X] No Depth of Completed Hole 25 ft.

HOLE Diameter	From	To	SEAL Material	From	To	Sacks or pounds
5	0	25				

Backfill placed from ft. to ft. Material
Filter Pack placed from ft. to ft. Size of pack

(7) CASING/SCREEN:

	Diameter	From	To	Gauge	Steel	Plastic	Welded	Threaded
Casing:	2 in				[ ]	[ ]	[ ]	[ ]
					[ ]	[ ]	[ ]	[ ]
					[ ]	[ ]	[ ]	[ ]
					[ ]	[ ]	[ ]	[ ]
Screen:					[ ]	[ ]	[ ]	[ ]
Slot size								

(8) WELL TEST:
[ ] Pump [ ] Bailer [ ] Air [ ] Flowing Artesian
Permeability Yield GPM
Conductivity PH
Temperature of water °F/C Depth artesian flow found ft.
Was water analysis done? [ ] Yes [ ] No
By whom?
Depth of strata analyzed. From ft. to ft
Remarks

(9) LOCATION OF HOLE by legal description:
County Wasco Latitude Longitude
Township 1 N or S Range 13 E or W. WM.
Section 10 NE 1/4 NE 1/4
Tax Lot 100 Lot Block Subdivision
Street Address of Well (or nearest address) East 12th The Dalles Middle School

Map with location identified must be attached

(10) STATIC WATER LEVEL:
N/A ft. below land surface. Date
Artesian pressure lb. per square inch. Date

(11) SUBSURFACE LOG:
Ground Elevation

Material Description	From	To	SWL
Silty Sand	0	1	
Gravelly Silt	1	4	
Silty Sand	4	15	
Flood Deposits	15	25	

Date Started 1/16/01 Date Completed 1/17/01

(12) ABANDONMENT LOG:

Material Description	From	To	Sacks or Pounds
Bent	0	25	4bags

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MAY 10 2001
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SALEM, OREGON

Date started 1-11-01 Date Completed 1-17-01

Professional Certification
(to be signed by a licensed water supply or monitoring well constructor, or Oregon registered geologist or civil engineer).

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License or Registration Number 10328
Signed Date 2/7/01
Affiliation

THIS REPORT MUST BE SUBMITTED TO THE WATER RESOURCES DEPARTMENT WITHIN 30 DAYS OF COMPLETION OF WORK

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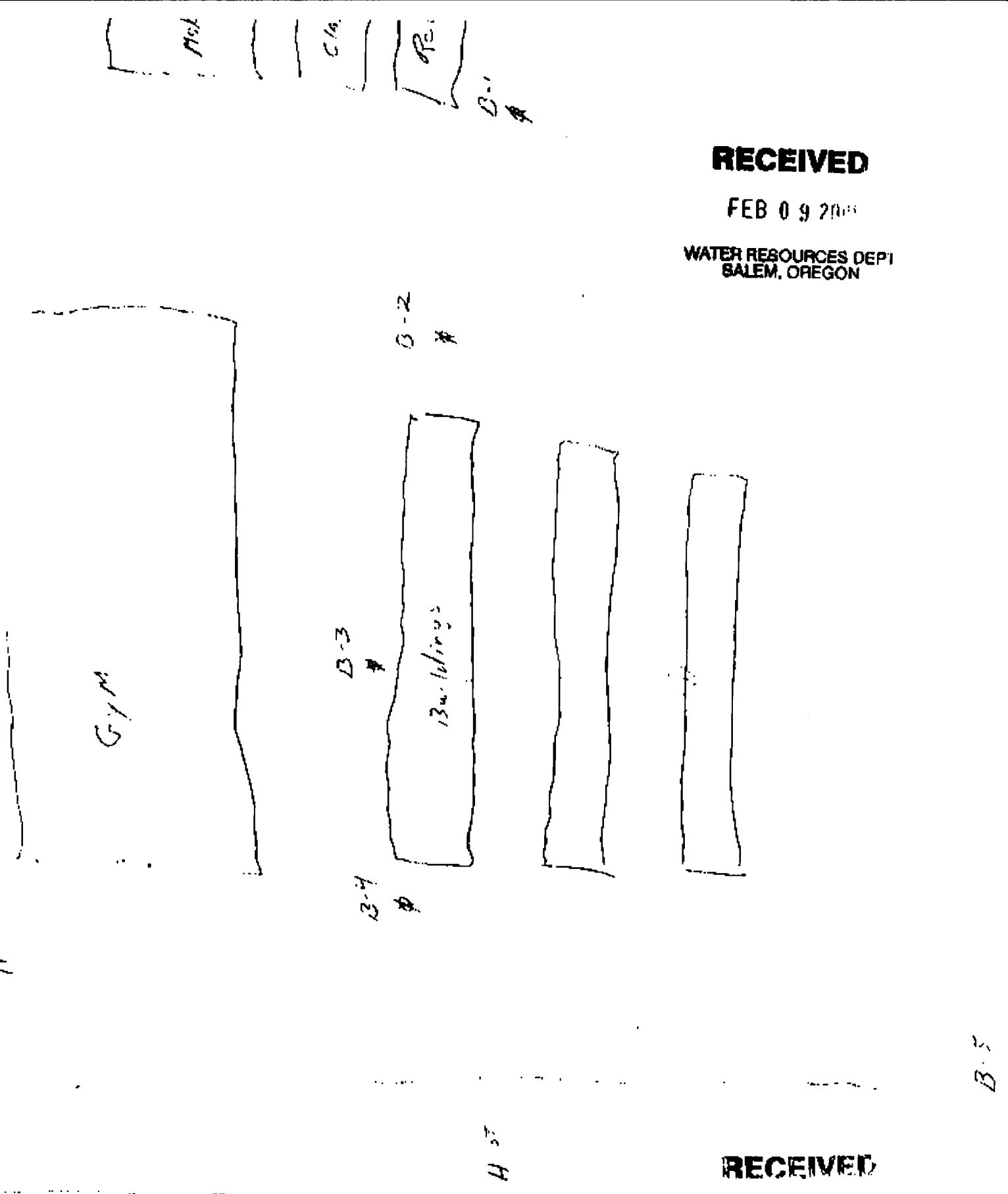

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MAY 1 0 2001
WATER RESOURCES DEPT
SALEM, OREGON

GEOTECHNICAL HOLE REPORT

(as required by OAR 690-240-035)

50920

(1) OWNER/PROJECT: Hole Number B-4

Name The Dalles School Dist.

Address West 2nd Street

City The Dalles State OR Zip 97058

(2) TYPE OF WORK

[X] New [ ] Deepening [ ] Alteration (repair/recondition) [ ] Abandonment

(3) CONSTRUCTION:

[ ] Rotary Air [ ] Hand Auger [ ] Hollow Stem Auger

[X] Rotary Mud [ ] Cable Tool [ ] Push Probe [ ] Other

(4) TYPE OF HOLE:

[X] Uncased Temporary [ ] Cased Permanent

[ ] Uncased Permanent [ ] Slope Stability [ ] Other

(5) USE OF HOLE:

Soil Samples

(6) BORE HOLE CONSTRUCTION:

Special Construction approval [ ] Yes [X] No Depth of Completed Hole 25 ft.

HOLE Diameter	From	To	SEAL Material	From	To	Sacks or pounds
5	0	25	Bent	0	25	4bags

Backfill placed from ____ ft. to ____ ft. Material ____

Filter Pack placed from ____ ft. to ____ ft. Size of pack ____

(7) CASING/SCREEN:

	Diameter	From	To	Gauge	Steel	Plastic	Welded	Threaded
Casing:		N/A						
Screen:								

Slot size

(8) WELL TEST:

[ ] Pump [ ] Bailer [ ] Air [ ] Flowing Artesian

Permeability ____ Yield ____ GPM ____

Conductivity ____ PH ____

Temperature of water N/A °C Depth artesian flow found ____ ft.

Was water analysis done? [ ] Yes [ ] No

By whom? ____

Depth of strata analyzed. From ____ ft. to ____ ft.

Remarks: ____

(9) LOCATION OF HOLE by legal description:

County Wasco Latitude ____ Longitude ____

Township 1 [X] N or [ ] S Range 13 [X] E or [ ] W. WM.

Section 10 NE 1/4 NE 1/4

Tax Lot 100 Lot ____ Block ____ Subdivision ____

Street Address of Well (or nearest address) East 12th, The Dalles Middle School

Map with location identified must be attached

(10) STATIC WATER LEVEL:

N/A ft. below land surface. Date ____

Artesian pressure ____ lb. per square inch. Date ____

(11) SUBSURFACE LOG:

Ground Elevation ____

Material Description	From	To	SWL
Silty Gravel	0	1	
Gravelly Silts	1	4	
Silty Gravel	4	15	
Flood Deposits	15	25	

Date Started 1/11/01 Date Completed 1/17/01

(12) ABANDONMENT LOG:

Material Description	From	To	Sacks or Pound
Bent	0	25	4bags

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RECEIVED MAY 10 2001 WATER RESOURCES DEPT SALEM, OREGON

Date started 1-11-01 Date Completed 1-17-01

Professional Certification

To be signed by a licensed water supply or monitoring well constructor, or Oreg registered geologist or civil engineer).

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License or Registration Number 10328

Signed ____ Date 2/7/01

Affiliation Geo-Tech Exploration Inc.

THIS REPORT MUST BE SUBMITTED TO THE WATER RESOURCES DEPARTMENT WITHIN 30 DAYS OF COMPLETION OF WORK

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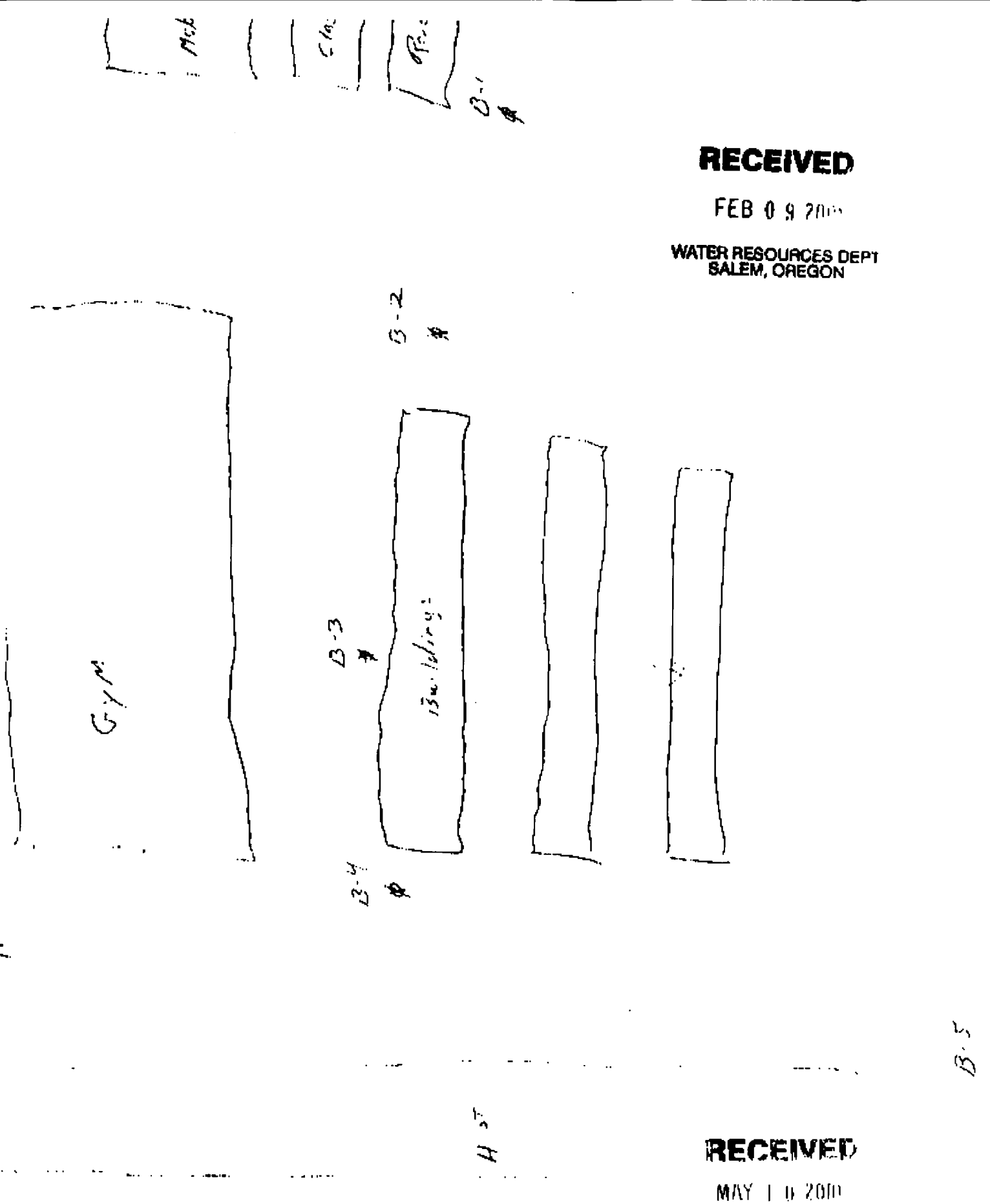

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MAY 1 0 2010
WATER RESOURCES DEPT
SALEM, OREGON

GEOTECHNICAL HOLE REPORT
(as required by OAR 690-240-035)

50919

(1) OWNER/PROJECT: Hole Number B-3
Name The Dalles
Address West 2nd Street
City The Dalles State OR Zip 97058

(2) TYPE OF WORK
☒ New ☐ Deepening ☐ Alteration (repair/recondition) ☐ Abandonment

(3) CONSTRUCTION:
☐ Rotary Air ☐ Hand Auger ☐ Hollow Stem Auger
☒ Rotary Mud ☐ Cable Tool ☐ Push Probe ☐ Other

(4) TYPE OF HOLE:
☒ Uncased Temporary ☐ Cased Permanent
☐ Uncased Permanent ☐ Slope Stability ☐ Other

(5) USE OF HOLE: geotechnical study

(6) BORE HOLE CONSTRUCTION:
Special Construction approval ☐ Yes ☐ No Depth of Completed Hole 45 ft.

HOLE Diameter	From	To	SEAL Material	From	To	Sacks or pounds
5	0	45				

Backfill placed from ____ ft. to ____ ft. Material ____
Filter Pack placed from ____ ft. to ____ ft. Size of pack ____

(7) CASING/SCREEN:

	Diameter	From	To	Gauge	Steel	Plastic	Welded	Threaded
Casing:		N/A			☐	☐	☐	☐
Screen:					☐	☐	☐	☐

Slot size ____

(8) WELL TEST:
☐ Pump ☐ Bailer ☐ Air ☐ Flowing Artesian
Permeability ____ Yield ____ GPM ____
Conductivity ____ PH ____
Temperature of water ____ °F/C Depth artesian flow found ____ ft.
Was water analysis done? ☐ Yes ☐ No
By whom? N/A
Depth of strata analyzed. From ____ ft. to ____ ft.
Remarks: ____

(9) LOCATION OF HOLE by legal description:
County Wasco Latitude ____ Longitude ____
Township 1 ☐ N or ☒ S Range 13 ☐ E or ☒ W WM
Section 10 NE 1/4 NE 1/4
Tax Lot 100 Lot ____ Block ____ Subdivision ____
Street Address of Well (or nearest address) East 12th, The Dalles Middle School

Map with location identified must be attached

(10) STATIC WATER LEVEL:
N/A ft. below land surface. Date ____
Artesian pressure ____ lb. per square inch. Date ____

(11) SUBSURFACE LOG:
Ground Elevation ____

Material Description	From	To	SWL
Sand	0	1	
Gravelly Silt	1	4	
Silty Sand	4	15	
Flood Deposit	15	88	
Weathered Basalt	88	95	

Date Started 1/11/01 Date Completed 1/17/01

(12) ABANDONMENT LOG:

Material Description	From	To	Sacks or Pounds
Bent	0	45	8 bags

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SALEM, OREGON

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MAY 10 2001
WATER RESOURCES DEPT
SALEM, OREGON

Date started 1-11-01 Date Completed 1-17-01

Professional Certification
(to be signed by a licensed water supply or monitoring well constructor, or Ore registered geologist or civil engineer).

I accept responsibility for the construction, alteration, or abandonment work performed during the construction dates reported above. All work performed during this time is in compliance with Oregon's geotechnical hole construction standards. This report is true to the best of my knowledge and belief.

License or Registration Number 1032
Signed ____ Date 2/7/
Affiliation ____

THIS REPORT MUST BE SUBMITTED TO THE WATER RESOURCES DEPARTMENT WITHIN 30 DAYS OF COMPLETION OF WORK

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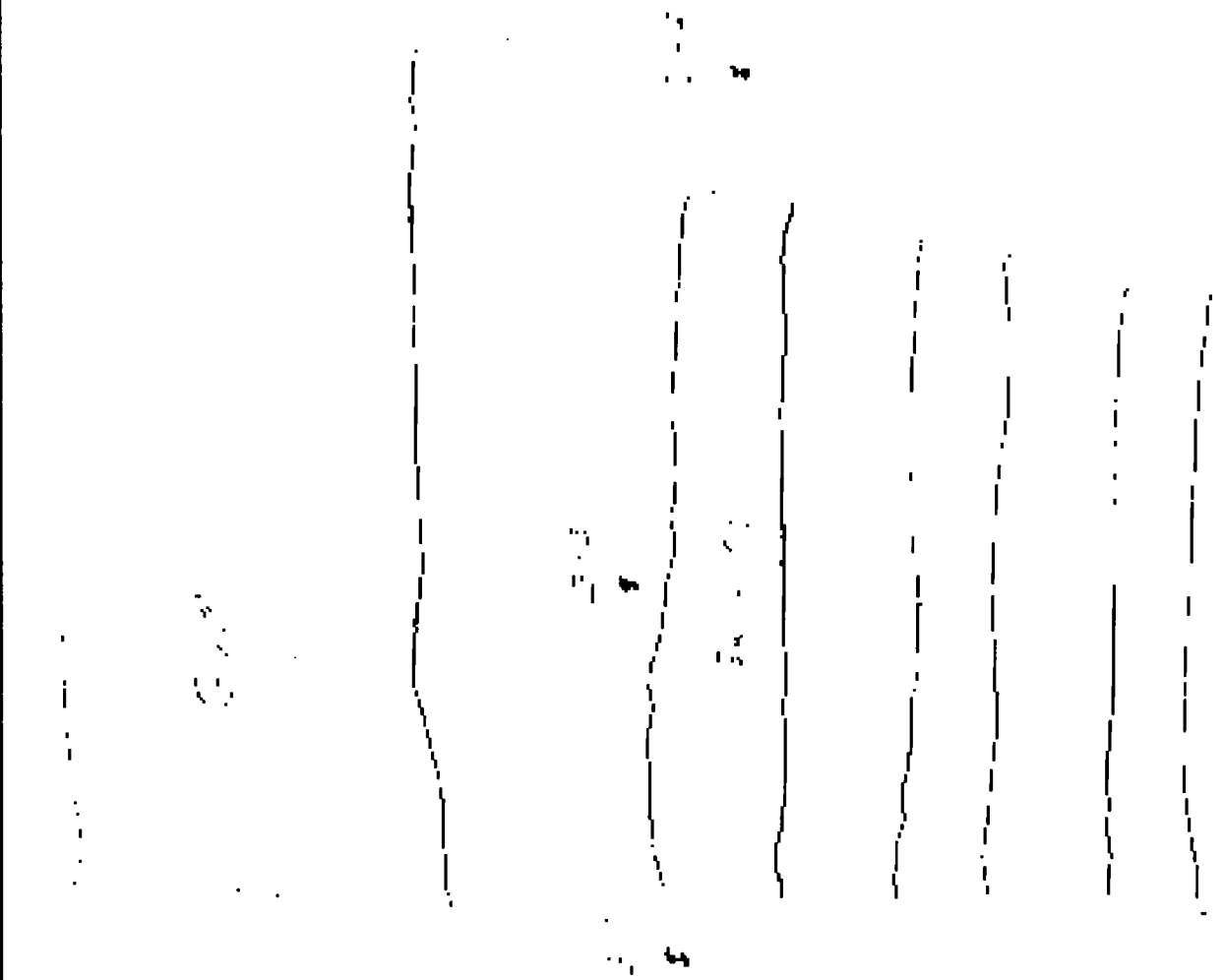
WATER RESOURCES DEPT
SALEM, OREGON



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WATER RESOURCES DEPT
SALEM, OREGON

WWSC 50918

STATE OF OREGON
GEOTECHNICAL HOLE REPORT
(as required by OAR 690-240-035)

(1) OWNER/PROJECT: Hole Number B-2
Name The Dalles School District
Address West 2nd Street
City The Dalles State OR Zip 97058

(2) TYPE OF WORK
☒ New ☐ Deepening ☐ Alteration (repair/recondition) ☐ Abandonment

(3) CONSTRUCTION:
☐ Rotary Air ☐ Hand Auger ☐ Hollow Stem Auger
☒ Rotary Mud ☐ Cable Tool ☐ Push Probe ☐ Other

(4) TYPE OF HOLE:
☐ Uncased Temporary ☐ Cased Permanent
☐ Uncased Permanent ☒ Slope Stability ☐ Other

(5) USE OF HOLE: Slope Stability Well

(6) BORE HOLE CONSTRUCTION:
Special Construction approval ☐ Yes ☒ No Depth of Completed Hole 70 ft.

HOLE Diameter	From	To	SEAL Material	From	To	Sacks or pounds
5	0	70	Bentonite	0	70	9 bags

Backfill placed from ____ ft. to ____ ft. Material ____
Filter Pack placed from ____ ft. to ____ ft. Size of pack ____

(7) CASING/SCREEN:

	Diameter	From	To	Gauge	Steel	Plastic	Welded	Threaded
Casing:	2.75	0	70		☐	☒	☐	☒
					☐	☐	☐	☐
					☐	☐	☐	☐
					☐	☐	☐	☐
Screen:					☐	☐	☐	☐
					☐	☐	☐	☐

Slot size ____

(8) WELL TEST:
☐ Pump ☐ Bailer ☐ Air ☐ Flowing Artesian
Permeability ____ Yield ____ GPM ____
Conductivity ____ PH ____
Temperature of water N/A °F/C Depth artesian flow found ____ ft.
Was water analysis done? ☐ Yes ☐ No
By whom? ____
Depth of strata analyzed. From ____ ft. to ____ ft.
Remarks: ____

(9) LOCATION OF HOLE by legal description:
County Wasco Latitude ____ Longitude ____
Township 1 ○ N or S Range 13 ○ E or W. WM.
Section 10 NE 1/4 NE 1/4
Tax Lot 100 Lot ____ Block ____ Subdivision ____
Street Address of Well (or nearest address) East 12th, The Dalles Middle School

Map with location identified must be attached

(10) STATIC WATER LEVEL:
N/A ft. below land surface. Date ____
Artesian pressure ____ lb. per square inch. Date ____

(11) SUBSURFACE LOG:
Ground Elevation ____

Material Description	From	To	SWL
Silty Sand	0	1	
Gravelly Silt	1	4	
Silty Sand	4	15	
Flood Deposit	15	28	
Weathered Basalt	28	58	
Basalt	58	70	

Date Started 1/16/01 Date Completed 1/17/01

(12) ABANDONMENT LOG:

Material Description	From	To	Sacks or Pounds

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WATER RESOURCES DEPT.
SALEM, OREGON

Date started ____ Date Completed ____

Professional Certification
(to be signed by a licensed water supply or monitoring well constructor, or Oregon registered geologist or civil engineer).

I accept responsibility for the construction, alteration, or abandonment work performed during the construction dates reported above. All work performed during this time is in compliance with Oregon's geotechnical hole construction standards. This report is true to the best of my knowledge and belief.

License or Registration Number 10328
Signed ____ Date 2/7/01
Affiliation Geo-Tech Explorations, Inc.

THIS REPORT MUST BE SUBMITTED TO THE WATER RESOURCES DEPARTMENT WITHIN 30 DAYS OF COMPLETION OF WORK

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WATER RESOURCES DEPT.
SALEM, OREGON

WASC 50917

STATE OF OREGON
GEOTECHNICAL HOLE REPORT
(as required by OAR 690-240-035)

(1) OWNER/PROJECT: Hole Number B-1
Name The Dalles School District
Address West 2nd Street
City The Dalles State OR Zip 97058

(2) TYPE OF WORK
☒ New ☐ Deepening ☐ Alteration (repair/recondition) ☐ Abandonment

(3) CONSTRUCTION:
☐ Rotary Air ☐ Hand Auger ☐ Hollow Stem Auger
☒ Rotary Mud ☐ Cable Tool ☐ Push Probe ☐ Other

(4) TYPE OF HOLE:
☐ Uncased Temporary ☐ Cased Permanent
☐ Uncased Permanent ☒ Slope Stability ☐ Other

(5) USE OF HOLE:
Slope Stability Well

(6) BORE HOLE CONSTRUCTION:
Special Construction approval ☐ Yes ☒ No Depth of Completed Hole 95 ft.

HOLE Diameter	From	To	SEAL Material	From	To	Sacks or pounds
8	0	95	Bentonite	0	95	12 bags

Backfill placed from ____ ft. to ____ ft. Material ____
Filter Pack placed from ____ ft. to ____ ft. Size of pack ____

(7) CASING/SCREEN:

	Diameter	From	To	Gauge	Steel	Plastic	Welded	Threaded
Casing:	2.75	0	95		☐	☒	☐	☒
					☐	☐	☐	☐
					☐	☐	☐	☐
					☐	☐	☐	☐
Screen:					☐	☐	☐	☐
					☐	☐	☐	☐

Slot size ____

(8) WELL TEST:
☐ Pump ☐ Bailer ☐ Air ☐ Flowing Artesian
Permeability ____ Yield ____ GPM ____
Conductivity ____ PH ____
Temperature of water N/A °F/C Depth artesian flow found ____ ft.
Was water analysis done? ☐ Yes ☒ No
By whom? ____
Depth of strata analyzed. From ____ ft. to ____ ft.
Remarks: ____

(9) LOCATION OF HOLE by legal description:
County Wasco Latitude ____ Longitude ____
Township 1 ☒ N or ☐ S Range 13 ☒ E or ☐ W. WM.
Section 10 NE 1/4 NE 1/4
Tax Lot 100 Lot ____ Block ____ Subdivision ____
Street Address of Well (or nearest address) East 12th
The Dalles Middle School

Map with location identified must be attached

(10) STATIC WATER LEVEL:
N/A ft. below land surface. Date ____
Artesian pressure ____ lb. per square inch. Date ____

(11) SUBSURFACE LOG:
Ground Elevation ____

Material Description	From	To	SWL
Silty Sand	0	1	
Gravelly Silt	1	4	
Silty Sand	4	15	
Flood Deposits	15	28	
Weathered Basalt	28	58	
Basalt	58	95	

Date Started 1/11/01 Date Completed 1/17/01

(12) ABANDONMENT LOG:

Material Description	From	To	Sacks or Pounds

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FEB 09 2001
WATER RESOURCES DEPT
SALEM, OREGON

Date started ____ Date Completed ____

Professional Certification
(to be signed by a licensed water supply or monitoring well constructor, or Oregon registered geologist or civil engineer).

I accept responsibility for the construction, alteration, or abandonment work performed during the construction dates reported above. All work performed during this time is in compliance with Oregon's geotechnical hole construction standards. This report is true to the best of my knowledge and belief.

License or Registration Number 10828
Signed ____ Date 2/7/01
Affiliation Geo-Tech Explorations, Inc.

THIS REPORT MUST BE SUBMITTED TO THE WATER RESOURCES DEPARTMENT WITHIN 30 DAYS OF COMPLETION OF WORK

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WATER RESOURCES DEPT.
SALEM, OREGON

STATE OF OREGON

MONITORING WELL REPORT

(as required by ORS 537.765 & OAR 690-240-095)

Instructions for completing this report are on the last page of this form.

WASC 50898 (-7076)

Start Card # 134583

(1) OWNER/PROJECT:

WELL NO. B-1

Name The Dalles Sch. Dist.

Address West 2nd St.

City The Dalles State OR Zip 97058

(2) TYPE OF WORK:

X New construction | | Alteration (Repair/Recondition)

| | Conversion | | Deepening | | Abandonment

(3) DRILLING METHOD

| | Rotary Air | X | Rotary Mud | | Cable

| | Hollow Stem Auger | | Other

(4) BORE HOLE CONSTRUCTION

Special Standards | | Yes | X | No

Depth of completed well 20 ft.

Land surface

Vault 0 ft. TO 1 ft.

Seal 1 ft. TO 8 ft.

Filter pack 9 ft. TO 20 ft.

Water-tight cover

Surface flush vault

Locking cap

Casing diameter 2 in.

material PVC

Welded | | Threaded X | Glued | |

Liner

diameter _____ in.

material _____

Welded | | Threaded | | Glued | |

Well seal:

Material Bent

Amount 2 bags

Grout weight _____

Borehole diameter 6 in.

Bentonite plug at least 3 ft. thick

Screen

material PVC

interval(s):

From 10 To 20

From _____ To _____

Slot size .010 in.

Filter pack:

Material Sand

Size 10-20 in.

(5) WELL TEST:

| | Pump | | Bailer | | Air | | Flowing Artesian

Permeability _____ Yield _____ GPM

Conductivity _____ PH _____

Temperature of water 53 °F/C Depth artesian flow found _____ ft.

Was water analysis done? X Yes | | No

By whom? _____

Depth of strata to be analyzed. From _____ ft. to _____ ft.

Remarks: _____

Name of supervising Geologist/Engineer _____

(6) LOCATION OF WELL By legal description

Well Location: County Wasco

Township 1 (N or S) Range 13 (E or W) Section 10

1. NE 1/4 of NE 1/4 of above section.

2. Either Street address of well location The Dalles Middle School, East 12th St.

or Tax lot number of well location 100

3. ATTACH MAP WITH LOCATION IDENTIFIED. Map shall include approximate scale and north arrow.

(7) STATIC WATER LEVEL:

13 Ft. below land surface. Date 11/27/00

Artesian Pressure _____ lb/sq. in. Date _____

(8) WATER BEARING ZONES:

Depth at which water was first found 13

From	To	Est. Flow Rate	SWL
13	20		13

(9) WELL LOG:

Ground elevation _____

Material	From	To	SWL
Sandy Silts	0	10	
Gravels	10	14	13
Silts & Clay	14	20	

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DEC 21 2000

WATER RESOURCES DEPT.
SALEM, OREGON

Date started 11/27/00 Completed 11/27/00

(unbonded) Monitor Well Constructor Certification:

I certify that the work I performed on the construction, alteration, or abandonment of this well is in compliance with Oregon well construction standards. Materials used and information reported above are true to the best knowledge and belief.

MWC Number 1046B

Signed _____ Date 4-19-00

(bonded) Monitor Well Constructor Certification:

I accept responsibility for the construction, alteration, or abandonment work performed on this well during the construction dates reported above. All work performed during this time is in compliance with Oregon well construction standards. This report is true to the best of my knowledge and belief.

MWC Number 1021

Signed _____ Date 12/20/00

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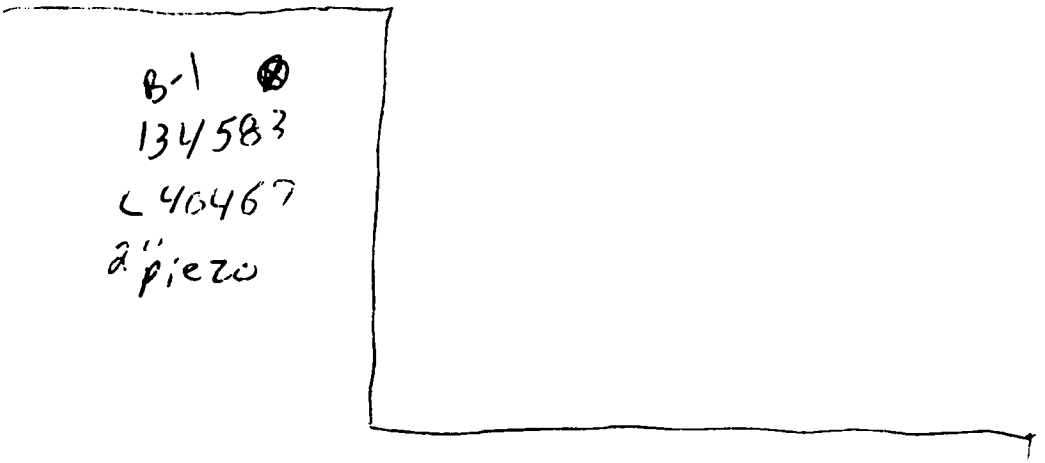
WASC 50898

SITE MAP



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WATER RESOURCES DEPT
SALEM, OREGON

B-2
134584
L40468
2" piezo

STATE OF OREGON

MONITORING WELL REPORT

(as required by ORS 537.765 & OAR 690-240-095)

Instructions for completing this report are on the last page of this form.

WASC 50897

Wasco 50897

L40468

Start Card # 134584

(1) OWNER/PROJECT:

WELL NO. B-2

Name The Dalles School Dist.

Address West 2nd Street

City Portland State OR Zip 97058

(2) TYPE OF WORK:

[X] New construction [ ] Alteration (Repair/Recondition)

[ ] Conversion [ ] Deepening [ ] Abandonment

(3) DRILLING METHOD

[ ] Rotary Air [X] Rotary Mud [ ] Cable

[ ] Hollow Stem Auger [ ] Other

(4) BORE HOLE CONSTRUCTION

Special Standards [ ] Yes [X] No Depth of completed well 20 ft.

Land surface

Vault 0 ft. to ___ ft.

Seal 1 ft. to 8 ft.

Filter pack 8 ft. to 20 ft.

Water-tight cover

Surface flush vault

Locking cap

Casing diameter 2 in. material PVC

Welded [ ] Threaded [X] Glued [ ]

Liner diameter ___ in. material ___

Welded [ ] Threaded [ ] Glued [ ]

Well seal: Material Bent Amount 2 bags Grout weight ___

Borehole diameter 6 in.

Bentonite plug at least 3 ft. thick

Screen material PVC interval(s): From 10 To 20 From ___ To ___ Slot size 10/0 in.

Filter pack: Material Sand Size 10-20 in.

(5) WELL TEST:

[ ] Pump [ ] Bailer [ ] Air [ ] Flowing Artesian

Permeability ___ Yield ___ GPM

Conductivity ___ PH ___

Temperature of water 53 °F/C Depth artesian flow found ___ ft.

Was water analysis done? [ ] Yes [ ] No

By whom? ___

Depth of strata to be analyzed. From ___ ft. to ___ ft.

Remarks: ___

Name of supervising Geologist/Engineer ___

(6) LOCATION OF WELL By legal description

Well Location: County Wasco

Township 1 (N or S) Range 13 (E or W) Section 10

1. NE 1/4 of NE 1/4 of above section.

2. **Either** Street address of well location The Dalles Middle School, E 12th St.

or Tax lot number of well location 100

3. ATTACH MAP WITH LOCATION IDENTIFIED. Map shall include approximate scale and north arrow.

(7) STATIC WATER LEVEL:

13 Ft. below land surface. Date 11-27-00

Artesian Pressure ___ lb/sq. in. Date ___

(8) WATER BEARING ZONES:

Depth at which water was first found 13

From	To	Est. Flow Rate	SWL
13	20		13

(9) WELL LOG:

Ground elevation ___

Material	From	To	SWL
Sand w/some Gravels	0	10	
Silt & Clay	10	14	13
Sand w/Gravels	14	20	

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DEC 21 2000

WATER RESOURCES DEPT.
SALEM, OREGON

Date started 11/27/00 Completed 11/27/00

(unbonded) Monitor Well Constructor Certification:

I certify that the work I performed on the construction, alteration, or abandonment of this well is in compliance with Oregon well construction standards. Materials used and information reported above are true to the best knowledge and belief.

MWC Number 1046B

Signed [signature] Date 12/19/00

(bonded) Monitor Well Constructor Certification:

I accept responsibility for the construction, alteration, or abandonment work performed on this well during the construction dates reported above. All work performed during this time is in compliance with Oregon well construction standards. This report is true to the best of my knowledge and belief.

MWC Number 1001

Signed [signature] Date 12/20/00

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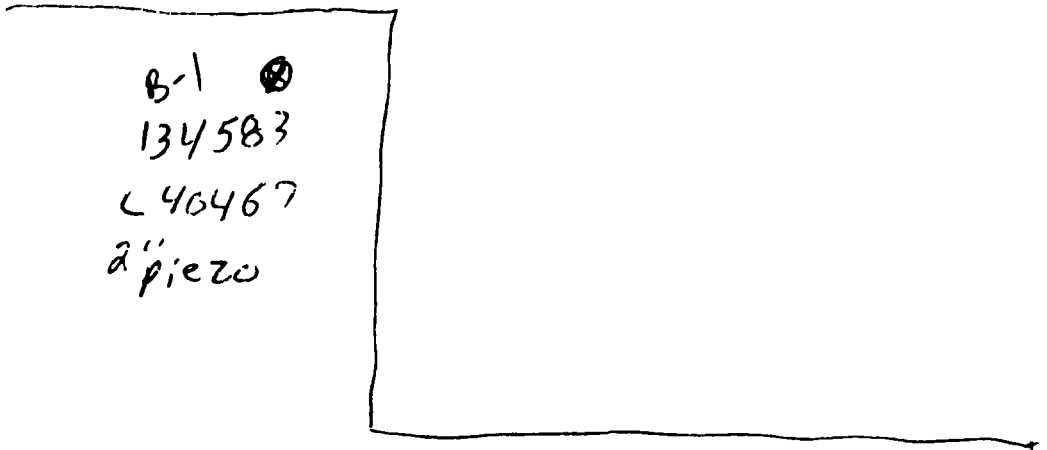
WASC 50897

SITE MAP



B-2
134584
L40468
2" piezo

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WATER RESOURCES DEPT.
SALEM, OREGON

WASC 50885

STATE OF OREGON
GEOTECHNICAL HOLE REPORT
(as required by OAR 690-240-035)

(1) OWNER/PROJECT: Hole Number B-2
Name The Dalles School District
Address West 2nd St
City The Dalles State OR Zip 97058

(2) TYPE OF WORK
☒ New ☐ Deepening ☐ Alteration (repair/recondition) ☐ Abandonment

(3) CONSTRUCTION:
☐ Rotary Air ☐ Hand Auger ☐ Hollow Stem Auger
☒ Rotary Mud ☐ Cable Tool ☐ Push Probe ☐ Other

(4) TYPE OF HOLE:
☒ Uncased Temporary ☐ Cased Permanent
☐ Uncased Permanent ☐ Slope Stability ☐ Other

(5) USE OF HOLE:
Soil Sampling

(6) BORE HOLE CONSTRUCTION:
Special Construction approval ☐ Yes ☒ No Depth of Completed Hole 15 ft.

HOLE Diameter	From	To	SEAL Material	From	To	Sacks or pounds
4 7/8	0	15	Bent	0	15	3 bags

Backfill placed from ____ ft. to ____ ft. Material ____
Filter Pack placed from ____ ft. to ____ ft. Size of pack ____

(7) CASING/SCREEN:

	Diameter	From	To	Gauge	Steel	Plastic	Welded	Threaded
Casing:					☐	☐	☐	☐
			N/A		☐	☐	☐	☐
					☐	☐	☐	☐
					☐	☐	☐	☐
Screen:					☐	☐	☐	☐
					☐	☐	☐	☐

Slot size ____

(8) WELL TEST:
☐ Pump ☐ Bailer ☐ Air ☐ Flowing Artesian
Permeability ____ Yield ____ GPM ____
Conductivity ____ PH ____
Temperature of water N/A Depth artesian flow found ____ ft.
Was water analysis done? ☐ Yes ☐ No
By whom? ____
Depth of strata analyzed. From ____ ft. to ____ ft.
Remarks: ____

(9) LOCATION OF HOLE by legal description:
County Wasco Latitude ____ Longitude ____
Township 1 ☐ N or S Range 13 ☐ E or W. WM.
Section 10 NE 1/4 NE 1/4
Tax Lot 100 Lot ____ Block ____ Subdivision ____
Street Address of Well (or nearest address) The Dalles Middle Sch.

Map with location indentified must be attached

(10) STATIC WATER LEVEL:
N/A ft. below land surface. Date ____
Artesian pressure ____ lb. per square inch. Date ____

(11) SUBSURFACE LOG:
Ground Elevation ____

Material Description	From	To	SWL
Silty Sand Gravel	0	7.5	
Weathered Basalt	7.5	15	

Date Started 10/25/00 Date Completed 10/25/00

(12) ABANDONMENT LOG:

Material Description	From	To	Sacks or Pounds

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SALEM, OREGON

Date started ____ Date Completed ____

Professional Certification
(to be signed by a licensed water supply or monitoring well constructor, or registered geologist or civil engineer).

I accept responsibility for the construction, alteration, or abandonment work performed during the construction dates reported above. All work performed during this time is in compliance with Oregon's geotechnical hole construction standards. This report is true to the best of my knowledge and belief.

License or Registration Number 1052
Signed Jerry Anderson Date 11/21/00
Affiliation Geo-Tech Explorations Inc.

THIS REPORT MUST BE SUBMITTED TO THE WATER RESOURCES DEPARTMENT WITHIN 30 DAYS OF COMPLETION OF WORK

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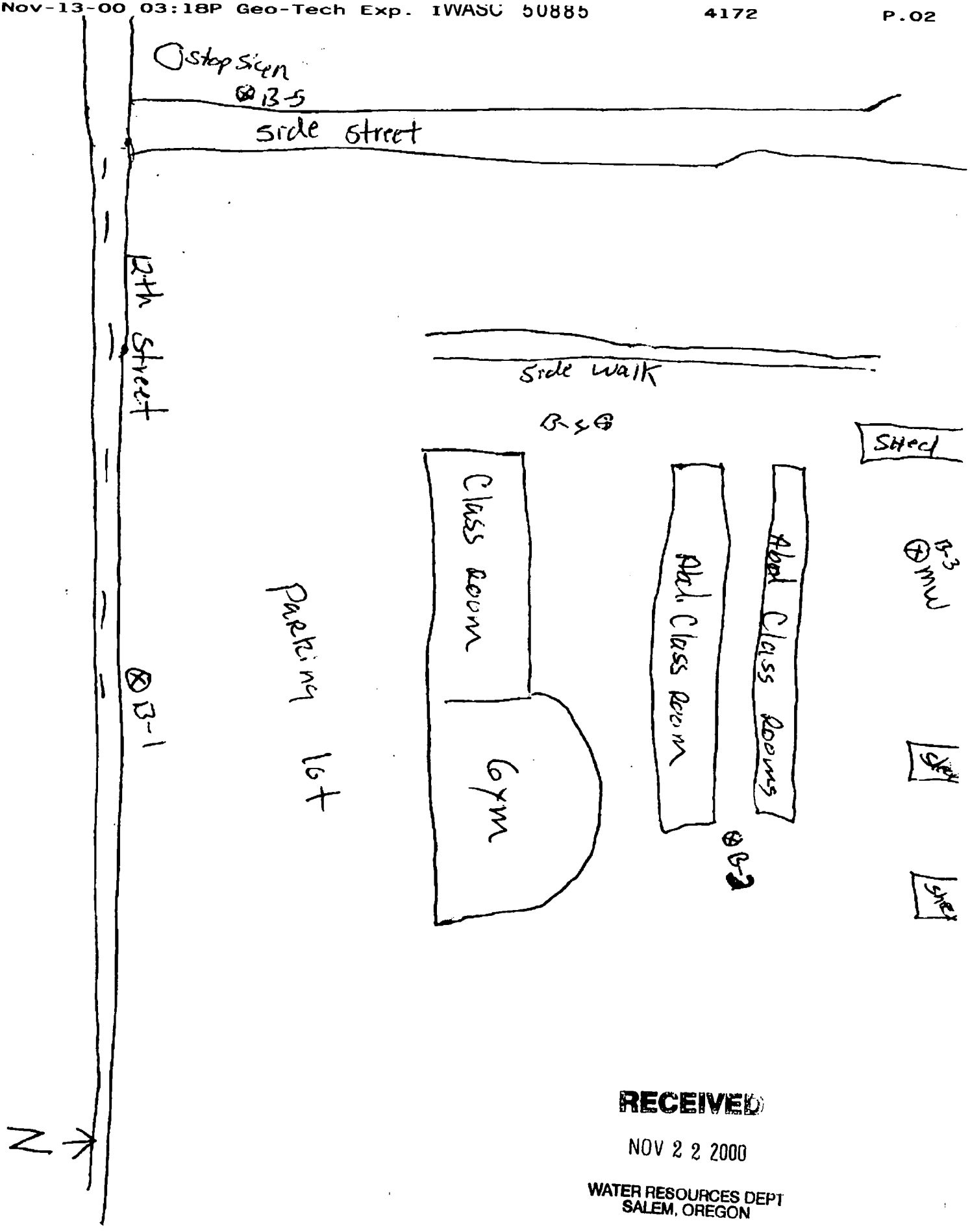

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WATER RESOURCES DEPT
SALEM, OREGON

WASC 50884

STATE OF OREGON
GEOTECHNICAL HOLE REPORT
(as required by OAR 690-240-035)

(1) OWNER/PROJECT: Hole Number B-3
Name The Dalles School District
Address 1400 2nd St
City The Dalles State OR Zip 97058

(2) TYPE OF WORK
[X] New [ ] Deepening [ ] Alteration (repair/recondition) [ ] Abandonment

(3) CONSTRUCTION:
[ ] Rotary Air [ ] Hand Auger [ ] Hollow Stem Auger
[X] Rotary Mud [ ] Cable Tool [ ] Push Probe [ ] Other

(4) TYPE OF HOLE:
[X] Uncased Temporary [ ] Cased Permanent
[ ] Uncased Permanent [ ] Slope Stability [ ] Other

(5) USE OF HOLE:
Soil Sampling

(6) BORE HOLE CONSTRUCTION:
Special Construction approval [ ] Yes [X] No Depth of Completed Hole 25 ft.

HOLE Diameter	From	To	SEAL Material	From	To	Sacks or pounds
4 7/8	0	25	Bent	0	25	4 bags

Backfill placed from ____ ft. to ____ ft. Material ____
Filter Pack placed from ____ ft. to ____ ft. Size of pack ____

(7) CASING/SCREEN:

	Diameter	From	To	Gauge	Steel	Plastic	Welded	Threaded
Casing:					[ ]	[ ]	[ ]	[ ]
					[ ]	[ ]	[ ]	[ ]
			N/A		[ ]	[ ]	[ ]	[ ]
					[ ]	[ ]	[ ]	[ ]
Screen:					[ ]	[ ]	[ ]	[ ]
					[ ]	[ ]	[ ]	[ ]

Slot size ____

(8) WELL TEST:
[ ] Pump [ ] Bailer [ ] Air [ ] Flowing Artesian
Permeability ____ Yield ____ GPM ____
Conductivity ____ PH ____
Temperature of water ____ °F/C Depth artesian flow found ____ ft.
Was water analysis done? [ ] Yes [ ] No
By whom? ____
Depth of strata analyzed. From N/A ft. to ____ ft.
Remarks: ____

(9) LOCATION OF HOLE by legal description:
County Wasco Latitude ____ Longitude ____
Township 1 [O] N or S Range 13 [O] E or W. WM.
Section 10 NE 1/4 NE 1/4
Tax Lot 100 Lot ____ Block ____ Subdivision ____
Street Address of Well (or nearest address) ____
The Dalles Middle School

Map with location indentified must be attached

(10) STATIC WATER LEVEL:
N/A ft. below land surface. Date ____
Artesian pressure ____ lb. per square inch. Date ____

(11) SUBSURFACE LOG:
Ground Elevation ____

Material Description	From	To	SWL
Silty Sandy Gravels	0	15	
Weathered Basalt	15	25	

Date Started 10/25/00 Date Completed 10/25/00

(12) ABANDONMENT LOG:

Material Description	From	To	Sacks or Pounds

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WATER RESOURCES DEPT
SALEM, OREGON

Date started ____ Date Completed ____

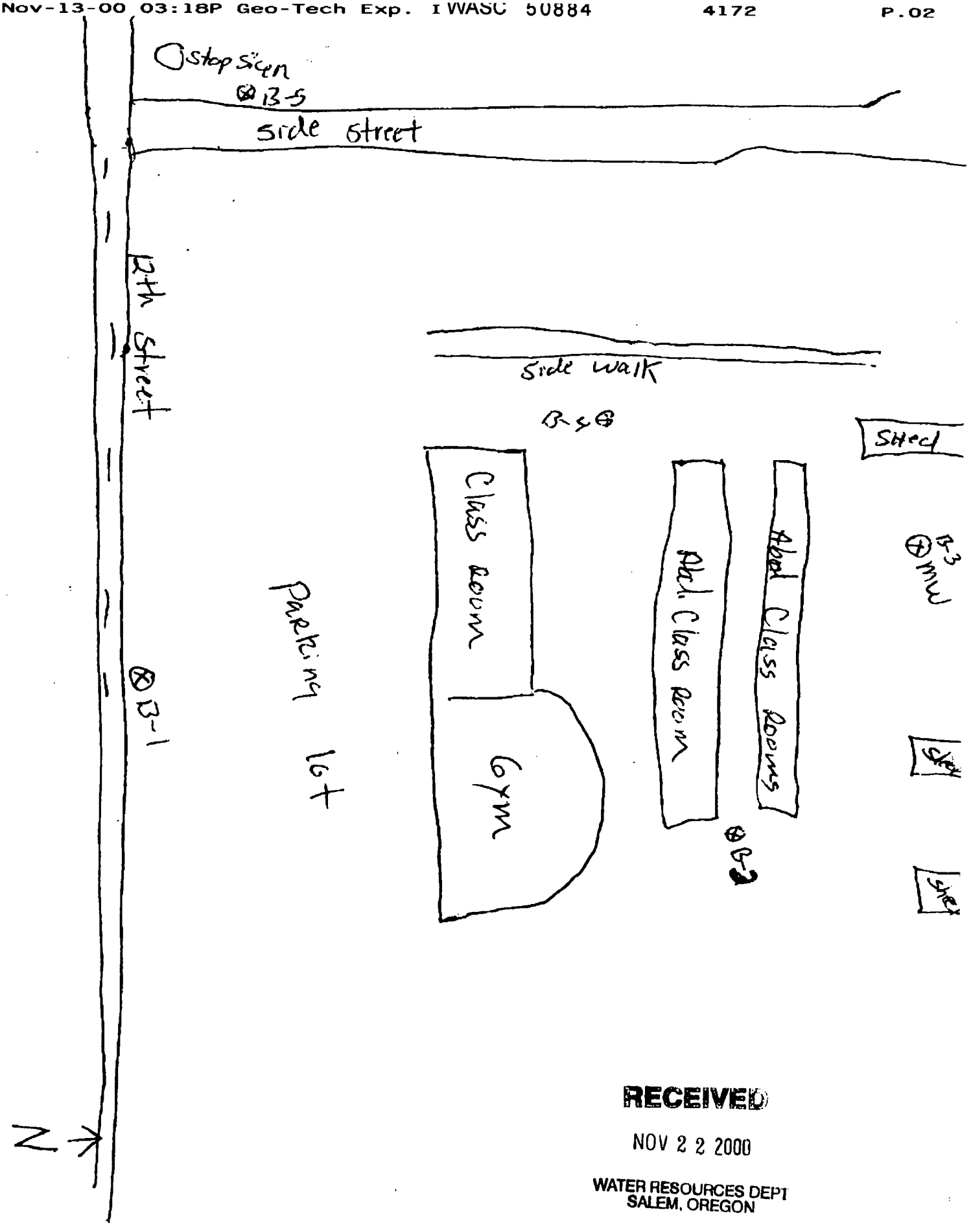
Professional Certification
(to be signed by a licensed water supply or monitoring well constructor, or registered geologist or civil engineer).

I accept responsibility for the construction, alteration, or abandonment work performed during the construction dates reported above. All work performed during this time is in compliance with Oregon's geotechnical hole construction standards. This report is true to the best of my knowledge and belief.

License or Registration Number 1052
Signed Terry Druschman Date 11/21/00
Affiliation Cascade Explorations, Inc.

THIS REPORT MUST BE SUBMITTED TO THE WATER RESOURCES DEPARTMENT WITHIN 30 DAYS OF COMPLETION OF WORK

ORIGINAL & FIRST COPY-WATER RESOURCES DEPARTMENT SECOND COPY-CONSTRUCTOR THIRD COPY-CUSTOMER



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NOV 2 2 2000
WATER RESOURCES DEPT
SALEM, OREGON

STATE OF OREGON

WASC 50883

MONITORING WELL REPORT

(as required by ORS 537.765 & OAR 690-240-095)

L40406

Start Card # 132730

Instructions for completing this report are on the last page of this form.

(1) OWNER/PROJECT:

WELL NO. B-1

Name The Dalles School District

Address West 2nd St

City The Dalles State OR Zip 97058

(2) TYPE OF WORK:

[X] New construction [ ] Alteration (Repair/Recondition)

[ ] Conversion [ ] Deepening [ ] Abandonment

(3) DRILLING METHOD

[ ] Rotary Air [X] Rotary Mud [ ] Cable

[ ] Hollow Stem Auger [ ] Other

(4) BORE HOLE CONSTRUCTION

Special Standards [ ] Yes [X] No

Depth of completed well 25 ft.

Land surface

Vault 0 ft. TO 1 ft.

Seal 1 ft. TO 13 ft.

Filter pack 13 ft. TO 25 ft.

Water-tight cover

Surface flush vault

Locking cap

Casing diameter 4 in.

material PVC

Welded [ ] Threaded [ ] Glued [X]

Liner

diameter ____ in.

material ____

Welded [ ] Threaded [ ] Glued [ ]

Well seal:

Material Bent

Amount 4 bags

Grout weight ____

Borehole diameter 6 in.

Bentonite plug at least 3 ft. thick

Screen

material PVC

interval(s):

From 15 To 25

From ____ To ____

Slot size .010 in.

Filter pack:

Material Sand

Size 10-20 in.

(5) WELL TEST:

[ ] Pump [ ] Bailer [ ] Air [ ] Flowing Artesian

Permeability ____ Yield ____ GPM

Conductivity ____ PH ____

Temperature of water 54 °F/C Depth artesian flow found ____ ft.

Was water analysis done? [X] Yes [ ] No

By whom? ____

Depth of strata to be analyzed. From ____ ft. to ____ ft.

Remarks: ____

Name of supervising Geologist/Engineer ____

(6) LOCATION OF WELL By legal description

Well Location: County Wasco

Township 1 (N or S) Range 13 (E or W) Section 10

1. NE 1/4 of NE 1/4 of above section.

2. **Either** Street address of well location The Dalles Middle School, East 12th

or Tax lot number of well location 00100

3. **ATTACH MAP WITH LOCATION IDENTIFIED. Map shall include approximate scale and north arrow.**

(7) STATIC WATER LEVEL:

15 Ft. below land surface. Date 10/25/00

Artesian Pressure ____ lb/sq. in. Date ____

(8) WATER BEARING ZONES:

Depth at which water was first found 15

From	To	Est. Flow Rate	SWL
15	25		15

(9) WELL LOG:

Ground elevation ____

Material	From	To	SWL
Silty some gravels	0	15	
Gravelly Silty Sand	15	25	15

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NOV 22 2000

WATER RESOURCES DEPT.
SALEM, OREGON

Date started 10/25/00 Completed 10/25/00

(unbonded) Monitor Well Constructor Certification:

I certify that the work I performed on the construction, alteration, or abandonment of this well is in compliance with Oregon well construction standards. Materials used and information reported above are true to the best knowledge and belief.

MWC Number 1045?

Signed [signature] Date 11/21/00

(bonded) Monitor Well Constructor Certification:

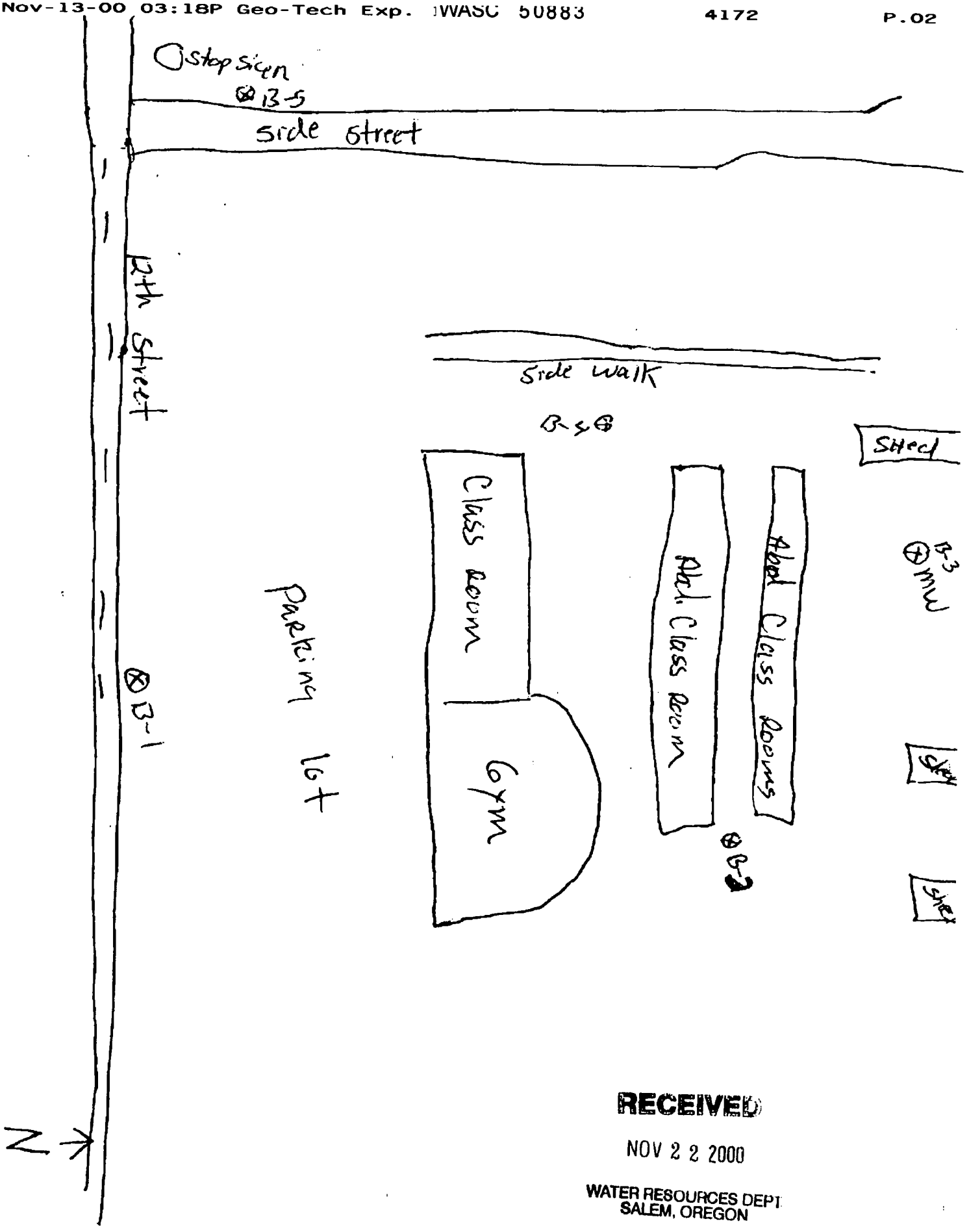
I accept responsibility for the construction, alteration, or abandonment work performed on this well during the construction dates reported above. All work performed during this time is in compliance with Oregon well construction standards. This report is true to the best of my knowledge and belief.

MWC Number 1044?

Signed [signature] Date 11/21/00

ORIGINAL & FIRST COPY-WATER RESOURCES DEPARTMENT

SECOND COPY-CONSTRUCTOR THIRD COPY-CUSTOMER



RECEIVED
NOV 2 2 2000
WATER RESOURCES DEPT
SALEM, OREGON

STATE OF OREGON

WASC 50846

MONITORING WELL REPORT

(as required by ORS 537.765 & OAR 690-240-095)

Start Card # 132441

Instructions for completing this report are on the last page of this form.

(1) OWNER/PROJECT:

WELL NO. 4

Name ODOT

Address 3213 Red Cloud Feiker Way

City The Dalles State OR Zip

(2) TYPE OF WORK:

	New construction		Alteration (Repair/Recondition)
	Conversion		Deepening	X	Abandonment

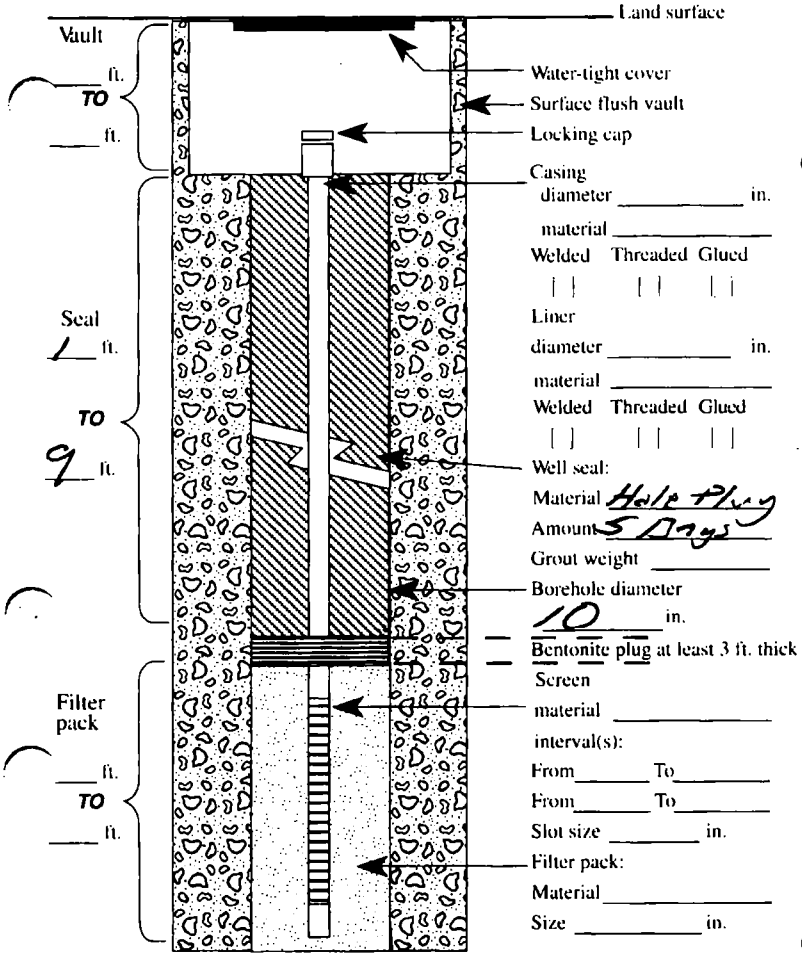
(3) DRILLING METHOD

	Rotary Air		Rotary Mud		Cable
X	Hollow Stem Auger		Other

(4) BORE HOLE CONSTRUCTION

Special Standards | | Yes | | X | No

Depth of completed well 9 ft.



(5) WELL TEST:

| | Pump | | Bailer | | Air | | Flowing Artesian

Permeability Yield GPM

Conductivity PH

Temperature of water 57 °F Depth artesian flow found

Was water analysis done? | | Yes | | No

By whom?

Depth of strata to be analyzed. From ft. to ft.

Remarks:

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WATER RESOURCES DEPT
SALEM, OREGON

Name of supervising Geologist/Engineer

(6) LOCATION OF WELL By legal description

Well Location: County Wasco

Township 1 (N or S) Range 13 (E or W) Section 4

1. NW 1/4 of NW 1/4 of above section.

2. **Either** Street address of well location 3rd & Lincoln

or Tax lot number of well location 0030

3. ATTACH MAP WITH LOCATION IDENTIFIED. Map shall include approximate scale and north arrow.

(7) STATIC WATER LEVEL:

Ft. below land surface. Date

Artesian Pressure lb/sq. in. Date

(8) WATER BEARING ZONES:

Depth at which water was first found

From	To	Est. Flow Rate	SWL

(9) WELL LOG:

Ground elevation

Material	From	To	SWL
Abandonment			

Date started 7/31/00 Completed 7/31/00

(unbonded) Monitor Well Constructor Certification:

I certify that the work I performed on the construction, alteration, or abandonment of this well is in compliance with Oregon well construction standards. Materials used and information reported above are true to the best knowledge and belief.

MWC Number 0348

Signed Date 8/4/00

(bonded) Monitor Well Constructor Certification:

I accept responsibility for the construction, alteration, or abandonment work performed on this well during the construction dates reported above. All work performed during this time is in compliance with Oregon well construction standards. This report is true to the best of my knowledge and belief.

MWC Number 1042

Signed Date 8/18/00

ORIGINAL & FIRST COPY-WATER RESOURCES DEPARTMENT SECOND COPY-CONSTRUCTOR THIRD COPY-CUSTOMER

WASC 50846

WATER RESOURCES DEPT
SALEM, OREGON

AUG 2 1 2000

RECEIVED

SITE MAP

STATE OF OREGON

WASC 50845

MONITORING WELL REPORT

(as required by ORS 537.765 & OAR 690-240-095)

Start Card # 132490

Instructions for completing this report are on the last page of this form.

(1) OWNER/PROJECT:

WELL NO. 3

Name ODOT

Address 3313 Bret Clodfelter Hwy

City The Dalles State OR Zip

(2) TYPE OF WORK:

	New construction		Alteration (Repair/Recondition)
	Conversion		Deepening	X	Abandonment

(3) DRILLING METHOD

	Rotary Air		Rotary Mud		Cable
X	Hollow Stem Auger		Other		

(4) BORE HOLE CONSTRUCTION

Special Standards | | Yes | | X | No

Depth of completed well 8.5 ft.

Land surface

Vault ___ ft. TO ___ ft.

Water-tight cover

Surface flush vault

Locking cap

Casing diameter ___ in.

material ___

Welded | | Threaded | | Glued | |

Liner

diameter ___ in.

material ___

Welded | | Threaded | | Glued | |

Seal 1 ft. TO 8.5 ft.

Well seal:

Material Hole Plug

Amount 5 - 13 kgs

Grout weight ___

Borehole diameter 10 in.

Bentonite plug at least 3 ft. thick

Screen

material ___

interval(s):

From ___ To ___

From ___ To ___

Slot size ___ in.

Filter pack: Filter pack ___ ft. TO ___ ft.

Material ___

Size ___ in.

(5) WELL TEST:

| | Pump | | Bailer | | Air | | Flowing Artesian

Permeability ___ Yield ___ GPM

Conductivity ___ PH ___

Temperature of water 57 °F/C Depth artesian flow found ___ ft.

Was water analysis done? | | Yes | | No

By whom? ___

Depth of strata to be analyzed. From ___ ft. to ___ ft.

Remarks: ___

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AUG 21 2000

WATER RESOURCES DEPT
SALEM, OREGON

Name of supervising Geologist/Engineer ___

(6) LOCATION OF WELL By legal description

Well Location: County Wasco

Township 1 (N or S) Range 13 (E or W) Section 4

1. NW 1/4 of NW 1/4 of above section.

2. Either Street address of well location 3rd & Lincoln

or Tax lot number of well location 00800

3. ATTACH MAP WITH LOCATION IDENTIFIED. Map shall include approximate scale and north arrow.

(7) STATIC WATER LEVEL:

___ Ft. below land surface. Date ___

Artesian Pressure ___ lb/sq. in. Date ___

(8) WATER BEARING ZONES:

Depth at which water was first found ___

From	To	Est. Flow Rate	SWL

(9) WELL LOG:

Ground elevation ___

Material	From	To	SWL
Abandonment			

Date started 7/31/00 Completed 7/31/00

(unbonded) Monitor Well Constructor Certification:

I certify that the work I performed on the construction, alteration, or abandonment of this well is in compliance with Oregon well construction standards. Materials used and information reported above are true to the best knowledge and belief.

MWC Number 10226

Signed ___ Date 8/2/00

(bonded) Monitor Well Constructor Certification:

I accept responsibility for the construction, alteration, or abandonment work performed on this well during the construction dates reported above. All work performed during this time is in compliance with Oregon well construction standards. This report is true to the best of my knowledge and belief.

MWC Number 10442

Signed ___ Date 8/16/00

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WASC 50845

WATER RESOURCES DEPT
SALEM, OREGON

AUG 2 1 2000

RECEIVED

SITE MAP

STATE OF OREGON

WASC 50844

MONITORING WELL REPORT

(as required by ORS 537.765 & OAR 690-240-095)

Start Card # 132438

Instructions for completing this report are on the last page of this form.

(1) OWNER/PROJECT: WELL NO. 1

Name ODOT

Address 3313 Bret Clodfelter Way

City The Dalles State OR Zip

(2) TYPE OF WORK:

	New construction		Alteration (Repair/Recondition)
	Conversion		Deepening	X	Abandonment

(3) DRILLING METHOD

	Rotary Air		Rotary Mud		Cable
X	Hollow Stem Auger		Other		

(4) BORE HOLE CONSTRUCTION

Special Standards Yes ( ) No (X) Depth of completed well 15 ft.

Land surface

Vault ___ ft. TO ___ ft.

Water-tight cover

Surface flush vault

Locking cap

Casing diameter ___ in.

material ___

Welded ( ) Threaded ( ) Glued ( )

Liner diameter ___ in.

material ___

Welded ( ) Threaded ( ) Glued ( )

Seal 1 ft. TO 15 ft.

Well seal: Material Holc Plug Amount 10 Bags

Grout weight ___

Borehole diameter 10 in.

Bentonite plug at least 3 ft. thick

Filter pack ___ ft. TO ___ ft.

Screen material ___

interval(s): From ___ To ___ From ___ To ___

Slot size ___ in.

Filter pack: Material ___ Size ___ in.

(5) WELL TEST:

( ) Pump ( ) Bailer ( ) Air ( ) Flowing Artesian

Permeability ___ Yield ___ GPM

Conductivity ___ PH ___

Temperature of water 57 °F Depth artesian flow found ___ ft.

Was water analysis done? ( ) Yes ( ) No

By whom? ___

Depth of strata to be analyzed. From ___ ft. to ___ ft.

Remarks: ___

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WATER RESOURCES DEPT
SALEM, OREGON

Name of supervising Geologist/Engineer ___

(6) LOCATION OF WELL By legal description

Well Location: County Wasco

Township 1 (N) or S) Range 13 (E) or W) Section 4

1. NW 1/4 of NW 1/4 of above section.

2. **Either** Street address of well location 3rd St & Lincoln

or Tax lot number of well location 03200

3. ATTACH MAP WITH LOCATION IDENTIFIED. Map shall include approximate scale and north arrow.

(7) STATIC WATER LEVEL:

___ Ft. below land surface. Date ___

Artesian Pressure ___ lb/sq. in. Date ___

(8) WATER BEARING ZONES:

Depth at which water was first found ___

From	To	Est. Flow Rate	SWL

(9) WELL LOG: Ground elevation ___

Material	From	To	SWL

Date started 7/31/00 Completed 7/31/00

(unbonded) Monitor Well Constructor Certification:

I certify that the work I performed on the construction, alteration, or abandonment of this well is in compliance with Oregon well construction standards. Materials used and information reported above are true to the best knowledge and belief.

Signed [signature] MWC Number 1022

Date 8/3/00

(bonded) Monitor Well Constructor Certification:

I accept responsibility for the construction, alteration, or abandonment work performed on this well during the construction dates reported above. All work performed during this time is in compliance with Oregon well construction standards. This report is true to the best of my knowledge and belief.

Signed [signature] MWC Number 1046

Date 8/18/00

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WASC 50844

WATER RESOURCES DEPT
SALEM, OREGON
AUG 21 2000
RECEIVED

SITE MAP

STATE OF OREGON

WASC 50843

MONITORING WELL REPORT

(as required by ORS 537.765 & OAR 690-240-095)

Instructions for completing this report are on the last page of this form.

Start Card # 132439

(1) OWNER/PROJECT:

WELL NO. 2

Name ODOT

Address 3313 Bret Cloud Felton Way

City The Dalles State OR Zip

(2) TYPE OF WORK:

[ ] New construction [ ] Alteration (Repair/Recondition)

[ ] Conversion [ ] Deepening [X] Abandonment

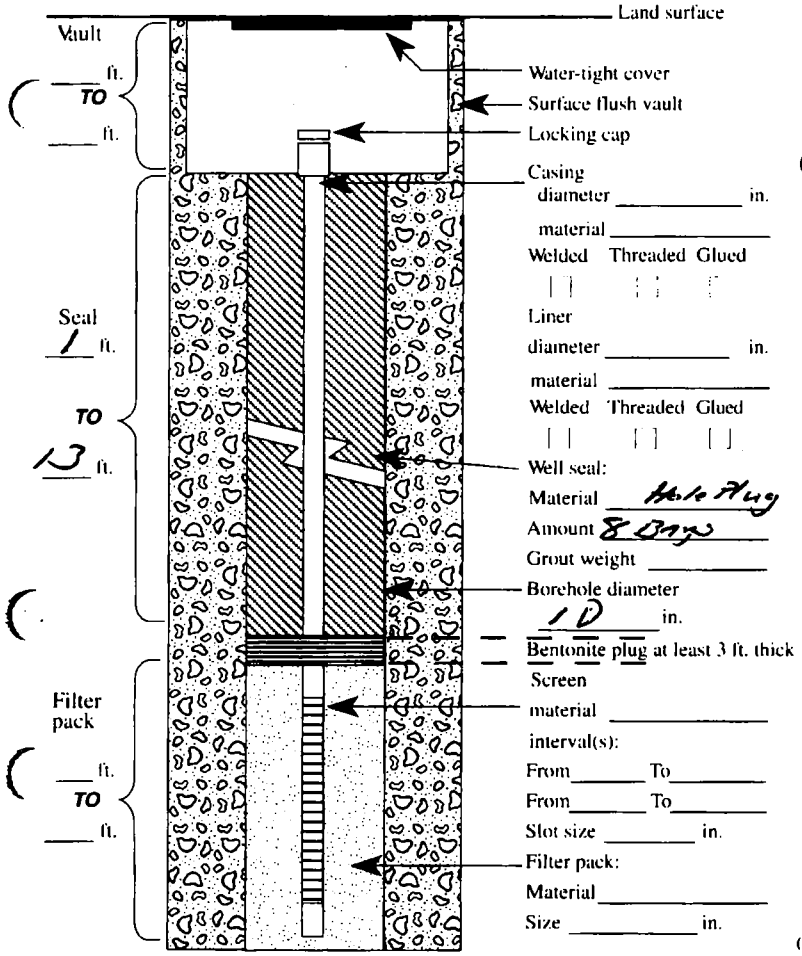
(3) DRILLING METHOD

[ ] Rotary Air [ ] Rotary Mud [ ] Cable

[X] Hollow Stem Auger [ ] Other

(4) BORE HOLE CONSTRUCTION

Special Standards Yes [ ] No [X] Depth of completed well 13 ft.



(5) WELL TEST:

[ ] Pump [ ] Bailer [ ] Air [ ] Flowing Artesian

Permeability Yield GPM

Conductivity PH

Temperature of water 57 °F/C Depth artesian flow found ft.

Was water analysis done? [ ] Yes [ ] No

By whom?

Depth of strata to be analyzed. From ft. to ft.

Remarks:

Name of supervising Geologist/Engineer

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WATER RESOURCES DEPT.

SALEM, OREGON

(6) LOCATION OF WELL By legal description

Well Location: County Wasco

Township 1 (N or S) Range 13 (E or W) Section 4

1. NW 1/4 of NW 1/4 of above section.

2. Either Street address of well location

3rd St + Lincoln St

or Tax lot number of well location 00300

3. ATTACH MAP WITH LOCATION IDENTIFIED. Map shall include approximate scale and north arrow.

(7) STATIC WATER LEVEL:

Ft. below land surface. Date

Artesian Pressure lb/sq. in. Date

(8) WATER BEARING ZONES:

Depth at which water was first found

From	To	Est. Flow Rate	SWL

(9) WELL LOG:

Ground elevation

Material	From	To	SWL
Abandonment			

Date started 7/31/00 Completed 7/31/00

(unbonded) Monitor Well Constructor Certification:

I certify that the work I performed on the construction, alteration, or abandonment of this well is in compliance with Oregon well construction standards. Materials used and information reported above are true to the best knowledge and belief.

MWC Number 10328

Signed [signature] Date 8/2/00

(bonded) Monitor Well Constructor Certification:

I accept responsibility for the construction, alteration, or abandonment work performed on this well during the construction dates reported above. All work performed during this time is in compliance with Oregon well construction standards. This report is true to the best of my knowledge and belief.

MWC Number 10442

Signed [signature] Date 8/18/00

ORIGINAL & FIRST COPY-WATER RESOURCES DEPARTMENT SECOND COPY-CONSTRUCTOR THIRD COPY-CUSTOMER

WASC 50843

WATER RESOURCES DEPT
SALEM, OREGON
AUG 2 1 2000
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SITE MAP

STATE OF OREGON

MONITORING WELL REPORT

WASC 50789

Received Date 11/17/1999
Well ID Tag# L 37908
Start Card # 124872

(as required by ORS 537.765 & OAR 690-240-095) Instructions for completing this report are on the last page of this form.

(1) OWNER/PROJECT

Well No.

(b) (6)

(2) TYPE OF WORK

☒ New Construction ☐ Alter (Recondition) ☐ Alter (Repair)
☐ Conversion ☐ Deepening ☐ Abandonment

(3) DRILLING METHOD

☐ Rotary Air ☐ Rotary Mud ☐ Cable
☒ Hollow Stem Auger Other *****

(4) BORE HOLE CONSTRUCTION

Special Standards ☐ Depth of completed well 18 ft.

Diameter	From	To
10.00	0.00	18

Material	Begin Depth	End Depth	Material Amount	Units
Concrete	0.00	1.00	2.00	S
Bentonite	1.00	6.00	4.00	S

Vault
0 ft.
TO
1 ft.

Casing Diameter Liner ☐

Monument
ft.
TO
ft.

Casing or Liner	Diameter	Begin Depth	End Depth	Gauge	Material	Construction Weld	Construction Threaded	Location Of Shoe
C	2.00				Plastic	■	■	

Seal
ft.
TO
ft.

From	To	Material	Amount	Seal Grout Weight	Units
0.00	1.00	Concrete	2.00		S
1.00	6.00	Bentonite	4.00		S

Filter Pack Screen ☐
6 ft.
TO
18 ft.

Filter Pack
Material SA
Size 20.00 in.

(5) WELL TEST

Permeability Yield
Conductivity PH
Temperature of water 55 °F/C Depth artesian flow found ft.
Was water analysis done? ☒
By Whom? ENVIROLOGIC
Depth of strata to be analyzed. From ft. to ft.
Remarks

Name of supervising Geologist/Engineer

(6) LOCATION OF WELL By legal description

County
Township 1.00 N Range 13.00 E Section 3
1. SE 1/4 of NW 1/4 of above section.
Legal Desc:

2. Either Street address of well location
102 E 2ND ST
or Tax lot number of well location 100
3. ATTACH MAP WITH LOCATION IDENTIFIED. Map shall include approximate scale and north arrow.

(7) STATIC WATER LEVEL

15.0 Ft. below land surface. Date 10/26/1999
Artesian Pressure lb/sq. in. Date

(8) WATER BEARING ZONES

Depth at which water was first found 15 ft.

From	To	Est. Flow Rate	SWL
15	18		15

(9) WELL LOG

Ground elevation ft.

Material	From	To	SWL
FILL MATERIALS	0	3	
GRAVEL SANDS	3	8	
GRAVELS COBBLES	8	18	15

Date started 10/26/1999 Completed 10/26/1999

(unbonded) Monitor Well Constructor Certification:

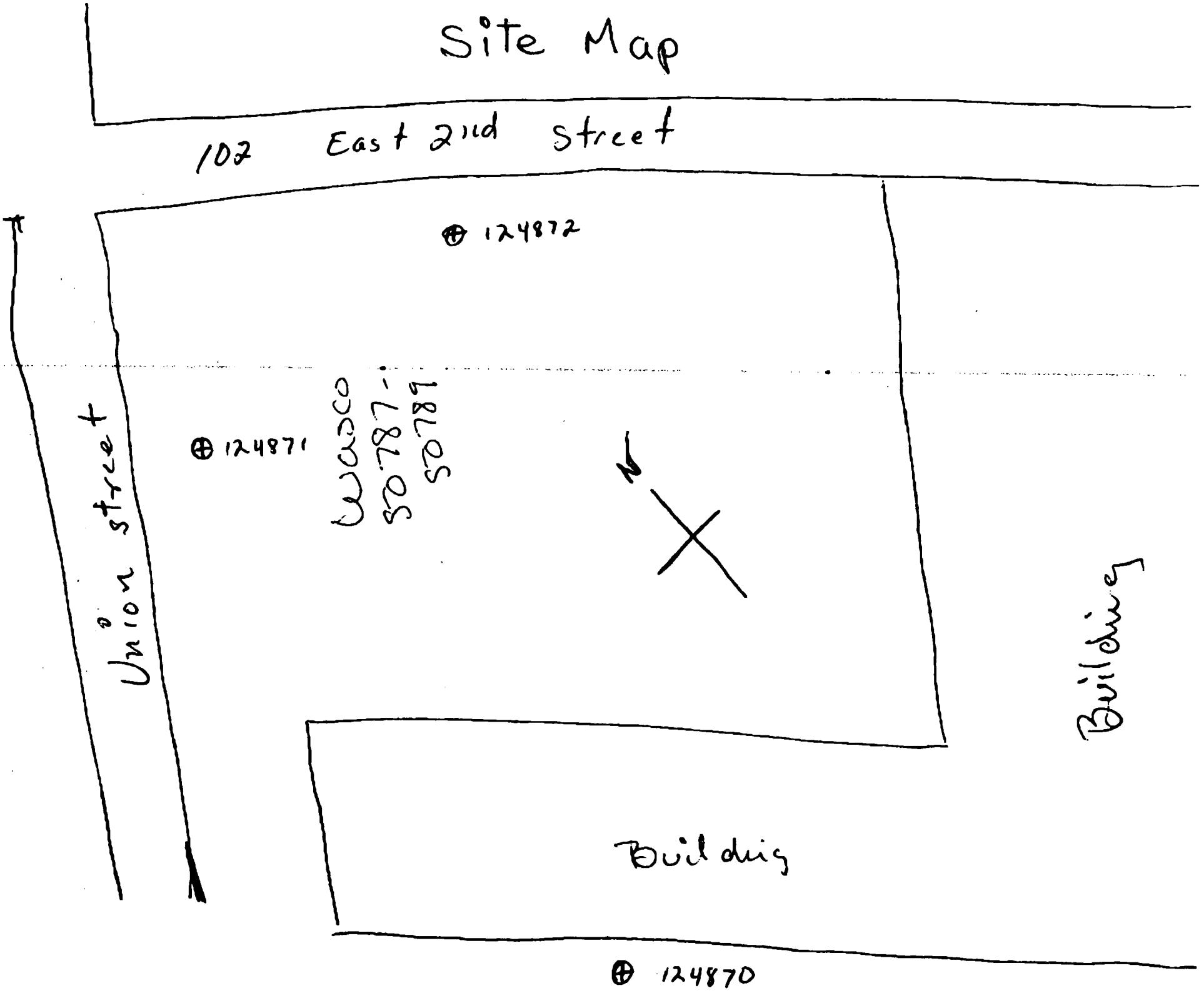
I certify that the work I performed on the construction, alteration, or abandonment of this well is in compliance with Oregon well construction standards. Materials used and information reported above are true to the best knowledge and belief.

MWC Number 10440
Signed By ARMANDO PABLO Date

(bonded) Monitor Well Constructor Certification:

I accept responsibility for the construction, alteration, or abandonment work performed on this well during the construction dates reported above. All work performed during this time is in compliance with Oregon well construction standards. This report is true to the best of my knowledge and belief.

MWC Number 10011
Signed By GREG MCINNIS Date


Site Map
102 East 2nd Street
124872
124871
Wasco
50787-
50789
Union street
Building
Building
124870

STATE OF OREGON

MONITORING WELL REPORT

WASC 50788

Received Date 11/17/1999
Well ID Tag# L 37907
Start Card # 124871

(as required by ORS 537.765 & OAR 690-240-095) Instructions for completing this report are on the last page of this form.

(1) OWNER/PROJECT

Well No.
Co. Job No. 1410

(b) (6)

(2) TYPE OF WORK

☒ New Construction ☐ Alter (Recondition) ☐ Alter (Repair)
☐ Conversion ☐ Deepening ☐ Abandonment

(3) DRILLING METHOD

☐ Rotary Air ☐ Rotary Mud ☐ Cable
☒ Hollow Stem Auger Other *****

(4) BORE HOLE CONSTRUCTION

Special Standards ☐ Depth of completed well 19 ft.

Diameter	From	To
10.00	0.00	19

Material	Begin Depth	End Depth	Material Amount	Units
Concrete	0.00	1.00	2.00	S
Bentonite	1.00	7.00	5.00	S

Vault
0 ft.
Casing Diameter
1 TO
ft.
Liner ☐

Monument
ft.
TO
ft.

Casing or Liner	Diameter	Begin Depth	End Depth	Gauge	Material	Construction Weld	Construction Threaded	Location Of Shoe
C	2.00				Plastic	■	■	

Seal
ft.
TO
ft.

From	To	Material	Amount	Seal Grout Weight	Units
0.00	1.00	Concrete	2.00		S
1.00	7.00	Bentonite	5.00		S

Filter Pack
7 ft.
Screen ☐
TO
19 ft.

Diameter	From	To	Gauge	Material	Type	Slot Size
	9	19		PL		.010

Filter Pack
Material SA
Size 20.00 in.

(5) WELL TEST

Permeability Yield
Conductivity PH
Temperature of water 55 °F/C Depth artesian flow found ft.
Was water analysis done? ☒
By Whom? ENVIROLOGIC
Depth of strata to be analyzed. From ft. to ft.
Remarks

Name of supervising Geologist/Engineer

(6) LOCATION OF WELL By legal description

County
Township 1.00 N Range 13.00 E Section 3
1. SE 1/4 of NW 1/4 of above section.
Legal Desc:

2. Either Street address of well location
102 E 2ND ST
or Tax lot number of well location 100
3. ATTACH MAP WITH LOCATION IDENTIFIED. Map shall include approximate scale and north arrow.

(7) STATIC WATER LEVEL

15.0 Ft. below land surface. Date 10/26/1999
Artesian Pressure lb/sq. in. Date

(8) WATER BEARING ZONES

Depth at which water was first found 15 ft.

From	To	Est. Flow Rate	SWL
15	19		15

(9) WELL LOG

Ground elevation ft.

Material	From	To	SWL
FILL MATERIALS	0	3	
GRAVELS	3	8	
GRAVELS COBBLES	8	19	15

Date started 10/26/1999 Completed 10/26/1999

(unbonded) Monitor Well Constructor Certification:

I certify that the work I performed on the construction, alteration, or abandonment of this well is in compliance with Oregon well construction standards. Materials used and information reported above are true to the best knowledge and belief.

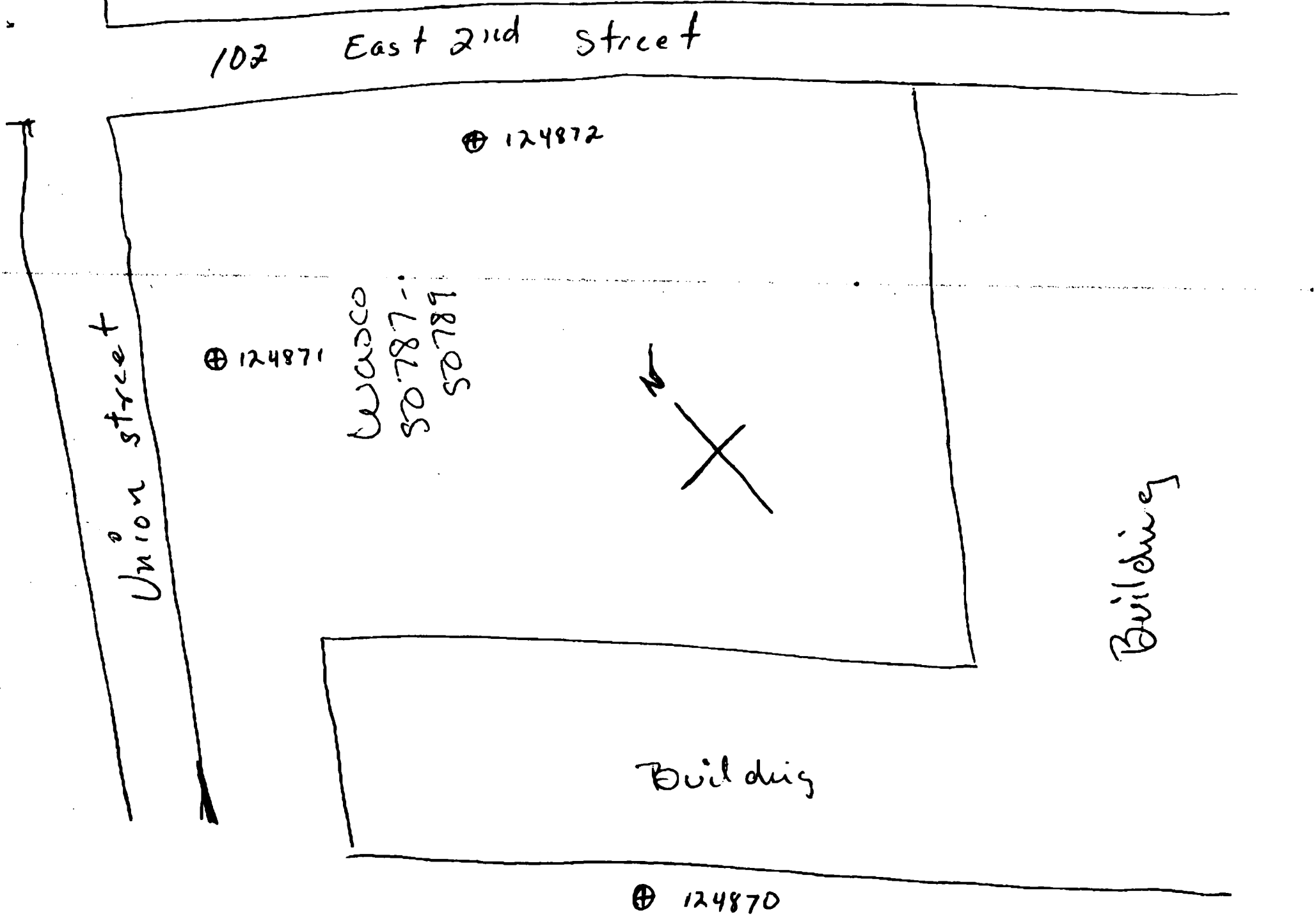
MWC Number 10440
Signed By ARMANDO PABLO Date

(bonded) Monitor Well Constructor Certification:

I accept responsibility for the construction, alteration, or abandonment work performed on this well during the construction dates reported above. All work performed during this time is in compliance with Oregon well construction standards. This report is true to the best of my knowledge and belief.

MWC Number 10011
Signed By GREG MCINNIS Date

Site Map



102 East 2nd Street
124872
124871
Wasco
50787-
50789
Union street
Building
Building
124870

STATE OF OREGON

MONITORING WELL REPORT

WASC 50787

Received Date 11/17/1999
Well ID Tag# L 37906
Start Card # 124870

(as required by ORS 537.765 & OAR 690-240-095) Instructions for completing this report are on the last page of this form.

(1) OWNER/PROJECT

Well No.

(b) (6)

(2) TYPE OF WORK

☒ New Construction ☐ Alter (Recondition) ☐ Alter (Repair)
☐ Conversion ☐ Deepening ☐ Abandonment

(3) DRILLING METHOD

☐ Rotary Air ☐ Rotary Mud ☐ Cable
☒ Hollow Stem Auger Other *****

(4) BORE HOLE CONSTRUCTION

Special Standards ☐ Depth of completed well 19 ft.

Diameter	From	To
10.00	0.00	19

Material	Begin Depth	End Depth	Material Amount	Units
Concrete	0.00	1.00	2.00	S
Bentonite	1.00	7.00	5.00	S

Vault
0 ft.
1 TO ft.
Casing Diameter
Liner ☐

Monument

Casing or Liner	Diameter	Begin Depth	End Depth	Gauge	Material	Construction Welded	Construction Threaded	Location Of Shoe
C	2.00				Plastic	■	■	

ft. TO ft.

Seal

ft. TO ft.

From	To	Material	Amount	Seal Grout Weight	Units
0.00	1.00	Concrete	2.00		S
1.00	7.00	Bentonite	5.00		S

Filter Pack 7 ft. TO 19 ft.
Screen ☐

Diameter	From	To	Gauge	Material	Type	Slot Size
	9	19		PL		.010

Filter Pack
Material SA
Size 20.00 in.

(5) WELL TEST

Permeability Yield
Conductivity PH
Temperature of water 55 °F/C Depth artesian flow found ft.
Was water analysis done? ☒
By Whom? ENVIROLOGIC
Depth of strata to be analyzed. From ft. to ft.
Remarks

Name of supervising Geologist/Engineer

(6) LOCATION OF WELL By legal description

County
Township 1.00 N Range 13.00 E Section 3
1. SE 1/4 of NW 1/4 of above section.
Legal Desc:

2. Either Street address of well location
102 E 2ND ST
or Tax lot number of well location 100
3. ATTACH MAP WITH LOCATION IDENTIFIED. Map shall include approximate scale and north arrow.

(7) STATIC WATER LEVEL

15.0 Ft. below land surface. Date 10/26/1999
Artesian Pressure lb/sq. in. Date

(8) WATER BEARING ZONES

Depth at which water was first found 15 ft.

From	To	Est. Flow Rate	SWL
15	19		15

(9) WELL LOG

Ground elevation ft.

Material	From	To	SWL
FILL MATERIALS	0	3	
GRAVELS	3	8	
GRAVELS COBBLES	8	19	15

Date started 10/26/1999 Completed 10/26/1999

(unbonded) Monitor Well Constructor Certification:

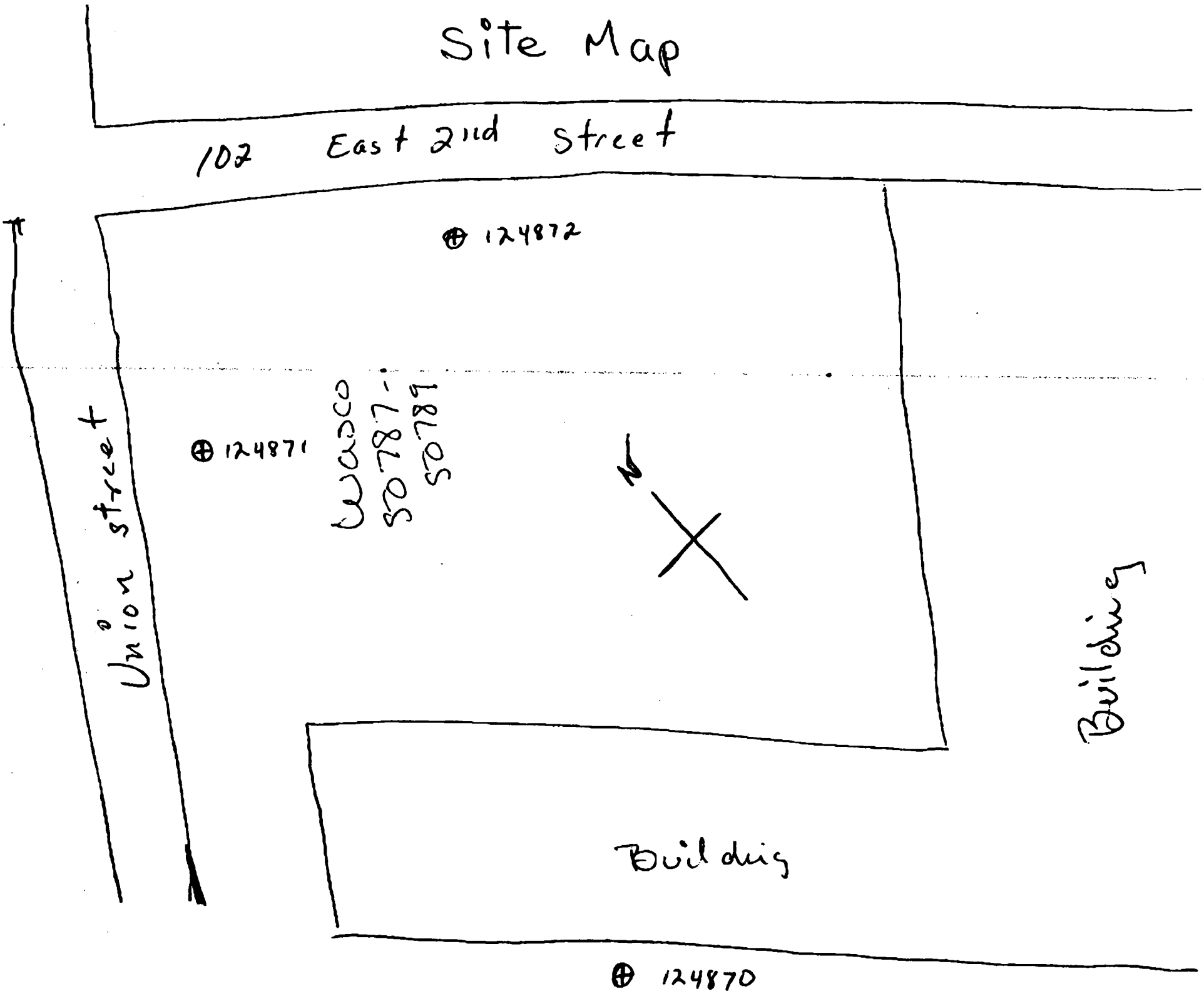
I certify that the work I performed on the construction, alteration, or abandonment of this well is in compliance with Oregon well construction standards. Materials used and information reported above are true to the best knowledge and belief.

MWC Number 10440
Signed By ARMANDO PABLO Date

(bonded) Monitor Well Constructor Certification:

I accept responsibility for the construction, alteration, or abandonment work performed on this well during the construction dates reported above. All work performed during this time is in compliance with Oregon well construction standards. This report is true to the best of my knowledge and belief.

MWC Number 10011
Signed By GREG MCINNIS Date


Site Map
102 East 2nd Street
124872
124871
Union street
Wasco
SO787-
SO789
Building
Building
124870

STATE OF OREGON
GEOTECHNICAL HOLE REPORT
(as required by OAR 690-240-035)

WASC 50785

RECEIVED
NOV 09 1999
WATER RESOURCES DEPT.
SALEM, OREGON

(1) OWNER/PROJECT: Hole Number SI-2
Name City of The Dalles, Public Works Dept.
Address 1900 W. 6th Street
City The Dalles State OR Zip 97058

(2) TYPE OF WORK
☐ New ☐ Deepening ☐ Alteration (repair/recondition) ☒ Abandonment

(3) CONSTRUCTION:
☐ Rotary Air ☐ Hand Auger ☐ Hollow Stem Auger
☒ Rotary Mud ☐ Cable Tool ☐ Push Probe ☐ Other

(4) TYPE OF HOLE:
☐ Uncased Temporary ☐ Cased Permanent
☐ Uncased Permanent ☒ Slope Stability ☐ Other

(5) USE OF HOLE: Inclinometer installation

(6) BORE HOLE CONSTRUCTION:
Special Construction approval ☐ Yes ☒ No Depth of Completed Hole 102 ft.

HOLE			SEAL			
Diameter	From	To	Material	From	To	Sacks or pounds

Backfill placed from ____ ft. to ____ ft. Material ____
Filter Pack placed from ____ ft. to ____ ft. Size of pack ____

(7) CASING/SCREEN:

	Diameter	From	To	Gauge	Steel	Plastic	Welded	Threaded
Casing:	2.75" OD	0	102'		☐	☒	☐	☐
	2.32" ID				☐	☐	☐	☐
Screen:	N/A				☐	☐	☐	☐

Slot size ____

(8) WELL TEST:
☐ Pump ☐ Bailer ☐ Air ☐ Flowing Artesian
Permeability ____ Yield ____ GPM ____
Conductivity ____ PH ____
Temperature of water ____ °F/C Depth artesian flow found ____ ft.
Was water analysis done? ☐ Yes ☒ No
By whom? ____
Depth of strata analyzed. From ____ ft. to ____ ft.
Remarks: ____

(9) LOCATION OF HOLE by legal description
County Wasco Latitude ____ Longitude ____
Township 1N N or S Range 13E E or W. WM.
Section 4 SE 1/4 SE 1/4
Tax Lot ____ Lot ____ Block ____ Subdivision ____
Street Address of Well (or nearest address) E. 14th St @ Union St.

Map with location identified must be attached

(10) STATIC WATER LEVEL:
42.08 ft. below land surface. Date 10/28/99
Artesian pressure ____ lb. per square inch. Date ____

(11) SUBSURFACE LOG:
Ground Elevation 328

Material Description	From	To	SWL

Date Started ____ Date Completed ____

(12) ABANDONMENT LOG:

Material Description	From	To	Sacks or Pounds
Bentonite Chips	0	102	3.75/180#

Date started 10/28/99 Date Completed 10/28/99

Professional Certification
(to be signed by a licensed water supply or monitoring well constructor, or registered geologist or civil engineer).

I accept responsibility for the construction, alteration, or abandonment work performed on during the construction dates reported above. All work performed during this time is in compliance with Oregon geotechnical hole construction standards. This report is true to the best of my knowledge and belief.

License or Registration Number E883
Signed ____ Date 11/1/99
Kim E. Elliott
Affiliation Fujitani Hilts & Associates, Inc.

THIS REPORT MUST BE SUBMITTED TO THE WATER RESOURCES DEPARTMENT WITHIN 30 DAYS OF COMPLETION OF WORK

ORIGINAL & FIRST COPY-WATER RESOURCES DEPARTMENT SECOND COPY-CONSTRUCTOR THIRD COPY-CUSTOMER

RECEIVED
NOV 09 1999
WATER RESOURCES DEPT.
SALEM, OREGON

Scale: 1/8 in = 8 ft

LEGEND

Slope Inclinometer Location

14th Street Reservoir
The Dalles Fire Department

EXPLORATION LOCATION PLAN

June 1994

F-2597-02

FUJITANI HILTS & ASSOCIATES
Geotechnical Consultants
Portland, Oregon

FIG.1

STATE OF OREGON

MONITORING WELL REPORT

WASC 50782

Received Date 10/28/1999
Well ID Tag# L 33640
Start Card # 124785

(as required by ORS 537.765 & OAR 690-240-095) Instructions for completing this report are on the last page of this form.

(1) OWNER/PROJECT

Well No.
Co Job No. MW-2

Name OREGON DEPARTMENT OF TRANSPORTATION
Street 3313 BRET CLODFELTER WAY
City THE DALLES State OR Zip 97058

(2) TYPE OF WORK

☒ New Construction ☐ Alter (Recondition) ☐ Alter (Repair)
☐ Conversion ☐ Deepening ☐ Abandonment

(3) DRILLING METHOD

☐ Rotary Air ☐ Rotary Mud ☐ Cable
☒ Hollow Stem Auger Other *****

(4) BORE HOLE CONSTRUCTION

Special Standards ☐ Depth of completed well 10 ft.

Diameter	From	To
10.00	0.00	10

Material	Begin Depth	End Depth	Material Amount	Units
Concrete	0.00	1.00	2.00	S
Bentonite	1.00	4.00	2.00	S

Vault
0 ft. TO 1 ft. Casing Diameter Liner ☐

Monument
ft. TO ft.

Casing or Liner	Diameter	Begin Depth	End Depth	Gauge	Material	Construction Weld	Construction Threaded	Location Of Shoe
C	2.00				Plastic	■	■	

Seal
ft. TO ft.

From	To	Material	Amount	Seal Grout Weight	Units
0.00	1.00	Concrete	2.00		S
1.00	4.00	Bentonite	2.00		S

Filter Pack 4 ft. TO 10 ft. Screen ☐

Diameter	From	To	Gauge	Material	Type	Slot Size
	5	10		PL		.010

Filter Pack Material SA Size 20.00 in.

(5) WELL TEST

Permeability Yield
Conductivity PH
Temperature of water °F/C Depth artesian flow found ft.
Was water analysis done? ☐
By Whom?
Depth of strata to be analyzed. From ft. to ft.
Remarks DRY WELL, NO WATER WAS FOUND DURING THE DRILLING

Name of supervising Geologist/Engineer

(6) LOCATION OF WELL By legal description

County
Township 1.00 N Range 13.00 E Section 4
1. NW 1/4 of NE 1/4 of above section.
Legal Desc:
DRY HOLE, NO WATER WAS FOUND DURING THE DRILLING
2. Either Street address of well location
3RD ST AND LINCOLN ST
or Tax lot number of well location 300
3. ATTACH MAP WITH LOCATION IDENTIFIED. Map shall include approximate scale and north arrow.

(7) STATIC WATER LEVEL

Ft. below land surface. Date
Artesian Pressure lb/sq. in. Date

(8) WATER BEARING ZONES

Depth at which water was first found ft.

(9) WELL LOG

Ground elevation ft.

Material	From	To	SWL
GRAVELS AND COBBLES	0	10	

Date started 10/05/1999 Completed 10/05/1999

(unbonded) Monitor Well Constructor Certification:

I certify that the work I performed on the construction, alteration, or abandonment of this well is in compliance with Oregon well construction standards. Materials used and information reported above are true to the best knowledge and belief.

MWC Number 10440
Signed By ARMANDO PABLO Date

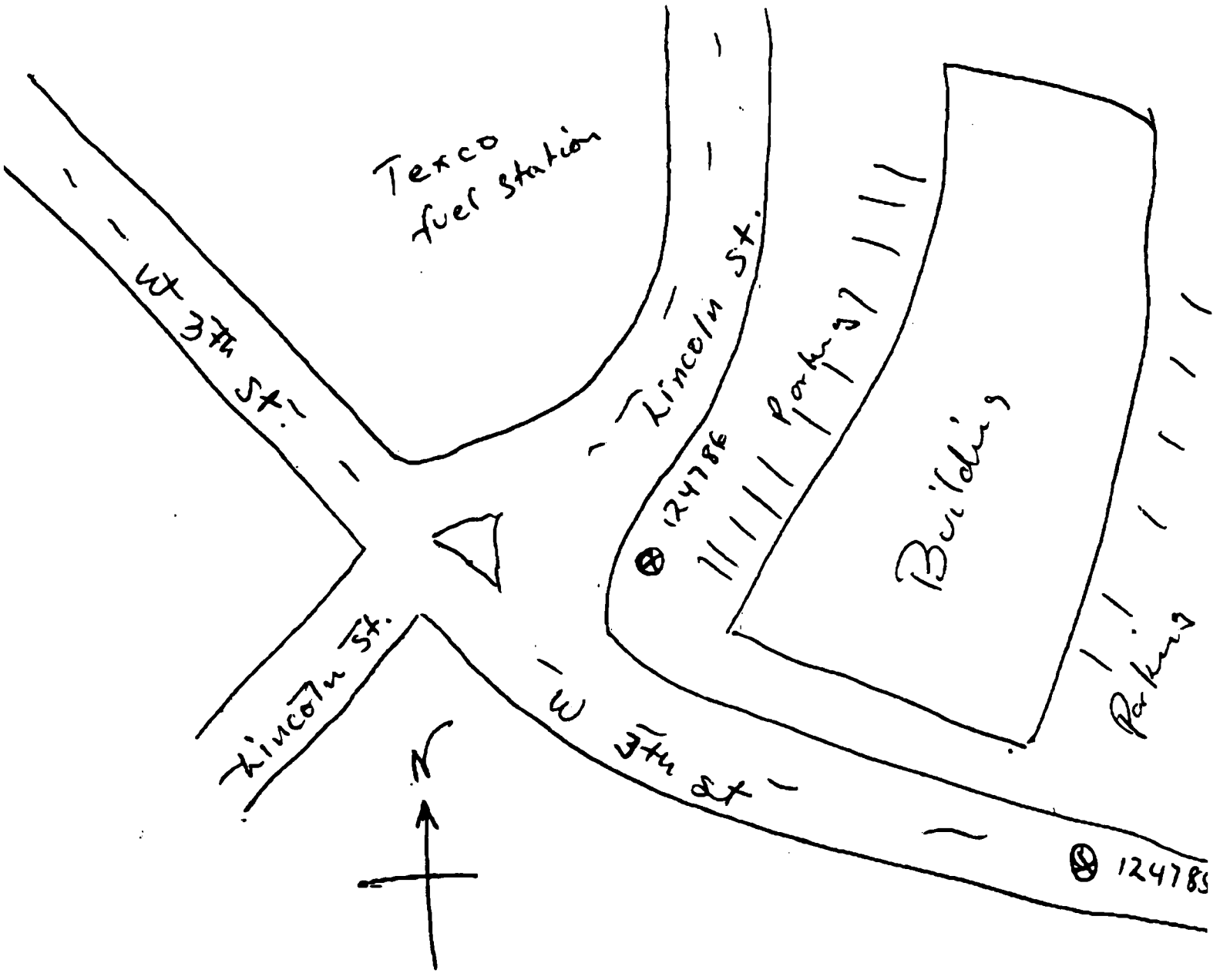
(bonded) Monitor Well Constructor Certification:

I accept responsibility for the construction, alteration, or abandonment work performed on this well during the construction dates reported above. All work performed during this time is in compliance with Oregon well construction standards. This report is true to the best of my knowledge and belief.

MWC Number 10011
Signed By GREG MCINNIS Date

SITE MAP

Wasco
50781-50782



STATE OF OREGON

MONITORING WELL REPORT

WASC 50781

Received Date 10/28/1999
Well ID Tag# L 33641
Start Card # 124786

(as required by ORS 537.765 & OAR 690-240-095) Instructions for completing this report are on the last page of this form.

(1) OWNER/PROJECT

Well No.
Co Job No. MW-1

Name OREGON DEPARTMENT OF TRANSPORTATION
Street 3313 BRET CLODFELTER WAY
City THE DALLES State OR Zip 97058

(2) TYPE OF WORK

☒ New Construction ☐ Alter (Reconditon) ☐ Alter (Repair)
☐ Conversion ☐ Deepening ☐ Abandonment

(3) DRILLING METHOD

☐ Rotary Air ☐ Rotary Mud ☐ Cable
☒ Hollow Stem Auger Other *****

(4) BORE HOLE CONSTRUCTION

Special Standards ☐ Depth of completed well 12 ft.

Diameter	From	To
10.00	0.00	12

Material	Begin Depth	End Depth	Material Amount	Units
Concrete	0.00	1.00	2.00	S
Bentonite	1.00	5.00	3.00	S

Vault
0 ft.
1 TO ft.
Casing Diameter
Liner ☐

Monument
ft.
TO
ft.

Casing or Liner	Diameter	Begin Depth	End Depth	Gauge	Material	Construction Weld	Construction Threaded	Location Of Shoe
C	2.00				Plastic	■	■	

Seal
ft.
TO ft.

From	To	Material	Amount	Seal Grout Weight	Units
0.00	1.00	Concrete	2.00		S
1.00	5.00	Bentonite	3.00		S

Filter Pack 5 ft.
TO 12 ft.
Screen ☐

Diameter	From	To	Gauge	Material	Type	Slot Size
	7	12		PL		.010

Filter Pack
Material SA
Size 20.00 in.

(5) WELL TEST

Permeability Yield
Conductivity PH
Temperature of water 55 °F/C Depth artesian flow found ft.
Was water analysis done? ☒
By Whom? SECOR
Depth of strata to be analyzed. From ft. to ft.
Remarks

Name of supervising Geologist/Engineer

(6) LOCATION OF WELL By legal description

County
Township 1.00 N Range 13.00 E Section 4
1. NW 1/4 of NE 1/4 of above section.
Legal Desc:

2. Either Street address of well location
3RD AND LINCOLN ST
or Tax lot number of well location 300

3. ATTACH MAP WITH LOCATION IDENTIFIED. Map shall include approximate scale and north arrow.

(7) STATIC WATER LEVEL

9.0 Ft. below land surface. Date 10/05/1999
Artesian Pressure lb/sq. in. Date

(8) WATER BEARING ZONES

Depth at which water was first found 9 ft.

From	To	Est. Flow Rate	SWL
9	12		9

(9) WELL LOG

Ground elevation ft.

Material	From	To	SWL
GRAVELS AND COBBLES	0	9	9
SILTY SANDS	9	12	

Date started 10/05/1999 Completed 10/05/1999

(unbonded) Monitor Well Constructor Certification:

I certify that the work I performed on the construction, alteration, or abandonment of this well is in compliance with Oregon well construction standards. Materials used and information reported above are true to the best knowledge and belief.

MWC Number 10440
Signed By ARMANDO PABLO Date

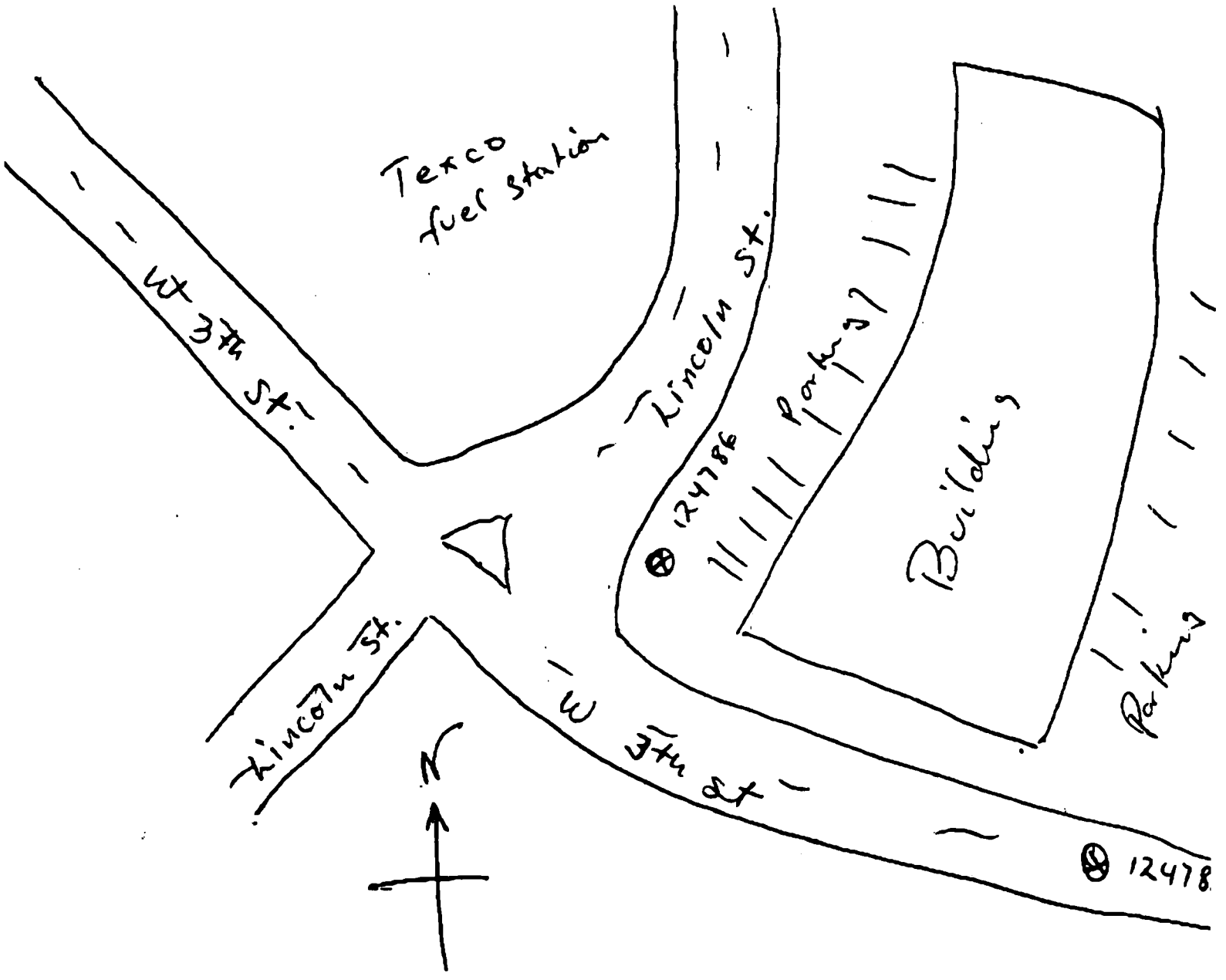
(bonded) Monitor Well Constructor Certification:

I accept responsibility for the construction, alteration, or abandonment work performed on this well during the construction dates reported above. All work performed during this time is in compliance with Oregon well construction standards. This report is true to the best of my knowledge and belief.

MWC Number 10011
Signed By GREG MCINNIS Date

SITE MAP

Wasco
50781-50782



STATE OF OREGON

WATER SUPPLY WELL REPORT

(as required by ORS 537.765)

Instructions for completing this report are on the last page of this form

WASC 50770

WELL ID # L19621

(START CARD) # 101337

(1) OWNER:

Well Number:

(b) (6)

(2) TYPE OF WORK:

[X] New Well [ ] Deepening [ ] Alteration (repair/recondition) [ ] Abandonment

(3) DRILL METHOD:

[X] Rotary Air [ ] Rotary Mud [ ] Cable [ ] Auger [ ] Other

(4) PROPOSED USE:

[X] Domestic [ ] Community [ ] Industrial [ ] Irrigation [ ] Thermal [ ] Injection [ ] Livestock [ ] Other

(5) BORE HOLE CONSTRUCTION:

Special Construction approval [ ] Yes [X] No Depth of Completed Well. 235 ft.

Explosives used [ ] Yes [X] No Type Amount

HOLE Diameter	From	To	SEAL Material	From	To	Amount sacks or pounds
12"	0	18	Cement	0	18	6 Bags
8"	18	296				
6"	296	343				

How was seal placed: Method [ ] A [ ] B [X] C [ ] D [ ] E [ ] Other

Backfill placed from ft. to ft. Material

Gravel placed from ft. to ft. Size of gravel

(6) CASING/LINER:

	Diameter	From	To	Gauge	Steel	Plastic	Welded	Threaded
Casing:	8"	+1	19	.250	[X]	[ ]	[X]	[ ]
					[ ]	[ ]	[ ]	[ ]
					[ ]	[ ]	[ ]	[ ]
					[ ]	[ ]	[ ]	[ ]
Liner:	6"	-3	203	.250	[X]	[ ]	[X]	[ ]
					[ ]	[ ]	[ ]	[ ]

Final location of shoe(s)

(7) PERFORATIONS/SCREENS:

[ ] Perforations Method

[ ] Screens Type Material

From	To	Slot size	Number	Diameter	Tele/pipe size	Casing	Liner
						[ ]	[ ]
						[ ]	[ ]
						[ ]	[ ]
						[ ]	[ ]
						[ ]	[ ]

(8) WELL TESTS: Minimum testing time is 1 hour

[ ] Pump [ ] Bailer [X] Air [ ] Flowing Artesian

Yield gal/min	Drawdown	Drill stem at	Time
12		235	1 hr.

Temperature of Water 60 Depth Artesian Flow found

Was a water analysis done? [ ] Yes By whom

Did any strata contain water not suitable for intended use? [ ] Too little

[ ] Salty [ ] Muddy [ ] Odor [ ] Colored [ ] Other

Depth of strata:

(9) LOCATION OF WELL by legal description:

County Wasco Latitude Longitude

Township 1N N or S. Range 13E E or W. of WM.

Section 6B SW 1/4 NW 1/4

Tax lot 900 Lot Block Subdivision

Street Address of Well (or nearest address) 3630 Sandlin Rd. The Dalles, Or.

(10) STATIC WATER LEVEL:

130 ft. below land surface. Date 08/22/1999

Artesian pressure lb. per square inch. Date

(11) WATER BEARING ZONES:

Depth at which water was first found 195

From	To	Estimated Flow Rate	SWL
195	215	12	130

(12) WELL LOG:

Ground elevation

Material	From	To	SWL
Sandstone W/Boulders Small Brown	0	95	
Sandstone Hard Pink	95	106	
Sandstone Fine Hard Brown	106	145	
Sandstone Soft Brown	145	175	
Gravel med.	175	196	
Sandstone Coarse Brown W/B	195	215	
Clay Stone Yellow	215	220	
Rock Soft Black	220	235	
Sandstone Coarse Brown	235	296	
Rock Soft Black	296	317	
Sandstone Fine Brown	317	330	
Sandstone Coarse Brown	330	343	
Hole closed off at 235 ft. with clay			

RECEIVED

SEP 08 1999

WATER RESOURCES DEPT.
SALEM, OREGON

Date started 08/10/1999 Completed 08/22/1999

(unbonded) Water Well Constructor Certification:

I certify that the work I performed on the construction, alteration, or abandonment of this well is in compliance with Oregon water supply well construction standards. Materials used and information reported above are true to my best knowledge and belief.

WWC Number

Signed Date

(bonded) Water Well Constructor Certification:

I accept responsibility for the construction, alteration, or abandonment work performed on this well during the construction dates reported above. All work performed during this time is in compliance with Oregon water supply well construction standards. This report is true to the best of my knowledge and belief.

WWC Number 790

Signed Charles Austin Date 09/06/99

ORIGINAL & FIRST COPY - WATER RESOURCES DEPARTMENT SECOND COPY - CONSTRUCTOR THIRD COPY - CUSTOMER

WASCO 50748

JUN 2 1999

WATER RESOURCES DEPT. SALEM, OREGON

STATE OF OREGON
WATER SUPPLY WELL REPORT
(as required by ORS 537.765)

(START CARD) # W- 101616

Instructions for completing this report are on the last page of this form.

(1) OWNER: Well Number L35533

(b) (6)

(2) TYPE OF WORK
☒ New Well ☐ Deepening ☐ Alteration (repair/recondition) ☐ Abandonment

(3) DRILL METHOD:
☒ Rotary Air ☐ Rotary Mud ☐ Cable ☐ Auger
☐ Other

(4) PROPOSED USE:
☒ Domestic ☐ Community ☐ Industrial ☐ Irrigation
☐ Thermal ☐ Injection ☐ Livestock ☐ Other

(5) BORE HOLE CONSTRUCTION:
Special Construction approval ☐ Yes ☒ No Depth of Completed Well 184 ft.
Explosives used ☐ Yes ☒ No Type ____ Amount ____

HOLE Diameter	From	To	SEAL Material	From	To	Sacks or pounds
10"	0	18	CEMENT	0	28'	54
8"	18	184				

How was seal placed: Method ☐ A ☐ B ☒ C ☐ D ☐ E
☐ Other
Backfill placed from ____ ft. to ____ ft. Material ____
Gravel placed from ____ ft. to ____ ft. Size of gravel ____

(6) CASING/LINER:

	Diameter	From	To	Gauge	Steel	Plastic	Welded	Threaded
Casing:	6"	+1	184	.250	☒	☐	☒	☐
					☐	☐	☐	☐
					☐	☐	☐	☐
					☐	☐	☐	☐
Liner:					☐	☐	☐	☐
					☐	☐	☐	☐

Final location of shoe(s) NONE

(7) PERFORATIONS/SCREENS:
☒ Perforations Method ____
☐ Screens Type ____ Material ____

From	To	Slot size	Number	Diameter	Tele/pipe size	Casing	Liner
170	184	1/4"	60	1/4"		☒	☐
						☐	☐
						☐	☐
						☐	☐
						☐	☐

(8) WELL TESTS: Minimum testing time is 1 hour
☐ Pump ☐ Bailer ☒ Air ☐ Flowing Artesian

Yield gal/min	Drawdown	Drill stem at	Time
50	100%	182'	1 hr.

Temperature of water 59° Depth Artesian Flow Found ____
Was a water analysis done? ☐ Yes By whom ____
Did any strata contain water not suitable for intended use? ☐ Too little
☐ Salty ☐ Muddy ☐ Odor ☐ Colored ☐ Other ____
Depth of strata: ____

(9) LOCATION OF WELL by legal description:
County WASCO Latitude ____ Longitude ____
Township 1 ☒ N or S Range 12 ☐ E of W. Wm.
Section SAA NE 1/4 NE 1/4
Tax Lot 1700 Lot ____ Block ____ Subdivision ____
Street Address of Well (or nearest address) 1830 W. 16th THE DALLES, OR.

(10) STATIC WATER LEVEL:
113 ft. below land surface. Date 5-10-99
Artesian pressure ____ lb. per square inch. Date ____

(11) WATER BEARING ZONES:
Depth at which water was first found ____

From	To	Estimated Flow Rate	SWL
160	184	50 GPM	113

(12) WELL LOG:
Ground Elevation ____

Material	From	To	SWL
SANDSTONE TAN W/BOULDERS	0	155	
SANDSTONE GRAY W/B	155	184	113

Date started 4-29-99 Completed 5-11-99

(unbonded) Water Well Constructor Certification:
I certify that the work I performed on the construction, alteration, or abandonment of this well is in compliance with Oregon water supply well construction standards. Materials used and information reported above are true to the best of my knowledge and belief.
WWC Number ____
Signed ____ Date ____

(bonded) Water Well Constructor Certification:
I accept responsibility for the construction, alteration, or abandonment work performed on this well during the construction dates reported above. All work performed during this time is in compliance with Oregon water supply well construction standards. This report is true to the best of my knowledge and belief.
WWC Number 1613
Signed Greg M. Byrd Date 5-12-99

ORIGINAL & FIRST COPY-WATER RESOURCES DEPARTMENT SECOND COPY-CONSTRUCTOR THIRD COPY-CUSTOMER

STATE OF OREGON

MONITORING WELL REPORT

WASC 50746

Received Date 05/26/1999

Well ID Tag# L

Start Card # 117476

(as required by ORS 537.765 & OAR 690-240-095) Instructions for completing this report are on the last page of this form.

(1) OWNER/PROJECT

Well No.

Co Job No. AB34B

Name LOCKHEED MARTIN CORP.

Street 2550 N HOLLYWOOD WAY SUITE 305

City BURBANK State CA Zip 915051055

(2) TYPE OF WORK

☐ New Construction ☐ Alter (Recondition) ☐ Alter (Repair)

☐ Conversion ☐ Deepening ☒ Abandonment

(3) DRILLING METHOD

☐ Rotary Air ☐ Rotary Mud ☐ Cable

☐ Hollow Stem Auger Other *****

(4) BORE HOLE CONSTRUCTION

Special Standards ☒ Depth of completed well 186 ft.

Material	Begin Depth	End Depth	Material	Units
Bentonite	0.00	186.00	102.00	G

Vault

ft.

Casing Diameter Liner ☐

TO

ft.

Monument

Casing or Liner	Diameter	Begin Depth	End Depth	Gauge	Material	Construction Weld	Construction Threaded	Location
C	2.00				Plastl	☒	☐	

ft.

TO

ft.

Seal

ft.

TO

ft.

From	To	Material	Amount	Seal Grout Weight	Units
0.00	186.00	Bentonite	102.00		G

Filter Pack Screen ☐

ft.

TO

ft.

Filter Pack

Material

Size in.

(5) WELL TEST

Permeability Yield

Conductivity PH

Temperature of water °F/C Depth artesian flow found ft.

Was water analysis done? ☐

By Whom?

Depth of strata to be analyzed. From ft. to ft.

Remarks

Name of supervising Geologist/Engineer

(6) LOCATION OF WELL By legal description

County Wasco

Township 1.00 N Range 13.00 E Section 3

1. NE 1/4 of NW 1/4 of above section.

Legal Desc:

2. Either Street address of well location

3313 W SECOND ST, THE DALLES

or Tax lot number of well location 1400

3. ATTACH MAP WITH LOCATION IDENTIFIED. Map shall include approximate scale and north arrow.

(7) STATIC WATER LEVEL

Ft. below land surface. Date

Artesian Pressure lb/sq. in. Date

(8) WATER BEARING ZONES

Depth at which water was first found ft.

(9) WELL LOG

Ground elevation ft.

Date started 05/03/1999 Completed 05/03/1999

(unbonded) Monitor Well Constructor Certification:

I certify that the work I performed on the construction, alteration, or abandonment of this well is in compliance with Oregon well construction standards. Materials used and information reported above are true to the best knowledge and belief.

MWC Number 10076

Signed By BRADLEY J WIEBERDINK Date

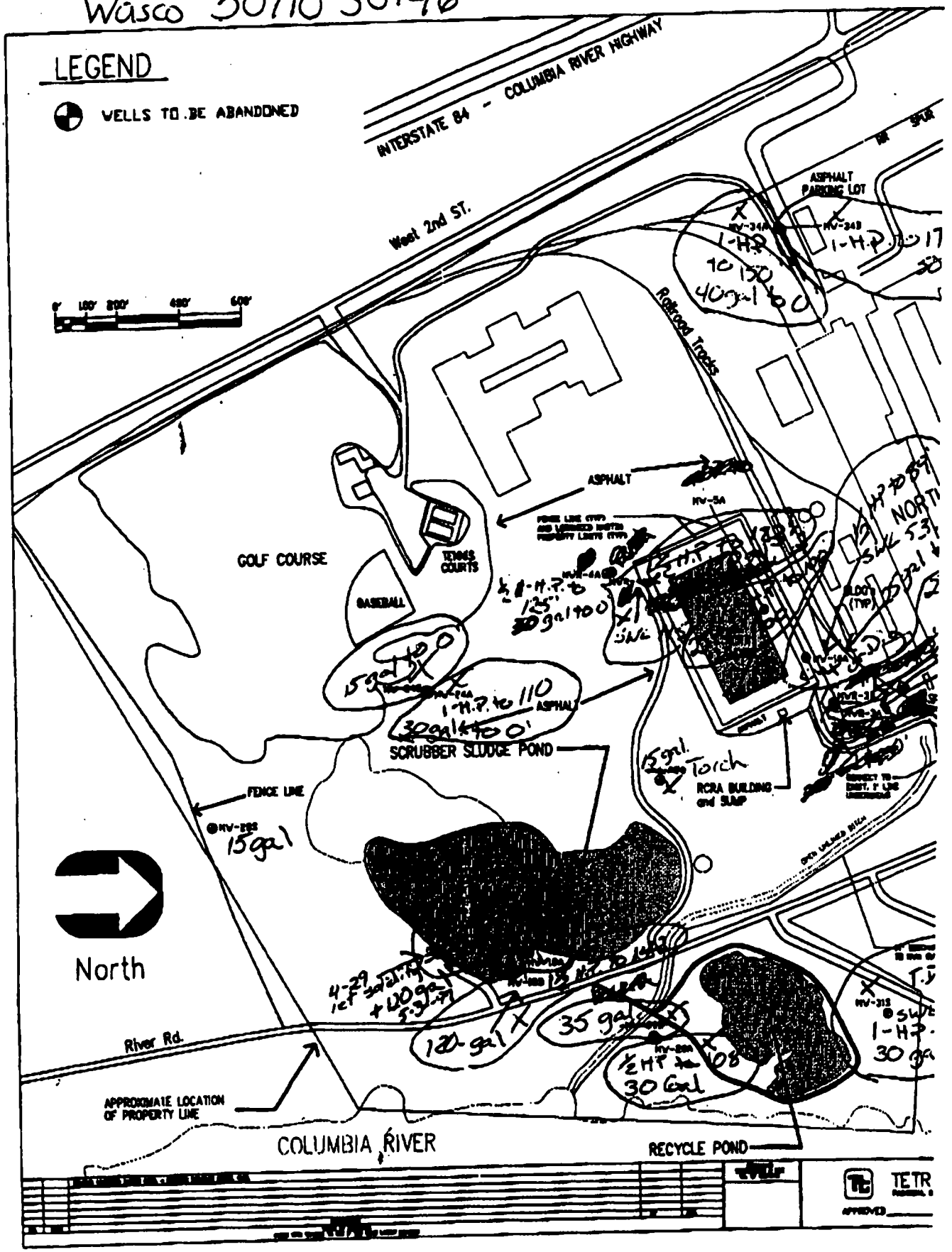
(bonded) Monitor Well Constructor Certification:

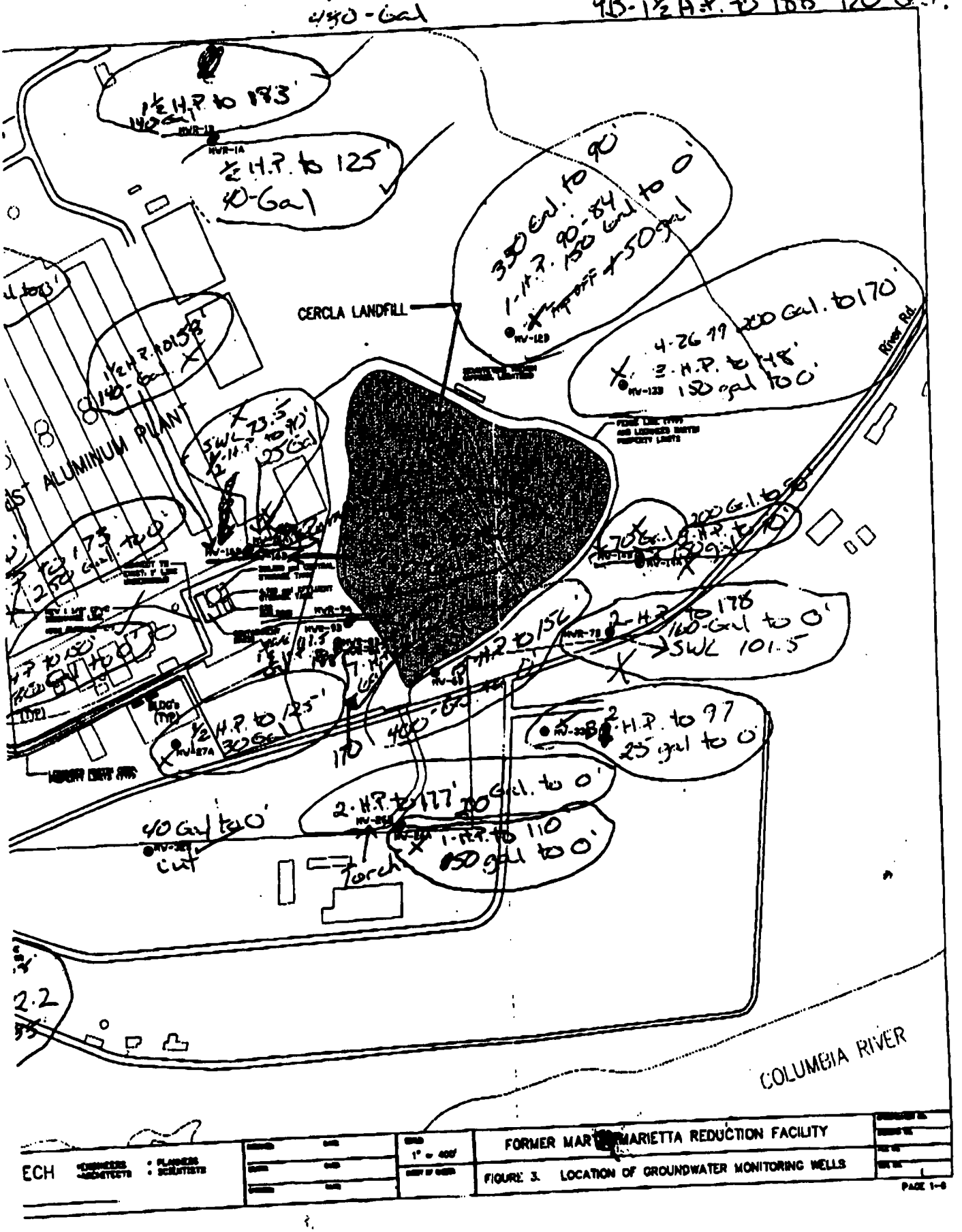
I accept responsibility for the construction, alteration, or abandonment work performed on this well during the construction dates reported above. All work performed during this time is in compliance with Oregon well construction standards. This report is true to the best of my knowledge and belief.

MWC Number 10011

Signed By GREG MCINNIS Date

Wasco 50710-50746





ECH ENGINEERS ARCHITECTS PLANNERS SCIENTISTS

1" = 400'

FORMER MARIETTA REDUCTION FACILITY

FIGURE 3. LOCATION OF GROUNDWATER MONITORING WELLS

PAGE 1-8

STATE OF OREGON

MONITORING WELL REPORT

WASC 50745

Received Date 05/26/1999

Well ID Tag# L

Start Card # 117475

(as required by ORS 537.765 & OAR 690-240-095) Instructions for completing this report are on the last page of this form.

(1) OWNER/PROJECT

Well No.

Co Job No. AB34A

Name LOCKHEED MARTIN CORP.

Street 2550 N HOLLYWOOD WAY SUITE 305

City BURBANK State CA Zip 915051055

(2) TYPE OF WORK

☐ New Construction ☐ Alter (Recondition) ☐ Alter (Repair)

☐ Conversion ☐ Deepening ☒ Abandonment

(3) DRILLING METHOD

☐ Rotary Air ☐ Rotary Mud ☐ Cable

☐ Hollow Stem Auger Other *****

(4) BORE HOLE CONSTRUCTION

Special Standards ☒ Depth of completed well 161 ft.

Material	Begin	End Depth	Material	Units
Bentonite	0.00	161.00	25.00	G

Vault

ft.

TO

ft. Casing Diameter Liner ☐

Monument

Casing or Liner	Diameter	Begin	End Depth	Gauge	Material	Construction Weld	Construction Threaded	Location
C	2.00				Plasti	■	■	

ft.

TO

ft.

Seal

ft.

TO

ft.

From	To	Material	Amount	Seal Grout Weight	Units
0.00	161.00	Bentonite	25.00	12	G

Filter Pack Screen ☐

ft.

TO

ft.

Filter Pack

Material

Size in.

(5) WELL TEST

Permeability Yield

Conductivity PH

Temperature of water °F/C Depth artesian flow found ft.

Was water analysis done? ☐

By Whom?

Depth of strata to be analyzed. From ft. to ft.

Remarks

Name of supervising Geologist/Engineer

(6) LOCATION OF WELL By legal description

County Wasco

Township 1.00 N Range 13.00 E Section 3

1. NE 1/4 of NW 1/4 of above section.

Legal Desc:

2. Either Street address of well location

3313 W SECOND ST, THE DALLES

or Tax lot number of well location 1400

3. ATTACH MAP WITH LOCATION IDENTIFIED. Map shall include approximate scale and north arrow.

(7) STATIC WATER LEVEL

Ft. below land surface. Date

Artesian Pressure lb/sq. in. Date

(8) WATER BEARING ZONES

Depth at which water was first found ft.

(9) WELL LOG

Ground elevation ft.

Date started 05/03/1999 Completed 05/03/1999

(unbonded) Monitor Well Constructor Certification:

I certify that the work I performed on the construction, alteration, or abandonment of this well is in compliance with Oregon well construction standards. Materials used and information reported above are true to the best knowledge and belief.

MWC Number 10076

Signed By BRADLEY J WIEBERDINK Date

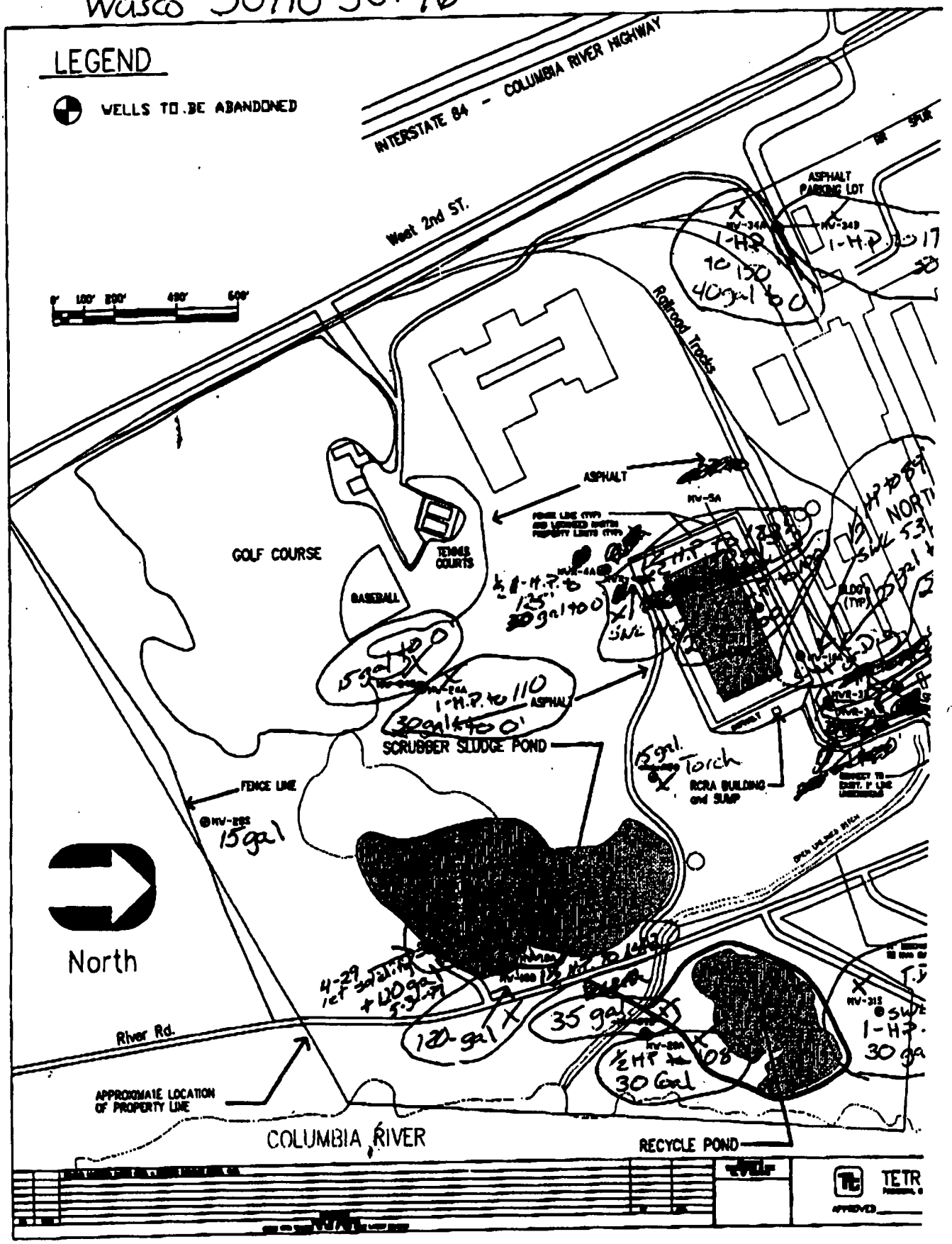
(bonded) Monitor Well Constructor Certification:

I accept responsibility for the construction, alteration, or abandonment work performed on this well during the construction dates reported above. All work performed during this time is in compliance with Oregon well construction standards. This report is true to the best of my knowledge and belief.

MWC Number 10011

Signed By GREG MCINNIS Date

Wasco 50710-50746



9B-1½ H.P. to 188 120 Gal.

430-Gal

ECH ENGINEERS • PLANNERS ARCHITECTS • SCIENTISTS

1" = 400'

FORMER MAR[redacted]MARIETTA REDUCTION FACILITY

FIGURE 3. LOCATION OF GROUNDWATER MONITORING WELLS

STATE OF OREGON

MONITORING WELL REPORT

WASC 50744

Received Date 05/26/1999

Well ID Tag# L

Start Card # 117474

(as required by ORS 537.765 & OAR 690-240-095) Instructions for completing this report are on the last page of this form.

(1) OWNER/PROJECT

Well No.

Co Job No. AB33A

Name LOCKHEED MARTIN CORP.

Street 2550 N HOLLYWOOD WAY SUITE 305

City BURBANK State CA Zip 915051055

(2) TYPE OF WORK

☐ New Construction ☐ Alter (Recondition) ☐ Alter (Repair)

☐ Conversion ☐ Deepening ☒ Abandonment

(3) DRILLING METHOD

☐ Rotary Air ☐ Rotary Mud ☐ Cable

☐ Hollow Stem Auger Other *****

(4) BORE HOLE CONSTRUCTION

Special Standards ☒ Depth of completed well 127 ft.

Material	Begin Depth	End Depth	Material	Units
Bentonite	0.00	127.00	20.00	G

Vault

ft.

TO

ft.

Casing Diameter Liner ☐

Monument

Casing or Liner	Diameter	Begin Depth	End Depth	Gauge	Material	Construction Weld	Construction Threaded	Location
C	2.00				Plasti			

ft.

TO

ft.

Seal

ft.

TO

ft.

From	To	Material	Amount	Seal Grout Weight	Units
0.00	127.00	Bentonite	20.00		G

Filter Pack Screen ☐

ft.

TO

ft.

Filter Pack

Material

Size in.

(5) WELL TEST

Permeability Yield

Conductivity PH

Temperature of water °F/C Depth artesian flow found ft.

Was water analysis done? ☐

By Whom?

Depth of strata to be analyzed. From ft. to ft.

Remarks

Name of supervising Geologist/Engineer

(6) LOCATION OF WELL By legal description

County Wasco

Township 1.00 N Range 13.00 E Section 3

1. NE 1/4 of NW 1/4 of above section.

Legal Desc:

2. Either Street address of well location

3313 W SECOND ST, THE DALLES

or Tax lot number of well location 1400

3. ATTACH MAP WITH LOCATION IDENTIFIED. Map shall include approximate scale and north arrow.

(7) STATIC WATER LEVEL

Ft. below land surface Date

Artesian Pressure lb/sq. in. Date

(8) WATER BEARING ZONES

Depth at which water was first found ft.

(9) WELL LOG

Ground elevation ft.

Date started 05/03/1999 Completed 05/03/1999

(unbonded) Monitor Well Constructor Certification:

I certify that the work I performed on the construction, alteration, or abandonment of this well is in compliance with Oregon well construction standards. Materials used and information reported above are true to the best knowledge and belief.

MWC Number 10076

Signed By BRADLEY J WIEBERDINK Date

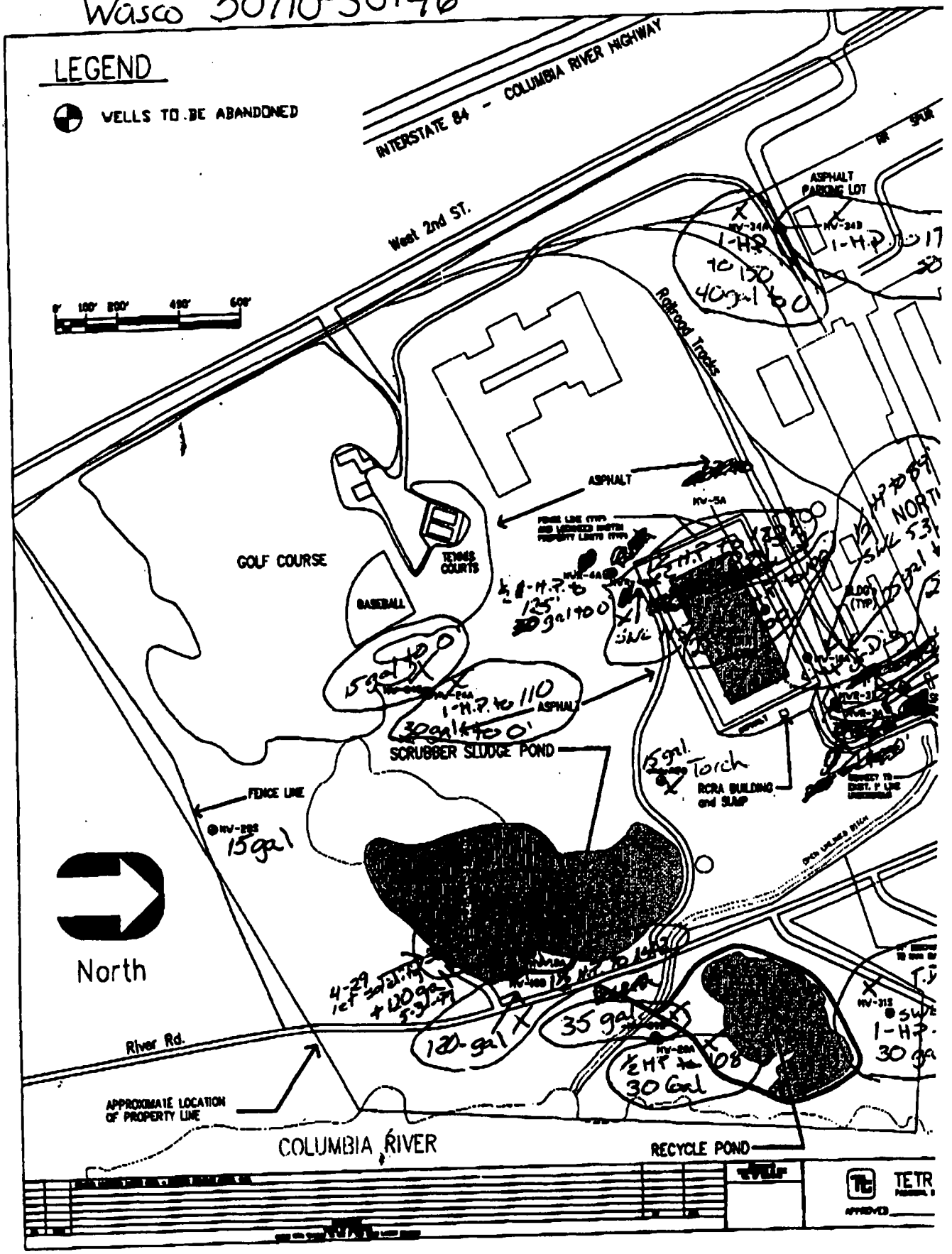
(bonded) Monitor Well Constructor Certification:

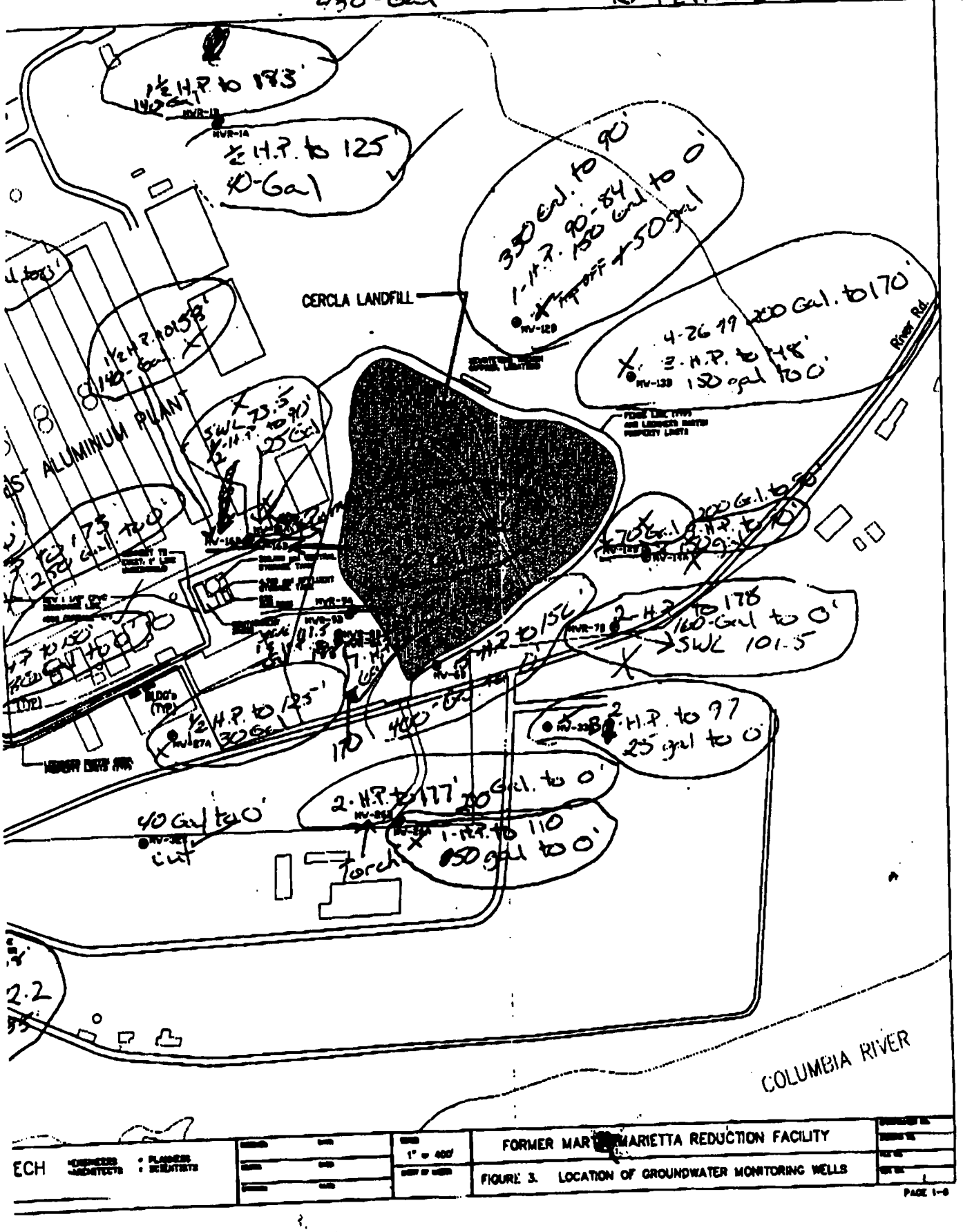
I accept responsibility for the construction, alteration, or abandonment work performed on this well during the construction dates reported above. All work performed during this time is in compliance with Oregon well construction standards. This report is true to the best of my knowledge and belief.

MWC Number 10011

Signed By GREG MCINNIS Date

Wasco 50710-50746





ECH ENGINEERS ARCHITECTS : PLANNERS SCIENTISTS		1" = 400'	FORMER MARIETTA REDUCTION FACILITY
			FIGURE 3. LOCATION OF GROUNDWATER MONITORING WELLS

STATE OF OREGON

MONITORING WELL REPORT

WASC 50743

Received Date 05/26/1999
Well ID Tag# L
Start Card # 117473

(as required by ORS 537.765 & OAR 690-240-095) Instructions for completing this report are on the last page of this form.

(1) OWNER/PROJECT

Well No.
Co Job No. AB32S

Name LOCKHEED MARTIN CORP.
Street 2550 N HOLLYWOOD WAY SUITE 305
City BURBANK State CA Zip 915051055

(2) TYPE OF WORK

☐ New Construction ☐ Alter (Recondition) ☐ Alter (Repair)
☐ Conversion ☐ Deepening ☒ Abandonment

(3) DRILLING METHOD

☐ Rotary Air ☐ Rotary Mud ☐ Cable
☐ Hollow Stem Auger Other *****

(4) BORE HOLE CONSTRUCTION

Special Standards ☒ Depth of completed well 40 ft.

Material	Begin	End Depth	Material	Units
Bentonite	0.00	40.00	6.00	G

Vault
ft.
Casing Diameter Liner ☐
TO
ft.

Monument

Casing or Liner	Diameter	Begin	End Depth	Gauge	Material	Construction Weld	Construction Threaded	Location
C	2.00				Plasti	☒	☐	

ft.
TO
ft.

Seal
ft.

TO ft.	From	To	Material	Amount	Seal Grout Weight	Units
	0.00	40.00	Bentonite	6.00		G

Filter Pack Screen ☐
ft.
TO
ft.

Filter Pack
Material
Size in.

(5) WELL TEST

Permeability Yield
Conductivity PH
Temperature of water °F/C Depth artesian flow found ft.
Was water analysis done? ☐
By Whom?
Depth of strata to be analyzed. From ft. to ft.
Remarks

Name of supervising Geologist/Engineer

(6) LOCATION OF WELL By legal description

County Wasco
Township 1.00 N Range 13.00 E Section 3
1. NE 1/4 of NW 1/4 of above section.
Legal Desc:

2. Either Street address of well location
3313 W SECOND ST, THE DALLES
or Tax lot number of well location 1400
3. ATTACH MAP WITH LOCATION IDENTIFIED. Map shall include approximate scale and north arrow.

(7) STATIC WATER LEVEL

Ft. below land surface. Date
Artesian Pressure lb/sq. in. Date

(8) WATER BEARING ZONES

Depth at which water was first found ft.

(9) WELL LOG

Ground elevation ft.

Date started 05/03/1999 Completed 05/03/1999

(unbonded) Monitor Well Constructor Certification:

I certify that the work I performed on the construction, alteration, or abandonment of this well is in compliance with Oregon well construction standards. Materials used and information reported above are true to the best knowledge and belief.

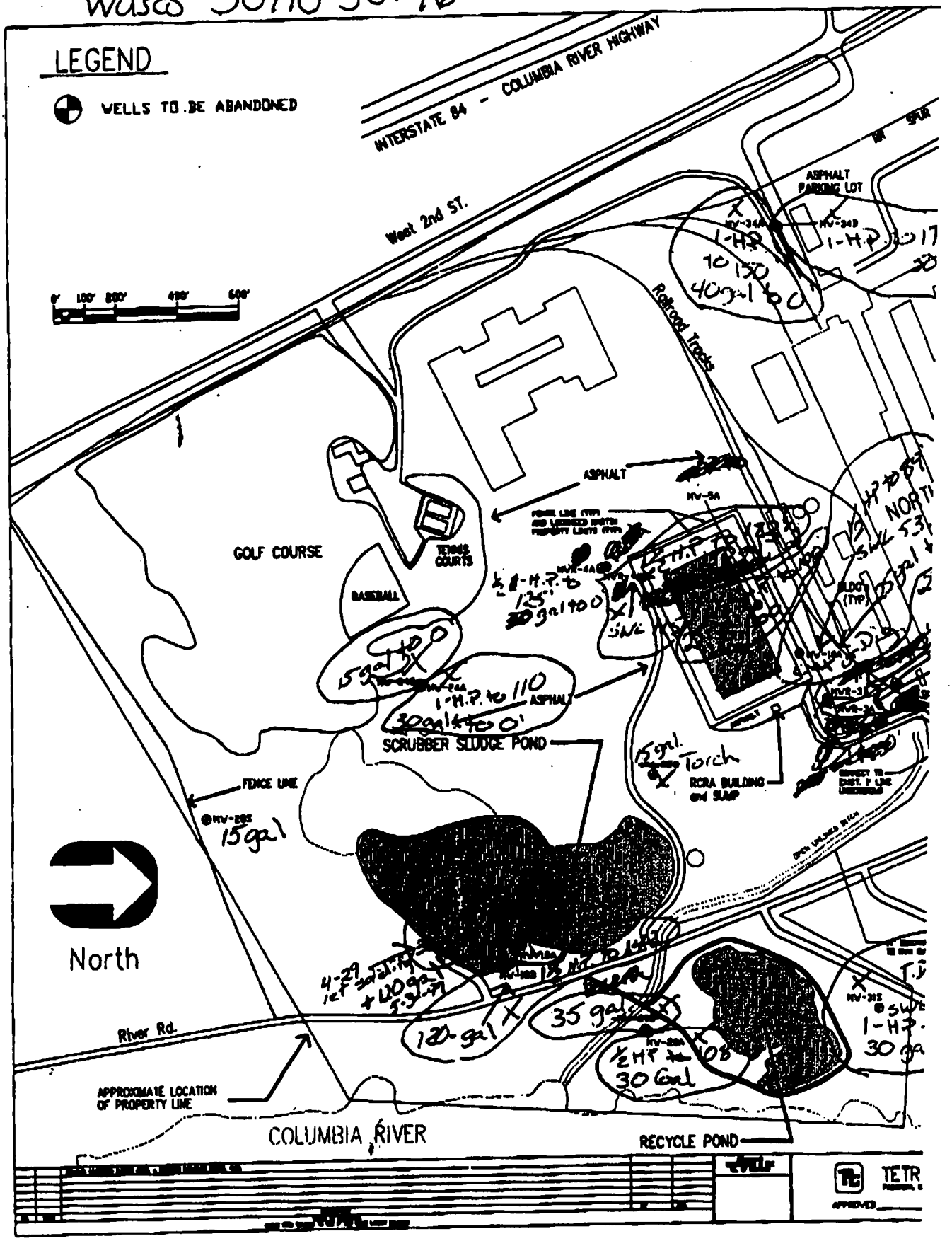
MWC Number 10076
Signed By BRADLEY J WIEBERDINK Date

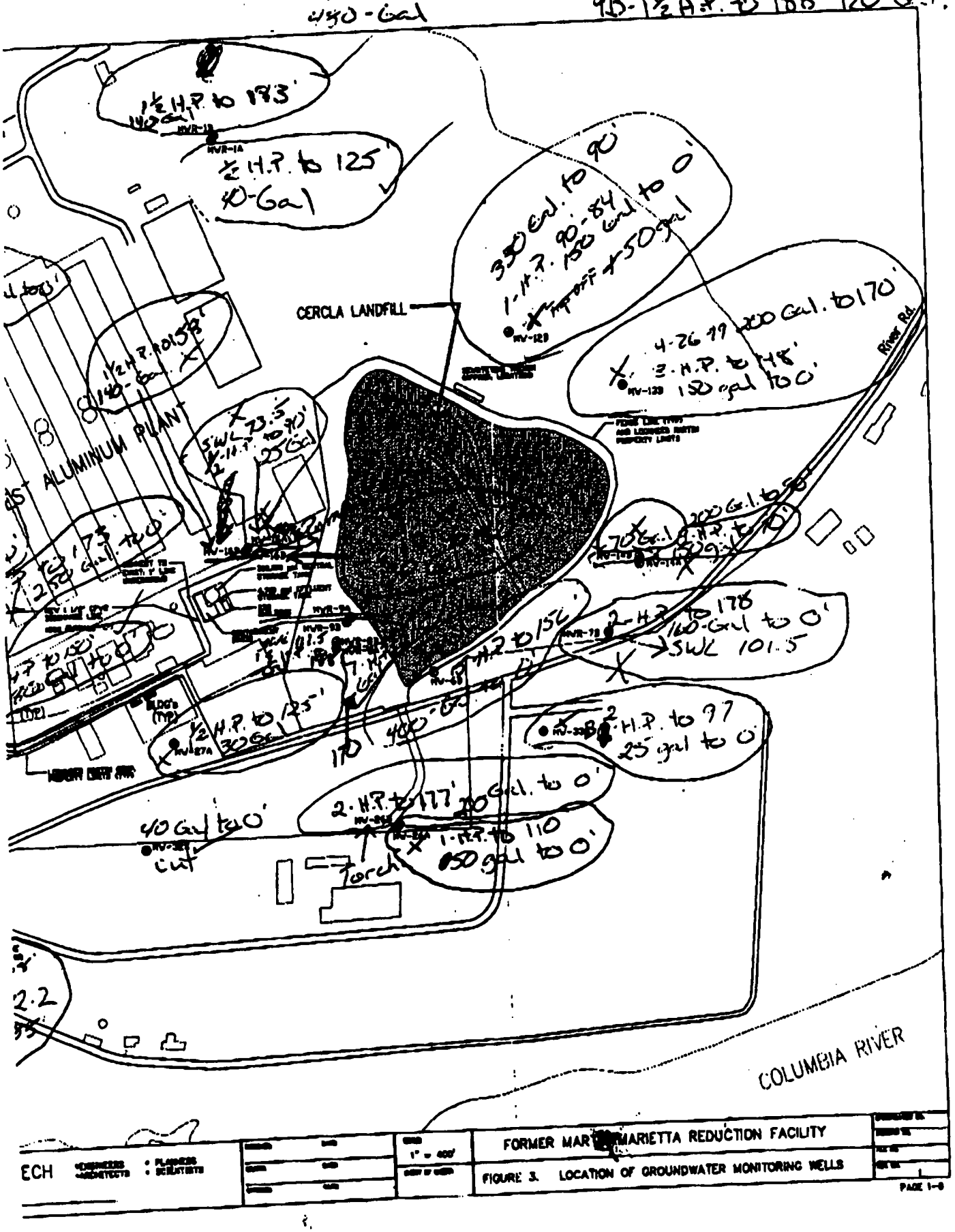
(bonded) Monitor Well Constructor Certification:

I accept responsibility for the construction, alteration, or abandonment work performed on this well during the construction dates reported above. All work performed during this time is in compliance with Oregon well construction standards. This report is true to the best of my knowledge and belief.

MWC Number 10011
Signed By GREG MCINNIS Date

Wasco 50710-50746 61H.P.





ECH		1" = 400'	FORMER MARIETTA REDUCTION FACILITY
			FIGURE 3. LOCATION OF GROUNDWATER MONITORING WELLS

STATE OF OREGON

MONITORING WELL REPORT

WASC 50742

Received Date 05/26/1999

Well ID Tag# L

Start Card # 117472

(as required by ORS 537.765 & OAR 690-240-095) Instructions for completing this report are on the last page of this form.

(1) OWNER/PROJECT

Well No.

Co Job No. AB31S

Name LOCKHEED MARTIN CORP.

Street 2550 N HOLLYWOOD WAY SUITE 305

City BURBANK State CA Zip 915051055

(2) TYPE OF WORK

☐ New Construction ☐ Alter (Recondition) ☐ Alter (Repair)

☐ Conversion ☐ Deepening ☒ Abandonment

(3) DRILLING METHOD

☐ Rotary Air ☐ Rotary Mud ☐ Cable

☐ Hollow Stem Auger Other *****

(4) BORE HOLE CONSTRUCTION

Special Standards ☒ Depth of completed well 108 ft.

Material	Begin Depth	End Depth	Material	Units
Bentonite	0.00	108.00	19.00	G

Vault

ft.

Casing Diameter Liner ☐

TO

ft.

Monument

Casing or Liner	Diameter	Begin Depth	End Depth	Gauge	Material	Construction Weld	Construction Threaded	Location
C	2.00				Plasti	☒	☐	

ft.

TO

ft.

Seal

ft.

TO

ft.

From	To	Material	Amount	Seal Grout Weight	Units
0.00	108.00	Bentonite	19.00		9 G

Filter Pack Screen ☐

ft.

TO

ft.

Filter Pack

Material

Size in.

(5) WELL TEST

Permeability Yield

Conductivity PH

Temperature of water °F/C Depth artesian flow found ft.

Was water analysis done? ☐

By Whom?

Depth of strata to be analyzed. From ft. to ft.

Remarks

Name of supervising Geologist/Engineer

(6) LOCATION OF WELL By legal description

County Wasco

Township 1.00 N Range 13.00 E Section 3

1. NE 1/4 of NW 1/4 of above section.

Legal Desc:

2. Either Street address of well location

3313 W SECOND ST, THE DALLES

or Tax lot number of well location 1400

3. ATTACH MAP WITH LOCATION IDENTIFIED. Map shall include approximate scale and north arrow.

(7) STATIC WATER LEVEL

Ft. below land surface. Date

Artesian Pressure lb/sq. in. Date

(8) WATER BEARING ZONES

Depth at which water was first found ft.

(9) WELL LOG

Ground elevation ft.

Date started 04/30/1999 Completed 04/30/1999

(unbonded) Monitor Well Constructor Certification:

I certify that the work I performed on the construction, alteration, or abandonment of this well is in compliance with Oregon well construction standards. Materials used and information reported above are true to the best knowledge and belief.

MWC Number 10076

Signed By BRADLEY J WIEBERDINK Date

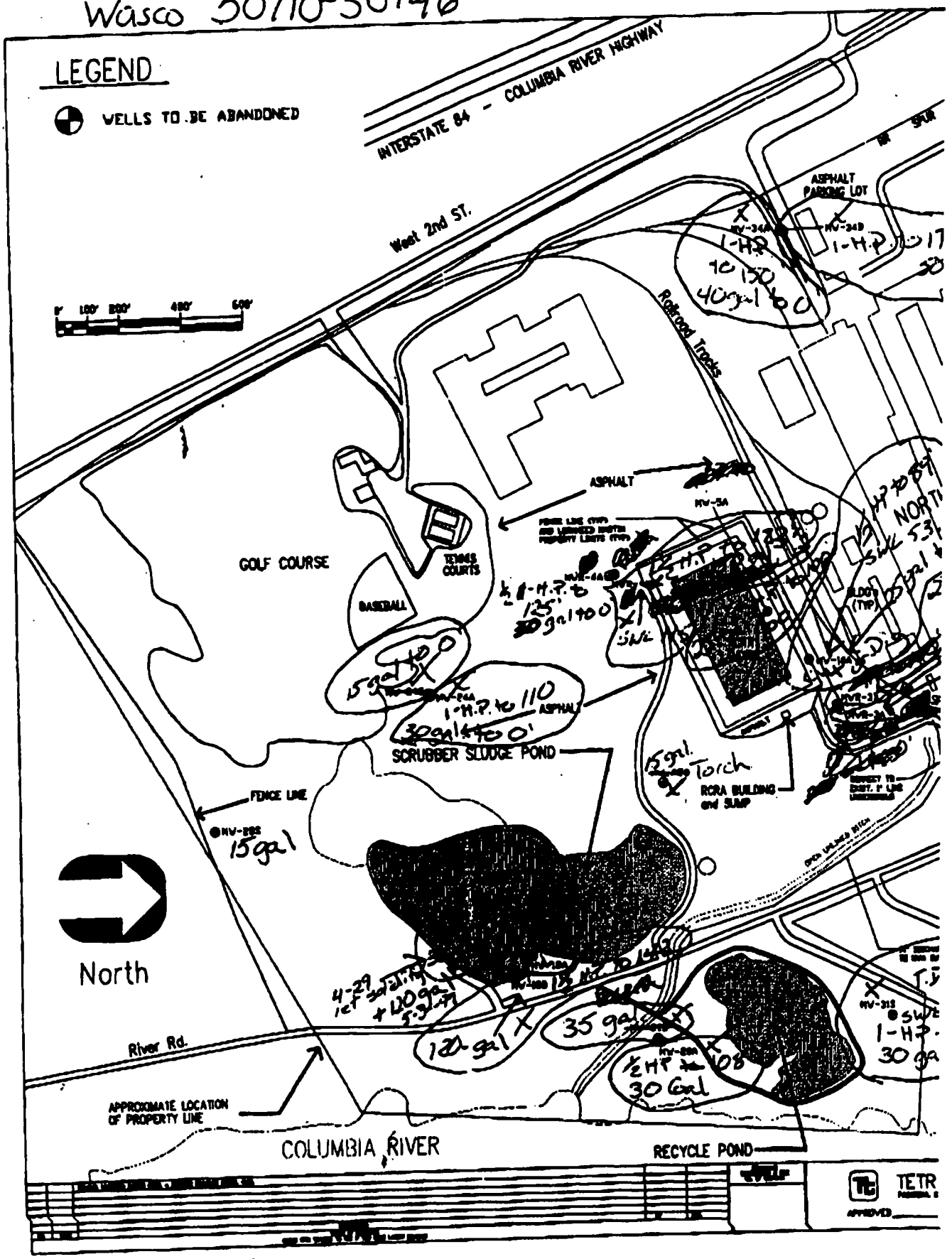
(bonded) Monitor Well Constructor Certification:

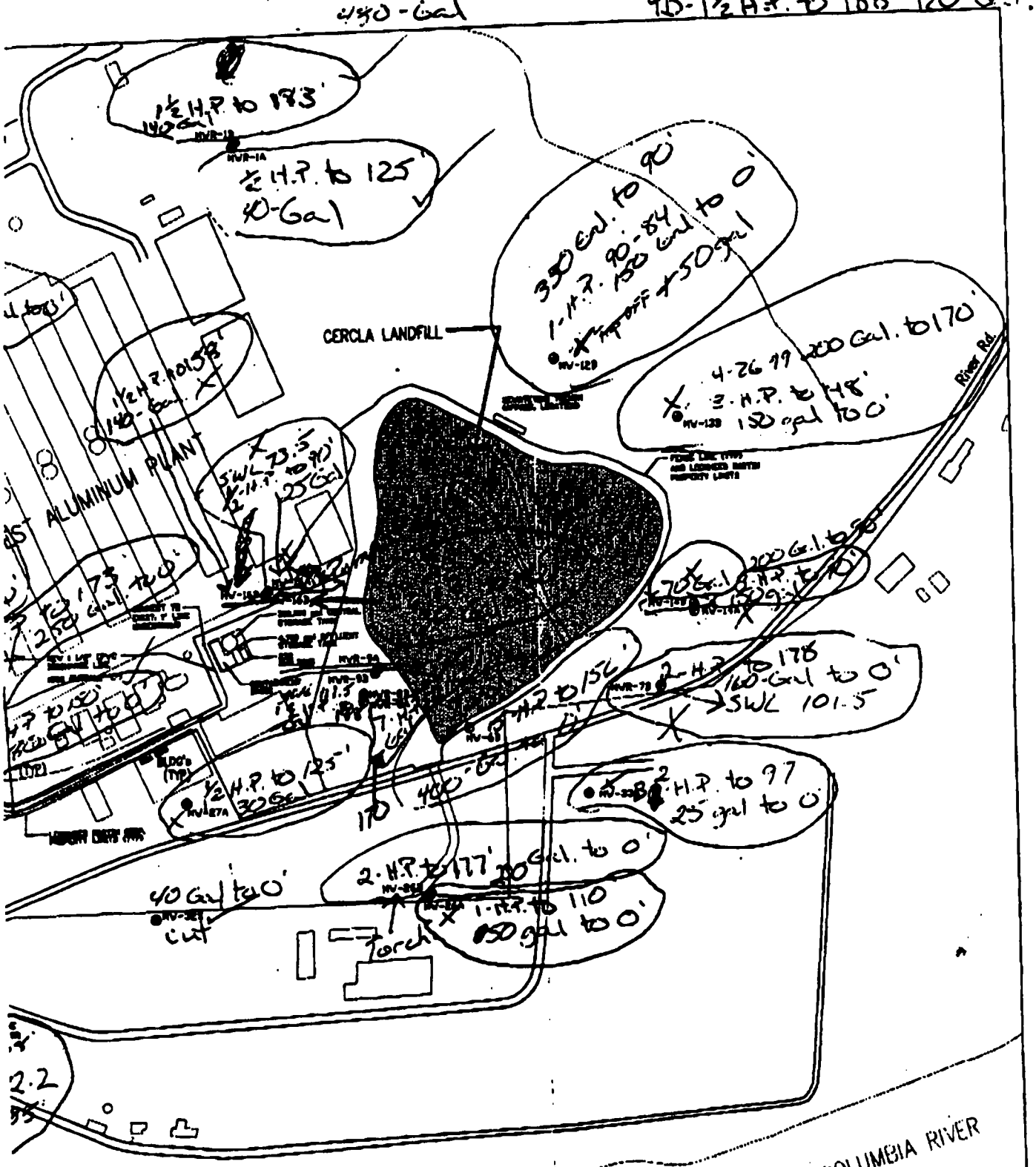
I accept responsibility for the construction, alteration, or abandonment work performed on this well during the construction dates reported above. All work performed during this time is in compliance with Oregon well construction standards. This report is true to the best of my knowledge and belief.

MWC Number 10011

Signed By GREG MCINNIS Date

Wasco 50710-50746





FORMER MARTIN MARIETTA REDUCTION FACILITY

FIGURE 3. LOCATION OF GROUNDWATER MONITORING WELLS

STATE OF OREGON

MONITORING WELL REPORT

WASC 50741

Received Date 05/26/1999
Well ID Tag# L
Start Card # 117471

(as required by ORS 537.765 & OAR 690-240-095) Instructions for completing this report are on the last page of this form.

(1) OWNER/PROJECT

Well No.
Co Job No. AB28S

Name LOCKHEED MARTIN CORP.
Street 2550 N HOLLYWOOD WAY SUITE 305
City BURBANK State CA Zip 915051055

(2) TYPE OF WORK

☐ New Construction ☐ Alter (Recondition) ☐ Alter (Repair)
☐ Conversion ☐ Deepening ☒ Abandonment

(3) DRILLING METHOD

☐ Rotary Air ☐ Rotary Mud ☐ Cable
☐ Hollow Stem Auger Other *****

(4) BORE HOLE CONSTRUCTION

Special Standards ☒ Depth of completed well 23 ft.

Material	Begin Depth	End Depth	Material	Units
Bentonite	0.00	23.00	2.00	G

Vault
ft.
Casing Diameter Liner ☐
TO
ft.

Monument	Casing or Liner	Diameter	Begin Depth	End Depth	Gauge	Material	Construction Weld	Construction Threaded	Location
	C	2.00				Plasti			

ft.
TO
ft.

Seal
ft.
TO

From	To	Material	Amount	Seal Grout Weight	Units
0.00	23.00	Bentonite	2.00		9 G

ft.

Filter Pack Screen ☐
ft.
TO
ft.

Filter Pack
Material
Size in.

(5) WELL TEST

Permeability Yield
Conductivity PH
Temperature of water °F/C Depth artesian flow found ft.
Was water analysis done? ☐
By Whom?
Depth of strata to be analyzed. From ft. to ft.
Remarks

Name of supervising Geologist/Engineer

(6) LOCATION OF WELL By legal description

County Wasco
Township 1.00 N Range 13.00 E Section 3
1. NE 1/4 of NW 1/4 of above section.
Legal Desc:

2. Either Street address of well location
3313 W SECOND ST, THE DALLES
or Tax lot number of well location 1400

3. ATTACH MAP WITH LOCATION IDENTIFIED. Map shall include approximate scale and north arrow.

(7) STATIC WATER LEVEL

Ft. below land surface. Date
Artesian Pressure lb/sq. in. Date

(8) WATER BEARING ZONES

Depth at which water was first found ft.

(9) WELL LOG

Ground elevation ft.

Date started 04/30/1999 Completed 04/30/1999

(unbonded) Monitor Well Constructor Certification:

I certify that the work I performed on the construction, alteration, or abandonment of this well is in compliance with Oregon well construction standards. Materials used and information reported above are true to the best knowledge and belief.

MWC Number 10076
Signed By BRADLEY J WIEBERDINK Date

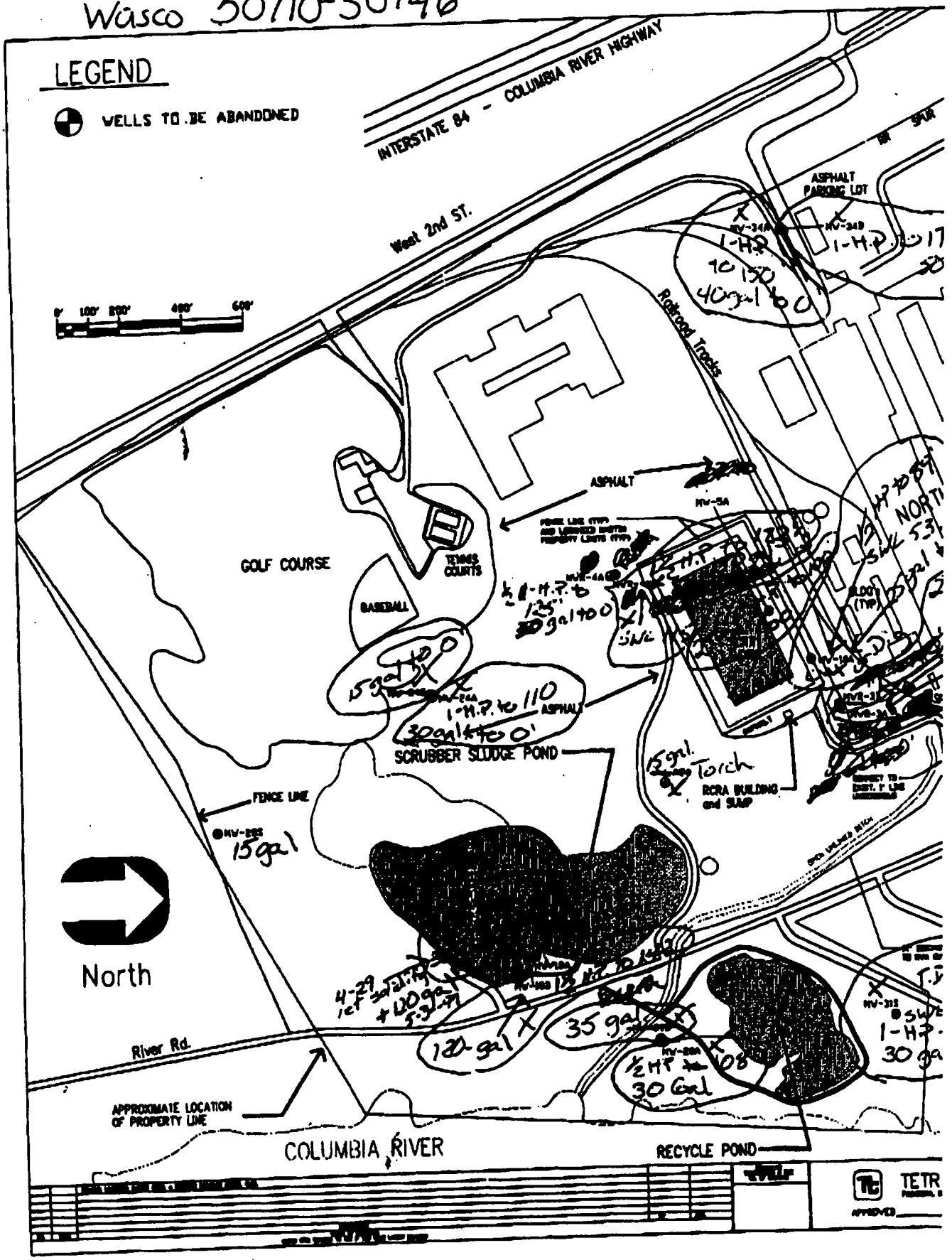
(bonded) Monitor Well Constructor Certification:

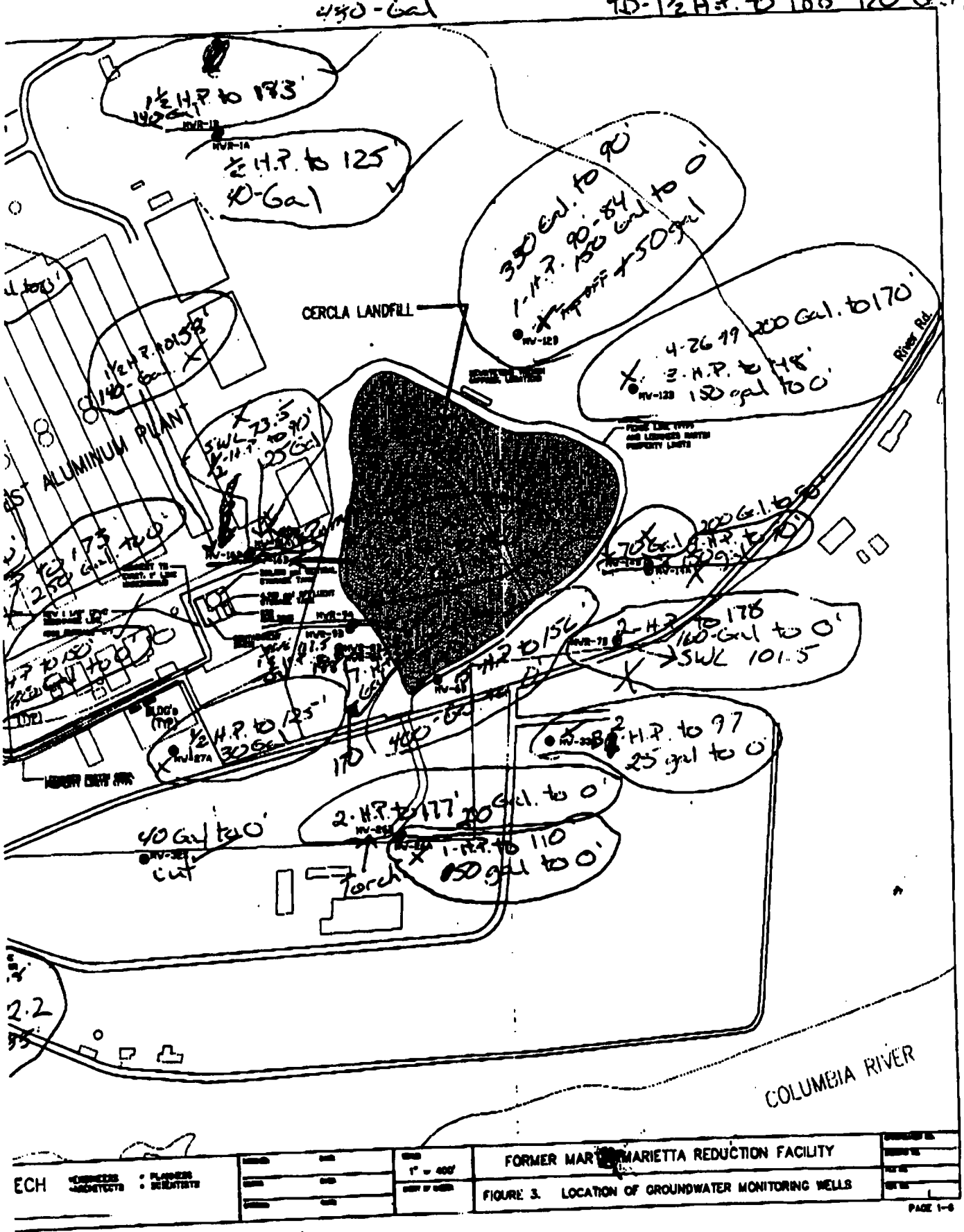
I accept responsibility for the construction, alteration, or abandonment work performed on this well during the construction dates reported above. All work performed during this time is in compliance with Oregon well construction standards. This report is true to the best of my knowledge and belief.

MWC Number 10011
Signed By GREG MCINNIS Date

Wasco 50710-50746

61 H.P.





ECH ENGINEERS • ARCHITECTS • PLANNERS • SCIENTISTS

1" = 400'

FORMER MARIETTA REDUCTION FACILITY

FIGURE 3. LOCATION OF GROUNDWATER MONITORING WELLS

STATE OF OREGON

MONITORING WELL REPORT

WASC 50740

Received Date 05/26/1999
Well ID Tag# L
Start Card # 117470

(as required by ORS 537.765 & OAR 690-240-095) Instructions for completing this report are on the last page of this form.

(1) OWNER/PROJECT

Well No.
Co Job No. AB27A

Name LOCKHEED MARTIN CORP.
Street 2550 N HOLLYWOOD WAY SUITE 305
City BURBANK State CA Zip 915051055

(2) TYPE OF WORK

☐ New Construction ☐ Alter (Recondition) ☐ Alter (Repair)
☐ Conversion ☐ Deepening ☒ Abandonment

(3) DRILLING METHOD

☐ Rotary Air ☐ Rotary Mud ☐ Cable
☐ Hollow Stem Auger Other *****

(4) BORE HOLE CONSTRUCTION

Special Standards ☒ Depth of completed well 138 ft.

Material	Begin Depth	End Depth	Material	Units
Bentonite	0.00	138.00	21.00	G

Vault
ft.
TO
ft.

Casing Diameter Liner ☐

Monument

Casing or Liner	Diameter	Begin Depth	End Depth	Gauge	Material	Construction Weld	Construction Threaded	Location
C	2.00				Plasti	☒	☒	

ft.
TO
ft.

Seal
ft.
TO
ft.

From	To	Material	Amount	Seal Grout Weight	Units
0.00	138.00	Bentonite	21.00		14 G

Filter Pack Screen ☐
ft.
TO
ft.

Filter Pack
Material
Size in.

(5) WELL TEST

Permeability Yield
Conductivity PH
Temperature of water °F/C Depth artesian flow found ft.
Was water analysis done? ☐
By Whom?
Depth of strata to be analyzed. From ft. to ft.
Remarks

Name of supervising Geologist/Engineer

(6) LOCATION OF WELL By legal description

County Wasco
Township 1.00 N Range 13.00 E Section 3
1. NE 1/4 of NW 1/4 of above section.
Legal Desc:

2. Either Street address of well location
3313 W SECOND ST, THE DALLES
or Tax lot number of well location 1400

3. ATTACH MAP WITH LOCATION IDENTIFIED. Map shall include approximate scale and north arrow.

(7) STATIC WATER LEVEL

Ft. below land surface. Date
Artesian Pressure lb/sq. in. Date

(8) WATER BEARING ZONES

Depth at which water was first found ft.

(9) WELL LOG

Ground elevation ft.

Date started 04/30/1999 Completed 04/30/1999

(unbonded) Monitor Well Constructor Certification:

I certify that the work I performed on the construction, alteration, or abandonment of this well is in compliance with Oregon well construction standards. Materials used and information reported above are true to the best knowledge and belief.

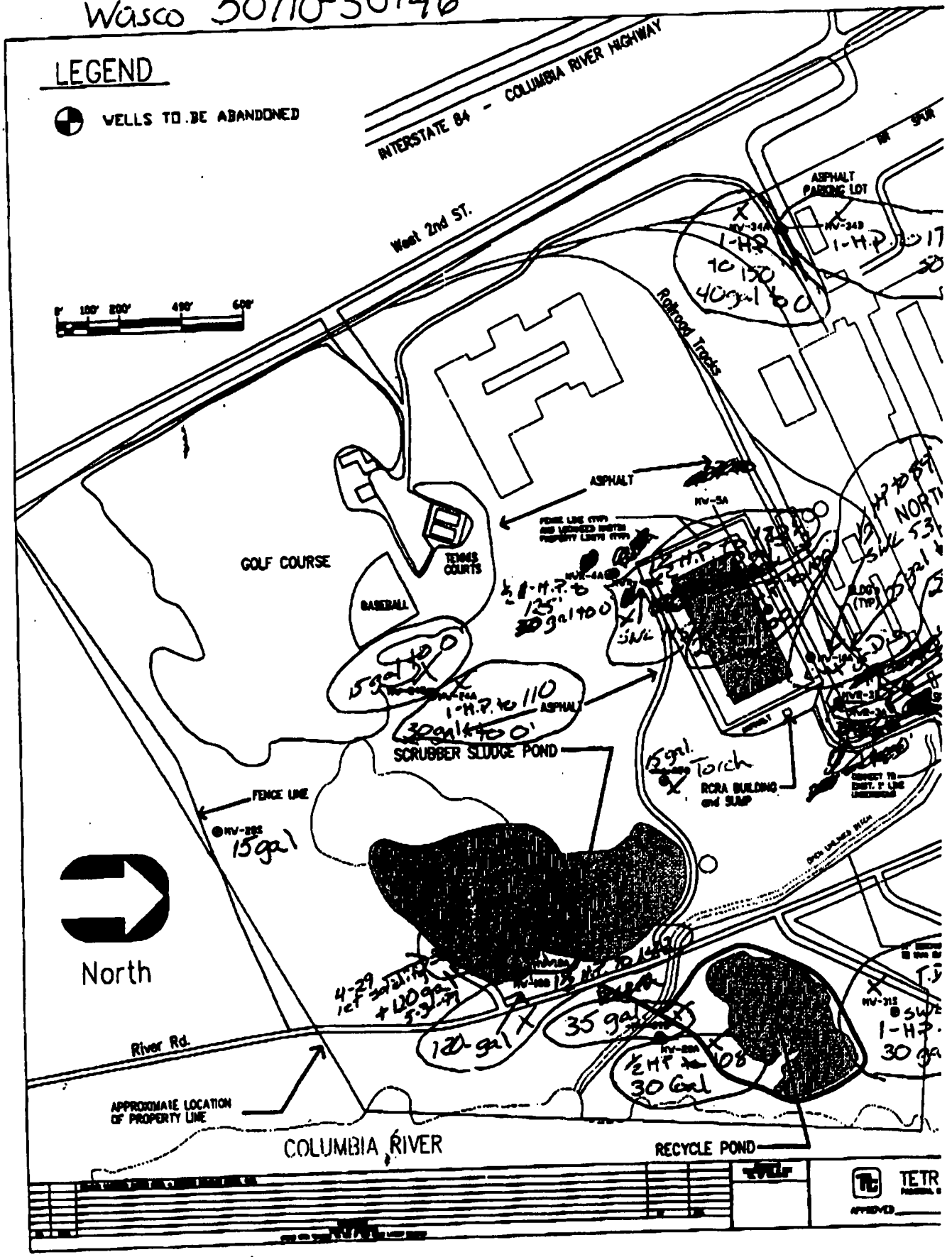
MWC Number 10076
Signed By BRADLEY J WIEBERDINK Date

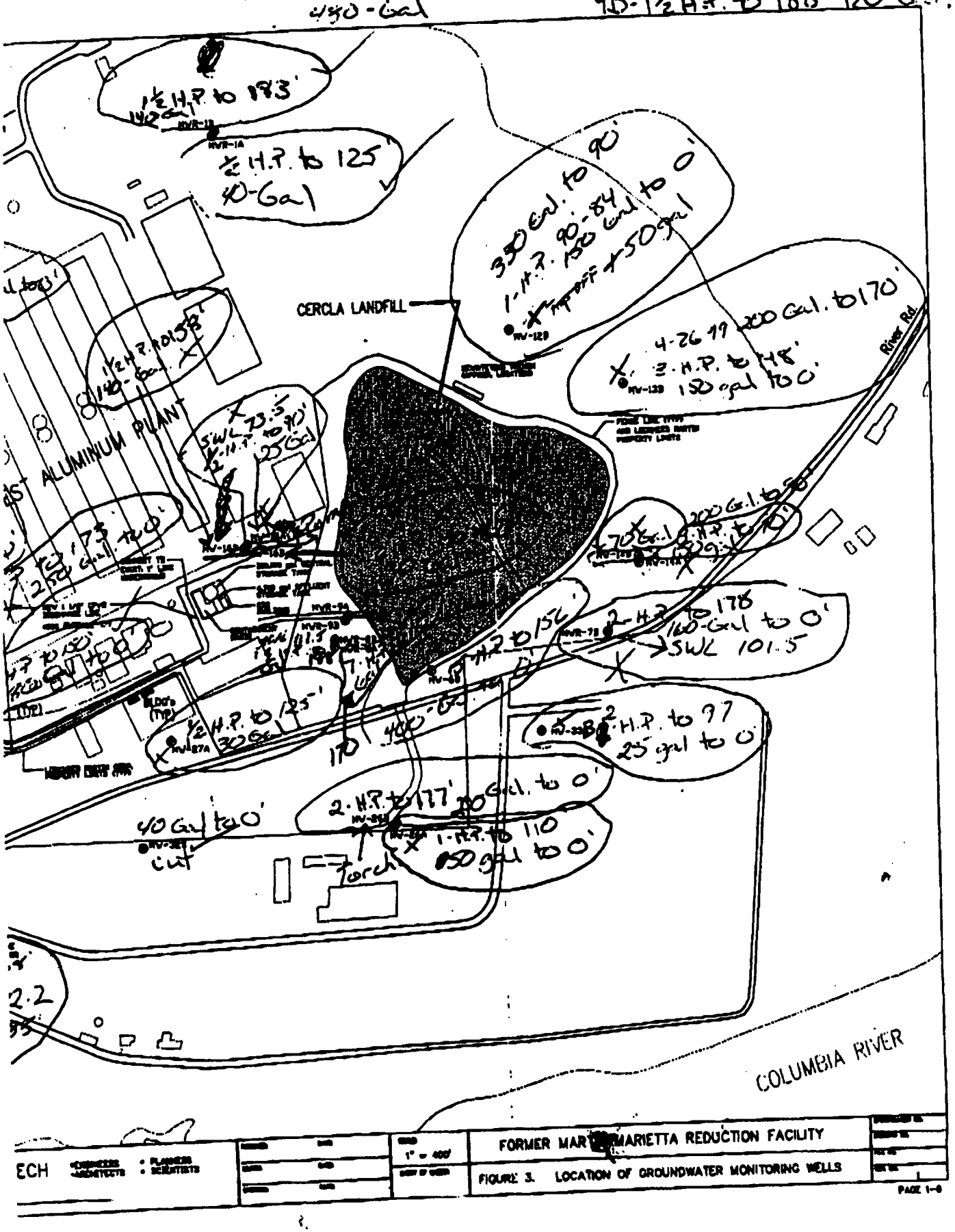
(bonded) Monitor Well Constructor Certification:

I accept responsibility for the construction, alteration, or abandonment work performed on this well during the construction dates reported above. All work performed during this time is in compliance with Oregon well construction standards. This report is true to the best of my knowledge and belief.

MWC Number 10011
Signed By GREG MCINNIS Date

Wasco 50710-50746





ECH : PLANNERS : SCIENTISTS

1" = 400'

FORMER MARIETTA REDUCTION FACILITY

FIGURE 3. LOCATION OF GROUNDWATER MONITORING WELLS

STATE OF OREGON

MONITORING WELL REPORT

WASC 50739

Received Date 05/26/1999
Well ID Tag# L
Start Card # 117469

(as required by ORS 537.765 & OAR 690-240-095) Instructions for completing this report are on the last page of this form.

(1) OWNER/PROJECT

Well No.
Co Job No. AB26B

Name LOCKHEED MARTIN CORP.
Street 2550 N HOLLYWOOD WAY SUITE 305
City BURBANK State CA Zip 915051055

(2) TYPE OF WORK

☐ New Construction ☐ Alter (Recondition) ☐ Alter (Repair)
☐ Conversion ☐ Deepening ☒ Abandonment

(3) DRILLING METHOD

☐ Rotary Air ☐ Rotary Mud ☐ Cable
☐ Hollow Stem Auger Other *****

(4) BORE HOLE CONSTRUCTION

Special Standards ☒ Depth of completed well 192 ft.

Material	Begin Depth	End Depth	Material	Units
Bentonite	0.00	192.00	124.00	G

Vault
ft.
TO
Casing Diameter Liner ☐
ft.

Monument

Casing or Liner	Diameter	Begin Depth	End Depth	Gauge	Material	Construction Weld	Construction Threaded	Location
C	4.00				Plasti	☒	☒	

ft.
TO
ft.

Seal
ft.
TO

From	To	Material	Amount	Seal Grout Weight	Units
0.00	192.00	Bentonite	124.00		9 G

ft.

Filter Pack Screen ☐
ft.
TO
ft.

Filter Pack
Material
Size in.

(5) WELL TEST

Permeability Yield
Conductivity PH
Temperature of water °F/C Depth artesian flow found ft.
Was water analysis done? ☐
By Whom?
Depth of strata to be analyzed. From ft. to ft.
Remarks

Name of supervising Geologist/Engineer

(6) LOCATION OF WELL By legal description

County Wasco
Township 1.00 N Range 13.00 E Section 3
1. NE 1/4 of NW 1/4 of above section.
Legal Desc:

2. Either Street address of well location
3313 W SECOND ST, THE DALLES
or Tax lot number of well location 1400

3. ATTACH MAP WITH LOCATION IDENTIFIED. Map shall include approximate scale and north arrow.

(7) STATIC WATER LEVEL

Ft. below land surface. Date
Artesian Pressure lb/sq. in. Date

(8) WATER BEARING ZONES

Depth at which water was first found ft.

(9) WELL LOG

Ground elevation ft.

Date started 04/30/1999 Completed 04/30/1999

(unbonded) Monitor Well Constructor Certification:

I certify that the work I performed on the construction, alteration, or abandonment of this well is in compliance with Oregon well construction standards. Materials used and information reported above are true to the best knowledge and belief.

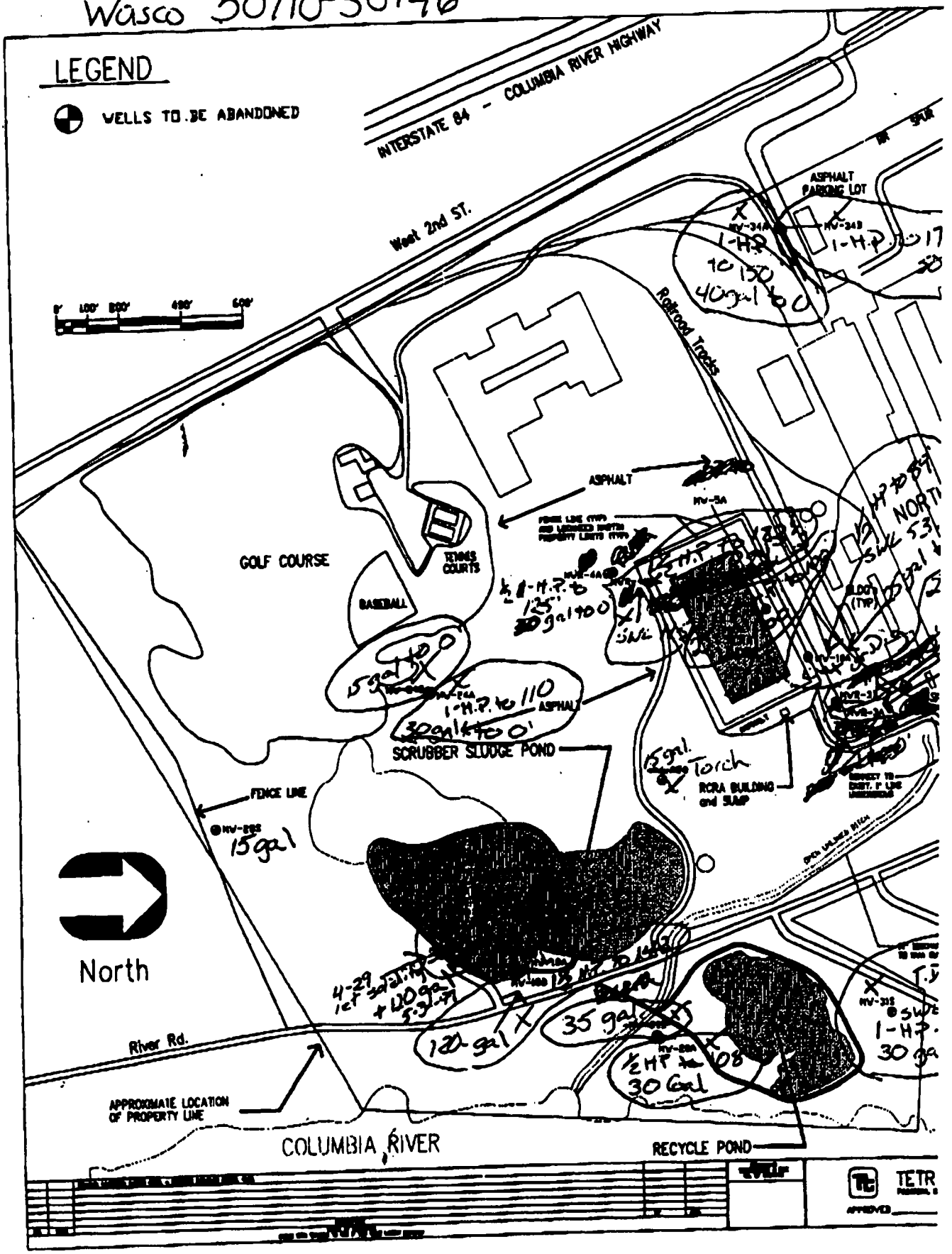
MWC Number 10076
Signed By BRADLEY J WIEBERDINK Date

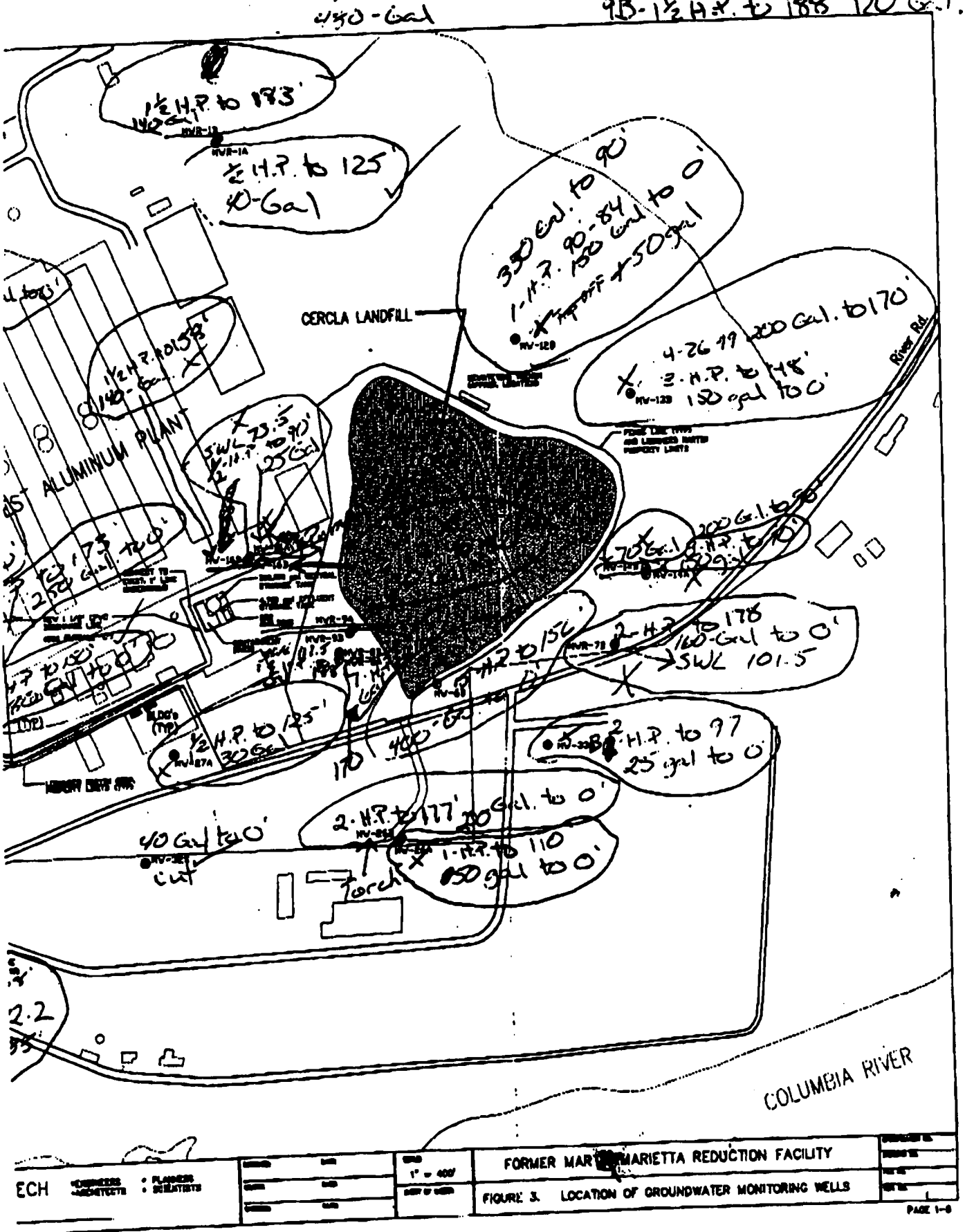
(bonded) Monitor Well Constructor Certification:

I accept responsibility for the construction, alteration, or abandonment work performed on this well during the construction dates reported above. All work performed during this time is in compliance with Oregon well construction standards. This report is true to the best of my knowledge and belief.

MWC Number 10011
Signed By GREG MCINNIS *Date*

Wasco 50710-50746





ECH : ENGINEERS : PLANNERS : SCIENTISTS

FORMER MARIETTA REDUCTION FACILITY

FIGURE 3. LOCATION OF GROUNDWATER MONITORING WELLS

STATE OF OREGON

MONITORING WELL REPORT

WASC 50738

Received Date 05/26/1999

Well ID Tag# L

(as required by ORS 537.765 & OAR 690-240-095) Instructions for completing this report are on the last page of this form.

Start Card # 117468

(1) OWNER/PROJECT

Well No.

Co Job No. AB26A

Name LOCKHEED MARTIN CORP.

Street 2550 N HOLLYWOOD WAY SUITE 305

City BURBANK State CA Zip 915051055

(2) TYPE OF WORK

☐ New Construction ☐ Alter (Recondition) ☐ Alter (Repair)

☐ Conversion ☐ Deepening ☒ Abandonment

(3) DRILLING METHOD

☐ Rotary Air ☐ Rotary Mud ☐ Cable

☐ Hollow Stem Auger Other *****

(4) BORE HOLE CONSTRUCTION

Special Standards ☒ Depth of completed well 125 ft.

Material	Begin Depth	End Depth	Material	Units
Bentonite	0.00	125.00	19.00	G

Vault

ft.

TO

ft.

Casing Diameter Liner ☐

Monument

ft.

TO

ft.

Casing or Liner	Diameter	Begin Depth	End Depth	Gauge	Material	Construction Weld	Construction Threaded	Location
C	2.00				Plasti	☒	☒	

Seal

ft.

TO

ft.

From	To	Material	Amount	Seal Grout Weight	Units
0.00	125.00	Bentonite	19.00	14	G

Filter Pack Screen ☐

ft.

TO

ft.

Filter Pack Material

Size in.

(5) WELL TEST

Permeability Yield

Conductivity PH

Temperature of water °F/C Depth artesian flow found ft.

Was water analysis done? ☐

By Whom?

Depth of strata to be analyzed. From ft. to ft.

Remarks

Name of supervising Geologist/Engineer

(6) LOCATION OF WELL By legal description

County Wasco

Township 1.00 N Range 13.00 E Section 3

1. NE 1/4 of NW 1/4 of above section.

Legal Desc:

2. Either Street address of well location

3313 W SECOND ST, THE DALLES

or Tax lot number of well location 1400

3. ATTACH MAP WITH LOCATION IDENTIFIED. Map shall include approximate scale and north arrow.

(7) STATIC WATER LEVEL

Ft. below land surface. Date

Artesian Pressure lb/sq. in. Date

(8) WATER BEARING ZONES

Depth at which water was first found ft.

(9) WELL LOG

Ground elevation ft.

Date started 04/30/1999 Completed 04/30/1999

(unbonded) Monitor Well Constructor Certification:

I certify that the work I performed on the construction, alteration, or abandonment of this well is in compliance with Oregon well construction standards. Materials used and information reported above are true to the best knowledge and belief.

MWC Number 10076

Signed By BRADLEY J WIEBERDINK Date

(bonded) Monitor Well Constructor Certification:

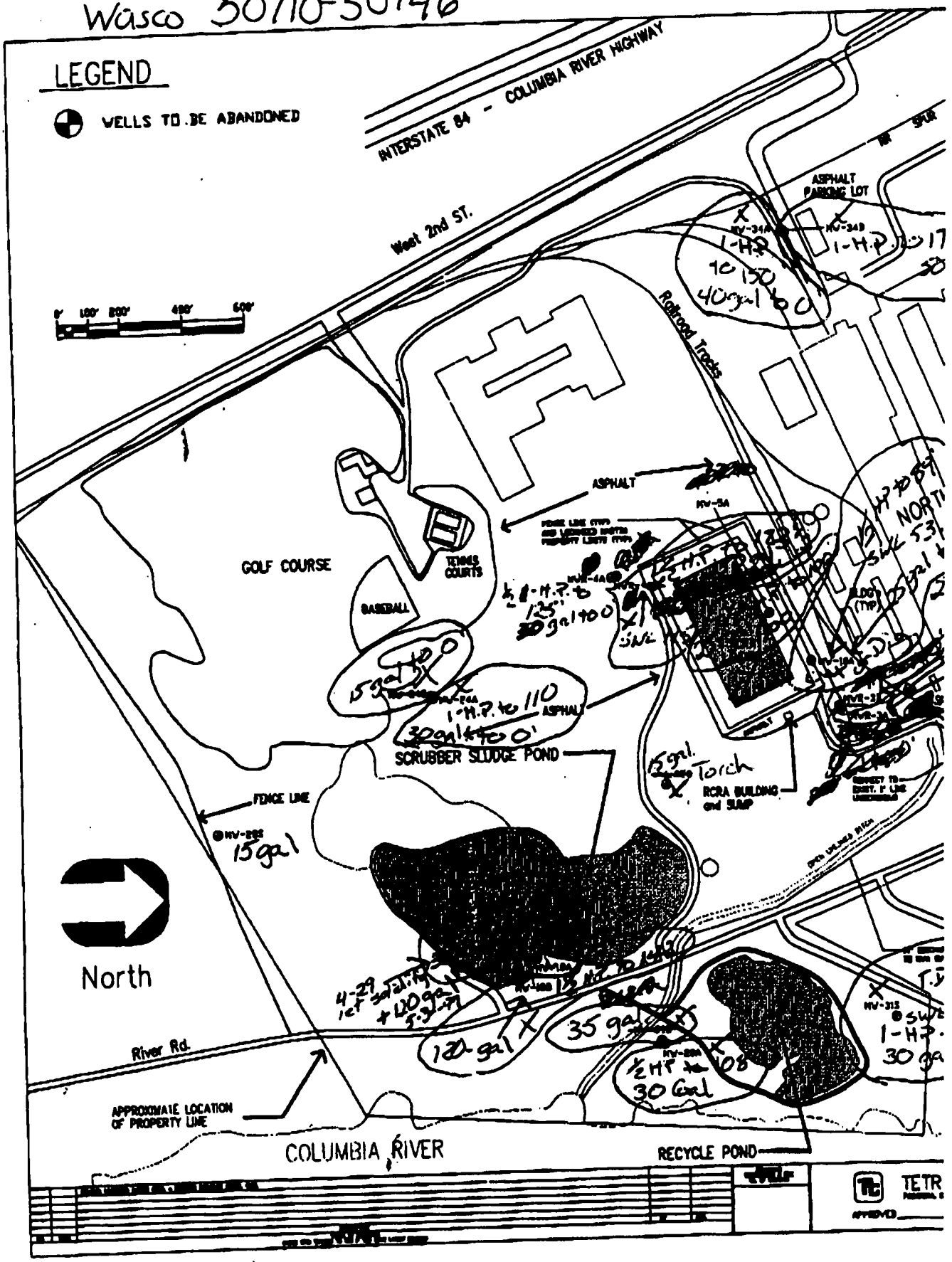
I accept responsibility for the construction, alteration, or abandonment work performed on this well during the construction dates reported above. All work performed during this time is in compliance with Oregon well construction standards. This report is true to the best of my knowledge and belief.

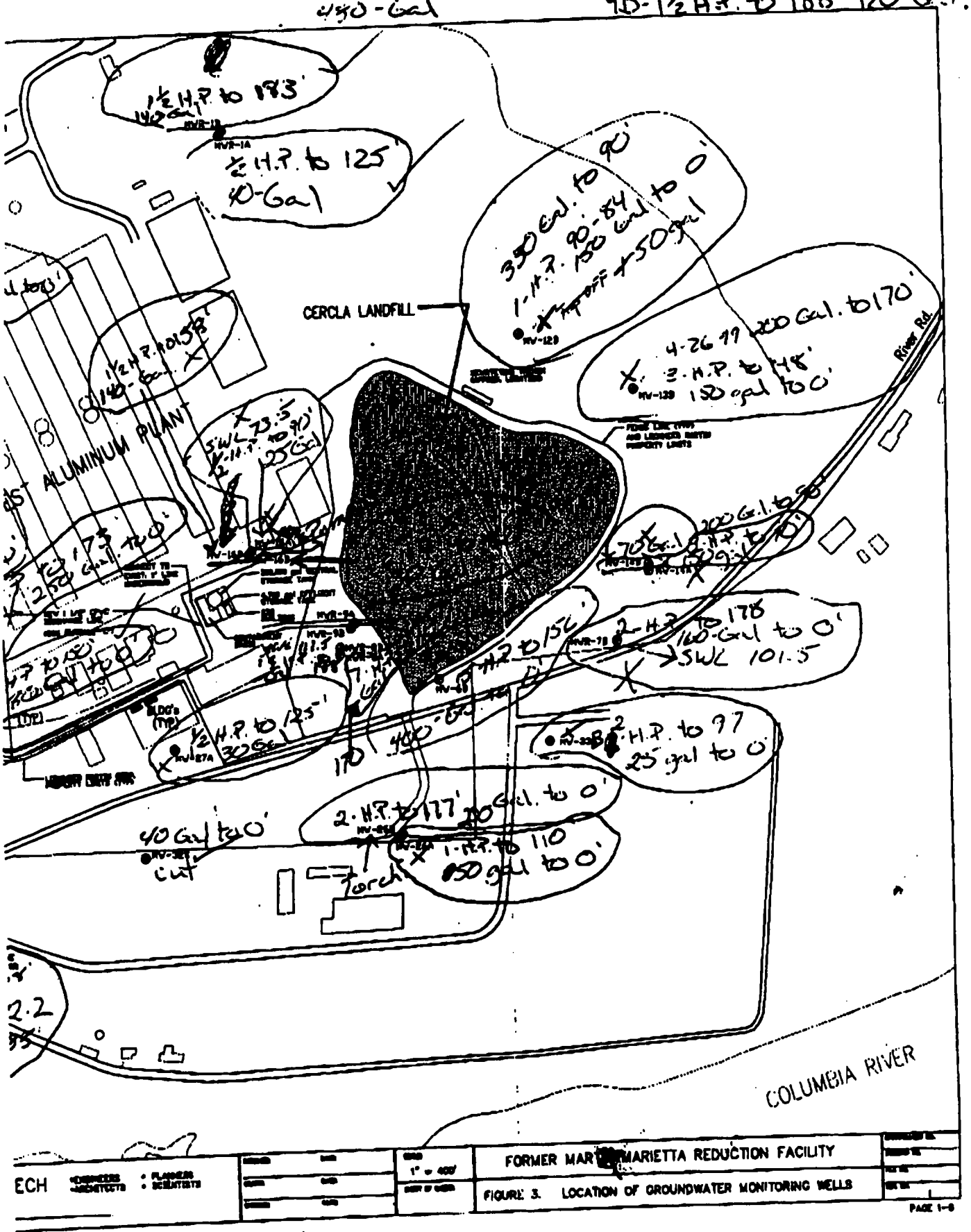
MWC Number 10011

Signed By GREG MCINNIS Date

Wasco 50710-50746

61 H.P.





ECH

FORMER MARIETTA REDUCTION FACILITY

FIGURE 3. LOCATION OF GROUNDWATER MONITORING WELLS

PAGE 1-8

STATE OF OREGON

MONITORING WELL REPORT

WASC 50737

Received Date 05/26/1999
Well ID Tag# L
Start Card # 117467

(as required by ORS 537.765 & OAR 690-240-095) Instructions for completing this report are on the last page of this form.

(1) OWNER/PROJECT

Well No.
Co Job No. AB25S

Name LOCKHEED MARTIN CORP.
Street 2550 N HOLLYWOOD WAY SUITE 305
City BURBANK State CA Zip 915051055

(2) TYPE OF WORK

☐ New Construction ☐ Alter (Recondition) ☐ Alter (Repair)
☐ Conversion ☐ Deepening ☒ Abandonment

(3) DRILLING METHOD

☐ Rotary Air ☐ Rotary Mud ☐ Cable
☐ Hollow Stem Auger Other *****

(4) BORE HOLE CONSTRUCTION

Special Standards ☒ Depth of completed well 21 ft.

Material	Begin	End Depth	Material	Units
Bentonite	0.00	21.00	3.00	G

Vault
ft.
Casing Diameter Liner ☐
TO
ft.

Monument

Casing or Liner	Diameter	Begin	End Depth	Gauge	Material	Construction Weld	Threaded	Location
C	2.00				Plasti	☒	☐	

ft.
TO
ft.

Seal
ft.

TO	From	To	Material	Amount	Seal Grout Weight	Units
ft.	0.00	21.00	Bentonite	3.00		9 G

Filter Pack Screen ☐
ft.
TO
ft.
Filter Pack
Material
Size in.

(5) WELL TEST

Permeability Yield
Conductivity PH
Temperature of water °F/C Depth artesian flow found ft.
Was water analysis done? ☐
By Whom?
Depth of strata to be analyzed. From ft. to ft.
Remarks

Name of supervising Geologist/Engineer

(6) LOCATION OF WELL By legal description

County Wasco
Township 1.00 N Range 13.00 E Section 3
1. NE 1/4 of NW 1/4 of above section.
Legal Desc:

2. Either Street address of well location
3313 W SECOND ST, THE DALLES
or Tax lot number of well location 1400
3. ATTACH MAP WITH LOCATION IDENTIFIED. Map shall include approximate scale and north arrow.

(7) STATIC WATER LEVEL

Ft. below land surface. Date
Artesian Pressure lb/sq. in. Date

(8) WATER BEARING ZONES

Depth at which water was first found ft.

(9) WELL LOG

Ground elevation ft.

Date started 04/30/1999 Completed 04/30/1999

(unbonded) Monitor Well Constructor Certification:

I certify that the work I performed on the construction, alteration, or abandonment of this well is in compliance with Oregon well construction standards. Materials used and information reported above are true to the best knowledge and belief.

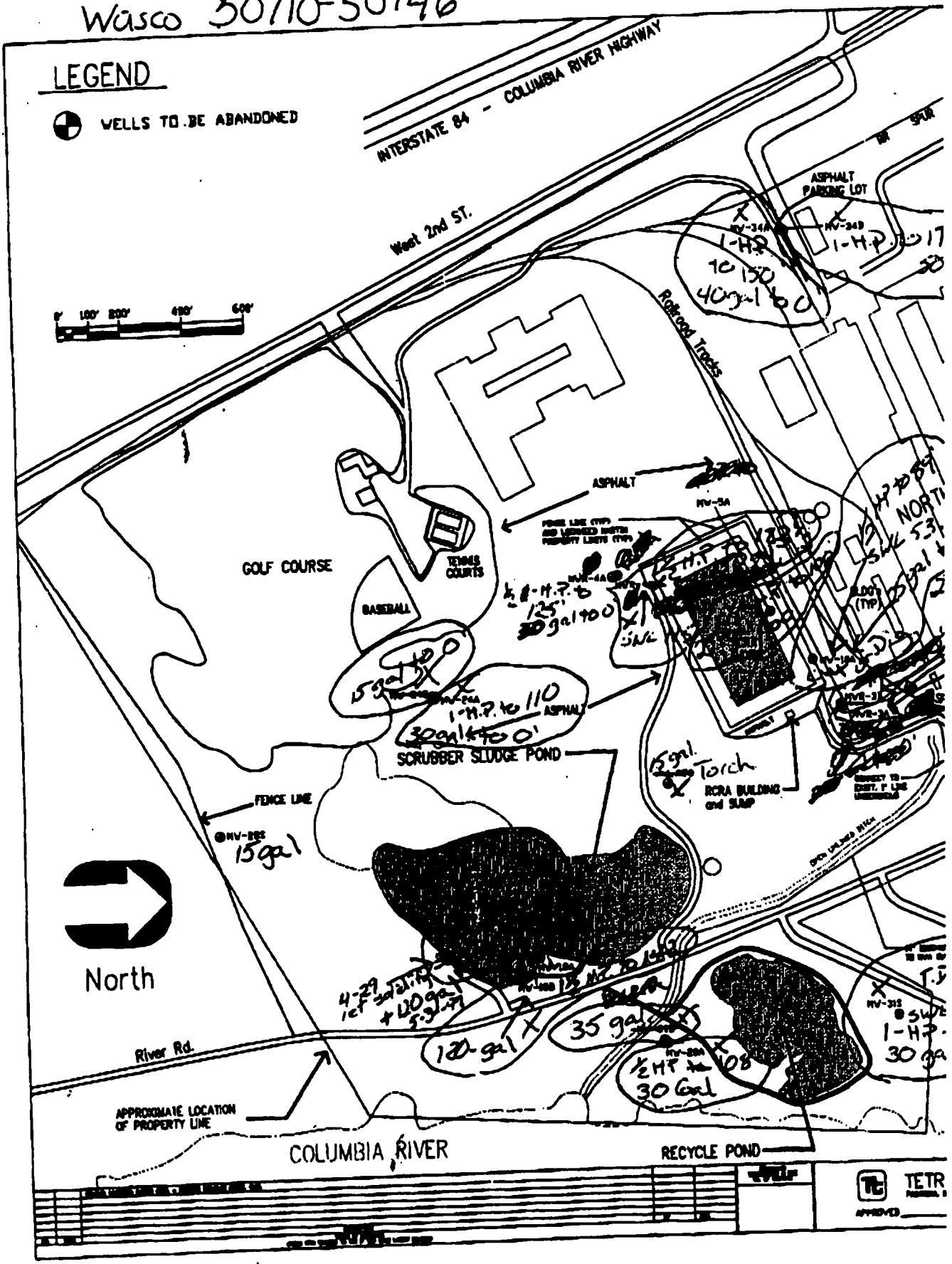
MWC Number 10076
Signed By BRADLEY J WIEBERDINK Date

(bonded) Monitor Well Constructor Certification:

I accept responsibility for the construction, alteration, or abandonment work performed on this well during the construction dates reported above. All work performed during this time is in compliance with Oregon well construction standards. This report is true to the best of my knowledge and belief.

MWC Number 10011
Signed By GREG MCINNIS Date

Wasco 50710-50746



GEOTECHEXPLORATIONS 6924759 05/26 '99 23:09 NO.528 03

ECH

FORMER MAR[illegible]MARIETTA REDUCTION FACILITY

FIGURE 3. LOCATION OF GROUNDWATER MONITORING WELLS

1" = 400'

PAGE 1-8

STATE OF OREGON

MONITORING WELL REPORT

WASC 50736

Received Date 05/26/1999

Well ID Tag# L

Start Card # 117466

(as required by ORS 537.765 & OAR 690-240-095) Instructions for completing this report are on the last page of this form.

(1) OWNER/PROJECT

Well No.

Co Job No. AB24A

Name LOCKHEED MARTIN CORP.

Street 2550 N HOLLYWOOD WAY SUITE 305

City BURBANK State CA Zip 915051055

(2) TYPE OF WORK

☐ New Construction ☐ Alter (Recondition) ☐ Alter (Repair)

☐ Conversion ☐ Deepening ☒ Abandonment

(3) DRILLING METHOD

☐ Rotary Air ☐ Rotary Mud ☐ Cable

☐ Hollow Stem Auger Other *****

(4) BORE HOLE CONSTRUCTION

Special Standards ☒ Depth of completed well 158 ft.

Material	Begin Depth	End Depth	Material	Units
Bentonite	0.00	158.00	30.00	G

Vault

ft. TO ft.

Casing Diameter Liner ☐

Monument

Casing or Liner	Diameter	Begin Depth	End Depth	Gauge	Material	Construction Weld	Construction Threaded	Location
C	2.00				Plasti			

ft. TO ft.

Seal

ft. TO ft.

From	To	Material	Amount	Seal Grout Weight	Units
0.00	158.00	Bentonite	30.00		14 G

Filter Pack Screen ☐

ft. TO ft.

Filter Pack Material

Size in.

(5) WELL TEST

Permeability Yield

Conductivity PH

Temperature of water °F/C Depth artesian flow found ft.

Was water analysis done? ☐

By Whom?

Depth of strata to be analyzed. From ft. to ft.

Remarks

Name of supervising Geologist/Engineer

(6) LOCATION OF WELL By legal description

County Wasco

Township 1.00 N Range 13.00 E Section 3

1. NE 1/4 of NW 1/4 of above section.

Legal Desc:

2. Either Street address of well location

3313 W SECOND ST, THE DALLES

or Tax lot number of well location 1400

3. ATTACH MAP WITH LOCATION IDENTIFIED. Map shall include approximate scale and north arrow.

(7) STATIC WATER LEVEL

Ft. below land surface. Date

Artesian Pressure lb/sq. in. Date

(8) WATER BEARING ZONES

Depth at which water was first found ft.

(9) WELL LOG

Ground elevation ft.

Date started 04/30/1999 Completed 04/30/1999

(unbonded) Monitor Well Constructor Certification:

I certify that the work I performed on the construction, alteration, or abandonment of this well is in compliance with Oregon well construction standards. Materials used and information reported above are true to the best knowledge and belief.

MWC Number 10076

Signed By BRADLEY J WIEBERDINK Date

(bonded) Monitor Well Constructor Certification:

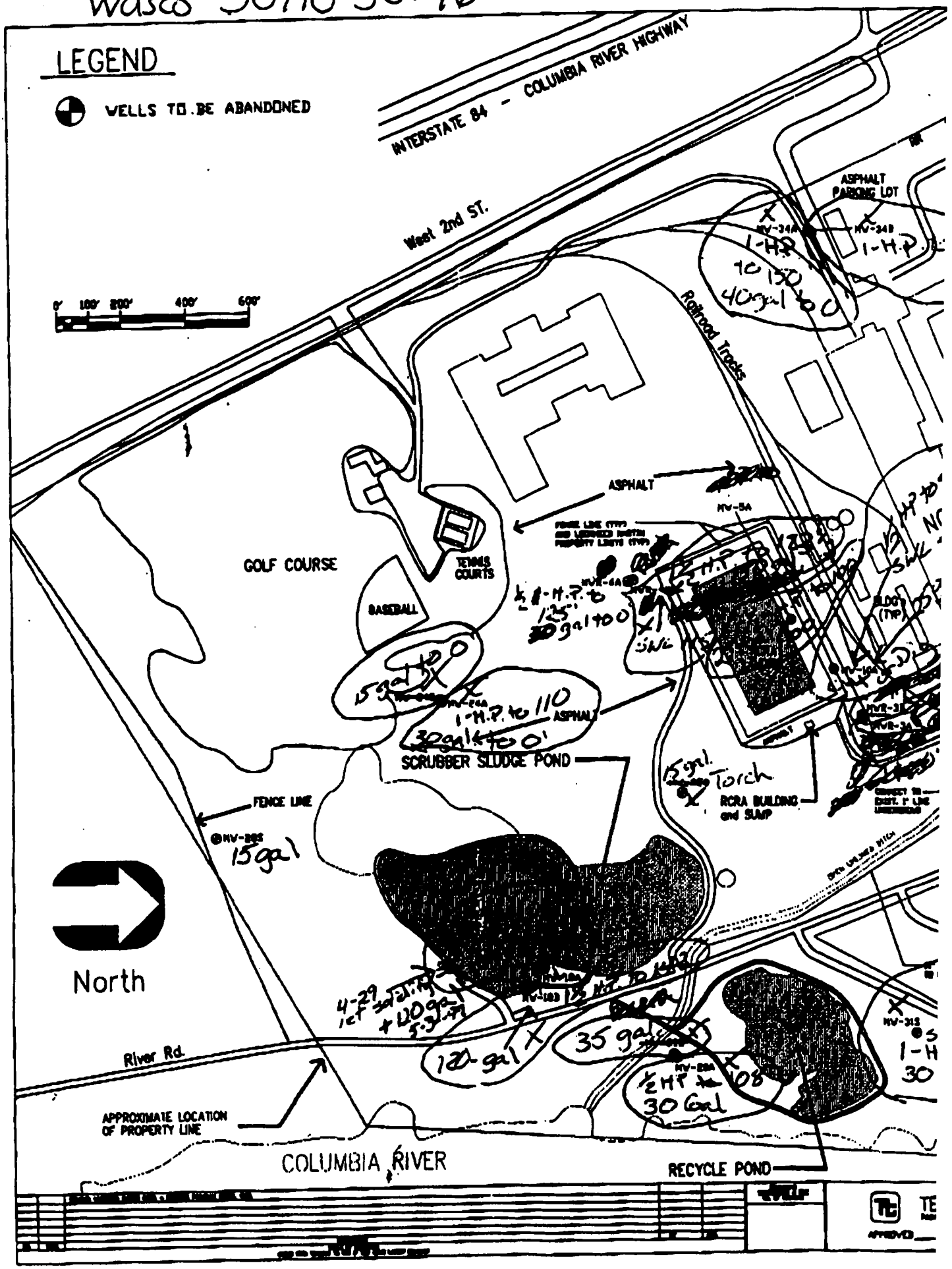
I accept responsibility for the construction, alteration, or abandonment work performed on this well during the construction dates reported above. All work performed during this time is in compliance with Oregon well construction standards. This report is true to the best of my knowledge and belief.

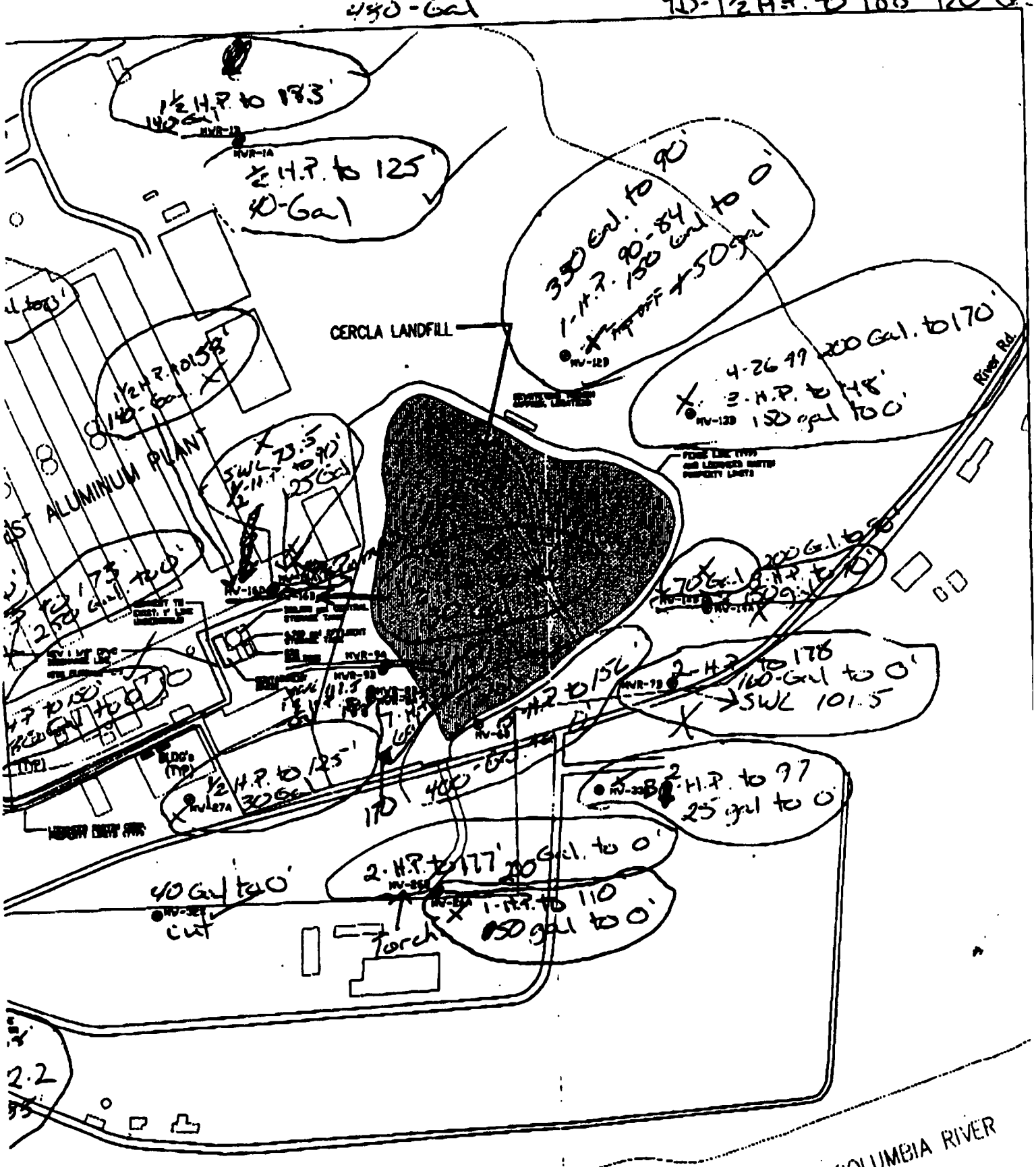
MWC Number 10011

Signed By GREG MCINNIS Date

Wasco 50710-50746

61 H.T.





ECH · FORMER MARIETTA REDUCTION FACILITY

FIGURE 3. LOCATION OF GROUNDWATER MONITORING WELLS

STATE OF OREGON

MONITORING WELL REPORT

WASC 50735

Received Date 05/26/1999

Well ID Tag# L

(as required by ORS 537.765 & OAR 690-240-095) Instructions for completing this report are on the last page of this form.

Start Card # 117465

(1) OWNER/PROJECT

Well No.

Co Job No. AB24S

Name LOCKHEED MARTIN CORP.

Street 2550 N HOLLYWOOD WAY SUITE 305

City BURBANK State CA Zip 915051055

(2) TYPE OF WORK

☐ New Construction ☐ Alter (Recondition) ☐ Alter (Repair)

☐ Conversion ☐ Deepening ☒ Abandonment

(3) DRILLING METHOD

☐ Rotary Air ☐ Rotary Mud ☐ Cable

☐ Hollow Stem Auger Other *****

(4) BORE HOLE CONSTRUCTION

Special Standards ☒ Depth of completed well 21 ft.

Material	Begin Depth	End Depth	Material	Units
Bentonite	0.00	21.00	3.00	G

Vault

ft.

Casing Diameter Liner ☐

TO

ft.

Monument

Casing or Liner	Diameter	Begin Depth	End Depth	Gauge	Material	Construction Weld	Construction Threaded	Location
C	2.00				Plasti	☒	☒	

ft.

TO

ft.

Seal

ft.

TO

ft.

From	To	Material	Amount	Seal Grout Weight	Units
0.00	21.00	Bentonite	3.00		G

Filter Pack Screen ☐

ft.

TO

ft.

Filter Pack

Material

Size in.

(5) WELL TEST

Permeability Yield

Conductivity PH

Temperature of water °F/C Depth artesian flow found ft.

Was water analysis done? ☐

By Whom?

Depth of strata to be analyzed. From ft. to ft.

Remarks

Name of supervising Geologist/Engineer

(6) LOCATION OF WELL By legal description

County Wasco

Township 1.00 N Range 13.00 E Section 3

1. NE 1/4 of NW 1/4 of above section.

Legal Desc:

2. Either Street address of well location

3313 W SECOND ST, THE DALLES

or Tax lot number of well location 1400

3. ATTACH MAP WITH LOCATION IDENTIFIED. Map shall include approximate scale and north arrow.

(7) STATIC WATER LEVEL

Ft. below land surface. Date

Artesian Pressure lb/sq. in. Date

(8) WATER BEARING ZONES

Depth at which water was first found ft.

(9) WELL LOG

Ground elevation ft.

Date started 04/30/1999 Completed 04/30/1999

(unbonded) Monitor Well Constructor Certification:

I certify that the work I performed on the construction, alteration, or abandonment of this well is in compliance with Oregon well construction standards. Materials used and information reported above are true to the best knowledge and belief.

MWC Number 10076

Signed By BRADLEY J WIEBERDINK Date

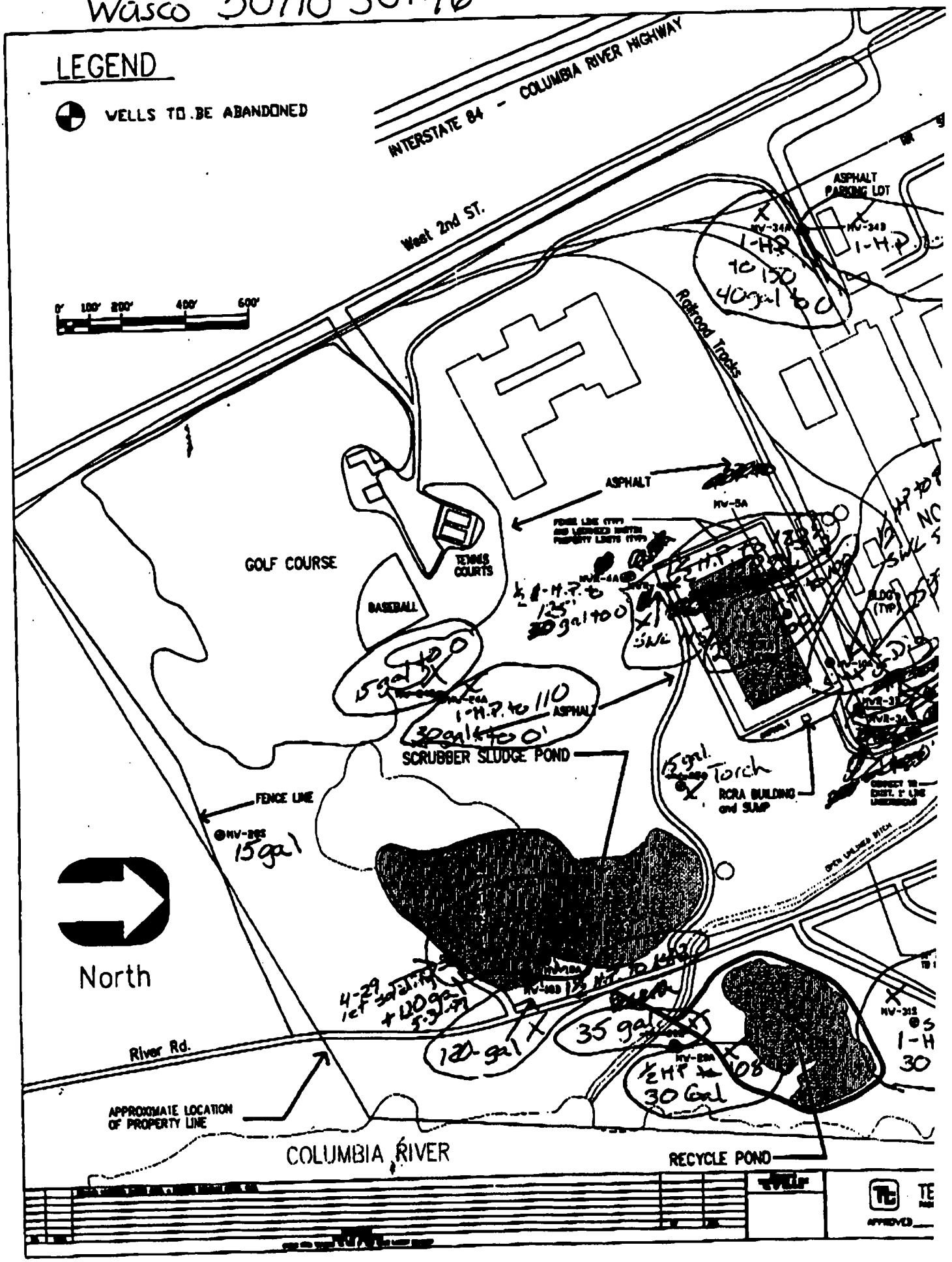
(bonded) Monitor Well Constructor Certification:

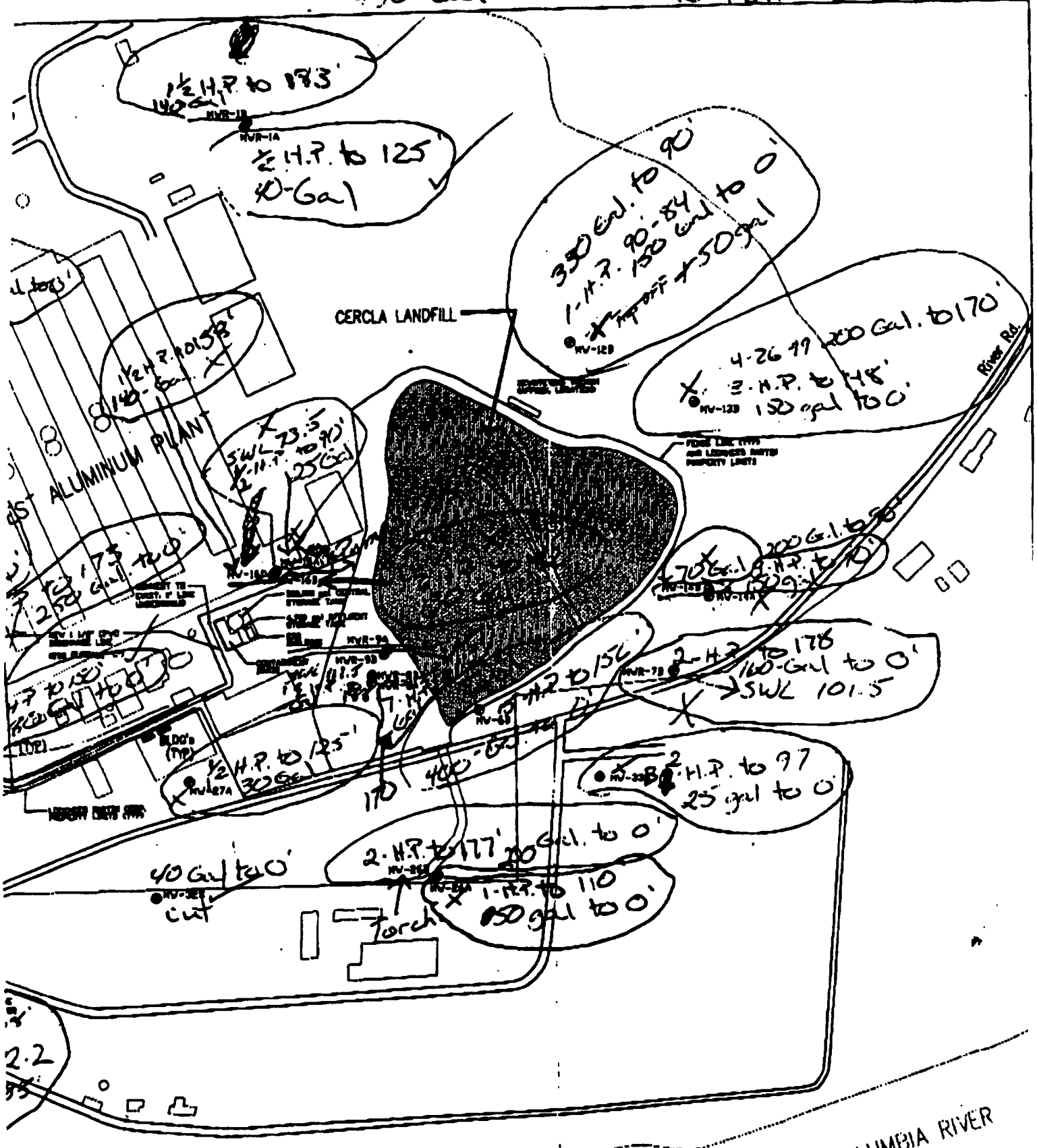
I accept responsibility for the construction, alteration, or abandonment work performed on this well during the construction dates reported above. All work performed during this time is in compliance with Oregon well construction standards. This report is true to the best of my knowledge and belief.

MWC Number 10011

Signed By GREG MCINNIS Date

Wasco 50710-50746





FORMER MARIETTA REDUCTION FACILITY

FIGURE 3. LOCATION OF GROUNDWATER MONITORING WELLS

1" = 400'

ECH

STATE OF OREGON

MONITORING WELL REPORT

WASC 50734

Received Date 05/26/1999
Well ID Tag# L
Start Card # 117464

(as required by ORS 537.765 & OAR 690-240-095) Instructions for completing this report are on the last page of this form.

(1) OWNER/PROJECT

Well No.
Co Job No. AB20A

Name LOCKHEED MARTIN CORP.
Street 2550 N HOLLYWOOD WAY SUITE 305
City BURBANK State CA Zip 915051055

(2) TYPE OF WORK

☐ New Construction ☐ Alter (Recondition) ☐ Alter (Repair)
☐ Conversion ☐ Deepening ☒ Abandonment

(3) DRILLING METHOD

☐ Rotary Air ☐ Rotary Mud ☐ Cable
☐ Hollow Stem Auger Other *****

(4) BORE HOLE CONSTRUCTION

Special Standards ☒ Depth of completed well 120 ft.

Material	Begin Depth	End Depth	Material	Units
Bentonite	0.00	120.00	25.00	G

Vault
ft.
Casing Diameter Liner ☐
TO
ft.

Monument

Casing or Liner	Diameter	Begin Depth	End Depth	Gauge	Material	Construction Weld	Threaded	Location
C	2.00				Plasti	☒	☒	

ft.
TO
ft.

Seal
ft.

TO	From	To	Material	Amount	Seal Grout Weight	Units
ft.	0.00	120.00	Bentonite	25.00		9 G

Filter Pack Screen ☐
ft.
TO
ft.

Filter Pack
Material
Size in.

(5) WELL TEST

Permeability Yield
Conductivity PH
Temperature of water °F/C Depth artesian flow found ft.
Was water analysis done? ☐
By Whom?
Depth of strata to be analyzed. From ft. to ft.
Remarks

Name of supervising Geologist/Engineer

(6) LOCATION OF WELL By legal description

County Wasco
Township 1.00 N Range 13.00 E Section 3
1. NE 1/4 of NW 1/4 of above section.
Legal Desc:

2. Either Street address of well location
3313 W SECOND ST, THE DALLES
or Tax lot number of well location 1400

3. ATTACH MAP WITH LOCATION IDENTIFIED. Map shall include approximate scale and north arrow.

(7) STATIC WATER LEVEL

Ft. below land surface. Date
Artesian Pressure lb/sq. in. Date

(8) WATER BEARING ZONES

Depth at which water was first found ft.

(9) WELL LOG

Ground elevation ft.

Date started 04/29/1999 Completed 04/29/1999

(unbonded) Monitor Well Constructor Certification:

I certify that the work I performed on the construction, alteration, or abandonment of this well is in compliance with Oregon well construction standards. Materials used and information reported above are true to the best knowledge and belief.

MWC Number 10076
Signed By BRADLEY J WIEBERDINK Date

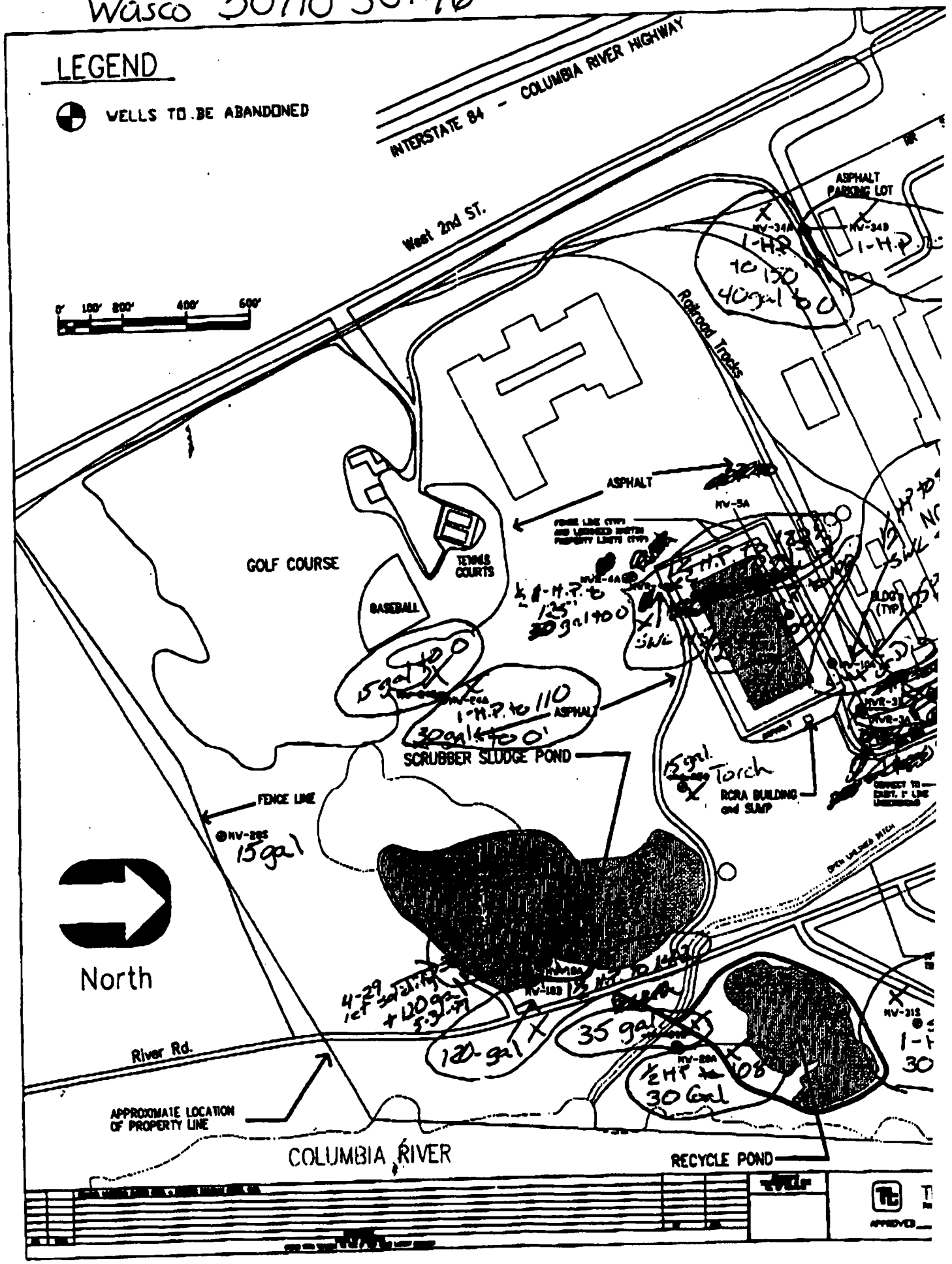
(bonded) Monitor Well Constructor Certification:

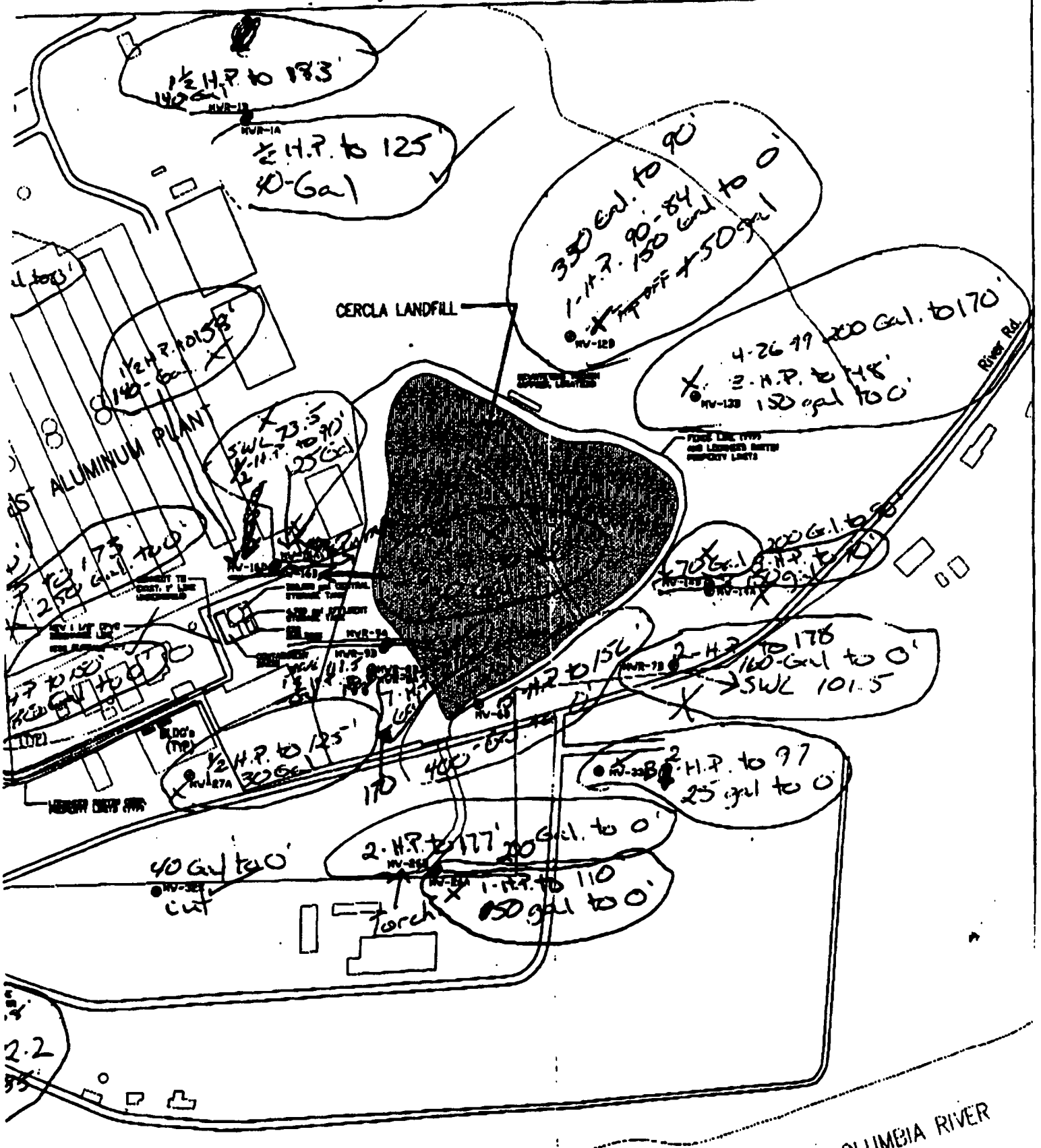
I accept responsibility for the construction, alteration, or abandonment work performed on this well during the construction dates reported above. All work performed during this time is in compliance with Oregon well construction standards. This report is true to the best of my knowledge and belief.

MWC Number 10011
Signed By GREG MCINNIS Date

Wasco 50710-50746

61 H.P.





ECH ENGINEERS ARCHITECTS : PLANNERS SCIENTISTS		1" = 400'	FORMER MARIETTA REDUCTION FACILITY
			FIGURE 3. LOCATION OF GROUNDWATER MONITORING WELLS

STATE OF OREGON

MONITORING WELL REPORT

WASC 50733

Received Date 05/26/1999

Well ID Tag# L

Start Card # 117463

(as required by ORS 537.765 & OAR 690-240-095) Instructions for completing this report are on the last page of this form.

(1) OWNER/PROJECT

Well No.

Co Job No. AB20S

Name LOCKHEED MARTIN CORP.

Street 2550 N HOLLYWOOD WAY SUITE 305

City BURBANK State CA Zip 915051055

(2) TYPE OF WORK

☐ New Construction ☐ Alter (Recondition) ☐ Alter (Repair)

☐ Conversion ☐ Deepening ☒ Abandonment

(3) DRILLING METHOD

☐ Rotary Air ☐ Rotary Mud ☐ Cable

☐ Hollow Stem Auger Other *****

(4) BORE HOLE CONSTRUCTION

Special Standards ☒ Depth of completed well 70 ft.

Material	Begin Depth	End Depth	Material	Units
Bentonite	0.00	70.00	15.00	G

Vault

ft. TO ft.

Casing Diameter Liner ☐

Monument

Casing or Liner	Diameter	Begin Depth	End Depth	Gauge	Material	Construction Weld	Construction Threaded	Location
C	2.00				Plasti	☐	☒	

ft. TO ft.

Seal

ft. TO ft.

From	To	Material	Amount	Seal Grout Weight	Units
0.00	70.00	Bentonite	15.00	9	G

Filter Pack Screen ☐

ft. TO ft.

Filter Pack Material

Size in.

(5) WELL TEST

Permeability Yield

Conductivity PH

Temperature of water °F/C Depth artesian flow found ft.

Was water analysis done? ☐

By Whom?

Depth of strata to be analyzed. From ft. to ft.

Remarks

Name of supervising Geologist/Engineer

(6) LOCATION OF WELL By legal description

County Wasco

Township 1.00 N Range 13.00 E Section 3

1. NE 1/4 of NW 1/4 of above section.

Legal Desc:

2. Either Street address of well location

3313 W SECOND ST, THE DALLES

or Tax lot number of well location 1400

3. ATTACH MAP WITH LOCATION IDENTIFIED. Map shall include approximate scale and north arrow.

(7) STATIC WATER LEVEL

Ft. below land surface. Date

Artesian Pressure lb/sq. in. Date

(8) WATER BEARING ZONES

Depth at which water was first found ft.

(9) WELL LOG

Ground elevation ft.

Date started 04/29/1999 Completed 04/29/1999

(unbonded) Monitor Well Constructor Certification:

I certify that the work I performed on the construction, alteration, or abandonment of this well is in compliance with Oregon well construction standards. Materials used and information reported above are true to the best knowledge and belief.

MWC Number 10076

Signed By BRADLEY J WIEBERDINK Date

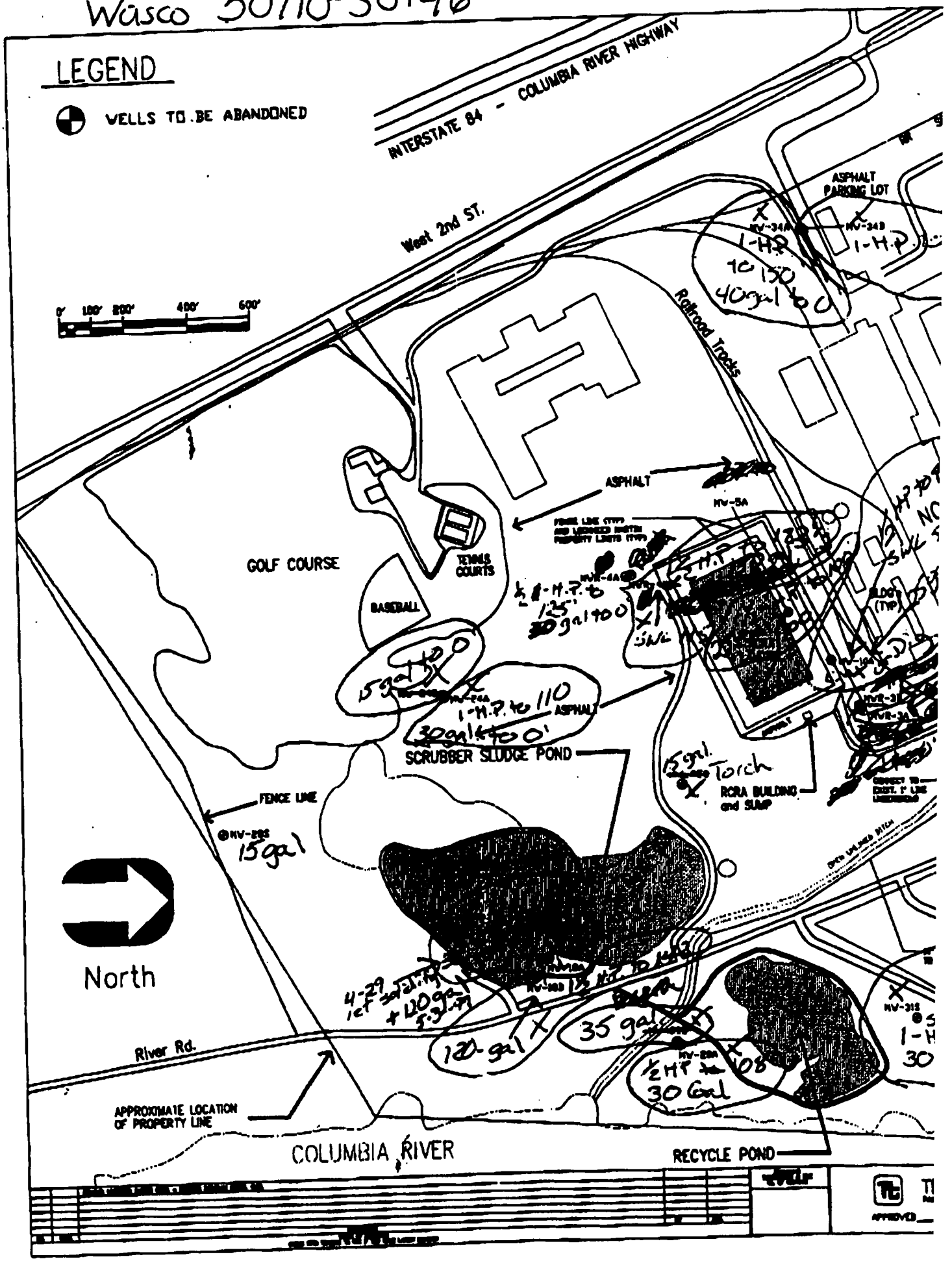
(bonded) Monitor Well Constructor Certification:

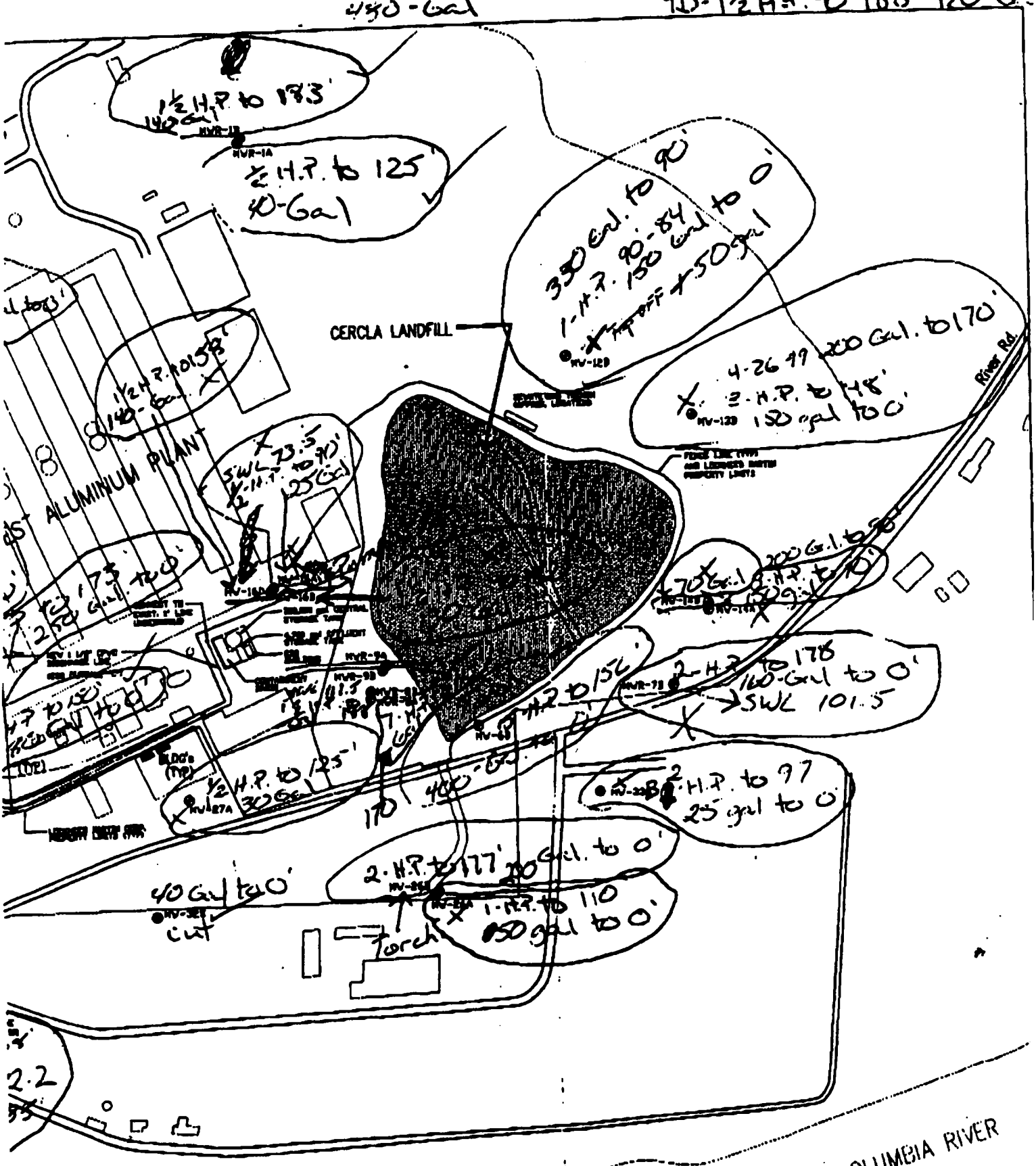
I accept responsibility for the construction, alteration, or abandonment work performed on this well during the construction dates reported above. All work performed during this time is in compliance with Oregon well construction standards. This report is true to the best of my knowledge and belief.

MWC Number 10011

Signed By GREG MCINNIS Date

Wasco 50710-50746





ECH ENGINEERS • SCIENTISTS		1" = 400'	FORMER MARIETTA REDUCTION FACILITY
			FIGURE 3. LOCATION OF GROUNDWATER MONITORING WELLS

STATE OF OREGON

MONITORING WELL REPORT

WASC 50732

Received Date 05/26/1999

Well ID Tag# L

Start Card # 117462

(as required by ORS 537.765 & OAR 690-240-095) Instructions for completing this report are on the last page of this form.

(1) OWNER/PROJECT

Well No.

Co Job No. AB18B

Name LOCKHEED MARTIN CORP.

Street 2550 N HOLLYWOOD WAY SUITE 305

City BURBANK State CA Zip 915051055

(2) TYPE OF WORK

☐ New Construction ☐ Alter (Recondition) ☐ Alter (Repair)

☐ Conversion ☐ Deepening ☒ Abandonment

(3) DRILLING METHOD

☐ Rotary Air ☐ Rotary Mud ☐ Cable

☐ Hollow Stem Auger Other *****

(4) BORE HOLE CONSTRUCTION

Special Standards ☒ Depth of completed well 157 ft.

Material	Begin Depth	End Depth	Material	Units
Bentonite	0.00	157.00	127.00	G

Vault

ft.

Casing Diameter Liner ☐

TO

ft.

Monument	Casing or Liner	Diameter	Begin Depth	End Depth	Gauge	Material	Construction Weld	Construction Threaded	Location
	C	4.00				Plasti	▒	▒	

ft.

TO

ft.

Seal

ft.

TO	From	To	Material	Amount	Seal Grout Weight	Units
ft.	0.00	157.00	Bentonite	127.00		9 G

Filter Pack Screen ☐

ft.

TO

ft.

Filter Pack

Material

Size in.

(5) WELL TEST

Permeability Yield

Conductivity PH

Temperature of water °F/C Depth artesian flow found ft.

Was water analysis done? ☐

By Whom?

Depth of strata to be analyzed. From ft. to ft.

Remarks

Name of supervising Geologist/Engineer

(6) LOCATION OF WELL By legal description

County Wasco

Township 1.00 N Range 13.00 E Section 3

1. NE 1/4 of NW 1/4 of above section.

Legal Desc:

2. Either Street address of well location

3313 W SECOND ST, THE DALLES

or Tax lot number of well location 1400

3. ATTACH MAP WITH LOCATION IDENTIFIED. Map shall include approximate scale and north arrow.

(7) STATIC WATER LEVEL

Ft. below land surface. Date

Artesian Pressure lb/sq. in. Date

(8) WATER BEARING ZONES

Depth at which water was first found ft.

(9) WELL LOG

Ground elevation ft.

Date started 04/29/1999 Completed 04/29/1999

(unbonded) Monitor Well Constructor Certification:

I certify that the work I performed on the construction, alteration, or abandonment of this well is in compliance with Oregon well construction standards. Materials used and information reported above are true to the best knowledge and belief.

MWC Number 10076

Signed By BRADLEY J WIEBERDINK Date

(bonded) Monitor Well Constructor Certification:

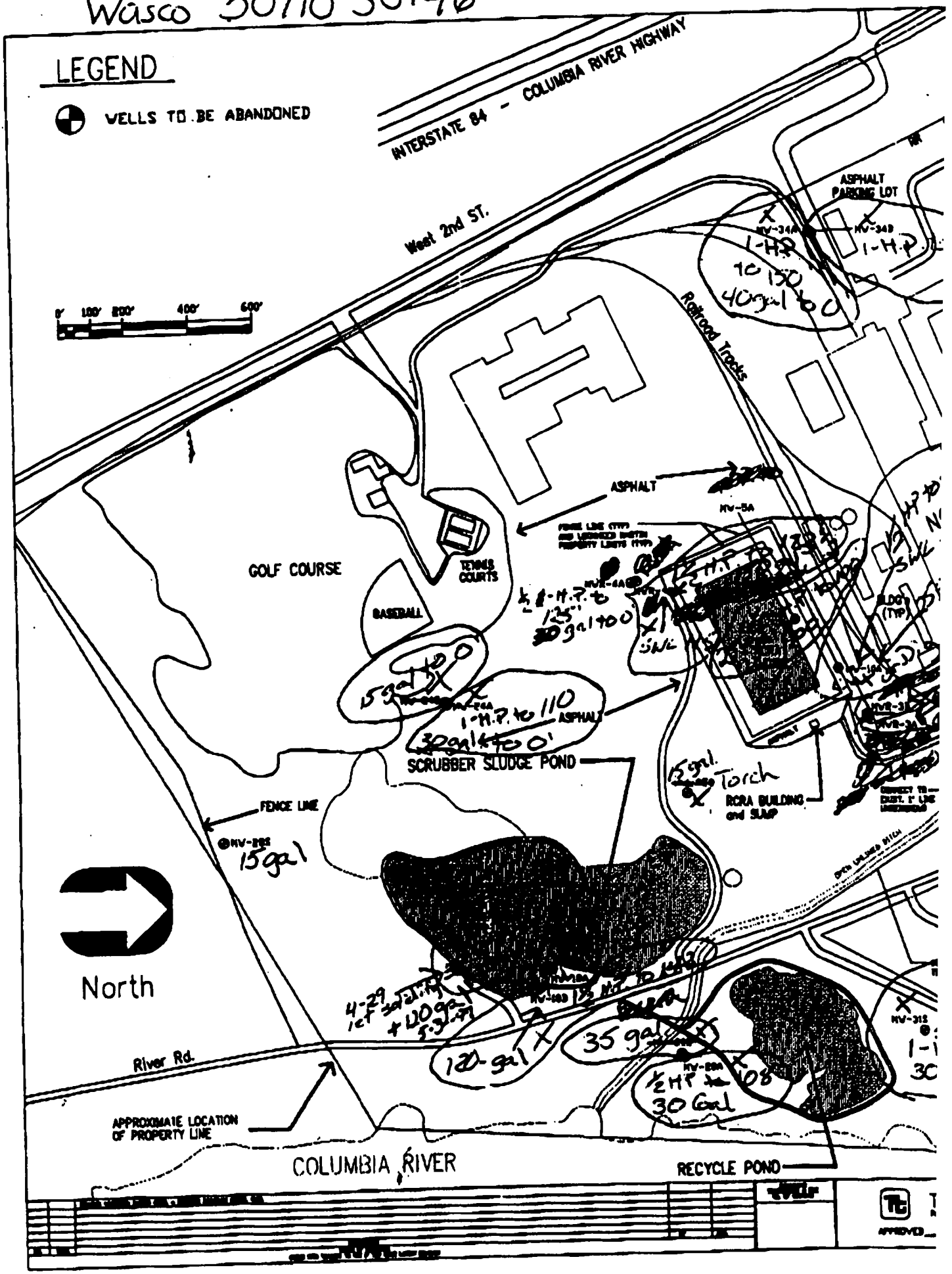
I accept responsibility for the construction, alteration, or abandonment work performed on this well during the construction dates reported above. All work performed during this time is in compliance with Oregon well construction standards. This report is true to the best of my knowledge and belief.

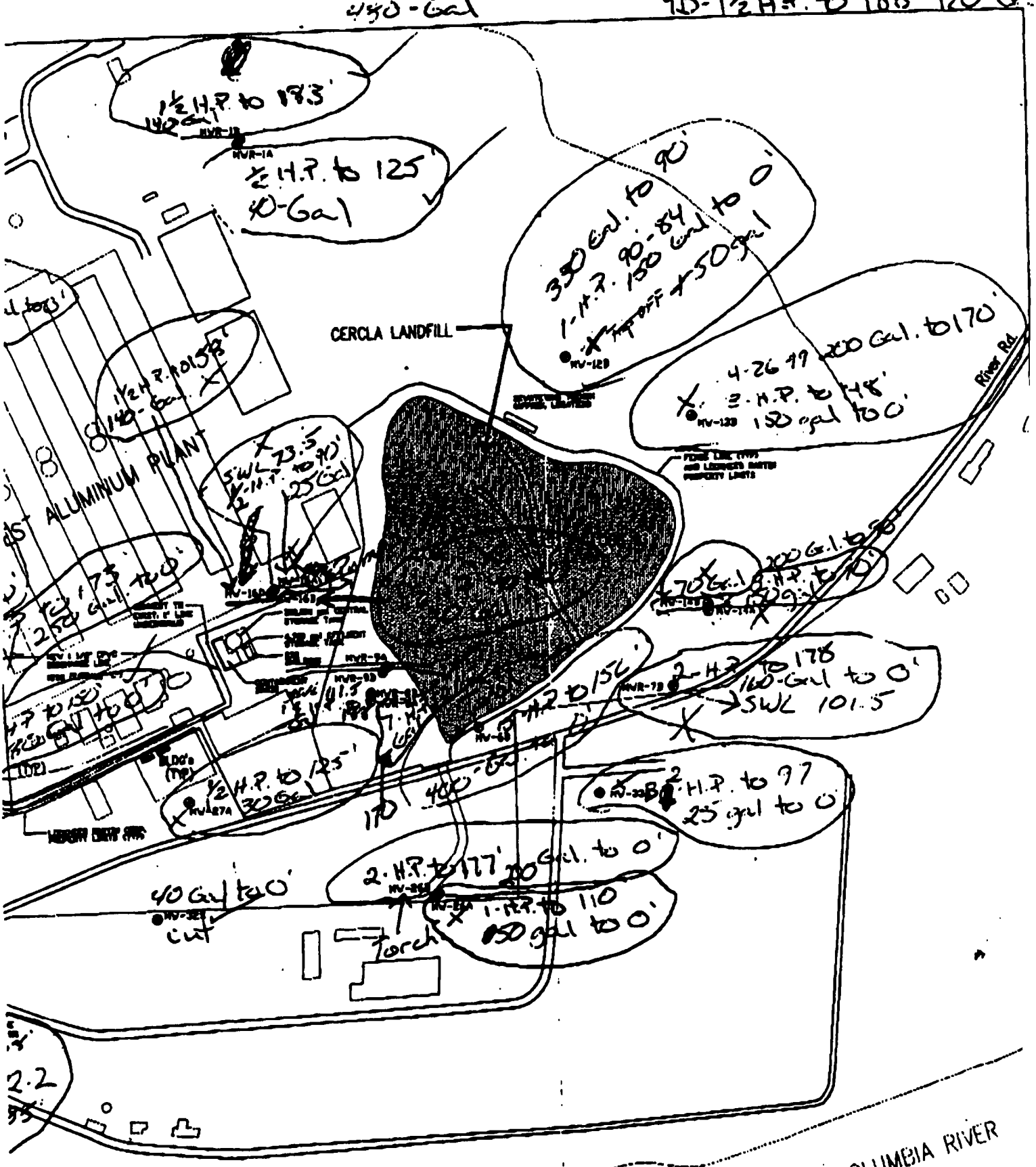
MWC Number 10011

Signed By GREG MCINNIS Date

Wasco 50710-50746

61 H.P.





FORMER MARIETTA REDUCTION FACILITY

FIGURE 3. LOCATION OF GROUNDWATER MONITORING WELLS

ECH

1" = 400'

PAGE 1

STATE OF OREGON

MONITORING WELL REPORT

WASC 50731

Received Date 05/26/1999
Well ID Tag# L
Start Card # 117461

(as required by ORS 537.765 & OAR 690-240-095) **Instructions for completing this report are on the last page of this form.**

(1) OWNER/PROJECT

Well No.
Co Job No. **AB18A**

Name **LOCKHEED MARTIN CORP.**
Street **2550 N HOLLYWOOD WAY SUITE 305**
City **BURBANK** State **CA** Zip **915051055**

(2) TYPE OF WORK

☐ New Construction ☐ Alter (Recondition) ☐ Alter (Repair)
☐ Conversion ☐ Deepening ☒ Abandonment

(3) DRILLING METHOD

☐ Rotary Air ☐ Rotary Mud ☐ Cable
☐ Hollow Stem Auger Other *****

(4) BORE HOLE CONSTRUCTION

Special Standards ☒ Depth of completed well **132** ft.

Material	Begin Depth	End Depth	Material	Units
Bentonite	0.00	132.00	203.00	G

Vault
ft.
Casing Diameter Liner ☐
TO
ft.

Monument	Casing or Liner	Diameter	Begin Depth	End Depth	Gauge	Material	Construction Weld	Threaded	Location
	C	6.00				Steel	☒	☐	

ft.
TO
ft.

Seal
ft.

TO	From	To	Material	Amount	Seal Grout Weight	Units
ft.	0.00	132.00	Bentonite	203.00		9 G

Filter Pack Screen ☐
ft.
TO
ft.

Filter Pack
Material
Size in.

(5) WELL TEST

Permeability Yield
Conductivity PH
Temperature of water °F/C Depth artesian flow found ft.
Was water analysis done? ☐
By Whom?
Depth of strata to be analyzed. From ft. to ft.
Remarks

Name of supervising Geologist/Engineer

(6) LOCATION OF WELL By legal description

County **Wasco**
Township **1.00 N** Range **13.00 E** Section **3**
1. **NE** 1/4 of **NW** 1/4 of above section.
Legal Desc:

2. Either Street address of well location

or Tax lot number of well location

3. ATTACH MAP WITH LOCATION IDENTIFIED. Map shall include approximate scale and north arrow.

(7) STATIC WATER LEVEL

Ft. below land surface. Date
Artesian Pressure lb/sq. in. Date

(8) WATER BEARING ZONES

Depth at which water was first found ft.

(9) WELL LOG

Ground elevation ft.

Date started **04/29/1999** Completed **04/29/1999**

(unbonded) Monitor Well Constructor Certification:

I certify that the work I performed on the construction, alteration, or abandonment of this well is in compliance with Oregon well construction standards. Materials used and information reported above are true to the best knowledge and belief.

MWC Number **10076**
Signed By **BRADLEY J WIEBERDINK** Date

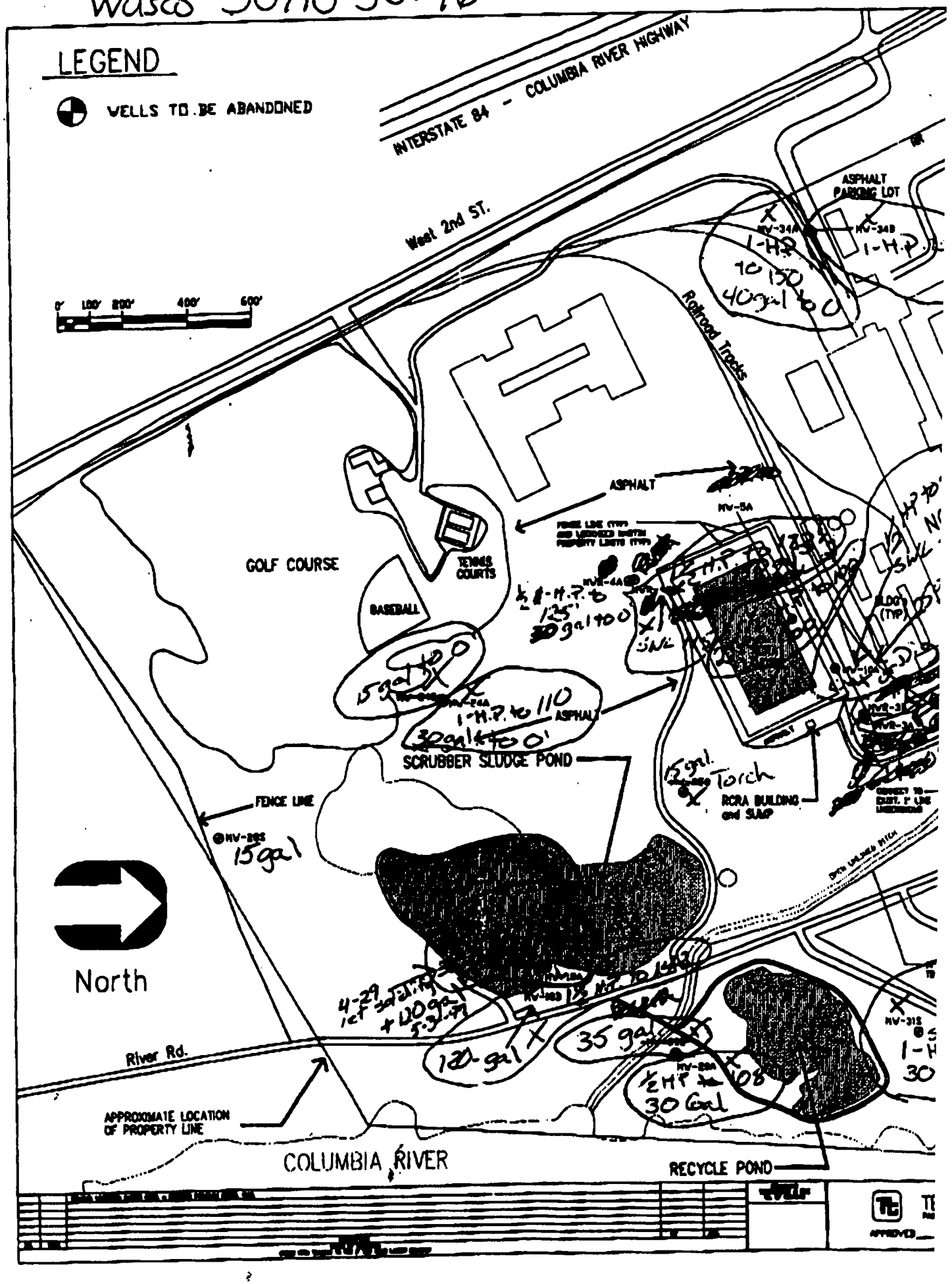
(bonded) Monitor Well Constructor Certification:

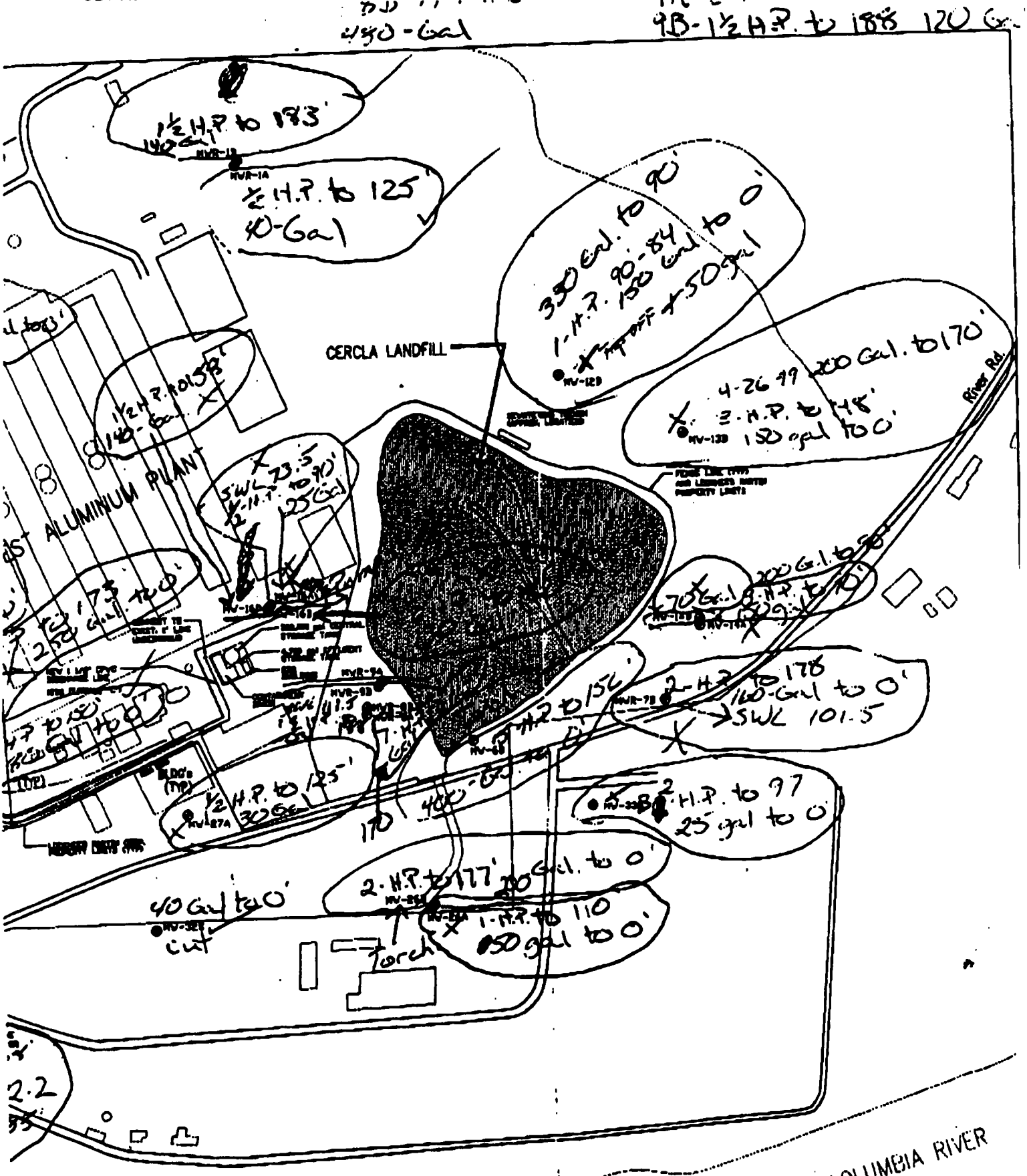
I accept responsibility for the construction, alteration, or abandonment work performed on this well during the construction dates reported above. All work performed during this time is in compliance with Oregon well construction standards. This report is true to the best of my knowledge and belief.

MWC Number **10011**
Signed By **GREG MCINNIS** Date

Wasco 50710-50746

61H.P.





ECH

FORMER MARIETTA REDUCTION FACILITY

FIGURE 3. LOCATION OF GROUNDWATER MONITORING WELLS

1" = 400'

STATE OF OREGON

MONITORING WELL REPORT

WASC 50730

Received Date 05/26/1999

Well ID Tag# L

Start Card # 117460

(as required by ORS 537.765 & OAR 690-240-095) Instructions for completing this report are on the last page of this form.

(1) OWNER/PROJECT

Well No.

Co Job No. AB16D

Name LOCKHEED MARTIN CORP.

Street 2550 N HOLLYWOOD WAY SUITE 305

City BURBANK State CA Zip 915051055

(2) TYPE OF WORK

☐ New Construction ☐ Alter (Recondition) ☐ Alter (Repair)

☐ Conversion ☐ Deepening ☒ Abandonment

(3) DRILLING METHOD

☐ Rotary Air ☐ Rotary Mud ☐ Cable

☐ Hollow Stem Auger Other *****

(4) BORE HOLE CONSTRUCTION

Special Standards ☒ Depth of completed well 269 ft.

Material	Begin Depth	End Depth	Material	Units
Bentonite	0.00	269.00	394.00	G

Vault

ft. TO ft.

Casing Diameter Liner ☐

Monument

Casing or Liner	Diameter	Begin Depth	End Depth	Gauge	Material	Construction Weld	Construction Threaded	Location
C	4.00				Plasti			

ft. TO ft.

Seal

ft. TO ft.

From	To	Material	Amount	Seal Grout Weight	Units
0.00	269.00	Bentonite	394.00	9	G

Filter Pack Screen ☐

ft. TO ft.

Filter Pack Material

Size in.

(5) WELL TEST

Permeability Yield

Conductivity PH

Temperature of water °F/C Depth artesian flow found ft.

Was water analysis done? ☐

By Whom?

Depth of strata to be analyzed. From ft. to ft.

Remarks

Name of supervising Geologist/Engineer

(6) LOCATION OF WELL By legal description

County Wasco

Township 1.00 N Range 13.00 E Section 3

1. NE 1/4 of NW 1/4 of above section.

Legal Desc:

2. Either Street address of well location

3313 W SECOND ST, THE DALLES

or Tax lot number of well location 1400

3. ATTACH MAP WITH LOCATION IDENTIFIED. Map shall include approximate scale and north arrow.

(7) STATIC WATER LEVEL

Ft. below land surface. Date

Artesian Pressure lb/sq. in. Date

(8) WATER BEARING ZONES

Depth at which water was first found ft.

(9) WELL LOG

Ground elevation ft.

Date started 04/29/1999 Completed 04/29/1999

(unbonded) Monitor Well Constructor Certification:

I certify that the work I performed on the construction, alteration, or abandonment of this well is in compliance with Oregon well construction standards. Materials used and information reported above are true to the best knowledge and belief.

MWC Number 10076

Signed By BRADLEY J WIEBERDINK Date

(bonded) Monitor Well Constructor Certification:

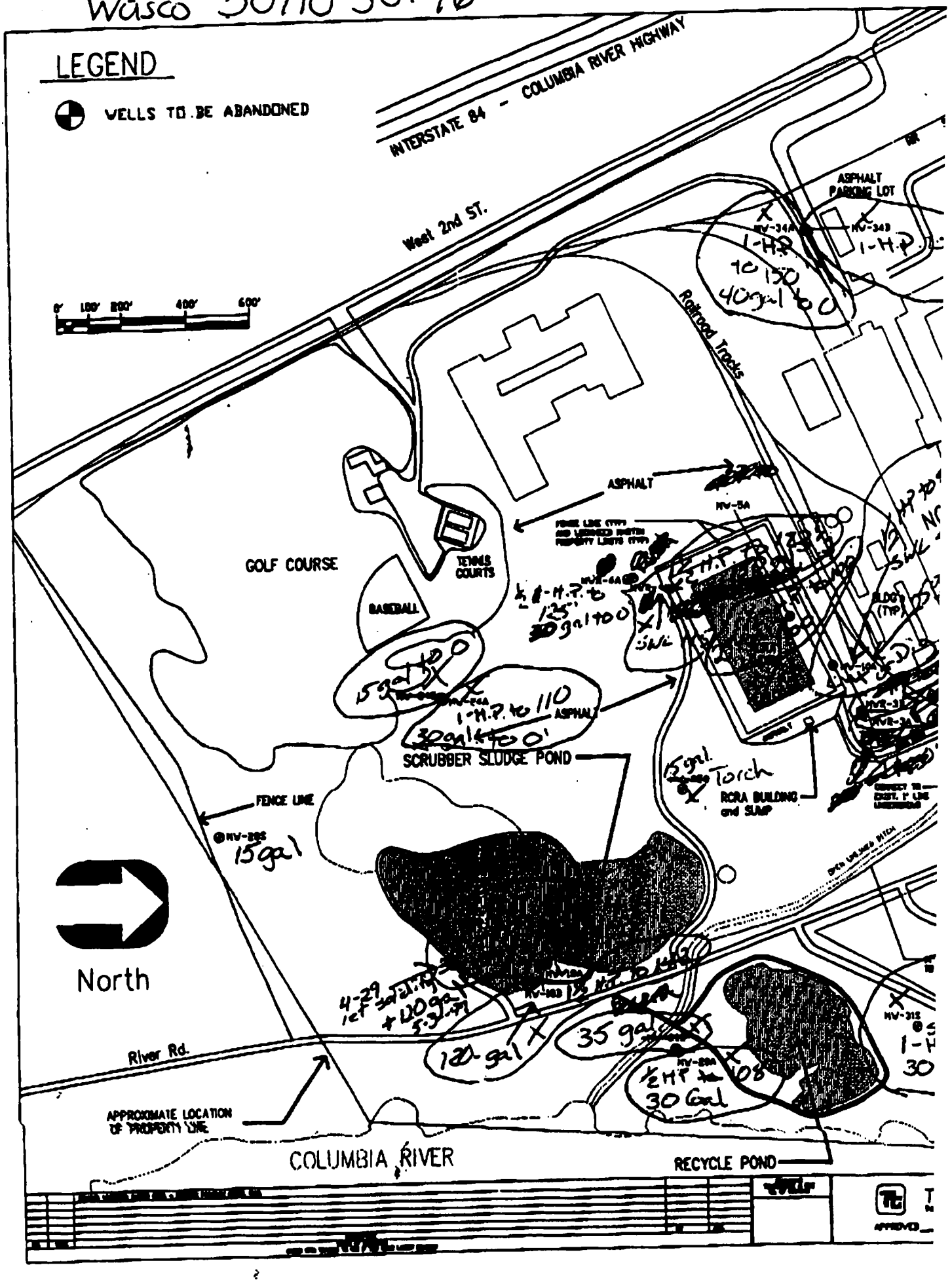
I accept responsibility for the construction, alteration, or abandonment work performed on this well during the construction dates reported above. All work performed during this time is in compliance with Oregon well construction standards. This report is true to the best of my knowledge and belief.

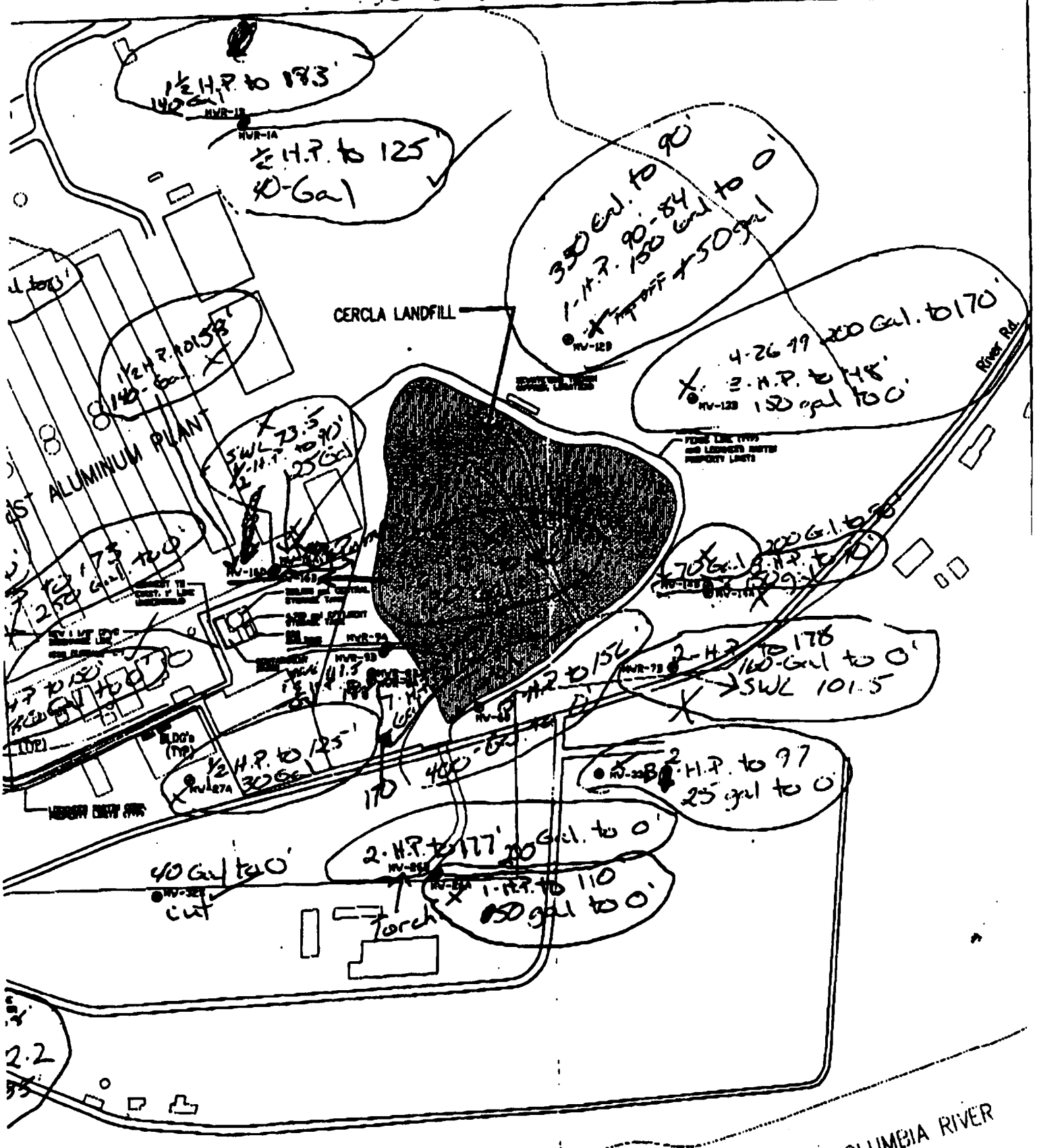
MWC Number 10011

Signed By GREG MCINNIS Date

Wasco 50710-50746

61 H.P.





ECH		1" = 400'	FORMER MARIETTA REDUCTION FACILITY
			FIGURE 3. LOCATION OF GROUNDWATER MONITORING WELLS

STATE OF OREGON

MONITORING WELL REPORT

WASC 50729

Received Date 05/26/1999

Well ID Tag# L

Start Card # 117459

(as required by ORS 537.765 & OAR 690-240-095) Instructions for completing this report are on the last page of this form.

(1) OWNER/PROJECT

Well No.

Co Job No. AB16B

Name LOCKHEED MARTIN CORP.

Street 2550 N HOLLYWOOD WAY SUITE 305

City BURBANK State CA Zip 915051055

(2) TYPE OF WORK

☐ New Construction ☐ Alter (Recondition) ☐ Alter (Repair)

☐ Conversion ☐ Deepening ☒ Abandonment

(3) DRILLING METHOD

☐ Rotary Air ☐ Rotary Mud ☐ Cable

☐ Hollow Stem Auger Other *****

(4) BORE HOLE CONSTRUCTION

Special Standards ☒ Depth of completed well 196 ft.

Material	Begin Depth	End Depth	Material	Units
Bentonite	0.00	196.00	126.00	G

Vault

ft. TO ft.

Casing Diameter Liner ☐

Monument

Casing or Liner	Diameter	Begin Depth	End Depth	Gauge	Material	Construction Weld	Construction Threaded	Location
C	4.00				Plasti	☒	☒	

ft. TO ft.

Seal

ft. TO ft.

From	To	Material	Amount	Seal Grout Weight	Units
0.00	196.00	Bentonite	126.00		9 G

Filter Pack Screen ☐

ft. TO ft.

Filter Pack

Material

Size in.

(5) WELL TEST

Permeability Yield

Conductivity PH

Temperature of water *F/C Depth artesian flow found ft.

Was water analysis done? ☐

By Whom?

Depth of strata to be analyzed. From ft. to ft.

Remarks

Name of supervising Geologist/Engineer

(6) LOCATION OF WELL By legal description

County Wasco

Township 1.00 N Range 13.00 E Section 3

1. NE 1/4 of NW 1/4 of above section.

Legal Desc:

2. Either Street address of well location

3313 W SECOND ST, THE DALLES

or Tax lot number of well location 1400

3. ATTACH MAP WITH LOCATION IDENTIFIED. Map shall include approximate scale and north arrow.

(7) STATIC WATER LEVEL

Ft. below land surface. Date

Artesian Pressure lb/sq. in. Date

(8) WATER BEARING ZONES

Depth at which water was first found ft.

(9) WELL LOG

Ground elevation ft.

Date started 04/29/1999 Completed 04/29/1999

(unbonded) Monitor Well Constructor Certification:

I certify that the work I performed on the construction, alteration, or abandonment of this well is in compliance with Oregon well construction standards. Materials used and information reported above are true to the best knowledge and belief.

MWC Number 10076

Signed By BRADLEY J WIEBERDINK Date

(bonded) Monitor Well Constructor Certification:

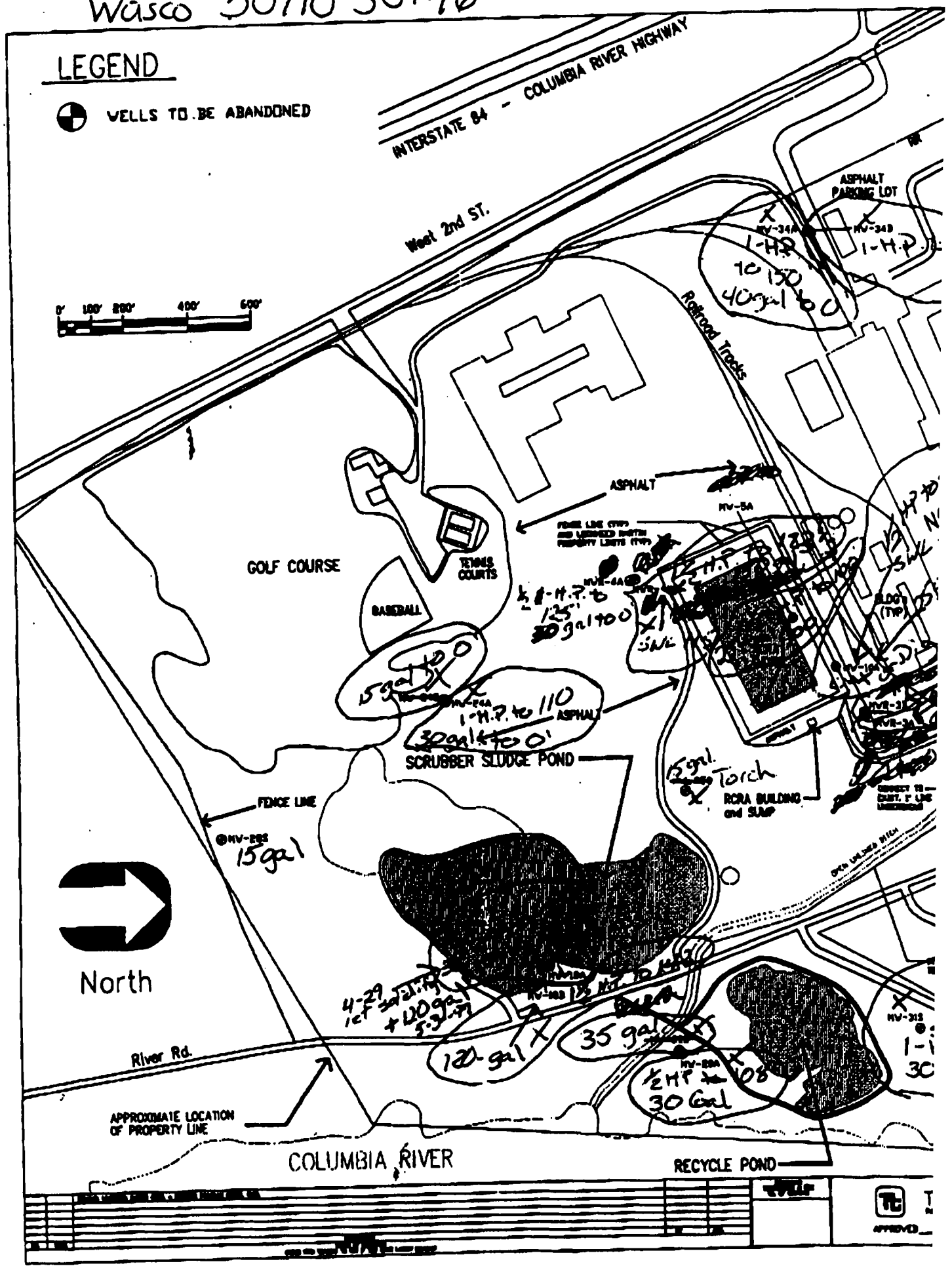
I accept responsibility for the construction, alteration, or abandonment work performed on this well during the construction dates reported above. All work performed during this time is in compliance with Oregon well construction standards. This report is true to the best of my knowledge and belief.

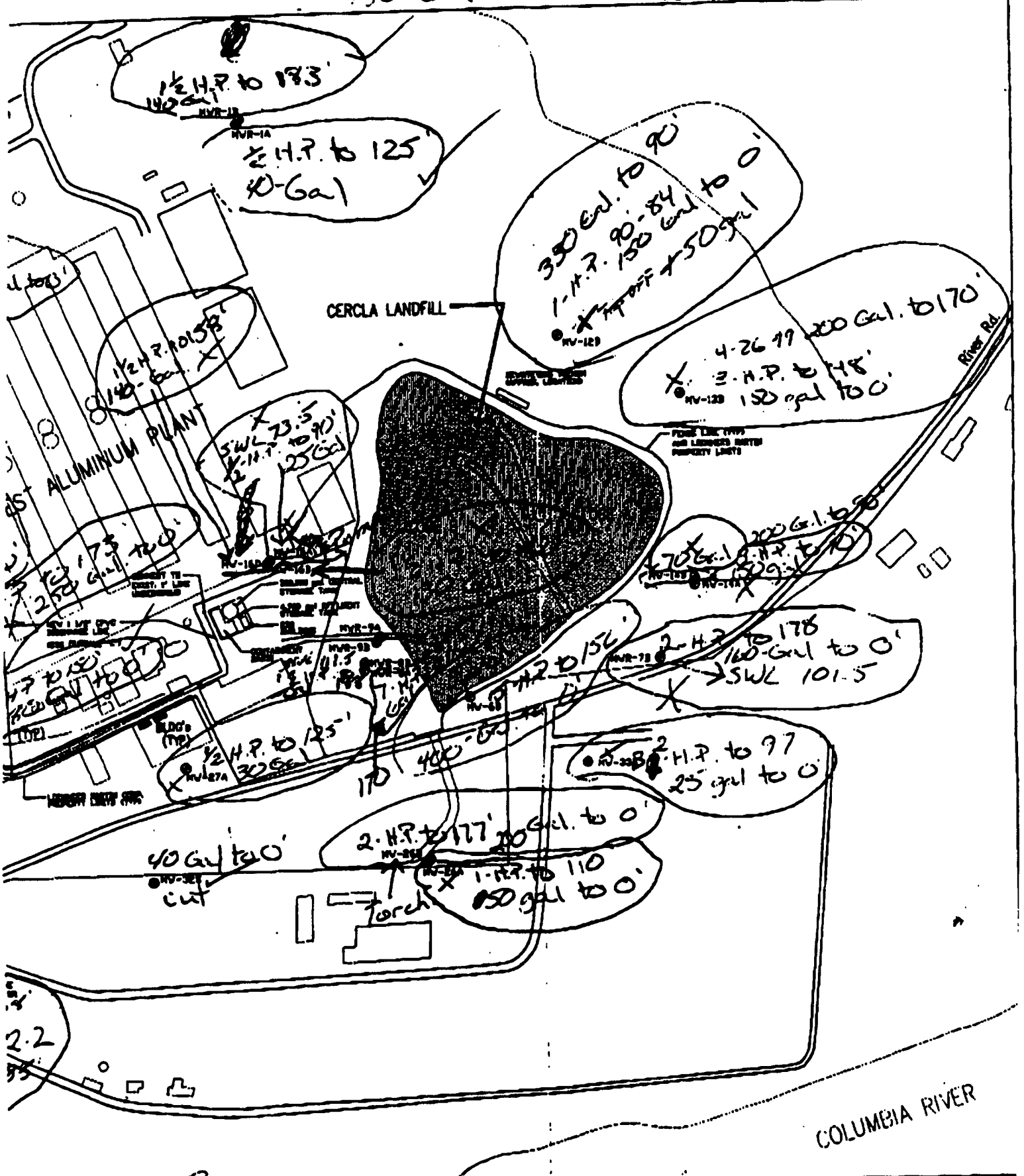
MWC Number 10011

Signed By GREG MCINNIS Date

Wasco 50710-50746

61 H.P.





FORMER MARIETTA REDUCTION FACILITY

FIGURE 3. LOCATION OF GROUNDWATER MONITORING WELLS

STATE OF OREGON

MONITORING WELL REPORT

WASC 50728

Received Date 05/26/1999

Well ID Tag# L

Start Card # 117458

(as required by ORS 537.765 & OAR 690-240-095) Instructions for completing this report are on the last page of this form.

(1) OWNER/PROJECT

Well No.

Co Job No. AB16A

Name LOCKHEED MARTIN CORP.

Street 2550 N HOLLYWOOD WAY SUITE 305

City BURBANK State CA Zip 915051055

(2) TYPE OF WORK

☐ New Construction ☐ Alter (Recondition) ☐ Alter (Repair)

☐ Conversion ☐ Deepening ☒ Abandonment

(3) DRILLING METHOD

☐ Rotary Air ☐ Rotary Mud ☐ Cable

☐ Hollow Stem Auger Other *****

(4) BORE HOLE CONSTRUCTION

Special Standards ☒ Depth of completed well 107 ft.

Material	Begin Depth	End Depth	Material	Units
Bentonite	0.00	107.00	17.00	G

Vault

ft.

Casing Diameter Liner ☐

TO

ft.

Monument

Casing or Liner	Diameter	Begin Depth	End Depth	Gauge	Material	Construction Weld	Construction Threaded	Location
C	2.00				Plasti	☒	☒	

ft.

TO

ft.

Seal

ft.

TO

ft.

From	To	Material	Amount	Seal or Grout Weight	Units
0.00	107.00	Bentonite	17.00		G

Filter Pack Screen ☐

ft.

TO

ft.

Filter Pack Material

Size in.

(5) WELL TEST

Permeability Yield

Conductivity PH

Temperature of water °F/C Depth artesian flow found ft.

Was water analysis done? ☐

By Whom?

Depth of strata to be analyzed. From ft. to ft.

Remarks

Name of supervising Geologist/Engineer

(6) LOCATION OF WELL By legal description

County Wasco

Township 1.00 N Range 13.00 E Section 3

1. NE 1/4 of NW 1/4 of above section.

Legal Desc:

2. Either Street address of well location

3313 W SECOND ST, THE DALLES

or Tax lot number of well location 1400

3. ATTACH MAP WITH LOCATION IDENTIFIED. Map shall include approximate scale and north arrow.

(7) STATIC WATER LEVEL

Ft. below land surface. Date

Artesian Pressure lb/sq. in. Date

(8) WATER BEARING ZONES

Depth at which water was first found ft.

(9) WELL LOG

Ground elevation ft.

Date started 04/29/1999 Completed 04/29/1999

(unbonded) Monitor Well Constructor Certification:

I certify that the work I performed on the construction, alteration, or abandonment of this well is in compliance with Oregon well construction standards. Materials used and information reported above are true to the best knowledge and belief.

MWC Number 10076

Signed By BRADLEY J WIEBERDINK Date

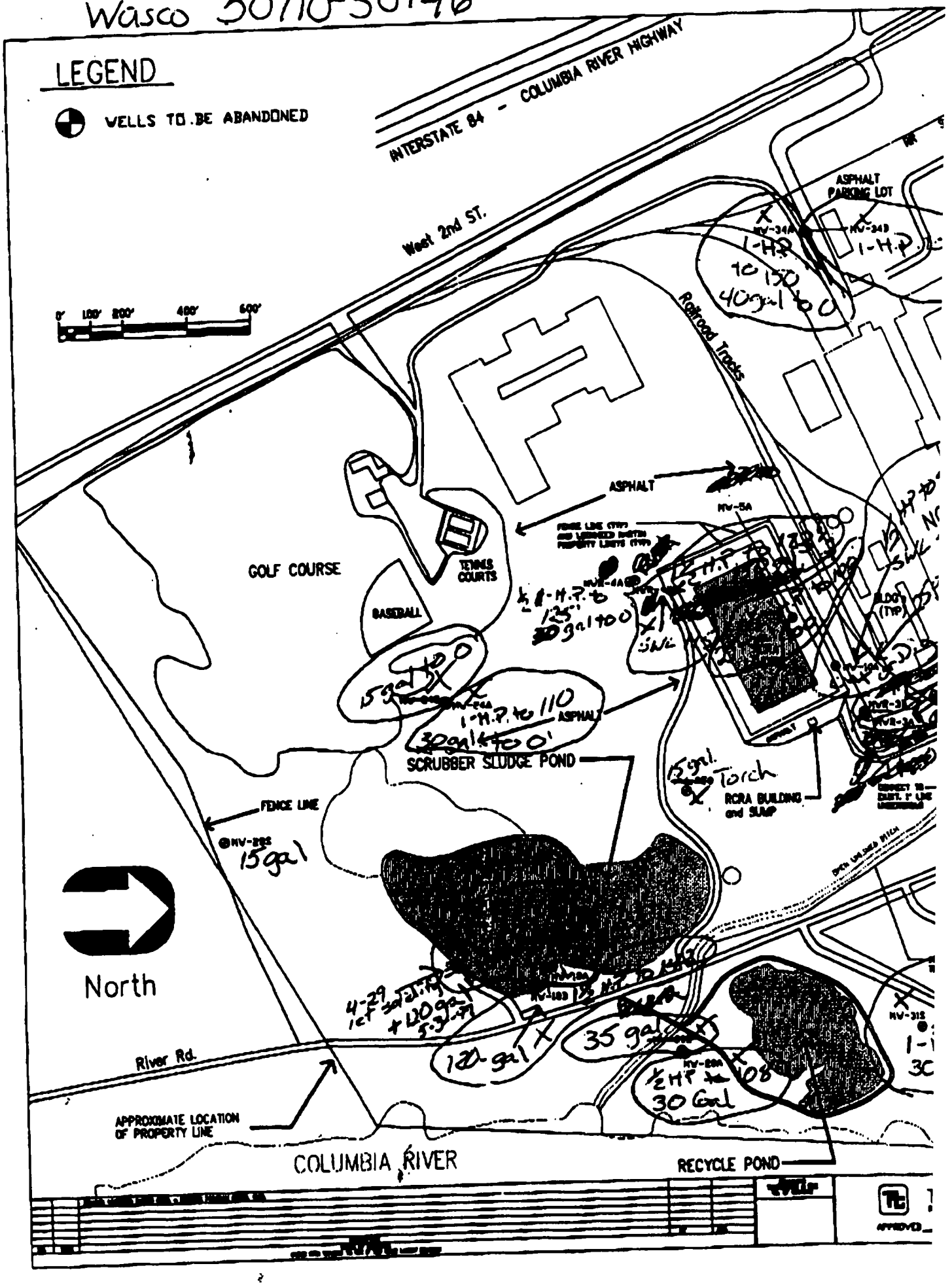
(bonded) Monitor Well Constructor Certification:

I accept responsibility for the construction, alteration, or abandonment work performed on this well during the construction dates reported above. All work performed during this time is in compliance with Oregon well construction standards. This report is true to the best of my knowledge and belief.

MWC Number 10011

Signed By GREG MCINNIS Date

Wasco 50710-50746



FORMER MARTIN MARIETTA REDUCTION FACILITY

FIGURE 3. LOCATION OF GROUNDWATER MONITORING WELLS

1" = 400'

ECH ENGINEERS • ARCHITECTS • PLANNERS • SCIENTISTS

STATE OF OREGON

MONITORING WELL REPORT

WASC 50727

Received Date 05/26/1999

Well ID Tag# L

Start Card # 117457

(as required by ORS 537.765 & OAR 690-240-095) Instructions for completing this report are on the last page of this form.

(1) OWNER/PROJECT

Well No.

Co Job No. AB14B

Name LOCKHEED MARTIN CORP.

Street 2550 N HOLLYWOOD WAY SUITE 305

City BURBANK State CA Zip 915051055

(2) TYPE OF WORK

☐ New Construction ☐ Alter (Recondition) ☐ Alter (Repair)

☐ Conversion ☐ Deepening ☒ Abandonment

(3) DRILLING METHOD

☐ Rotary Air ☐ Rotary Mud ☐ Cable

☐ Hollow Stem Auger Other *****

(4) BORE HOLE CONSTRUCTION

Special Standards ☒ Depth of completed well 204 ft.

Material	Begin Depth	End Depth	Material	Units
Bentonite	0.00	204.00	32.00	G

Vault

ft.

Casing Diameter Liner ☐

TO

ft.

Monument

Casing or Liner	Diameter	Begin Depth	End Depth	Gauge	Material	Construction Weld	Construction Threaded	Location
C	4.00				Plasti	☒	☒	

ft.

TO

ft.

Seal

ft.

TO

ft.

From	To	Material	Amount	Seal or Grout Weight	Units
0.00	204.00	Bentonite	32.00		9 G

Filter Pack Screen ☐

ft.

TO

ft.

Filter Pack

Material

Size in.

(5) WELL TEST

Permeability Yield

Conductivity PH

Temperature of water °F/C Depth artesian flow found ft.

Was water analysis done? ☐

By Whom?

Depth of strata to be analyzed. From ft. to ft.

Remarks

Name of supervising Geologist/Engineer

(6) LOCATION OF WELL By legal description

County Wasco

Township 1.00 N Range 13.00 E Section 3

1. NE 1/4 of NW 1/4 of above section.

Legal Desc:

2. Either Street address of well location

3313 W SECOND ST, THE DALLES

or Tax lot number of well location 1400

3. ATTACH MAP WITH LOCATION IDENTIFIED. Map shall include approximate scale and north arrow.

(7) STATIC WATER LEVEL

Ft. below land surface. Date

Artesian Pressure lb/sq. in. Date

(8) WATER BEARING ZONES

Depth at which water was first found ft.

(9) WELL LOG

Ground elevation ft.

Date started 04/28/1999 Completed 04/28/1999

(unbonded) Monitor Well Constructor Certification:

I certify that the work I performed on the construction, alteration, or abandonment of this well is in compliance with Oregon well construction standards. Materials used and information reported above are true to the best knowledge and belief.

MWC Number 10076

Signed By BRADLEY J WIEBERDINK Date

(bonded) Monitor Well Constructor Certification:

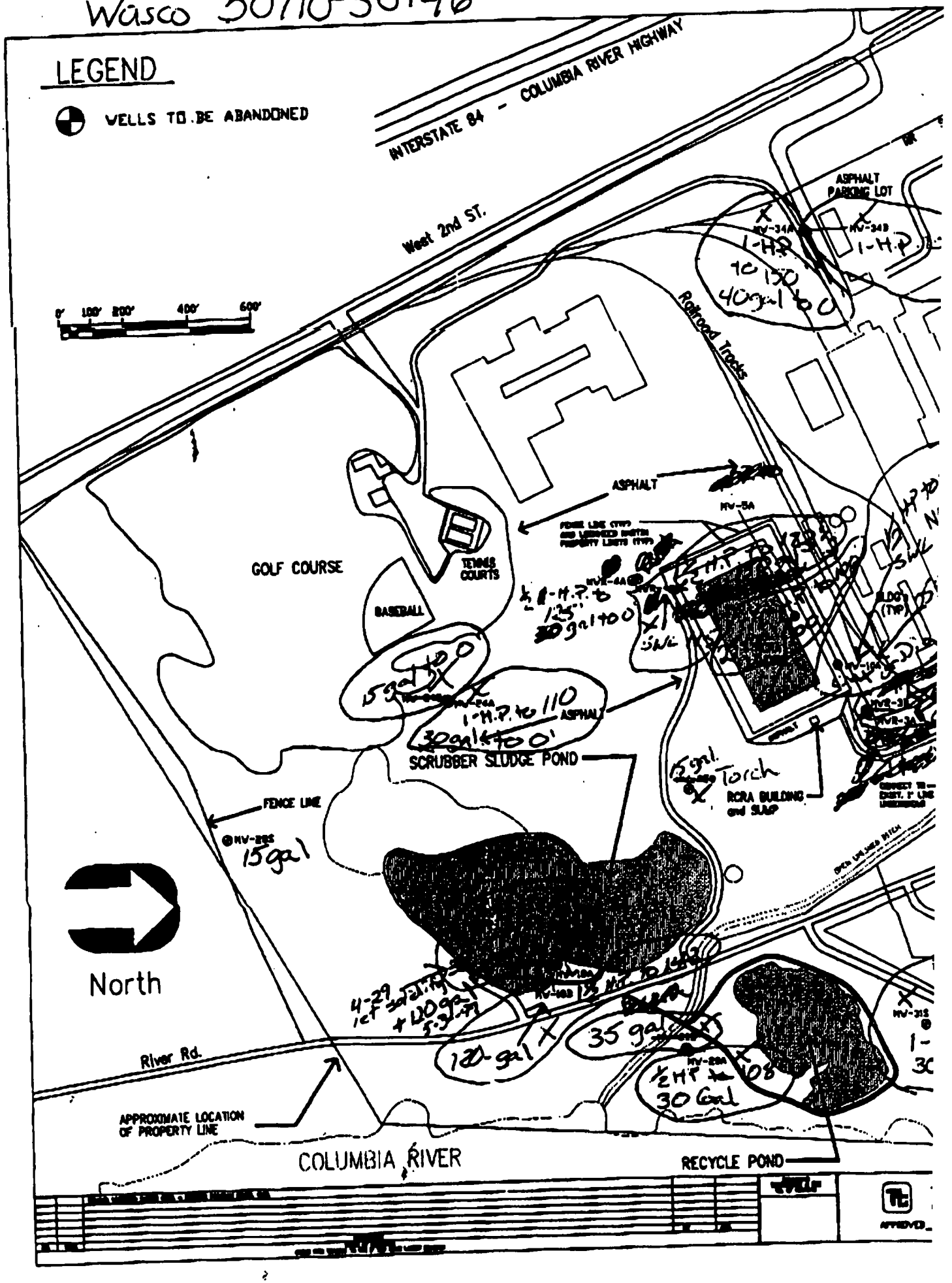
I accept responsibility for the construction, alteration, or abandonment work performed on this well during the construction dates reported above. All work performed during this is in compliance with Oregon well construction standards. This report is true to the best of my knowledge and belief.

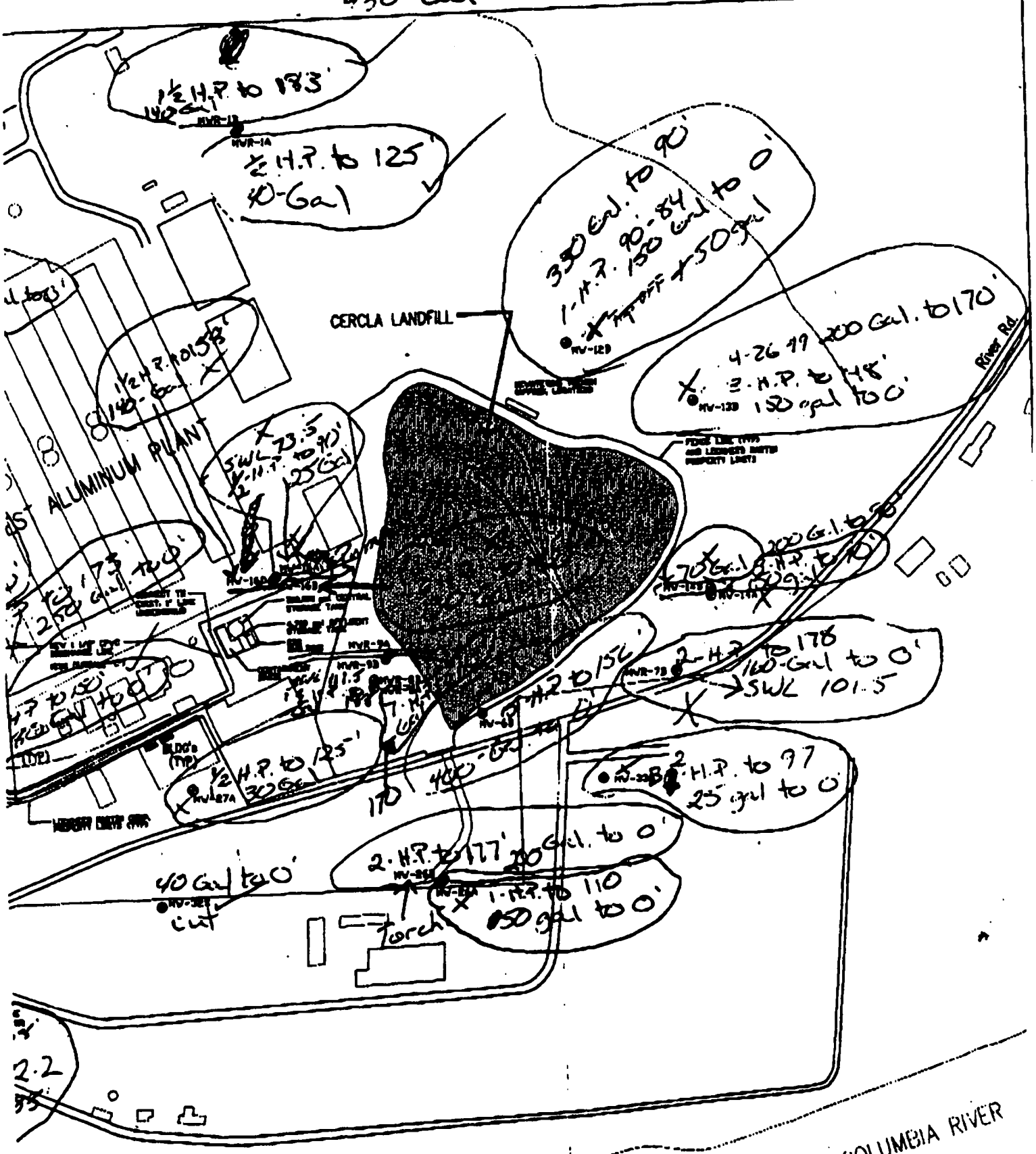
MWC Number 10011

Signed By GREG MCINNIS Date

Wasco 50710-50746

61H.P.





ECH ENGINEERS ARCHITECTS : PLANNERS SCIENTISTS		1" = 400'	FORMER MARIETTA REDUCTION FACILITY
			FIGURE 3. LOCATION OF GROUNDWATER MONITORING WELLS

STATE OF OREGON

MONITORING WELL REPORT

WASC 50726

Received Date 05/26/1999

Well ID Tag# L

Start Card # 117456

(as required by ORS 537.765 & OAR 690-240-095) Instructions for completing this report are on the last page of this form.

(1) OWNER/PROJECT

Well No.

Co Job No. AB14A

Name LOCKHEED MARTIN CORP.

Street 2550 N HOLLYWOOD WAY SUITE 305

City BURBANK State CA Zip 915051055

(2) TYPE OF WORK

☐ New Construction ☐ Alter (Recondition) ☐ Alter (Repair)

☐ Conversion ☐ Deepening ☒ Abandonment

(3) DRILLING METHOD

☐ Rotary Air ☐ Rotary Mud ☐ Cable

☐ Hollow Stem Auger Other *****

(4) BORE HOLE CONSTRUCTION

Special Standards ☒ Depth of completed well 141 ft.

Material	Begin Depth	End Depth	Material	Units
Bentonite	0.00	141.00	22.00	G

Vault

ft.

Casing Diameter Liner ☐

TO

ft.

Monument

Casing or Liner	Diameter	Begin Depth	End Depth	Gauge	Material	Construction Weld	Construction Threaded	Location
C	2.00				Plasti	[redacted]	[redacted]	

ft.

TO

ft.

Seal

ft.

TO

ft.

From	To	Material	Amount	Seal Grout Weight	Units
0.00	141.00	Bentonite	22.00		G

Filter Pack Screen ☐

ft.

TO

ft.

Filter Pack

Material

Size in.

(5) WELL TEST

Permeability Yield

Conductivity PH

Temperature of water °F/C Depth artesian flow found ft.

Was water analysis done? ☐

By Whom?

Depth of strata to be analyzed. From ft. to ft.

Remarks

Name of supervising Geologist/Engineer

(6) LOCATION OF WELL By legal description

County Wasco

Township 1.00 N Range 13.00 E Section 3

1. NE 1/4 of NW 1/4 of above section.

Legal Desc:

2. Either Street address of well location

3313 W SECOND ST, THE DALLES

or Tax lot number of well location 1400

3. ATTACH MAP WITH LOCATION IDENTIFIED. Map shall include approximate scale and north arrow.

(7) STATIC WATER LEVEL

Ft. below land surface. Date

Artesian Pressure lb/sq. in. Date

(8) WATER BEARING ZONES

Depth at which water was first found ft.

(9) WELL LOG

Ground elevation ft.

Date started 04/28/1999 Completed 04/28/1999

(unbonded) Monitor Well Constructor Certification:

I certify that the work I performed on the construction, alteration, or abandonment of this well is in compliance with Oregon well construction standards. Materials used and information reported above are true to the best knowledge and belief.

MWC Number 10076

Signed By BRADLEY J WIEBERDINK Date

(bonded) Monitor Well Constructor Certification:

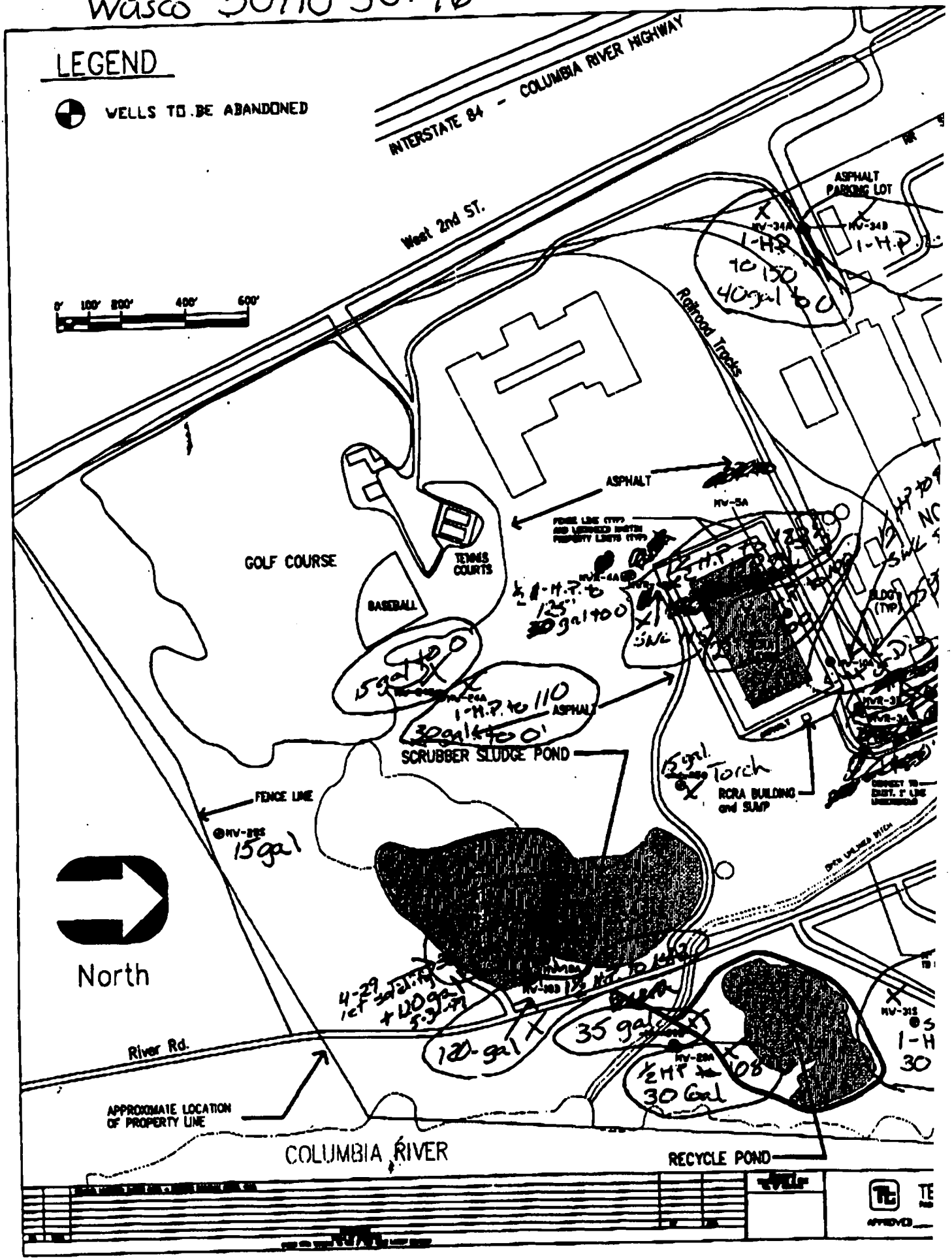
I accept responsibility for the construction, alteration, or abandonment work performed on this well during the construction dates reported above. All work performed during this time is in compliance with Oregon well construction standards. This report is true to the best of my knowledge and belief.

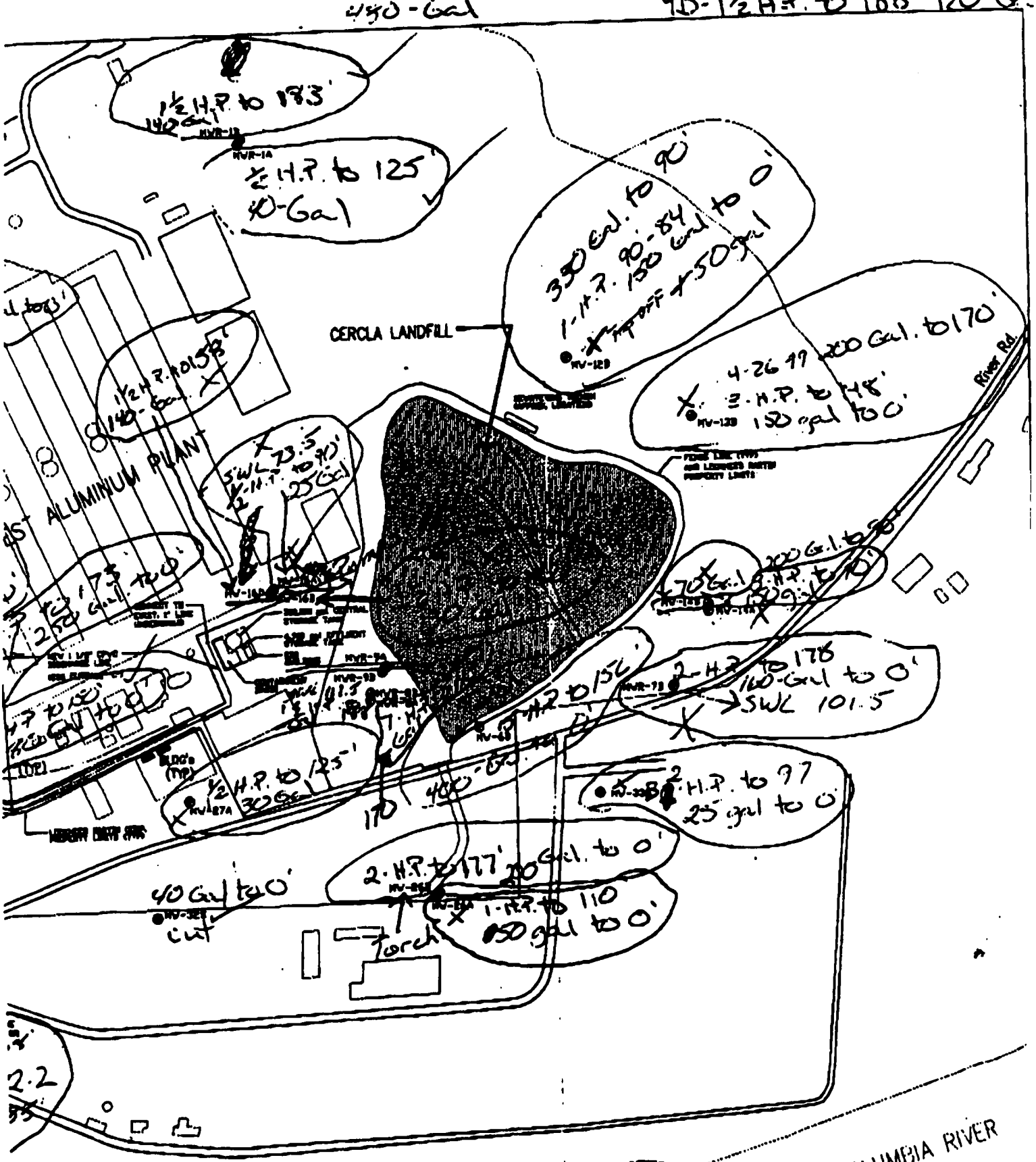
MWC Number 10011

Signed By GREG MCINNIS Date

Wasco 50710-50746

61 H.P.





ECH

FORMER MARIETTA REDUCTION FACILITY

FIGURE 3. LOCATION OF GROUNDWATER MONITORING WELLS

STATE OF OREGON

MONITORING WELL REPORT

WASC 50725

Received Date 05/26/1999

Well ID Tag# L

Start Card # 117455

(as required by ORS 537.765 & OAR 690-240-095) Instructions for completing this report are on the last page of this form.

(1) OWNER/PROJECT

Well No.

Co Job No. AB13B

Name LOCKHEED MARTIN CORP.

Street 2550 N HOLLYWOOD WAY SUITE 305

City BURBANK State CA Zip 915051055

(2) TYPE OF WORK

☐ New Construction ☐ Alter (Recondition) ☐ Alter (Repair)

☐ Conversion ☐ Deepening ☒ Abandonment

(3) DRILLING METHOD

☐ Rotary Air ☐ Rotary Mud ☐ Cable

☐ Hollow Stem Auger Other *****

(4) BORE HOLE CONSTRUCTION

Special Standards ☒ Depth of completed well 205 ft.

Material	Begin Depth	End Depth	Material	Units
Bentonite	0.00	205.00	32.00	G

Vault

ft.

Casing Diameter Liner ☐

TO

ft.

Monument

Casing or Liner	Diameter	Begin Depth	End Depth	Gauge	Material	Construction Weld	Construction Threaded	Location
C	4.00				Plasti	▒	▒	

ft.

TO

ft.

Seal

ft.

TO

ft.

From	To	Material	Amount	Seal Grout Weight	Units
0.00	205.00	Bentonite	32.00		G

Filter Pack Screen ☐

ft.

TO

ft.

Filter Pack

Material

Size in.

(5) WELL TEST

Permeability Yield

Conductivity PH

Temperature of water °F/C Depth artesian flow found ft.

Was water analysis done? ☐

By Whom?

Depth of strata to be analyzed. From ft. to ft.

Remarks

Name of supervising Geologist/Engineer

(6) LOCATION OF WELL By legal description

County Wasco

Township 1.00 N Range 13.00 E Section 3

1. NE 1/4 of NW 1/4 of above section.

Legal Desc:

2. Either Street address of well location

3313 W SECOND ST, THE DALLES

or Tax lot number of well location 1400

3. ATTACH MAP WITH LOCATION IDENTIFIED. Map shall include approximate scale and north arrow.

(7) STATIC WATER LEVEL

Ft. below land surface. Date

Artesian Pressure lb/sq. in. Date

(8) WATER BEARING ZONES

Depth at which water was first found ft.

(9) WELL LOG

Ground elevation ft.

Date started 04/28/1999 Completed 04/28/1999

(unbonded) Monitor Well Constructor Certification:

I certify that the work I performed on the construction, alteration, or abandonment of this well is in compliance with Oregon well construction standards. Materials used and information reported above are true to the best knowledge and belief.

MWC Number 10076

Signed By BRADLEY J WIEBERDINK Date

(bonded) Monitor Well Constructor Certification:

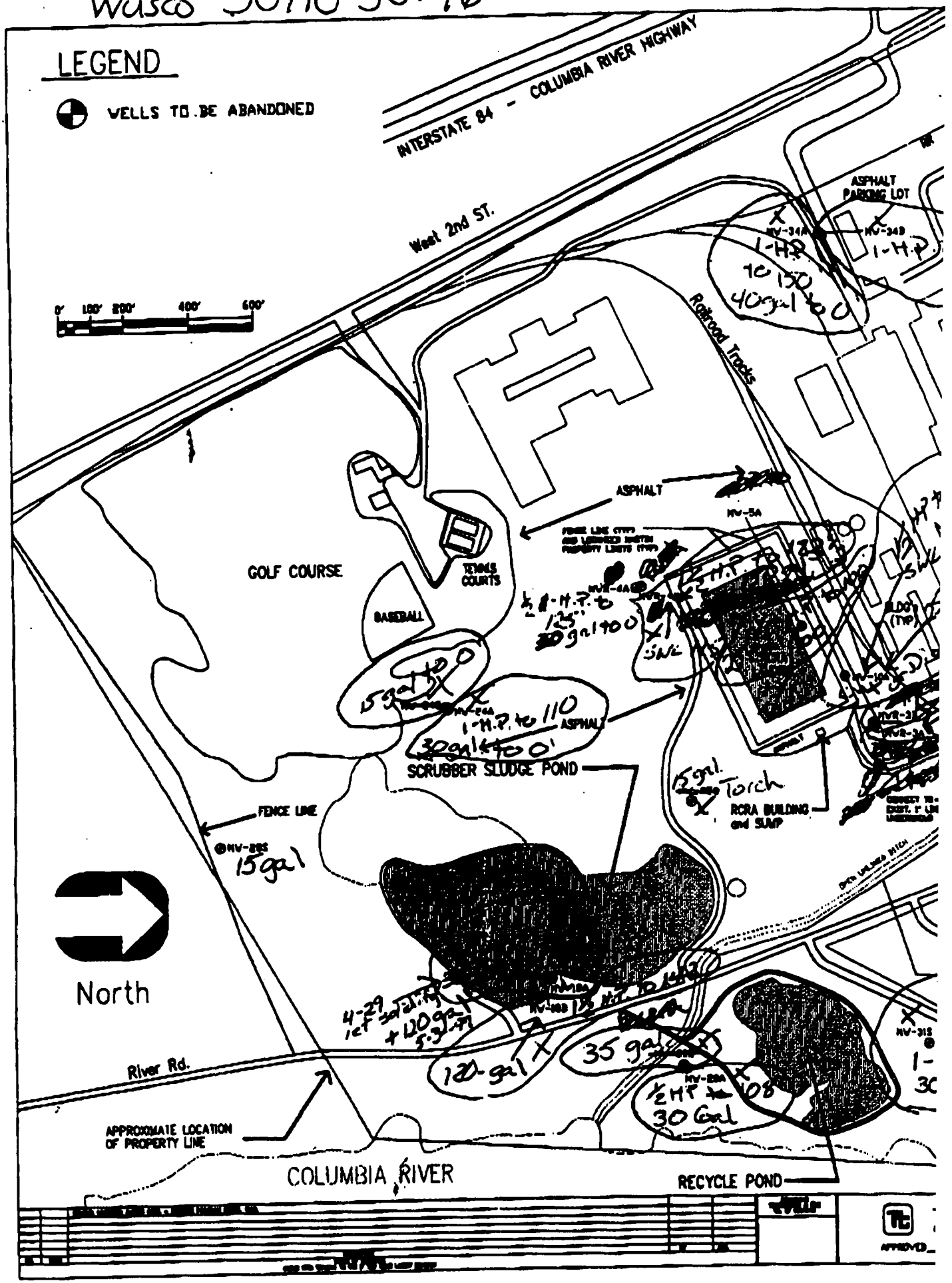
I accept responsibility for the construction, alteration, or abandonment work performed on this well during the construction dates reported above. All work performed during this time is in compliance with Oregon well construction standards. This report is true to the best of my knowledge and belief.

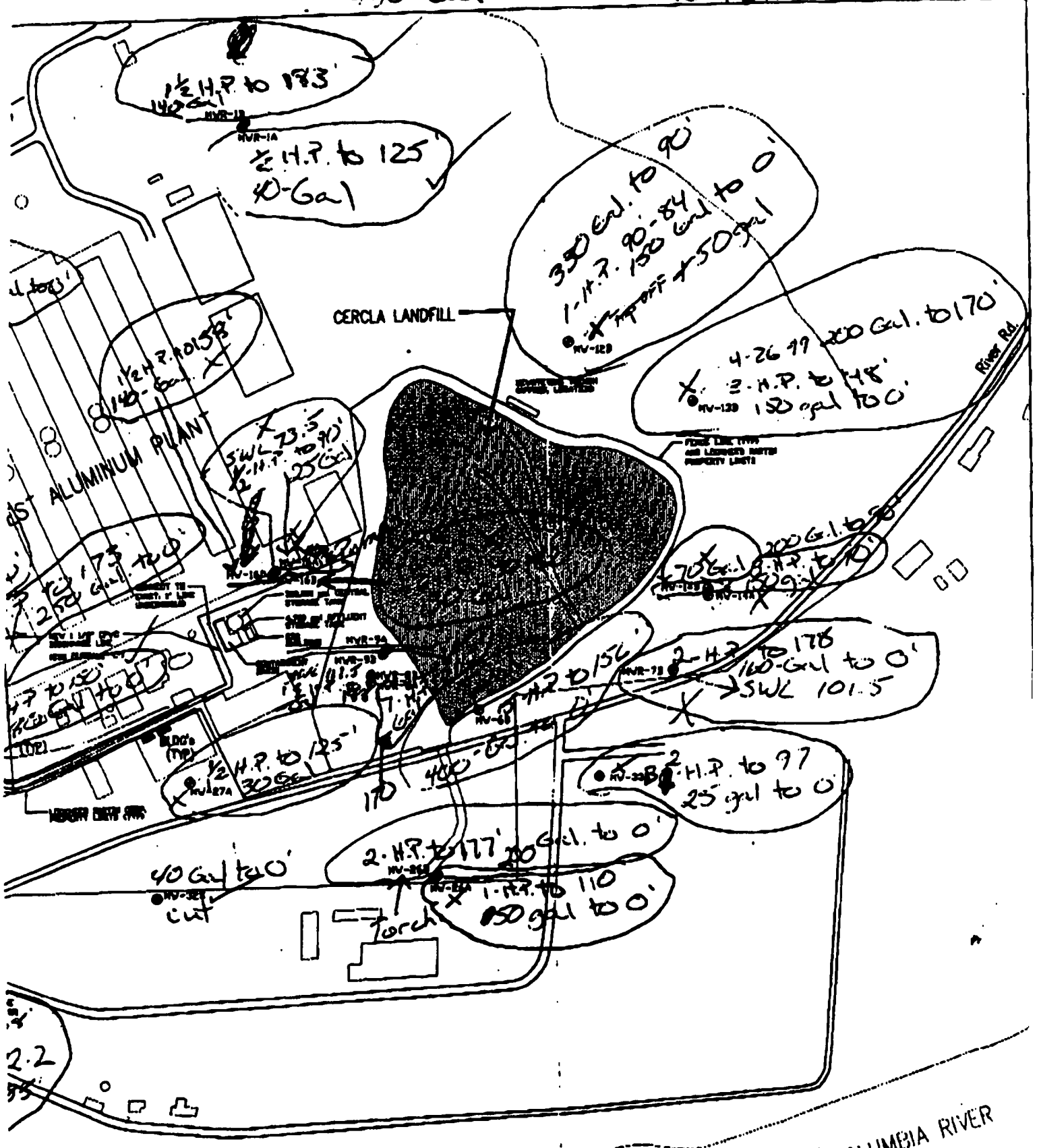
MWC Number 10011

Signed By GREG MCINNIS Date

Wasco 50710-50746

61 H.P.





ECH		1" = 400'	FORMER MARIETTA REDUCTION FACILITY
			FIGURE 3. LOCATION OF GROUNDWATER MONITORING WELLS

STATE OF OREGON

MONITORING WELL REPORT

WASC 50724

Received Date 05/26/1999

Well ID Tag# L

Start Card # 117454

(as required by ORS 537.765 & OAR 690-240-095) Instructions for completing this report are on the last page of this form.

(1) OWNER/PROJECT

Well No.

Co Job No. AB12B

Name LOCKHEED MARTIN CORP.

Street 2550 N HOLLYWOOD WAY SUITE 305

City BURBANK State CA Zip 915051055

(2) TYPE OF WORK

☐ New Construction ☐ Alter (Recondition) ☐ Alter (Repair)

☐ Conversion ☐ Deepening ☒ Abandonment

(3) DRILLING METHOD

☐ Rotary Air ☐ Rotary Mud ☐ Cable

☐ Hollow Stem Auger Other *****

(4) BORE HOLE CONSTRUCTION

Special Standards ☒ Depth of completed well 205 ft.

Material	Begin Depth	End Depth	Material	Units
Bentonite	0.00	205.00	32.00	G

Vault

ft.

TO

ft.

Casing Diameter Liner ☐

Monument

Casing or Liner	Diameter	Begin Depth	End Depth	Gauge	Material	Construction Weld	Construction Threaded	Location
C	4.00				Plasti	☒	☒	

ft.

TO

ft.

Seal

ft.

TO

ft.

From	To	Material	Amount	Seal Grout Weight	Units
0.00	205.00	Bentonite	32.00		G

Filter Pack Screen ☐

ft.

TO

ft.

Filter Pack

Material

Size in.

(5) WELL TEST

Permeability Yield

Conductivity PH

Temperature of water °F/C Depth artesian flow found ft.

Was water analysis done? ☐

By Whom?

Depth of strata to be analyzed. From ft. to ft.

Remarks

Name of supervising Geologist/Engineer

(6) LOCATION OF WELL By legal description

County Wasco

Township 1.00 N Range 13.00 E Section 3

1. NE 1/4 of NW 1/4 of above section.

Legal Desc:

2. Either Street address of well location

3313 W SECOND ST, THE DALLES

or Tax lot number of well location 1400

3. ATTACH MAP WITH LOCATION IDENTIFIED. Map shall include approximate scale and north arrow.

(7) STATIC WATER LEVEL

Ft. below land surface. Date

Artesian Pressure lb/sq. in. Date

(8) WATER BEARING ZONES

Depth at which water was first found ft.

(9) WELL LOG

Ground elevation ft.

Date started 04/28/1999 Completed 04/28/1999

(unbonded) Monitor Well Constructor Certification:

I certify that the work I performed on the construction, alteration, or abandonment of this well is in compliance with Oregon well construction standards. Materials used and information reported above are true to the best knowledge and belief.

MWC Number 10076

Signed By BRADLEY J WIEBERDINK Date

(bonded) Monitor Well Constructor Certification:

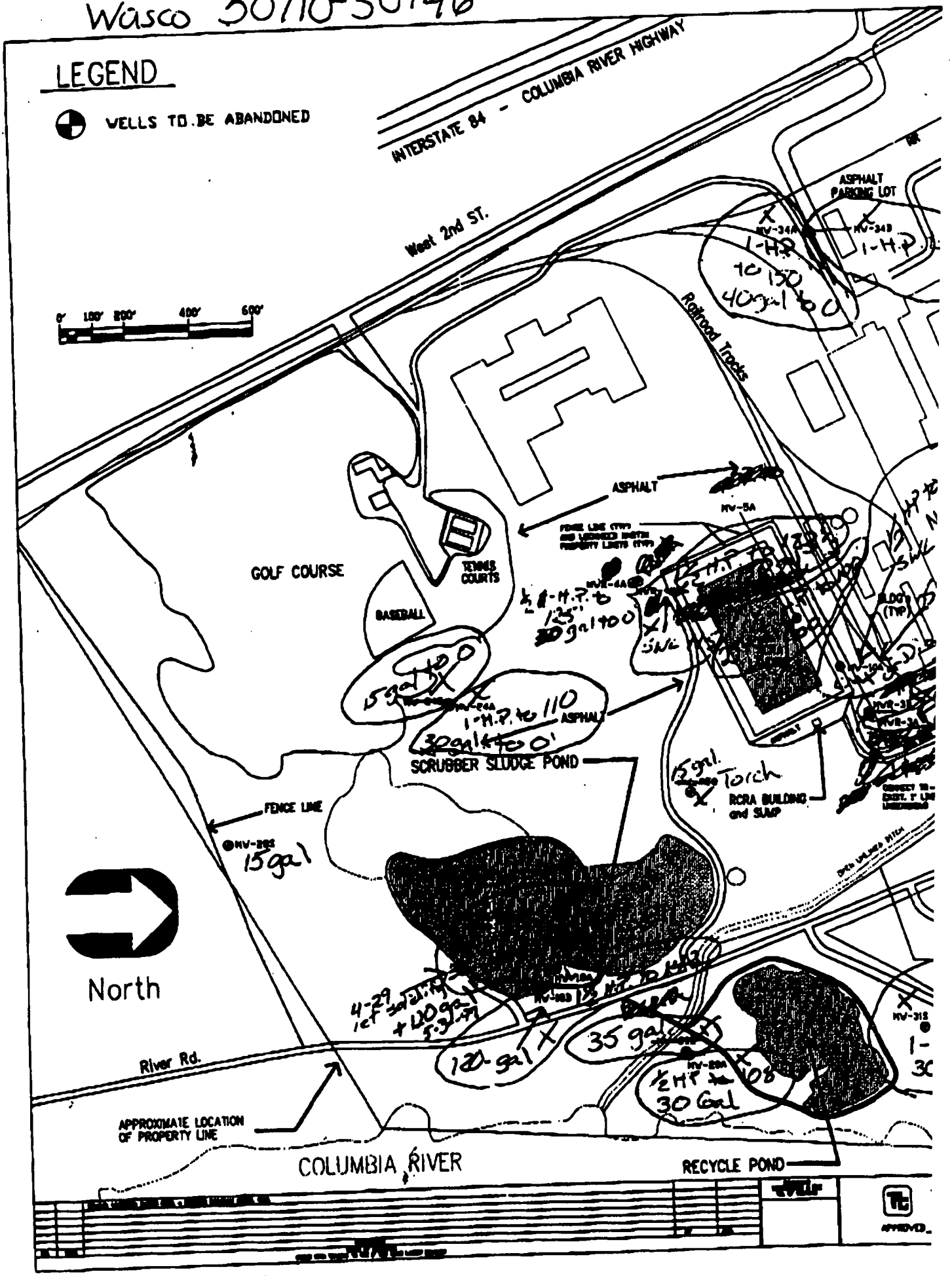
I accept responsibility for the construction, alteration, or abandonment work performed on this well during the construction dates reported above. All work performed during this time is in compliance with Oregon well construction standards. This report is true to the best of my knowledge and belief.

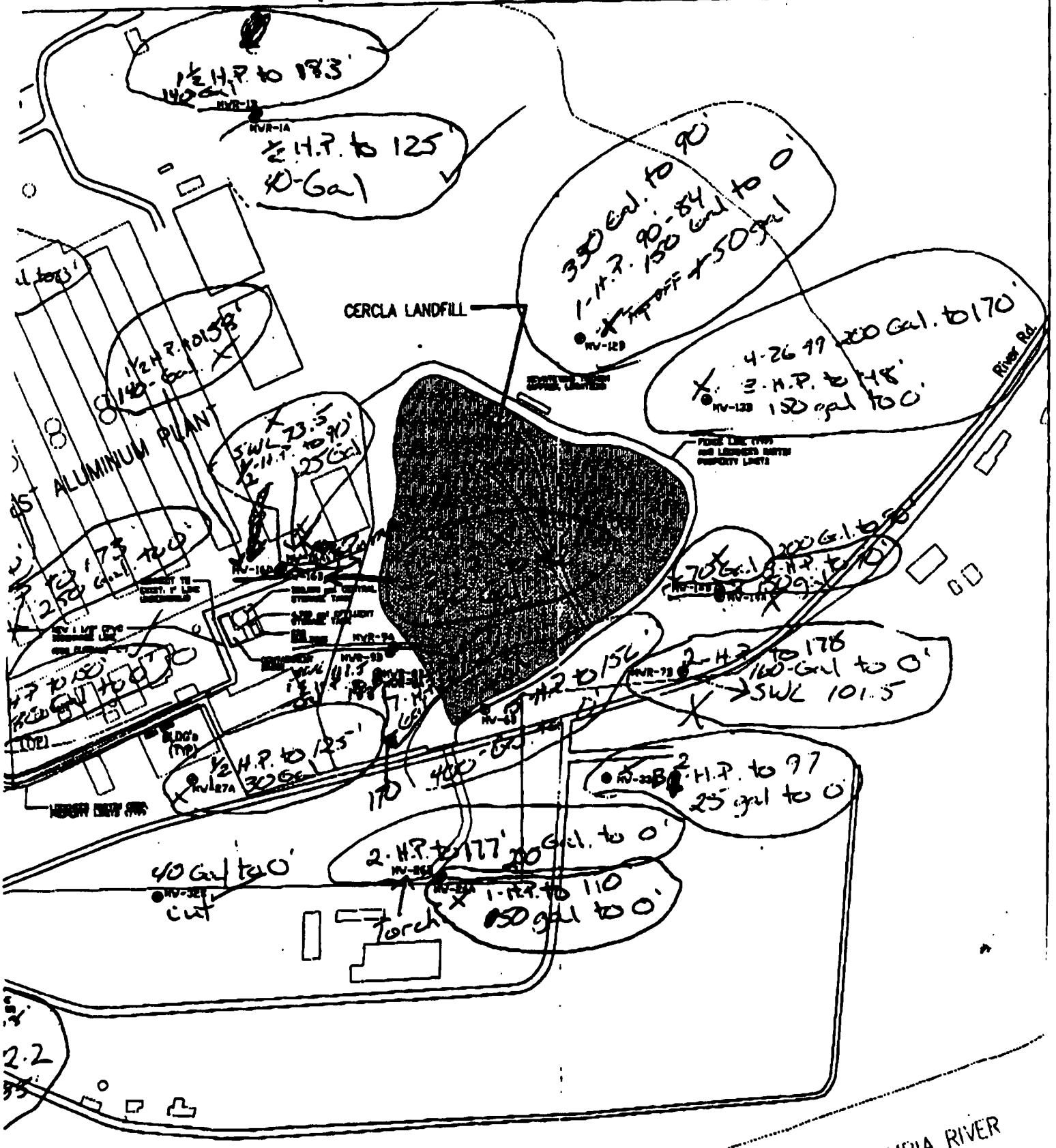
MWC Number 10011

Signed By GREG MCINNIS Date

Wasco 50710-50746

61 H.P.





ECH ENGINEERS ARCHITECTS : PLANNERS GEOLOGISTS		1" = 400'	FORMER MARIETTA REDUCTION FACILITY
			FIGURE 3. LOCATION OF GROUNDWATER MONITORING WELLS

STATE OF OREGON

MONITORING WELL REPORT

WASC 50723

Received Date 05/26/1999

Well ID Tag# L 10

Start Card # 117453

(as required by ORS 537.765 & OAR 690-240-095) Instructions for completing this report are on the last page of this form.

(1) OWNER/PROJECT

Well No.

Co Job No. AB10A

Name LOCKHEED MARTIN CORP.

Street 2550 N HOLLYWOOD WAY SUITE 305

City BURBANK State CA Zip 915051055

(2) TYPE OF WORK

☐ New Construction ☐ Alter (Recondition) ☐ Alter (Repair)

☐ Conversion ☐ Deepening ☒ Abandonment

(3) DRILLING METHOD

☐ Rotary Air ☐ Rotary Mud ☐ Cable

☐ Hollow Stem Auger Other *****

(4) BORE HOLE CONSTRUCTION

Special Standards ☒ Depth of completed well 117 ft.

Material	Begin Depth	End Depth	Material	Units
Bentonite	0.00	117.00	18.00	G

Vault

ft.

TO

Casing Diameter Liner ☐

ft.

Monument

Casing or Liner	Diameter	Begin Depth	End Depth	Gauge	Material	Construction Weld	Construction Threaded	Location
C	2.00				Plastl	☒	☒	

ft.

TO

ft.

Seal

ft.

TO

From	To	Material	Amount	Seal Grout Weight	Units
0.00	117.00	Bentonite	18.00		G

ft.

Filter Pack Screen ☐

ft.

TO

ft.

Filter Pack

Material

Size in.

(5) WELL TEST

Permeability Yield

Conductivity PH

Temperature of water °F/C Depth artesian flow found ft.

Was water analysis done? ☐

By Whom?

Depth of strata to be analyzed. From ft. to ft.

Remarks

Name of supervising Geologist/Engineer

(6) LOCATION OF WELL By legal description

County Wasco

Township 1.00 N Range 13.00 E Section 3

1. NE 1/4 of NW 1/4 of above section.

Legal Desc:

2. Either Street address of well location

3313 W SECOND ST, THE DALLES

or Tax lot number of well location 1400

3. ATTACH MAP WITH LOCATION IDENTIFIED. Map shall include approximate scale and north arrow.

(7) STATIC WATER LEVEL

Ft. below land surface. Date

Artesian Pressure lb/sq. in. Date

(8) WATER BEARING ZONES

Depth at which water was first found ft.

(9) WELL LOG

Ground elevation ft.

Date started 04/28/1999 Completed 04/28/1999

(unbonded) Monitor Well Constructor Certification:

I certify that the work I performed on the construction, alteration, or abandonment of this well is in compliance with Oregon well construction standards. Materials used and information reported above are true to the best knowledge and belief.

MWC Number 10076

Signed By BRADLEY J WIEBERDINK Date

(bonded) Monitor Well Constructor Certification:

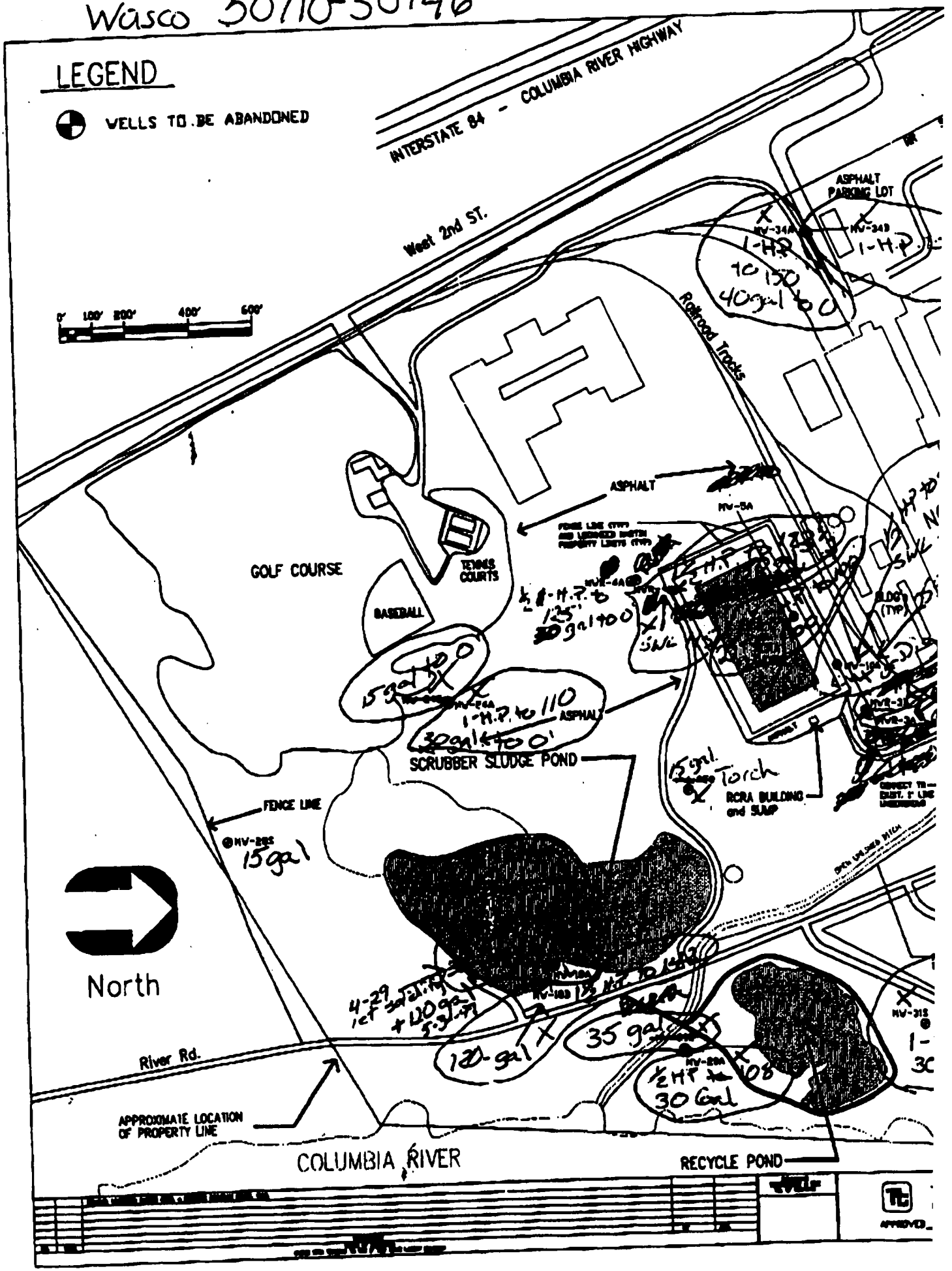
I accept responsibility for the construction, alteration, or abandonment work performed on this well during the construction dates reported above. All work performed during this time is in compliance with Oregon well construction standards. This report is true to the best of my knowledge and belief.

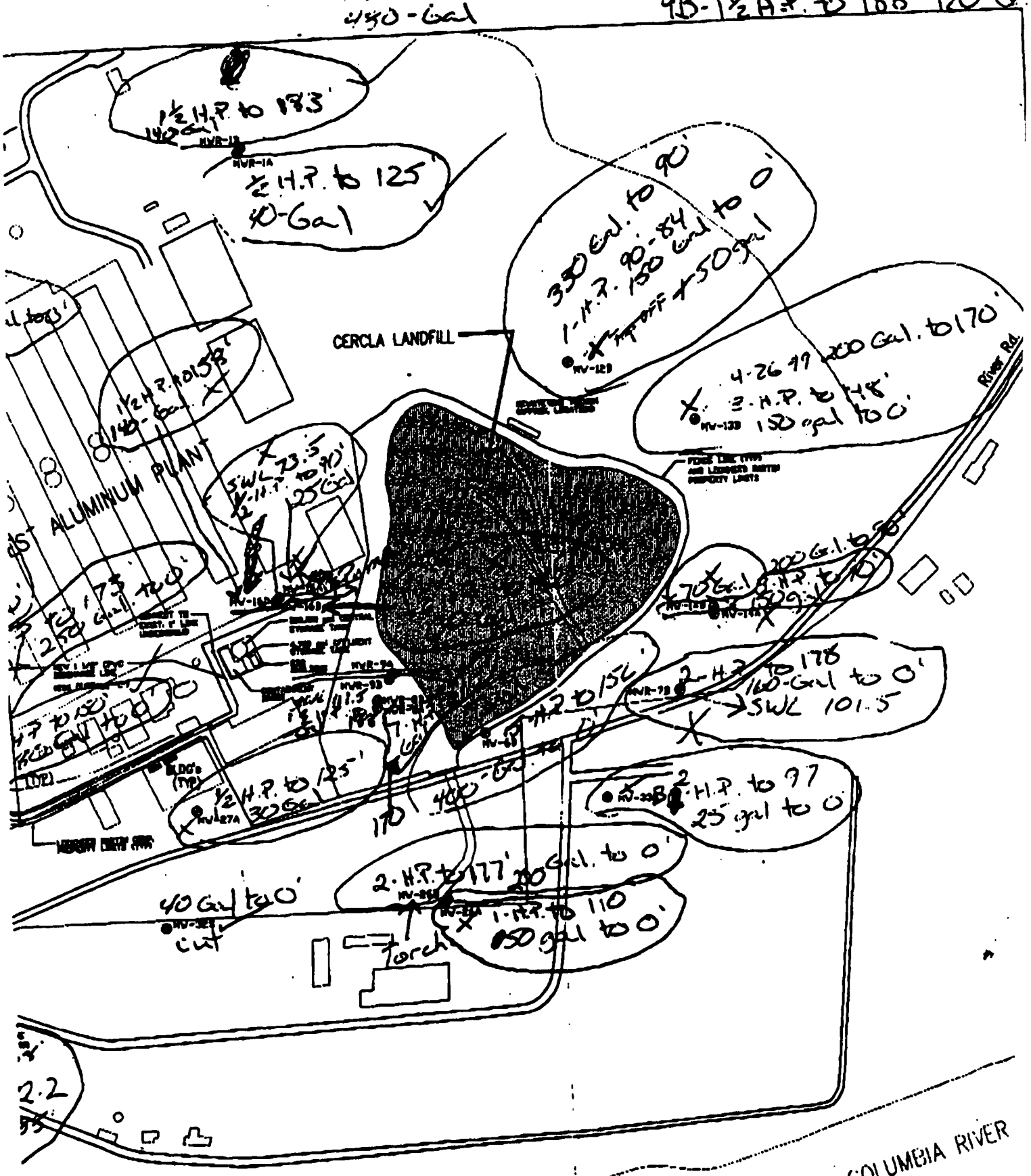
MWC Number 10011

Signed By GREG MCINNIS Date

Wasco 50710-50746

61 H.T.





ECH		1" = 400'	FORMER MARIETTA REDUCTION FACILITY
			FIGURE 3. LOCATION OF GROUNDWATER MONITORING WELLS

STATE OF OREGON

MONITORING WELL REPORT

WASC 50722

Received Date 05/26/1999

Well ID Tag# L

Start Card # 117452

(as required by ORS 537.765 & OAR 690-240-095) Instructions for completing this report are on the last page of this form.

(1) OWNER/PROJECT

Well No.

Co Job No. AB9B

Name LOCKHEED MARTIN CORP.

Street 2550 N HOLLYWOOD WAY SUITE 305

City BURBANK State CA Zip 915051055

(2) TYPE OF WORK

☐ New Construction ☐ Alter (Recondition) ☐ Alter (Repair)

☐ Conversion ☐ Deepening ☒ Abandonment

(3) DRILLING METHOD

☐ Rotary Air ☐ Rotary Mud ☐ Cable

☐ Hollow Stem Auger Other *****

(4) BORE HOLE CONSTRUCTION

Special Standards ☒ Depth of completed well 200 ft.

Material	Begin Depth	End Depth	Material	Units
Bentonite	0.00	200.00	130.00	G

Vault

ft.

Casing Diameter Liner ☐

TO

ft.

Monument

Casing or Liner	Diameter	Begin Depth	End Depth	Gauge	Material	Construction Weld	Construction Threaded	Location
C	4.00				Plasti	☒	☒	

ft.

TO

ft.

Seal

ft.

TO

ft.

From	To	Material	Amount	Seal Grout Weight	Units
0.00	200.00	Bentonite	130.00	9	G

Filter Pack Screen ☐

ft.

TO

ft.

Filter Pack

Material

Size in.

(5) WELL TEST

Permeability Yield

Conductivity PH

Temperature of water °F/C Depth artesian flow found ft.

Was water analysis done? ☐

By Whom?

Depth of strata to be analyzed. From ft. to ft.

Remarks

Name of supervising Geologist/Engineer

(6) LOCATION OF WELL By legal description

County Wasco

Township 1.00 N Range 13.00 E Section 3

1. NE 1/4 of NW 1/4 of above section.

Legal Desc:

2. Either Street address of well location

3313 W SECOND ST, THE DALLES

or Tax lot number of well location 1400

3. ATTACH MAP WITH LOCATION IDENTIFIED. Map shall include approximate scale and north arrow.

(7) STATIC WATER LEVEL

Ft. below land surface. Date

Artesian Pressure lb/sq. in. Date

(8) WATER BEARING ZONES

Depth at which water was first found ft.

(9) WELL LOG

Ground elevation ft.

Date started 04/27/1999 Completed 04/27/1999

(unbonded) Monitor Well Constructor Certification:

I certify that the work I performed on the construction, alteration, or abandonment of this well is in compliance with Oregon well construction standards. Materials used and information reported above are true to the best knowledge and belief.

MWC Number 10076

Signed By BRADLEY J WIEBERDINK Date

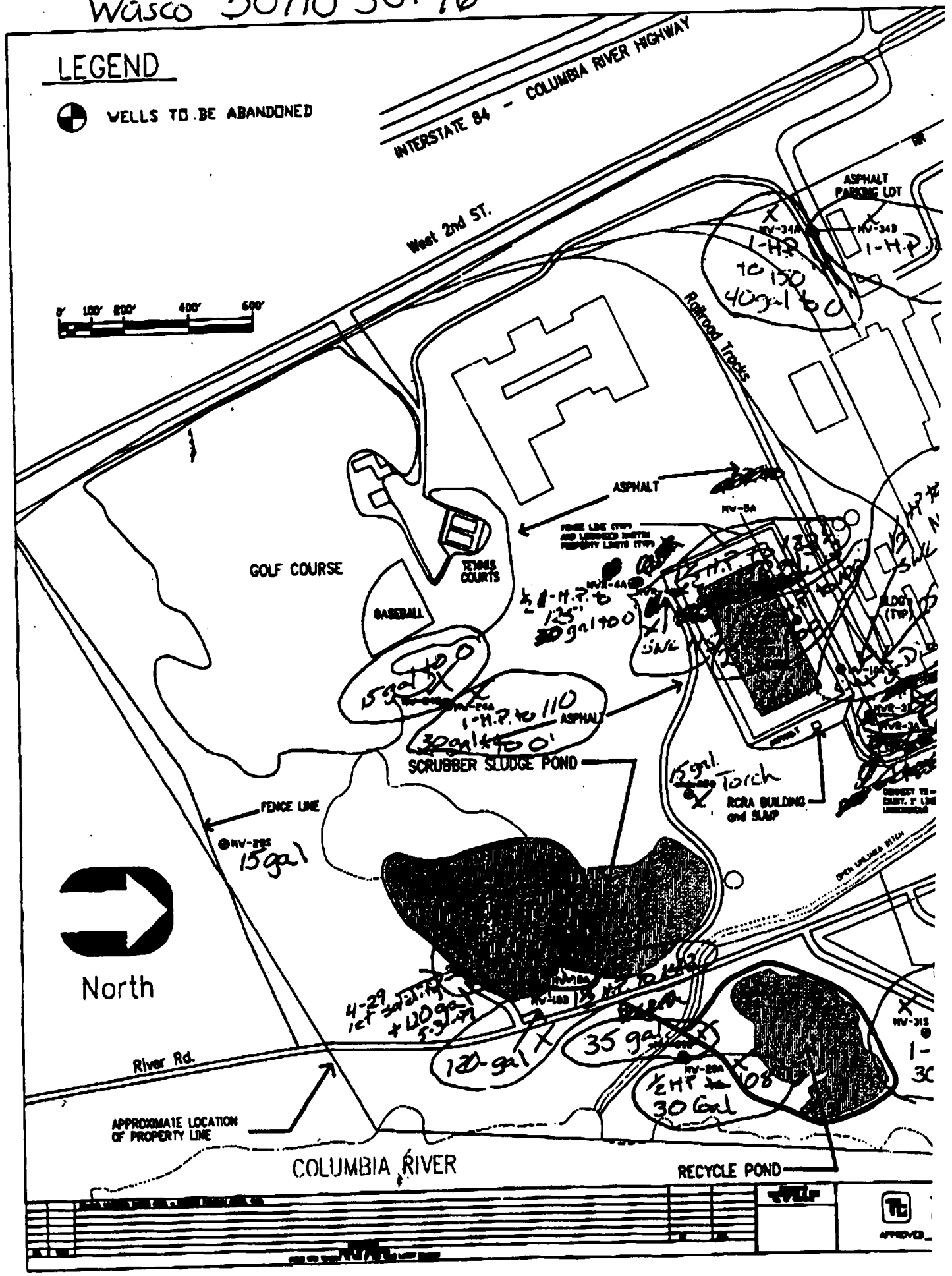
(bonded) Monitor Well Constructor Certification:

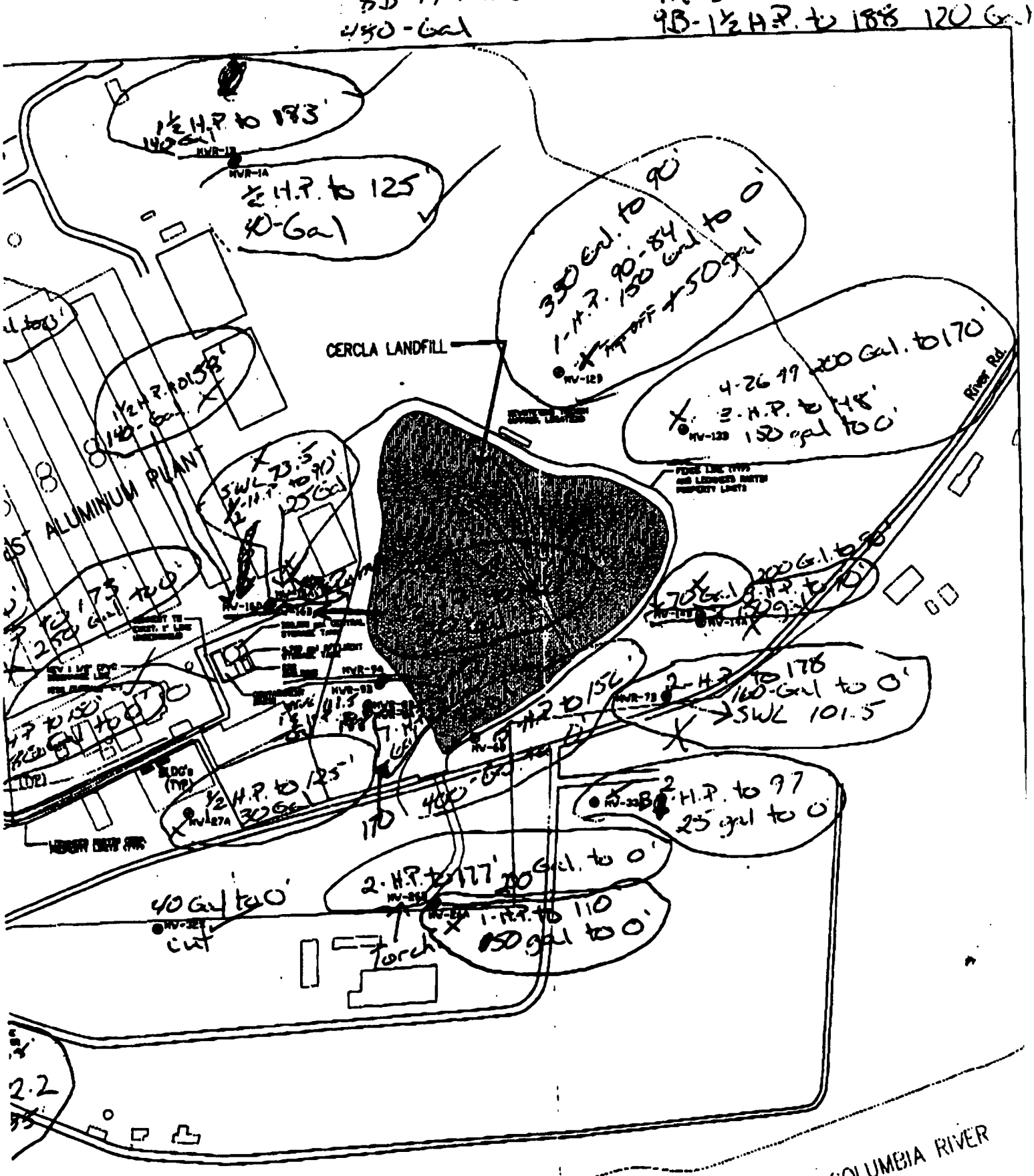
I accept responsibility for the construction, alteration, or abandonment work performed on this well during the construction dates reported above. All work performed during this time is in compliance with Oregon well construction standards. This report is true to the best of my knowledge and belief.

MWC Number 10011

Signed By GREG MCINNIS Date

Wasco 50710-50746





ECH		1" = 400'	FORMER MARIETTA REDUCTION FACILITY
			FIGURE 3. LOCATION OF GROUNDWATER MONITORING WELLS

STATE OF OREGON

MONITORING WELL REPORT

WASC 50721

Received Date 05/26/1999
Well ID Tag# L
Start Card # 117451

(as required by ORS 537.765 & OAR 690-240-095) Instructions for completing this report are on the last page of this form.

(1) OWNER/PROJECT

Well No.
Co Job No. AB9A

Name LOCKHEED MARTIN CORP.
Street 2550 N HOLLYWOOD WAY SUITE 305
City BURBANK State CA Zip 915051055

(2) TYPE OF WORK

☐ New Construction ☐ Alter (Recondition) ☐ Alter (Repair)
☐ Conversion ☐ Deepening ☒ Abandonment

(3) DRILLING METHOD

☐ Rotary Air ☐ Rotary Mud ☐ Cable
☐ Hollow Stem Auger Other *****

(4) BORE HOLE CONSTRUCTION

Special Standards ☒ Depth of completed well 140 ft.

Material	Begin Depth	End Depth	Material	Units
Bentonite	0.00	140.00	21.00	G

Vault
ft.
Casing Diameter Liner ☐
TO
ft.

Monument	Casing or Liner	Diameter	Begin Depth	End Depth	Gauge	Material	Weld	Threaded	Location
ft.	C	2.00				Plasti	☐	☒	

TO
ft.

Seal
ft.
TO

From	To	Material	Amount	Seal Grout Weight	Units
ft. 0.00	140.00	Bentonite	21.00		G

Filter Pack Screen ☐
ft.
TO
ft.

Filter Pack
Material
Size in.

(5) WELL TEST

Permeability Yield
Conductivity PH
Temperature of water °F/C Depth artesian flow found ft.
Was water analysis done? ☐
By Whom?
Depth of strata to be analyzed. From ft. to ft.
Remarks

Name of supervising Geologist/Engineer

(6) LOCATION OF WELL By legal description

County Wasco
Township 1.00 N Range 13.00 E Section 3
1. NE 1/4 of NW 1/4 of above section.
Legal Desc:

2. Either Street address of well location
3313 W SECOND ST, THE DALLES
or Tax lot number of well location 1400

3. ATTACH MAP WITH LOCATION IDENTIFIED. Map shall include approximate scale and north arrow.

(7) STATIC WATER LEVEL

Ft. below land surface. Date
Artesian Pressure lb/sq. in. Date

(8) WATER BEARING ZONES

Depth at which water was first found ft.

(9) WELL LOG

Ground elevation ft.

Date started 04/27/1999 Completed 04/27/1999

(unbonded) Monitor Well Constructor Certification:

I certify that the work I performed on the construction, alteration, or abandonment of this well is in compliance with Oregon well construction standards. Materials used and information reported above are true to the best knowledge and belief.

MWC Number 10076
Signed By BRADLEY J WIEBERDINK Date

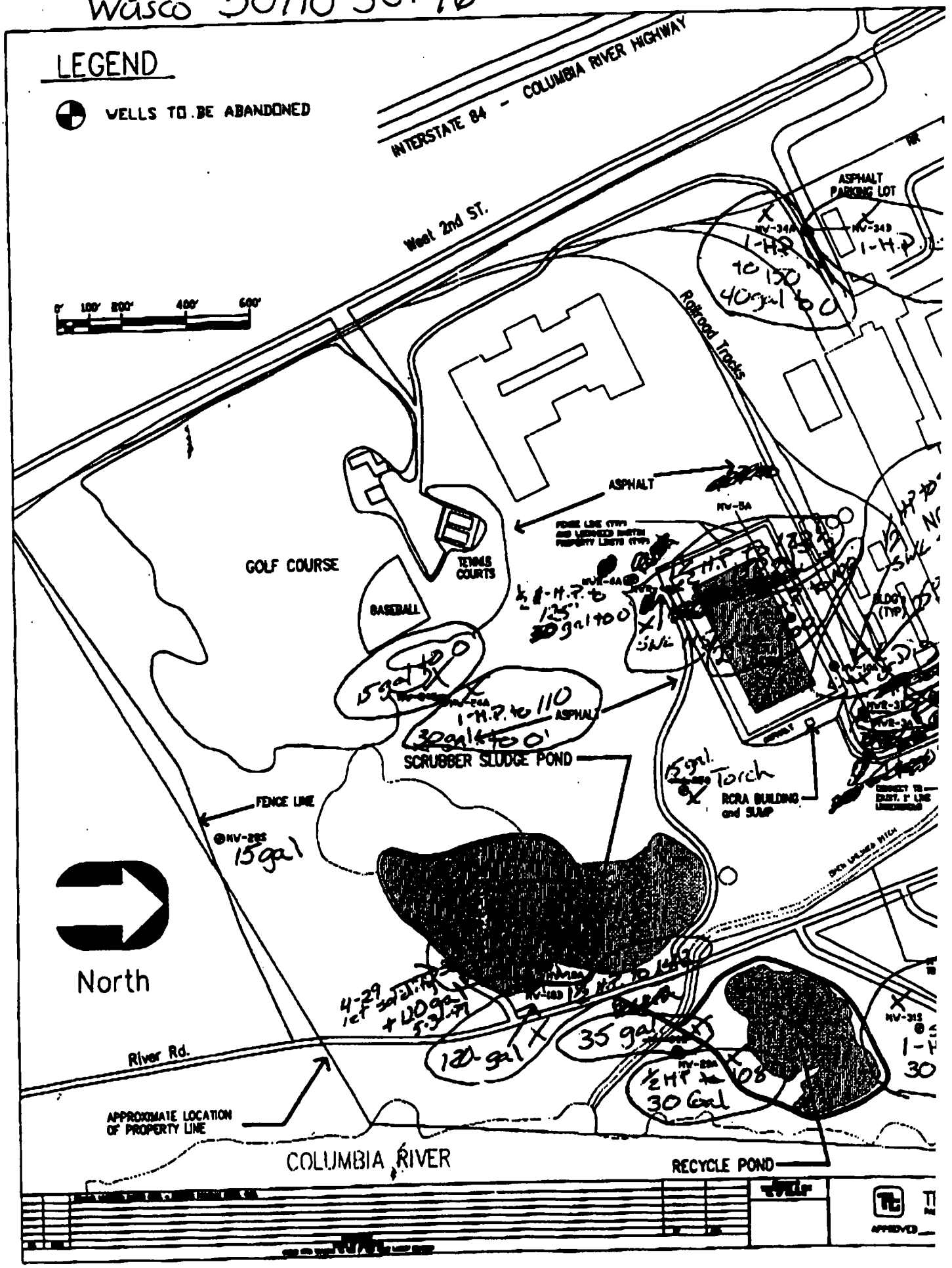
(bonded) Monitor Well Constructor Certification:

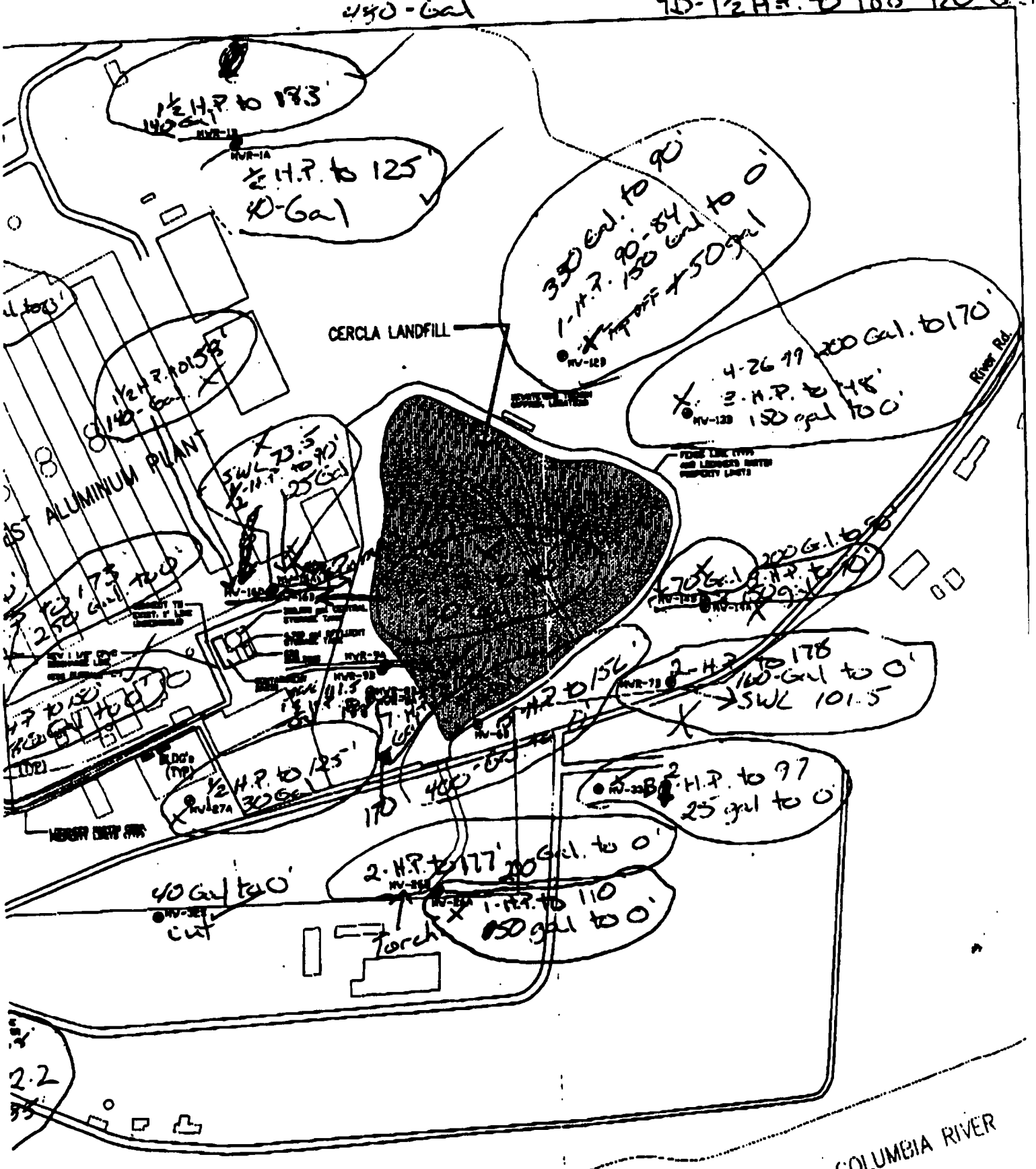
I accept responsibility for the construction, alteration, or abandonment work performed on this well during the construction dates reported above. All work performed during this time is in compliance with Oregon well construction standards. This report is true to the best of my knowledge and belief.

MWC Number 10011
Signed By GREG MCINNIS Date

Wasco 50710-50746

61 H.P.





ECH		1" = 400'	FORMER MARIETTA REDUCTION FACILITY
			FIGURE 3. LOCATION OF GROUNDWATER MONITORING WELLS

STATE OF OREGON

MONITORING WELL REPORT

WASC 50720

Received Date 05/26/1999
Well ID Tag# L
Start Card # 117450

(as required by ORS 537.765 & OAR 690-240-095) Instructions for completing this report are on the last page of this form.

(1) OWNER/PROJECT

Well No.
Co Job No. AB8B

Name LOCKHEED MARTIN CORP.
Street 2550 N HOLLYWOOD WAY SUITE 305
City BURBANK State CA Zip 915051055

(2) TYPE OF WORK

☐ New Construction ☐ Alter (Recondition) ☐ Alter (Repair)
☐ Conversion ☐ Deepening ☒ Abandonment

(3) DRILLING METHOD

☐ Rotary Air ☐ Rotary Mud ☐ Cable
☐ Hollow Stem Auger Other *****

(4) BORE HOLE CONSTRUCTION

Special Standards ☒ Depth of completed well 200 ft.

Material	Begin Depth	End Depth	Material	Units
Bentonite	0.00	200.00	522.00	G

Vault
ft.
Casing Diameter Liner ☐
TO
ft.

Monument

Casing or Liner	Diameter	Begin Depth	End Depth	Gauge	Material	Construction Weld	Construction Threaded	Location
C	8.00				Steel	☐	☒	

ft.
TO
ft.

Seal
ft.

TO	From	To	Material	Amount	Seal Grout Weight	Units
ft.	0.00	200.00	Bentonite	522.00		9 G

Filter Pack Screen ☐
ft.
TO
ft.

Filter Pack
Material
Size in.

(5) WELL TEST

Permeability Yield
Conductivity PH
Temperature of water °F/C Depth artesian flow found ft.
Was water analysis done? ☐
By Whom?
Depth of strata to be analyzed. From ft. to ft.
Remarks

Name of supervising Geologist/Engineer

(6) LOCATION OF WELL By legal description

County Wasco
Township 1.00 N Range 13.00 E Section 3
1. NE 1/4 of NW 1/4 of above section.
Legal Desc:

2. Either Street address of well location
3313 W SECOND ST, THE DALLES
or Tax lot number of well location 1400
3. ATTACH MAP WITH LOCATION IDENTIFIED. Map shall include approximate scale and north arrow.

(7) STATIC WATER LEVEL

Ft. below land surface. Date
Artesian Pressure lb/sq. in. Date

(8) WATER BEARING ZONES

Depth at which water was first found ft.

(9) WELL LOG

Ground elevation ft.

Date started 04/27/1999 Completed 04/27/1999

(unbonded) Monitor Well Constructor Certification:

I certify that the work I performed on the construction, alteration, or abandonment of this well is in compliance with Oregon well construction standards. Materials used and information reported above are true to the best knowledge and belief.

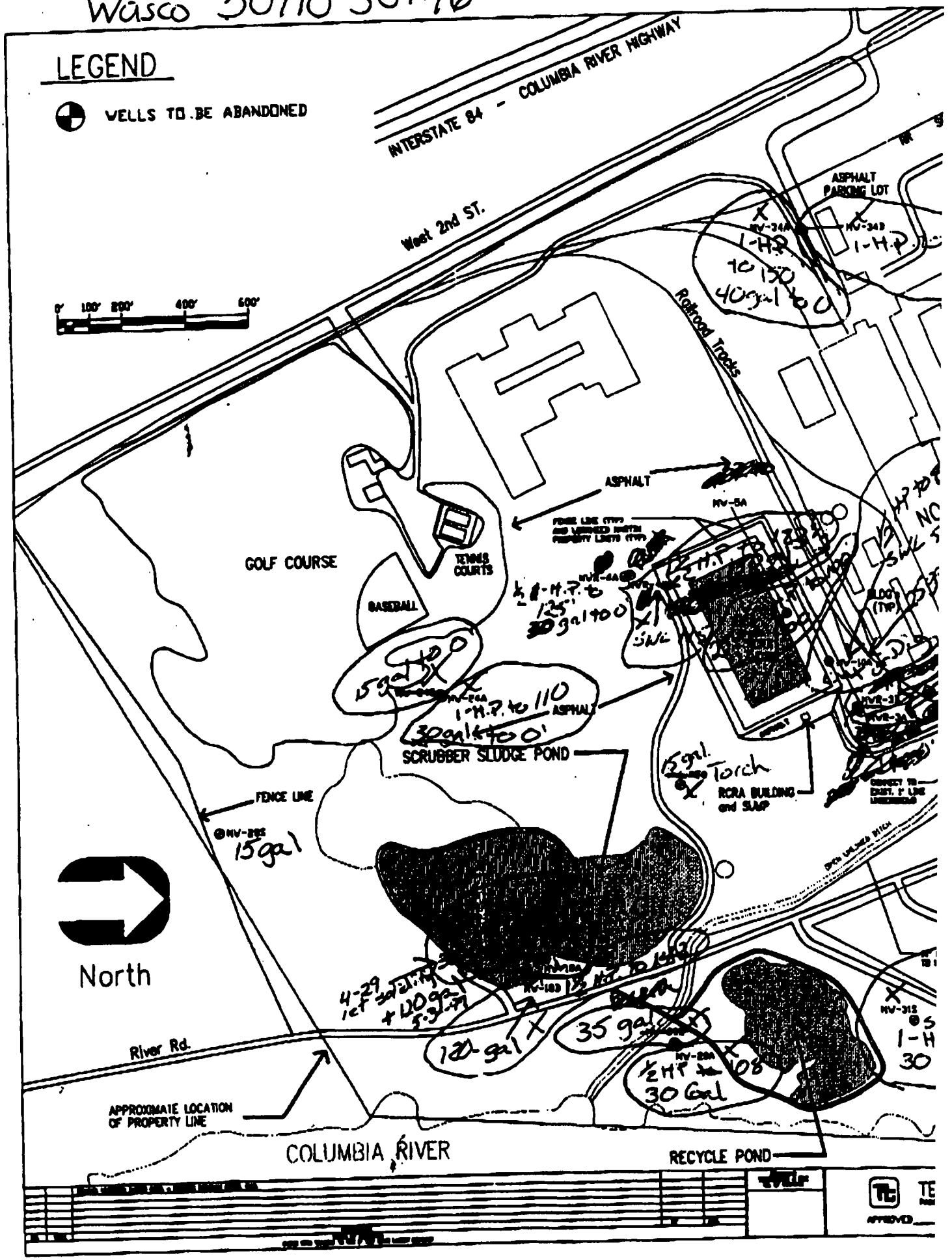
MWC Number 10076
Signed By BRADLEY J WIEBERDINK Date

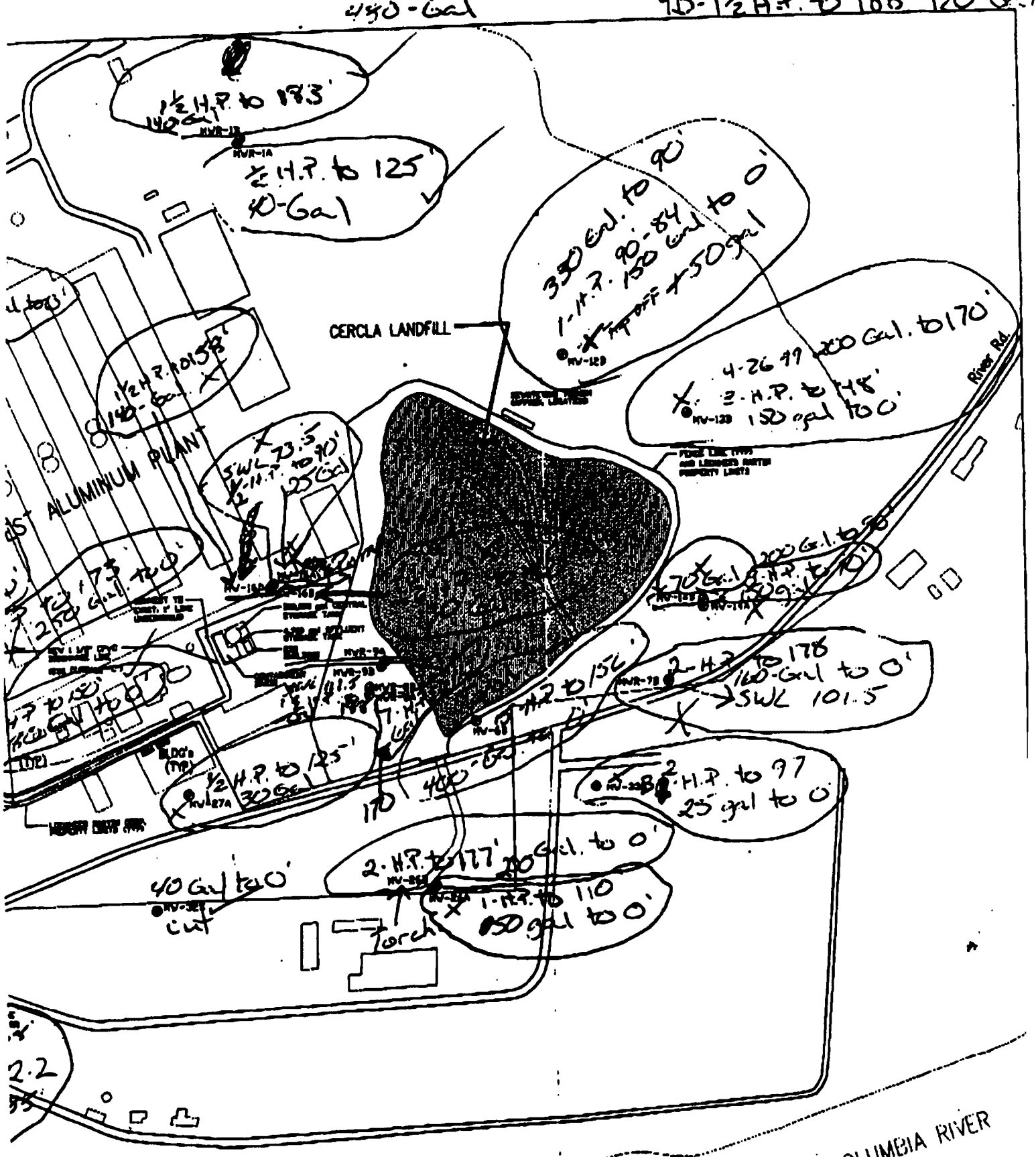
(bonded) Monitor Well Constructor Certification:

I accept responsibility for the construction, alteration, or abandonment work performed on this well during the construction dates reported above. All work performed during this time is in compliance with Oregon well construction standards. This report is true to the best of my knowledge and belief.

MWC Number 10011
Signed By GREG MCINNIS Date

Wasco 50710-50746





ECH

FORMER MARIETTA REDUCTION FACILITY

FIGURE 3. LOCATION OF GROUNDWATER MONITORING WELLS

STATE OF OREGON

MONITORING WELL REPORT

WASC 50719

Received Date 05/26/1999

Well ID Tag# L

Start Card # 117449

(as required by ORS 537.765 & OAR 690-240-095) Instructions for completing this report are on the last page of this form.

(1) OWNER/PROJECT

Well No.

Co Job No. AB8A

Name LOCKHEED MARTIN CORP.

Street 2550 N HOLLYWOOD WAY SUITE 305

City BURBANK State CA Zip 915051055

(2) TYPE OF WORK

☐ New Construction ☐ Alter (Recondition) ☐ Alter (Repair)

☐ Conversion ☐ Deepening ☒ Abandonment

(3) DRILLING METHOD

☐ Rotary Air ☐ Rotary Mud ☐ Cable

☐ Hollow Stem Auger Other *****

(4) BORE HOLE CONSTRUCTION

Special Standards ☒ Depth of completed well 140 ft.

Material	Begin Depth	End Depth	Material	Units
Bentonite	0.00	140.00	205.00	G

Vault

ft. TO ft.

Casing Diameter Liner ☐

Monument

Casing or Liner	Diameter	Begin Depth	End Depth	Gauge	Material	Construction Weld	Construction Threaded	Location
C	6.00				Steel			

ft. TO ft.

Seal

ft. TO ft.

From	To	Material	Amount	Seal Grout Weight	Units
0.00	140.00	Bentonite	205.00		9 G

Filter Pack Screen ☐

ft. TO ft.

Filter Pack Material

Size in.

(5) WELL TEST

Permeability Yield

Conductivity PH

Temperature of water °F/C Depth artesian flow found ft.

Was water analysis done? ☐

By Whom?

Depth of strata to be analyzed. From ft. to ft.

Remarks

Name of supervising Geologist/Engineer

(6) LOCATION OF WELL By legal description

County Wasco

Township 1.00 N Range 13.00 E Section 3

1. NE 1/4 of NW 1/4 of above section.

Legal Desc:

2. Either Street address of well location

3313 W SECOND ST, THE DALLES

or Tax lot number of well location 1400

3. ATTACH MAP WITH LOCATION IDENTIFIED. Map shall include approximate scale and north arrow.

(7) STATIC WATER LEVEL

Ft. below land surface. Date

Artesian Pressure lb/sq. in. Date

(8) WATER BEARING ZONES

Depth at which water was first found ft.

(9) WELL LOG

Ground elevation ft.

Date started 04/27/1999 Completed 04/27/1999

(unbonded) Monitor Well Constructor Certification:

I certify that the work I performed on the construction, alteration, or abandonment of this well is in compliance with Oregon well construction standards. Materials used and information reported above are true to the best knowledge and belief.

MWC Number 10076

Signed By BRADLEY J WIEBERDINK Date

(bonded) Monitor Well Constructor Certification:

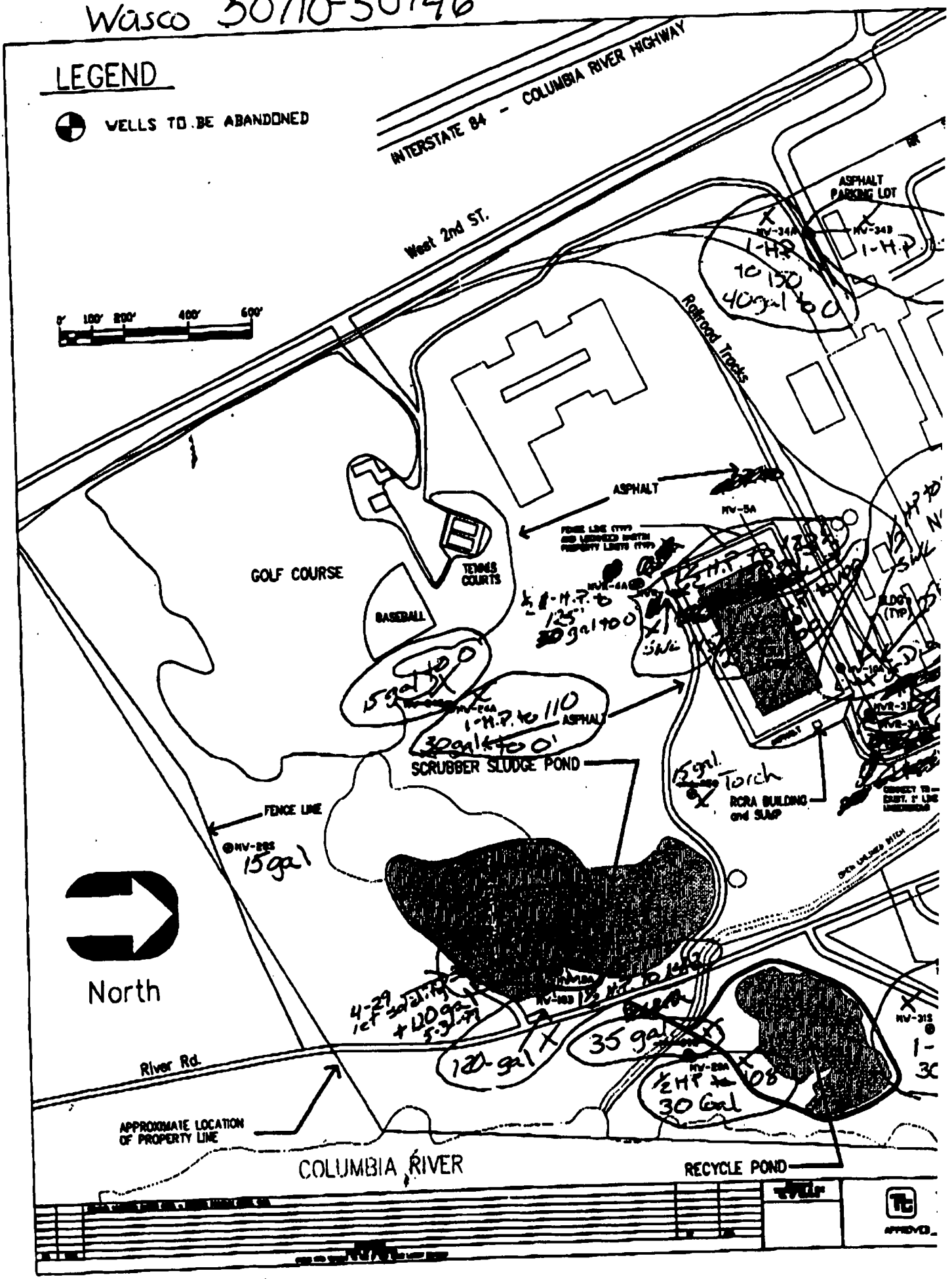
I accept responsibility for the construction, alteration, or abandonment work performed on this well during the construction dates reported above. All work performed during this time is in compliance with Oregon well construction standards. This report is true to the best of my knowledge and belief.

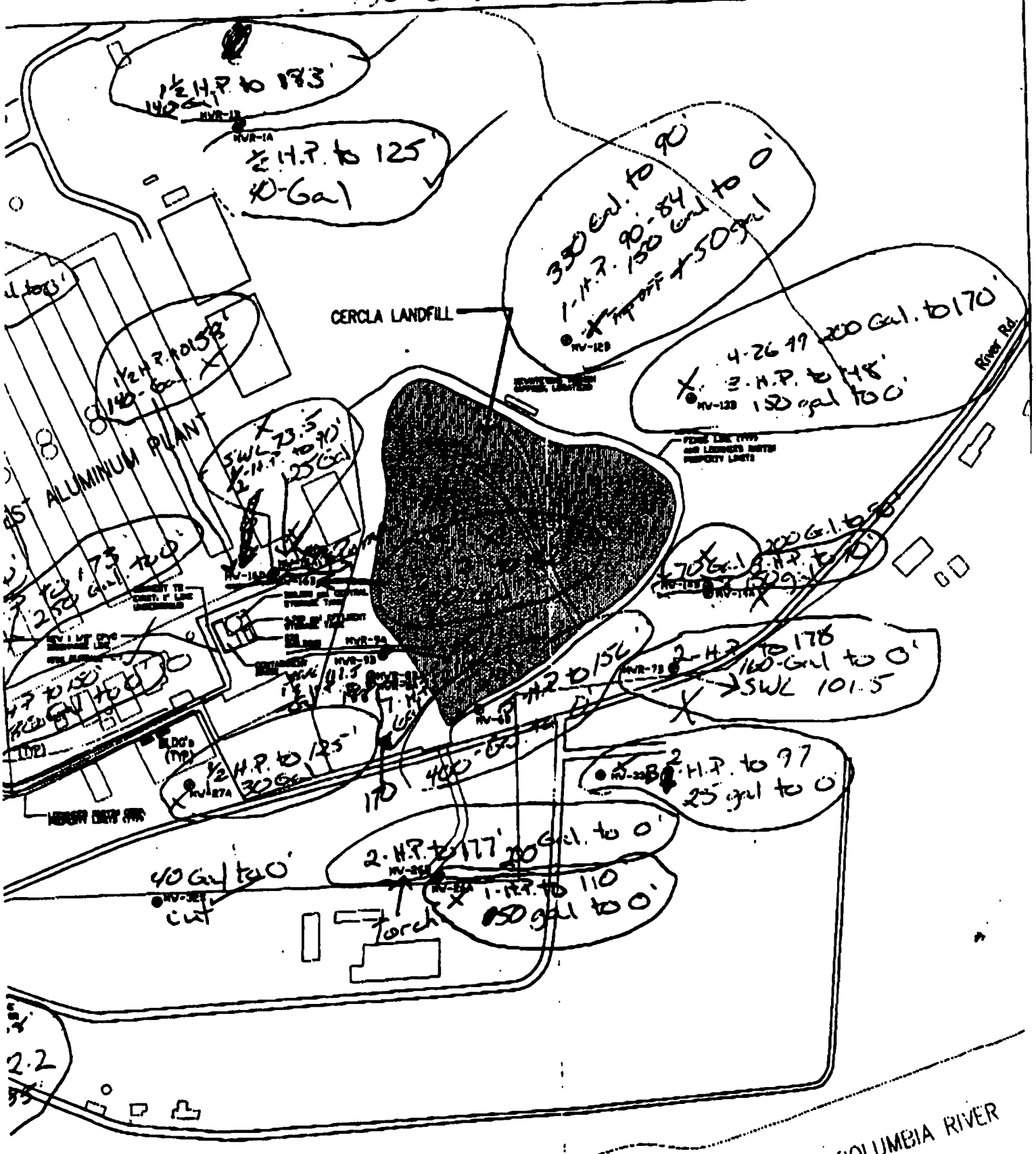
MWC Number 10011

Signed By GREG MCINNIS Date

Wasco 50710-50746

61 H.P.





ECH		1" = 400'	FORMER MARIETTA REDUCTION FACILITY
			FIGURE 3. LOCATION OF GROUNDWATER MONITORING WELLS

STATE OF OREGON

MONITORING WELL REPORT

WASC 50718

Received Date 05/26/1999

Well ID Tag# L

Start Card # 117448

(as required by ORS 537.765 & OAR 690-240-095) Instructions for completing this report are on the last page of this form.

(1) OWNER/PROJECT

Well No.

Co Job No. AB7B

Name LOCKHEED MARTIN CORP.

Street 2550 N HOLLYWOOD WAY SUITE 305

City BURBANK State CA Zip 915051055

(2) TYPE OF WORK

☐ New Construction ☐ Alter (Recondition) ☐ Alter (Repair)

☐ Conversion ☐ Deepening ☒ Abandonment

(3) DRILLING METHOD

☐ Rotary Air ☐ Rotary Mud ☐ Cable

☐ Hollow Stem Auger Other *****

(4) BORE HOLE CONSTRUCTION

Special Standards ☒ Depth of completed well 192 ft.

Material	Begin	End Depth	Material	Units
Bentonite	0.00	192.00	124.00	G

Vault

ft.

Casing Diameter Liner ☐

TO

ft.

Casing or Liner	Diameter	Begin	End Depth	Gauge	Material	Construction Weld	Construction Threaded	Location
C	4.00				Plasti	☒	☒	

Monument

ft.

TO

ft.

Seal

ft.

TO

ft.

From	To	Material	Amount	Seal Grout Weight	Units
0.00	192.00	Bentonite	124.00		G

Filter Pack Screen ☐

ft.

TO

ft.

Filter Pack

Material

Size in.

(5) WELL TEST

Permeability Yield

Conductivity PH

Temperature of water °F/C Depth artesian flow found ft.

Was water analysis done? ☐

By Whom?

Depth of strata to be analyzed. From ft. to ft.

Remarks

Name of supervising Geologist/Engineer

(6) LOCATION OF WELL By legal description

County Wasco

Township 1.00 N Range 13.00 E Section 3

1. NE 1/4 of NW 1/4 of above section.

Legal Desc:

2. Either Street address of well location

3313 W SECOND ST, THE DALLES

or Tax lot number of well location 1400

3. ATTACH MAP WITH LOCATION IDENTIFIED. Map shall include approximate scale and north arrow.

(7) STATIC WATER LEVEL

Ft. below land surface. Date

Artesian Pressure lb/sq. in. Date

(8) WATER BEARING ZONES

Depth at which water was first found ft.

(9) WELL LOG

Ground elevation ft.

Date started 04/27/1999 Completed 04/27/1999

(unbonded) Monitor Well Constructor Certification:

I certify that the work I performed on the construction, alteration, or abandonment of this well is in compliance with Oregon well construction standards. Materials used and information reported above are true to the best knowledge and belief.

MWC Number 10076

Signed By BRADLEY J WIEBERDINK Date

(bonded) Monitor Well Constructor Certification:

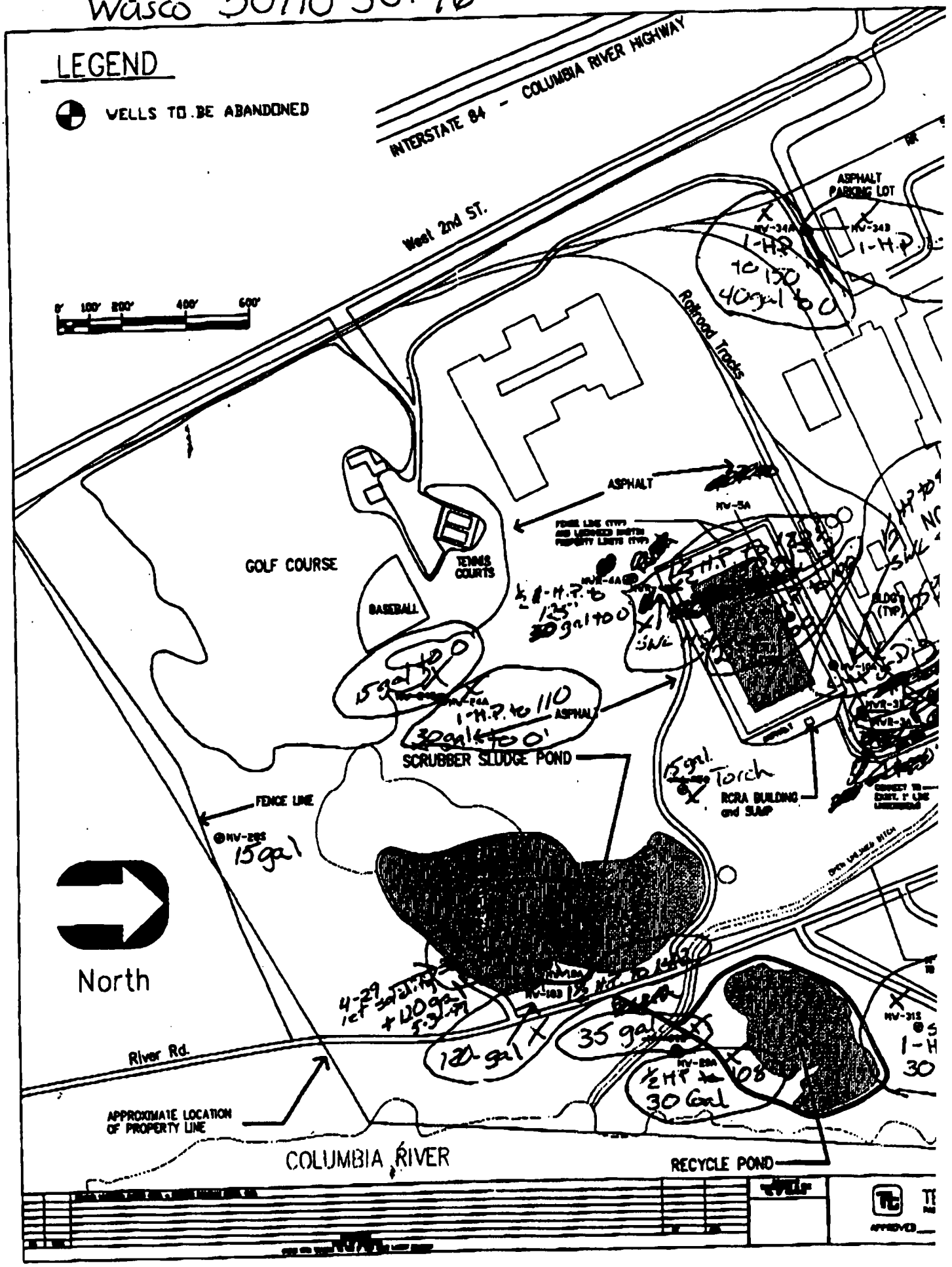
I accept responsibility for the construction, alteration, or abandonment work performed on this well during the construction dates reported above. All work performed during this is in compliance with Oregon well construction standards. This report is true to the best of my knowledge and belief.

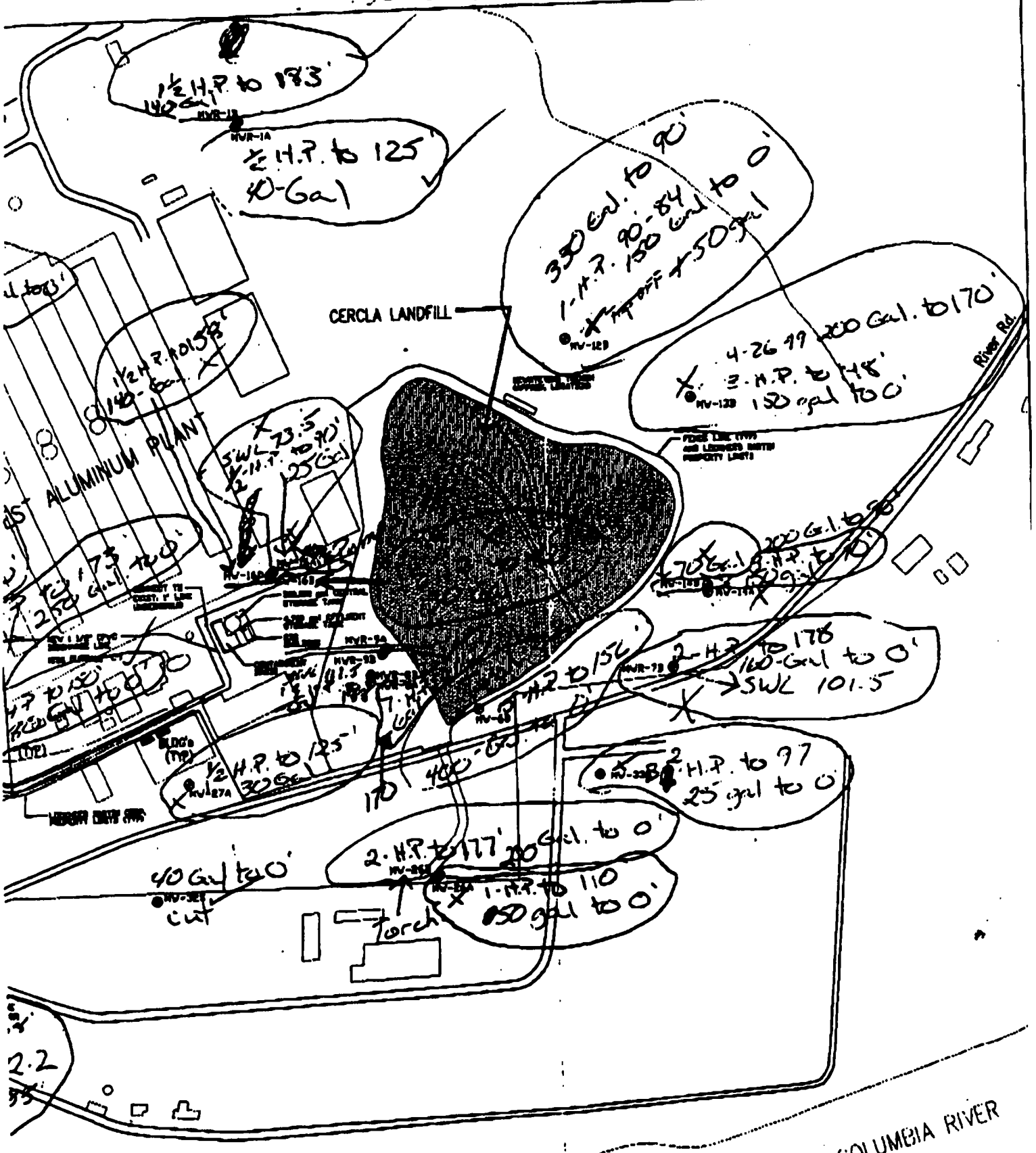
MWC Number 10011

Signed By GREG MCINNIS Date

Wasco 50710-50746

61 H.P.





ECH ENGINEERS ARCHITECTS : PLANNERS SCIENTISTS			FORMER MARIETTA REDUCTION FACILITY
			FIGURE 3. LOCATION OF GROUNDWATER MONITORING WELLS

STATE OF OREGON

MONITORING WELL REPORT

WASC 50717

Received Date 05/26/1999

Well ID Tag# L

Start Card # 117447

(as required by ORS 537.765 & OAR 690-240-095) Instructions for completing this report are on the last page of this form.

(1) OWNER/PROJECT

Well No.

Co Job No. AB6B

Name LOCKHEED MARTIN CORP.

Street 2550 N HOLLYWOOD WAY SUITE 305

City BURBANK State CA Zip 915051055

(2) TYPE OF WORK

☐ New Construction ☐ Alter (Recondition) ☐ Alter (Repair)

☐ Conversion ☐ Deepening ☒ Abandonment

(3) DRILLING METHOD

☐ Rotary Air ☐ Rotary Mud ☐ Cable

☐ Hollow Stem Auger Other *****

(4) BORE HOLE CONSTRUCTION

Special Standards ☒ Depth of completed well 190 ft.

Material	Begin Depth	End Depth	Material	Units
Bentonite	0.00	190.00	493.00	G

Vault

ft.

Casing Diameter Liner ☐

TO

ft.

Monument

Casing or Liner	Diameter	Begin Depth	End Depth	Gauge	Material	Construction Weld	Threaded	Location
C	8.00				Steel	☐	☒	

ft.

TO

ft.

Seal

ft.

TO

From	To	Material	Amount	Seal Grout Weight	Units
0.00	190.00	Bentonite	493.00		G

ft.

Filter Pack Screen ☐

ft.

TO

ft.

Filter Pack

Material

Size in.

(5) WELL TEST

Permeability Yield

Conductivity PH

Temperature of water *F/C Depth artesian flow found ft.

Was water analysis done? ☐

By Whom?

Depth of strata to be analyzed. From ft. to ft.

Remarks

Name of supervising Geologist/Engineer

(6) LOCATION OF WELL By legal description

County **Wasco**

Township **1.00 N** Range **13.00 E** Section **3**

1. **NE** 1/4 of **NW** 1/4 of above section.

Legal Desc:

2. Either Street address of well location

3313 W SECOND ST, THE DALLES

or Tax lot number of well location **1400**

3. ATTACH MAP WITH LOCATION IDENTIFIED. Map shall include approximate scale and north arrow.

(7) STATIC WATER LEVEL

Ft. below land surface. Date

Artesian Pressure lb/sq. in. Date

(8) WATER BEARING ZONES

Depth at which water was first found ft.

(9) WELL LOG

Ground elevation ft.

Date started **04/27/1999** Completed **04/27/1999**

(unbonded) Monitor Well Constructor Certification:

I certify that the work I performed on the construction, alteration, or abandonment of this well is in compliance with Oregon well construction standards. Materials used and information reported above are true to the best knowledge and belief.

MWC Number **10076**

Signed By **BRADLEY J WIEBERDINK** Date

(bonded) Monitor Well Constructor Certification:

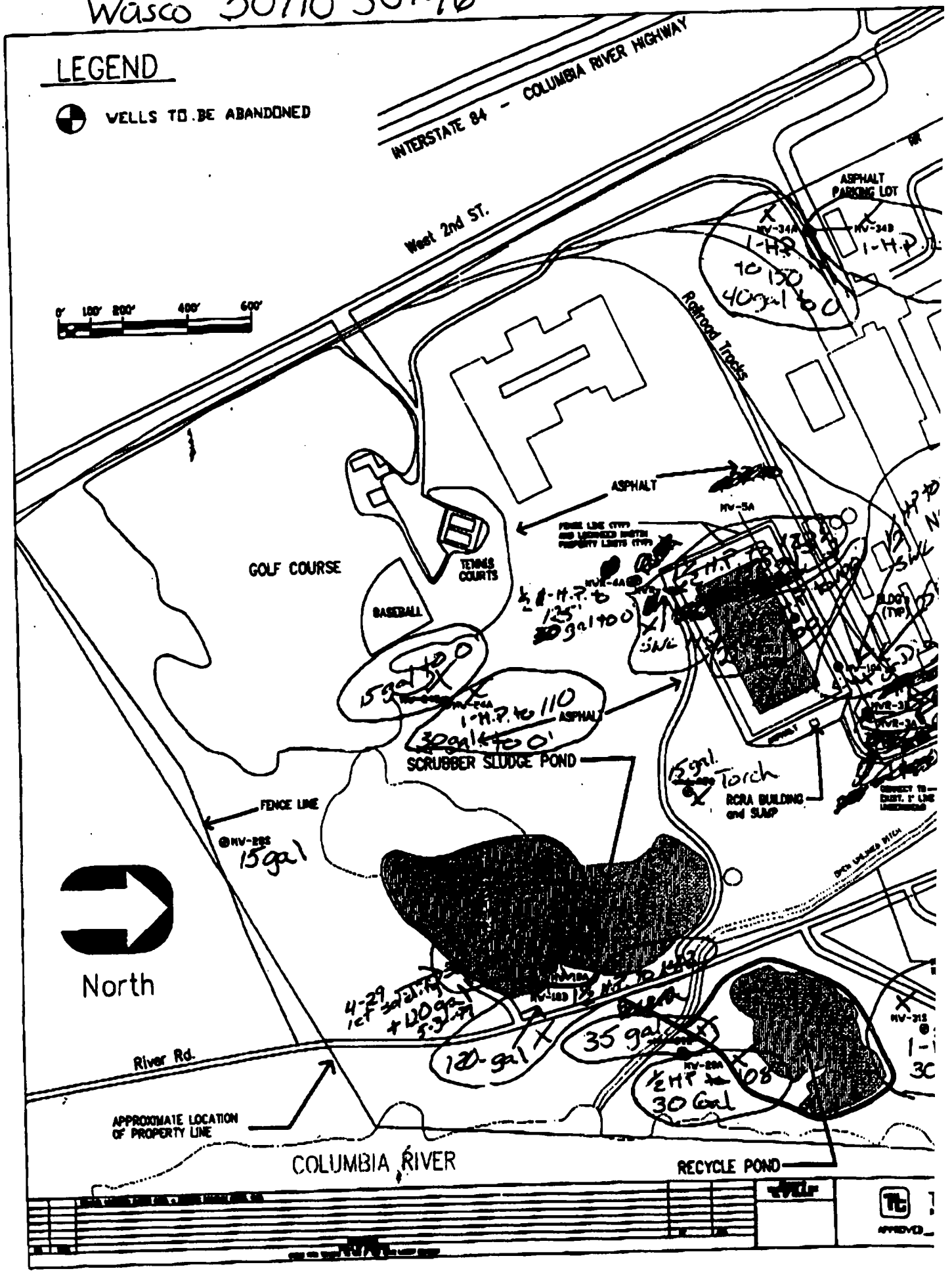
I accept responsibility for the construction, alteration, or abandonment work performed on this well during the construction dates reported above. All work performed during this time is in compliance with Oregon well construction standards. This report is true to the best of my knowledge and belief.

MWC Number **10011**

Signed By **GREG MCINNIS** Date

Wasco 50710-50746

61 H.P.



ECH ENGINEERS ARCHITECTS • PLANNERS • SCIENTISTS	1" = 400'	FORMER MARTIN MARIETTA REDUCTION FACILITY	
		FIGURE 3. LOCATION OF GROUNDWATER MONITORING WELLS	1

PAGE 1-

STATE OF OREGON

MONITORING WELL REPORT

WASC 50716

Received Date 05/26/1999

Well ID Tag# L

Start Card # 117446

(as required by ORS 537.765 & OAR 690-240-095) Instructions for completing this report are on the last page of this form.

(1) OWNER/PROJECT

Well No.

Co Job No. AB5A

Name LOCKHEED MARTIN CORP.

Street 2550 N HOLLYWOOD WAY SUITE 305

City BURBANK State CA Zip 915051055

(2) TYPE OF WORK

☐ New Construction ☐ Alter (Recondition) ☐ Alter (Repair)

☐ Conversion ☐ Deepening ☒ Abandonment

(3) DRILLING METHOD

☐ Rotary Air ☐ Rotary Mud ☐ Cable

☐ Hollow Stem Auger Other *****

(4) BORE HOLE CONSTRUCTION

Special Standards ☒ Depth of completed well 115 ft.

Material	Begin Depth	End Depth	Material	Units
Bentonite	0.00	115.00	16.00	G

Vault

ft. TO ft.

Casing Diameter Liner ☐

Monument

Casing or Liner	Diameter	Begin Depth	End Depth	Gauge	Material	Construction Weld	Construction Threaded	Location
C	2.00				Plasti	☒	☒	

ft. TO ft.

Seal

ft. TO ft.

From	To	Material	Amount	Seal Grout Weight	Units
0.00	115.00	Bentonite	16.00		G

Filter Pack Screen ☐

ft. TO ft.

Filter Pack

Material

Size in.

(5) WELL TEST

Permeability Yield

Conductivity PH

Temperature of water °F/C Depth artesian flow found ft.

Was water analysis done? ☐

By Whom?

Depth of strata to be analyzed. From ft. to ft.

Remarks

Name of supervising Geologist/Engineer

(6) LOCATION OF WELL By legal description

County Wasco

Township 1.00 N Range 13.00 E Section 3

1. NE 1/4 of NW 1/4 of above section.

Legal Desc:

2. Either Street address of well location

3313 W SECOND ST, THE DALLES

or Tax lot number of well location 1400

3. ATTACH MAP WITH LOCATION IDENTIFIED. Map shall include approximate scale and north arrow.

(7) STATIC WATER LEVEL

Ft. below land surface. Date

Artesian Pressure lb/sq. in. Date

(8) WATER BEARING ZONES

Depth at which water was first found ft.

(9) WELL LOG

Ground elevation ft.

Date started 04/27/1999 Completed 04/27/1999

(unbonded) Monitor Well Constructor Certification:

I certify that the work I performed on the construction, alteration, or abandonment of this well is in compliance with Oregon well construction standards. Materials used and information reported above are true to the best knowledge and belief.

MWC Number 10076

Signed By BRADLEY J WIEBERDINK Date

(bonded) Monitor Well Constructor Certification:

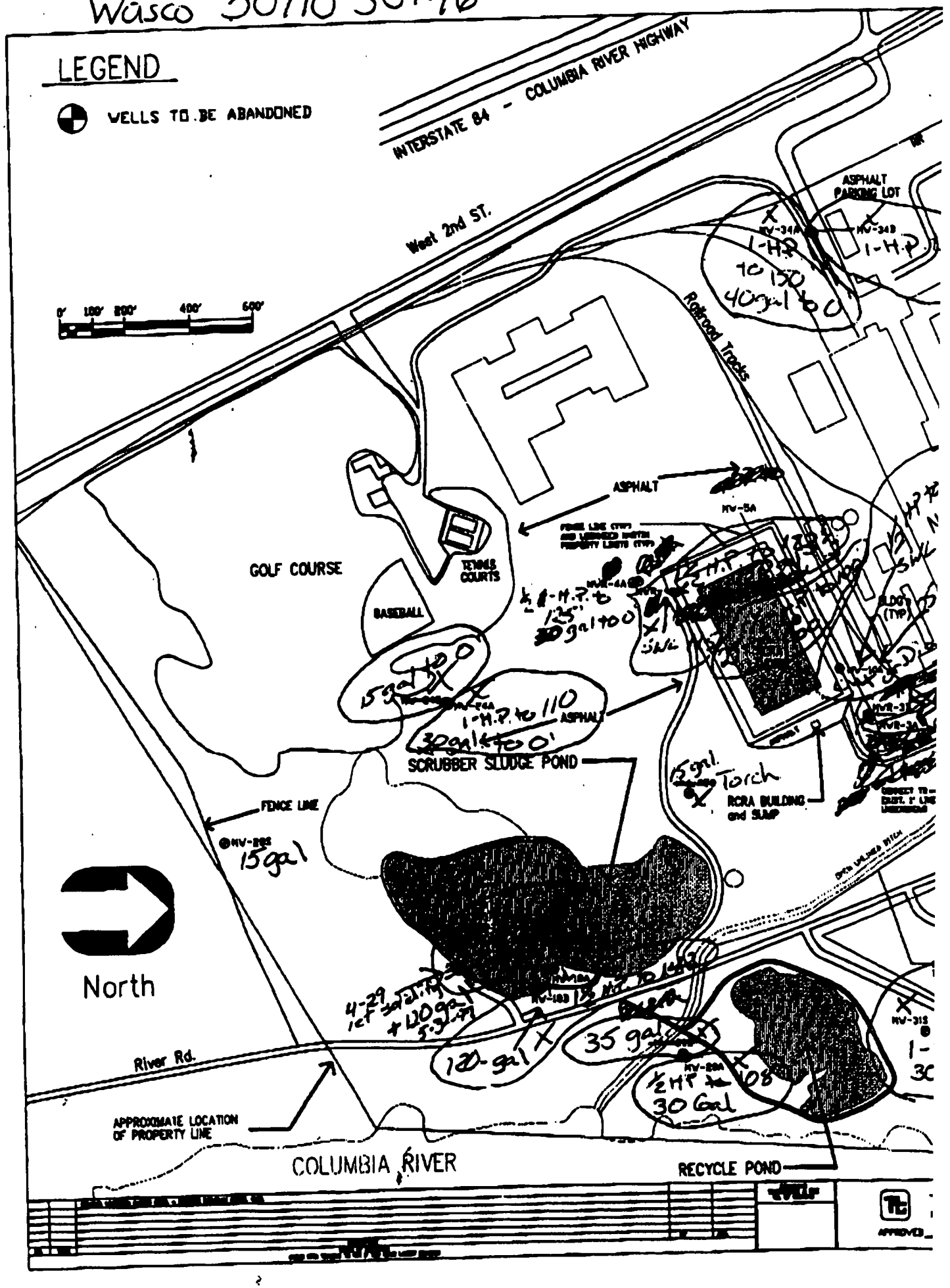
I accept responsibility for the construction, alteration, or abandonment work performed on this well during the construction dates reported above. All work performed during this time is in compliance with Oregon well construction standards. This report is true to the best of my knowledge and belief.

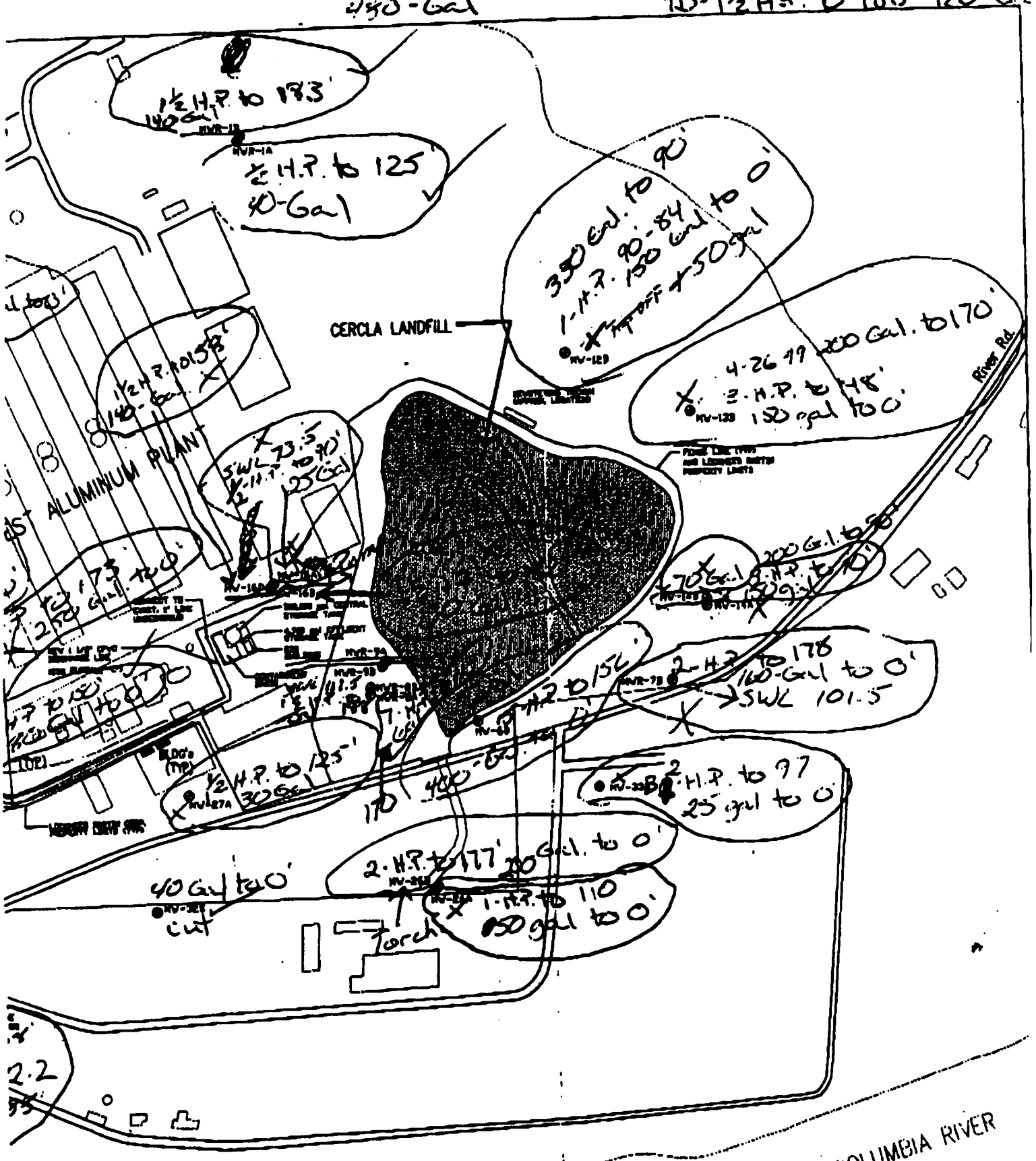
MWC Number 10011

Signed By GREG MCINNIS Date

Wasco 50710-50746

6 1 H.P.





ECH ENGINEERS ARCHITECTS • PLANNERS SCIENTISTS		1" = 400'	FORMER MARIETTA REDUCTION FACILITY
			FIGURE 3. LOCATION OF GROUNDWATER MONITORING WELLS

STATE OF OREGON

MONITORING WELL REPORT

WASC 50715

Received Date 05/26/1999
Well ID Tag# L
Start Card # 117445

(as required by ORS 537.765 & OAR 690-240-095) Instructions for completing this report are on the last page of this form.

(1) OWNER/PROJECT

Well No.
Co Job No. AB4B

Name LOCKHEED MARTIN CORP.
Street 2550 N HOLLYWOOD WAY SUITE 305
City BURBANK State CA Zip 915051055

(2) TYPE OF WORK

☐ New Construction ☐ Alter (Recondition) ☐ Alter (Repair)
☐ Conversion ☐ Deepening ☒ Abandonment

(3) DRILLING METHOD

☐ Rotary Air ☐ Rotary Mud ☐ Cable
☐ Hollow Stem Auger Other *****

(4) BORE HOLE CONSTRUCTION

Special Standards ☒ Depth of completed well 195 ft.

Material	Begin Depth	End Depth	Material	Units
Bentonite	0.00	195.00	124.00	G

Vault
ft.
Casing Diameter Liner ☐
TO
ft.

Monument

Casing or Liner	Diameter	Begin Depth	End Depth	Gauge	Material	Construction Weld	Construction Threaded	Location
C	4.00				Plasti			

ft.
TO
ft.

Seal
ft.
TO

From	To	Material	Amount	Seal Grout Weight	Units
0.00	195.00	Bentonite	124.00		9 G

ft.

Filter Pack Screen ☐
ft.
TO
ft.

Filter Pack
Material
Size in.

(5) WELL TEST

Permeability Yield
Conductivity PH
Temperature of water °F/C Depth artesian flow found ft.
Was water analysis done? ☐
By Whom?
Depth of strata to be analyzed. From ft. to ft.
Remarks

Name of supervising Geologist/Engineer

(6) LOCATION OF WELL By legal description

County Wasco
Township 1.00 N Range 13.00 E Section 3
1. NE 1/4 of NW 1/4 of above section.
Legal Desc:

2. Either Street address of well location
3313 W SECOND ST, THE DALLES
or Tax lot number of well location 1400
3. ATTACH MAP WITH LOCATION IDENTIFIED. Map shall include approximate scale and north arrow.

(7) STATIC WATER LEVEL

Ft. below land surface. Date
Artesian Pressure lb/sq. in. Date

(8) WATER BEARING ZONES

Depth at which water was first found ft.

(9) WELL LOG

Ground elevation ft.

Date started 04/27/1999 Completed 04/27/1999

(unbonded) Monitor Well Constructor Certification:

I certify that the work I performed on the construction, alteration, or abandonment of this well is in compliance with Oregon well construction standards. Materials used and information reported above are true to the best knowledge and belief.

MWC Number 10076

Signed By BRADLEY J WIEBERDINK Date

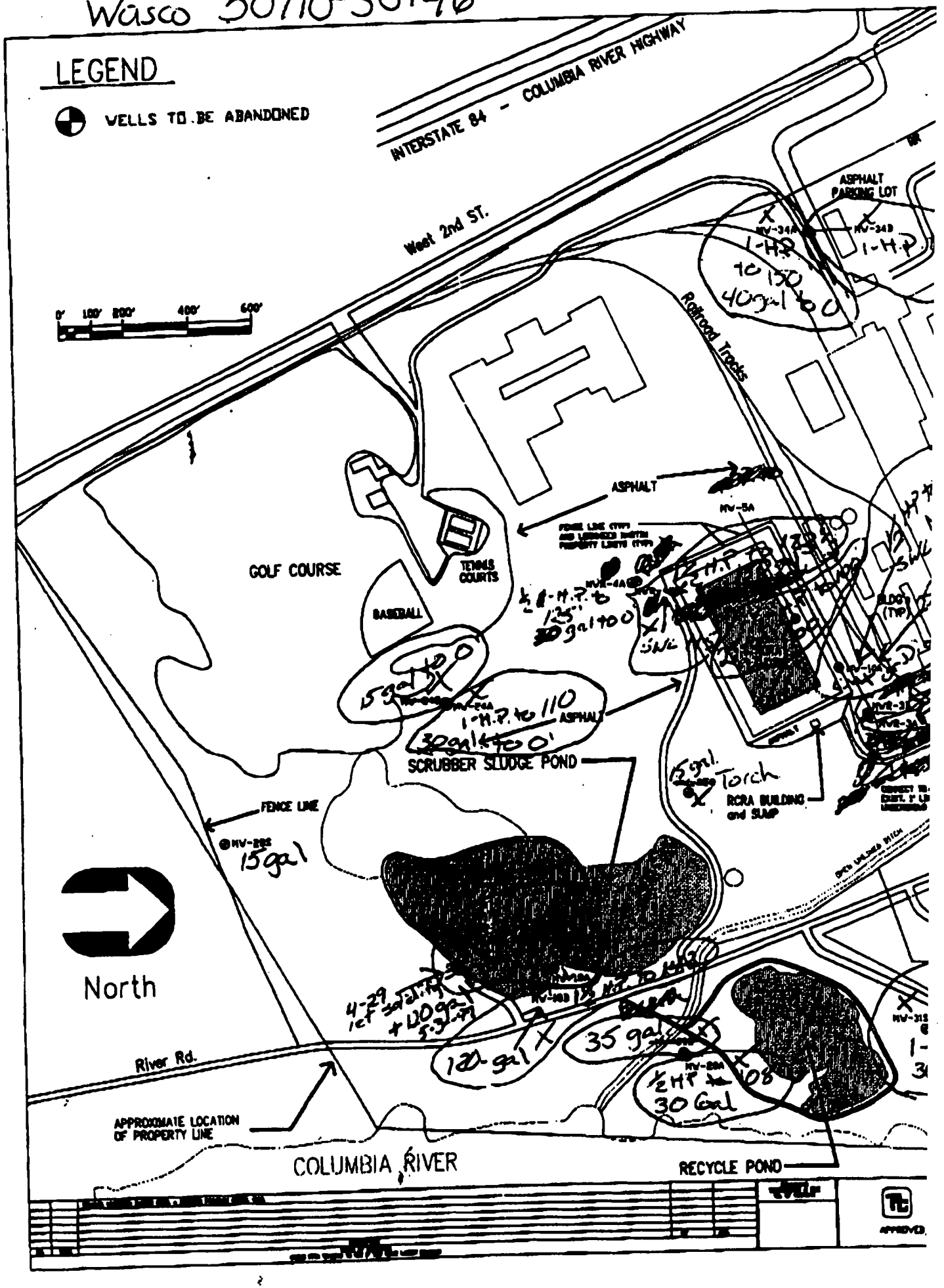
(bonded) Monitor Well Constructor Certification:

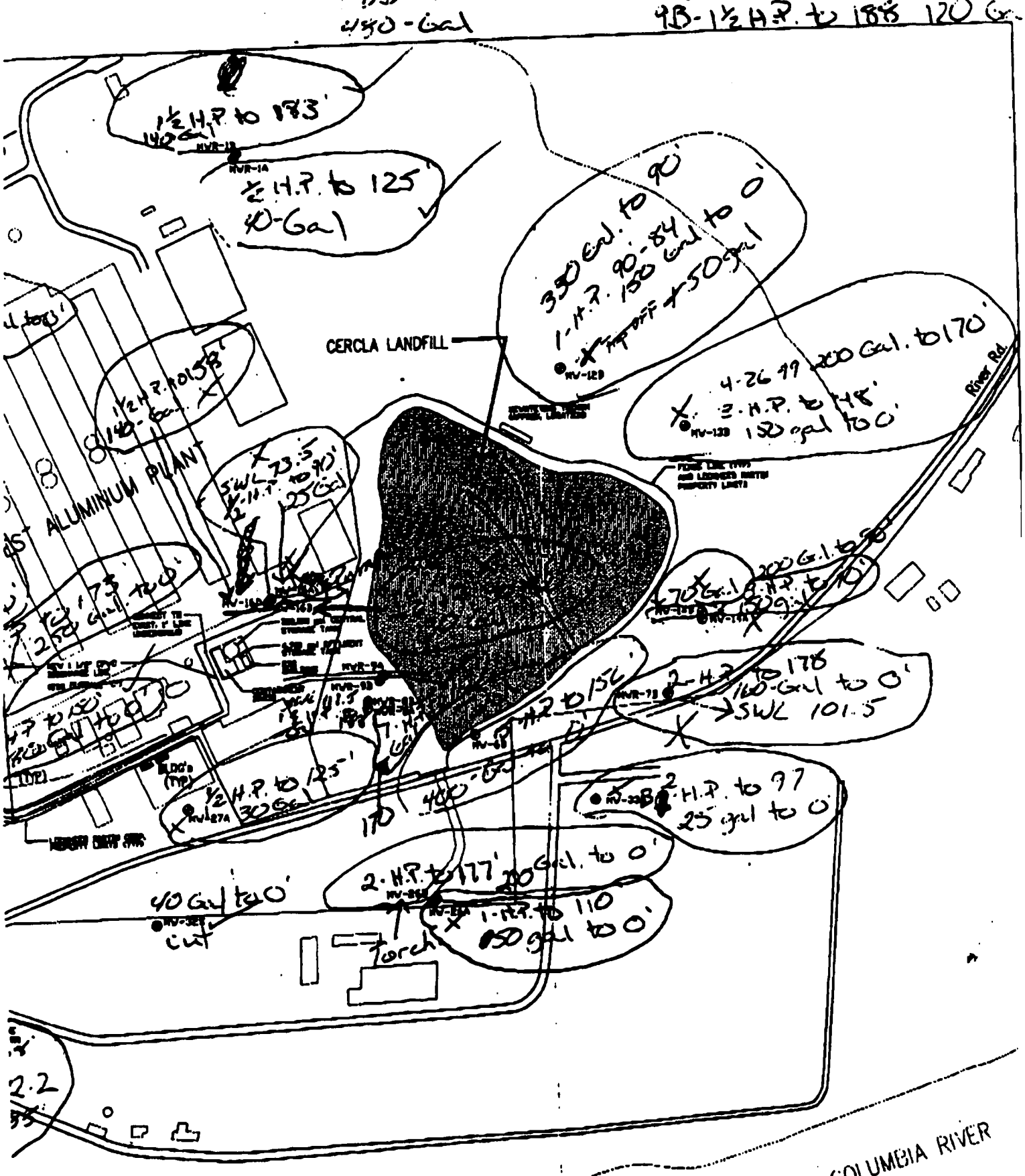
I accept responsibility for the construction, alteration, or abandonment work performed on this well during the construction dates reported above. All work performed during this time is in compliance with Oregon well construction standards. This report is true to the best of my knowledge and belief.

MWC Number 10011

Signed By GREG MCINNIS Date

Wasco 50710-50746





ECH ENGINEERS • SCIENTISTS • PLANNERS • ARCHITECTS

FORMER MARIETTA REDUCTION FACILITY

FIGURE 3. LOCATION OF GROUNDWATER MONITORING WELLS

STATE OF OREGON

MONITORING WELL REPORT

WASC 50714

Received Date 05/26/1999

Well ID Tag# L

Start Card # 117444

(as required by ORS 537.765 & OAR 690-240-095) Instructions for completing this report are on the last page of this form.

(1) OWNER/PROJECT

Well No.

Co Job No. AB4A

Name LOCKHEED MARTIN CORP.

Street 2550 N HOLLYWOOD WAY SUITE 305

City BURBANK State CA Zip 915051055

(2) TYPE OF WORK

☐ New Construction ☐ Alter (Recondition) ☐ Alter (Repair)

☐ Conversion ☐ Deepening ☒ Abandonment

(3) DRILLING METHOD

☐ Rotary Air ☐ Rotary Mud ☐ Cable

☐ Hollow Stem Auger Other *****

(4) BORE HOLE CONSTRUCTION

Special Standards ☒ Depth of completed well 139 ft.

Material	Begin Depth	End Depth	Material	Units
Bentonite	0.00	139.00	90.00	G

Vault

ft. TO ft. Casing Diameter Liner ☐

Monument

Casing or Liner	Diameter	Begin Depth	End Depth	Gauge	Material	Construction Weld	Construction Threaded	Location
C	2.00				Plasti	☐	☒	

ft. TO ft.

Seal

ft. TO ft.

From	To	Material	Amount	Seal Grout Weight	Units
0.00	139.00	Bentonite	90.00		9 G

Filter Pack Screen ☐

ft. TO ft.

Filter Pack Material Size in.

(5) WELL TEST

Permeability Yield

Conductivity PH

Temperature of water °F/C Depth artesian flow found ft.

Was water analysis done? ☐

By Whom?

Depth of strata to be analyzed. From ft. to ft.

Remarks

Name of supervising Geologist/Engineer

(6) LOCATION OF WELL By legal description

County Wasco

Township 1.00 N Range 13.00 E Section 3

1. NE 1/4 of NW 1/4 of above section.

Legal Desc:

2. Either Street address of well location

3313 W SECOND ST, THE DALLES

or Tax lot number of well location 1400

3. ATTACH MAP WITH LOCATION IDENTIFIED. Map shall include approximate scale and north arrow.

(7) STATIC WATER LEVEL

Ft. below land surface. Date

Artesian Pressure lb/sq. in. Date

(8) WATER BEARING ZONES

Depth at which water was first found ft.

(9) WELL LOG

Ground elevation ft.

Date started 04/27/1999 Completed 04/27/1999

(unbonded) Monitor Well Constructor Certification:

I certify that the work I performed on the construction, alteration, or abandonment of this well is in compliance with Oregon well construction standards. Materials used and information reported above are true to the best knowledge and belief.

MWC Number 10076

Signed By BRADLEY J WIEBERDINK Date

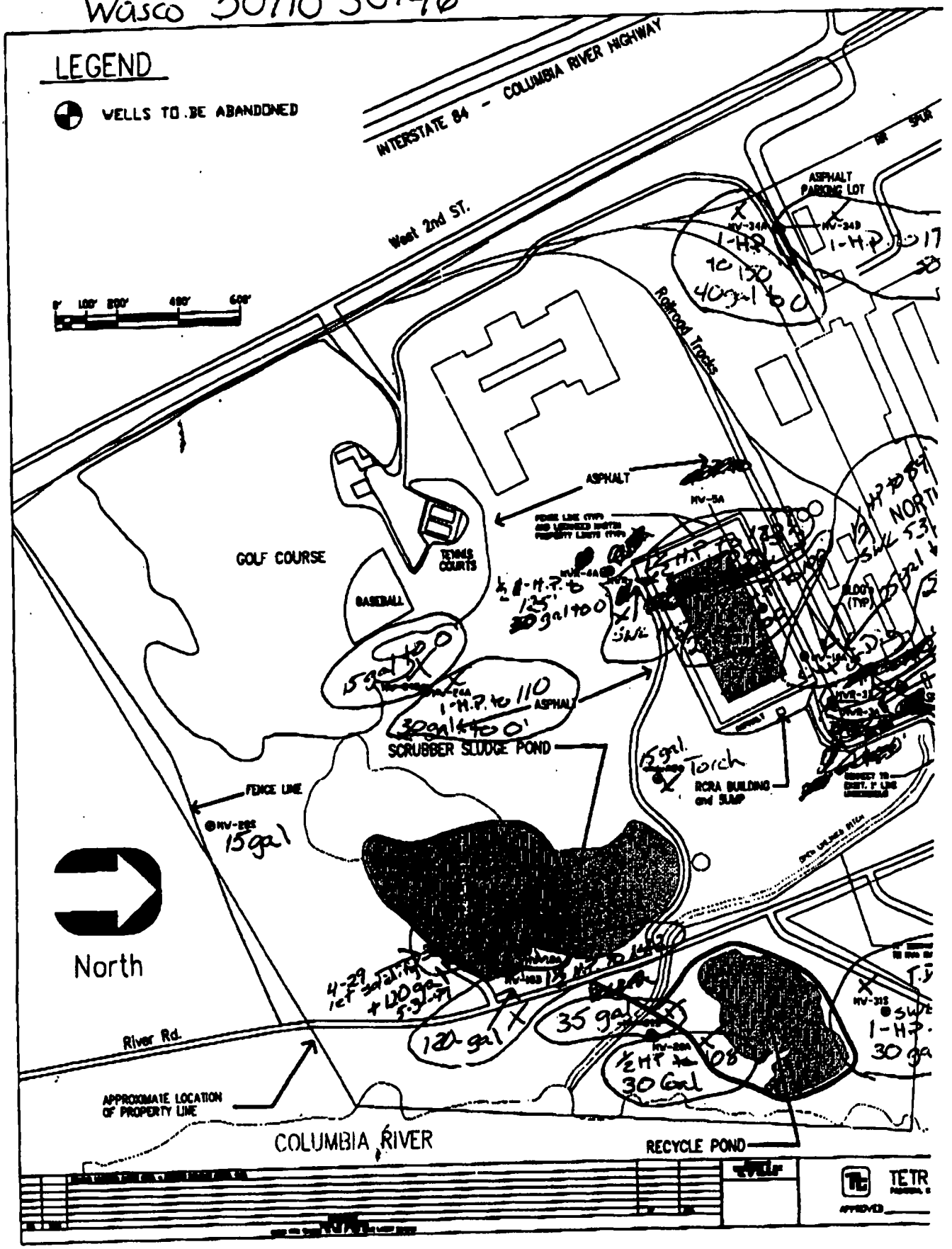
(bonded) Monitor Well Constructor Certification:

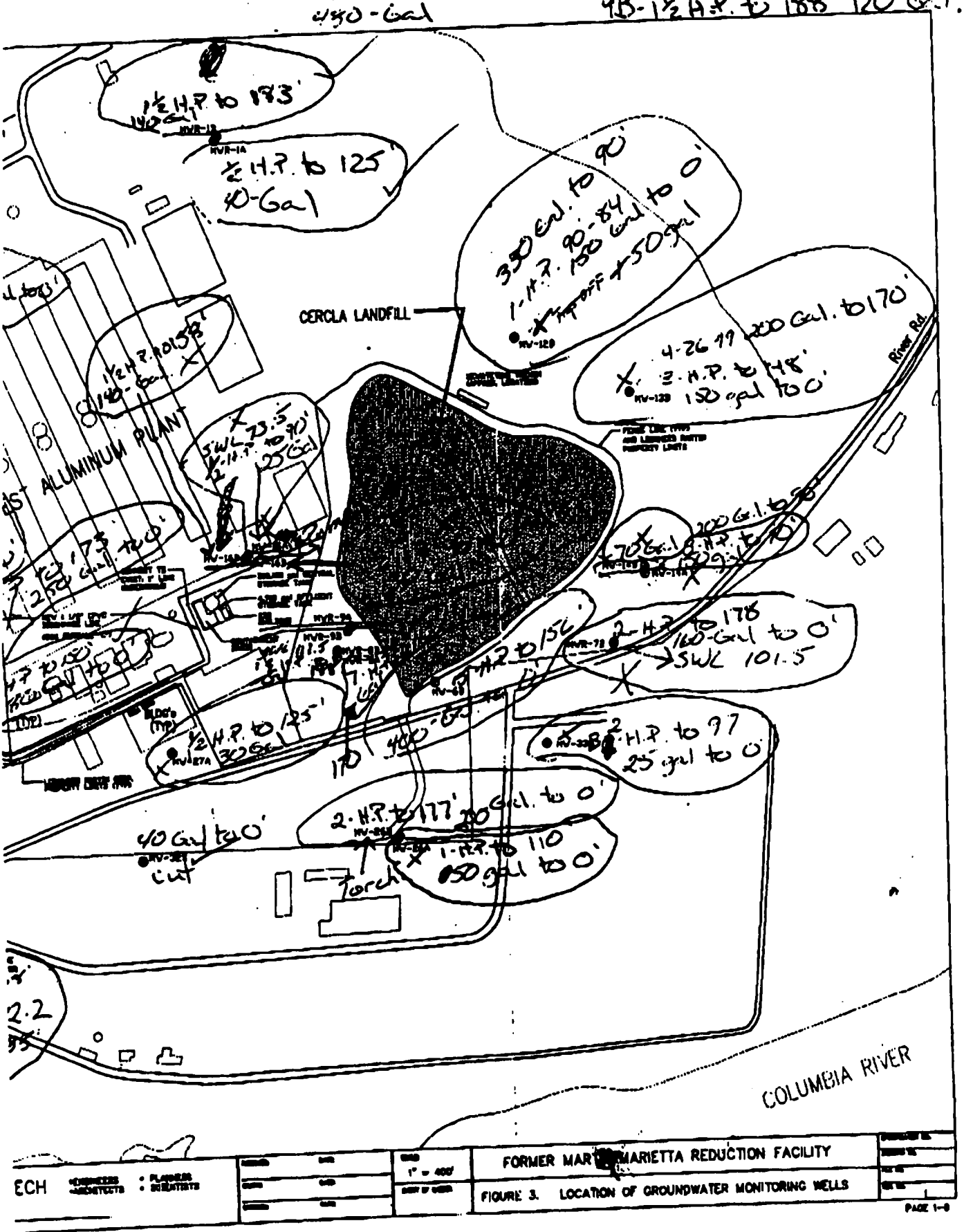
I accept responsibility for the construction, alteration, or abandonment work performed on this well during the construction dates reported above. All work performed during this time is in compliance with Oregon well construction standards. This report is true to the best of my knowledge and belief.

MWC Number 10011

Signed By GREG MCINNIS Date

Wasco 50710-50746





ECH		1" = 400'	FORMER MARIETTA REDUCTION FACILITY
			FIGURE 3. LOCATION OF GROUNDWATER MONITORING WELLS

STATE OF OREGON

MONITORING WELL REPORT

WASC 50713

Received Date 05/26/1999

Well ID Tag# L

(as required by ORS 537.765 & OAR 690-240-095) Instructions for completing this report are on the last page of this form.

Start Card # 117443

(1) OWNER/PROJECT

Well No.

Co Job No. AB3B

Name LOCKHEED MARTIN CORP.

Street 2550 N HOLLYWOOD WAY SUITE 305

City BURBANK State CA Zip 915051055

(2) TYPE OF WORK

☐ New Construction ☐ Alter (Recondition) ☐ Alter (Repair)

☐ Conversion ☐ Deepening ☒ Abandonment

(3) DRILLING METHOD

☐ Rotary Air ☐ Rotary Mud ☐ Cable

☐ Hollow Stem Auger Other *****

(4) BORE HOLE CONSTRUCTION

Special Standards ☒ Depth of completed well 185 ft.

Material	Begin	End Depth	Material	Units
Bentonite	0.00	185.00	120.00	G

Vault

ft.

TO

ft. Casing Diameter Liner ☐

Monument

ft.

TO

ft.

Casing or Liner	Diameter	Begin	End Depth	Gauge	Material	Construction Weld	Threaded	Location
C	2.00				Plasti	▒	▒	

Seal

ft.

TO

ft.

From	To	Material	Amount	Seal Grout Weight	Units
0.00	185.00	Bentonite	120.00		9 G

Filter Pack Screen ☐

ft.

TO

ft.

Filter Pack Material

Size in.

(5) WELL TEST

Permeability Yield

Conductivity PH

Temperature of water °F/C Depth artesian flow found ft.

Was water analysis done? ☐

By Whom?

Depth of strata to be analyzed. From ft. to ft.

Remarks

Name of supervising Geologist/Engineer

(6) LOCATION OF WELL By legal description

County Wasco

Township 1.00 N Range 13.00 E Section 3

1. NE 1/4 of NW 1/4 of above section.

Legal Desc:

2. Either Street address of well location

3313 W SECOND ST, THE DALLES

or Tax lot number of well location 1400

3. ATTACH MAP WITH LOCATION IDENTIFIED. Map shall include approximate scale and north arrow.

(7) STATIC WATER LEVEL

Ft. below land surface. Date

Artesian Pressure lb/sq. in. Date

(8) WATER BEARING ZONES

Depth at which water was first found ft.

(9) WELL LOG

Ground elevation ft.

Date started 04/26/1999 Completed 04/26/1999

(unbonded) Monitor Well Constructor Certification:

I certify that the work I performed on the construction, alteration, or abandonment of this well is in compliance with Oregon well construction standards. Materials used and information reported above are true to the best knowledge and belief.

MWC Number 10076

Signed By BRADLEY J WIEBERDINK Date

(bonded) Monitor Well Constructor Certification:

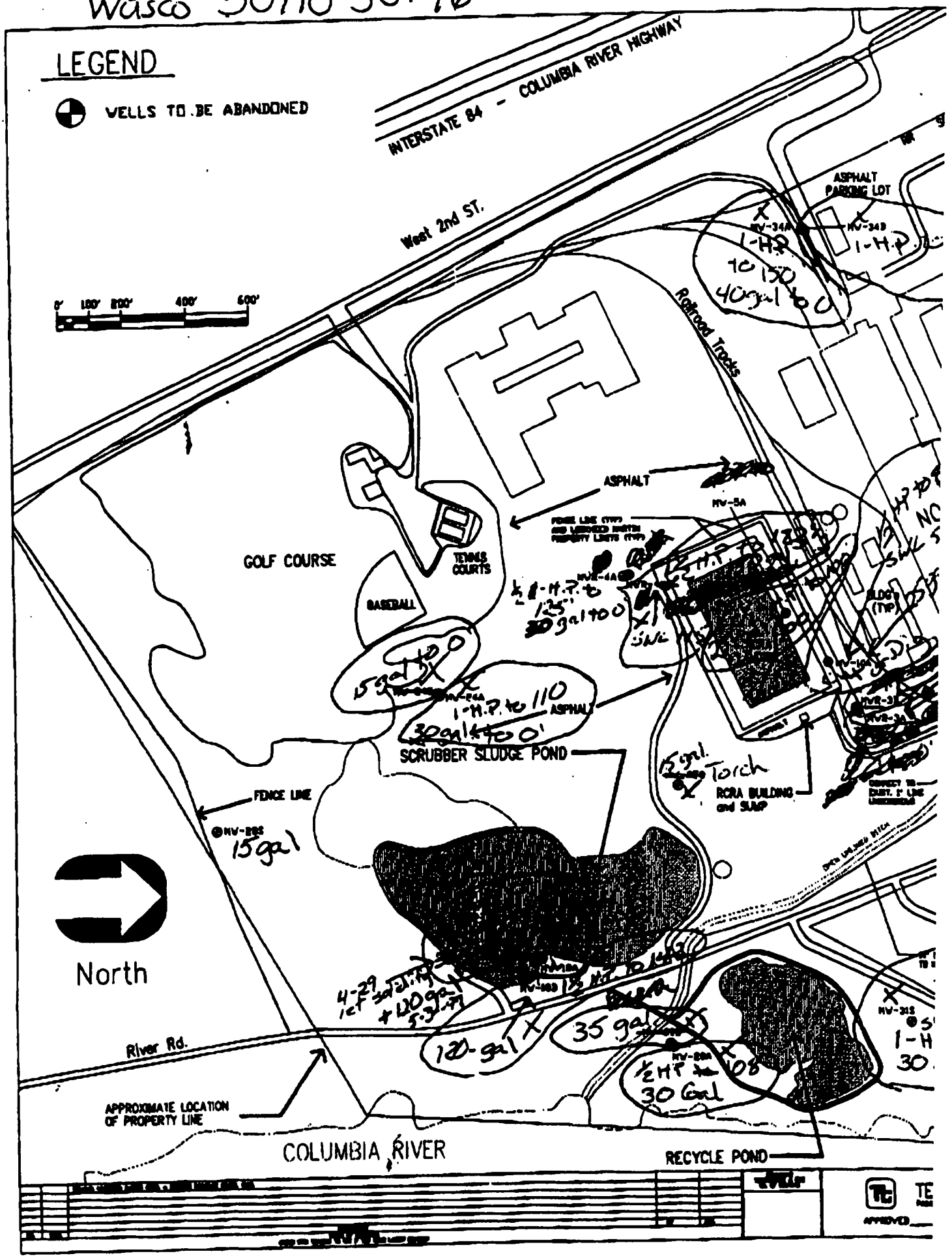
I accept responsibility for the construction, alteration, or abandonment work performed on this well during the construction dates reported above. All work performed during this time is in compliance with Oregon well construction standards. This report is true to the best of my knowledge and belief.

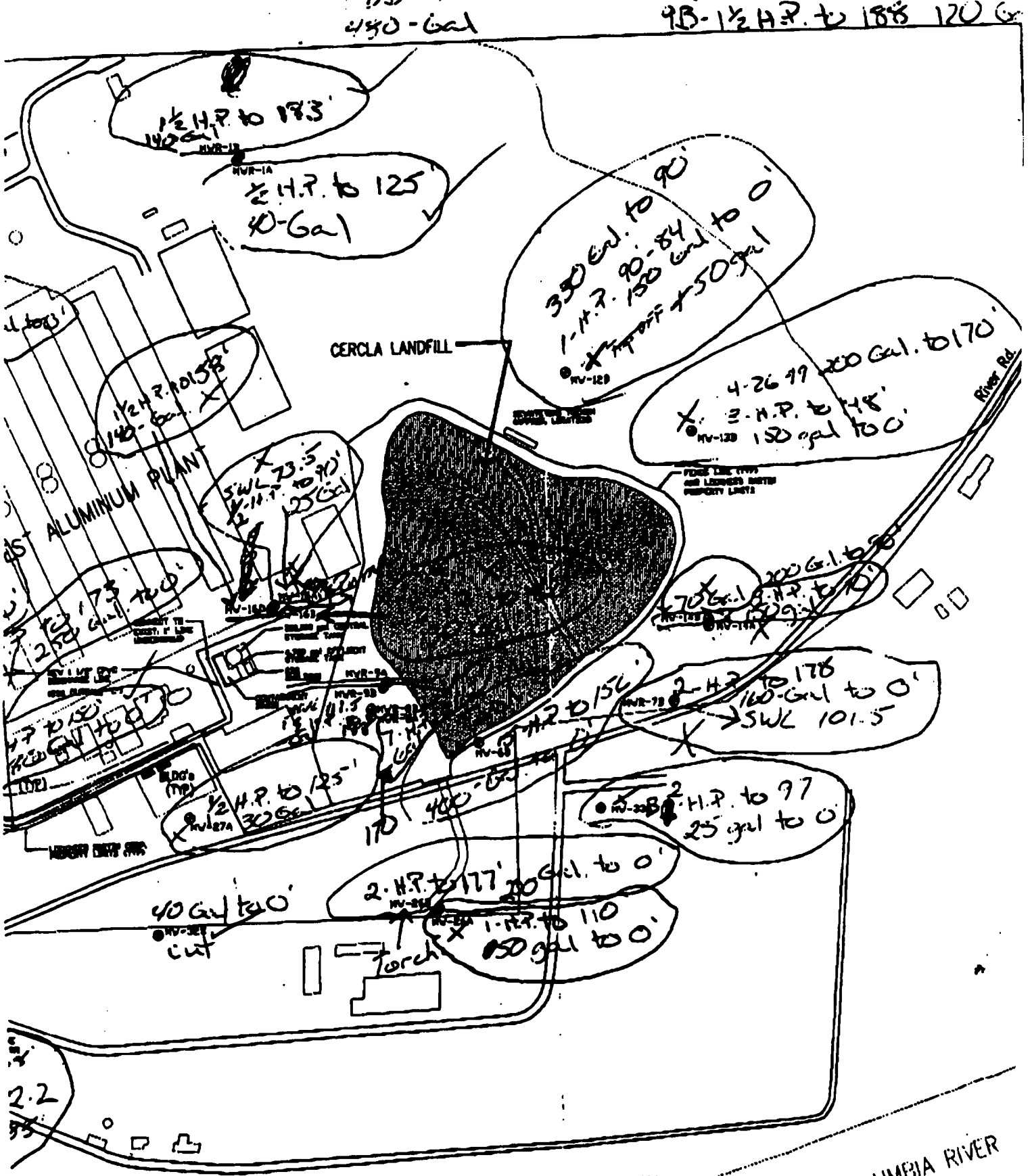
MWC Number 10011

Signed By GREG MCINNIS Date

Wasco 50710-50746

61 H.P.





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FORMER MARIETTA REDUCTION FACILITY

FIGURE 3. LOCATION OF GROUNDWATER MONITORING WELLS

1" = 400'

STATE OF OREGON

MONITORING WELL REPORT

WASC 50712

Received Date 05/26/1999

Well ID Tag# L

Start Card # 117442

(as required by ORS 537.765 & OAR 690-240-095) **Instructions for completing this report are on the last page of this form.**

(1) OWNER/PROJECT

Well No.

Co Job No. AB3A

Name LOCKHEED MARTIN CORP.

Street 2550 N HOLLYWOOD WAY SUITE 305

City BURBANK State CA Zip 915051055

(2) TYPE OF WORK

☐ New Construction ☐ Alter (Recondition) ☐ Alter (Repair)

☐ Conversion ☐ Deepening ☒ Abandonment

(3) DRILLING METHOD

☐ Rotary Air ☐ Rotary Mud ☐ Cable

☐ Hollow Stem Auger Other *****

(4) BORE HOLE CONSTRUCTION

Special Standards ☒ Depth of completed well 185 ft.

Material	Begin Depth	End Depth	Material	Units
Bentonite	0.00	185.00	120.00	G

Vault

ft.

Casing Diameter Liner ☐

TO

ft.

Monument

Casing or Liner	Diameter	Begin Depth	End Depth	Gauge	Material	Construction Weld	Construction Threaded	Location
C	2.00				Plasti	☒	☐	

ft.

TO

ft.

Seal

ft.

TO	From	To	Material	Amount	Seal Grout Weight	Units
ft.	0.00	185.00	Bentonite	120.00		9 G

Filter Pack Screen ☐

ft.

TO

ft.

Filter Pack

Material

Size in.

(5) WELL TEST

Permeability Yield

Conductivity PH

Temperature of water °F/C Depth artesian flow found ft.

Was water analysis done? ☐

By Whom?

Depth of strata to be analyzed. From ft. to ft.

Remarks

Name of supervising Geologist/Engineer

(6) LOCATION OF WELL By legal description

County **Wasco**

Township **1.00 N** Range **13.00 E** Section **3**

1. **NE** 1/4 of **NW** 1/4 of above section.

Legal Desc:

2. Either Street address of well location

3313 W SECOND ST, THE DALLES

or Tax lot number of well location **1400**

3. ATTACH MAP WITH LOCATION IDENTIFIED. Map shall include approximate scale and north arrow.

(7) STATIC WATER LEVEL

Ft. below land surface. Date

Artesian Pressure lb/sq. in. Date

(8) WATER BEARING ZONES

Depth at which water was first found ft.

(9) WELL LOG

Ground elevation ft.

Date started **04/26/1999** Completed **04/26/1999**

(unbonded) Monitor Well Constructor Certification:

I certify that the work I performed on the construction, alteration, or abandonment of this well is in compliance with Oregon well construction standards. Materials used and information reported above are true to the best knowledge and belief.

MWC Number **10076**

Signed By **BRADLEY J WIEBERDINK** Date

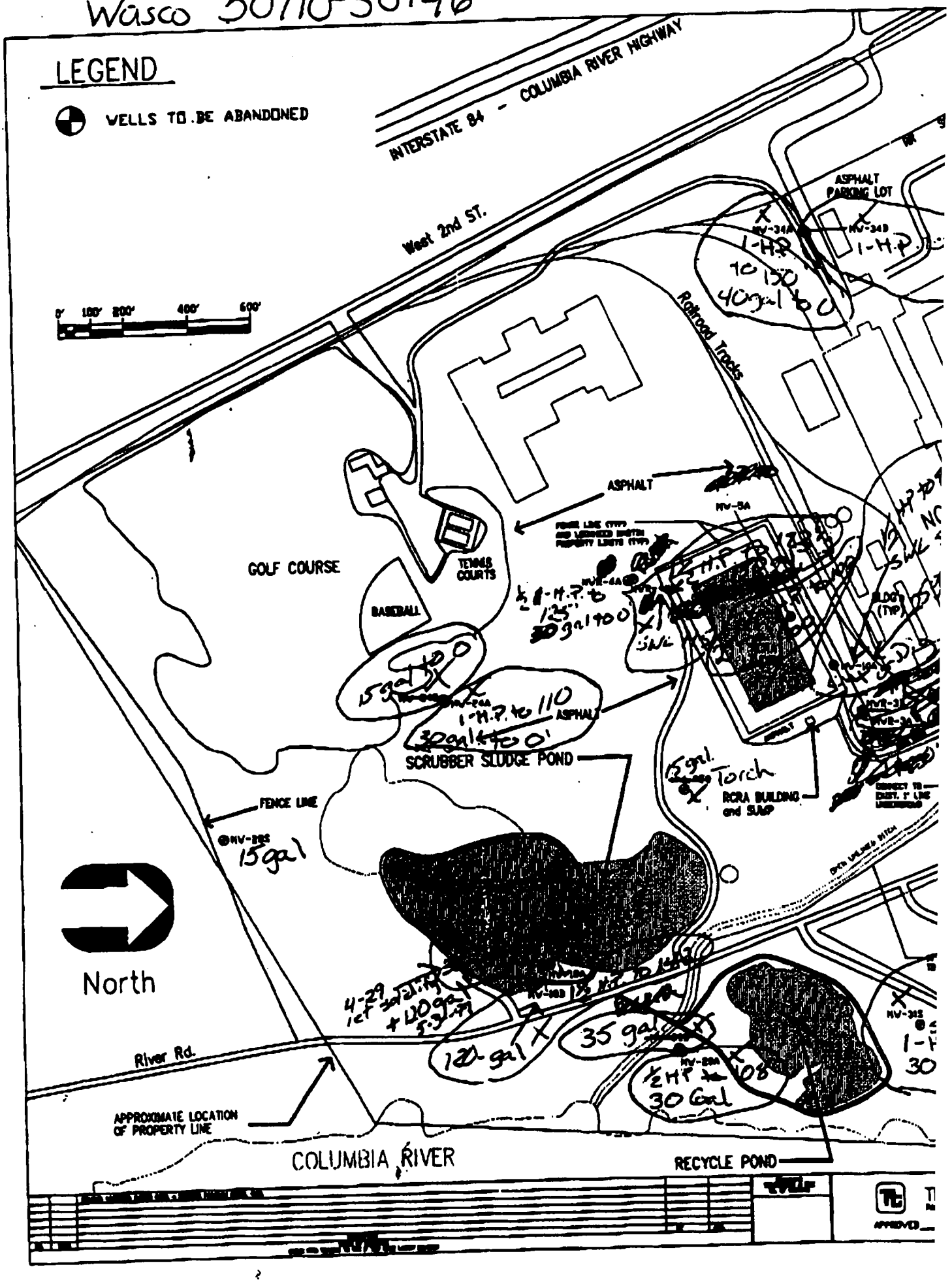
(bonded) Monitor Well Constructor Certification:

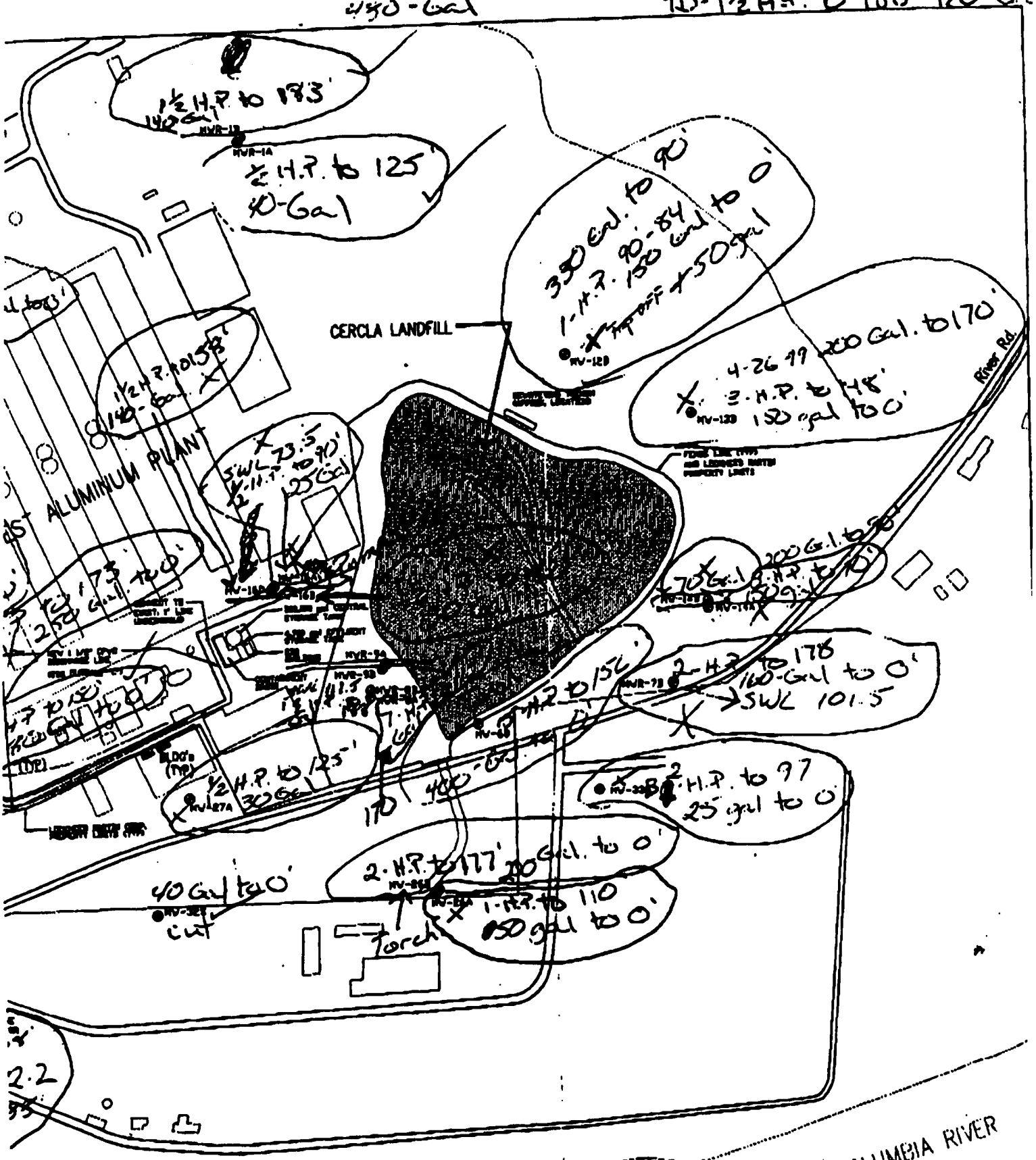
I accept responsibility for the construction, alteration, or abandonment work performed on this well during the construction dates reported above. All work performed during this time is in compliance with Oregon well construction standards. This report is true to the best of my knowledge and belief.

MWC Number **10011**

Signed By **GREG MCINNIS** Date

Wasco 50710-50746





ECH ENGINEERS ARCHITECTS : PLANNERS : SCIENTISTS		1" = 400'	FORMER MARIETTA REDUCTION FACILITY
			FIGURE 3. LOCATION OF GROUNDWATER MONITORING WELLS

STATE OF OREGON

MONITORING WELL REPORT

WASC 50711

Received Date 05/26/1999

Well ID Tag# L

Start Card # 117441

(as required by ORS 537.765 & OAR 690-240-095) Instructions for completing this report are on the last page of this form.

(1) OWNER/PROJECT

Well No.

Co Job No. AB1B

Name LOCKHEED MARTIN CORP.

Street 2550 N HOLLYWOOD WAY SUITE 305

City BURBANK State CA Zip 915051055

(2) TYPE OF WORK

☐ New Construction ☐ Alter (Recondition) ☐ Alter (Repair)

☐ Conversion ☐ Deepening ☒ Abandonment

(3) DRILLING METHOD

☐ Rotary Air ☐ Rotary Mud ☐ Cable

☐ Hollow Stem Auger Other *****

(4) BORE HOLE CONSTRUCTION

Special Standards ☒ Depth of completed well 197 ft.

Material	Begin	End Depth	Material	Units
Bentonite	0.00	197.00	127.00	G

Vault

ft.

Casing Diameter Liner ☐

TO

ft.

Monument	Casing or Liner	Diameter	Begin	End Depth	Gauge	Material	Construction Weld	Threaded	Location
	C	4.00				Plast	☒	☒	

ft.

TO

ft.

Seal

ft.

TO

ft.

From	To	Material	Amount	Seal Grout Weight	Units
0.00	197.00	Bentonite	127.00		G

Filter Pack Screen ☐

ft.

TO

ft.

Filter Pack

Material

Size in.

(5) WELL TEST

Permeability Yield

Conductivity PH

Temperature of water °F/C Depth artesian flow found ft.

Was water analysis done? ☐

By Whom?

Depth of strata to be analyzed. From ft. to ft.

Remarks

Name of supervising Geologist/Engineer

(6) LOCATION OF WELL By legal description

County Wasco

Township 1.00 N Range 13.00 E Section 3

1. NE 1/4 of NW 1/4 of above section.

Legal Desc:

2. Either Street address of well location

3313 W SECOND ST, THE DALLES

or Tax lot number of well location 1400

3. ATTACH MAP WITH LOCATION IDENTIFIED. Map shall include approximate scale and north arrow.

(7) STATIC WATER LEVEL

Ft. below land surface. Date

Artesian Pressure lb/sq. in. Date

(8) WATER BEARING ZONES

Depth at which water was first found ft.

(9) WELL LOG

Ground elevation ft.

Date started 04/26/1999 Completed 04/26/1999

(unbonded) Monitor Well Constructor Certification:

I certify that the work I performed on the construction, alteration, or abandonment of this well is in compliance with Oregon well construction standards. Materials used and information reported above are true to the best knowledge and belief.

MWC Number 10076

Signed By BRADLEY J WIEBERDINK Date

(bonded) Monitor Well Constructor Certification:

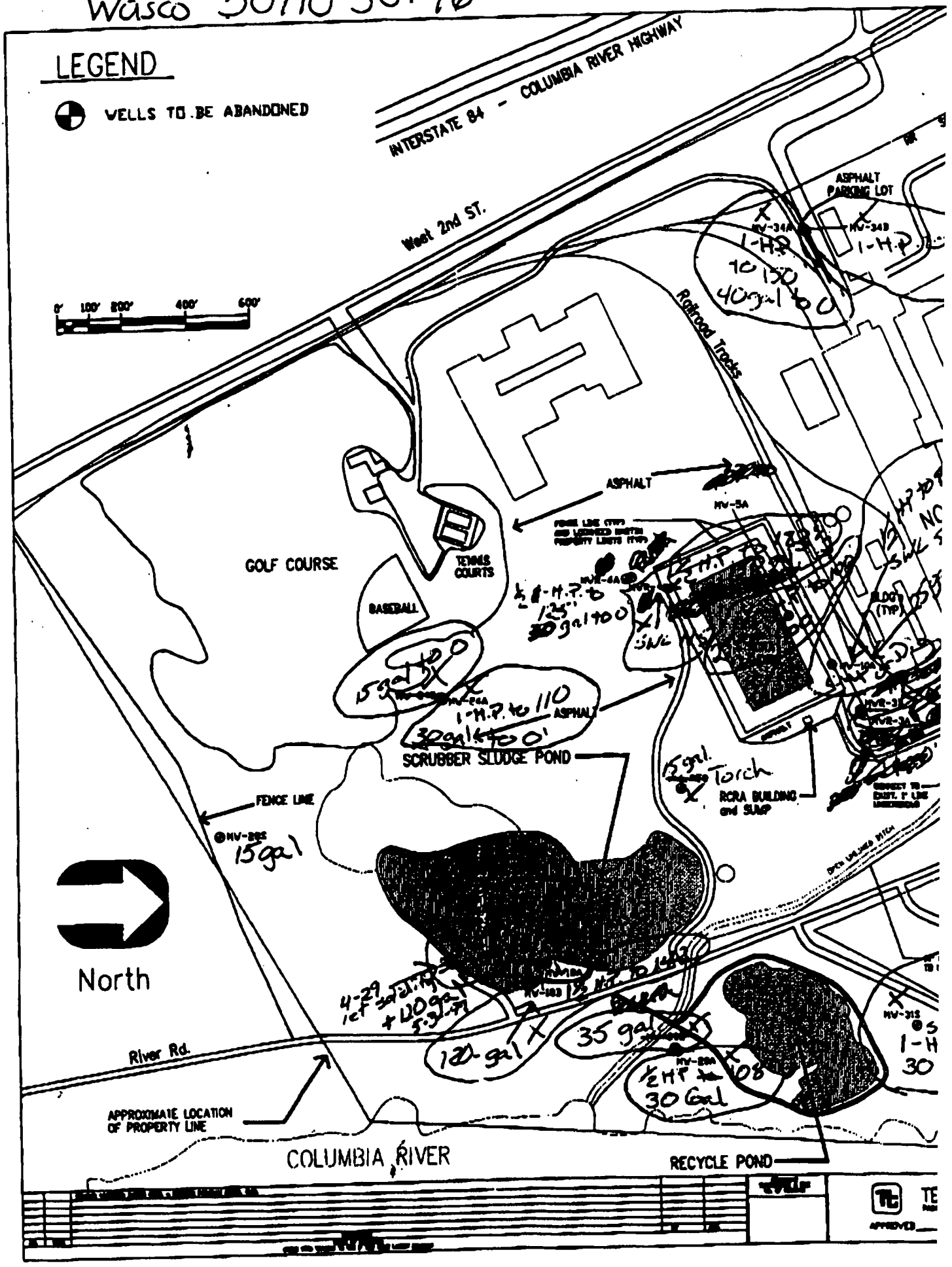
I accept responsibility for the construction, alteration, or abandonment work performed on this well during the construction dates reported above. All work performed during this time is in compliance with Oregon well construction standards. This report is true to the best of my knowledge and belief.

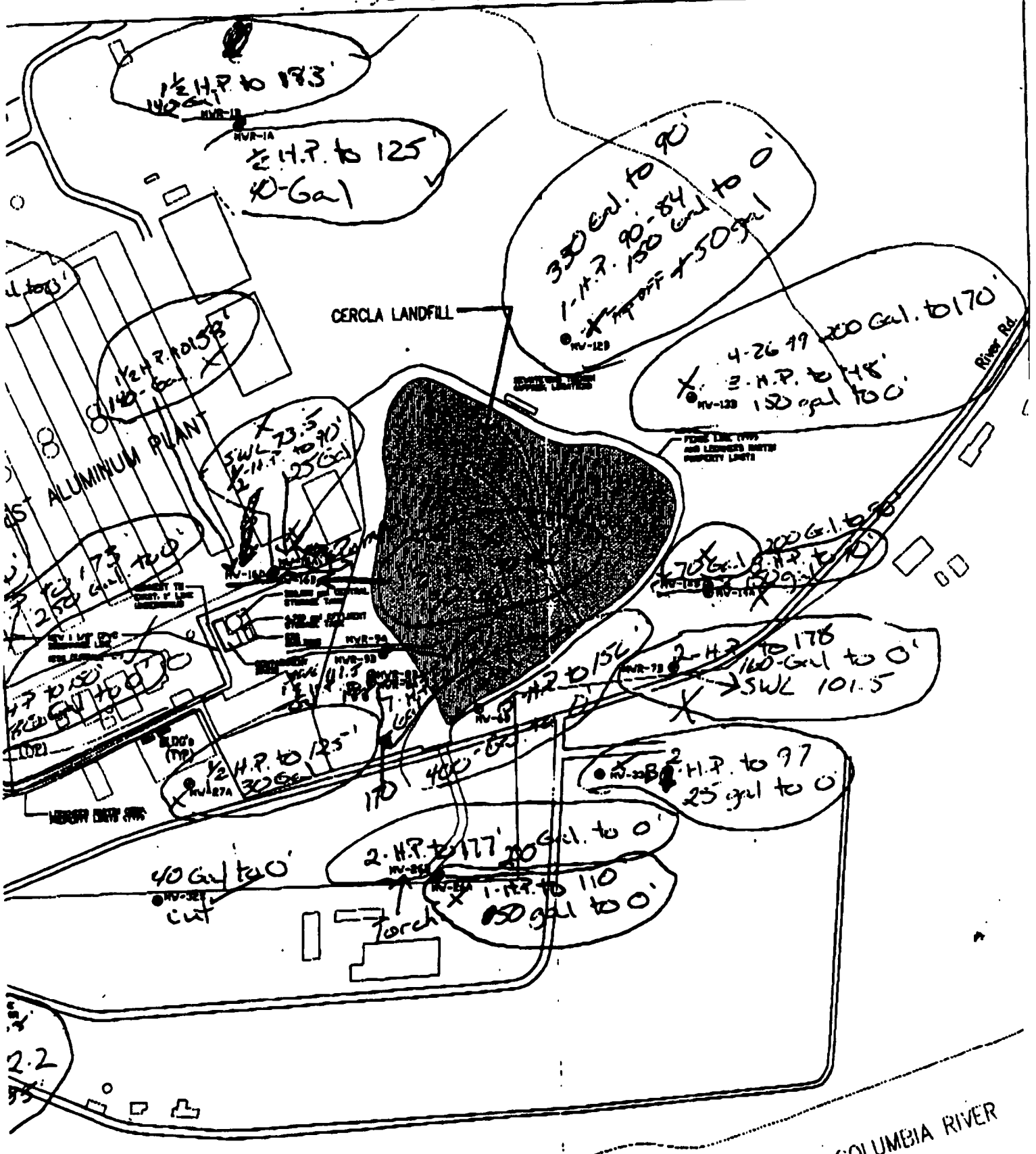
MWC Number 10011

Signed By GREG MCINNIS Date

Wasco 50710-50746

61 H.P.





ECH		1" = 400'	FORMER MARIETTA REDUCTION FACILITY
			FIGURE 3. LOCATION OF GROUNDWATER MONITORING WELLS

STATE OF OREGON

MONITORING WELL REPORT

WASC 50710

Received Date 05/26/1999

Well ID Tag# L

Start Card # 117440

(as required by ORS 537.765 & OAR 690-240-095) Instructions for completing this report are on the last page of this form.

(1) OWNER/PROJECT

Well No.

Co Job No. AB1A

Name LOCKHEED MARTIN CORP.

Street 2550 N HOLLYWOOD WAY SUITE 305

City BURBANK State CA Zip 915051055

(2) TYPE OF WORK

☐ New Construction ☐ Alter (Recondition) ☐ Alter (Repair)

☐ Conversion ☐ Deepening ☒ Abandonment

(3) DRILLING METHOD

☐ Rotary Air ☐ Rotary Mud ☐ Cable

☐ Hollow Stem Auger Other *****

(4) BORE HOLE CONSTRUCTION

Special Standards ☒ Depth of completed well 140 ft.

Material	Begin Depth	End Depth	Material	Units
Bentonite	0.00	140.00	22.00	G

Vault

ft. Casing Diameter Liner ☐

TO

ft.

Monument

Casing or Liner	Diameter	Begin Depth	End Depth	Gauge	Material	Construction Weld	Construction Threaded	Location
C	2.00				Plasti			

ft.

TO

ft.

Seal

ft.

TO

ft.

From	To	Material	Amount	Seal Grout Weight	Units
0.00	140.00	Bentonite	22.00		G

Filter Pack Screen ☐

ft.

TO

ft.

Filter Pack

Material

Size in.

(5) WELL TEST

Permeability Yield

Conductivity PH

Temperature of water *F/C Depth artesian flow found ft.

Was water analysis done? ☐

By Whom?

Depth of strata to be analyzed. From ft. to ft.

Remarks

Name of supervising Geologist/Engineer

(6) LOCATION OF WELL By legal description

County Wasco

Township 1.00 N Range 13.00 E Section 3

1. NE 1/4 of NW 1/4 of above section.

Legal Desc:

2. Either Street address of well location

3313 W SECOND ST, THE DALLES

or Tax lot number of well location 1400

3. ATTACH MAP WITH LOCATION IDENTIFIED. Map shall include approximate scale and north arrow.

(7) STATIC WATER LEVEL

Ft. below land surface. Date

Artesian Pressure lb/sq. in. Date

(8) WATER BEARING ZONES

Depth at which water was first found ft.

(9) WELL LOG

Ground elevation ft.

Date started 04/26/1999 Completed 04/26/1999

(unbonded) Monitor Well Constructor Certification:

I certify that the work I performed on the construction, alteration, or abandonment of this well is in compliance with Oregon well construction standards. Materials used and information reported above are true to the best knowledge and belief.

MWC Number 10076

Signed By BRADLEY J WIEBERDINK Date

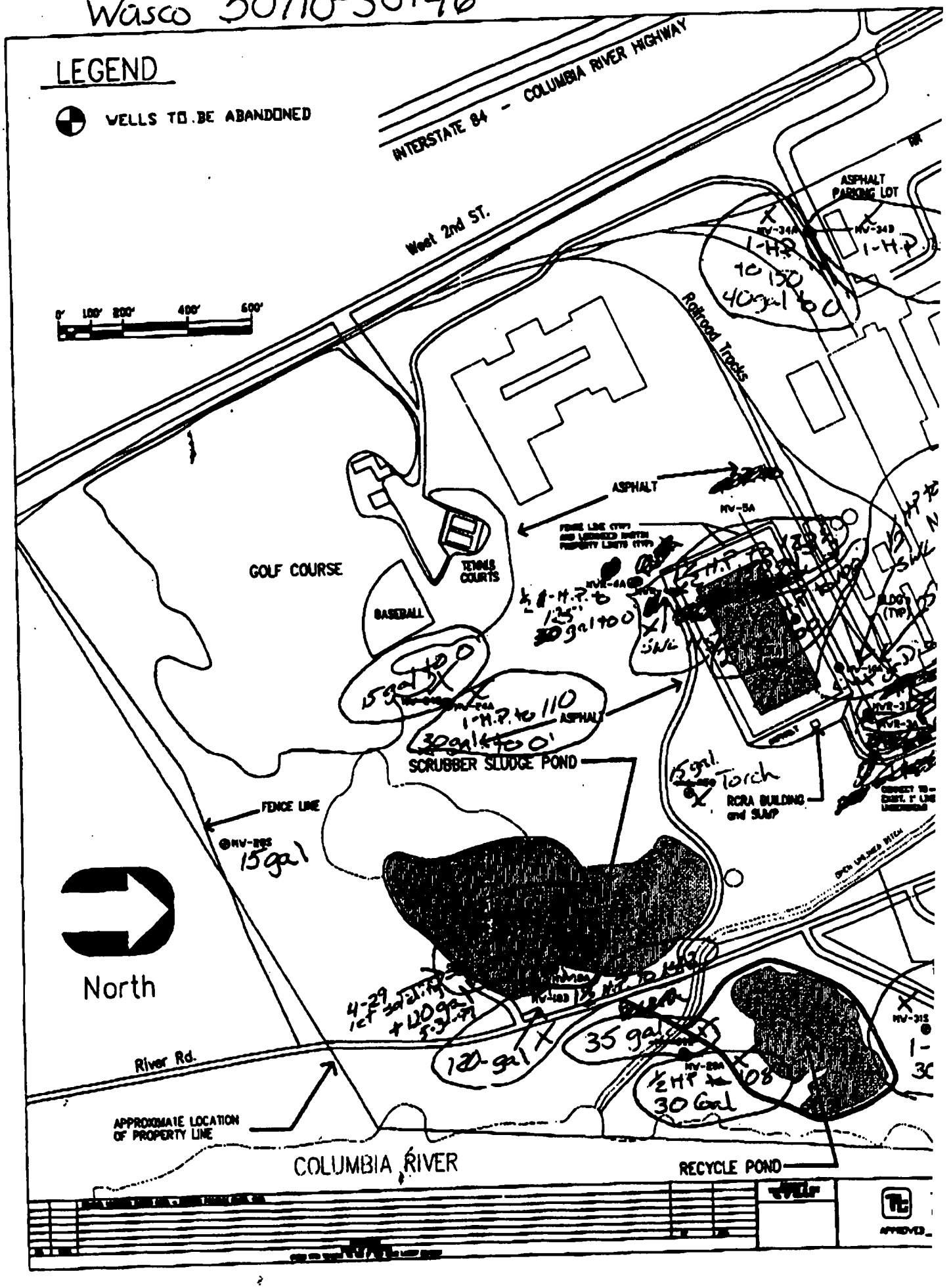
(bonded) Monitor Well Constructor Certification:

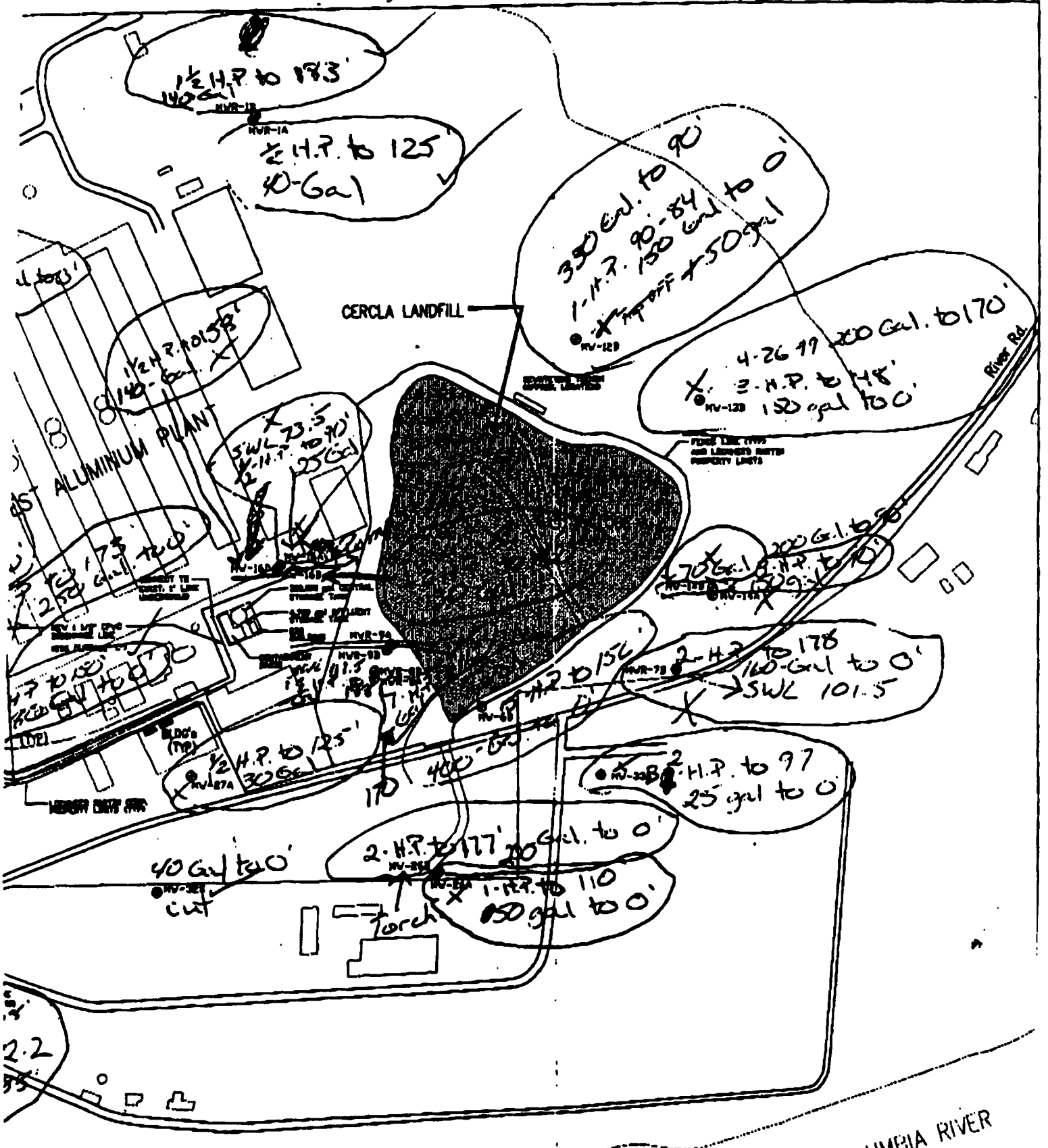
I accept responsibility for the construction, alteration, or abandonment work performed on this well during the construction dates reported above. All work performed during this time is in compliance with Oregon well construction standards. This report is true to the best of my knowledge and belief.

MWC Number 10011

Signed By GREG MCINNIS Date

Wasco 50710-50746





ECH ENGINEERS ARCHITECTS : PLANNERS : SCIENTISTS		1" = 400'	FORMER MARIETTA REDUCTION FACILITY
			FIGURE 3. LOCATION OF GROUNDWATER MONITORING WELLS

WASC 50624

RECEIVED
FEB 22 1999
WATER RESOURCES DEPT
SALEM, OREGON

STATE OF OREGON
WATER SUPPLY WELL REPORT
(as required by ORS 537.765)
Instructions for completing this report are on the last page of this form

WELL ID # L 19615
(START CARD) # 101322

(1) OWNER:
(b) (6)

(2) TYPE OF WORK:
[X] New Well [ ] Deepening [ ] Alteration (repair/recondition) [ ] Abandonment

(3) DRILL METHOD:
[X] Rotary Air [ ] Rotary Mud [ ] Cable [ ] Auger
[ ] Other

(4) PROPOSED USE:
[ ] Domestic [ ] Community [ ] Industrial [X] Irrigation
[ ] Thermal [ ] Injection [ ] Livestock [ ] Other

(5) BORE HOLE CONSTRUCTION:
Special Construction approval [ ] Yes [X] No Depth of Completed Well 860 ft.
Explosives used [ ] Yes [X] No Type Amount

HOLE Diameter	From	To	SEAL Material	From	To	Amount sacks or pounds
15	0	300	Bentonite	0	18	20 Bags
10	300	860				

How was seal placed: Method [ ] A [ ] B [ ] C [ ] D [ ] E
[X] Other Poured & Rodded
Backfill placed from ft. to ft. Material
Gravel placed from ft. to ft. Size of gravel

(6) CASING/LINER:

	Diameter	From	To	Gauge	Steel	Plastic	Welded	Threaded
Casing:	12 3/4	+1.5	318.5	.250	[X]	[ ]	[X]	[ ]
					[ ]	[ ]	[ ]	[ ]
					[ ]	[ ]	[ ]	[ ]
					[ ]	[ ]	[ ]	[ ]
Liner:					[ ]	[ ]	[ ]	[ ]
					[ ]	[ ]	[ ]	[ ]

Final location of shoe(s) 318.5

(7) PERFORATIONS/SCREENS:
[ ] Perforations Method
[ ] Screens Type Material

From	To	Slot size	Number	Diameter	Tele/pipe size	Casing	Liner
						[ ]	[ ]
						[ ]	[ ]
						[ ]	[ ]
						[ ]	[ ]
						[ ]	[ ]

(8) WELL TESTS: Minimum testing time is 1 hour
[ ] Pump [ ] Bailer [X] Air [ ] Flowing Artesian

Yield gal/min	Drawdown	Drill stem at	Time
150		860	1 hr.

Temperature of Water 62 Depth Artesian Flow found
Was a water analysis done? [ ] Yes By whom
Did any strata contain water not suitable for intended use? [ ] Too little
[ ] Salty [ ] Muddy [ ] Odor [ ] Colored [ ] Other
Depth of strata:

(9) LOCATION OF WELL by legal description:
County Wasco Latitude Longitude
Township 1N N or S. Range 13E E or W. of WM.
Section 6 NW 1/4 SE 1/4
Tax lot 200 Lot Block Subdivision
Street Address of Well (or nearest address) On Kingsley Rd. Next to 5050 Cherry Hts Rd., The Dalles.

(10) STATIC WATER LEVEL:
618 ft. below land surface. Date 11/14/98
Artesian pressure lb. per square inch. Date

(11) WATER BEARING ZONES:
Depth at which water was first found 805

From	To	Estimated Flow Rate	SWL
805	860	150	618

(12) WELL LOG:
Ground elevation

Material	From	To	SWL
Sandstone Coarse Brown	0	20	
Clay Brown	20	58	
Sandstone Coarse Brown	58	85	
Gravel Med.	85	115	
Gravel large	115	138	
Sandstone Coarse Brown	138	215	
Sandstone Fine Brown	215	226	
Gravel Med.	226	235	
Claystone Hard Gray	235	244	
Gravel Fine	244	255	
Claystone Yellow & Gray	255	270	
Sandstone Hard Coarse Brown	270	310	
Sandstone Coarse brown	310	340	
Gravel Cemented Med.	340	405	
Sandstone Coarse Brown	405	600	
Sandstone Hard Coarse Brown	600	725	
Sandstone Hard W/Clay & Brown & White Crystals	725	805	
Sandstone Coarse Brown W/B	805	860	618

Date started 10/13/98 Completed 1/22/99

(unbonded) Water Well Constructor Certification:
I certify that the work I performed on the construction, alteration, or abandonment of this well is in compliance with Oregon water supply well construction standards. Materials used and information reported above are true to my best knowledge and belief.

Signed WWC Number
Date

(bonded) Water Well Constructor Certification:
I accept responsibility for the construction, alteration, or abandonment work performed on this well during the construction dates reported above. All work performed during this time is in compliance with Oregon water supply well construction standards. This report is true to the best of my knowledge and belief.

Signed Charles Austin WWC Number 790
Date 2/18/99

ORIGINAL & FIRST COPY - WATER RESOURCES DEPARTMENT SECOND COPY - CONSTRUCTOR THIRD COPY - CUSTOMER

WASC 50622

RECEIVED
FEB 08 1999
WATER RESOURCES DEPT.
SALEM, OREGON

RECEIVED
MAR 30 1999
WATER RESOURCES DEPT.
SALEM, OREGON

STATE OF OREGON
WATER SUPPLY WELL REPORT
(as required by ORS 537.765)

Instructions for completing this report are on the last page of this form

WELL I.D. # L 12098
START CARD # W91990

(1) OWNER: Well Number 01

Name (b) (6)
Address (b) (6)
City THE DALLES State OR Zip 97058

(2) TYPE OF WORK

[X] New Well [ ] Deepening [ ] Alteration (repair/recondition) [ ] Abandonment

(3) DRILL METHOD:

[X] Rotary Air [ ] Rotary Mud [ ] Cable [ ] Auger
[ ] Other

(4) PROPOSED USE:

[XX] Domestic [ ] Community [ ] Industrial [ ] Irrigation
[ ] Thermal [ ] Injection [ ] Livestock [ ] Other

(5) BORE HOLE CONSTRUCTION:

Special Construction approval [ ] Yes [X] No Depth of Completed Well 290 ft.
Explosives used [ ] Yes [X] No Type ____ Amount ____

HOLE Diameter	From	To	SEAL Material	From	To	Sacks or pounds
10"	0	40	BENTONIT	TOP	40	30 SACKS

How was seal placed: Method [ ] A [ ] B [ ] C [ ] D [ ] E
[XX] Other BENTONITE DRY
Backfill placed from ____ ft. to ____ ft. Material ____
Gravel placed from ____ ft. to ____ ft. Size of gravel ____

(6) CASING/LINER:

	Diameter	From	To	Gauge	Steel	Plastic	Welded	Threaded
Casing:	6"	+1	39		[X]	[ ]	[X]	[ ]
					[ ]	[ ]	[ ]	[ ]
					[ ]	[ ]	[ ]	[ ]
					[ ]	[ ]	[ ]	[ ]
Liner:	4.5	30	290	.250	[ ]	[X]	[X]	[ ]
					[ ]	[ ]	[ ]	[ ]

Final location of shoe(s) 39'

(7) PERFORATIONS/SCREENS:

[X] Perforations Method SAW
[ ] Screens Type ____ Material PVC

From	To	Slot size	Number	Diameter	Tubing size	Casing	Liner
30'	290'	X6	50	4.5"		[ ]	[X]
						[ ]	[ ]
						[ ]	[ ]
						[ ]	[ ]
						[ ]	[ ]

(8) WELL TESTS: Minimum testing time is 1 hour

[ ] Pump [ ] Bailer [X] Air [ ] Flowing Artesian

Yield gal/min	Drawdown	Drill stem at	Time
25	100#	280	1 hr.

Temperature of water ____ Depth Artesian Flow Found ____
Was a water analysis done? [ ] Yes By whom ____
Did any strata contain water not suitable for intended use? [ ] Too little
[ ] Salty [ ] Muddy [ ] Odor [ ] Colored [ ] Other ____
Depth of strata: ____

(9) LOCATION OF WELL by legal description:

County WASCO Latitude ____ Longitude ____
Township 1N N or S Range 13E E or W. WM.
Section 10 NW 1/4 NE 1/4
Tax Lot 7400 Lot ____ Block ____ Subdivision ____
Street Address of Well (or nearest address) 929 E 19th ST THE DALLES OR 97058

(10) STATIC WATER LEVEL:

175' ft. below land surface. Date 1/15/99
Artesian pressure ____ lb. per square inch. Date ____

(11) WATER BEARING ZONES:

Depth at which water was first found 200'

From	To	Estimated Flow Rate	SWL
200'	230'	10gpm	175
256'	268'	25gpm	175

(12) WELL LOG:

Ground Elevation ____

Material	From	To	SWL
SANDSTONE	0	8	
RIVERGRAVEL-CEMENTED	8	108	
RIVERGRAVEL & BASALT	108	121	
SANDSTONE, BROWN	121	200	
SANDSTONE, GREEN, WATERBEARING	200	230	175
BROWN BASALT, MED HARD	230	256	175
BROWN BASALT, POROUS, BROWN CLAY, WATERBEARING	256	268	175
BROWN BASALT, MED HARD	268	290	175

Date started 1/14/99 Completed 1/15/99

(unbonded) Water Well Constructor Certification:

I certify that the work I performed on the construction, alteration, or abandonment of this well is in compliance with Oregon water supply well construction standards. Materials used and information reported above are true to the best of my knowledge and belief.

WWC Number 1256
Signed [signature] Date 1/18/99

(bonded) Water Well Constructor Certification:

I accept responsibility for the construction, alteration, or abandonment work performed on this well during the construction dates reported above. All work performed during this time is in compliance with Oregon water supply well construction standards. This report is true to the best of my knowledge and belief.

WWC Number 731
Signed Charles L Moore Date 1/18/99

ORIGINAL & FIRST COPY-WATER RESOURCES DEPARTMENT SECOND COPY-CONSTRUCTOR THIRD COPY-CUSTOMER

STATE OF OREGON

GEOTECHNICAL HOLE REPORT

WASC 50521

Received date 8/3/1998

(as required by OAR 690-240-035)

(1) OWNER/PROJECT

Hole No.

Co.Job No. B8

Name UNITED PARCEL SERVICE

Street 1515 WEST FIRST STREET

City THE DALLES State OR Zip 97058

(2) TYPE OF WORK

☒ New ☐ Alter (Recondition) ☐ Alter (Repair)

☐ Deepening ☒ Abandonment

(3) CONSTRUCTION

☐ Rotary Air ☐ Hand Auger ☐ Hollow Stem Auger

☐ Rotary Mud ☐ Cable Tool ☒ Push Probe Other

(4) TYPE OF HOLE

☒ Uncased Temporary ☐ Cased Permanent

☐ Uncased Permanent ☐ Slope Stabilit Other

(5) USE OF HOLE

SOIL AND WATER TESTING

(6) BORE HOLE CONSTRUCTION

Special Standards ☐ Depth of completed well 12 ft.

HOLE

Diameter	From	To
1.50	0.00	12

SEAL

From	To	Material	Amount	Seal Grout Weight	Units
0.00	12.00	Bentonite	6.00		P

Backfill placed from ft. TO ft. Material

Filter pack placed from ft. TO ft. Size in.

(7) CASING/SCREEN

Screen ☐

(8) WELL TEST

Permeability Yield GPM

Conductivity PH

Temperature of water 54 °F/C Depth artesian flow found ft.

Was water analysis done? ☒

By Whom? OLYMPUS

Depth of strata to be analyzed. From ft. to ft.

Remarks

Name of supervising Geologist/Engineer

(9) LOCATION OF HOLE By legal description

County Wasco Latitude Longitude

Township 1.00 N Range 13.00 E

Section 4 SE 1/4 NW 1/4

Tax lot Lot Block Subdivision

Legal desc:

Street Address of Well (or nearest address)

SAME

MAP with location indentified must be attached

(10) STATIC WATER LEVEL

8.0 Ft. below land surface. Date 6/23/1998

Artesian Pressure lb/sq. in. Date

(11) SUBSURFACE LOG

Ground Elevation ft.

Material	From	To	SWL
SAND	0	12	8

Date started 6/23/1998 Completed 6/23/1998

(12) ABANDONMENT LOG

Date started Completed

Professional Certification

(to be signed by a licensed water supply or monitoring well constructor, or registered geologist or civil engineer).

I accept responsibility for the construction, alteration, or abandonment work performed on this well during the construction dates reported above. All work performed during this time is in compliance with Oregon geotechnical hole construction standards. This report is true to the best of my knowledge and belief.

License or Registration Number 10410

Signed By JEFF GINTER Date

Affiliation GEO TECH EXPLORATIONS

THIS REPORT MUST BE SUBMITTED TO THE WATER RESOURCES DEPARTMENT WITHIN 30 DAYS OF COMPLETION OF WORK

Wasco
505 13 - 505 15
505 17 - 505 21

STATE OF OREGON

GEOTECHNICAL HOLE REPORT

WASC 50520

Received date 8/3/1998

(as required by OAR 690-240-035)

(1) OWNER/PROJECT

Hole No.

Co.Job No. B7

Name UNITED PARCEL SERVICE

Street 1515 WEST FIRST STREET

City THE DALLES State OR Zip 97058

(2) TYPE OF WORK

☒ New ☐ Alter (Recondition) ☐ Alter (Repair)

☐ Deepening ☒ Abandonment

(3) CONSTRUCTION

☐ Rotary Air ☐ Hand Auger ☐ Hollow Stem Auger

☐ Rotary Mud ☐ Cable Tool ☒ Push Probe Other

(4) TYPE OF HOLE

☒ Uncased Temporary ☐ Cased Permanent

☐ Uncased Permanent ☐ Slope Stabilit Other

(5) USE OF HOLE

SOIL AND WATER TEST

(6) BORE HOLE CONSTRUCTION

Special Standards ☐ Depth of completed well 12 ft.

HOLE

Diameter	From	To
1.50	0.00	12

SEAL

From	To	Material	Amount	Seal Grout Weight	Units
0.00	12.00	Bentonite	6.00		P

Backfill placed from ft. TO ft. Material

Filter pack placed from ft. TO ft. Size in.

(7) CASING/SCREEN

Screen ☐

(8) WELL TEST

Permeability Yield GPM

Conductivity PH

Temperature of water 51 °F/C Depth artesian flow found ft.

Was water analysis done? ☒

By Whom? OLYMPUS

Depth of strata to be analyzed. From ft. to ft.

Remarks

Name of supervising Geologist/Engineer

(9) LOCATION OF HOLE By legal description

County Wasco Latitude Longitude

Township 1.00 N Range 13.00 E

Section 4 SE 1/4 NW 1/4

Tax lot Lot Block Subdivision

Legal desc:

Street Address of Well (or nearest address)

SAME

MAP with location indentified must be attached

(10) STATIC WATER LEVEL

8.0 Ft. below land surface. Date 6/23/1998

Artesian Pressure lb/sq. in. Date

(11) SUBSURFACE LOG

Ground Elevation ft.

Material	From	To	SWL
SAND	0	12	8

Date started 6/23/1998 Completed 6/23/1998

(12) ABANDONMENT LOG

Date started Completed

Professional Certification

(to be signed by a licensed water supply or monitoring well constructor, or registered geologist or civil engineer).

I accept responsibility for the construction, alteration, or abandonment work performed on this well during the construction dates reported above. All work performed during this time is in compliance with Oregon geotechnical hole construction standards. This report is true to the best of my knowledge and belief.

License or Registration Number 10410

Signed By JEFF GINTER Date

Affiliation GEO TECH EXPLORATIONS

THIS REPORT MUST BE SUBMITTED TO THE WATER RESOURCES DEPARTMENT WITHIN 30 DAYS OF COMPLETION OF WORK

Wasco
505 13 - 505 15
505 17 - 505 21

STATE OF OREGON

GEOTECHNICAL HOLE REPORT

WASC 50519

Received date 8/3/1998

(as required by OAR 690-240-035)

(1) OWNER/PROJECT

Hole No.

Co.Job No. B6

Name UNITED PARCEL SERVICE

Street 1515 WEST FIRST STREET

City THE DALLES State OR Zip 97058

(2) TYPE OF WORK

☒ New ☐ Alter (Recondition) ☐ Alter (Repair)

☐ Deepening ☒ Abandonment

(3) CONSTRUCTION

☐ Rotary Air ☐ Hand Auger ☐ Hollow Stem Auger

☐ Rotary Mud ☐ Cable Tool ☒ Push Probe Other

(4) TYPE OF HOLE

☒ Uncased Temporary ☐ Cased Permanent

☐ Uncased Permanent ☐ Slope Stabilit Other

(5) USE OF HOLE

SOIL AND WATER TEST

(6) BORE HOLE CONSTRUCTION

Special Standards ☐ Depth of completed well 12 ft.

HOLE

Diameter	From	To
1.50	0.00	12

SEAL

From	To	Material	Amount	Seal Grout Weight	Units
0.00	12.00	Bentonite	6.00		P

Backfill placed from ft. TO ft. Material

Filter pack placed from ft. TO ft. Size in.

(7) CASING/SCREEN

Screen ☐

(8) WELL TEST

Permeability Yield GPM

Conductivity PH

Temperature of water 51 °F/C Depth artesian flow found ft.

Was water analysis done? ☒

By Whom? OLYMPUS

Depth of strata to be analyzed. From ft. to ft.

Remarks

Name of supervising Geologist/Engineer

(9) LOCATION OF HOLE By legal description

County Wasco Latitude Longitude

Township 1.00 N Range 13.00 E

Section 4 SE 1/4 NW 1/4

Tax lot Lot Block Subdivision

Legal desc:

Street Address of Well (or nearest address)

SAME

MAP with location indentified must be attached

(10) STATIC WATER LEVEL

8.0 Ft. below land surface. Date 6/23/1998

Artesian Pressure lb/sq. in. Date

(11) SUBSURFACE LOG

Ground Elevation ft.

Material	From	To	SWL
SAND	0	12	8

Date started 6/23/1998 Completed 6/23/1998

(12) ABANDONMENT LOG

Date started Completed

Professional Certification

(to be signed by a licensed water supply or monitoring well constructor, or registered geologist or civil engineer).

I accept responsibility for the construction, alteration, or abandonment work performed on this well during the construction dates reported above. All work performed during this time is in compliance with Oregon geotechnical hole construction standards. This report is true to the best of my knowledge and belief.

License or Registration Number 10410

Signed By JEFF GINTER Date

Affiliation GEO TECH EXPLORATIONS

THIS REPORT MUST BE SUBMITTED TO THE WATER RESOURCES DEPARTMENT WITHIN 30 DAYS OF COMPLETION OF WORK

Wasco

505 13 - 505 15

505 17 - 505 21

STATE OF OREGON

GEOTECHNICAL HOLE REPORT

WASC 50518

Received date 8/3/1998

(as required by OAR 690-240-035)

(1) OWNER/PROJECT

Hole No.

Co.Job No. B5

Name UNITED PARCEL SERVICE

Street 1515 WEST FIRST STREET

City THE DALLES State OR Zip 97058

(2) TYPE OF WORK

☒ New ☐ Alter (Recondition) ☐ Alter (Repair)

☐ Deepening ☒ Abandonment

(3) CONSTRUCTION

☐ Rotary Air ☐ Hand Auger ☐ Hollow Stem Auger

☐ Rotary Mud ☐ Cable Tool ☒ Push Probe Other

(4) TYPE OF HOLE

☒ Uncased Temporary ☐ Cased Permanent

☐ Uncased Permanent ☐ Slope Stabilit Other

(5) USE OF HOLE

SOIL AND WATER TEST

(6) BORE HOLE CONSTRUCTION

Special Standards ☐ Depth of completed well 12 ft.

HOLE

Diameter	From	To
1.50	0.00	12

SEAL

From	To	Material	Amount	Seal Grout Weight	Units
0.00	12.00	Bentonite	6.00		P

Backfill placed from ft. TO ft. Material

Filter pack placed from ft. TO ft. Size in.

(7) CASING/SCREEN

Screen ☐

(8) WELL TEST

Permeability Yield GPM

Conductivity PH

Temperature of water 51 °F/C Depth artesian flow found ft.

Was water analysis done? ☒

By Whom? OLYMPUS

Depth of strata to be analyzed. From ft. to ft.

Remarks

Name of supervising Geologist/Engineer

(9) LOCATION OF HOLE By legal description

County Wasco Latitude Longitude

Township 1.00 N Range 13.00 E

Section 4 SE 1/4 NW 1/4

Tax lot Lot Block Subdivision

Legal desc:

Street Address of Well (or nearest address)

SAME

MAP with location indentified must be attached

(10) STATIC WATER LEVEL

8.0 Ft. below land surface. Date 6/23/1998

Artesian Pressure lb/sq. in. Date

(11) SUBSURFACE LOG

Ground Elevation ft.

Material	From	To	SWL
SAND	0	12	6

Date started 6/23/1998 Completed 6/23/1998

(12) ABANDONMENT LOG

Date started Completed

Professional Certification

(to be signed by a licensed water supply or monitoring well constructor, or registered geologist or civil engineer).

I accept responsibility for the construction, alteration, or abandonment work performed on this well during the construction dates reported above. All work performed during this time is in compliance with Oregon geotechnical hole construction standards. This report is true to the best of my knowledge and belief.

License or Registration Number 10410

Signed By JEFF GINTER Date

Affiliation GEO TECH EXPLORATIONS

THIS REPORT MUST BE SUBMITTED TO THE WATER RESOURCES DEPARTMENT WITHIN 30 DAYS OF COMPLETION OF WORK

Wasco
505 13 - 505 15
505 17 - 505 21

STATE OF OREGON

GEOTECHNICAL HOLE REPORT

WASC 50517

Received date 8/3/1998

(as required by OAR 690-240-035)

(1) OWNER/PROJECT

Hole No.

Co.Job No. B4

Name UNITED PARCEL SERVICE

Street 1515 WEST FIRST ST

City THE DALLES State OR Zip 97058

(2) TYPE OF WORK

☒ New ☐ Alter (Recondition) ☐ Alter (Repair)

☐ Deepening ☒ Abandonment

(3) CONSTRUCTION

☐ Rotary Air ☐ Hand Auger ☐ Hollow Stem Auger

☐ Rotary Mud ☐ Cable Tool ☒ Push Probe Other

(4) TYPE OF HOLE

☒ Uncased Temporary ☐ Cased Permanent

☐ Uncased Permanent ☐ Slope Stabilit Other

(5) USE OF HOLE

SOIL AND WATER TEST

(6) BORE HOLE CONSTRUCTION

Special Standards ☐ Depth of completed well 12 ft.

HOLE

Diameter	From	To
1.50	0.00	12

SEAL

From	To	Material	Amount	Seal Grout Weight	Units
0.00	12.00	Bentonite	6.00		P

Backfill placed from ft. TO ft. Material

Filter pack placed from ft. TO ft. Size in.

(7) CASING/SCREEN

Screen ☐

(8) WELL TEST

Permeability Yield GPM

Conductivity PH

Temperature of water 51 °F/C Depth artesian flow found ft.

Was water analysis done? ☒

By Whom? OLYMPUS

Depth of strata to be analyzed. From ft. to ft.

Remarks

Name of supervising Geologist/Engineer

(9) LOCATION OF HOLE By legal description

County Wasco Latitude Longitude

Township 1.00 N Range 13.00 E

Section 4 SE 1/4 NW 1/4

Tax lot Lot Block Subdivision

Legal desc:

Street Address of Well (or nearest address)

SAME

MAP with location indentified must be attached

(10) STATIC WATER LEVEL

8.0 Ft. below land surface. Date 6/23/1998

Artesian Pressure lb/sq. in. Date

(11) SUBSURFACE LOG

Ground Elevation ft.

Material	From	To	SWL
SAND	0	23	8

Date started 6/23/1998 Completed 6/23/1998

(12) ABANDONMENT LOG

Date started Completed

Professional Certification

(to be signed by a licensed water supply or monitoring well constructor, or registered geologist or civil engineer).

I accept responsibility for the construction, alteration, or abandonment work performed on this well during the construction dates reported above. All work performed during this time is in compliance with Oregon geotechnical hole construction standards. This report is true to the best of my knowledge and belief.

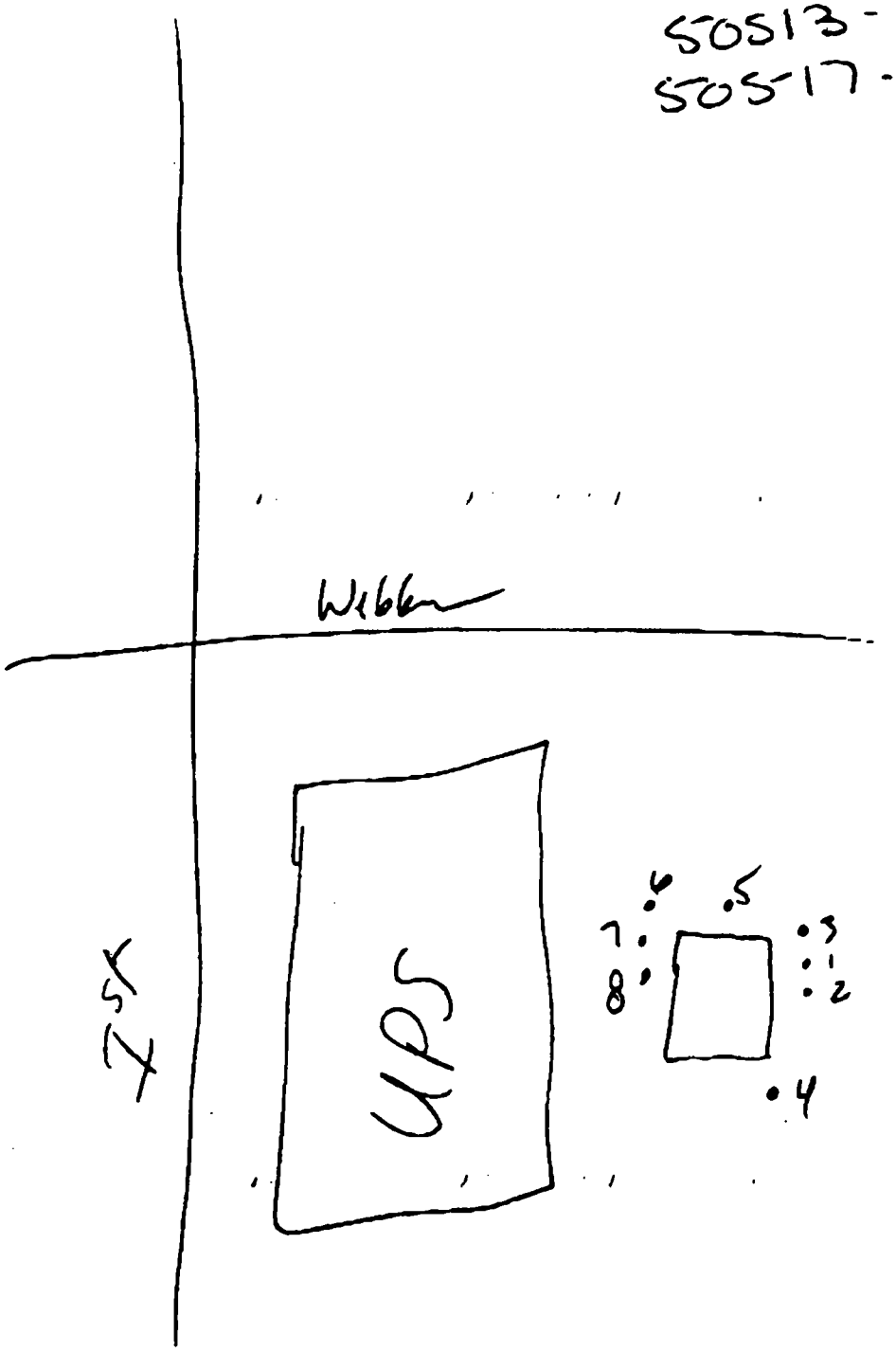
License or Registration Number 10410

Signed By JEFF GINTER Date

Affiliation GEO TECH EXPLORATIONS

THIS REPORT MUST BE SUBMITTED TO THE WATER RESOURCES DEPARTMENT WITHIN 30 DAYS OF COMPLETION OF WORK

Wasco
505.13 - 505.15
505.17 - 505.21



STATE OF OREGON

GEOTECHNICAL HOLE REPORT

WASC 50515

Received date 8/3/1998

(as required by OAR 690-240-035)

(1) OWNER/PROJECT

Hole No.

Co.Job No. B3

Name UNITED PARCEL SERVICE

Street 1515 WEST FIRST STREET

City THE DALLES State OR Zip 97058

(2) TYPE OF WORK

☒ New ☐ Alter (Recondition) ☐ Alter (Repair)

☐ Deepening ☒ Abandonment

(3) CONSTRUCTION

☐ Rotary Air ☐ Hand Auger ☐ Hollow Stem Auger

☐ Rotary Mud ☐ Cable Tool ☒ Push Probe Other

(4) TYPE OF HOLE

☒ Uncased Temporary ☐ Cased Permanent

☐ Uncased Permanent ☐ Slope Stabilit Other

(5) USE OF HOLE

SOIL AND WATER TEST

(6) BORE HOLE CONSTRUCTION

Special Standards ☐ Depth of completed well 12 ft.

HOLE

Diameter	From	To
1.50	0.00	12

SEAL

From	To	Material	Amount	Seal Grout Weight	Units
0.00	12.00	Bentonite	6.00		P

Backfill placed from ft. TO ft. Material

Filter pack placed from ft. TO ft. Size in.

(7) CASING/SCREEN

Screen ☐

(8) WELL TEST

Permeability Yield GPM

Conductivity PH

Temperature of water 54 °F/C Depth artesian flow found ft.

Was water analysis done? ☒

By Whom? OLYMPUS

Depth of strata to be analyzed. From ft. to ft.

Remarks

Name of supervising Geologist/Engineer

(9) LOCATION OF HOLE By legal description

County Wasco Latitude Longitude

Township 1.00 N Range 13.00 E

Section 4 SE 1/4 NW 1/4

Tax lot Lot Block Subdivision

Legal desc:

Street Address of Well (or nearest address)

SAME

MAP with location indentified must be attached

(10) STATIC WATER LEVEL

8.0 Ft. below land surface. Date 6/23/1998

Artesian Pressure lb/sq. in. Date

(11) SUBSURFACE LOG

Ground Elevation ft.

Material	From	To	SWL
SAND	0	12	8

Date started 6/23/1998 Completed 6/23/1998

(12) ABANDONMENT LOG

Date started Completed

Professional Certification

(to be signed by a licensed water supply or monitoring well constructor, or registered geologist or civil engineer).

I accept responsibility for the construction, alteration, or abandonment work performed on this well during the construction dates reported above. All work performed during this time is in compliance with Oregon geotechnical hole construction standards. This report is true to the best of my knowledge and belief.

License or Registration Number 10410

Signed By JEFF GINTER Date

Affiliation GEO TECH EXPLORATIONS

THIS REPORT MUST BE SUBMITTED TO THE WATER RESOURCES DEPARTMENT WITHIN 30 DAYS OF COMPLETION OF WORK

Wasco

505'13 - 505'15

505'17 - 505'21

STATE OF OREGON

GEOTECHNICAL HOLE REPORT

WASC 50514

Received date 8/3/1998

(as required by OAR 690-240-035)

(1) OWNER/PROJECT

Hole No.

Co.Job No. B2

Name UNTIED PARCEL SERVICE

Street 1515 WEST FIRST ST

City THE DALLES State OR Zip 97058

(2) TYPE OF WORK

☒ New ☐ Alter (Recondition) ☐ Alter (Repair)

☐ Deepening ☒ Abandonment

(3) CONSTRUCTION

☐ Rotary Air ☐ Hand Auger ☐ Hollow Stem Auger

☐ Rotary Mud ☐ Cable Tool ☒ Push Probe Other

(4) TYPE OF HOLE

☒ Uncased Temporary ☐ Cased Permanent

☐ Uncased Permanent ☐ Slope Stabilit Other

(5) USE OF HOLE

SOIL AND WATER TEST

(6) BORE HOLE CONSTRUCTION

Special Standards ☐ Depth of completed well 12 ft.

HOLE

Diameter	From	To
1.50	0.00	12

SEAL

From	To	Material	Amount	Seal Grout Weight	Units
0.00	12.00	Bentonite	6.00		P

Backfill placed from ft. TO ft. Material

Filter pack placed from ft. TO ft. Size in.

(7) CASING/SCREEN

Screen ☐

(8) WELL TEST

Permeability Yield GPM

Conductivity PH

Temperature of water 54 °F/C Depth artesian flow found ft.

Was water analysis done? ☒

By Whom? OLYMPUS

Depth of strata to be analyzed. From ft. to ft.

Remarks

Name of supervising Geologist/Engineer

(9) LOCATION OF HOLE By legal description

County Wasco Latitude Longitude

Township 1.00 N Range 13.00 E

Section 4 SE 1/4 NW 1/4

Tax lot Lot Block Subdivision

Legal desc:

Street Address of Well (or nearest address)

SAME

MAP with location indentified must be attached

(10) STATIC WATER LEVEL

8.0 Ft. below land surface. Date 6/23/1998

Artesian Pressure lb/sq. in. Date

(11) SUBSURFACE LOG

Ground Elevation ft.

Material	From	To	SWL
SAND	0	12	8

Date started 6/23/1998 Completed 6/23/1998

(12) ABANDONMENT LOG

Date started Completed

Professional Certification

(to be signed by a licensed water supply or monitoring well constructor, or registered geologist or civil engineer).

I accept responsibility for the construction, alteration, or abandonment work performed on this well during the construction dates reported above. All work performed during this time is in compliance with Oregon geotechnical hole construction standards. This report is true to the best of my knowledge and belief.

License or Registration Number 10410

Signed By JEFF GINTER Date

Affiliation GEO TECH EXPLORATIONS

THIS REPORT MUST BE SUBMITTED TO THE WATER RESOURCES DEPARTMENT WITHIN 30 DAYS OF COMPLETION OF WORK

Wasco
505-13 - 505-15
505-17 - 505-21

STATE OF OREGON

GEOTECHNICAL HOLE REPORT

WASC 50513

Received date 8/3/1998

(as required by OAR 690-240-035)

(1) OWNER/PROJECT

Hole No.

Co.Job No. B1

Name UNITED PARCEL SERVICE

Street 1514 W FIRST

City THE DALLES State OR Zip 97058

(2) TYPE OF WORK

☒ New ☐ Alter (Recondition) ☐ Alter (Repair)

☐ Deepening ☒ Abandonment

(3) CONSTRUCTION

☐ Rotary Air ☐ Hand Auger ☐ Hollow Stem Auger

☐ Rotary Mud ☐ Cable Tool ☒ Push Probe Other

(4) TYPE OF HOLE

☒ Uncased Temporary ☐ Cased Permanent

☐ Uncased Permanent ☐ Slope Stabilit Other

(5) USE OF HOLE

SOIL AND WATER TEST

(6) BORE HOLE CONSTRUCTION

Special Standards ☐ Depth of completed well 12 ft.

HOLE

Diameter	From	To
1.50	0.00	12

SEAL

From	To	Material	Amount	Seal Grout Weight	Units
0.00	12.00	Bentonite	6.00		P

Backfill placed from ft. TO ft. Material

Filter pack placed from ft. TO ft. Size in.

(7) CASING/SCREEN

Screen ☐

(8) WELL TEST

Permeability Yield GPM

Conductivity PH

Temperature of water 51 °F/C Depth artesian flow found ft.

Was water analysis done? ☒

By Whom? OLYMPUS

Depth of strata to be analyzed. From ft. to ft.

Remarks

Name of supervising Geologist/Engineer

(9) LOCATION OF HOLE By legal description

County Wasco Latitude Longitude

Township 1.00 N Range 13.00 E

Section 4 SE 1/4 NW 1/4

Tax lot Lot Block Subdivision

Legal desc:

Street Address of Well (or nearest address)

SAME

MAP with location indentified must be attached

(10) STATIC WATER LEVEL

8.0 Ft. below land surface. Date 6/23/1998

Artesian Pressure lb/sq. in. Date

(11) SUBSURFACE LOG

Ground Elevation ft.

Material	From	To	SWL
SAND	0	12	8

Date started 6/23/1998 Completed 6/23/1998

(12) ABANDONMENT LOG

Date started Completed

Professional Certification

(to be signed by a licensed water supply or monitoring well constructor, or registered geologist or civil engineer).

I accept responsibility for the construction, alteration, or abandonment work performed on this well during the construction dates reported above. All work performed during this time is in compliance with Oregon geotechnical hole construction standards. This report is true to the best of my knowledge and belief.

License or Registration Number 10410

Signed By JEFF GINTER Date

Affiliation GEO TECH EXPLORATIONS

THIS REPORT MUST BE SUBMITTED TO THE WATER RESOURCES DEPARTMENT WITHIN 30 DAYS OF COMPLETION OF WORK

Wasco

505 13 - 505 15

505 17 - 505 21

WASC
50500

STATE OF OREGON
WATER SUPPLY WELL REPORT
(as required by ORS 537.765)

Instructions for completing this report are on the last page of this form.

WELL I.D. # L 16338
START CARD # W 91971 & W114566

(1) OWNER: Well Number 01
(b) (6)

(2) TYPE OF WORK
☐ New Well ☒ Deepening ☐ Alteration (repair/recondition) ☐ Abandonment

(3) DRILL METHOD:
☒ Rotary Air ☐ Rotary Mud ☐ Cable ☐ Auger
☐ Other

(4) PROPOSED USE:
☒ Domestic ☐ Community ☐ Industrial ☐ Irrigation
☐ Thermal ☐ Injection ☐ Livestock ☐ Other

(5) BORE HOLE CONSTRUCTION:
Special Construction approval ☐ Yes ☒ No Depth of Completed Well 120 ft.
Explosives used ☐ Yes ☒ No Type Amount

HOLE Diameter	From	To	SEAL Material	From	To	Sacks or pounds

How was seal placed: Method ☐ A ☐ B ☐ C ☐ D ☐ E
☐ Other
Backfill placed from ft. to ft. Material
Gravel placed from ft. to ft. Size of gravel

(6) CASING/LINER:

	Diameter	From	To	Gauge	Steel	Plastic	Welded	Threaded
Casing:					☐	☐	☐	☐
					☐	☐	☐	☐
					☐	☐	☐	☐
					☐	☐	☐	☐
Liner:	4.5	75	120	.25	☐	☒	☒	☐
					☐	☐	☐	☐

Final location of shoe(s)

(7) PERFORATIONS/SCREENS:
☐ Perforations Method
☐ Screens Type Material

From	To	Slot size	Number	Diameter	Tele/pipe size	Casing	Liner
75	120	.6	50	4.5		☐	☒
						☐	☐
						☐	☐
						☐	☐
						☐	☐

(8) WELL TESTS: Minimum testing time is 1 hour
☐ Pump ☐ Bailer ☒ Air ☐ Flowing Artesian

Yield gal/min	Drawdown	Drill stem at	Time
25	100%	110	1 hr.

Temperature of water 52° Depth Artesian Flow Found
Was a water analysis done? ☐ Yes By whom
Did any strata contain water not suitable for intended use? ☐ Too little
☐ Salty ☐ Muddy ☐ Odor ☐ Colored ☐ Other
Depth of strata:

(9) LOCATION OF WELL by legal description:
County WASCO Latitude Longitude
Township 1N N or S Range 13E E or W. WM.
Section 3 NW 1/4 SW 1/4
Tax Lot 5000 Lot Block Subdivision
Street Address of Well (or nearest address) 213 E 9th ST
THE DALLES OR 97058

(10) STATIC WATER LEVEL:
28 ft. below land surface. Date 06-08-98
Artesian pressure lb. per square inch. Date

(11) WATER BEARING ZONES:
Depth at which water was first found 78'

From	To	Estimated Flow Rate	SWL
78'	90'	25 gpm	28'

(12) WELL LOG:
Ground Elevation

Material	From	To	SWL
GRAY BASALT, BLUE CLAYSTONE	60	65	
GRAY BASALT, HARD	65	78	
BLACK BASALT, POROUS, BLUE CLAYSTONE, WATER BEARING	78	90	28
GRAY BASALT, HARD	90	97	28
BLACK, GRAY BASALT, POROUS, MEDIUM HARD	97	120	28

RECEIVED
JUN 30 1998
WATER RESOURCES DEPT.
SALEM, OREGON

Date started 06-08-98 Completed 06-08-98

(unbonded) Water Well Constructor Certification:
I certify that the work I performed on the construction, alteration, or abandonment of this well is in compliance with Oregon water supply well construction standards. Materials used and information reported above are true to the best of my knowledge and belief.
WWC Number 1256
Signed Kenneth Moore Jr. Date 06-13-98

(bonded) Water Well Constructor Certification:
I accept responsibility for the construction, alteration, or abandonment work performed on this well during the construction dates reported above. All work performed during this time is in compliance with Oregon water supply well construction standards. This report is true to the best of my knowledge and belief.
WWC Number 0731
Signed Charles S Moore Date 06-13-98

ORIGINAL & FIRST COPY-WATER RESOURCES DEPARTMENT SECOND COPY-CONSTRUCTOR THIRD COPY-CUSTOMER

WASL 50495

RECEIVED

MAY 19 1998

WATER RESOURCES DEPT.
SALEM, OREGON

STATE OF OREGON
WATER SUPPLY WELL REPORT
(as required by ORS 537.765)

Instructions for completing this report are on the last page of this form.

WELL I.D. # L ID# L16297

START CARD # W 91975

(b) (6)

(2) TYPE OF WORK
[X] New Well [ ] Deepening [ ] Alteration (repair/recondition) [ ] Abandonment

(3) DRILL METHOD:
[X] Rotary Air [ ] Rotary Mud [ ] Cable [ ] Auger
[ ] Other

(4) PROPOSED USE:
[X] Domestic [ ] Community [ ] Industrial [ ] Irrigation
[ ] Thermal [ ] Injection [ ] Livestock [ ] Other

(5) BORE HOLE CONSTRUCTION:
Special Construction approval [ ] Yes [X] No Depth of Completed Well 365 ft.
Explosives used [ ] Yes [X] No Type ____ Amount ____

HOLE Diameter	From	To	SEAL Material	From	To	Sacks or pounds
10"	TOP	40	BENTONIT	TOP	40	24 SACKS
6"	40	90	Cement	90	99	5 SACKS
10"	90	99				
6"	99	365				

How was seal placed: Method [X] A [ ] B [ ] C [ ] D [ ] E
[X] Other BENTONITE-DRY
Backfill placed from ____ ft. to ____ ft. Material ____
Gravel placed from ____ ft. to ____ ft. Size of gravel ____

(6) CASING/LINER:

	Diameter	From	To	Gauge	Steel	Plastic	Welded	Threaded
Casing:	6"	+1	99		[X]	[ ]	[X]	[ ]
					[ ]	[ ]	[ ]	[ ]
					[ ]	[ ]	[ ]	[ ]
					[ ]	[ ]	[ ]	[ ]
Liner:	4"	25	365		[ ]	[X]	[X]	[ ]
					[ ]	[ ]	[ ]	[ ]

Final location of shoe(s) 99'

(7) PERFORATIONS/SCREENS:
[X] Perforations Method SAW
[ ] Screens Type ____ Material ____

From	To	Slot size	Number	Diameter	Tele/pipe size	Casing	Liner
25'	365'	1/8 x 6	60	4"		[ ]	[X]
						[ ]	[ ]
						[ ]	[ ]
						[ ]	[ ]
						[ ]	[ ]

(8) WELL TESTS: Minimum testing time is 1 hour
[ ] Pump [ ] Bailer [X] Air [ ] Flowing Artesian

Yield gal/min	Drawdown	Drill stem at	Time
20 gpm	100%	355'	1 hr.

Temperature of water 56° Depth Artesian Flow Found ____
Was a water analysis done? [ ] Yes By whom ____
Did any strata contain water not suitable for intended use? [ ] Too little
[ ] Salty [ ] Muddy [ ] Odor [ ] Colored [ ] Other ____
Depth of strata: ____

(9) LOCATION OF WELL by legal description:
County WASCO Latitude ____ Longitude ____
Township 1N N or S Range 13E E or W. WM.
Section 4 NW 1/4 SW 1/4
Tax Lot 1000 Lot ____ Block ____ Subdivision ____
Street Address of Well (or nearest address) 1732 CHERRY HTS RD, THE DALLES, OR 97058

(10) STATIC WATER LEVEL:
260' ft. below land surface. Date 04-22-98
Artesian pressure ____ lb. per square inch. Date ____

(11) WATER BEARING ZONES:
Depth at which water was first found 338'

From	To	Estimated Flow Rate	SWL
338'	355'	20 gpm	260

(12) WELL LOG:
Ground Elevation ____

Material	From	To	SWL
TOP SOIL	0	2	
SAND, COURSE	2	28	
GRAY SANDSTONE, COURSE	28	69	
GRAVEL, CAVING	69	95	
BLACK BASALT, Med	95	132	
GREEN & BLK CLAYSTONE	132	140	
BLACK BASALT, HARD	140	175	
BLK & GRN BASALT, POROUS	175	196	
BLACK BASALT, MED	196	240	
GRN & GRAY CLAYSTONE	240	268	
WOOD	268	273	
GRAY BASALT, HARD	273	338	
BLK BASALT w/IRON PYRIT			
VESCULAR, WATER BEARING	338	355	260'
GRAY & BLK BASALT, HARD	355	365	

Date started 04-16-98 Completed 04-22-98

(unbonded) Water Well Constructor Certification:
I certify that the work I performed on the construction, alteration, or abandonment of this well is in compliance with Oregon water supply well construction standards. Materials used and information reported above are true to the best of my knowledge and belief.

WWC Number ____
Signed ____ Date ____

(bonded) Water Well Constructor Certification:
I accept responsibility for the construction, alteration, or abandonment work performed on this well during the construction dates reported above. All work performed during this time is in compliance with Oregon water supply well construction standards. This report is true to the best of my knowledge and belief.

WWC Number 0731
Signed Charles S Moore Date 04-22-98

ORIGINAL & FIRST COPY-WATER RESOURCES DEPARTMENT SECOND COPY-CONSTRUCTOR THIRD COPY-CUSTOMER

STATE OF OREGON

GEOTECHNICAL HOLE REPORT

WASC 50475

Received date 3/5/1998

(as required by OAR 690-240-035)

(1) OWNER/PROJECT

Hole No. B-5

(b) (6)

(2) TYPE OF WORK

☒ New ☐ Alter (Recondition) ☐ Alter (Repair)
☐ Deepening ☒ Abandonment

(3) CONSTRUCTION

☐ Rotary Air ☐ Hand Auger ☒ Hollow Stem Auger
☐ Rotary Mud ☐ Cable Tool ☐ Push Probe Other

(4) TYPE OF HOLE

☒ Uncased Temporary ☐ Cased Permanent
☐ Uncased Permanent ☐ Slope Stabilit Other

(5) USE OF HOLE

GROUNDWATER AND SOIL ANALYSIS

(6) BORE HOLE CONSTRUCTION

Special Standards ☐ Depth of completed well 15 ft.

HOLE

Diameter	From	To
8.00	0	15

SEAL

From	To	Material	Amount	Seal Grout Weight	Units
0	15	BE	7		S

Backfill placed from ft. TO ft. Material

Filter pack placed from ft. TO ft. Size in.

(7) CASING/SCREEN

Screen ☐

(8) WELL TEST

Permeability Yield GPM

Conductivity PH

Temperature of water 57 °F/C Depth artesian flow found ft.

Was water analysis done? ☒

By Whom? MARK YOUNGER ASSOCIATES

Depth of strata to be analyzed. From ft. to ft.

Remarks

Name of supervising Geologist/Engineer

(9) LOCATION OF HOLE By legal description

County Wasco Latitude Longitude

Township 1.00 N Range 13.00 E

Section 3 NW 1/4 NW 1/4

Tax lot 100 Lot Block Subdivision

Legal desc:

Street Address of Well (or nearest address)
100 E SECOND AVE, THE DALLES

MAP with location indentified must be attached

(10) STATIC WATER LEVEL

5.0 Ft. below land surface. Date 2/5/1998

Artesian Pressure lb/sq. in. Date

(11) SUBSURFACE LOG

Ground Elevation ft.

Material	From	To	SWL
ASPHALT	0	0	
GRAVELS	0	0	
SAND	0	6	5
SILTY SAND	6	9	
SANDY SILTS	9	12	
GRAVELS	12	15	

Date started 2/5/1998 Completed 2/5/1998

(12) ABANDONMENT LOG

Date started Completed

Professional Certification

(to be signed by a licensed water supply or monitoring well constructor, or registered geologist or civil engineer).

I accept responsibility for the construction, alteration, or abandonment work performed on this well during the construction dates reported above. All work performed during this time is in compliance with Oregon geotechnical hole construction standards. This report is true to the best of my knowledge and belief.

License or Registration Number 10328

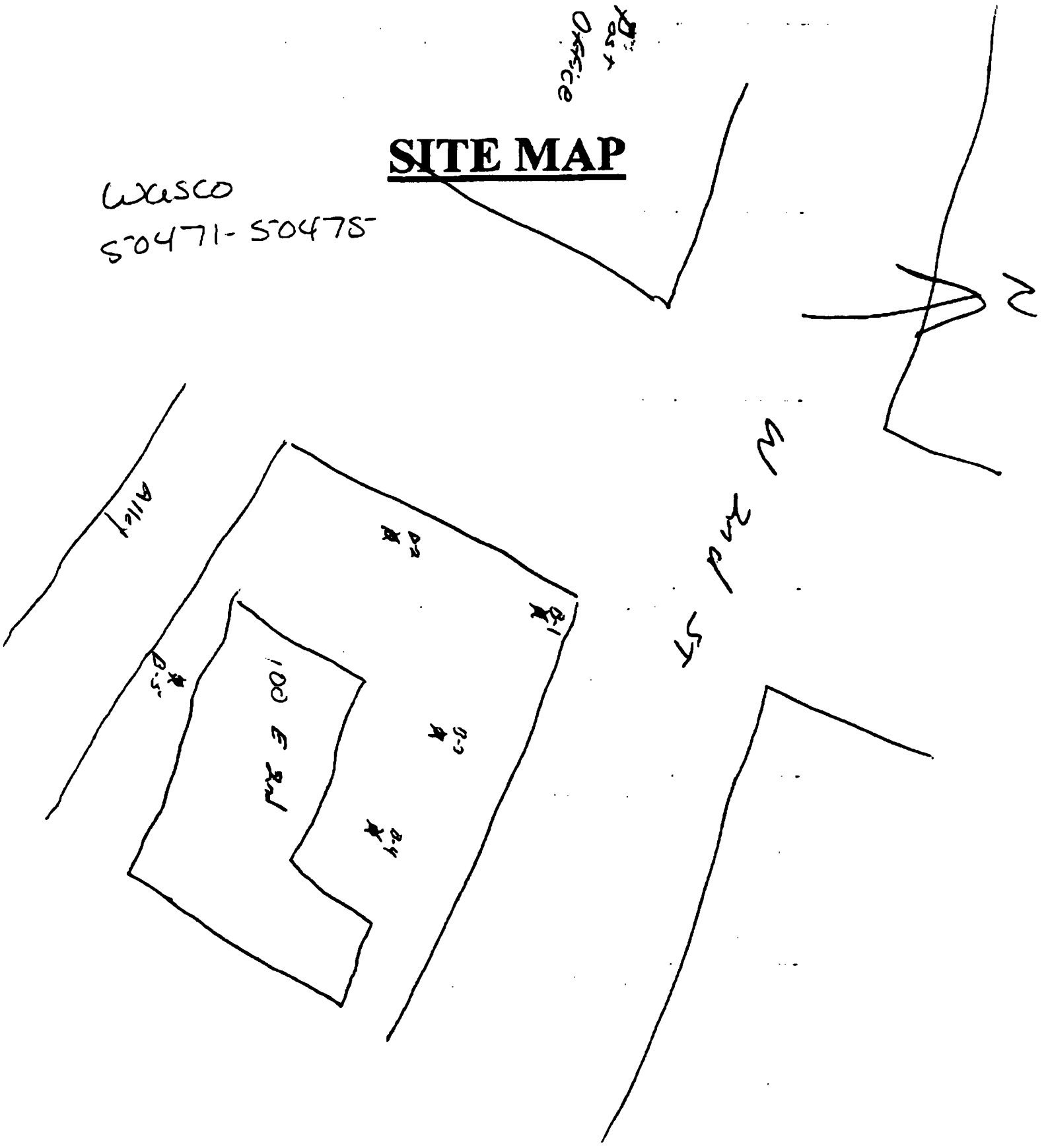
Signed By JOEL WELSH Date

Affiliation GEO-TECH EXPLORATIONS

THIS REPORT MUST BE SUBMITTED TO THE WATER RESOURCES DEPARTMENT WITHIN 30 DAYS OF COMPLETION OF WORK

SITE MAP

Wasco
S-0471-S0475



STATE OF OREGON

GEOTECHNICAL HOLE REPORT

WASC 50474

Received date 3/5/1998

(as required by OAR 690-240-035)

(1) OWNER/PROJECT

Hole No.

Co. Job No. B-4

(b) (6)

(2) TYPE OF WORK

☒ New ☐ Alter (Recondition) ☐ Alter (Repair)

☐ Deepening ☒ Abandonment

(3) CONSTRUCTION

☐ Rotary Air ☐ Hand Auger ☒ Hollow Stem Auger

☐ Rotary Mud ☐ Cable Tool ☐ Push Probe Other

(4) TYPE OF HOLE

☒ Uncased Temporary ☐ Cased Permanent

☐ Uncased Permanent ☐ Slope Stabilit Other

(5) USE OF HOLE

GROUNDWATER AND SOIL ANALYSIS

(6) BORE HOLE CONSTRUCTION

Special Standards ☐ Depth of completed well 15 ft.

HOLE

Diameter	From	To
8.00	0	15

SEAL

From	To	Material	Amount	Seal Grout Weight	Units
0	15	BE	7		S

Backfill placed from ft. TO ft. Material

Filter pack placed from ft. TO ft. Size in.

(7) CASING/SCREEN

Screen ☐

(8) WELL TEST

Permeability Yield GPM

Conductivity PH

Temperature of water 57 °F/C Depth artesian flow found ft.

Was water analysis done? ☐

By Whom? MARK YOUNGER ASSOCIATES

Depth of strata to be analyzed. From ft. to ft.

Remarks

Name of supervising Geologist/Engineer

(9) LOCATION OF HOLE By legal description

County Wasco Latitude Longitude

Township 1.00 N Range 13.00 E

Section 3 NW 1/4 NW 1/4

Tax lot 100 Lot Block Subdivision

Legal desc:

Street Address of Well (or nearest address)

100 E SECOND AVE, THE DALLES

MAP with location indentified must be attached

(10) STATIC WATER LEVEL

5.0 Ft. below land surface. Date 2/5/1998

Artesian Pressure lb/sq. in. Date

(11) SUBSURFACE LOG

Ground Elevation ft.

Material	From	To	SWL
ASPHALT	0	0	
GRAVELS	0	0	
SAND	0	6	5
SILTY SANDS	6	9	
SANDY SILTS	9	12	
BEDROCK	12	15	

Date started 2/5/1998 Completed 2/5/1998

(12) ABANDONMENT LOG

Date started Completed

Professional Certification

(to be signed by a licensed water supply or monitoring well constructor, or registered geologist or civil engineer).

I accept responsibility for the construction, alteration, or abandonment work performed on this well during the construction dates reported above. All work performed during this time is in compliance with Oregon geotechnical hole construction standards. This report is true to the best of my knowledge and belief.

License or Registration Number 10328

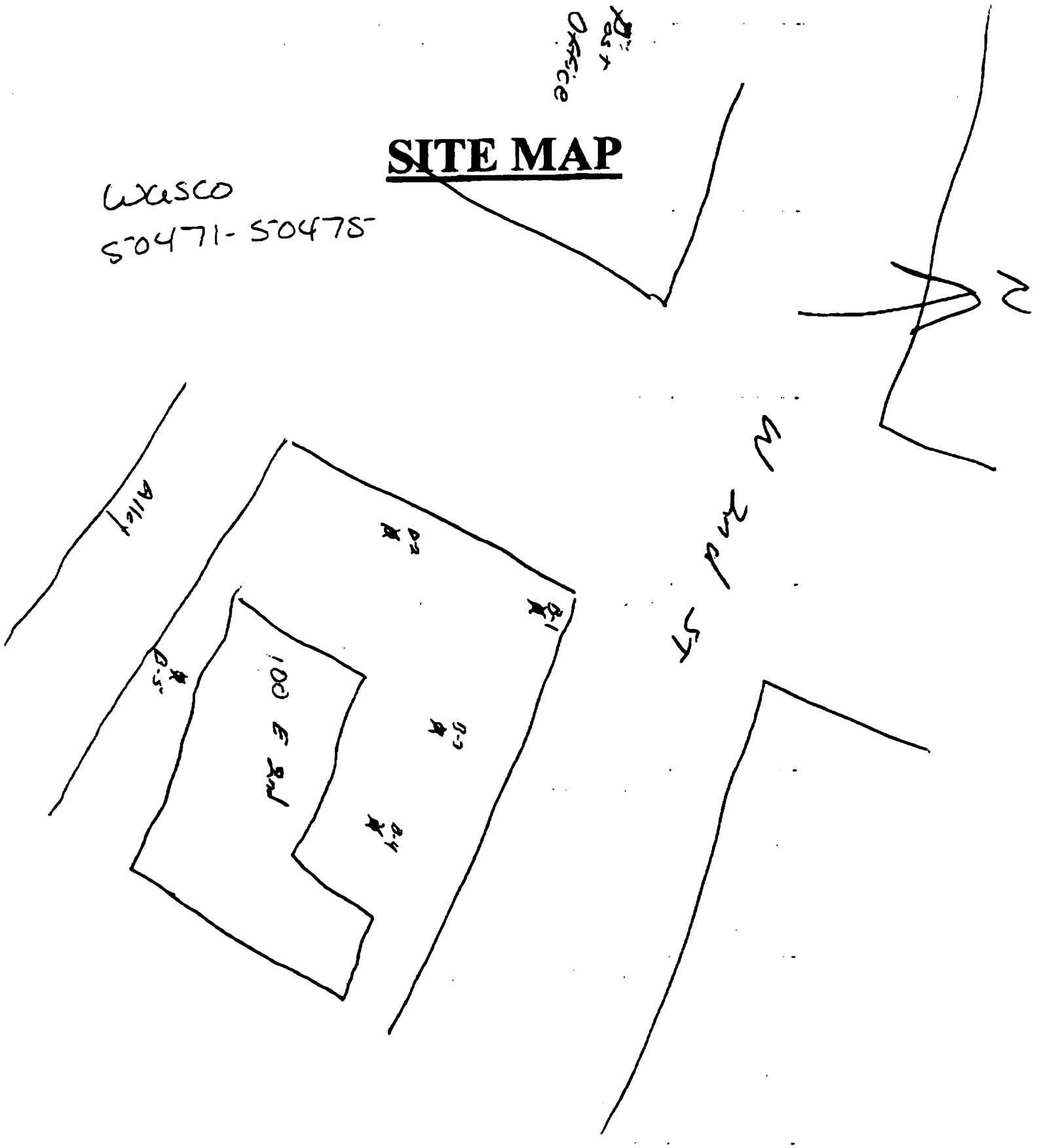
Signed By JOEL WELSH Date

Affiliation GEO-TECH EXPLORATIONS

THIS REPORT MUST BE SUBMITTED TO THE WATER RESOURCES DEPARTMENT WITHIN 30 DAYS OF COMPLETION OF WORK

SITE MAP

Wasco
S-0471-S-0478



STATE OF OREGON

GEOTECHNICAL HOLE REPORT

WASC 50473

Received date 3/5/1998

(as required by OAR 690-240-035)

(1) OWNER/PROJECT

Hole No. B-3

(b) (6)

(2) TYPE OF WORK

☒ New ☐ Alter (Recondition) ☐ Alter (Repair)
☐ Deepening ☒ Abandonment

(3) CONSTRUCTION

☐ Rotary Air ☐ Hand Auger ☒ Hollow Stem Auger
☐ Rotary Mud ☐ Cable Tool ☐ Push Probe Other

(4) TYPE OF HOLE

☒ Uncased Temporary ☐ Cased Permanent
☐ Uncased Permanent ☐ Slope Stabilit Other

(5) USE OF HOLE

GROUNDWATER AND SOILS ANALYSIS

(6) BORE HOLE CONSTRUCTION

Special Standards ☐ Depth of completed well 15 ft.

HOLE

Diameter	From	To
8.00	0	15

SEAL

From	To	Material	Amount	Seal Grout Weight	Units
0	15	BE	7		S

Backfill placed from ft. TO ft. Material
Filter pack placed from ft. TO ft. Size in.

(7) CASING/SCREEN

Screen ☐

(8) WELL TEST

Permeability Yield GPM
Conductivity PH
Temperature of water 57 °F/C Depth artesian flow found ft.
Was water analysis done? ☐
By Whom? MARK YOUNGER ASSOCIATES
Depth of strata to be analyzed. From ft. to ft.
Remarks

Name of supervising Geologist/Engineer

(9) LOCATION OF HOLE By legal description

County Wasco Latitude Longitude
Township 1.00 N Range 13.00 E
Section 3 NW 1/4 NW 1/4
Tax lot 100 Lot Block Subdivision
Legal desc:

Street Address of Well (or nearest address)
100 E SECOND AVE, THE DALLES

MAP with location indentified must be attached

(10) STATIC WATER LEVEL

5.0 Ft. below land surface. Date 2/5/1998

Artesian Pressure lb/sq. in. Date

(11) SUBSURFACE LOG

Ground Elevation ft.

Material	From	To	SWL
ASPHALT	0	0	
GRAVELS	0	0	
SAND	0	6	5
SILTY SAND	6	9	
SANDY SILTS	9	12	
BASALT	12	15	

Date started 2/5/1998 Completed 2/5/1998

(12) ABANDONMENT LOG

Date started Completed

Professional Certification

(to be signed by a licensed water supply or monitoring well constructor, or registered geologist or civil engineer).

I accept responsibility for the construction, alteration, or abandonment work performed on this well during the construction dates reported above. All work performed during this time is in compliance with Oregon geotechnical hole construction standards. This report is true to the best of my knowledge and belief.

License or Registration Number 10328

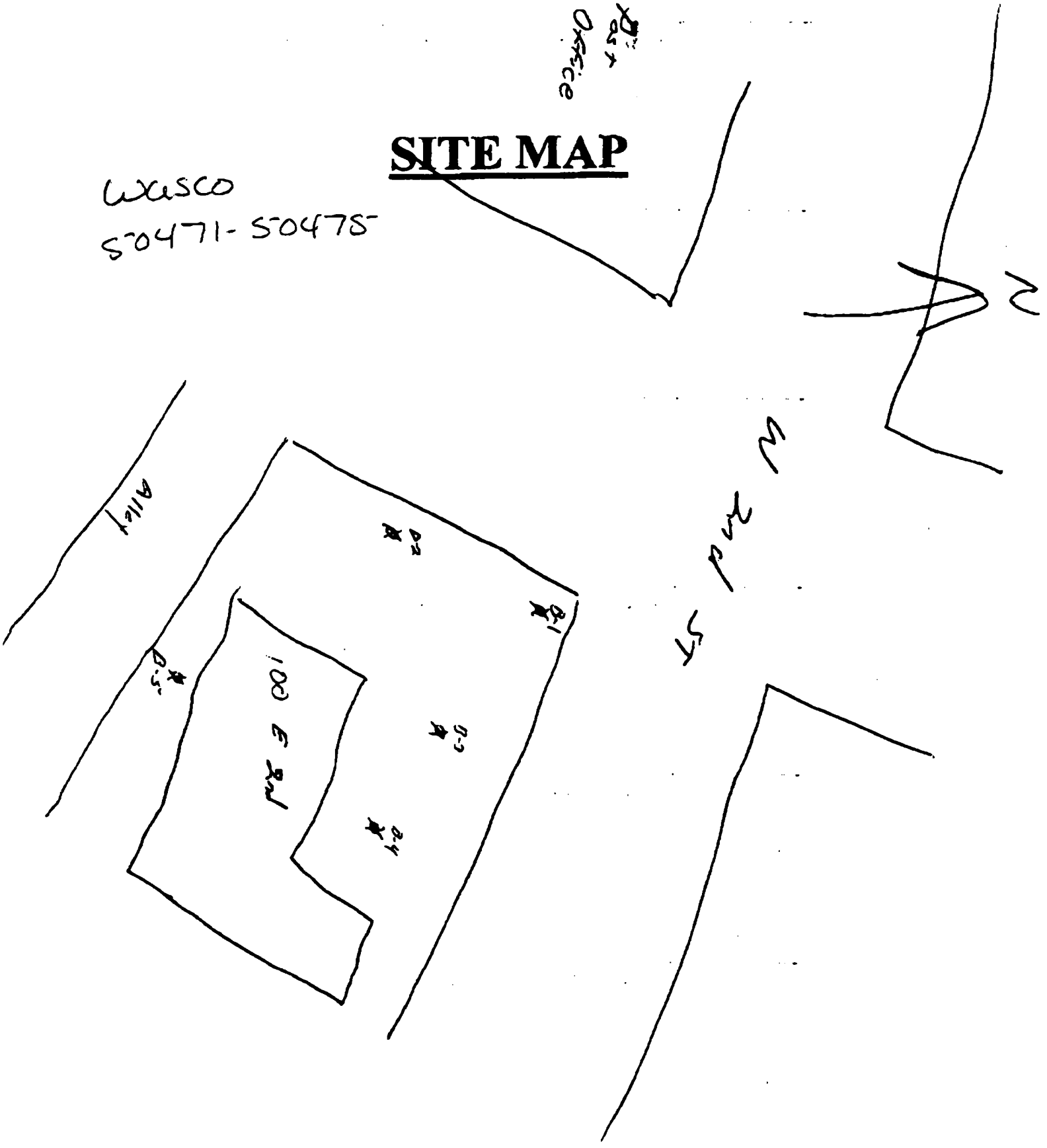
Signed By JOEL WELSH Date

Affiliation GEO-TECH EXPLORATIONS

THIS REPORT MUST BE SUBMITTED TO THE WATER RESOURCES DEPARTMENT WITHIN 30 DAYS OF COMPLETION OF WORK

SITE MAP

Wasco
S-0471-S0475



STATE OF OREGON

GEOTECHNICAL HOLE REPORT

WASC 50472

Received date 3/5/1998

(as required by OAR 690-240-035)

(1) OWNER/PROJECT

Hole No.

Co.Job No. B-2

(b) (6)

(2) TYPE OF WORK

☒ New ☐ Alter (Recondition) ☐ Alter (Repair)

☐ Deepening ☒ Abandonment

(3) CONSTRUCTION

☐ Rotary Air ☐ Hand Auger ☒ Hollow Stem Auger

☐ Rotary Mud ☐ Cable Tool ☐ Push Probe Other

(4) TYPE OF HOLE

☒ Uncased Temporary ☐ Cased Permanent

☐ Uncased Permanent ☐ Slope Stabilit Other

(5) USE OF HOLE

GROUNDWATER AND SOIL STUDY

(6) BORE HOLE CONSTRUCTION

Special Standards ☐ Depth of completed well 15 ft.

HOLE

Diameter	From	To
8.00	0	15

SEAL

From	To	Material	Amount	Seal Grout Weight	Units
0	15	BE	7		S

Backfill placed from ft. TO ft. Material

Filter pack placed from ft. TO ft. Size in.

(7) CASING/SCREEN

Screen ☐

(8) WELL TEST

Permeability Yield GPM

Conductivity PH

Temperature of water 57 °F/C Depth artesian flow found ft.

Was water analysis done? ☒

By Whom? MARK YOUNGER ASSOCIATES

Depth of strata to be analyzed. From ft. to ft.

Remarks

Name of supervising Geologist/Engineer

(9) LOCATION OF HOLE By legal description

County Wasco Latitude Longitude

Township 1.00 N Range 13.00 E

Section 3 NW 1/4 NW 1/4

Tax lot 100 Lot Block Subdivision

Legal desc:

Street Address of Well (or nearest address)

100 E SECOND AVE, THE DALLES

MAP with location indentified must be attached

(10) STATIC WATER LEVEL

5.0 Ft. below land surface. Date 2/5/1998

Artesian Pressure lb/sq. in. Date

(11) SUBSURFACE LOG

Ground Elevation ft.

Material	From	To	SWL
ASPHALT	0	0	
GRAVELS	0	0	
SAND	0	6	5
SILTY SAND	6	9	
SANDY SILTS	9	12	
BASALT	12	15	

Date started 2/5/1998 Completed 2/5/1998

(12) ABANDONMENT LOG

Date started Completed

Professional Certification

(to be signed by a licensed water supply or monitoring well constructor, or registered geologist or civil engineer).

I accept responsibility for the construction, alteration, or abandonment work performed on this well during the construction dates reported above. All work performed during this time is in compliance with Oregon geotechnical hole construction standards. This report is true to the best of my knowledge and belief.

License or Registration Number 10328

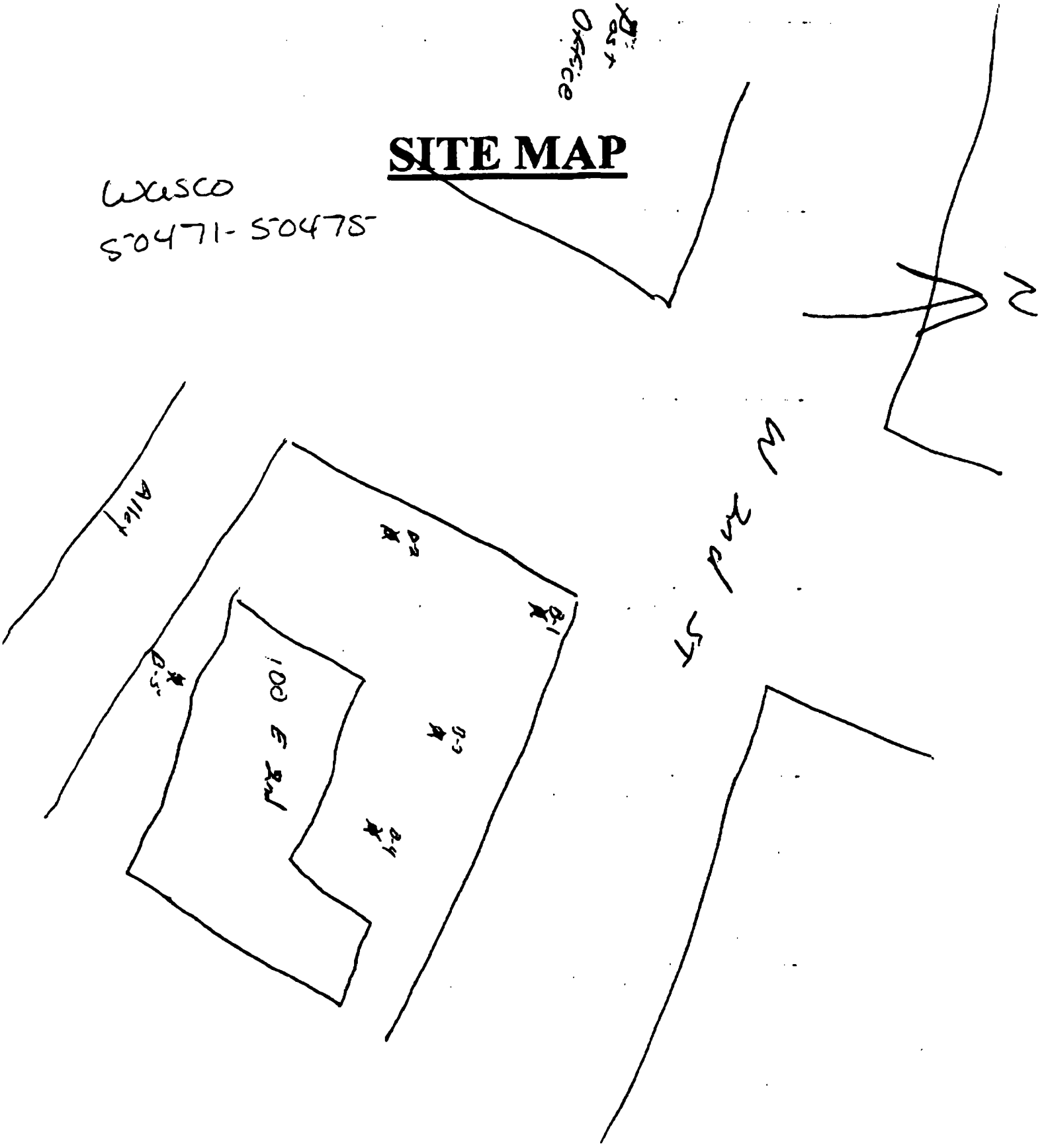
Signed By JOEL WELSH Date

Affiliation GEO-TECH EXPLORATIONS

THIS REPORT MUST BE SUBMITTED TO THE WATER RESOURCES DEPARTMENT WITHIN 30 DAYS OF COMPLETION OF WORK

SITE MAP

Wasco
50471-50475



STATE OF OREGON

GEOTECHNICAL HOLE REPORT

WASC 50471

Received date 3/5/1998

(as required by OAR 690-240-035)

(1) OWNER/PROJECT

Hole No.

(b) (6)

(2) TYPE OF WORK

☒ New ☐ Alter (Recondition) ☐ Alter (Repair)
☐ Deepening ☒ Abandonment

(3) CONSTRUCTION

☐ Rotary Air ☐ Hand Auger ☒ Hollow Stem Auger
☐ Rotary Mud ☐ Cable Tool ☐ Push Probe Other

(4) TYPE OF HOLE

☒ Uncased Temporary ☐ Cased Permanent
☐ Uncased Permanent ☐ Slope Stabilit Other

(5) USE OF HOLE

SOIL AND GROUNDWATER ANALYSIS

(6) BORE HOLE CONSTRUCTION

Special Standards ☐ Depth of completed well 15 ft.

HOLE

Diameter	From	To
8.00	0	15

SEAL

From	To	Material	Amount	Seal Grout Weight	Units
0	15	BE	7		S

Backfill placed from ft. TO ft. Material
Filter pack placed from ft. TO ft. Size in.

(7) CASING/SCREEN

Screen ☐

(8) WELL TEST

Permeability Yield GPM
Conductivity PH
Temperature of water 57 °F/C Depth artesian flow found ft.
Was water analysis done? ☐
By Whom? MARK YOUNGER ASSOCIATES
Depth of strata to be analyzed. From ft. to ft.
Remarks

Name of supervising Geologist/Engineer

(9) LOCATION OF HOLE By legal description

County Wasco Latitude Longitude
Township 1.00 N Range 13.00 E
Section 3 NW 1/4 NW 1/4
Tax lot 100 Lot Block Subdivision
Legal desc:

Street Address of Well (or nearest address)
100 E 2ND, THE DALLES

MAP with location indentified must be attached

(10) STATIC WATER LEVEL

8.0 Ft. below land surface. Date 2/5/1998
Artesian Pressure lb/sq. in. Date

(11) SUBSURFACE LOG

Ground Elevation ft.

Material	From	To	SWL
ASPHALT	0	0	
GRAVELS	0	0	
SAND	0	6	
SILTY SAND	6	9	8
SANDY SILT	9	12	
BASALT	12	15	

Date started 2/5/1998 Completed 2/5/1998

(12) ABANDONMENT LOG

Date started Completed

Professional Certification

(to be signed by a licensed water supply or monitoring well constructor, or registered geologist or civil engineer).

I accept responsibility for the construction, alteration, or abandonment work performed on this well during the construction dates reported above. All work performed during this time is in compliance with Oregon geotechnical hole construction standards. This report is true to the best of my knowledge and belief.

License or Registration Number 10328

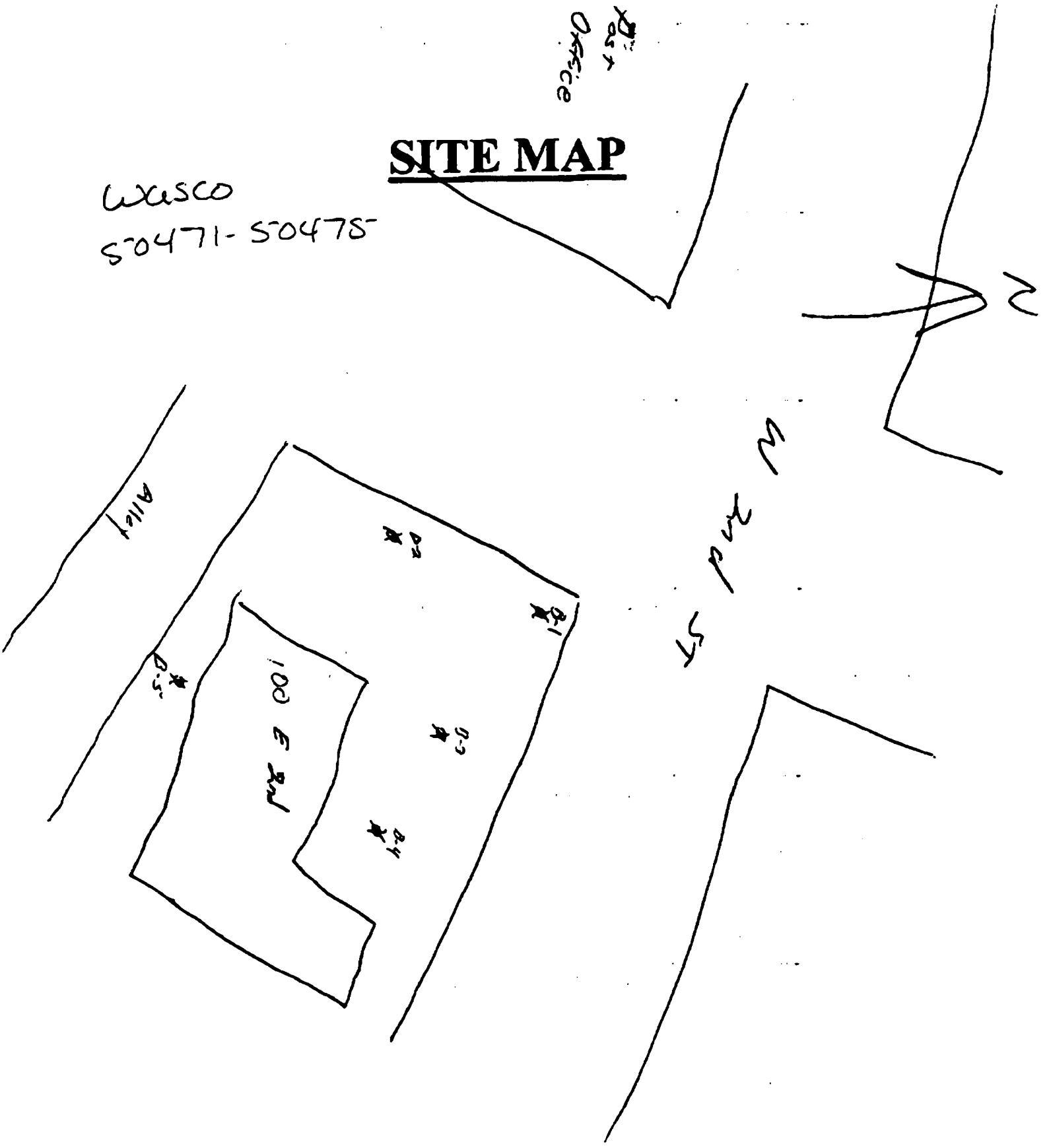
Signed By JOEL WELSH Date

Affiliation GEO-TECH EXPLORATIONS

THIS REPORT MUST BE SUBMITTED TO THE WATER RESOURCES DEPARTMENT WITHIN 30 DAYS OF COMPLETION OF WORK

SITE MAP

Wasco
S-0471-S0475



RECEIVED

MAR 04 1998

WATER RESOURCES DEPT.
SALEM, OREGON

WASC 50469

STATE OF OREGON

WATER WELL REPORT
(as required by ORS 537.765)

WELL ID# L16338

(START CARD) # W 91971

(b) (6) [redacted]

(2) TYPE OF WORK:
☒ New Well ☐ Deepen ☐ Recondition ☐ Abandon

(3) DRILL METHOD:
☒ Rotary Air ☐ Rotary Mud ☐ Cable
☐ Other

(4) PROPOSED USE:
☒ Domestic ☐ Community ☐ Industrial ☐ Irrigation
☐ Thermal ☐ Injection ☐ Other

(5) BORE HOLE CONSTRUCTION:
Special Construction approval ☐ Yes ☒ No Depth of Completed Well 60' ft.
Explosives used ☐ Yes ☒ No Type Amount

HOLE Diameter	From	To	SEAL Material	From	To	Amount sacks or pounds
10"	Top	30'	Bentonite	Top	30'	25 SACKS
6"	30'	60'				

How was seal placed: Method ☐ A ☐ B ☐ C ☐ D ☐ E
☒ Other BENTONITE-DRY
Backfill placed from ft. to ft. Material
Gravel placed from ft. to ft. Size of gravel

(6) CASING/LINER:

	Diameter	From	To	Gauge	Steel	Plastic	Welded	Threaded
Casing:	6"	+1	39'		☒	☐	☒	☐
					☐	☐	☐	☐
					☐	☐	☐	☐
					☐	☐	☐	☐
Liner:	4.5"	35'	60'		☐	☒	☒	☐
					☐	☐	☐	☐

Final location of shoe(s) 39'

(7) PERFORATIONS/SCREENS:
☒ Perforations Method SAW
☐ Screens Type Material

From	To	Slot size	Number	Diameter	Tele/pipe size	Casing	Liner
30'	40'	1/8x6	30	4.5"		☐	☒
						☐	☐
						☐	☐
						☐	☐
						☐	☐

(8) WELL TESTS: Minimum testing time is 1 hour
☐ Pump ☐ Bailer ☒ Air ☐ Flowing Artesian

Yield gal/min	Drawdown	Drill stem at	Time
40 gpm	100%	50'	1 hr.

Temperature of Water 56° Depth Artesian Flow Found
Was a water analysis done? ☐ Yes By whom
Did any strata contain water not suitable for intended use? ☐ Too little
☐ Salty ☐ Muddy ☐ Odor ☐ Colored ☐ Other
Depth of strata:

(9) LOCATION OF WELL by legal description:
County WASCO Latitude Longitude
Township 1N N or S. Range 13E E or W. WM.
Section 3 NW ¼ SW ¼
Tax Lot 5000 Lot Block Subdivision
Street Address of Well (or nearest address) 213 E 9th ST, THE DALLES, OR 97058

(10) STATIC WATER LEVEL:
25' ft. below land surface. Date 02-05-98
Artesian pressure lb. per square inch. Date

(11) WATER BEARING ZONES:
Depth at which water was first found 30'

From	To	Estimated Flow Rate	SWL
30'	40'	40 gpm	25

(12) WELL LOG:
Ground elevation

Material	From	To	SWL
TOP SOIL	0	2	
BROWN CLAY	2	6	
BROWN BASALT & RIVERGRAVEL	6	9	
BROWN BASALT, MED	9	12	
GRAY BASALT, MED HARD	12	16	
GRAY CLAY	16	19	
GRAY BASALT, MED	19	30	
BROWN BASALT, FRACT, WB	30	40	25'
GRAY BASALT, MED HARD	40	60	

Date started 02-04-98 Completed 02-05-98

(unbonded) Water Well Constructor Certification:
I certify that the work I performed on the construction, alteration, or abandonment of this well is in compliance with Oregon well construction standards. Materials used and information reported above are true to my best knowledge and belief.

Signed [signature] WWC Number 1256 Date 02-25-98

(bonded) Water Well Constructor Certification:
I accept responsibility for the construction, alteration, or abandonment work performed on this well during the construction dates reported above. All work performed during this time is in compliance with Oregon well construction standards. This report is true to the best of my knowledge and belief.

Signed Charles L Moore WWC Number 0731 Date 02-25-98

ORIGINAL & FIRST COPY - WATER RESOURCES DEPARTMENT SECOND COPY - CONSTRUCTOR THIRD COPY - CUSTOMER 9809C 10/91

STATE OF OREGON

GEOTECHNICAL HOLE REPORT

WASC 50465

Received date 2/26/1998

(as required by OAR 690-240-035)

(1) OWNER/PROJECT

Hole No.

Co.Job No. B-6

Name US POSTAL SERVICE

Street 34301 9TH AVE S, 3RD FLOOR

City FEDERAL WAY State WA Zip 98063

(2) TYPE OF WORK

☒ New ☐ Alter (Recondition) ☐ Alter (Repair)

☐ Deepening ☒ Abandonment

(3) CONSTRUCTION

☐ Rotary Air ☐ Hand Auger ☐ Hollow Stem Auger

☒ Rotary Mud ☐ Cable Tool ☐ Push Probe Other

(4) TYPE OF HOLE

☒ Uncased Temporary ☐ Cased Permanent

☐ Uncased Permanent ☐ Slope Stabilit Other

(5) USE OF HOLE

FOUNDATION STUDY

(6) BORE HOLE CONSTRUCTION

Special Standards ☐ Depth of completed well 73 ft.

HOLE

Diameter	From	To
5.00	0	73

SEAL

From	To	Material	Amount	Seal Grout Weight	Units
0	73	BE	14		S

Backfill placed from ft. TO ft. Material

Filter pack placed from ft. TO ft. Size in.

(7) CASING/SCREEN

Screen ☐

(8) WELL TEST

Permeability Yield GPM

Conductivity PH

Temperature of water 57 °F/C Depth artesian flow found ft.

Was water analysis done? ☒

By Whom? FUJITANI HILTS AND ASSOCIATES

Depth of strata to be analyzed. From ft. to ft.

Remarks

Name of supervising Geologist/Engineer

(9) LOCATION OF HOLE By legal description

County Wasco Latitude Longitude

Township 1.00 N Range 13.00 E

Section 3 NW 1/4 NW 1/4

Tax lot 400 Lot Block Subdivision

Legal desc:

NORTH SIDE OF W 2ND BETWEEN UNION & LINCOLN, THE DALLES

Street Address of Well (or nearest address)

MAP with location indentified must be attached

(10) STATIC WATER LEVEL

13.0 Ft. below land surface. Date 1/26/1998

Artesian Pressure lb/sq. In. Date

(11) SUBSURFACE LOG

Ground Elevation ft.

Material	From	To	SWL
GRAVELS	0	4	
SAND	4	7	
BASALT	7	73	13

Date started 1/26/1998 Completed 1/26/1998

(12) ABANDONMENT LOG

Date started Completed

Professional Certification

(to be signed by a licensed water supply or monitoring well constructor, or registered geologist or civil engineer).

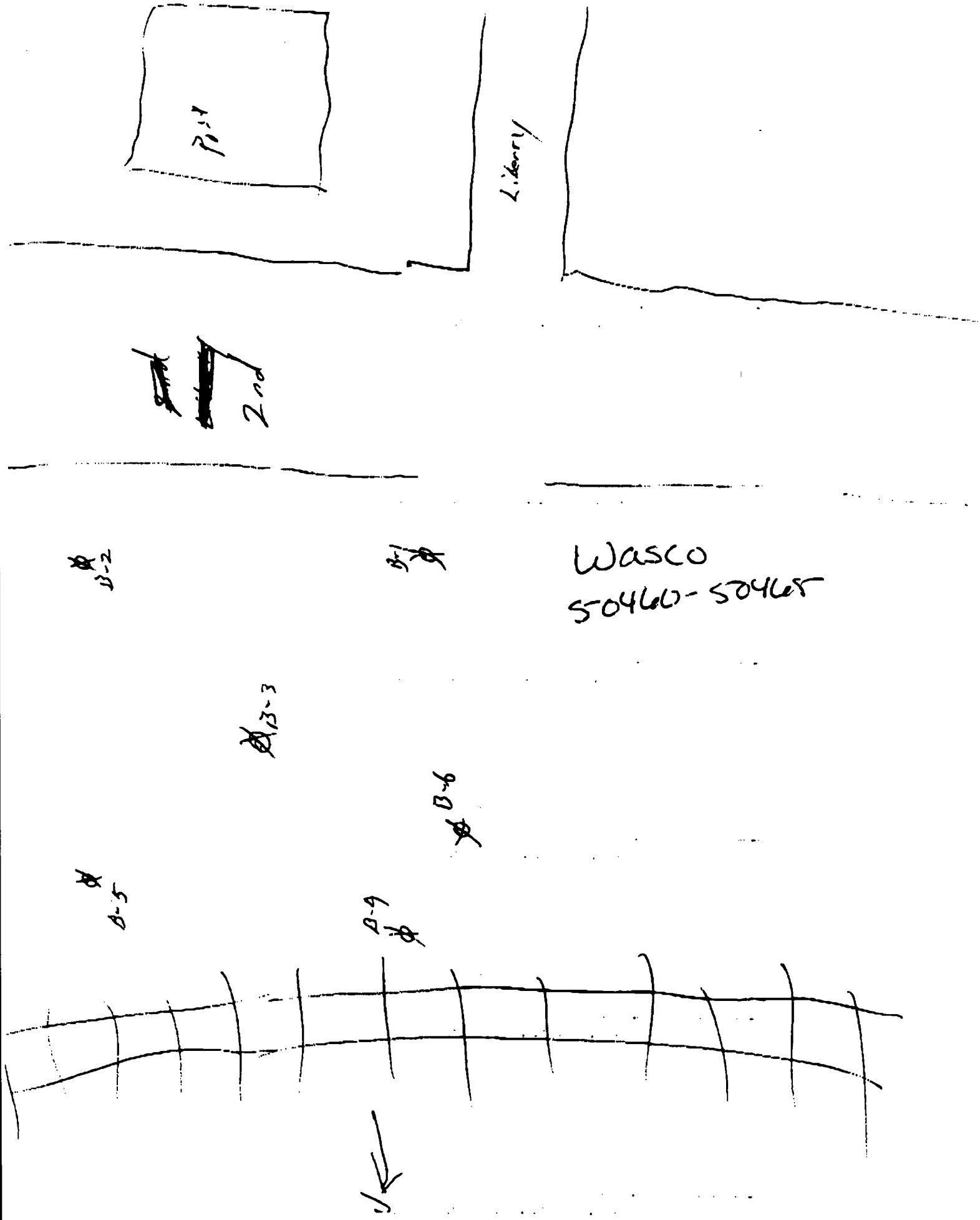
I accept responsibility for the construction, alteration, or abandonment work performed on this well during the construction dates reported above. All work performed during this time is in compliance with Oregon geotechnical hole construction standards. This report is true to the best of my knowledge and belief.

License or Registration Number 10328

Signed By JOEL WELSH Date

Affiliation GEO-TECH EXPLORATIONS

THIS REPORT MUST BE SUBMITTED TO THE WATER RESOURCES DEPARTMENT WITHIN 30 DAYS OF COMPLETION OF WORK


Liberty
2nd
B-2
B-1
Wasco
50460-50465
B-3
B-6
B-5
B-9

STATE OF OREGON

GEOTECHNICAL HOLE REPORT

WASC 50464

Received date 2/26/1998

(as required by OAR 690-240-035)

(1) OWNER/PROJECT

Hole No.

Co.Job No. B-5

Name US POSTAL SERVICE

Street 34301 9TH AVE S, 3RD FLOOR

City FEDERAL WAY State WA Zip 98063

(2) TYPE OF WORK

☒ New ☐ Alter (Recondition) ☐ Alter (Repair)

☐ Deepening ☒ Abandonment

(3) CONSTRUCTION

☐ Rotary Air ☐ Hand Auger ☒ Hollow Stem Auger

☐ Rotary Mud ☐ Cable Tool ☐ Push Probe Other

(4) TYPE OF HOLE

☒ Uncased Temporary ☐ Cased Permanent

☐ Uncased Permanent ☐ Slope Stabilit Other

(5) USE OF HOLE

FOUNDATION STUDY

(6) BORE HOLE CONSTRUCTION

Special Standards ☐ Depth of completed well 20 ft.

HOLE

Diameter	From	To
8.00	0	20

SEAL

From	To	Material	Amount	Seal Grout Weight	Units
0	20	BE	12		S

Backfill placed from ft. TO ft. Material

Filter pack placed from ft. TO ft. Size in.

(7) CASING/SCREEN

Screen ☐

(8) WELL TEST

Permeability Yield GPM

Conductivity PH

Temperature of water 53 °F/C Depth artesian flow found ft.

Was water analysis done? ☒

By Whom? FUJITANI HILTS AND ASSOCIATES

Depth of strata to be analyzed. From ft. to ft.

Remarks

Name of supervising Geologist/Engineer

(9) LOCATION OF HOLE By legal description

County Wasco Latitude Longitude

Township 1.00 N Range 13.00 E

Section 3 NW 1/4 NW 1/4

Tax lot 400 Lot Block Subdivision

Legal desc:

NORTH SIDE OF W 2ND BETWEEN UNION & LINCOLN, THE DALLES

Street Address of Well (or nearest address)

MAP with location indentified must be attached

(10) STATIC WATER LEVEL

12.0 Ft. below land surface. Date 1/26/1998

Artesian Pressure lb/sq. in. Date

(11) SUBSURFACE LOG

Ground Elevation ft.

Material	From	To	SWL
GRAVELS	0	4	
SAND	4	12	12
BASALT	12	20	

Date started 1/26/1998 Completed 1/26/1998

(12) ABANDONMENT LOG

Date started Completed

Professional Certification

(to be signed by a licensed water supply or monitoring well constructor, or registered geologist or civil engineer).

I accept responsibility for the construction, alteration, or abandonment work performed on this well during the construction dates reported above. All work performed during this time is in compliance with Oregon geotechnical hole construction standards. This report is true to the best of my knowledge and belief.

License or Registration Number 10328

Signed By JOEL WELSH Date

Affiliation GEO-TECH EXPLORATIONS

THIS REPORT MUST BE SUBMITTED TO THE WATER RESOURCES DEPARTMENT WITHIN 30 DAYS OF COMPLETION OF WORK

Park
Library
2nd
B-2
B-1
Wasco
5046D-5046F
B-3
B-4
B-5
B-7

STATE OF OREGON

GEOTECHNICAL HOLE REPORT

WASC 50463

Received date 2/26/1998

(as required by OAR 690-240-035)

(1) OWNER/PROJECT

Hole No.

Co.Job No. B-4

Name US POSTAL SERVICE

Street 34301 9TH AVE S, 3RD FLOOR

City FEDERAL WAY State WA Zip 98603

(2) TYPE OF WORK

☒ New ☐ Alter (Recondition) ☐ Alter (Repair)

☐ Deepening ☒ Abandonment

(3) CONSTRUCTION

☐ Rotary Air ☐ Hand Auger ☒ Hollow Stem Auger

☐ Rotary Mud ☐ Cable Tool ☐ Push Probe Other

(4) TYPE OF HOLE

☒ Uncased Temporary ☐ Cased Permanent

☐ Uncased Permanent ☐ Slope Stabilit Other

(5) USE OF HOLE

FOUNDATION ANALYSIS

(6) BORE HOLE CONSTRUCTION

Special Standards ☐ Depth of completed well 55 ft.

HOLE

Diameter	From	To
8.00	0	55

SEAL

From	To	Material	Amount	Seal Grout Weight	Units
0	55	BE	20		S

Backfill placed from ft. TO ft. Material

Filter pack placed from ft. TO ft. Size in.

(7) CASING/SCREEN

Screen ☐

(8) WELL TEST

Permeability Yield GPM

Conductivity PH

Temperature of water 57 °F/C Depth artesian flow found ft.

Was water analysis done? ☒

By Whom? FUJITANI HILTS AND ASSOCIATES

Depth of strata to be analyzed. From ft. to ft.

Remarks

Name of supervising Geologist/Engineer

(9) LOCATION OF HOLE By legal description

County Wasco Latitude Longitude

Township 1.00 N Range 13.00 E

Section 3 NW 1/4 NW 1/4

Tax lot Lot Block Subdivision

Legal desc:

N SIDE OF W 2ND BETWEEN UNION & LINCOLN, THE DALLES

Street Address of Well (or nearest address)

MAP with location indentified must be attached

(10) STATIC WATER LEVEL

12.0 Ft. below land surface. Date 1/26/1998

Artesian Pressure lb/sq. in. Date

(11) SUBSURFACE LOG

Ground Elevation ft.

Material	From	To	SWL
GRAVEL	0	4	
SAND	4	55	12

Date started 1/26/1998 Completed 1/26/1998

(12) ABANDONMENT LOG

Date started Completed

Professional Certification

(to be signed by a licensed water supply or monitoring well constructor, or registered geologist or civil engineer).

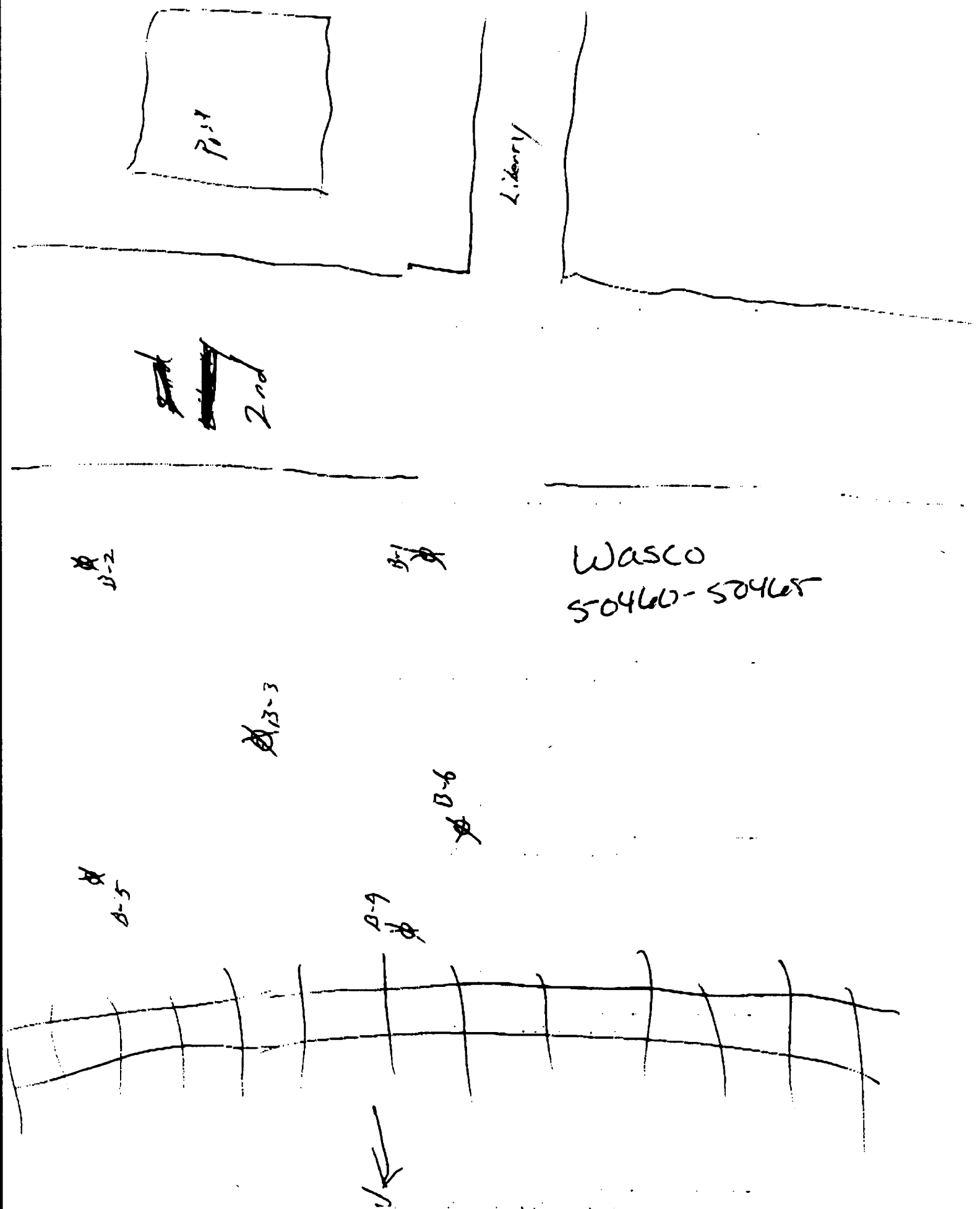
I accept responsibility for the construction, alteration, or abandonment work performed on this well during the construction dates reported above. All work performed during this time is in compliance with Oregon geotechnical hole construction standards. This report is true to the best of my knowledge and belief.

License or Registration Number 10328

Signed By JOEL WESLH Date

Affiliation GEO-TECH EXPLORATIONS

THIS REPORT MUST BE SUBMITTED TO THE WATER RESOURCES DEPARTMENT WITHIN 30 DAYS OF COMPLETION OF WORK


P.I.P
Liberty
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Wasco
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B-3
B-6
B-5
B-9

STATE OF OREGON

GEOTECHNICAL HOLE REPORT

WASC 50462

Received date 2/26/1998

(as required by OAR 690-240-035)

(1) OWNER/PROJECT

Hole No.

Co.Job No. B-3

Name US POSTAL SERVICE

Street 34301 9TH AVE S, 3RD FLOOR

City FEDERAL WAY State OR Zip 98063

(2) TYPE OF WORK

☒ New ☐ Alter (Recondition) ☐ Alter (Repair)

☐ Deepening ☒ Abandonment

(3) CONSTRUCTION

☐ Rotary Air ☐ Hand Auger ☒ Hollow Stem Auger

☐ Rotary Mud ☐ Cable Tool ☐ Push Probe Other

(4) TYPE OF HOLE

☒ Uncased Temporary ☐ Cased Permanent

☐ Uncased Permanent ☐ Slope Stabilit Other

(5) USE OF HOLE

FOUNDATION STUDY

(6) BORE HOLE CONSTRUCTION

Special Standards ☐ Depth of completed well 20 ft.

HOLE

Diameter	From	To
8.00	0	20

SEAL

From	To	Material	Amount	Seal Grout Weight	Units
0	20	BE	12		S

Backfill placed from ft. TO ft. Material

Filter pack placed from ft. TO ft. Size in.

(7) CASING/SCREEN

Screen ☐

(8) WELL TEST

Permeability Yield GPM

Conductivity PH

Temperature of water 54 °F/C Depth artesian flow found ft.

Was water analysis done? ☒

By Whom? FUJITANI HILTS AND ASSOCIATES

Depth of strata to be analyzed. From ft. to ft.

Remarks

Name of supervising Geologist/Engineer

(9) LOCATION OF HOLE By legal description

County Wasco Latitude Longitude

Township 1.00 N Range 13.00 E

Section 3 NW 1/4 NW 1/4

Tax lot 400 Lot Block Subdivision

Legal desc:

NORTH SIDE OF W 2ND BETWEEN UNION & LINCOLN

Street Address of Well (or nearest address)

MAP with location indentified must be attached

(10) STATIC WATER LEVEL

12.0 Ft. below land surface. Date 1/26/1998

Artesian Pressure lb/sq. in. Date

(11) SUBSURFACE LOG

Ground Elevation ft.

Material	From	To	SWL
GRAVELS	0	4	
SAND	4	12	12
BASALT	12	20	

Date started 1/26/1998 Completed 1/26/1998

(12) ABANDONMENT LOG

Date started Completed

Professional Certification

(to be signed by a licensed water supply or monitoring well constructor, or registered geologist or civil engineer).

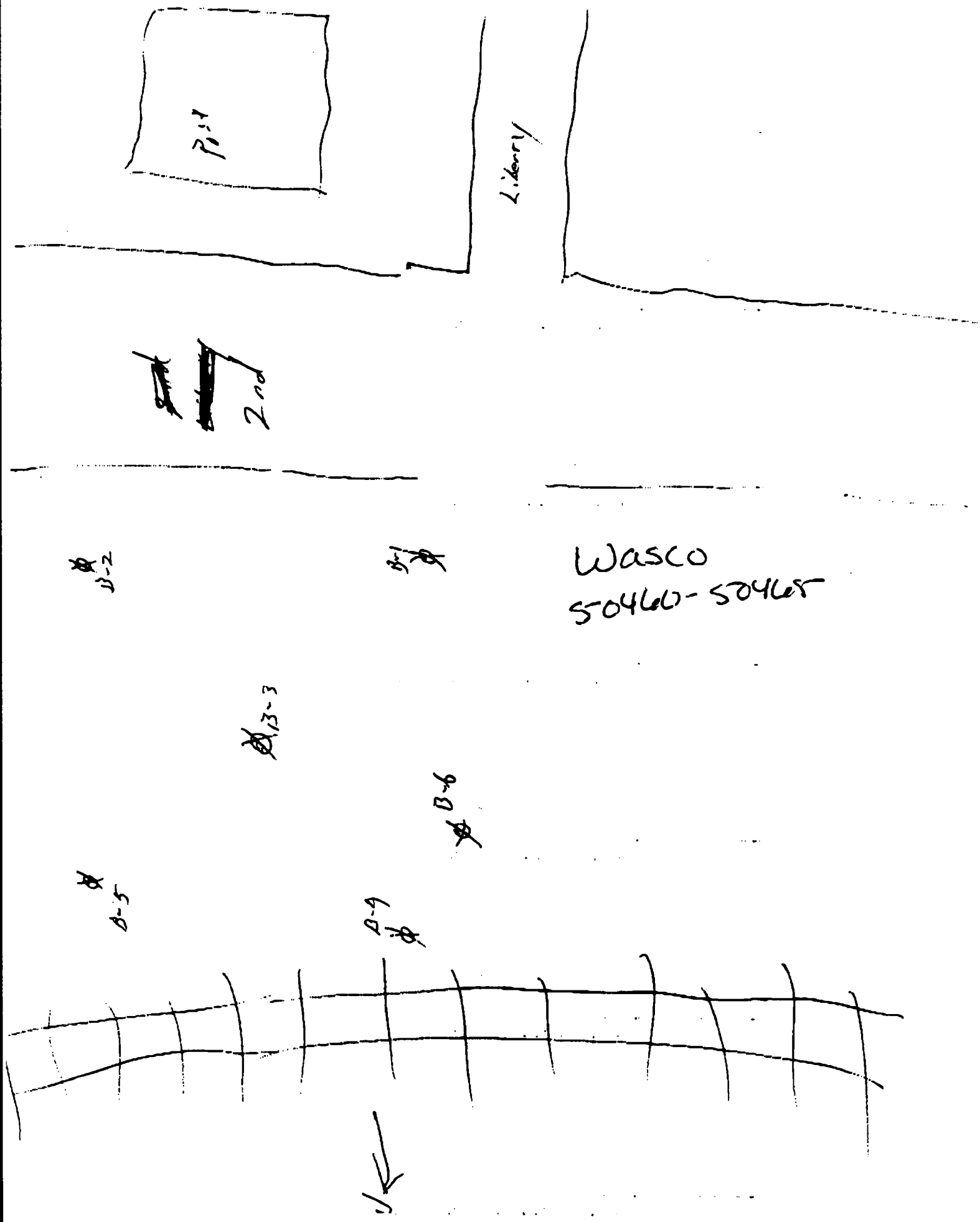
I accept responsibility for the construction, alteration, or abandonment work performed on this well during the construction dates reported above. All work performed during this time is in compliance with Oregon geotechnical hole construction standards. This report is true to the best of my knowledge and belief.

License or Registration Number 10328

Signed By JOEL WELSH Date

Affiliation GEO-TECH EXPLORATIONS

THIS REPORT MUST BE SUBMITTED TO THE WATER RESOURCES DEPARTMENT WITHIN 30 DAYS OF COMPLETION OF WORK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Wasco
50460-50465
B-3
B-6
B-5
B-4

STATE OF OREGON

GEOTECHNICAL HOLE REPORT

WASC 50461

Received date 2/26/1998

(as required by OAR 690-240-035)

(1) OWNER/PROJECT

Hole No.

Co.Job No. B-2

Name US POSTAL SERVICE

Street 34301 9TH AVE S, 3RD FLOOR

City FEDERAL WAY State OR Zip 98063

(2) TYPE OF WORK

☒ New ☐ Alter (Recondition) ☐ Alter (Repair)

☐ Deepening ☒ Abandonment

(3) CONSTRUCTION

☐ Rotary Air ☐ Hand Auger ☒ Hollow Stem Auger

☐ Rotary Mud ☐ Cable Tool ☐ Push Probe Other

(4) TYPE OF HOLE

☒ Uncased Temporary ☐ Cased Permanent

☐ Uncased Permanent ☐ Slope Stabilit Other

(5) USE OF HOLE

FOUNDATION ANALYSIS

(6) BORE HOLE CONSTRUCTION

Special Standards ☐ Depth of completed well 20 ft.

HOLE

Diameter	From	To
8.00	0	20

SEAL

From	To	Material	Amount	Seal Grout Weight	Units
0	20	BE	12		S

Backfill placed from ft. TO ft. Material

Filter pack placed from ft. TO ft. Size in.

(7) CASING/SCREEN

Screen ☐

(8) WELL TEST

Permeability Yield GPM

Conductivity PH

Temperature of water 53 °F/C Depth artesian flow found ft.

Was water analysis done? ☒

By Whom? FUJITANI HILTS AND ASSOCIATES

Depth of strata to be analyzed. From ft. to ft.

Remarks

Name of supervising Geologist/Engineer

(9) LOCATION OF HOLE By legal description

County Wasco Latitude Longitude

Township 1.00 N Range 13.00 E

Section 3 NW 1/4 NW 1/4

Tax lot 400 Lot Block Subdivision

Legal desc:

NORTH SIDE OF W 2ND BETWEEN UNION & LINCOLN, THE DALLES

Street Address of Well (or nearest address)

MAP with location indentified must be attached

(10) STATIC WATER LEVEL

12.0 Ft. below land surface. Date 1/26/1998

Artesian Pressure lb/sq. in. Date

(11) SUBSURFACE LOG

Ground Elevation ft.

Material	From	To	SWL
GRAVELS	0	4	
SAND	4	12	12
BASALT	12	20	

Date started 1/26/1998 Completed 1/26/1998

(12) ABANDONMENT LOG

Date started Completed

Professional Certification

(to be signed by a licensed water supply or monitoring well constructor, or registered geologist or civil engineer).

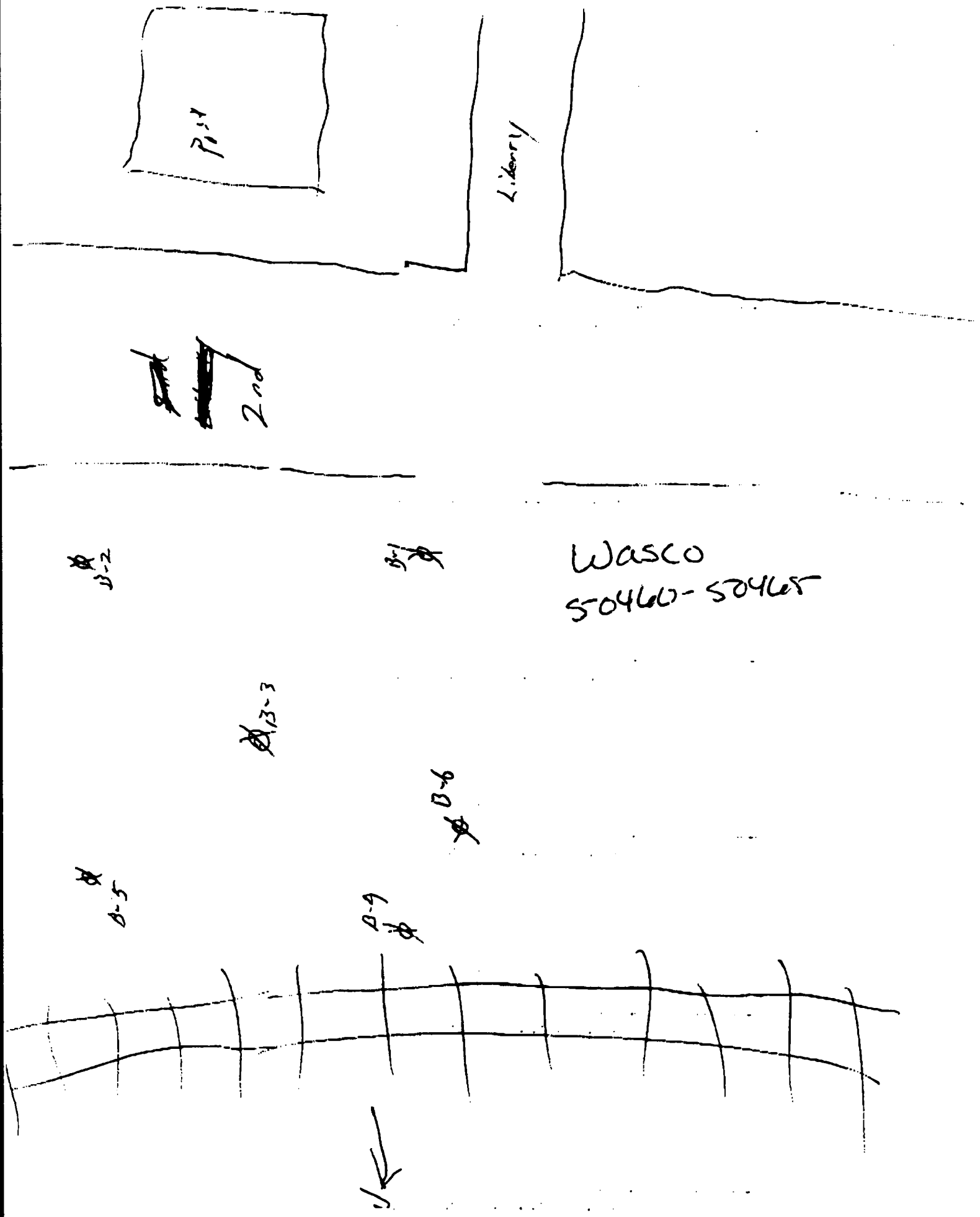
I accept responsibility for the construction, alteration, or abandonment work performed on this well during the construction dates reported above. All work performed during this time is in compliance with Oregon geotechnical hole construction standards. This report is true to the best of my knowledge and belief.

License or Registration Number 10328

Signed By JOEL WELSH Date

Affiliation GEO-TECH EXPLORTIONS

THIS REPORT MUST BE SUBMITTED TO THE WATER RESOURCES DEPARTMENT WITHIN 30 DAYS OF COMPLETION OF WORK



Wasco
50460-50465

STATE OF OREGON

GEOTECHNICAL HOLE REPORT

WASC 50460

Received date 2/26/1998

(as required by OAR 690-240-035)

(1) OWNER/PROJECT

Hole No.

Co.Job No. B-1

Name US POSTAL SERVICE

Street 34301 9TH AVE SOUTH, 3RD FLOOR

City FEDERAL WAY State WA Zip 98063

(2) TYPE OF WORK

☒ New ☐ Alter (Recondition) ☐ Alter (Repair)

☐ Deepening ☒ Abandonment

(3) CONSTRUCTION

☐ Rotary Air ☐ Hand Auger ☒ Hollow Stem Auger

☐ Rotary Mud ☐ Cable Tool ☐ Push Probe Other

(4) TYPE OF HOLE

☒ Uncased Temporary ☐ Cased Permanent

☐ Uncased Permanent ☐ Slope Stabilit Other

(5) USE OF HOLE

FOUNDATION STUDY

(6) BORE HOLE CONSTRUCTION

Special Standards ☐ Depth of completed well 20 ft.

HOLE

Diameter	From	To
8.00	0	20

SEAL

From	To	Material	Amount	Seal Grout Weight	Units
0	20	BE	10		S

Backfill placed from ft. TO ft. Material

Filter pack placed from ft. TO ft. Size in.

(7) CASING/SCREEN

Screen ☐

(8) WELL TEST

Permeability Yield GPM

Conductivity PH

Temperature of water 52 °F/C Depth artesian flow found ft.

Was water analysis done? ☒

By Whom? FUJITANI HILTS AND ASSOCIATES

Depth of strata to be analyzed. From ft. to ft.

Remarks

Name of supervising Geologist/Engineer

(9) LOCATION OF HOLE By legal description

County Wasco Latitude Longitude

Township 1.00 N Range 13.00 E

Section 3 NW 1/4 NW 1/4

Tax lot 400 Lot Block Subdivision

Legal desc:

NORTH SIDE OF W 2ND BETWEEN UNION & LINCOLN

Street Address of Well (or nearest address)

THE DALLES

MAP with location indentified must be attached

(10) STATIC WATER LEVEL

12.0 Ft. below land surface. Date 1/26/1998

Artesian Pressure lb/sq. in. Date

(11) SUBSURFACE LOG

Ground Elevation ft.

Material	From	To	SWL
GRAVEL	0	4	
SAND	4	12	12
BASALT	12	20	

Date started 1/26/1998 Completed 1/26/1998

(12) ABANDONMENT LOG

Date started Completed

Professional Certification

(to be signed by a licensed water supply or monitoring well constructor, or registered geologist or civil engineer).

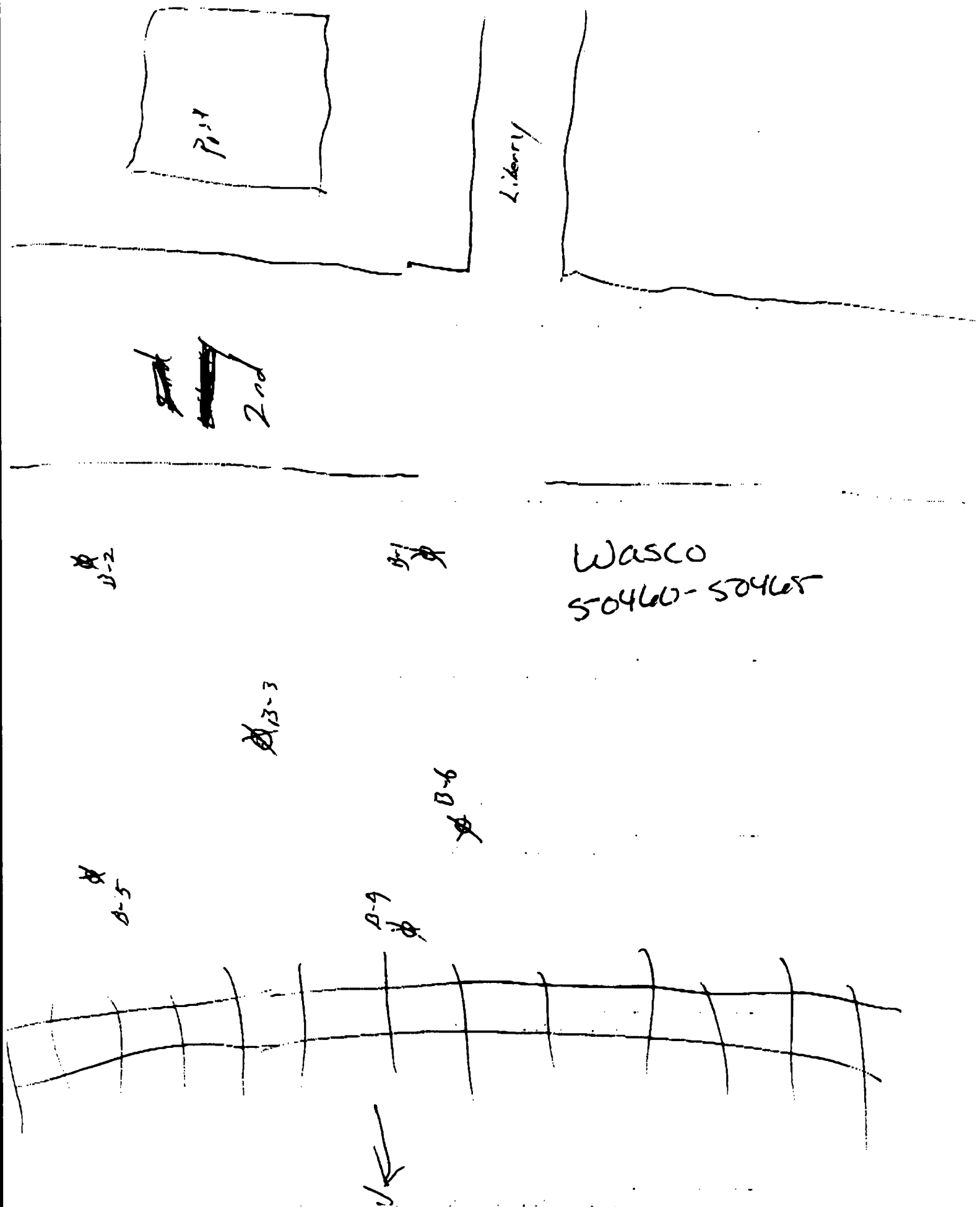
I accept responsibility for the construction, alteration, or abandonment work performed on this well during the construction dates reported above. All work performed during this time is in compliance with Oregon geotechnical hole construction standards. This report is true to the best of my knowledge and belief.

License or Registration Number 10328

Signed By JOEL WELSH Date

Affiliation GEO-TECH EXPLORATIONS

THIS REPORT MUST BE SUBMITTED TO THE WATER RESOURCES DEPARTMENT WITHIN 30 DAYS OF COMPLETION OF WORK


Liberty
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Wasco
50460-50465
B-3
B-6
B-5
B-9

WELL IDENTIFICATION FORM

RECEIVED

(b) (6) [redacted]

DEPT.
N

If a well report is available for this well, please attach a copy of it to this form and return. It is not necessary for you to complete the remainder of the form if the well report is attached. If a well report is not available, please complete the remainder of the form to the best of your ability.

WELL LOCATION: "WASC 50397"

County: Wasco Latitude: _____ Longitude: _____

Township: 1 N or S, Range: 1N13 E or W Section: E6B-TL ~~[illegible]~~ _____ 1/4 _____ 1/4

Tax Lot Number: 200 1.65 ac.

Street Address of Well (if different from above): Same

WELL INFORMATION: new pump 1996

Start Card Number: ? Approx. Construction Date: ?

Well Constructor: ?

Name of Owner at Time of Construction: ?

Well Depth (in feet): ? 120-130 Static Water Level (in feet): ? 10 to 20 ft of water has not run dry as of this date

Diameter of Exposed Well Casing (in inches): ? 6

Does this well have a formal water right associated with it? Yes: _____ No: _____ If yes:

Application # _____ Permit #: _____ Certificate #: _____

Please Return Completed Form to: **Oregon Water Resources Department**
158 12th Street NE
Salem, OR 97310

(Office use only)

Well Identification Number: 21388

STATE OF OREGON

MONITORING WELL REPORT

(as required by ORS 537.765 & OAR 690-240-095)

WASC 50287

WELL I.D.# Construction Start Card #37338

Start Card # 77835

Instructions for completing this report are on the last page of this form.

(1) OWNER/PROJECT:

WELL NO. 3

Name Western Stations

Address P.O. Box 5969

City Portland State OR Zip 97228-5969

(2) TYPE OF WORK:

☐ New construction ☐ Alteration (Repair/Recondition)

☐ Conversion ☐ Deepening ☑ Abandonment

(3) DRILLING METHOD

☐ Rotary Air ☐ Rotary Mud ☐ Cable

☐ Hollow Stem Auger ☐ Other

(4) BORE HOLE CONSTRUCTION

Special Standards ☐ Yes ☐ No

Depth of completed well _____ ft.

Land surface

Vault ____ ft. TO ____ ft.

Seal ____ ft. TO ____ ft.

Filter pack ____ ft. TO ____ ft.

Water-tight cover

Surface flush vault

Locking cap

Casing diameter _____ in.

material _____

Welded ☐ Threaded ☐ Glued ☐

Liner diameter _____ in.

material _____

Welded ☐ Threaded ☐ Glued ☐

Well seal:

Material _____

Amount _____

Grout weight _____

Borehole diameter _____ in.

Bentonite plug at least 3 ft. thick

Screen material _____

interval(s):

From _____ To _____

From _____ To _____

Slot size _____ in.

Filter pack:

Material _____

Size _____ in.

(5) WELL TEST:

☐ Pump ☐ Bailer ☐ Air ☐ Flowing Artesian

Permeability _____ Yield _____ GPM

Conductivity _____ PH _____

Temperature of water _____ °F/C Depth artesian flow found _____ ft.

Was water analysis done? ☐ Yes ☐ No

By whom? _____

Depth of strata to be analyzed. From _____ ft. to _____ ft.

Remarks: _____

Name of supervising Geologist/Engineer _____

(6) LOCATION OF WELL By legal description

Well Location: County Wasco

Township 1N (N or S) Range 13E (E or W) Section 3

1. NW 1/4 of SE 1/4 of above section.

2. **Either** Street address of well location 900 E. 3rd St. The Dalles, OR 97058

or Tax lot number of well location 1021

3. ATTACH MAP WITH LOCATION IDENTIFIED. Map shall include approximate scale and north arrow.

(7) STATIC WATER LEVEL:

_____ Ft. below land surface Date _____

Artesian Pressure _____ lb/sq. in. Date _____

(8) WATER BEARING ZONES:

Depth at which water was first found _____

From	To	Est. Flow Rate	SWL

(9) WELL LOG:

Ground elevation _____

Material	From	To	SWL
Concrete (1 bag)	0'	1.5'	
PVC Casing cut 1.5' below ground surface			
Bentonite (packed inside 2" Casing) (0.75 bags)	1.5'	12.08'	
Bottom of Casing →		12.08'	

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JUN 24 1997

WATER RESOURCES DEPT.

SALEM, OREGON

Date started 6-10-97 Completed 6-10-97

(unbonded) Monitor Well Constructor Certification:

I certify that the work I performed on the construction, alteration, or abandonment of this well is in compliance with Oregon well construction standards. Materials used and information reported above are true to the best knowledge and belief.

MWC Number _____

Signed _____ Date _____

(bonded) Monitor Well Constructor Certification:

I accept responsibility for the construction, alteration, or abandonment work performed on this well during the construction dates reported above. All work performed during this time is in compliance with Oregon well construction standards. This report is true to the best of my knowledge and belief.

MWC Number 10230

Signed R D Miller Date 6-23-97

FIRST COPY-WATER RESOURCES DEPARTMENT SECOND COPY-CONSTRUCTOR THIRD COPY-CUSTOMER

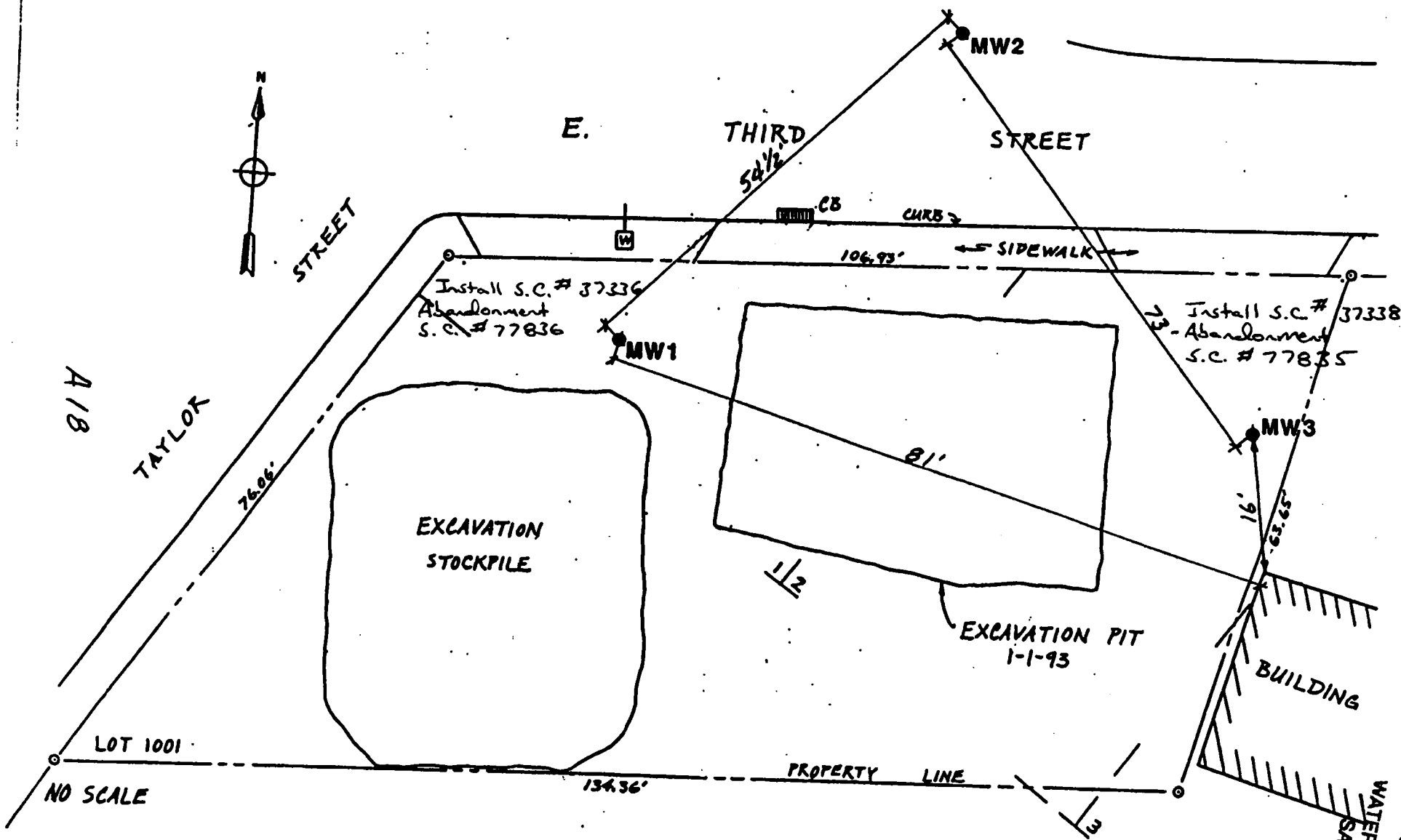

Figure 2 - SITE MAP OF MONITOR WELL LOCATIONS

NOTE: LEGAL BOUNDARIES OBTAINED FROM COUNTY ASSESSOR'S MAP

ASTRO STATION # 263
900 E. THIRD ST., THE DALLES, OR

RECEIVED
JUN 24 1997
WATER RESOURCES DEPT.
SALEM, OREGON

STATE OF OREGON

MONITORING WELL REPORT

(as required by ORS 537.765 & OAR 690-240-095)

WASC 50286

WELL I.D.# Construction Start Card # 37337

Start Card # 72837

Instructions for completing this report are on the last page of this form.

(1) OWNER/PROJECT:

WELL NO. 2

Name Western Stations

Address P.O.Box 5969

City Portland State OR Zip 97228-5969

(2) TYPE OF WORK:

☐ New construction ☐ Alteration (Repair/Recondition)

☐ Conversion ☐ Deepening ☑ Abandonment

(3) DRILLING METHOD

☐ Rotary Air ☐ Rotary Mud ☐ Cable

☐ Hollow Stem Auger ☐ Other

(4) BORE HOLE CONSTRUCTION

Special Standards ☐ Yes ☐ No

Depth of completed well _____ ft.

Land surface

Vault ____ ft. TO ____ ft.

Seal ____ ft. TO ____ ft.

Filter pack ____ ft. TO ____ ft.

Water-tight cover

Surface flush vault

Locking cap

Casing diameter _____ in.

material _____

Welded ☐ Threaded ☐ Glued ☐

Liner diameter _____ in.

material _____

Welded ☐ Threaded ☐ Glued ☐

Well seal:

Material _____

Amount _____

Grout weight _____

Borehole diameter _____ in.

Bentonite plug at least 3 ft. thick

Screen material _____

interval(s):

From _____ To _____

From _____ To _____

Slot size _____ in.

Filter pack:

Material _____

Size _____ in.

(5) WELL TEST:

☐ Pump ☐ Bailer ☐ Air ☐ Flowing Artesian

Permeability _____ Yield _____ GPM

Conductivity _____ PH _____

Temperature of water _____ °F/C Depth artesian flow found _____ ft.

Was water analysis done? ☐ Yes ☐ No

By whom? _____

Depth of strata to be analyzed: From _____ ft. to _____ ft.

Remarks: _____

Name of supervising Geologist/Engineer _____

ORIGINAL & FIRST COPY WATER RESOURCES DEPARTMENT

(6) LOCATION OF WELL By legal description

Well Location: County Wasco

Township 1N (N or S) Range 13E (E or W) Section 3

1. NW 1/4 of SE 1/4 of above section.

2. **Either** Street address of well location 900 E. 3rd St. The Dalles, OR 97058

or Tax lot number of well location 1001

3. ATTACH MAP WITH LOCATION IDENTIFIED. Map shall include approximate scale and north arrow.

(7) STATIC WATER LEVEL:

_____ Ft. below land surface. Date _____

Artesian Pressure _____ lb/sq. in. Date _____

(8) WATER BEARING ZONES:

Depth at which water was first found _____

From	To	Est. Flow Rate	SWL

(9) WELL LOG:

Ground elevation _____

Material	From	To	SWL
~~Concrete~~			
Asphalt Patch (1.5 bags)	0'	0.5'	
Concrete (2 bags)	0.5'	2.0'	
PVC casing cut 2' below ground surface			
Bentonite (packed inside 2" casing) (0.75 bag)	2.0'	10.4'	
Bottom of Casing	10.4'		

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JUN 24 1997

WATER RESOURCES DEPT.

SALEM, OREGON

Date started 6-10-97 Completed 6-10-97

(unbonded) Monitor Well Constructor Certification:

I certify that the work I performed on the construction, alteration, or abandonment of this well is in compliance with Oregon well construction standards. Materials used and information reported above are true to the best knowledge and belief.

MWC Number _____

Signed _____ Date _____

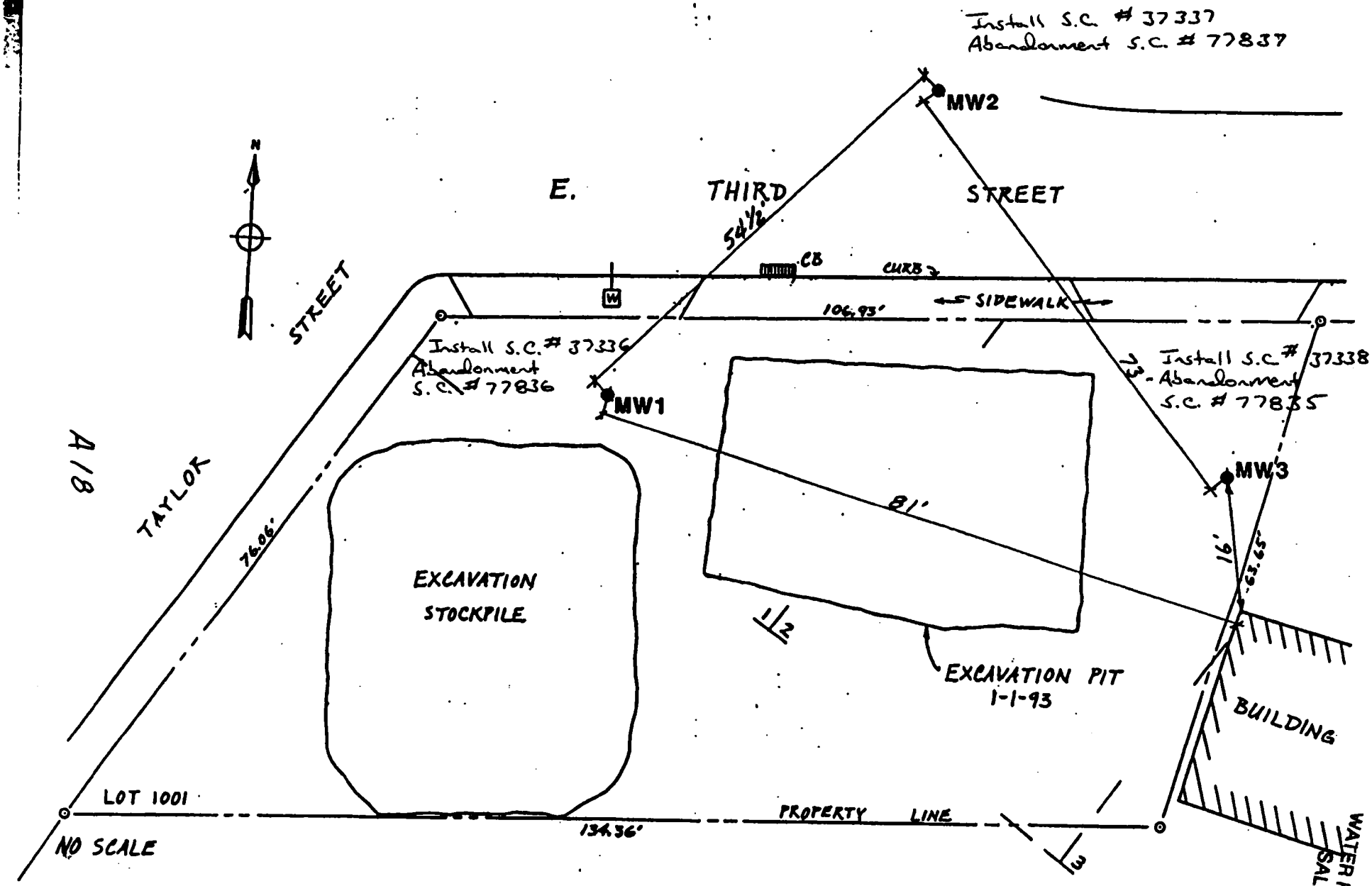
(bonded) Monitor Well Constructor Certification:

I accept responsibility for the construction, alteration, or abandonment work performed on this well during the construction dates reported above. All work performed during this time is in compliance with Oregon well construction standards. This report is true to the best of my knowledge and belief.

MWC Number 10230

Signed R D Miller Date 6-23-97

SECOND COPY-CONSTRUCTOR THIRD COPY-CUSTOMER



NOTE: LEGAL BOUNDARIES OBTAINED FROM COUNTY ASSESSOR'S MAP

ASTRO STATION # 263
900 E. THIRD ST., THE DALLES, OR

Figure 2 - SITE MAP OF MONITOR WELL LOCATIONS

RECEIVED
JUN 24 1997
WATER RESOURCES DEPT.
SALEM, OREGON

STATE OF OREGON

MONITORING WELL REPORT

(as required by ORS 537.765 & OAR 690-240-095)

WASC 50285

WELL I.D.#

Construction start Card # 32336

Start Card # 77836

Instructions for completing this report are on the last page of this form.

(1) OWNER/PROJECT:

WELL NO. 1

Name Western Stations

Address P.O. Box 5969

City Portland State OR Zip 97228-5769

(2) TYPE OF WORK:

☐ New construction ☐ Alteration (Repair/Recondition)

☐ Conversion ☐ Deepening ☑ Abandonment

(3) DRILLING METHOD

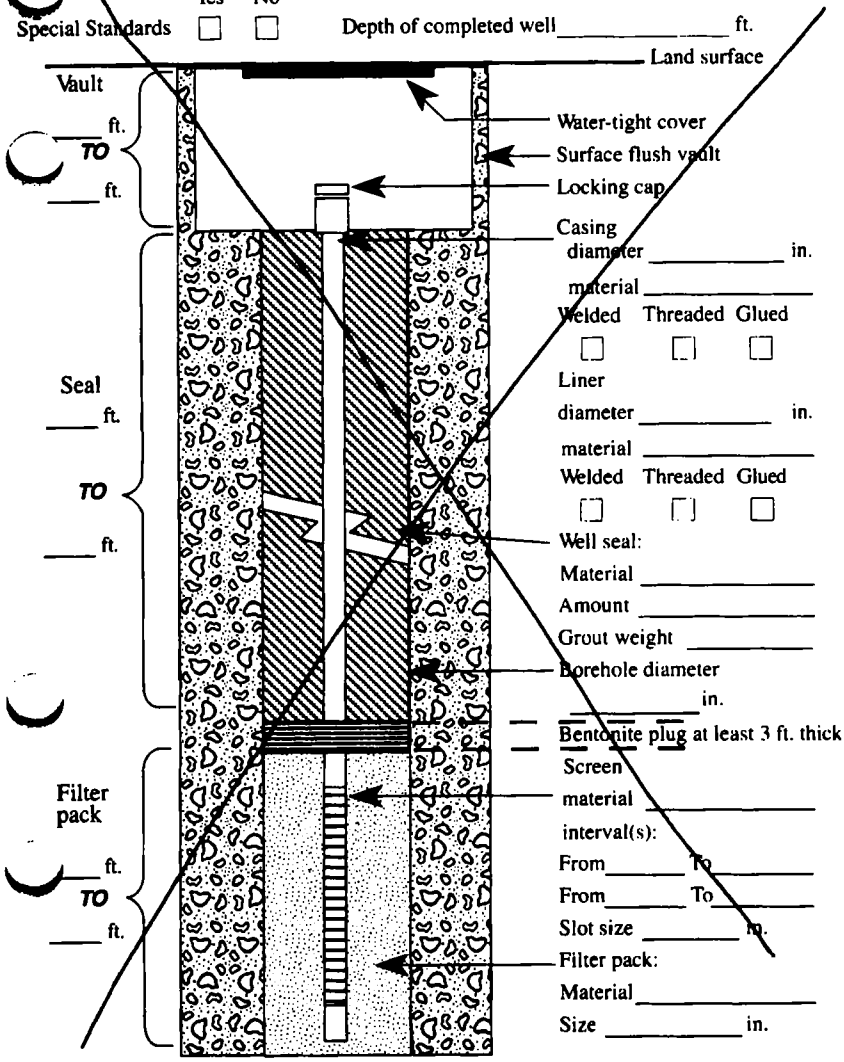
☐ Rotary Air ☐ Rotary Mud ☐ Cable

☐ Hollow Stem Auger ☐ Other

(4) BORE HOLE CONSTRUCTION

Special Standards ☐ Yes ☐ No

Depth of completed well _____ ft.



(5) WELL TEST:

☐ Pump ☐ Bailer ☐ Air ☐ Flowing Artesian

Permeability _____ Yield _____ GPM

Conductivity _____ PH _____

Temperature of water _____ °F/C Depth artesian flow found _____ ft.

Was water analysis done? ☐ Yes ☐ No

By whom? _____

Depth of strata to be analyzed. From _____ ft. to _____ ft.

Remarks: _____

Name of supervising Geologist/Engineer _____

(6) LOCATION OF WELL By legal description

Well Location: County Wasco

Township 1N (N or S) Range 13E (E or W) Section 3

1. NW 1/4 of SE 1/4 of above section.

2. **Either** Street address of well location 900 E. 3rd St. The Dalles, OR 97058

or Tax lot number of well location 1001

3. ATTACH MAP WITH LOCATION IDENTIFIED. Map shall include approximate scale and north arrow.

(7) STATIC WATER LEVEL:

_____ Ft. below land surface. Date _____

Artesian Pressure _____ lb/sq. in. Date _____

(8) WATER BEARING ZONES:

Depth at which water was first found _____

From	To	Est. Flow Rate	SWL

(9) WELL LOG:

Ground elevation _____

Material	From	To	SWL
Concrete (2 bags)	0'	1.5'	
PVC Casing cut 1.5' below ground surface			
Bentonite (packed inside 4" casing) (1 bag)	1.5'	9.25'	
Bottom of Casing →		9.25'	

RECEIVED

JUN 24 1997

WATER RESOURCES DEPT.
SALEM, OREGON

Date started 6-10-97 Completed 6-10-97

(unbonded) Monitor Well Constructor Certification:

I certify that the work I performed on the construction, alteration, or abandonment of this well is in compliance with Oregon well construction standards. Materials used and information reported above are true to the best knowledge and belief.

MWC Number _____

Signed _____ Date _____

(bonded) Monitor Well Constructor Certification:

I accept responsibility for the construction, alteration, or abandonment work performed on this well during the construction dates reported above. All work performed during this time is in compliance with Oregon well construction standards. This report is true to the best of my knowledge and belief.

MWC Number 1023C

Signed R D Miller Date 6-23-97

ORIGINAL & FIRST COPY-WATER RESOURCES DEPARTMENT SECOND COPY-CONSTRUCTOR THIRD COPY-CUSTOMER

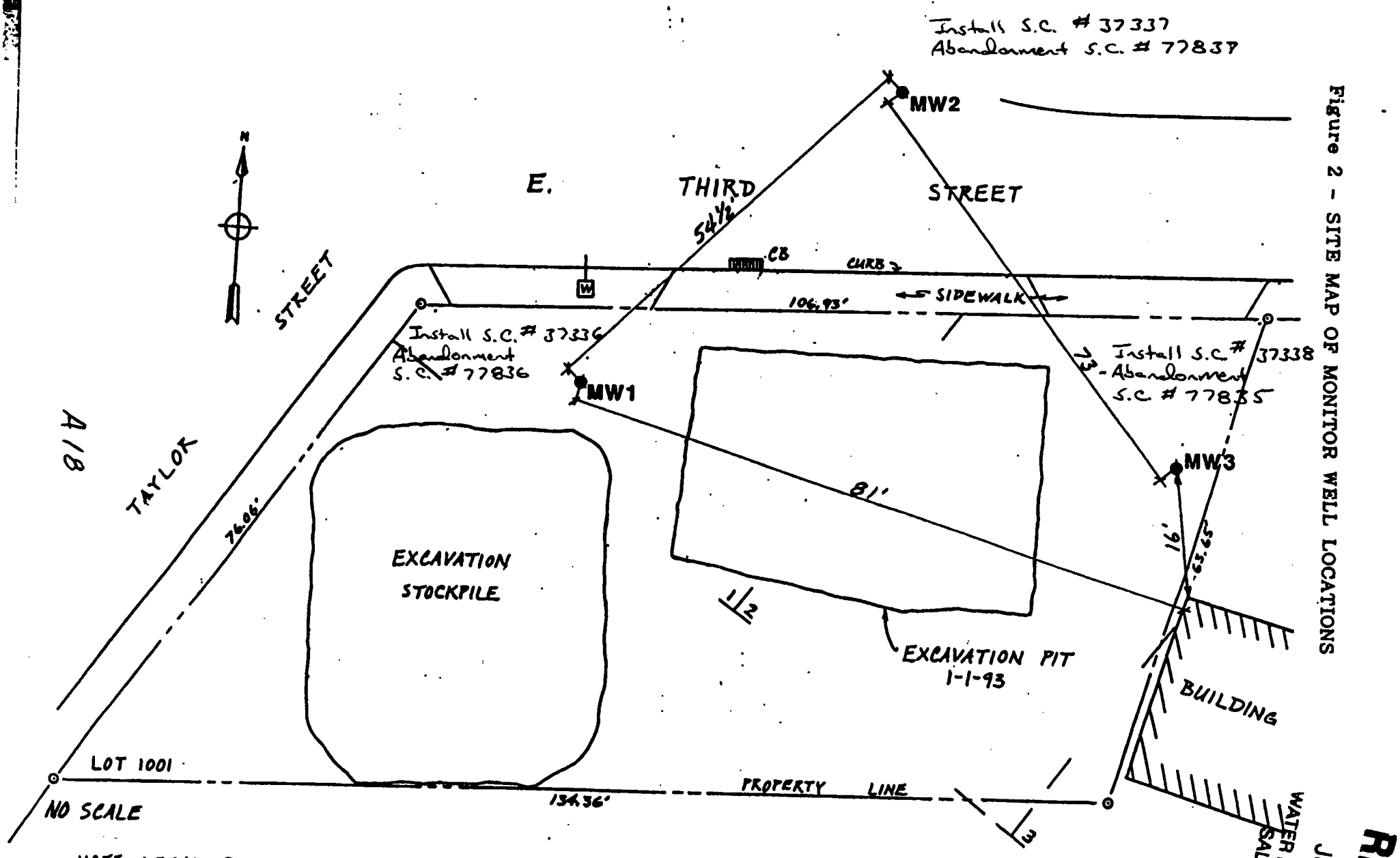


Figure 2 - SITE MAP OF MONITOR WELL LOCATIONS

NOTE: LEGAL BOUNDARIES OBTAINED FROM COUNTY ASSESSOR'S MAP

ASTRO STATION # 263
900 E. THIRD ST., THE DALLES, OR

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SALEM, OREGON

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WATER RESOURCES DEPT.
SALEM, OREGON

1N 13E 5A

I.D. #L01476

STATE OF OREGON
WATER WELL REPORT
(as required by ORS 537.765)

WASC 50171

(START CARD) # W48040

(b) (6) [redacted]

(2) TYPE OF WORK:
☒ New Well ☐ Deepen ☐ Recondition ☐ Abandon

(3) DRILL METHOD
☒ Rotary Air ☐ Rotary Mud ☐ Cable
☐ Other

(4) PROPOSED USE:
☒ Domestic ☐ Community ☐ Industrial ☐ Irrigation
☐ Thermal ☐ Injection ☐ Other

(5) BORE HOLE CONSTRUCTION:
Special Construction approval Yes ☐ No ☒ Depth of Completed Well 216 ft.
Explosives used Yes ☐ No ☒ Type ____ Amount ____

HOLE Diameter	From	To	SEAL Material	From	To	Amount sacks or pounds
10"	0	18	Bentonite	0	18	19 sacks
8"	18	57				
6"	57	215				

How was seal placed: Method ☐ A ☐ B ☐ C ☐ D ☐ E
☒ Other poured around 6" casing in oversize hole
Backfill placed from ____ ft. to ____ ft. Material ____
Gravel placed from ____ ft. to ____ ft. Size of gravel ____

(6) CASING/LINER:

	Diameter	From	To	Gauge	Steel	Plastic	Welded	Threaded
Casing:	6"	+1	58		☒	☐	☒	☐
					☐	☐	☐	☐
					☐	☐	☐	☐
					☐	☐	☐	☐
Liner:					☐	☐	☐	☐
					☐	☐	☐	☐

Final location of shoe(s) ____

(7) PERFORATIONS/SCREENS:
☐ Perforations Method ____
☐ Screens Type ____ Material ____

From	To	Slot size	Number	Diameter	Tele/pipe size	Casing	Liner
						☐	☐
						☐	☐
						☐	☐
						☐	☐
						☐	☐
						☐	☐

(8) WELL TESTS: Minimum testing time is 1 hour
☐ Pump ☐ Bailer ☒ Air ☐ Flowing Artesian

Yield gal/min	Drawdown	Drill stem at	Time
15 GPM		195 ft	1 hr.

Temperature of water 56° Depth Artesian Flow Found ____
Was a water analysis done? ☐ Yes By whom ____
Did any strata contain water not suitable for intended use? ☐ Too little
☐ Salty ☐ Muddy ☐ Odor ☐ Colored ☐ Other ____
Depth of strata: ____

(9) LOCATION OF WELL by legal description:
County Wasco Latitude ____ Longitude ____
Township 1 N N or S. Range 13 E E or W. WM.
Section 5 SW ¼ NE ¼
Tax Lot 900 Lot ____ Block ____ Subdivision ____
Street Address of Well (or nearest address) 3215 Knob Hill
The Dalles OR 97058

(10) STATIC WATER LEVEL:
109 ft. below land surface. Date 9-25-96
Artesian pressure ____ lb. per square inch. Date ____

(11) WATER BEARING ZONES:
Depth at which water was first found 124 ft

From	To	Estimated Flow Rate	SW
124	195	15 GPM	10

(12) WELL LOG: Ground elevation approx. 550 f

Material	From	To	SW
Soil, Sandy	0	2	
Sandstone, sandy	2	15	
Sandstone, brown, rocky	15	60	
Sandstone, grey, rocky	60	124	
Sandstone, brown	124	160	10
Sandstone, brown rocky	160	180	10
Sandstone, grey rocky	180	200	10
Sandstone, brown rocky	200	215	10

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WATER RESOURCES DEPT.
SALEM, OREGON

Date started 8-30-96 Completed 9-25-96

(unbonded) Water Well Constructor Certification:
I certify that the work I performed on the construction, alteration abandonment of this well is in compliance with Oregon well construc standards. Materials used and information reported above are true to my knowledge and belief.

WWC Number ____
Signed ____ Date ____

(bonded) Water Well Constructor Certification:
I accept responsibility for the construction, alteration, or abandon work performed on this well during the construction dates reported abov work performed during this time is in compliance with Oregon construction standards. This report is true to the best of my knowledge belief.

WWC Number 56
Signed Gilbert Clayton Date 10-18-96

STATE OF OREGON

MONITORING WELL REPORT

(as required by ORS 537.765 & OAR 690-240-095)

WASC 5003b MW 14

Start Card # 79698

Instructions for completing this report are on the last page of this form.

(1) OWNER/PROJECT: WELL NO. 79698

Name Arco Products Co.

Address PO Box 5811

City San Mateo State CA Zip 94402

(2) TYPE OF WORK:

☑ New construction ☐ Alteration (Repair/Recondition)

☐ Conversion ☐ Deepening ☐ Abandonment

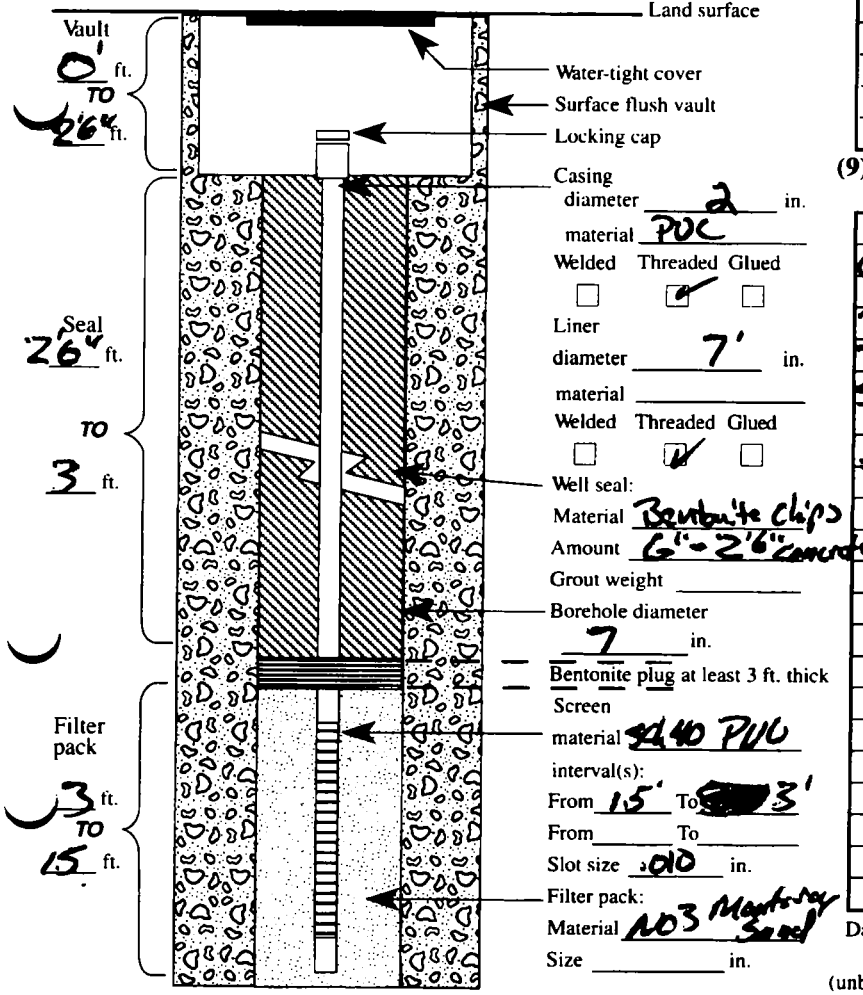
(3) DRILLING METHOD

☑ Rotary Air ☐ Rotary Mud ☐ Cable

☐ Hollow Stem Auger ☐ Other _____

(4) BORE HOLE CONSTRUCTION

Special Standards ☐ Yes ☑ No Depth of completed well 15' ft.



(5) WELL TEST: N/A

☐ Pump ☐ Bailer ☐ Air ☐ Flowing Artesian

Permeability _____ Yield _____ GPM

Conductivity _____ PH _____

Temperature of water _____ °F/C Depth artesian flow found _____ ft.

Was water analysis done? ☐ Yes ☐ No

By whom? _____

Depth of strata to be analyzed. From _____ ft. to _____ ft.

Remarks: _____

Name of supervising Geologist/Engineer Geraghty & Miller

(6) LOCATION OF WELL By legal description

Well Location: County WASCO

Township 1 N (N or S) Range 13 (E or W) Section 3

1. NW 1/4 of NW 1/4 of above section.

2. **Either** Street address of well location 222 W. Third St. The Dalles, OR

or Tax lot number of well location 3400

3. **ATTACH MAP WITH LOCATION IDENTIFIED. Map shall include approximate scale and north arrow.**

(7) STATIC WATER LEVEL:

10' Ft. below land surface. Date 11-13-95

Artesian Pressure _____ lb/sq. in. Date _____

(8) WATER BEARING ZONES:

Depth at which water was first found 10'

From	To	Est. Flow Rate	SWL

(9) WELL LOG: Ground elevation _____

Material	From	To	SWL
Gravels silt some sand Brown	0'	7'	
Broken Basalt Brownish Black	7'	9'6"	
Sands/silt	9'6"	11'	
Basalt Black Hard	11'	15'	

Date started 11-13-95 Completed 11-13-95

(unbonded) Monitor Well Constructor Certification:

I certify that the work I performed on the construction, alteration, or abandonment of this well is in compliance with Oregon well construction standards. Materials used and information reported above are true to the best knowledge and belief.

MWC Number 10257

Signed Robert Bush Date 11-14-95

(bonded) Monitor Well Constructor Certification:

I accept responsibility for the construction, alteration, or abandonment work performed on this well during the construction dates reported above. All work performed during this time is in compliance with Oregon well construction standards. This report is true to the best of my knowledge and belief.

MWC Number 10024

Signed _____ Date 11-14-95

R5095

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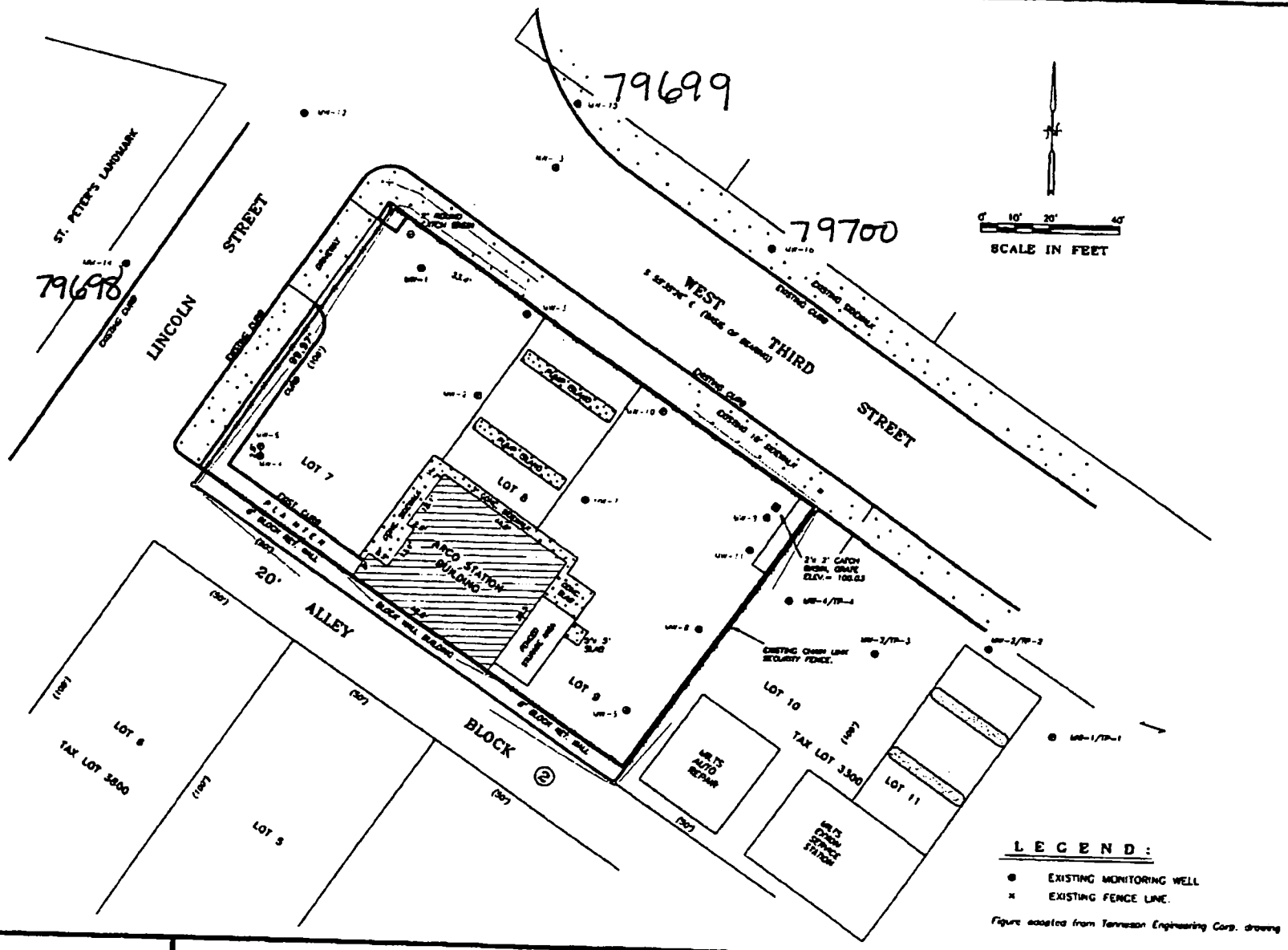
DWG DATE: 1/9/96 | PRJCT NO.: GR0008.016 | HARD FILE: | DRAWING: | CHECKED: | APPROVED: KM | DRAFTER: RWG



GERAGHTY & MILLER, INC.
Environmental Services
A Heidemij Company

SITE PLAN

ARCO Products Company
Former Service Station #4018

222 West Third Street, The Dalles, Oregon

FIGURE 2

STATE OF OREGON WASC 50035 MW 16

MONITORING WELL REPORT

(as required by ORS 537.765 & OAR 690-240-095)

Start Card # 79700

Instructions for completing this report are on the last page of this form.

(1) OWNER/PROJECT:

WELL NO. 79700

Name Arco Products Co.

Address PO Box 5811

City San Mateo State CA Zip 94402

(2) TYPE OF WORK:

☑ New construction ☐ Alteration (Repair/Recondition)

☐ Conversion ☐ Deepening ☐ Abandonment

(3) DRILLING METHOD

☑ Rotary Air ☐ Rotary Mud ☐ Cable

☐ Hollow Stem Auger ☐ Other

(4) BORE HOLE CONSTRUCTION

Special Standards ☐ Yes ☐ No

Depth of completed well 15 ft.

Land surface

Vault 0 ft. TO 2'6" ft.

Seal 2'6" ft. TO 3 ft.

Filter pack 3 ft. TO 15 ft.

Water-tight cover 8"/1'

Surface flush vault

Locking cap yes

Casing diameter 2 in.

material PVC

Welded ☐ Threaded ☑ Glued ☐

Liner diameter 7 in.

material

Welded ☐ Threaded ☑ Glued ☐

Well seal: Material Bentonite chips

Amount 6 cf.

Grout weight

Borehole diameter 7 in.

Bentonite plug at least 3 ft. thick

Screen material 2"

interval(s): From 15' To 3'

From To

Slot size 1010 in.

Filter pack: Material #3 Monterey Sand

Size 10-20 in.

(5) WELL TEST:

☐ Pump ☐ Bailer ☐ Air ☐ Flowing Artesian

N/A

Permeability Yield GPM

Conductivity PH

Temperature of water 51 °F/C Depth artesian flow found ft.

Was water analysis done? ☐ Yes ☐ No

By whom?

Depth of strata to be analyzed. From ft. to ft.

Remarks:

Name of supervising Geologist/Engineer Geraghty & Miller

(6) LOCATION OF WELL By legal description

Well Location: County WASCO

Township 1 N (N or S) Range 13 E (E or W) Section 3

1. NW 1/4 of NW 1/4 of above section.

2. **Either** Street address of well location 222 W. Third St - The Dalles, OR

or Tax lot number of well location 3400

3. ATTACH MAP WITH LOCATION IDENTIFIED. Map shall include approximate scale and north arrow.

(7) STATIC WATER LEVEL:

9 Ft. below land surface. Date 11-14-95

Artesian Pressure lb/sq. in. Date

(8) WATER BEARING ZONES:

Depth at which water was first found 91

From	To	Est. Flow Rate	SWL

(9) WELL LOG:

Ground elevation

Material	From	To	SWL
Silts / Sand Gravel Brown	0'	5	
Fractured Basalt Black	5'	6'6"	
Silts Sand & Some small gravel Blue / Gray	6'6"	13'	
Basalt Black	13'	15'	

Date started 11-14-95 Completed 11-14-95

(unbonded) Monitor Well Constructor Certification:

I certify that the work I performed on the construction, alteration, or abandonment of this well is in compliance with Oregon well construction standards. Materials used and information reported above are true to the best knowledge and belief.

MWC Number 0252

Signed Robert Ball Date 11-14-95

(bonded) Monitor Well Constructor Certification:

I accept responsibility for the construction, alteration, or abandonment work performed on this well during the construction dates reported above. All work performed during this time is in compliance with Oregon well construction standards. This report is true to the best of my knowledge and belief.

MWC Number 10024

Signed Date 11-14-95

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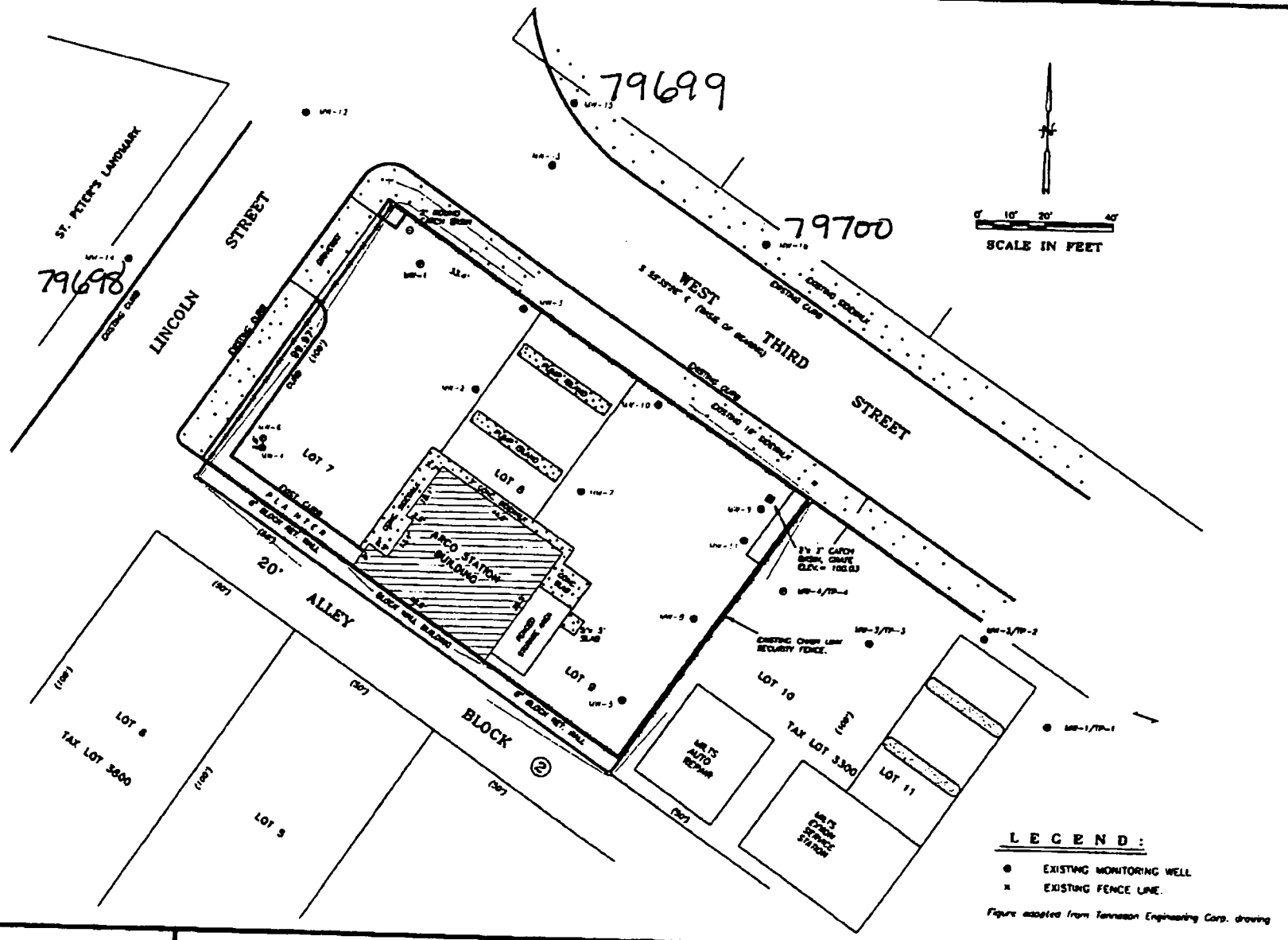
0579C

DWG DATE: 1/8/96 | PRJCT NO.: OR0008.016 | HARD FILE: | DRAWING: | CHECKED: | APPROVED: KM | DRAFTER: RWG



GERAGHTY & MILLER, INC.
Environmental Services
A Heidemij Company

SITE PLAN

ARCO Products Company
Former Service Station #4018

222 West Third Street, The Dalles, Oregon

FIGURE 2

STATE OF OREGON

MONITORING WELL REPORT

(as required by ORS 537.765 & OAR 690-240-095)

WASC 50034 MW 15

Start Card # 79699

Instructions for completing this report are on the last page of this form.

(1) OWNER/PROJECT:

WELL NO. 79699

Name Arco Products Co.

Address P.O. Box 5811

City San Mateo State CA Zip 94402

(2) TYPE OF WORK:

☑ New construction ☐ Alteration (Repair/Recondition)

☐ Conversion ☐ Deepening ☐ Abandonment

(3) DRILLING METHOD

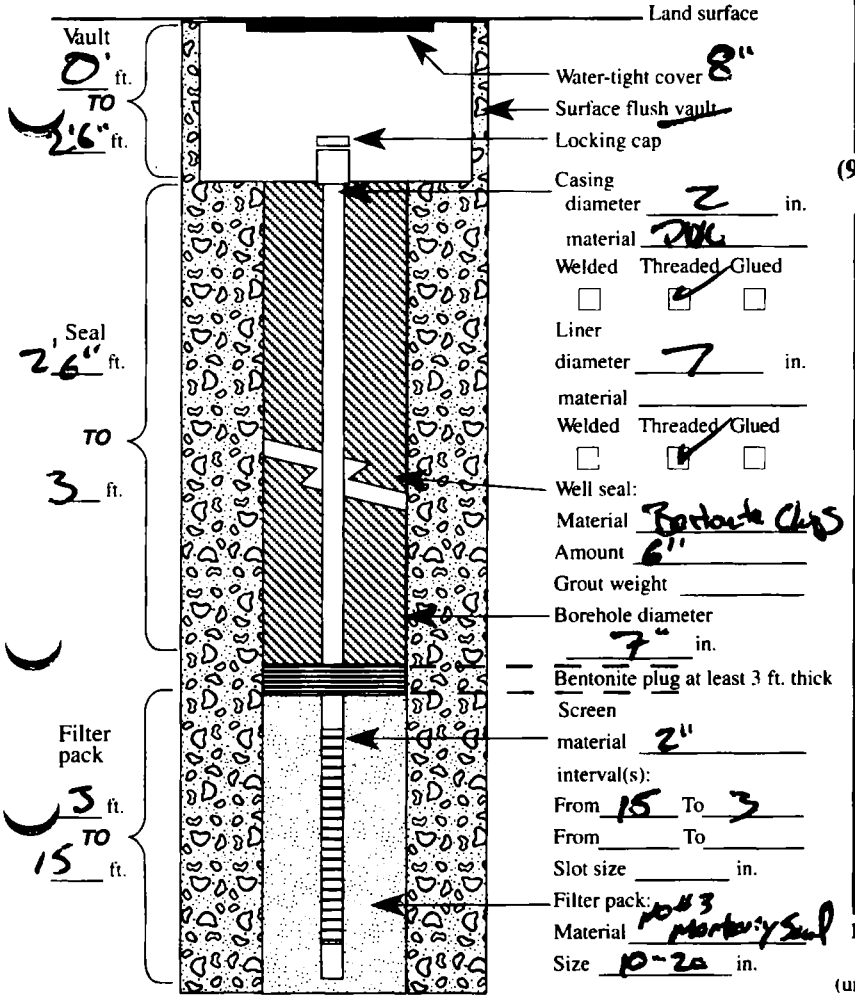
☑ Rotary Air ☐ Rotary Mud ☐ Cable

☐ Hollow Stem Auger ☐ Other

(4) BORE HOLE CONSTRUCTION

Special Standards ☐ Yes ☐ No

Depth of completed well 15 ft.



(5) WELL TEST:

☐ Pump ☐ Bailer ☐ Air ☐ Flowing Artesian

Permeability Yield GPM

Conductivity PH

Temperature of water 51 °F/C Depth artesian flow found ft.

Was water analysis done? ☐ Yes ☐ No

By whom?

Depth of strata to be analyzed. From ft. to ft.

Remarks:

Name of supervising Geologist/Engineer GERAGHTY & MILLER-OR

(6) LOCATION OF WELL By legal description

Well Location: County WASCO

Township 1 N (N or S) Range 13 E (E or W) Section 3

1. NW 1/4 of NW 1/4 of above section.

2. **Either** Street address of well location 222 W. Third St. - The Dalles, OR

or Tax lot number of well location 3400

3. **ATTACH MAP WITH LOCATION IDENTIFIED. Map shall include approximate scale and north arrow.**

(7) STATIC WATER LEVEL:

9' Ft. below land surface. Date 11-14-95

Artesian Pressure lb/sq. in. Date

(8) WATER BEARING ZONES:

Depth at which water was first found 9'

From	To	Est. Flow Rate	SWL

(9) WELL LOG:

Ground elevation

Material	From	To	SWL
Sands/Silt gravels Brown	0'	10'	
Silts/slight sand sand gravels Blackish	10'	12'	
Basalt Black	12'	15'	

Date started 11-14-95 Completed 11-14-95

(unbonded) Monitor Well Constructor Certification:

I certify that the work I performed on the construction, alteration, or abandonment of this well is in compliance with Oregon well construction standards. Materials used and information reported above are true to the best knowledge and belief.

MWC Number 10257

Signed Richard Burdick Date 11-14-95

(bonded) Monitor Well Constructor Certification:

I accept responsibility for the construction, alteration, or abandonment work performed on this well during the construction dates reported above. All work performed during this time is in compliance with Oregon well construction standards. This report is true to the best of my knowledge and belief.

MWC Number 10024

Signed Eric Nyquist Date 11-14-95

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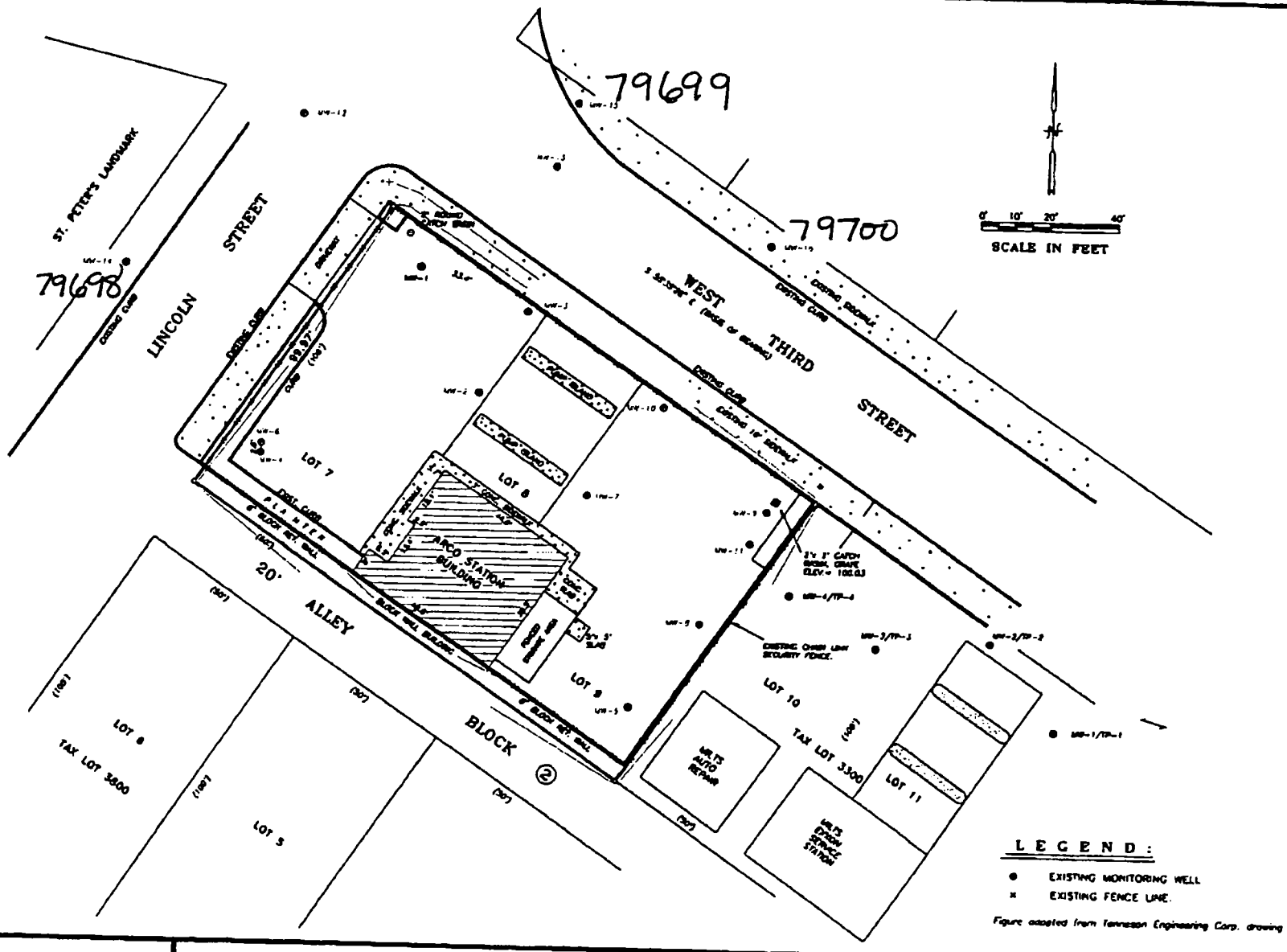
R5095

DWG DATE: 1/9/96	PRJCT NO.: OR0008.016	HARD FILE:	DRAWING:	CHECKED:	APPROVED: KM	DRAFTER: RWG



GERAGHTY & MILLER, INC.
Environmental Services
A Heidemij Company

SITE PLAN

ARCO Products Company
Former Service Station #4018

222 West Third Street, The Dalles, Oregon

FIGURE 2

02-16-96 03:49 PM

WASC 50033

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SALEM, OREGON

STATE OF OREGON
WATER SUPPLY WELL REPORT
(as required by ORS 537.765)
Instructions for completing this report are on the last page of this form

WELL ID # _____
(START CARD) # 75255

(1) OWNER:
Well Number: _____
(b) (6)

(2) TYPE OF WORK:
[X] New Well [ ] Deepening [ ] Alteration (repair/recondition) [ ] Abandonment

(3) DRILL METHOD:
[X] Rotary Air [ ] Rotary Mud [ ] Cable [ ] Auger
[ ] Other

(4) PROPOSED USE:
[X] Domestic [ ] Community [ ] Industrial [ ] Irrigation
[ ] Thermal [ ] Injection [ ] Livestock [ ] Other

(5) BORE HOLE CONSTRUCTION:
Special Construction approval [ ] Yes [X] No Depth of Completed Well 778 ft.
Explosives used [ ] Yes [X] No Type _____ Amount _____

HOLE Diameter	From	To	SEAL Material	From	To	Amount sacks or pounds
10"	0	20	CEMENT W/5%	0	20	7 BAGS CEMENT
8"	20	303	BENTONITE			
6"	303	778				

How was seal placed: Method [ ] A [ ] B [X] C [ ] D [ ] E
[ ] Other
Backfill placed from ft. to ft. Material
Gravel placed from ft. to ft. Size of gravel

(6) CASING/LINER:

	Diameter	From	To	Gauge	Steel	Plastic	Welded	Threaded
Casing:	6"	+1	272	.250	X		X	
Liner:								

Final location of shoe(s) 272 FT.

(7) PERFORATIONS/SCREENS:
[ ] Perforations Method
[ ] Screens Type Material

From	To	Slot size	Number	Diameter	Tele/pipe size	Casing	Liner

(8) WELL TESTS: Minimum testing time is 1 hour
[ ] Pump [ ] Bailer [X] Air [ ] Flowing Artesian

Yield gal/min	Drawdown	Drill stem at	Time
20		778	1 hr.

Temperature of Water 60 Depth Artesian Flow found
Was a water analysis done? [ ] Yes By whom
Did any strata contain water not suitable for intended use? [ ] Too little
[ ] Salty [ ] Muddy [ ] Odor [ ] Colored [ ] Other
Depth of strata:

(9) LOCATION OF WELL by legal description:
County WASCO Latitude Longitude
Township 1N N or S. Range 13E E or W. of WM.
Section 6B NE ¼ NW ¼
Tax Lot 500 Lot Block Subdivision
Street Address of Well (or nearest address)
5307 CHERRY HEIGHTS RD., THE DALLES, OR. 97058

(10) STATIC WATER LEVEL:
619 ft. below land surface. Date 1/16/96
Artesian pressure lb. per square inch. Date

(11) WATER BEARING ZONES:
Depth at which water was first found 740

From	To	Estimated Flow Rate	SWL
740	778	20	619

(12) WELL LOG:
Ground elevation

Material	From	To	SWL
SOIL CLAY BROWN	0	2	
CLAY HARD BROWN	2	26	
GRAVEL CEMENTED BROWN	26	28	
SANDSTONE COARSE BROWN	28	65	
SANDSTONE MED BROWN	65	78	
SANDSTONE FINE BROWN	78	203	
CLAY STONE BROWN	203	225	
CLAY STONE BROWN	225	275	
SANDSTONE FINE BROWN	275	300	
SANDSTONE COARSE BROWN	300	328	
GRAVEL MED CEMENTED	328	380	
SANDSTONE COARSE BROWN	380	405	
CLAY GREY	405	433	
SANDSTONE FINE BROWN	433	555	
CLAY HARD BROWN	555	615	
SANDSTONE FINE HARD BROWN	615	740	
SANDSTONE COARSE W/B	740	778	619

Date started 1/2/96 Completed 1/16/96

(unbonded) Water Well Constructor Certification:
I certify that the work I performed on the construction, alteration, or abandonment of this well is in compliance with Oregon water supply well construction standards. Materials used and information reported above are true to my best knowledge and belief.

WWC Number
Signed Date

(bonded) Water Well Constructor Certification:
I accept responsibility for the construction, alteration, or abandonment work performed on this well during the construction dates reported above. All work performed during this time is in compliance with Oregon water supply well construction standards. This report is true to the best of my knowledge and belief.

WWC Number 790
Signed Austin Well Drilling Date 2-12-96

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3

STATE OF OREGON
WATER WELL REPORT
(as required by ORS 537.765)

WASC 4104

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AUG 17 1995
WATER RESOURCES DEPT.
SALEM, OREGON

1N/13E/4BB

(START CARD) # W47230

(b) (6)

(2) TYPE OF WORK:
☒ New Well ☐ Deepen ☐ Recondition ☐ Abandon

(3) DRILL METHOD:
☒ Rotary Air ☐ Rotary Mud ☐ Cable
☐ Other

(4) PROPOSED USE:
☒ Domestic ☐ Community ☐ Industrial ☐ Irrigation
☐ Thermal ☐ Injection ☐ Other

(5) BORE HOLE CONSTRUCTION:
Special Construction approval ☐ Yes ☒ No Depth of Completed Well 335 ft.
Explosives used ☐ Yes ☒ No Type Amount

HOLE Diameter	From	To	SEAL Material	From	To	Amount sacks or pounds
10	top	38'	bentonite	top	38'	26'
8	38'	249'				
6	249	335				

How was seal placed: Method ☐ A ☐ B ☐ C ☐ D ☐ E
☐ Other bentonite, dry
Backfill placed from ft. to ft. Material
Gravel placed from ft. to ft. Size of gravel

(6) CASING/LINER:

	Diameter	From	To	Gauge	Steel	Plastic	Welded	Threaded
Casing:	8"	Top	38'	.250	☒	☐	☒	☐
					☐	☐	☐	☐
					☐	☐	☐	☐
					☐	☐	☐	☐
Liner:	6"	top	249'	.250	☒	☐	☒	☐
					☐	☐	☐	☐

Final location of shoe(s)

(7) PERFORATIONS/SCREENS: N/A
☐ Perforations Method
☐ Screens Type Material

From	To	Slot size	Number	Diameter	Tele/pipe size	Casing	Liner
						☐	☐
						☐	☐
						☐	☐
						☐	☐
						☐	☐

(8) WELL TESTS: Minimum testing time is 1 hour
☐ Pump ☐ Bailer ☒ Air ☐ Flowing Artesian

Yield gal/min	Drawdown	Drill stem at	Time
75	100%	330	1 hr.

Temperature of Water 60 Depth Artesian Flow Found
Was a water analysis done? ☐ Yes By whom
Did any strata contain water not suitable for intended use? ☐ Too little
☐ Salty ☐ Muddy ☐ Odor ☐ Colored ☐ Other
Depth of strata:

(9) LOCATION OF WELL by legal description:
County WASCO Latitude Longitude
Township 1N N or S. Range 13E E or W. WM.
Section 4 NW ¼ NW ¼
Tax Lot 6000 Lot Block Subdivision
Street Address of Well (or nearest address) 1404 West 13th. Street

(10) STATIC WATER LEVEL:
200 ft. below land surface. Date 8-7
Artesian pressure lb. per square inch. Date

(11) WATER BEARING ZONES:
Depth at which water was first found 298'

From	To	Estimated Flow Rate	SWL
298	330	75 gpm	200

(12) WELL LOG:
Ground elevation

Material	From	To	SWL
Soil.....	0'	1'	
Brown Sandstone, Hard,			
Coarse.....	11	35	
Brown Sandstone, med. fine	35	51	
Basalt, gray, hard.....	51	86	
Black basalt, Fractured,			
Blue Claystone.....	86	100	
Black Basalt, Porous,			
with Greenclaystone.....	100	118	
Black Basalt, med.....	118	124	
Black Basalt, Vescular,			
w/ Green Claystone.....	124	150	
Black basalt, Hard.....	150	204	
Green Claystone.....	204	231	
Brown Claystone & Wood...	231	240	
Gray & Red Basalt, Hard....	240	272	
Gray Basalt, Hard.....	272	298	
Black Basalt, Vescular,			
Water Bearing.....	298	330	200
Gray Basalt, Hard.....	330	335	200

Date started 08-02-95 Completed 08-07-95

(unbonded) Water Well Constructor Certification:
I certify that the work I performed on the construction, alteration, or abandonment of this well is in compliance with Oregon well construction standards. Material used and information reported above are true to my best knowledge and belief.

WWC Number
Signed Date

(bonded) Water Well Constructor Certification:
I accept responsibility for the construction, alteration, or abandonment work performed on this well during the construction dates reported above. All work performed during this time is in compliance with Oregon well construction standards. This report is true to the best of my knowledge and belief.

WWC Number 781
Signed Charles E Moore Date 8-10-95

ORIGINAL & FIRST COPY - WATER RESOURCES DEPARTMENT SECOND COPY - CONSTRUCTOR THIRD COPY - CUSTOMER 9809C. 10/9

WATER WELL REPORT
STATE OF OREGON

Tax Lot #904 WASCO

RECEIVED
AUG4 1982
WATER RESOURCES DEPT.
SALEM, OREGON

Location → 1N/13E-7 14
State Well No. Change - per W/P #3
State Permit No. 3/29/83 JCB

002691

(1) OWNER:
(b) (6)

(2) TYPE OF WORK (check):
New Well ☒ Deepening ☐ Reconditioning ☐ Abandon ☐
If abandonment, describe material and procedure in Item 12.

(3) TYPE OF WELL:
Rotary Air ☒ Driven ☐
Rotary Mud ☐ Dug ☐
Cable ☐ Bored ☐

(4) PROPOSED USE (check):
Domestic ☒ Industrial ☐ Municipal ☐
Irrigation ☐ Test Well ☐ Other ☐
Thermal: Withdrawal ☐ Reinjection ☐

(5) CASING INSTALLED:
Steel ☒ Plastic ☐
Threaded ☐ Welded ☒
8 " Diam. from 0 ft. to 25 ft. Gauge .250
" Diam. from ft. to ft. Gauge

LINER INSTALLED:
" Diam. from ft. to ft. Gauge

(6) PERFORATIONS:
Perforated? ☐ Yes ☒ No
Type of perforator used
Size of perforations in. by in.
perforations from ft. to ft.
perforations from ft. to ft.
perforations from ft. to ft.

(7) SCREENS:
Well screen installed? ☐ Yes ☒ No
Manufacturer's Name
Type Model No.
Diam. Slot Size Set from ft. to ft.
Diam. Slot Size Set from ft. to ft.

(8) WELL TESTS:
Drawdown is amount water level is lowered below static level
Was a pump test made? ☐ Yes ☒ No If yes, by whom?
Yield: gal./min. with ft. drawdown after hrs.
" " " "
Air test 12 gal./min. with drill stem at 60 ft. 1 hrs.
Bailer test gal./min. with ft. drawdown after hrs.
Artesian flow g.p.m.
Temperature of water 56° Depth artesian flow encountered ft.

(9) CONSTRUCTION:
Special standards: Yes ☐ No ☒
Well seal—Material used cement groute
Well sealed from land surface to 18 ft.
Diameter of well bore to bottom of seal 10 in.
Diameter of well bore below seal 8 in.
Number of sacks of cement used in well seal 6 sacks
How was cement grout placed? pressure grouted with pump
Was pump installed? no Type HP Depth ft.
Was a drive shoe used? ☐ Yes ☒ No Plugs Size: location ft.
Did any strata contain unusable water? ☐ Yes ☒ No
Type of Water? depth of strata
Method of sealing strata off
Was well gravel packed? ☐ Yes ☒ No Size of gravel:
Gravel placed from ft. to ft.

(10) LOCATION OF WELL:
County Wasco Driller's well number
NW ¼ NW ¼ Section 7 T. 1 N R. 13 E W.M.
Tax Lot # Lot Blk Subdivision
Address at well location: 3021 Valley View Drive
The Dalles, Oregon 97058

(11) WATER LEVEL: Completed well.
Depth at which water was first found 46 ft.
Static level 44 ft. below land surface. Date 7-20-82
Artesian pressure lbs. per square inch. Date

(12) WELL LOG:
Diameter of well below casing 8"
Depth drilled 70 ft. Depth of completed well 70 ft.
Formation: Describe color, texture, grain size and structure of materials; and show thickness and nature of each stratum and aquifer penetrated, with at least one entry for each change of formation. Report each change in position of Static Water Level and indicate principal water-bearing strata.

MATERIAL	From	To	SWL
Sandy clay loan	0	21	
Sandstone, brown	21	26	
Sandstone, grey	26	36	
Sandstone, brown	36	41	
Sandstone, grey	41	45	
Sandstone, brown, rocky	45	70	44

Work started July 19 19 82 Completed July 20 19 82
Date well drilling machine moved off of well July 20 19 82

Drilling Machine Operator's Certification:
This well was constructed under my direct supervision. Materials used and information reported above are true to my best knowledge and belief.
[Signed] Gilbert C Clayton (Drilling Machine Operator) Date 8-1, 19 82
Drilling Machine Operator's License No.

Water Well Contractor's Certification:
This well was drilled under my jurisdiction and this report is true to the best of my knowledge and belief.
Name Gilbert Clayton Well Drilling (Person, firm or corporation) (Type or print)
Address 1951 Lambert St., The Dalles OR 970[illegible]
[Signed] Gilbert C Clayton (Water Well Contractor)
Contractor's License No. 569 Date August 1, 19 82

NOTICE TO WATER WELL CONTRACTOR
The original and first copy of this report are to be filed with the WATER RESOURCES DEPARTMENT, SALEM, OREGON 97310 within 30 days from the date of well completion.

SP*12658-690

NOTICE TO WATER WELL CONTRACTOR
The original and first copy of this report are to be filed with the WATER RESOURCES DEPARTMENT SALEM, OREGON 97310 within 30 days from the date of well completion.

WASC 002601 Duplicate

WATER WELL REPORT

STATE OF OREGON (Please type or print) (Do not write above this line)

RECEIVED OCT 17 1978 WATER RESOURCES DEPT SALEM, OREGON

State Well No. 1N/13E-18bq

State Permit No.

(1) OWNER:

(b) (6)

(2) TYPE OF WORK (check):

New Well [X] Deepening [ ] Reconditioning [ ] Abandon [ ]

If abandonment, describe material and procedure in Item 12.

(3) TYPE OF WELL:

Rotary [X] Driven [ ]
Cable [ ] Jetted [ ]
Dug [ ] Bored [ ]

(4) PROPOSED USE (check):

Domestic [X] Industrial [ ] Municipal [ ]
Irrigation [ ] Test Well [ ] Other [ ]

(5) CASING INSTALLED:

Threaded [ ] Welded [X]

6" Diam. from +2 ft. to 18 ft. Gage .250

" Diam. from ft. to ft. Gage

" Diam. from ft. to ft. Gage

(6) PERFORATIONS:

Perforated? [ ] Yes [X] No.

Type of perforator used

Size of perforations in. by in.

perforations from ft. to ft.

perforations from ft. to ft.

perforations from ft. to ft.

(7) SCREENS:

Well screen installed? [ ] Yes [X] No

Manufacturer's Name

Type Model No.

Diam. Slot size Set from ft. to ft.

Diam. Slot size Set from ft. to ft.

(8) WELL TESTS:

Drawdown is amount water level is lowered below static level

Was a pump test made? [ ] Yes [X] No If yes, by whom?

Yield: gal./min. with ft. drawdown after hrs.

6 GPM - High Press Airlift

" " " "

Bailer test gal./min. with ft. drawdown after hrs.

Artesian flow g.p.m.

Temperature of water Depth artesian flow encountered ft.

(9) CONSTRUCTION:

Well seal—Material used Quick Gel Bentonite

Well sealed from land surface to 18 ft.

Diameter of well bore to bottom of seal 10 in.

Diameter of well bore below seal 6 in.

Number of sacks of cement used in well seal 6 sacks

How was cement grout placed?

Was a drive shoe used? [X] Yes [ ] No Plugs Size: location ft.

Did any strata contain unusable water? [ ] Yes [X] No

Type of water? depth of strata

Method of sealing strata off

Was well gravel packed? [ ] Yes [X] No Size of gravel:

Gravel placed from ft. to ft.

(10) LOCATION OF WELL:

County WASCO Driller's well number

NE ¼ SE ¼ Section 5 T. 1N R. 13 W.M.

Bearing and distance from section or subdivision corner

(11) WATER LEVEL: Completed well.

Depth at which water was first found 437 ft.

Static level 243 ft. below land surface. Date 1-8-78

Artesian pressure lbs. per square inch. Date

(12) WELL LOG:

Diameter of well below casing 6"

Depth drilled 502 ft. Depth of completed well 502 ft.

Formation: Describe color, texture, grain size and structure of materials; and show thickness and nature of each stratum and aquifer penetrated, with at least one entry for each change of formation. Report each change in position of Static Water Level and indicate principal water-bearing strata.

MATERIAL	From	To	SWL
Earth	0	2	
Sandstone & Gravel	2	8	
Boulders	8	14	
Sandstone - TAN	14	25	
Sandstone Clay	25	27	
Sandstone - TAN	27	100	
Basalt - Grey - Hard	100	101	
Sandstone - TAN	101	110	
" " - Brown	110	176	
" " TAN	176	218	
Clay " " Grey	218	235	
" " Brown	235	328	
Claystone Green	328	368	
Basalt - Gray - Hard	368	385	
Sandstone TAN	385	426	
Claystone Grey	426	437	
Basalt - Black - MED	437	487	WB
Clay - Green - Soft	487	502	242

Work started 12-22 1977 Completed 1-3 1978

Date well drilling machine moved off of well 1-5 1978

Drilling Machine Operator's Certification:

This well was constructed under my direct supervision. Materials used and information reported above are true to my best knowledge and belief.

[Signed] Jack Mahon (Drilling Machine Operator) Date , 19

Drilling Machine Operator's License No. 1166

Water Well Contractor's Certification:

This well was drilled under my jurisdiction and this report is true to the best of my knowledge and belief.

Name T.H. McKnight (Person, firm or corporation) (Type or print)

Address Rt. 3 Box 3054

[Signed] Tom McKnight (Water Well Contractor)

Contractor's License No. 576 Date 1-6, 1978

(USE ADDITIONAL SHEETS IF NECESSARY)

SP*45656-119

STATE ENGINEER
Salem, Oregon

WASC 002522

Well Record

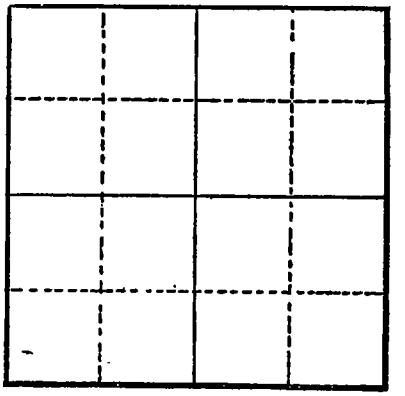
STATE WELL NO. 1N/13-10R(1)
COUNTY Wasco
APPLICATION NO. .....

OWNER: (b) (6) MAILING ADDRESS: .....

LOCATION OF WELL: Owner's No. ..... CITY AND STATE: .....

SE ¼ SE ¼ Sec. 10 T. 1 ~~S~~ N., R. 13 ~~W~~ E., W.M.

Bearing and distance from section or subdivision corner .....



Altitude at well 630 ft.

TYPE OF WELL: drilled Date Constructed .....

Depth drilled 190 ft. Depth cased 180 ft.

Section .....

CASING RECORD:
8-inch dia.

FINISH:

AQUIFERS:
Sandstone

WATER LEVEL:
-90 ft.

PUMPING EQUIPMENT: Type Turbine H.P. .....
Capacity 10 G.P.M.

WELL TESTS:
Drawdown ..... ft. after ..... hours 25± G.P.M.
Drawdown ..... ft. after ..... hours ..... G.P.M.

USE OF WATER ..... Temp. ..... °F. ....., 19.....
SOURCE OF INFORMATION U.S.G.S.: W.S.P. 659 B Well No. 54
DRILLER or DIGGER .....
ADDITIONAL DATA:
Log ..... Water Level Measurements ..... Chemical Analysis ..... Aquifer Test .....

REMARKS:

State Printing 89316

NOTICE TO WATER WELL CONTRACTOR
The original and first copy of this report are to be filed with the STATE ENGINEER, SALEM, OREGON 97310 within 30 days from the date of well completion.

RECEIVED JUL 12 1967 STATE ENGINEER

WATER WELL REPORT

STATE OF OREGON (Please type or print)

WRASSC 002521

State Well No. 1N/13-10

State Permit No.

(b) (6)

(2) LOCATION OF WELL:

County Wasco Driller's well number

S. E. ¼ Section 10 T. 1 N. R. 13E. W.M.

Bearing and distance from section or subdivision corner

(3) TYPE OF WORK (check):

New Well ☒ Deepening ☐ Reconditioning ☐ Abandon ☐

If abandonment, describe material and procedure in Item 12.

(4) PROPOSED USE (check):

Domestic ☒ Industrial ☐ Municipal ☐
Irrigation ☐ Test Well ☐ Other ☐

(5) TYPE OF WELL:

Rotary ☐ Driven ☐
Cable ☒ Jetted ☐
Dug ☐ Bored ☐

(6) CASING INSTALLED:

Threaded ☐ Welded ☒

10 " Diam. from 0 ft. to 62 ft. Gage .250
" Diam. from ft. to ft. Gage
" Diam. from ft. to ft. Gage

(7) PERFORATIONS:

Perforated? ☐ Yes ☒ No

Type of perforator used
Size of perforations in. by in.
perforations from ft. to ft.
perforations from ft. to ft.
perforations from ft. to ft.
perforations from ft. to ft.
perforations from ft. to ft.

(8) SCREENS:

Well screen installed? ☐ Yes ☒ No

Manufacturer's Name
Model No.
Diam. Slot size Set from ft. to ft.
Diam. Slot size Set from ft. to ft.

(9) CONSTRUCTION:

Well seal—Material used in seal Bentonite
Depth of seal 62 ft. Was a packer used?
Diameter of well bore to bottom of seal 14¼ in.
Were any loose strata cemented off? ☐ Yes ☐ No Depth
Was a drive shoe used? ☒ Yes ☐ No
Was well gravel packed? ☐ Yes ☒ No Size of gravel:
Gravel placed from ft. to ft.
Did any strata contain unusable water? ☐ Yes ☒ No
Type of water? depth of strata
Method of sealing strata off

(10) WATER LEVELS:

Static level 122 ft. below land surface Date 5/24/67
Artesian pressure lbs. per square inch Date

(11) WELL TESTS:

Drawdown is amount water level is lowered below static level

Was a pump test made? ☒ Yes ☐ No If yes, by whom? Driller
Yield: 10 gal./min. with no ft. drawdown after 2 hrs.
" " " "
" " " "
Bailer test gal./min. with ft. drawdown after hrs.
Artesian flow g.p.m. Date
Temperature of water 60 Was a chemical analysis made? ☐ Yes ☒ No

(12) WELL LOG:

Diameter of well below casing 8"

Depth drilled 272 ft. Depth of completed well 272 ft.

Formation: *Describe by color, character, size of material and structure, and show thickness of aquifers and the kind and nature of the material in each stratum penetrated, with at least one entry for each change of formation.*

MATERIAL	FROM	TO
Soil, brown	0	5
Silt,	5	60
Sandstone, brown, Dk. to Lgt	60	99
Clay, yellow, joint.	99	101
Sandstone, brown	101	135
Sandstone, fossil	135	155
Sandstone, grey, Dk. to Lgt.	155	195
Sandstone, brown	195	205
Sandstone, grey	205	215
Clay, joint, Lgt. Blue	215	221
Sandstone, brown	221	242
sandstone, blue	242	251
Clay, joint, yellow	251	261
Sandstone, brown	261	272

Work started 5/15/67 19 Completed 6/12 1967
Date well drilling machine moved off of well 6/17 1967

(13) PUMP:

Manufacturer's Name Fairbanks Morse
Type: Submersible H.P. 1

Water Well Contractor's Certification:

This well was drilled under my jurisdiction and this report is true to the best of my knowledge and belief.

NAME Bert Clayton & Son (Person, firm or corporation) (Type or print)
Address 2313 E. 10th. St. The Dalles, Ore.
Drilling Machine Operator's License No. 146
[Signed] Bert Clayton (Water Well Contractor)
Contractor's License No. 54 Date 7/3, 19 67

(USE ADDITIONAL SHEETS IF NECESSARY)

NOTICE TO WATER WELL CONTRACTOR
The original and first copy of this report are to be filed with the STATE ENGINEER, SALEM, OREGON 97310 within 30 days from the date of well completion.

RECEIVED JAN 21 1971 STATE ENGINEER SALEM, OR.

WATER WELL REPORT
STATE OF OREGON
(please type or print)
(DO not write above this line) 002520

WASC State Well No. 1N/13-10

State Permit No.

(b) (6)

(2) TYPE OF WORK (check):
New Well ☐ Deepening ☐ Reconditioning ☒ Abandon ☐
If abandonment, describe material and procedure in Item 12.

(3) TYPE OF WELL:
Rotary ☐ Driven ☐
Cable ☒ Jetted ☐
Dug ☐ Bored ☐

(4) PROPOSED USE (check):
Domestic ☒ Industrial ☐ Municipal ☐
Irrigation ☐ Test Well ☐ Other ☐

(5) CASING INSTALLED:
Threaded ☐ Welded ☒
6 " Diam. from 0 ft. to 264 ft. Gage .250
" Diam. from ft. to ft. Gage
" Diam. from ft. to ft. Gage

(6) PERFORATIONS:
Perforated? ☒ Yes ☐ No.
Type of perforator used cutting torch
Size of perforations 1/4 in. by 6 in. long
perforations from 180 ft. to 244 ft.
perforations from ft. to ft.
perforations from ft. to ft.
perforations from ft. to ft.
perforations from ft. to ft.

(7) SCREENS:
Well screen installed? ☐ Yes ☒ No
Manufacturer's Name
Type Model No.
Diam. Slot size Set from ft. to ft.
Diam. Slot size Set from ft. to ft.

(8) WATER LEVEL: Completed well.
Static level 121 ft. below land surface Date 12-16-70
Artesian pressure lbs. per square inch Date

(9) WELL TESTS:
Drawdown is amount water level is lowered below static level
Was a pump test made? ☐ Yes ☒ No If yes, by whom?
Yield: gal./min. with ft. drawdown after hrs.
" " " "
" " " "
Bailer test 5 gal./min. with 90 ft. drawdown after 1 hrs.
Artesian flow g.p.m. Date
Temperature of water 58° Was a chemical analysis made? ☐ Yes ☒ No

(10) CONSTRUCTION:
Well seal—Material used old seal 8" casing
Depth of seal 40 ft.
Diameter of well bore to bottom of seal unknown in.
Were any loose strata cemented off? ☐ Yes ☒ No Depth
Was a drive shoe used? ☒ Yes ☐ No
Did any strata contain unusable water? ☐ Yes ☒ No
Type of water? depth of strata
Method of sealing strata off
Was well gravel packed? ☒ Yes ☐ No Size of gravel 3/4 minus
Gravel placed from 100 ft. to 264 ft.

(11) LOCATION OF WELL:
County Wasco Driller's well number
¼ ¼ Section 10 T. 1N R. 13E W.M.
Bearing and distance from section or subdivision corner

(12) WELL LOG:
Depth drilled Cleaned out ft. Diameter of well below casing all cased
Depth of completed well 264 ft.

Formation: Describe color, texture, grain size and structure of materials; and show thickness and nature of each stratum and aquifer penetrated, with at least one entry for each change of formation. Report each change in position of Static Water Level as drilling proceeds. Note drilling rates.

MATERIAL	From	To	SWL
well was caved in			
Cased with 6" casing			
After cleaning out			

Work started Nov. 24, 1970 Completed Dec. 16, 1970
Date well drilling machine moved off of well Dec. 18, 1970

Drilling Machine Operator's Certification:
This well was constructed under my direct supervision. Materials used and information reported above are true to my best knowledge and belief.
[Signed] Gilbert Clayton (Drilling Machine Operator) Date 1-13-71 19
Drilling Machine Operator's License No. 129

Water Well Contractor's Certification:
This well was drilled under my jurisdiction and this report is true to the best of my knowledge and belief.
NAME Bert Clayton and Son (Person, firm or corporation) (Type or print)
Address 2313 E. 10th St., The Dalles, Ore.
[Signed] Bert Clayton (Water Well Contractor)
Contractor's License No. 54 Date Jan. 13, 1971

(USE ADDITIONAL SHEETS IF NECESSARY)

NOTICE TO WATER WELL CONTRACTOR: The original and first copy of this report are to be filed with the STATE ENGINEER, SALEM, OREGON 97310 within 30 days from the date of well completion.

RECEIVED JUL 19 1972 STATE ENGINEER SALEM, OREGON

WATER WELL REPORT STATE OF OREGON

(Please type or print) (Do not write above this line)

WASC State Well No. 1N/13E-10

002519 State Permit No. .....

(b) (6)

(2) TYPE OF WORK (check):

New Well [X] Deepening [ ] Reconditioning [ ] Abandon [ ]

If abandonment, describe material and procedure in Item 12.

(3) TYPE OF WELL:

Rotary [X] Driven [ ]
Cable [ ] Jetted [ ]
Dug [ ] Bored [ ]

(4) PROPOSED USE (check):

Domestic [X] Industrial [ ] Municipal [ ]
Irrigation [ ] Test Well [ ] Other [ ]

(5) CASING INSTALLED:

Threaded [ ] Welded [X]

6" Diam. from +1 ft. to 60 ft. Gage 1/4

..." Diam. from ..... ft. to ..... ft. Gage .....

..." Diam. from ..... ft. to ..... ft. Gage .....

(6) PERFORATIONS:

Perforated? [ ] Yes [X] No.

Type of perforator used

Size of perforations in. by in.

..... perforations from ..... ft. to ..... ft.

..... perforations from ..... ft. to ..... ft.

..... perforations from ..... ft. to ..... ft.

(7) SCREENS:

Well screen installed? [ ] Yes [X] No

Manufacturer's Name .....

Type ..... Model No. .....

Diam. ..... Slot size ..... Set from ..... ft. to ..... ft.

Diam. ..... Slot size ..... Set from ..... ft. to ..... ft.

(8) WELL TESTS:

Drawdown is amount water level is lowered below static level

Was a pump test made? [ ] Yes [ ] No If yes, by whom?

Yield: gal./min. with ft. drawdown after hrs.

" " " "

" air lift " Complete "

~~Bailer test~~ 4 gal./min. with 1 ft. drawdown after 2 hrs.

Artesian flow g.p.m.

Temperature of water 56 Depth artesian flow encountered ..... ft.

(9) CONSTRUCTION:

Well seal—Material used BENTONITE & cuttings

Well sealed from land surface to 59 ft.

Diameter of well bore to bottom of seal 8" in.

Diameter of well bore below seal 6" in.

Number of sacks of cement used in well seal ..... sacks

Number of sacks of bentonite used in well seal 2 sacks

Brand name of bentonite CENTRAL OREGON

Number of pounds of bentonite per 100 gallons of water ..... lbs./100 gals.

Was a drive shoe used? [ ] Yes [X] No Plugs ..... Size: location ..... ft.

Did any strata contain unusable water? [ ] Yes [X] No

Type of water? depth of strata

Method of sealing strata off

Was well gravel packed? [ ] Yes [X] No Size of gravel: .....

Gravel placed from ..... ft. to ..... ft.

(10) LOCATION OF WELL:

County WASCO Driller's well number

¼ ¼ Section 10 T. 1 N R. 13E W.M.

Bearing and distance from section or subdivision corner

(11) WATER LEVEL: Completed well.

Depth at which water was first found 170 ft.

Static level 160 ft. below land surface. Date 7/17

Artesian pressure — lbs. per square inch. Date —

(12) WELL LOG:

Diameter of well below casing 6

Depth drilled 200 ft. Depth of completed well 200 ft.

Formation: Describe color, texture, grain size and structure of materials; and show thickness and nature of each stratum and aquifer penetrated, with at least one entry for each change of formation. *Report each change in position of Static Water Level and indicate principal water-bearing strata.*

MATERIAL	From	To	SWL
Sandy Top Soil	0	4	
Brown Sand stone	4	56	
Broken Rock & clay seams	56	62	
BROWN SAND STONE	62	150	
Grey BASALT	150	192	160
Blue Shale	192	200	

Work started 7/13 1972 Completed 7/15 1972

Date well drilling machine moved off of well 7/15 1972

Drilling Machine Operator's Certification:

This well was constructed under my direct supervision. Materials used and information reported above are true to my best knowledge and belief.

[Signed] Dick Akins (Drilling Machine Operator) Date 7/15, 1972

Drilling Machine Operator's License No. 249

Water Well Contractor's Certification:

This well was drilled under my jurisdiction and this report is true to the best of my knowledge and belief.

Name Dick Akins Well Drilling (Person, firm or corporation) (Type or print)

Address P.O. Box # 264 Prineville, Oregon 97754

[Signed] Dick Akins (Water Well Contractor)

Contractor's License No. 260 Date 7/15, 1972

(USE ADDITIONAL SHEETS IF NECESSARY)

SP*45656-119

NOTICE TO WATER WELL CONTRACTOR
The original and first copy of this report are to be filed with the
STATE ENGINEER, SALEM, OREGON 97310 within 30 days from the date of well completion.

WASC 002518

WATER WELL REPORT
STATE OF OREGON
(Please type or print)
(Do not write above this line)

RECEIVED
JUN 17 1976
WATER RESOURCES DEPT.
SALEM, OREGON

State Well No. ....
State Permit No. 1N/13E-10

(b) (6) [redacted]

(2) TYPE OF WORK (check):
New Well [X] Deepening [ ] Reconditioning [ ] Abandon [ ]
If abandonment, describe material and procedure in Item 12.

(3) TYPE OF WELL:
Rotary [X] Driven [ ]
Cable [ ] Jetted [ ]
Dug [ ] Bored [ ]

(4) PROPOSED USE (check):
Domestic [ ] Industrial [X] Municipal [ ]
Irrigation [ ] Test Well [ ] Other [ ]

(5) CASING INSTALLED:
Threaded [ ] Welded [X]
8" Diam. from 0 ft. to 49 ft. Gage .250
6" Diam. from 0 ft. to 251½ ft. Gage .250
" Diam. from ft. to ft. Gage

(6) PERFORATIONS:
Perforated? [X] Yes [ ] No
Type of perforator used Cutting torch
Size of perforations 3/16 in. by 6 in.
172 perforations from 205 ft. to 245 ft.
perforations from ft. to ft.
perforations from ft. to ft.

(7) SCREENS:
Well screen installed? [ ] Yes [X] No
Manufacturer's Name
Type Model No.
Diam. Slot size Set from ft. to ft.
Diam. Slot size Set from ft. to ft.

(8) WELL TESTS:
Drawdown is amount water level is lowered below static level
Was a pump test made? [X] Yes [ ] No If yes, by whom? Driller
Yield: 14 gal./min. with 80 ft. drawdown after 1 hrs.
" " "
" " "
Bailer test gal./min. with ft. drawdown after hrs.
Artesian flow g.p.m.
Temperature of water 58° Depth artesian flow encountered ft.

(9) CONSTRUCTION:
Well seal—Material used Cement
Well sealed from land surface to 25 ft.
Diameter of well bore to bottom of seal 12 in.
Diameter of well bore below seal 8 in.
Number of sacks of cement used in well seal 23 sacks
Number of sacks of bentonite used in well seal 2 sacks
Brand name of bentonite Yellowstone
Number of pounds of bentonite per 100 gallons of water 65 lbs./100 gals.
Was a drive shoe used? [ ] Yes [X] No Plugs Size: location ft.
Did any strata contain unusable water? [ ] Yes [X] No
Type of water? depth of strata
Method of sealing strata off
Was well gravel packed? [X] Yes [ ] No Size of gravel: pea
Gravel placed from 90 ft. to 250 ft.

(10) LOCATION OF WELL:
County SALEM Driller's well number
NE ¼ SE ¼ Section 10 T. 1N R. 13 E. W.M.
Bearing and distance from section or subdivision corner

(11) WATER LEVEL: Completed well.
Depth at which water was first found 110 ft.
Static level 100 ft. below land surface. Date 5-27-76
Artesian pressure lbs. per square inch. Date

(12) WELL LOG:
Diameter of well below casing 6"
Depth drilled 250 ft. Depth of completed well 250 ft.
Formation: Describe color, texture, grain size and structure of materials; and show thickness and nature of each stratum and aquifer penetrated, with at least one entry for each change of formation. *Report each change in position of Static Water Level and indicate principal water-bearing strata.*

MATERIAL	From	To	SWL
Soil, Brown Sandy/rocks	0	5	
Sandy soil	5	35	
Sandstone, Brown	35	40	
Rocks/clay	40	46	
Sandstone, brown silty	46	85	
Sandstone, brown, rocky	85	110	
Sandstone, brown silty	110	120	
Sandstone, grey	120	125	
Clay, yellow	125	130	
Sandstone, grey/brown	130	150	
Clay, yellow	150	152	
Sandstone, grey brown rocky	152	195	
Clay, grey soft	195	202	
Sandstone, grey brown	202	220	
Sandstone, brown/clay	220	228	
Sandstone, grey	228	235	
Sandstone, brown/clay	235	240	
Sandstone, grey	240	250	

Work started May 10 19 76 Completed May 18 19 76
Date well drilling machine moved off of well May 18 19 76

Drilling Machine Operator's Certification:
This well was constructed under my direct supervision. Materials used and information reported above are true to my best knowledge and belief.
[Signed] Gilbert Clayton (Drilling Machine Operator) Date 6-12, 19 76
Drilling Machine Operator's License No. 129

Water Well Contractor's Certification:
This well was drilled under my jurisdiction and this report is true to the best of my knowledge and belief.
Name Gilbert Clayton Well Drilling (Person, firm or corporation) (Type or print)
Address Rt 1, Box 61-A, The Dalles, Ore.
[Signed] Gilbert Clayton (Water Well Contractor)
Contractor's License No. 569 Date June 12, 19 76

(USE ADDITIONAL SHEETS IF NECESSARY)

SP*45656-119

NOTICE TO WATER WELL CONTRACTOR
The original and first copy of this report are to be filed with the STATE ENGINEER, SALEM, OREGON 97310 within 30 days from the date of well completion.

WATER WELL REPORT
STATE OF OREGON
(Please type or print)

RECEIVED
SEP 19 1977

WRD SC

State Well No. 1N/13E-10bbd

(Do not write above this line) 002517

State Permit No. .....

(b) (6) [redacted]

(2) TYPE OF WORK (check):
New Well ☒ Deepening ☐ Reconditioning ☐ Abandon ☐
If abandonment, describe material and procedure in Item 12.

(3) TYPE OF WELL:
Rotary ☒ Driven ☐
Cable ☐ Jetted ☐
Dug ☐ Bored ☐

(4) PROPOSED USE (check):
Domestic ☒ Industrial ☐ Municipal ☐
Irrigation ☐ Test Well ☐ Other ☐

(5) CASING INSTALLED:
Threaded ☐ Welded ☐
6 " Diam. from 0 ft. to 19 ft. Gage .250
" Diam. from ft. to ft. Gage
" Diam. from ft. to ft. Gage

(6) PERFORATIONS:
Perforated? ☐ Yes ☒ No
Type of perforator used
Size of perforations in. by in.
perforations from ft. to ft.
perforations from ft. to ft.
perforations from ft. to ft.

(7) SCREENS:
Well screen installed? ☐ Yes ☒ No
Manufacturer's Name
Type Model No.
Diam. Slot size Set from ft. to ft.
Diam. Slot size Set from ft. to ft.

(8) WELL TESTS:
Drawdown is amount water level is lowered below static level
Was a pump test made? ☐ Yes ☒ No If yes, by whom?
Yield: gal./min. with ft. drawdown after hrs.
[redacted] gal min air "test with 100% drawdown"
" " " "
Bailer test gal./min. with ft. drawdown after hrs.
Artesian flow g.p.m.
[redacted]erature of water Depth artesian flow encountered ft.

(9) CONSTRUCTION:
Well seal—Material used Bentonite
Well sealed from land surface to 19 ft.
Diameter of well bore to bottom of seal 10 in.
Diameter of well bore below seal 6 in.
Number of sacks of cement used in well seal 0 sacks
Number of sacks of bentonite used in well seal 2 sacks
Brand name of bentonite International
Number of pounds of bentonite per 100 gallons of water 100 lbs./100 gals.
Was a drive shoe used? ☒ Yes ☐ No Plugs Size: location ft.
Did any strata contain unusable water? ☐ Yes ☒ No
Type of water? depth of strata
Method of sealing strata off
Was well gravel packed? ☐ Yes ☒ No Size of gravel:
Gravel placed from ft. to ft.

(10) LOCATION OF WELL:
County Wasco Driller's well number
SE ¼ NW¼ Section 10 T. 1N R. 13E W.M.
Bearing and distance from section or subdivision corner

(11) WATER LEVEL: Completed well.
Depth at which water was first found 330 ft.
Static level 225 ft. below land surface. Date 8 Aug
Artesian pressure lbs. per square inch. Date

(12) WELL LOG:
Diameter of well below casing 6
Depth drilled 350 ft. Depth of completed well 350 ft.

Formation: Describe color, texture, grain size and structure of materials; and show thickness and nature of each stratum and aquifer penetrated, with at least one entry for each change of formation. *Report each change in position of Static Water Level and indicate principal water-bearing strata.*

MATERIAL	From	To	SWL
Soil	0	2	
Sandstone brown	2	105	
Sandstone gray solid	105	187	
Sandstone brown	187	243	
Sandston gray	243	285	
Sandstone brown WB	285	350	225

Work started 7 Aug 19 77 Completed 8 Aug 19 77
Date well drilling machine moved off of well 8 Aug 19 77

Drilling Machine Operator's Certification:
This well was constructed under my direct supervision. Materials used and information reported above are true to my best knowledge and belief.
[Signed] Richard J. Murray (Drilling Machine Operator) Date 8 Sept, 19 77
Drilling Machine Operator's License No. 737

Water Well Contractor's Certification:
This well was drilled under my jurisdiction and this report is true to the best of my knowledge and belief.
Name Richard J. Murray (Person, firm or corporation) (Type or print)
Address 3712 W 8th The Dalles, Oregon
[Signed] Richard J. Murray (Water Well Contractor)
Contractor's License No. 606 Date 8 Sept, 19 77

(USE ADDITIONAL SHEETS IF NECESSARY)

SP*45856-119

STATE OF OREGON

WATER WELL REPORT

(as required by ORS 537.765)

RECEIVED

JUN 20 1985

WATER RESOURCES DEPT

SALEM, OREGON

WASC 002516

1N/13E-10a

PLEASE TYPE or PRINT IN INK

(for official use only)

(1) OWNER:

Well Number

Name City of The Dalles

Address

City The Dalles, Oregon State 97058

(2) TYPE OF WORK (check):

New Well ☒ Deepening ☐ Reconditioning ☐ Abandon ☐

If abandonment, describe material and procedure in Item 12.

(3) TYPE OF WELL:

Rotary Air ☒ Driven ☐

Rotary Mud ☐ Dug ☐

Cable ☐ Bored ☐

(4) PROPOSED USE (check):

Domestic ☐ Industrial ☐ Municipal ☐

Irrigation ☐ Thermal: Withdrawal ☐ Reinjection ☐

Other: Piezometric ☐ Grounding ☐ Test ☒

(5) CASING INSTALLED:

Steel ☒ Plastic ☐

Threaded ☐ Welded ☒

8" Diam. from 0 ft. to 139 ft. Gauge .250

6" Diam. from 135 ft. to 140 ft. Gauge .250

6" Diam. from 160 ft. to 165 ft. Gauge

LINER INSTALLED:

Steel ☐ Plastic ☐

Threaded ☐ Welded ☐

" Diam. from ft. to ft. Gauge

(6) PERFORATIONS:

Perforated? ☐ Yes ☒ No

Size of perforations in. by in.

perforations from ft. to ft.

perforations from ft. to ft.

perforations from ft. to ft.

(7) SCREENS:

Well screen installed? ☒ Yes ☐ No

Manufacturer's Name UOP JOhnson

Type Telescope-Low Carbon Galv. Model No. Steel

Diam. 7½" Slot Size .020 Set from 140 ft. to 160 ft.

Diam. Slot Size Set from ft. to ft.

(8) WELL TESTS:

Drawdown is amount water level is lowered below static level

Was a pump test made? ☒ Yes ☐ No If yes, by whom? A.M.Jannsen

Yield: 105 gal./min. with 35 ft. drawdown after 48 hrs.

Air test gal./min. with drill stem at ft. hrs.

Bailer test gal./min. with ft. drawdown after hrs.

Artesian flow g.p.m.

Temperature of water Depth artesian flow encountered ft.

(9) CONSTRUCTION:

Special standards: Yes ☐ No ☒

Well seal—Material used Cement + 5% gel

Well sealed from land surface to 25 ft.

Diameter of well bore to bottom of seal 12 in.

Diameter of well bore below seal 8 in.

Amount of sealing material 11 sacks ☒ pounds ☐

How was cement grout placed? Tremmed into dry annular bore 25' to surface

Was pump installed? no Type HP Depth ft.

Was a drive shoe used? ☒ Yes ☐ No Plugs Size: location ft.

Did any strata contain unusable water? ☐ Yes ☒ No

Type of Water? depth of strata

Method of sealing strata off

Was well gravel packed? ☐ Yes ☒ No Size of gravel:

Gravel placed from ft. to ft.

(10) LOCATION OF WELL by legal description:

County Wasco NE¼ ¼ of Section 10 of

Township 1 N (Township is North or South), Range 13E (Range is East or West), WM.

Tax Lot Lot Block Subdivision

MAILING ADDRESS OF WELL (or nearest address)

(11) WATER LEVEL of COMPLETED WELL:

Depth at which water was first found 146 ft.

Static level 111 ft. below land surface. Date 5/7/85

Artesian pressure lbs. per square inch. Date

(12) WELL LOG:

Diameter of well below casing 8"

Depth drilled 187 ft. Depth of completed well 165 ft.

Formation: Describe color, texture, grain size and structure of materials; and show thickness and nature of each stratum and aquifer penetrated, with at least one entry for each change of formation. Report each change in position of Static Water Level and indicate principal water-bearing strata.

MATERIAL	From	To	SWL
Pavement & roadway fill	0	1	
Brn.gravel & boulders,cemented	1	11	
Light brn.siltstone,occ.gravel	11	32	
Brn.gravel & boulders,cemented	32	59	
Dark brn.gravel & boulders,occ. silts	59	78	
Gray-brown siltstone (tuff)	78	90	
Brn.claystone & siltstone(tuff)	90	111	
Gray siltstone (tuff)	111	145	
Red-brown siltstone (tuff) occ. sand streaks	145	158	
water bearing	146	157	111
Brown siltstone (tuff)	158	173	
Brown siltstone (tuff) occ. rock fragments	173	174	
Brown basalt, weathered, fractured	174	187	

Date work started 4/1/85 /completed 6/8/85

Date well drilling machine moved off of well 5/2/85 19

(unbonded) Water Well Constructor Certification (if applicable):

This well was constructed under my direct supervision. Materials used and information reported above are true to my best knowledge and belief.

[Signed] Date , 19

(bonded) Water Well Constructor Certification:

Bond 335-2916 (number) Issued by: Great American Insurance (Surety Company Name)

On behalf of A. M. Jannsen Well Drilling Co. Inc.

Preston A. Jannsen (Type or print name of Water Well Constructor)

This well was drilled under my jurisdiction and this report is true to the best of my knowledge and belief:

(Signed) (Water Well Constructor)

(Dated) June 14, 1985

NOTICE TO WATER WELL CONSTRUCTOR

The original and first copy of this report are to be filed with the

WATER RESOURCES DEPARTMENT, SALEM, OREGON 97310 within 30 days from the date of well completion.

SP*46866-690

RECEIVED
JUN 20 1985
WATER RESOURCES DEPT
SALEM, OREGON

WASC
002515

1N/13E-10a

STATE OF OREGON

WATER WELL REPORT
(as required by ORS 537.765)

PLEASE TYPE or PRINT IN INK

(for official use only)

(1) OWNER: 0-4

Name City of The Dalles
a
Address
City The Dalles, Oregon 97058 State

(2) TYPE OF WORK (check):

New Well [X] Deepening [ ] Reconditioning [ ] Abandon [ ]

If abandonment, describe material and procedure in Item 12.

(3) TYPE OF WELL:

Rotary Air [X] Driven [ ]
Rotary Mud [X] Dug [ ]
Cable [ ] Bored [ ]

(4) PROPOSED USE (check):

Domestic [ ] Industrial [ ] Municipal [ ]
Irrigation [ ] Thermal: Withdrawal [ ] Reinjection [ ]
Other: Piezometric [ ] Grounding [ ] Test [ ]

(5) CASING INSTALLED:

Steel [ ] Plastic [X]
Threaded [X] Welded [ ]

1½" Diam. from 0 ft. to 145 ft. Gauge PVC Sch.80
1½" Diam. from 155 ft. to 157 ft. Gauge PVC Sch.80

LINER INSTALLED:

Steel [ ] Plastic [ ]
Threaded [ ] Welded [ ]

" Diam. from ft. to ft. Gauge

(6) PERFORATIONS:

Perforated? [ ] Yes [X] No

Size of perforations in. by in.

perforations from ft. to ft.
perforations from ft. to ft.
perforations from ft. to ft.

(7) SCREENS:

Well screen installed? [X] Yes [ ] No

Manufacturer's Name Hydrophilic
Type PVC Sawcut slot Model No.
Diam. 1½" Slot Size .020 Set from 145 ft. to 155 ft.
Diam. Slot Size Set from ft. to ft.

(8) WELL TESTS:

Drawdown is amount water level is lowered below static level

Was a pump test made? [ ] Yes [X] No If yes, by whom?

Yield: gal./min. with ft. drawdown after hrs.

Air test gal./min. with drill stem at ft. hrs.
Bailer test gal./min. with ft. drawdown after hrs.
Artesian flow g.p.m.
Temperature of water Depth artesian flow encountered ft.

(9) CONSTRUCTION:

Special standards: Yes [ ] No [X]

Well seal—Material used Cement grout plus gel
Well sealed from land surface to 20 ft.
Diameter of well bore to bottom of seal 6 in.
Diameter of well bore below seal 6 & 4 in.
Amount of sealing material 3 sacks [X] pounds [ ]
How was cement grout placed? Tremmed into dry annular bore 20' back to land surface

Was pump installed? no Type HP Depth ft.
Was a drive shoe used? [ ] Yes [X] No Plugs Size: location ft.
Did any strata contain unusable water? [ ] Yes [X] No
Type of Water? depth of strata
Method of sealing strata off
Was well gravel packed? [X] Yes [ ] No Size of gravel: #8 sand
Gravel placed from 120 ft. to 160 ft.

(10) LOCATION OF WELL by legal description:

County Wasco NE ¼ ¼ of Section 10 of
Township 1 N (Township is North or South) Range 13E (Range is East or West) WM.
Tax Lot Lot Block Subdivision

MAILING ADDRESS OF WELL (or nearest address)
Kelley Ave. slide area, E. Scenic Drive, 20' east of TW-2

(11) WATER LEVEL of COMPLETED WELL:

Depth at which water was first found 90 ft.
Static level not recorded ft. below land surface. Date
Artesian pressure lbs. per square inch. Date

(12) WELL LOG:

Diameter of well below casing 4"
Depth drilled 160 ft. Depth of completed well 157 ft.

Formation: Describe color, texture, grain size and structure of materials; and show thickness and nature of each stratum and aquifer penetrated, with at least one entry for each change of formation. Report each change in position of Static Water Level and indicate principal water-bearing strata.

MATERIAL	From	To	SWL
Roadway & fill	0	1	
Brown sand & gravel/boulders, cemented	1	10	
Brown siltstone/sandstone, occ. boulders	10	35	
Fracture zone, loss of circulation	35	50	
Brown gravel & boulders, semi-cemented	50	56	
Light brown claystone	56	78	
Brown gravel & boulders, semi-cemented	78	95	W.B.
Gray-brown siltstone, fractured	95	115	W.B.
Red-brown & gray-brown siltstone	115	148	W.B.
Gray claystone	148	155	
Brown basalt, weathered, fractured	155	160	
Note: Bentonite plug	115	120	
fill mixed w/dry bentonite	20	115	

Date work started 5/13/85 /completed 6/8/85
Date well drilling machine moved off of well 5/15/85 19

(unbonded) Water Well Constructor Certification (if applicable):

This well was constructed under my direct supervision. Materials used and information reported above are true to my best knowledge and belief.

[Signed] Date , 19

(bonded) Water Well Constructor Certification:

Bond 335-2926 (number) Issued by: Great American Insurance (Surety Company Name)
On behalf of A. M. Jannsen Well Drilling Co. Inc.
Preston A. Jannsen (print name of Water Well Constructor)

This well was drilled under my jurisdiction and this report is true to the best of my knowledge and belief:

(Signed) (Water Well Constructor)
(Dated) June 17, 1985

NOTICE TO WATER WELL CONSTRUCTOR
The original and first copy of this report are to be filed with the WATER RESOURCES DEPARTMENT, SALEM, OREGON 97310 within 30 days from the date of well completion.

SP*46866-690

RECEIVED
JUN 20 1985
WATER RESOURCES DEPT
SALEM, OREGON

STATE OF OREGON

WATER WELL REPORT

(as required by ORS 537.765)

WASC 002514

1N/13E-10a

PLEASE TYPE or PRINT IN INK

(for official use only)

(1) OWNER: 0-5

Name City of The Dalles

Address

City The Dalles, Oregon State 97058

(2) TYPE OF WORK (check):

New Well [X] Deepening [ ] Reconditioning [ ] Abandon [ ]

If abandonment, describe material and procedure in Item 12.

(3) TYPE OF WELL:

Rotary Air [X] Driven [ ]

Rotary Mud [X] Dug [ ]

Cable [ ] Bored [ ]

(4) PROPOSED USE (check):

Domestic [ ] Industrial [ ] Municipal [ ]

Irrigation [ ] Thermal: Withdrawal [ ] Reinjection [ ]

Other: Piezometric [ ] Grounding [ ] Test [ ]

(5) CASING INSTALLED:

Steel [ ] Plastic [X]

Threaded [X] Welded [ ]

1½" Diam. from 0 ft. to 144 ft. Gauge PVC Sch. 80

1½" Diam. from 154 ft. to 158 ft. Gauge PVC Sch. 80

LINER INSTALLED:

Steel [ ] Plastic [ ]

Threaded [ ] Welded [ ]

" Diam. from ft. to ft. Gauge

(6) PERFORATIONS:

Perforated? [ ] Yes [X] No

Size of perforations in. by in.

perforations from ft. to ft.

perforations from ft. to ft.

perforations from ft. to ft.

(7) SCREENS:

Well screen installed? [X] Yes [ ] No

Manufacturer's Name Hydrophilic

Type PVC sawcut slot Model No.

Diam. 1½" Slot Size .020 Set from 144 ft. to 154 ft.

Diam. Slot Size Set from ft. to ft.

(8) WELL TESTS:

Drawdown is amount water level is lowered below static level

Was a pump test made? [ ] Yes [X] No If yes, by whom?

Yield: gal./min. with ft. drawdown after hrs.

Air test gal./min. with drill stem at ft. hrs.

Bailer test gal./min. with ft. drawdown after hrs.

Artesian flow g.p.m.

Temperature of water Depth artesian flow encountered ft.

(9) CONSTRUCTION:

Special standards: Yes [ ] No [X]

Well seal—Material used Cement grout plus gel

Well sealed from land surface to 20 ft.

Diameter of well bore to bottom of seal 6 in.

Diameter of well bore below seal 6 & 4 in.

Amount of sealing material 3 sacks [X] pounds [ ]

How was cement grout placed? Tremmed into dry annular bore 20 ft. to land surface

Was pump installed? no Type HP Depth ft.

Was a drive shoe used? [ ] Yes [X] No Plugs Size: location ft.

Did any strata contain unusable water? [ ] Yes [X] No

Type of Water? depth of strata

Method of sealing strata off

Was well gravel packed? [X] Yes [ ] No Size of gravel: #8 sand

Gravel placed from 100 ft. to 160 ft.

(10) LOCATION OF WELL by legal description:

County Wasco NE ¼ ¼ of Section 10 of

Township 1 N (Township is North or South) Range 13 E (Range is East or West) WM.

Tax Lot Lot Block Subdivision

MAILING ADDRESS OF WELL (or nearest address)

Kelly Ave. slide area. E. Scenic Drive 40' N. E. of TW-2

(11) WATER LEVEL of COMPLETED WELL:

Depth at which water was first found 90 ft.

Static level not recorded ft. below land surface. Date

Artesian pressure lbs. per square inch. Date

(12) WELL LOG:

Diameter of well below casing 4"

Depth drilled 160 ft. Depth of completed well 158 ft.

Formation: Describe color, texture, grain size and structure of materials; and show thickness and nature of each stratum and aquifer penetrated, with at least one entry for each change of formation. Report each change in position of Static Water Level and indicate principal water-bearing strata.

MATERIAL	From	To	SWL
Roadway & fill	0	2	
Brown gravel, occ. boulders, cemented	2	13	
Brown siltstone, occ. gravel/ boulders	13	19	
Light brown silty claystone, occ. boulders	19	26	
Brown gravel & boulders, semi-cemented	26	42	
Loss of circulation	26	42	
Light brown claystone	42-	64	
Brown gravel & boulders, semi-cemented	64	103	W.B.
occ. loss of circulation	64	103	
Brown claystone, fractured	103	109	W. B.
Gray siltstone/sandstone, fractured	109	125	W.B.
Brown & gray claystone	125	150	
Gray siltstone	150	155	W.B.
Brown basalt, weathered	155	160	
Note: Bentonite plug 95 - 100, fill	20	95	

Date work started 5/15/85 /completed 6/8/85

Date well drilling machine moved off of well 5/16/85 19

(unbonded) Water Well Constructor Certification (if applicable):

This well was constructed under my direct supervision. Materials used and information reported above are true to my best knowledge and belief.

[Signed] Date , 19

(bonded) Water Well Constructor Certification:

Bond 335-2926 (number) Issued by: Great American Insurance (Surety Company Name)

On behalf of A. M. Jannsen Well Drilling Co. Inc.

Preston A. Jannsen (Type or print name of Water Well Constructor)

This well was drilled under my jurisdiction and this report is true to the best of my knowledge and belief:

(Signed) (Water Well Constructor)

(Dated) June 17, 1985

NOTICE TO WATER WELL CONSTRUCTOR
The original and first copy of this report are to be filed with the

WATER RESOURCES DEPARTMENT, SALEM, OREGON 97310 within 30 days from the date of well completion.

SP*46866-690

RECEIVED
JUN 20 1985
WATER RESOURCES DEPT
SALEM, OREGON

WASC
002513

1N/13E-10a

STATE OF OREGON
WATER WELL REPORT
(as required by ORS 537.765) PLEASE TYPE or PRINT IN INK

(for official use only)

(1) OWNER: 0-6
Name City of The Dalles
Address
City The Dalles, Oregon State 97058

(2) TYPE OF WORK (check):
New Well [X] Deepening [ ] Reconditioning [ ] Abandon [ ]
If abandonment, describe material and procedure in Item 12.

(3) TYPE OF WELL:
Rotary Air [X] Driven [ ]
Rotary Mud [X] Dug [ ]
Cable [ ] Bored [ ]

(4) PROPOSED USE (check):
Domestic [ ] Industrial [ ] Municipal [ ]
Irrigation [ ] Thermal: Withdrawal [ ] Reinjection [ ]
Other: Piezometric [ ] Grounding [ ] Test [ ]

(5) CASING INSTALLED:
Steel Threaded [X] Plastic Welded [X]
1½" Diam. from 0 ft. to 140 ft. Gauge PVC Sch. 80
1½" Diam. from 150 ft. to 160 ft. Gauge PVC Sch. 80

LINER INSTALLED:
Steel Threaded [ ] Plastic Welded [ ]
" Diam. from ft. to ft. Gauge

(6) PERFORATIONS:
Perforated? [ ] Yes [X] No
Size of perforations in. by in.
perforations from ft. to ft.
perforations from ft. to ft.
perforations from ft. to ft.

(7) SCREENS:
Well screen installed? [X] Yes [ ] No
Manufacturer's Name Hydrophilic
Type PVC sawcut slot Model No.
Diam. 1½" Slot Size .020 Set from 140 ft. to 150 ft.
Diam. Slot Size Set from ft. to ft.

(8) WELL TESTS:
Drawdown is amount water level is lowered below static level
Was a pump test made? [ ] Yes [X] No If yes, by whom?
Yield: gal./min. with ft. drawdown after hrs.
" " "
Air test gal./min. with drill stem at ft. hrs.
Bailer test gal./min. with ft. drawdown after hrs.
Artesian flow g.p.m.
Temperature of water Depth artesian flow encountered ft.

(9) CONSTRUCTION:
Special standards: Yes [ ] No [X]
Well seal—Material used Cement grout plus gel
Well sealed from land surface to 20 ft.
Diameter of well bore to bottom of seal 6 in.
Diameter of well bore below seal 6 & 4" in.
Amount of sealing material 3 sacks [X] pounds [ ]
How was cement grout placed? Tremmed into dry annular bore 20 ft. to land surface

Was pump installed? no Type HP Depth ft.
Was a drive shoe used? [ ] Yes [X] No Plugs Size: location ft.
Did any strata contain unusable water? [ ] Yes [X] No
Type of Water? depth of strata
Method of sealing strata off
Was well gravel packed? [X] Yes [ ] No Size of gravel: #8 sand
Gravel placed from 130 ft. to 160 ft.

(10) LOCATION OF WELL by legal description:
County Wasco NE ¼ NE ¼ of Section 10 of
Township 1 N (Township is North or South), Range 13 E (Range is East or West), WM.
Tax Lot Lot Block Subdivision
MAILING ADDRESS OF WELL (or nearest address) Kelly Ave. slide area, E. Scenic Drive
100' NW of TW-2

(11) WATER LEVEL of COMPLETED WELL:
Depth at which water was first found 138 ft.
Static level not recorded ft. below land surface. Date
Artesian pressure lbs. per square inch. Date

(12) WELL LOG:
Diameter of well below casing 4"
Depth drilled 160 ft. Depth of completed well 160 ft.
Formation: Describe color, texture, grain size and structure of materials; and show thickness and nature of each stratum and aquifer penetrated, with at least one entry for each change of formation. Report each change in position of Static Water Level and indicate principal water-bearing strata.

MATERIAL	From	To	SWL
Roadway & fill	0	2	
Brown sand & gravel, cemented	2	15	
Brown siltstone w/gravel & boulders	15	24	
Light brown claystone, occ. gravel	24	35	
Brown gravel & boulders, semi-cemented	35	72	
Gray silty claystone	72	100	
Light brown claystone	100	111	
Gray siltstone, fractured	111	114	
Gray-brown banded claystone, fractured	114	136	
Light red-brown silty clay-stone	136	138	
Brown claystone & sand streaks	138	145	W.B.
Brown siltstone	145	152	
Gray silty sandstone	152	155	
Brown basalt, weathered	155	160	
Note: Bentonite plug	125	130	
Filled w/ fill mixed w/dry bentonite 20 - 125			

Date work started 5/21/85 /completed 6/8/85
Date well drilling machine moved off of well 5/22/85 19

(unbonded) Water Well Constructor Certification (if applicable):
This well was constructed under my direct supervision. Materials used and information reported above are true to my best knowledge and belief.
[Signed] Date , 19

(bonded) Water Well Constructor Certification:
Bond 335-2916 (number) Issued by: Great American Insurance (Surety Company Name)
On behalf of A. M. Jannsen Well Drilling Co. Inc.
Preston A. Jannsen (type or print name of Water Well Constructor)
This well was drilled under my jurisdiction and this report is true to the best of my knowledge and belief:
(Signed) (Water Well Constructor)
(Dated) June 17, 1985

NOTICE TO WATER WELL CONSTRUCTOR
The original and first copy of this report are to be filed with the WATER RESOURCES DEPARTMENT, SALEM, OREGON 97310 within 30 days from the date of well completion.

SP*46866-690

STATE OF OREGON

WATER WELL REPORT

(as required by ORS 537.765)

JUN 20 1985

WATER RESOURCES DEPT
SALEM, OREGON

PLEASE TYPE or PRINT IN INK

WASE 002512

1N/13E-10a

(for official use only)

0 - 7

(1) OWNER:

Name City of The Dalles

Address

City The Dalles, Oregon State 97058

(2) TYPE OF WORK (check):

New Well [X] Deepening [ ] Reconditioning [ ] Abandon [ ]

If abandonment, describe material and procedure in Item 12.

(3) TYPE OF WELL:

Rotary Air [X] Driven [ ]
Rotary Mud [X] Dug [ ]
Cable [ ] Bored [ ]

(4) PROPOSED USE (check):

Domestic [ ] Industrial [ ] Municipal [ ]
Irrigation [ ] Thermal: [ ] Withdrawal [ ] Reinjection [ ]
Other: [X] Piezometric [ ] Grounding [ ] Test [ ]

(5) CASING INSTALLED:

Steel [ ] Plastic [X]
Threaded [X] Welded [ ]

1½ " Diam. from 0 ft. to 65 ft. Gauge PVC Sch 80
1½ " Diam. from 75 ft. to 85 ft. Gauge PVC Sch 80
1½ " Diam. from 95 ft. to 105 ft. Gauge PVC Sch 80

LINER INSTALLED:

Steel [ ] Plastic [ ]
Threaded [ ] Welded [ ]

" Diam. from ft. to ft. Gauge

(6) PERFORATIONS:

Perforated? [ ] Yes [X] No

Size of perforations in. by in.

perforations from ft. to ft.
perforations from ft. to ft.
perforations from ft. to ft.

(7) SCREENS:

Well screen installed? [X] Yes [ ] No

Manufacturer's Name Hydrophilic

Type PVC sawcut Model No.

Diam. 1½ Slot Size .020 Set from 65 ft. to 75 ft.

Diam. 1½ Slot Size .020 Set from 85 ft. to 95 ft.

(8) WELL TESTS:

Drawdown is amount water level is lowered below static level

Was a pump test made? [ ] Yes [X] No If yes, by whom?

Yield: gal./min. with ft. drawdown after hrs.

" " " "

Air test gal./min. with drill stem at ft. hrs.

Bailer test gal./min. with ft. drawdown after hrs.

Artesian flow g.p.m.

Temperature of water Depth artesian flow encountered ft.

(9) CONSTRUCTION:

Special standards: Yes [ ] No [X]

Well seal—Material used Cement grout plus gel

Well sealed from land surface to 20 ft.

Diameter of well bore to bottom of seal 6 in.

Diameter of well bore below seal 6 & 4 in.

Amount of sealing material 3 sacks [X] pounds [ ]

How was cement grout placed? Tremmed into dry annular bore 20' to land surface

Was pump installed? no Type HP Depth ft.

Was a drive shoe used? [ ] Yes [X] No Plugs Size: location ft.

Did any strata contain unusable water? [ ] Yes [X] No

Type of Water? depth of strata

Method of sealing strata off

Was well gravel packed? [X] Yes [ ] No Size of gravel: #8 sand

Gravel placed from 60 ft. to 100 ft.

(10) LOCATION OF WELL by legal description:

County Wasco NE ¼ ¼ of Section 10 of

Township 1 N (Township is North or South), Range 13 E (Range is East or West), WM.

Tax Lot Lot Block Subdivision

MAILING ADDRESS OF WELL (or nearest address)

Kelley Ave. slide area, E. Scenic Drive
200 ft. N. E. of TW02

(11) WATER LEVEL of COMPLETED WELL:

Depth at which water was first found 67 ft.

Static level not recorded ft. below land surface. Date

Artesian pressure lbs. per square inch. Date

(12) WELL LOG:

Diameter of well below casing 4"

Depth drilled 116 ft. Depth of completed well 105 ft.

Formation: Describe color, texture, grain size and structure of materials; and show thickness and nature of each stratum and aquifer penetrated, with at least one entry for each change of formation. Report each change in position of Static Water Level and indicate principal water-bearing strata.

MATERIAL	From	To	SWL
Brown gravel & boulders, cemented	0	31	
Brown conglomerate(mud flow)	31	52	
Fracture zone, loss of circulation	42	45	
Gray-brown ash flow tuff	52	67	
Brown sand & gravel	67	74	W.B.
Brown claystone	74	82	
Gray-brown claystone, occ. sandy	82	110	W.B.
White claystone	110	111	
Gray siltstone, sticky	111	114	
Brown basalt, weathered	114	116	
Note: Bentonite plug	55	60	
Fill mixed w/dry bentonite	20	55	

Date work started 5/17/85 /completed 6/8/85

Date well drilling machine moved off of well 5/21/85 19

(unbonded) Water Well Constructor Certification (if applicable):

This well was constructed under my direct supervision. Materials used and information reported above are true to my best knowledge and belief.

[Signed] Date , 19

(bonded) Water Well Constructor Certification:

Bond 335-2916 (number) Issued by: Great American Insurance (Surety Company Name)

On behalf of A. M. Jannsen Well Drilling Co. Inc.

Preston A. Jannsen (type or print name of Water Well Constructor)

This well was drilled under my jurisdiction and this report is true to the best of my knowledge and belief:

(Signed) (Water Well Constructor)

(Dated) June 17, 1985

NOTICE TO WATER WELL CONSTRUCTOR
The original and first copy of this report are to be filed with the

WATER RESOURCES DEPARTMENT,
SALEM, OREGON 97310
within 30 days from the date of well completion.

SP*46866-690

RECEIVED
JUN 20 1985
WATER RESOURCES DEPT
SALEM, OREGON

WASC
002511

1N/13E-10c

STATE OF OREGON

WATER WELL REPORT

(as required by ORS 537.765)

PLEASE TYPE or PRINT IN INK

(for official use only)

(1) OWNER: Well Number TW-2

Name City of The Dalles

Address

City The Dalles, Oregon State 97058

(2) TYPE OF WORK (check):

New Well [X] Deepening [ ] Reconditioning [ ] Abandon [ ]

If abandonment, describe material and procedure in Item 12.

(3) TYPE OF WELL:

Rotary Air [X] Driven [ ]

Rotary Mud [ ] Dug [ ]

Cable [ ] Bored [ ]

(4) PROPOSED USE (check):

Domestic [ ] Industrial [ ] Municipal [ ]

Irrigation [ ] Thermal: Withdrawal [ ] Reinjection [ ]

Other: Piezometric [ ] Grounding [ ] Test [X]

(5) CASING INSTALLED:

Steel [X] Plastic [ ]

Threaded [ ] Welded [X]

8" Diam. from 0 ft. to 113 ft. Gauge .250

6" Diam. from 109 ft. to 114 ft. Gauge .250

6" Diam. from 154 ft. to 159 ft. Gauge .250

LINER INSTALLED:

Steel [ ] Plastic [ ]

Threaded [ ] Welded [ ]

" Diam. from ft. to ft. Gauge

(6) PERFORATIONS:

Perforated? [ ] Yes [X] No

Size of perforations in. by in.

perforations from ft. to ft.

perforations from ft. to ft.

perforations from ft. to ft.

(7) SCREENS:

Well screen installed? [X] Yes [ ] No

Manufacturer's Name UOP Johnson

Type 8" Telescope-Low Carbon Steel Model No.

Diam. 7-1/2 Slot Size 020 Set from 114 ft. to 154 ft.

Diam. Slot Size Set from ft. to ft.

(8) WELL TESTS:

Drawdown is amount water level is lowered below static level

Was a pump test made? [X] Yes [ ] No If yes, by whom? A.M.Jannsen

Yield: 80 gal./min. with 53 ft. drawdown after 48 hrs.

Air test gal./min. with drill stem at ft. hrs.

Bailer test gal./min. with ft. drawdown after hrs.

Artesian flow g.p.m.

Temperature of water Depth artesian flow encountered ft.

(9) CONSTRUCTION:

Special standards: Yes [ ] No [X]

Well seal—Material used Cement grout + 5% gel

Well sealed from land surface to 25 ft.

Diameter of well bore to bottom of seal 12 in.

Diameter of well bore below seal 8 in.

Amount of sealing material 14 sacks [X] pounds [ ]

How was cement grout placed? Tremmed into dry annular bore 25' to surface

Was pump installed? no Type HP Depth ft.

Was a drive shoe used? [X] Yes [ ] No Plugs Size: location ft.

Did any strata contain unusable water? [ ] Yes [X] No

Type of Water? depth of strata

Method of sealing strata off

Was well gravel packed? [ ] Yes [X] No Size of gravel:

Gravel placed from ft. to ft.

(10) LOCATION OF WELL by legal description:

County Wasco NE ¼ ¼ of Section 10 of

Township 1 N (Township is North or South), Range 13E (Range is East or West), WM.

Tax Lot Lot Block Subdivision

MAILING ADDRESS OF WELL (or nearest address)

(11) WATER LEVEL of COMPLETED WELL:

Depth at which water was first found (90)? 120 ft.

Static level 89 ft. below land surface. Date 6/8/85

Artesian pressure lbs. per square inch. Date

(12) WELL LOG:

Diameter of well below casing 8"

Depth drilled 180 ft. Depth of completed well 159 ft.

Formation: Describe color, texture, grain size and structure of materials; and show thickness and nature of each stratum and aquifer penetrated, with at least one entry for each change of formation. Report each change in position of Static Water Level and indicate principal water-bearing strata.

MATERIAL	From	To	SWL
Pavement & roadway fill	0	1	
Brown sand & gravel, cemented	1	10	
Brown siltstone & gravel	10	31	
(Fracture zone-loss of circulation	29	43)	
Brn.gravel & boulders, cemented	31	58	
Light gray siltstone, occ.gravel	58	77	
Brn.claystone w/gravel&boulders	77	85	
Brown gravel, cemented	85	95	trace w.l
Gray-brn.siltstone & gravel	95	104	
Gray siltstone (tuff)	104	115	
Red-brn.siltstone(tuff) occ. broken	115	130	
(waterbearing zone	120	130)	89'
Gray-brn.siltstone/sandstone (tuff) occ.broken=W.B. zone	130	152	
Multi-colored claystone. occ. rock fragments	152	155	
Brn.basalt, weathered, fractured	155	170	
Black-brown basalt, fractured	170	180	

Date work started 4/8/85 /completed 6/8/85

Date well drilling machine moved off of well 5/10/85 19

(unbonded) Water Well Constructor Certification (if applicable):

This well was constructed under my direct supervision. Materials used and information reported above are true to my best knowledge and belief.

[Signed] Date , 19

(bonded) Water Well Constructor Certification:

Bond 335-2916 (number) Issued by: Great American Insurance (Surety Company Name)

On behalf of A. M. Jannsen Well Drilling Co. Inc. Preston A. Jannsen (type or print name of Water Well Constructor)

This well was drilled under my jurisdiction and this report is true to the best of my knowledge and belief:

(Signed) (Water Well Constructor)

(Dated) June 14, 1985

NOTICE TO WATER WELL CONSTRUCTOR
The original and first copy of this report are to be filed with the

WATER RESOURCES DEPARTMENT, SALEM, OREGON 97310 within 30 days from the date of well completion.

SP*46866-690

WATER WELL REPORT
STATE OF OREGON

RECEIVED
JUN 20 1985
WATER RESOURCES DEPT
SALEM, OREGON

WASC 002510

State Well No. 1N/13E-10a

State Permit No.

(1) OWNER:
Name City of The Dalles
Address
City The Dalles, Oregon State 97058

(2) TYPE OF WORK (check):
New Well ☒ Deepening ☐ Reconditioning ☐ Abandon ☐
If abandonment, describe material and procedure in Item 12.

(3) TYPE OF WELL:
Rotary Air ☒ Driven ☐
Rotary Mud ☒ Dug ☐
Cable ☐ Bored ☐

(4) PROPOSED USE (check):
Domestic ☐ Industrial ☐ Municipal ☐
Irrigation ☐ Test Well ☐ Other ☒
Thermal: Withdrawal ☐ Reinjection ☐

(5) CASING INSTALLED:
Steel ☐ Plastic ☒
Threaded ☒ Welded ☐
1½" Diam. from 0 ft. to 145 ft. Gauge PVC SCH80
1½" Diam. from 155 ft. to 170 ft. Gauge PVC SCH 80

LINER INSTALLED:
" Diam. from ft. to ft. Gauge

(6) PERFORATIONS:
Perforated? ☐ Yes ☒ No
Type of perforator used
Size of perforations in. by in.
perforations from ft. to ft.
perforations from ft. to ft.
perforations from ft. to ft.

(7) SCREENS:
Well screen installed? ☒ Yes ☐ No
Manufacturer's Name Hydrophilic
Type PVC SAwcut slot Model No.
Diam. 1½" Slot Size .020 Set from 145 ft. to 155 ft.
Diam. Slot Size Set from ft. to ft.

(8) WELL TESTS:
Drawdown is amount water level is lowered below static level

Was a pump test made? ☐ Yes ☒ No If yes, by whom?
Yield: gal./min. with ft. drawdown after hrs.
" " " "
Air test gal./min. with drill stem at ft. hrs.
Bailer test gal./min. with ft. drawdown after hrs.
Artesian flow g.p.m.
Temperature of water Depth artesian flow encountered ft.

(9) CONSTRUCTION:
Special standards: Yes ☐ No ☒
Well seal—Material used Cement grout plus gel
Well sealed from land surface to 20 ft.
Diameter of well bore to bottom of seal 6 in.
Diameter of well bore below seal 6 & 4" in.
Number of sacks of cement used in well seal 3 sacks
How was cement grout placed? Tremmed into dry annular bore 20' to land surface

Was pump installed? no Type HP Depth ft.
Was a drive shoe used? ☐ Yes ☒ No Plugs Size: location ft.
Did any strata contain unusable water? ☐ Yes ☒ No
Type of Water? depth of strata
Method of sealing strata off
Was well gravel packed? ☒ Yes ☐ No Size of gravel: #8 sand
Gravel placed from 115 ft. to 165 ft.

(10) LOCATION OF WELL:
County Wasco ~~Driller's~~ well number O-1
NE ¼ ¼ Section 10 T. 1 N R. 13E W.M.
Tax Lot # Lot Blk Subdivision
Address at well location: Kelley ave. slide area, E. Scenic Drive, 40' S. of TW-1

(11) WATER LEVEL: Completed well.
Depth at which water was first found not recorded ft.
Static level not recorded ft. below land surface. Date –
Artesian pressure lbs. per square inch. Date

(12) WELL LOG:
Diameter of well below casing 4"
Depth drilled 180 ft. Depth of completed well 170 ft.
Formation: Describe color, texture, grain size and structure of materials; and show thickness and nature of each stratum and aquifer penetrated, with at least one entry for each change of formation. Report each change in position of Static Water Level and indicate principal water-bearing strata.

MATERIAL	From	To	SWL
Fill	0	2	
Brown sand & gravel, cemented	2	41	
Light brown silty sand, cemented	41	55	
Brown gravel, occ. boulders, cemented	55	90	
Fracture zone, loss of circulation	78	105	
Gray-brown claystone, occ. sandstone	90	177	
Brown basalt, weathered	177	180	
Note: Bentonite plug	100	115	
Fill mixed w/dry bentonite	20	100	

Work started 4/16/85 19 Completed 6/8/85 19
Date well drilling machine moved off of well 4/23/85 19

Drilling Machine Operator's Certification:
This well was constructed under my direct supervision. Materials used and information reported above are true to my best knowledge and belief.
[Signed] (Drilling Machine Operator) Date , 19
Drilling Machine Operator's License No. BOND 335-2916

Water Well Contractor's Certification:
This well was drilled under my jurisdiction and this report is true to the best of my knowledge and belief.
Name A. M. JANNSEN WELL DRILLING CO., INC. (Person, firm or corporation) (Type or print)
Address 21075 SW Tualatin Valley Hwy. Aloha, OR
[Signed] (Water Well Contractor)
Contractor's License No. Date 6/17/85, 19

NOTICE TO WATER WELL CONTRACTOR
The original and first copy of this report are to be filed with the WATER RESOURCES DEPARTMENT, SALEM, OREGON 97310 within 30 days from the date of well completion.

SP*12658-690

WATER WELL REPORT
STATE OF OREGON

RECEIVED
JUN 20 1985
WATER RESOURCES DEPT
SALEM, OREGON

WASC
002509

State Well No. 1N/13E-10L

State Permit No.

(1) OWNER:
Name City of The Dalles
Address
City The Dalles, Oregon State 97058

(2) TYPE OF WORK (check):
New Well ☒ Deepening ☐ Reconditioning ☐ Abandon ☐
If abandonment, describe material and procedure in Item 12.

(3) TYPE OF WELL:
Rotary Air ☒ Driven ☐
Rotary Mud ☒ Dug ☐
Cable ☐ Bored ☐

(4) PROPOSED USE (check):
Domestic ☐ Industrial ☐ Municipal ☐
Irrigation ☐ Test Well ☐ Other ☒
Thermal: Withdrawal ☐ Reinjection ☐

(5) CASING INSTALLED:
Steel ☐ Plastic ☒
Threaded ☒ Welded ☐
1½" Diam. from 0 ft. to 160 ft. Gauge SCH. 80
1½" Diam. from 170 ft. to 182 ft. Gauge SCH. 80

LINER INSTALLED:
" Diam. from ft. to ft. Gauge

(6) PERFORATIONS:
Perforated? ☐ Yes ☒ No
Type of perforator used
Size of perforations in. by in.
perforations from ft. to ft.
perforations from ft. to ft.
perforations from ft. to ft.

(7) SCREENS:
Well screen installed? ☒ Yes ☐ No
Manufacturer's Name Hydrophilic
Type PVC Sawcut slot Model No.
Diam. 1½" Slot Size .020 Set from 160 ft. to 170 ft.
Diam. Slot Size Set from ft. to ft.

(8) WELL TESTS:
Drawdown is amount water level is lowered below static level
Was a pump test made? ☐ Yes ☒ No If yes, by whom?
gal./min. with ft. drawdown after hrs.
" " "
Air test gal./min. with drill stem at ft. hrs.
Bailer test gal./min. with ft. drawdown after hrs.
Artesian flow g.p.m.
Temperature of water Depth artesian flow encountered ft.

(9) CONSTRUCTION:
Special standards: Yes ☐ No ☒
Well seal—Material used Cement grout + gel
Well sealed from land surface to 20 ft.
Diameter of well bore to bottom of seal 6 in.
Diameter of well bore below seal 6" & 4" in.
Number of sacks of cement used in well seal 3 sacks
How was cement grout placed? Tremmed into dry annular bore 20 ft. to land surface. Bentonite plug 90' to 100'. Fill mixed w/dry bentonite 20 - 90'
Was pump installed? no Type HP Depth ft.
Was a drive shoe used? ☐ Yes ☒ No Plugs Size: location ft.
Did any strata contain unusable water? ☐ Yes ☒ No
Type of Water? depth of strata
Method of sealing strata off
Was well gravel packed? ☒ Yes ☐ No Size of gravel: #8 sand
Gravel placed from 100 ft. to 187 ft.

(10) LOCATION OF WELL:
County Wasco Driller's well number 0-2
NE ¼ ¼ Section 10 T. 1 N R. 13E W.M.
Tax Lot # Lot Blk Subdivision
Address at well location:

(11) WATER LEVEL: Completed well.
Depth at which water was first found 158 ft.
Static level not recorded ft. below land surface. Date
Artesian pressure lbs. per square inch. Date

(12) WELL LOG:
Diameter of well below casing 4"
Depth drilled 187 ft. Depth of completed well 182 ft.
Formation: Describe color, texture, grain size and structure of materials; and show thickness and nature of each stratum and aquifer penetrated, with at least one entry for each change of formation. Report each change in position of Static Water Level and indicate principal water-bearing strata.

MATERIAL	From	To	SWL
Rock fill	0	2	
Brown soil, clay, occ. gravel	2	8	
Brown silty sandstone, occ. gravel	8	19	
Brown gravel, occ. boulders, cemented	19	34	
Brown claystone w/boulders	34	44	
Light brown siltstone, occ. boulders	44	58	
Brown gravel & boulders, cemented	58	90	
Fractured zone, loss of circulation	70	75	
Claystone, occ. gravel- "	90	100	
Brown claystone/siltstone	100	125	
Gray claystone/siltstone	125	148	
Lt. brown claystone/siltstone	148	158	
Brown sand/sandstone	158	171	W.B.
Brown siltstone/claystone	171	180	
Gray claystone/siltstone	180	185	
Brown basalt/weathered	185	187	

Work started 4/23/85 19 Completed 6/8/85 19
Date well drilling machine moved off of well 4/25/85 19

Drilling Machine Operator's Certification:
This well was constructed under my direct supervision. Materials used and information reported above are true to my best knowledge and belief.
[Signed] (Drilling Machine Operator) Date , 19
Drilling Machine Operator's License No. Bond #335-2916 Great American Ins.

Water Well Contractor's Certification:
This well was drilled under my jurisdiction and this report is true to the best of my knowledge and belief.
Name A. M. JANNSEN WELL DRILLING CO., INC. (Person, firm or corporation) (Type or print)
Address 21075 SW Tualatin Valley Hwy. Aloha, OR.
[Signed] (Water Well Contractor)
Contractor's License No. Date , 19

NOTICE TO WATER WELL CONTRACTOR
The original and first copy of this report are to be filed with the WATER RESOURCES DEPARTMENT, SALEM, OREGON 97310 within 30 days from the date of well completion.

SP*12658-690

WATER WELL REPORT
STATE OF OREGON

RECEIVED
JUN 20 1985
WATER RESOURCES DEPT
SALEM, OREGON

WASCO
002508

State Well No. 1N/13E-10a

State Permit No.

(1) OWNER:
Name City of The Dalles
Address
City The Dalles, OR State 97058

(2) TYPE OF WORK (check):
New Well ☒ Deepening ☐ Reconditioning ☐ Abandon ☐
If abandonment, describe material and procedure in Item 12.

(3) TYPE OF WELL:
Rotary Air ☒ Driven ☐
Rotary Mud ☒ Dug ☐
Cable ☐ Bored ☐

(4) PROPOSED USE (check):
Domestic ☐ Industrial ☐ Municipal ☐
Irrigation ☐ Test Well ☐ Other ☒
Thermal: Withdrawal ☐ Reinjection ☐

(5) CASING INSTALLED:
Steel ☐ Plastic ☒
Threaded ☒ Welded ☐
1½" Diam. from 0 ft. to 147 ft. Gauge PVC Sch. 80
1½" Diam. from 157 ft. to 172 ft. Gauge PVC Sch. 80

LINER INSTALLED:
" Diam. from ft. to ft. Gauge

(6) PERFORATIONS:
Perforated? ☐ Yes ☒ No
Type of perforator used
Size of perforations in. by in.
perforations from ft. to ft.
perforations from ft. to ft.
perforations from ft. to ft.

(7) SCREENS:
Well screen installed? ☒ Yes ☐ No
Manufacturer's Name Hydrophilic
Type PVC Sawcut slot Model No.
Diam. 1½" Slot Size .020 Set from 147 ft. to 157 ft.
Diam. Slot Size Set from ft. to ft.

(8) WELL TESTS:
Drawdown is amount water level is lowered below static level
Was a pump test made? ☐ Yes ☒ No If yes, by whom?
" gal./min. with ft. drawdown after hrs.
" " "
Air test gal./min. with drill stem at ft. hrs.
Bailer test gal./min. with ft. drawdown after hrs.
Artesian flow g.p.m.
Temperature of water Depth artesian flow encountered ft.

(9) CONSTRUCTION:
Special standards: Yes ☐ No ☒
Well seal—Material used Cement grout + gel
Well sealed from land surface to 20 ft.
Diameter of well bore to bottom of seal 6 in.
Diameter of well bore below seal 6 & 4" in.
Number of sacks of cement used in well seal 3 sacks
How was cement grout placed? Tremmed into dry annular bore 20 ft. to land surface
Was pump installed? no Type HP Depth ft.
Was a drive shoe used? ☐ Yes ☒ No Plugs Size: location ft.
Did any strata contain unusable water? ☐ Yes ☒ No
Type of Water? depth of strata
Method of sealing strata off
Was well gravel packed? ☒ Yes ☐ No Size of gravel: #8 sand
Gravel placed from 132 ft. to 180 ft.

(10) LOCATION OF WELL:
County Wasco Driller's well number) 0-3
NE ¼ ¼ Section 10 T. 1N R 13E W.M.
Tax Lot # Lot Blk Subdivision
Address at well location: Kelley Ave. slide area, E. Scenic Drive, 100' SE of TW-1

(11) WATER LEVEL: Completed well.
Depth at which water was first found 140 ft.
Static level not recorded ft. below land surface. Date
Artesian pressure lbs. per square inch. Date

(12) WELL LOG:
Diameter of well below casing 4"
Depth drilled 180 ft. Depth of completed well 172 ft.
Formation: Describe color, texture, grain size and structure of materials; and show thickness and nature of each stratum and aquifer penetrated, with at least one entry for each change of formation. Report each change in position of Static Water Level and indicate principal water-bearing strata.

MATERIAL	From	To	SWL
Roadway and fill	0	1	
Brown clay, occ. gravel	1	13	
Brown claystone, occ. gravel	13	33	
Brown gravel & boulders, cemented	33	48	
Brown claystone, occ. gravel	48	71	
Gray claystone	71	77	
Brown conglomerate	77	82	
Gray-brown conglomerate	82	100	
Red-brown claystone	100	112	
Gray siltstone/sandstone	112	140	
Brn. siltstone, occ. sand streaks	140	155	W.B.
Brn. claystone, occ. sand streaks	155	171	W.B.
Gray claystone	171	175	
Brown basalt, weathered	175	180	
Note: Bentonite plug	127	132	
Fill mixed w/dry bentonite	20	127	

Work started 4/25/85 19 Completed 6/8/85 19
Date well drilling machine moved off of well 4/30/85 19

Drilling Machine Operator's Certification:
This well was constructed under my direct supervision. Materials used and information reported above are true to my best knowledge and belief.
[Signed] (Drilling Machine Operator) Date , 19
Drilling Machine Operator's License No. Bond #335-2916 ~~Great American Ins.~~

Water Well Contractor's Certification:
This well was drilled under my jurisdiction and this report is true to the best of my knowledge and belief.
Name A. M. Jannsen Well Drilling Co., Inc. (Person, firm or corporation) (Type or print)
Address 21075 SW Tualatin Valley Hwy., Aloha, OR
[Signed] (Water Well Contractor)
Contractor's License No. Date , 19

NOTICE TO WATER WELL CONTRACTOR
The original and first copy of this report are to be filed with the WATER RESOURCES DEPARTMENT, SALEM, OREGON 97310 within 30 days from the date of well completion.

SP*12658-690

STATE OF OREGON

WATER WELL REPORT

(as required by ORS 537.765)

RECEIVED
APR 11 1988
WATER RESOURCES DEPT
SALEM, OREGON

WASC
002507

1N/13E-10D6

(1) OWNER:

Name City of THE Dalles
Address 313 Court St
City THE Dalles State OR Zip 97058

(2) TYPE OF WORK:

☒ New Well ☐ Deepen ☐ Recondition ☐ Abandon

(3) DRILL METHOD

☒ Rotary Air ☐ Rotary Mud ☐ Cable
☐ Other

(4) PROPOSED USE:

☐ Domestic ☐ Community ☐ Industrial ☐ Irrigation
☐ Thermal ☐ Injection ☐ Other dewatering

(5) BORE HOLE CONSTRUCTION:

Special Construction approval Yes ☒ No ☐ Depth of Completed Well 218 ft.
Explosives used Yes ☐ No ☒ Type ____ Amount ____

HOLE Diameter	From	To	SEAL Material	From	To	Amount sacks or pounds
8"	0	218	cement	10'	20'	6 sack
			bentonite	0	10'	8 sack

How was seal placed: Method ☐ A ☐ B ☒ C ☐ D ☐ E
☐ Other
Backfill placed from ____ ft. to ____ ft. Material ____
Gravel placed from ____ ft. to ____ ft. Size of gravel ____

(6) CASING/LINER:

	Diameter	From	To	Gauge	Steel	Plastic	Welded	Threaded
Casing:	8"	0	162'8"	.250	☒	☐	☒	☐
					☐	☐	☐	☐
					☐	☐	☐	☐
					☐	☐	☐	☐
Liner:					☐	☐	☐	☐
					☐	☐	☐	☐

Final location of shoe(s) 162.8

(7) PERFORATIONS/SCREENS:

☐ Perforations Method ____
☐ Screens Type ____ Material ____

From	To	Slot size	Number	Diameter	Tele/pipe size	Casing	Liner
						☐	☐
						☐	☐
						☐	☐
						☐	☐
						☐	☐
						☐	☐

(8) WELL TESTS: Minimum testing time is 1 hour

☐ Pump ☐ Bailer ☒ Air ☐ Flowing Artesian

Yield gal/min	Drawdown	Drill stem at	Time
180 gpm	90'	180'	1 hr.

Temperature of water ____ Depth Artesian Flow Found ____
Was a water analysis done? ☐ Yes By whom ____
Did any strata contain water not suitable for intended use? ☐ Too little
☐ Salty ☐ Muddy ☐ Odor ☐ Colored ☐ Other ____
Depth of strata: ____

(9) LOCATION OF WELL by legal description:

County Wasco Latitude ____ Longitude ____
Township 1 ☒ N or S, Range 13 ☒ E or W, WM.
Section 10 NW ¼ NW ¼
Tax Lot ____ Lot ____ Block ____ Subdivision ____
Street Address of Well (or nearest address) 600 E. Scenic Dr. The Dalles, OR 97058

(10) STATIC WATER LEVEL:

126' ft. below land surface. Date 03-31-88
Artesian pressure ____ lb. per square inch. Date ____

(11) WATER BEARING ZONES:

Depth at which water was first found 93'

From	To	Estimated Flow Rate	SWL
93	123	5 gpm	86'
158	190	20 gpm	126
194	206	155 gpm	126

(12) WELL LOG:

Ground elevation ____

Material	From	To	SWL
BASALT - BROKEN & top soil	0	4'	
RIVER GRAVEL & SAND	4'	30'	
SANDSTONE & GRAVEL - BROWN	30'	35'	
CLAYSTONE - white	35'	47'	
SANDSTONE - BROWN, HARD W/GRAY	47'	80'	
SANDSTONE - BROWN & BASALT FRAGMENTS	80'	86'	
CLAYSTONE - GRAY	86'	93'	
SANDSTONE - BROWN, MED WB CRACKS	93'	114'	
SANDSTONE - BROWN, YELLOW SEAMS WB	114'	123'	86
SANDSTONE - BROWN, MED	123'	158'	86
SANDSTONE - BROWN-GILTSTONE-YELLOW WB	158'	169'	126
SAND & PEA GRAVEL CEMENTED WB	169'	180'	126
SANDSTONE - BROWN, MED.	180'	194'	126
SOAPSTONE - white &			126
SANDSTONE - BROWN WB	194'	196'	126
BASALT - BROWN, YELLOW, WEATHERED WB	196'	199'	126
BASALT - BROWN, MED. FRACTURED WB	199'	206'	126
BASALT - black, FRACTURED W/ GREEN MIN	206'	218'	126

Date started 02-02-88 Completed 03-31-88

(unbonded) Water Well Constructor Certification:

I certify that the work I performed on the construction, alteration, or abandonment of this well is in compliance with Oregon well construction standards. Materials used and information reported above are true to my best knowledge and belief.

WWC Number ____
Signed ____ Date ____

(bonded) Water Well Constructor Certification:

I accept responsibility for the construction, alteration, or abandonment work performed on this well during the construction dates reported above. all work performed during this time is in compliance with Oregon well construction standards. This report is true to the best of my knowledge and belief.

WWC Number 731
Signed Charles J. Mayo Date 03-31-88

WHITE COPIES - WATER RESOURCES DEPARTMENT YELLOW COPY - CONSTRUCTOR PINK COPY - CUSTOMER 9809C 10/86

WASCO
002507

№ 0304

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FEB 0 1988
WATER RESOURCES DEPT
SALEM, OREGON

"START CARD"
NOTICE OF BEGINNING OF WELL CONSTRUCTION
(as required by ORS 537.762)

This form must be completed, signed by both the owner (or authorized agent) and constructor, and the original delivered to the Water Resources Department prior to commencement of construction, alteration or abandonment of each well.

Owner's Name and Mailing Address: City of The Dalles
313 Court St
The Dalles Or 97058

Proposed Commencement Date: 2-2-88

Proposed Well Depth: 200' Diameter: 8" well #6

and Use:
☐ Domestic ☐ Community ☐ Industrial ☐ Irrigation
☐ Thermal ☐ Injection ☐ Other de-watering

Proposed Well Location: County: Wasco

Township: 1 (N or S) Range: 13 (E or W) Section: 10

At least 2 of these must be provided:
1. NW 1/4 of NW 1/4 of above section
2. street address of well location
3. tax lot number of well location
4. attach approved map with location identified. (see reverse of this form for approved maps)

We hereby certify that we have read the back of this form, and that to the best of our knowledge the information provided herein is accurate and the well is being properly located from septic tanks and septic drain fields.

x [signature] Owner's Signature
SHANNON & WILSON, INC.
FOR CITY OF THE DALLES
Title
2/1/88
Date

x Charles L Moore
Bonded Water Well Constructor
License No. 731
Company M-K Drilling Co.

Note: This is not a Water Right application. The owner is responsible for obtaining a Water Right through the Water Resources Department if required.

Form 537.762 1987

STATE OF OREGON

WATER WELL REPORT

(as required by ORS 537.765)

RECEIVED
APR 11 1988
WATER RESOURCES DEPT
SALEM, OREGON

WASC
002506

1N/13E-10a6

(1) OWNER:

Name City of The Dalles
Address 313 Court St.
City The Dalles State OR Zip 97058

(2) TYPE OF WORK:

☒ New Well ☐ Deepen ☐ Recondition ☐ Abandon

(3) DRILL METHOD

☒ Rotary Air ☐ Rotary Mud ☐ Cable
☐ Other

(4) PROPOSED USE:

☐ Domestic ☐ Community ☐ Industrial ☐ Irrigation
☐ Thermal ☐ Injection ☐ Other de watering

(5) BORE HOLE CONSTRUCTION:

Special Construction approval Yes ☒ No ☐ Depth of Completed Well 224 ft.
Explosives used Yes ☒ No ☐ Type _____ Amount _____

HOLE Diameter	From	To	SEAL Material	From	To	Amount sacks or pounds
8"	0	183	bentonite	0	10'	10 sacks
6"	183	224	cement	10'	20'	4 sacks

How was seal placed: Method ☐ A ☐ B ☒ C ☐ D ☐ E
☐ Other
Backfill placed from _____ ft. to _____ ft. Material _____
Gravel placed from _____ ft. to _____ ft. Size of gravel _____

(6) CASING/LINER:

	Diameter	From	To	Gauge	Steel	Plastic	Welded	Threaded
Casing:	8"	0	93.5	.250	☒	☐	☒	☐
					☐	☐	☐	☐
					☐	☐	☐	☐
					☐	☐	☐	☐
Liner:	6"				☐	☒	☒	☐
					☐	☐	☐	☐

Final location of shoe(s) 93.5'

(7) PERFORATIONS/SCREENS:

☐ Perforations Method _____
☐ Screens Type _____ Material _____

From	To	Slot size	Number	Diameter	Tele/pipe size	Casing	Liner
						☐	☐
						☐	☐
						☐	☐
						☐	☐
						☐	☐
						☐	☐

(8) WELL TESTS: Minimum testing time is 1 hour

☐ Pump ☐ Bailer ☒ Air ☐ Flowing Artesian

Yield gal/min	Drawdown	Drill stem at	Time
13 gpm	100'	180'	1 hr.

Temperature of water _____ Depth Artesian Flow Found _____
Was a water analysis done? ☐ Yes By whom _____
Did any strata contain water not suitable for intended use? ☐ Too little
☐ Salty ☐ Muddy ☐ Odor ☐ Colored ☐ Other _____
Depth of strata: _____

(9) LOCATION OF WELL by legal description:

County Wasco Latitude _____ Longitude _____
Township 1 ☒ N or S, Range 13 ☒ E or W, WM.
Section 10 NW ¼ NE ¼
Tax Lot _____ Lot _____ Block _____ Subdivision _____
Street Address of Well (or nearest address) 1031 E. Scenic Dr. The Dalles, OR 97058

(10) STATIC WATER LEVEL:

80' ft. below land surface. Date 03-31-88
Artesian pressure _____ lb. per square inch. Date _____

(11) WATER BEARING ZONES:

Depth at which water was first found 130'

From	To	Estimated Flow Rate	SWL
130'	146'	10 gpm	80'
175	196	3 gpm	80'

(12) WELL LOG:

Ground elevation _____

Material	From	To	SWL
SAND, SMALL GRAVEL MIX	0	16'	
RIVER GRAVEL, SAND & boulders	16'	50'	
SANDSTONE - GRAY, FINE GRAINED	50'	65'	
GRAVEL & SAND - CEMENT FINES	65'	75'	
SANDSTONE - BROWN	75'	81'	
Siltstone - GRAY, BROWN WB at 130-146	81'	146'	80
BASALT - BROWN WEATHERED			80
SOAPSTONE - white	146'	151'	80
BASALT - BROWN & GRAY - MED.	151'	162'	80
BASALT - BLACK & GREEN - MIN deposits	162'	175'	80
BASALT - BLACK, GREEN & WHITE MIN			80
Some DAYSTONE WB	175'	193'	80
BASALT - BROWN & BLACK - MED	193'	205'	80
Basalt black hard w green claystone	205	224	80

Date started 01-25-88 Completed 03-31-88

(unbonded) Water Well Constructor Certification:

I certify that the work I performed on the construction, alteration, or abandonment of this well is in compliance with Oregon well construction standards. Materials used and information reported above are true to my best knowledge and belief.

WWC Number _____
Signed _____ Date _____

(bonded) Water Well Constructor Certification:

I accept responsibility for the construction, alteration, or abandonment work performed on this well during the construction dates reported above. all work performed during this time is in compliance with Oregon well construction standards. This report is true to the best of my knowledge and belief.

WWC Number 731
Signed Charles Moore Date 3-31-88

WHITE COPIES - WATER RESOURCES DEPARTMENT YELLOW COPY - CONSTRUCTOR PINK COPY - CUSTOMER 9809C 10/86

00250B

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FEB 09 1988

WATER RESOURCES DEPT.
SALEM, OREGON

"START CARD"
NOTICE OF BEGINNING OF WELL CONSTRUCTION
(as required by ORS 537.762)

This form must be completed, signed by both the owner (or authorized agent) and constructor, and the original delivered to the Water Resources Department prior to commencement of construction, alteration or abandonment of each well.

Owner's Name and Mailing Address: City of The Dalles
313 Court St
The Dalles Or. 97058

Proposed Commencement Date: Dec 25 1988 ~~8" well clean out existing wells~~

Proposed Well Depth: 200' Diameter: 8" well # 3

and Use:
- ☐ Domestic
- ☐ Thermal
- ☐ Community
- ☒ Injection
- ☐ Industrial
- ☐ Other
- ☒ Irrigation de-watering wells

Proposed Well Location: County: Wasco

Township 1 (N or S) Range 13 (E or W) Section 10

At least 2 of these must be provided:
1. NW 1/4 of NE 1/4 of above section
2. street address of well location
3. tax lot number of well location

attach approved map with location identified.
(see reverse of this form for approved maps)

We hereby certify that we have read the back of this form, and that to the best of our knowledge the information provided herein is accurate and the well is being properly located from septic tanks and septic drain fields.

x [signature] Owner's Signature
SHANNON & WILSON, INC
FOR CITY OF THE DALLES Title
2/1/88 Date

x Charles L Moore
x MK Drilling Co. Bonded Water Well Constructor
License No. 731
Company MK Drilling Co.

Note: This is not a Water Right application. The owner is responsible for obtaining a Water Right through the Water Resources Department if required.

Form 537.762 1987

STATE OF OREGON

WATER WELL REPORT

(as required by ORS 537.765)

RECEIVED WASC 002505 APR 11 1988

1N/13E-10ab

(1) OWNER:

Well Number: 7

Name City of The Dalles WATER RESOURCES DEPT.

Address 313 Court Street SALEM, OREGON

City The Dalles State OR Zip 97058

(2) TYPE OF WORK:

☒ New Well ☐ Deepen ☐ Recondition ☐ Abandon

(3) DRILL METHOD

☒ Rotary Air ☐ Rotary Mud ☐ Cable

☐ Other

(4) PROPOSED USE:

☐ Domestic ☐ Community ☐ Industrial ☐ Irrigation

☐ Thermal ☐ Injection ☒ Other de-watering

(5) BORE HOLE CONSTRUCTION:

Special Construction approval Yes ☒ No ☐ Depth of Completed Well 162 ft.

Explosives used Yes ☐ No ☒ Type ____ Amount ____

HOLE Diameter	From	To	SEAL Material	From	To	Amount sacks or pounds
8"	0	121	bentonite	0	10'	8 s.
6	121	162	cement	10'	20'	8 s.

How was seal placed: Method ☐ A ☐ B ☒ C ☐ D ☐ E

☐ Other

Backfill placed from ____ ft. to ____ ft. Material ____

Gravel placed from ____ ft. to ____ ft. Size of gravel ____

(6) CASING/LINER:

	Diameter	From	To	Gauge	Steel	Plastic	Welded	Threaded
Casing:	8"	0	78'	.250	☒	☐	☒	☐
					☐	☐	☐	☐
					☐	☐	☐	☐
					☐	☐	☐	☐
Liner:					☐	☐	☐	☐
					☐	☐	☐	☐

Final location of shoe(s) ____

(7) PERFORATIONS/SCREENS:

☐ Perforations Method ____

☐ Screens Type ____ Material ____

From	To	Slot size	Number	Diameter	Tele/pipe size	Casing	Liner
						☐	☐
						☐	☐
						☐	☐
						☐	☐
						☐	☐
						☐	☐

(8) WELL TESTS: Minimum testing time is 1 hour

☐ Pump ☐ Bailer ☒ Air ☐ Flowing Artesian

Yield gal/min	Drawdown	Drill stem at	Time
30	100'	160	1 hr.

Temperature of water ____ Depth Artesian Flow Found ____

Was a water analysis done? ☐ Yes By whom ____

Did any strata contain water not suitable for intended use? ☐ Too little

☐ Salty ☐ Muddy ☐ Odor ☐ Colored ☐ Other ____

Depth of strata: ____

(9) LOCATION OF WELL by legal description:

County Wasco Latitude ____ Longitude ____

Township 1 ☐N or S, Range 13 ☒E or W, WM.

Section 10 NW ¼ NE ¼

Tax Lot ____ Lot ____ Block ____ Subdivision ____

Street Address of Well (or nearest address) 1101 E. 16th ST. The Dalles, OR 97058

(10) STATIC WATER LEVEL:

42' ft. below land surface. Date 03-31-88

Artesian pressure ____ lb. per square inch. Date ____

(11) WATER BEARING ZONES:

Depth at which water was first found 59'

From	To	Estimated Flow Rate	SWL
59	62	5 gpm	42
76	94	20 gpm	42
129	131	3 gpm	42
138	144	2 gpm	42

(12) WELL LOG:

Ground elevation ____

Material	From	To	SWL
Gravel & sand.....	0	1	
Sand & river gravel.....	1	23	
River gravel, cemented w/ brown sandstone & layers of siltstone.....	23	42	
Brown sandstone & river gravel.....	42	59	
Gray & red siltstone & river gravel...WB.....	59	62	42
Gray & yellow siltstone..	62	73	"
Brown siltstone & white soapstone.....	73	76	"
Brown basalt, weathered, WB & green mineral deposits	76	83	"
Brown basalt, weathered, med...WB.....	83	94	"
Gray basalt, med.....	94	112	"
Brown basalt, med.fract..	112	126	"
Brown basalt,& white claystone.....	126	129	"
Brown & white basalt, vescular, W.B..... with white claystone....	129	131	"

Date started Continued attached Completed Page

(unbonded) Water Well Constructor Certification:

I certify that the work I performed on the construction, alteration, or abandonment of this well is in compliance with Oregon well construction standards. Materials used and information reported above are true to my best knowledge and belief.

Signed Charles L Moore WWC Number ____ Date 03-31-88

(bonded) Water Well Constructor Certification:

I accept responsibility for the construction, alteration, or abandonment work performed on this well during the construction dates reported above. all work performed during this time is in compliance with Oregon well construction standards. This report is true to the best of my knowledge and belief.

Signed Charles L Moore WWC Number 731 Date 03-31-88

WHITE COPIES - WATER RESOURCES DEPARTMENT YELLOW COPY - CONSTRUCTOR PINK COPY - CUSTOMER 9809C 10/86

JCAW

No. 0308

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FEB 25 19

WATER RESOURCES DEPT
SALEM, OREGON

"START CARD"

NOTICE OF BEGINNING OF WELL CONSTRUCTION

(as required by ORS 537.762)

This form must be completed, signed by both the owner (or authorized agent) and constructor, and the original delivered to the Water Resources Department prior to commencement of construction, alteration or abandonment of each well.

Owner's Name and Mailing Address: The City of The Dalles
313 Court St
The Dalles Oregon 97058

Proposed Commencement Date 2-23

Well #7

Proposed Well Depth 200, Diameter 8"

and Use:

☐ Domestic ☐ Community ☐ Industrial ☐ Irrigation
☐ Thermal ☐ Injection ☐ Other de-watering well

Proposed Well Location: County Wasco

Township 1 (N) or S) Range 13 (E) or W) Section 10

At least 2 of these must be provided:

1. NW 1/4 of NE 1/4 of above section
2. street address of well location
3. tax lot number of well location
4. attach approved map with location identified. (see reverse of this form for approved maps)

We hereby certify that we have read the back of this form, and that to the best of our knowledge the information provided herein is accurate and the well is being properly located from septic tanks and septic drain fields.

x [signature] - SHANNON & WILSON, INC.
Owner's Signature

For The City of The Dalles
Title

2/2/88
Date

x Charles L Moore
Bonded Water Well Constructor

License No. 0731

Company M K Drilling Co

Note: This is not a Water Right application. The owner is responsible for obtaining a Water Right through the Water Resources Department if required.

Form 537.762 1987

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WATER RESOURCES DEPT.
SALEM, OREGON

1n/13E-10ab

Pg 2 of 2

STATE OF OREGON

WATER WELL REPORT

(as required by ORS 537.765)

Well Number:

(1) OWNER:

Name City of The Dalles

Address 313 Court Street

City The Dalles State OR Zip 98058

(2) TYPE OF WORK:

☐ New Well ☐ Deepen ☐ Recondition ☐ Abandon

(3) DRILL METHOD

☐ Rotary Air ☐ Rotary Mud ☐ Cable

☐ Other

(4) PROPOSED USE:

☐ Domestic ☐ Community ☐ Industrial ☐ Irrigation

☐ Thermal ☐ Injection ☐ Other

(5) BORE HOLE CONSTRUCTION:

Special Construction approval Yes ☐ No ☐ Depth of Completed Well ____ ft.

Explosives used Yes ☐ No ☐ Type ____ Amount ____

HOLE Diameter	From	To	SEAL Material	From	To	Amount sacks or pounds

How was seal placed: Method ☐ A ☐ B ☐ C ☐ D ☐ E

☐ Other

Backfill placed from ____ ft. to ____ ft. Material ____

Gravel placed from ____ ft. to ____ ft. Size of gravel ____

(6) CASING/LINER:

	Diameter	From	To	Gauge	Steel	Plastic	Welded	Threaded
Casing:					☐	☐	☐	☐
					☐	☐	☐	☐
					☐	☐	☐	☐
					☐	☐	☐	☐
Liner:					☐	☐	☐	☐
					☐	☐	☐	☐

Final location of shoe(s)

(7) PERFORATIONS/SCREENS:

☐ Perforations Method

☐ Screens Type ____ Material ____

From	To	Slot size	Number	Diameter	Tele/pipe size	Casing	Liner
						☐	☐
						☐	☐
						☐	☐
						☐	☐
						☐	☐
						☐	☐

(8) WELL TESTS: Minimum testing time is 1 hour

☐ Pump ☐ Bailer ☐ Air ☐ Flowing Artesian

Yield gal/min	Drawdown	Drill stem at	Time
			1 hr.

Temperature of water ____ Depth Artesian Flow Found ____

Was a water analysis done? ☐ Yes By whom ____

Did any strata contain water not suitable for intended use? ☐ Too little

☐ Salty ☐ Muddy ☐ Odor ☐ Colored ☐ Other ____

Depth of strata: ____

(9) LOCATION OF WELL by legal description:

County ____ Latitude ____ Longitude ____

Township ____ N or S, Range ____ E or W, WM.

Section ____ ¼ ____ ¼

Tax Lot ____ Lot ____ Block ____ Subdivision ____

Street Address of Well (or nearest address) ____

(10) STATIC WATER LEVEL:

____ ft. below land surface. Date ____

Artesian pressure ____ lb. per square inch. Date ____

(11) WATER BEARING ZONES:

Depth at which water was first found ____

From	To	Estimated Flow Rate	SWL

(12) WELL LOG:

Ground elevation ____

Material	From	To	SWL
White clay,soft.....	131'	134'	42
White clay, soft & green			"
claystone, hard.....	134	138	"
Brown & red basalt,porous,			
weathered & W.B.....	138	149	"
Gray basalt, med. hard....	149	151	"
Brown, red, & green			
basalt, weathered.....	151	159	"
Black basalt, hard.....	159	162	"

Date started 02-23-88 Completed 03-31-88

(unbonded) Water Well Constructor Certification:

I certify that the work I performed on the construction, alteration, or abandonment of this well is in compliance with Oregon well construction standards. Materials used and information reported above are true to my best knowledge and belief.

WWC Number ____

Signed ____ Date ____

(bonded) Water Well Constructor Certification:

I accept responsibility for the construction, alteration, or abandonment work performed on this well during the construction dates reported above. all work performed during this time is in compliance with Oregon well construction standards. This report is true to the best of my knowledge and belief.

WWC Number ____

Signed ____ Date ____

WHITE COPIES - WATER RESOURCES DEPARTMENT YELLOW COPY - CONSTRUCTOR PINK COPY - CUSTOMER 9809C 10/86

No. 0308

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WATER RESOURCES DEPT
SALEM, OREGON

"START CARD"

NOTICE OF BEGINNING OF WELL CONSTRUCTION

(as required by ORS 537.762)

This form must be completed, signed by both the owner (or authorized agent) and constructor, and the original delivered to the Water Resources Department prior to commencement of construction, alteration or abandonment of each well.

Owner's Name and Mailing Address: The City of The Dalles
313 Court St
The Dalles Oregon 97058

Proposed Commencement Date 2-23

Well #7

Proposed Well Depth and Use: 200 Diameter 8"

☐ Domestic ☐ Community ☐ Industrial ☐ Irrigation
☐ Thermal ☐ Injection ☐ Other de-watering well

Proposed Well Location: County Wasco

Township 1 (N or S) Range 13 (E or W) Section 10

At least 2 of these must be provided:

1. NW 1/4 of NE 1/4 of above section
2. street address of well location
3. tax lot number of well location
4. attach approved map with location identified. (see reverse of this form for approved maps)

We hereby certify that we have read the back of this form, and that to the best of our knowledge the information provided herein is accurate and the well is being properly located from septic tanks and septic drain fields.

x [signature] - Shannon & Wilson, Inc.
Owner's Signature

For The City of The Dalles
Title

2/2/88
Date

x Charles L Moore
Bonded Water Well Constructor

License No. 0231

Company M K Drilling Co

Note: This is not a Water Right application. The owner is responsible for obtaining a Water Right through the Water Resources Department if required.

Form 537.762 1987

STATE OF OREGON

WATER WELL REPORT

(as required by ORS 537.765)

RECEIVED
APR 11 1988
WATER RESOURCES DEPT
SALEM, OREGON

WASC 052504

1N/13E-10ab

(1) OWNER:

Well Number: 9

Name City of THE DALLES

Address 313 COURT St

City THE DALLES State OR Zip 97058

(2) TYPE OF WORK:

☒ New Well ☐ Deepen ☐ Recondition ☐ Abandon

(3) DRILL METHOD

☒ Rotary Air ☐ Rotary Mud ☐ Cable

☐ Other

(4) PROPOSED USE:

☐ Domestic ☐ Community ☐ Industrial ☐ Irrigation

☐ Thermal ☐ Injection ☐ Other dewatering

(5) BORE HOLE CONSTRUCTION:

Special Construction approval Yes ☒ No ☐ Depth of Completed Well 220 ft.

Explosives used Yes ☐ No ☒ Type _____ Amount _____

HOLE Diameter	From	To	SEAL Material	From	To	Amount sacks or pounds
8"	0	201.5	bentonite	0	10'	10 Sacks
6"	201.5	220	cement	10'	10'	4 Sacks

How was seal placed: Method ☐ A ☐ B ☒ C ☐ D ☐ E

☐ Other

Backfill placed from _____ ft. to _____ ft. Material _____

Gravel placed from _____ ft. to _____ ft. Size of gravel _____

(6) CASING/LINER:

	Diameter	From	To	Gauge	Steel	Plastic	Welded	Threaded
Casing:	8"	0	101.3	.250	☒	☐	☒	☐
					☐	☐	☐	☐
					☐	☐	☐	☐
					☐	☐	☐	☐
Liner:	4½"	196'	220'	.250	☐	☒	☐	☐
					☐	☐	☐	☐

Final location of shoe(s) 101.3

(7) PERFORATIONS/SCREENS:

☒ Perforations Method skill saw in PVC Liner

☐ Screens Type _____ Material _____

From	To	Slot size	Number	Diameter	Tele/pipe size	Casing	Liner
196	220	⅛×6	40	4½"		☐	☒
						☐	☐
						☐	☐
						☐	☐
						☐	☐
						☐	☐

(8) WELL TESTS: Minimum testing time is 1 hour

☐ Pump ☐ Bailer ☒ Air ☐ Flowing Artesian

Yield gal/min	Drawdown	Drill stem at	Time
145 gpm	45'	200'	1 hr.

Temperature of water _____ Depth Artesian Flow Found _____

Was a water analysis done? ☐ Yes By whom _____

Did any strata contain water not suitable for intended use? ☐ Too little

☐ Salty ☐ Muddy ☐ Odor ☐ Colored ☐ Other _____

Depth of strata: _____

(9) LOCATION OF WELL by legal description:

County WASCO Latitude _____ Longitude _____

Township 1 (N) or S, Range 13 (E) or W, WM.

Section 10 NW ¼ NE ¼

Tax Lot _____ Lot _____ Block _____ Subdivision _____

Street Address of Well (or nearest address) 1101 E. Scenic Drive
The Dalles, OR 97058

(10) STATIC WATER LEVEL:

86.2 ft. below land surface. Date 03-31-88

Artesian pressure _____ lb. per square inch. Date _____

(11) WATER BEARING ZONES:

Depth at which water was first found 83'

From	To	Estimated Flow Rate	SWL
83'	97'	10 gpm	80'
100	106	10 gpm	86.2
128	207	125 gpm	86.2

(12) WELL LOG:

Ground elevation _____

Material	From	To	SWL
SANDSTONE - BROWN & RIVER GRAVEL	0	14'	
SANDSTONE - BROWN	14'	22'	
RIVER GRAVEL - LOOSE	22'	37'	
RIVER GRAVEL - CEMENTED	37'	51'	
SANDSTONE - BROWN & RIVER GRAVEL	51'	70'	
CLAY - GRAY & RIVER GRAVEL	70'	83'	
SANDSTONE - BROWN & FINE GRAVEL WB	83'	97'	80
SILTSTONE - GRAY &			"
SANDSTONE - BROWN	97'	100'	"
SANDSTONE - BROWN, COARSE WB	100'	106'	86R
SANDSTONE - BROWN, GRAY, FINE	106'	113'	86.2
SILTSTONE - light BROWN &			"
SANDSTONE - BROWN, FINE	113'	116'	"
SILTSTONE - light BROWN &			"
SILTSTONE - REDDISH	116'	118'	"
SANDSTONE - BROWN CONGLOMERATE BASE	118'	125'	"
SILTSTONE - REDDISH BROWN	125'	128'	"
SILTSTONE - light BROWN &			"
SANDSTONE - BROWN WB COARSE	128'	137'	"
SILTSTONE - BROWN, FINE WB	137'	146'	"
SILTSTONE - BROWN, SOFT &			
- continued attached page -			

Date started 02-10-88 Completed 03-31-88

(unbonded) Water Well Constructor Certification:

I certify that the work I performed on the construction, alteration, or abandonment of this well is in compliance with Oregon well construction standards. Materials used and information reported above are true to my best knowledge and belief.

WWC Number _____

Signed _____ Date _____

(bonded) Water Well Constructor Certification:

I accept responsibility for the construction, alteration, or abandonment work performed on this well during the construction dates reported above. all work performed during this time is in compliance with Oregon well construction standards. This report is true to the best of my knowledge and belief.

WWC Number 231

Signed Charles J Moore Date 03-31-88

WHITE COPIES - WATER RESOURCES DEPARTMENT YELLOW COPY - CONSTRUCTOR PINK COPY - CUSTOMER 9809C 10/86

02AW

No 0305

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FEB 25 1988
WATER RESOURCES DEPT.
SALEM, OREGON

"START CARD"
NOTICE OF BEGINNING OF WELL CONSTRUCTION
(as required by ORS 537.762)

This form must be completed, signed by both the owner (or authorized agent) and constructor, and the original delivered to the Water Resources Department prior to commencement of construction, alteration or abandonment of each well.

Owner's Name and Mailing Address: The City of The Dalles
313 Court St
The Dalles Or 97058

Proposed Commencement Date 2-11-88 well #9

Proposed Well Depth 200' , Diameter 8"

and Use:
☐ Domestic ☐ Community ☐ Industrial ☐ Irrigation
☐ Thermal ☐ Injection ☐ Other de-watering

Proposed Well Location: County Wasco

Township 1 (N) or S) Range 13 (E) or W) Section 10

At least 2 of these must be provided:

1. NW 1/4 of NE 1/4 of above section
2. street address of well location
3. tax lot number of well location
4. attach approved map with location identified. (see reverse of this form for approved maps)

We hereby certify that we have read the back of this form, and that to the best of our knowledge the information provided herein is accurate and the well is being properly located from septic tanks and septic drain fields.

x [signature] SHANNON & WILSON, INC.
Owner's Signature

x Charles L Moore
Bonded Water Well Constructor

For The City of The Dalles
Title

2/2/88
Date

License No. 731

Company M-K Drilling Co

Note: This is not a Water Right application. The owner is responsible for obtaining a Water Right through the Water Resources Department if required.

Form 537.762 1987

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APR 11 1988 Pg 2 of 2

WATER RESOURCES DEPT.
SALEM, OREGON

1N/13E-10a6

STATE OF OREGON
WATER WELL REPORT
(as required by ORS 537.765)

(1) OWNER: Well Number: 9
Name City of the Dalles
Address
City State Zip

(2) TYPE OF WORK:
☐ New Well ☐ Deepen ☐ Recondition ☐ Abandon

(3) DRILL METHOD
☐ Rotary Air ☐ Rotary Mud ☐ Cable
☐ Other

(4) PROPOSED USE:
☐ Domestic ☐ Community ☐ Industrial ☐ Irrigation
☐ Thermal ☐ Injection ☐ Other

(5) BORE HOLE CONSTRUCTION:
Special Construction approval Yes ☐ No ☐ Depth of Completed Well _____ ft.
Explosives used Yes ☐ No ☐ Type _____ Amount _____

HOLE Diameter	From	To	SEAL Material	From	To	Amount sacks or pounds

How was seal placed: Method ☐ A ☐ B ☐ C ☐ D ☐ E
☐ Other
Backfill placed from _____ ft. to _____ ft. Material
Gravel placed from _____ ft. to _____ ft. Size of gravel

(6) CASING/LINER:

	Diameter	From	To	Gauge	Steel	Plastic	Welded	Threaded
Casing:					☐	☐	☐	☐
					☐	☐	☐	☐
					☐	☐	☐	☐
					☐	☐	☐	☐
Liner:					☐	☐	☐	☐
					☐	☐	☐	☐

Final location of shoe(s)

(7) PERFORATIONS/SCREENS:
☐ Perforations Method
☐ Screens Type _____ Material

From	To	Slot size	Number	Diameter	Tele/pipe size	Casing	Liner
						☐	☐
						☐	☐
						☐	☐
						☐	☐
						☐	☐
						☐	☐

(8) WELL TESTS: Minimum testing time is 1 hour
☐ Pump ☐ Bailer ☐ Air ☐ Flowing Artesian

Yield gal/min	Drawdown	Drill stem at	Time
			1 hr.

Temperature of water _____ Depth Artesian Flow Found _____
Was a water analysis done? ☐ Yes By whom
Did any strata contain water not suitable for intended use? ☐ Too little
☐ Salty ☐ Muddy ☐ Odor ☐ Colored ☐ Other
Depth of strata:

(9) LOCATION OF WELL by legal description:
County _____ Latitude _____ Longitude _____
Township _____ N or S, Range _____ E or W, WM.
Section _____ ¼ _____ ¼
Tax Lot _____ Lot _____ Block _____ Subdivision _____
Street Address of Well (or nearest address)

(10) STATIC WATER LEVEL:
_____ ft. below land surface. Date _____
Artesian pressure _____ lb. per square inch. Date _____

(11) WATER BEARING ZONES:
Depth at which water was first found

From	To	Estimated Flow Rate	SWL

(12) WELL LOG: Ground elevation

Material	From	To	SWL
Soapstone - white	146'	149'	86.2
Basalt - brown, crevised wb	149'	156'	"
Basalt - green w/brown seams wb	156'	180'	"
Basalt - brown, med. wb	180'	194'	"
Basalt - brown, vescular w/			"
Soapstone - white	194'	198'	"
Shale & clay - yellow, green wb	198'	199'	"
Sandstone & opal - brown	199'	201'	"
Basalt - brown, vescular wb &			"
Soapstone - yellow	201'	202'	"
Basalt - brown, vescular &	END of 8"		"
Soapstone - yellow	202'	220	86.2

Date started 02-10-88 Completed 03-31-88

(unbonded) Water Well Constructor Certification:
I certify that the work I performed on the construction, alteration, or abandonment of this well is in compliance with Oregon well construction standards. Materials used and information reported above are true to my best knowledge and belief.
WWC Number
Signed _____ Date _____

(bonded) Water Well Constructor Certification:
I accept responsibility for the construction, alteration, or abandonment work performed on this well during the construction dates reported above. all work performed during this time is in compliance with Oregon well construction standards. This report is true to the best of my knowledge and belief.
WWC Number
Signed _____ Date _____

WHITE COPIES - WATER RESOURCES DEPARTMENT YELLOW COPY - CONSTRUCTOR PINK COPY - CUSTOMER 9809C 10/86

№ 0305

RECEIVED

FEB 25 1988

WATER RESOURCES DEPT.
SALEM, OREGON

"START CARD"

NOTICE OF BEGINNING OF WELL CONSTRUCTION

(as required by ORS 537.762)

This form must be completed, signed by both the owner (or authorized agent) and constructor, and the original delivered to the Water Resources Department prior to commencement of construction, alteration or abandonment of each well.

Owner's Name and Mailing Address: The City of The Dalles
313 Court St
The Dalles Or 97058

Proposed Commencement Date 2-11-88 well # 9

Proposed Well Depth 200', Diameter 8"

and Use:

☐ Domestic ☐ Community ☐ Industrial ☐ Irrigation
☐ Thermal ☐ Injection ☐ Other de-watering

Proposed Well Location: County Wasco

Township 1 (N or S) Range 13 (E or W) Section 10

1. NW 1/4 of NE 1/4 of above section

At least 2 of these must be provided

2. street address of well location

3. tax lot number of well location

4. attach approved map with location identified.
(see reverse of this form for approved maps)

We hereby certify that we have read the back of this form, and that to the best of our knowledge the information provided herein is accurate and the well is being properly located from septic tanks and septic drain fields.

x [signature] - SHANNON & WILSON, INC.
Owner's Signature

x Charles L Moore
Bonded Water Well Constructor

For The City of The Dalles
Title

2/2/88
Date

License No. 731

Company M-K Drilling Co

Note: This is not a Water Right application. The owner is responsible for obtaining a Water Right through the Water Resources Department if required.

Form 537.762 1987

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APR 11 1988
WATER RESOURCES DEPT
SALEM, OREGON

WASC CU2503

1N/13E-10ba

STATE OF OREGON
WATER WELL REPORT
(as required by ORS 537.765)

(1) OWNER:
Well Number 5
Name City of The Dalles
Address 313 Court St
City The Dalles State OR Zip 97058

(2) TYPE OF WORK:
☒ New Well ☐ Deepen ☐ Recondition ☐ Abandon

(3) DRILL METHOD
☒ Rotary Air ☐ Rotary Mud ☐ Cable
☐ Other

(4) PROPOSED USE:
☐ Domestic ☐ Community ☐ Industrial ☐ Irrigation
☐ Thermal ☐ Injection ☐ Other de watering

(5) BORE HOLE CONSTRUCTION:
Special Construction approval Yes ☒ No ☐ Depth of Completed Well 202 ft.
Explosives used Yes ☐ No ☒ Type ____ Amount ____

HOLE Diameter	From	To	SEAL Material	From	To	Amount sacks or pounds
8"	0	202	bentonite	0	10'	8 sack
			cement	0	20'	6 sack

How was seal placed: Method ☐ A ☐ B ☒ C ☐ D ☐ E
☐ Other
Backfill placed from ____ ft. to ____ ft. Material ____
Gravel placed from ____ ft. to ____ ft. Size of gravel ____

(6) CASING/LINER:

	Diameter	From	To	Gauge	Steel	Plastic	Welded	Threaded
Casing:	8"	0	158	.250	☒	☐	☒	☐
					☐	☐	☐	☐
					☐	☐	☐	☐
					☐	☐	☐	☐
Liner:	6"	158	174	.250	☒	☐	☒	☐
					☐	☐	☐	☐

Final location of shoe(s) 158'

(7) PERFORATIONS/SCREENS:
☒ Perforations Method torch
☐ Screens Type ____ Material ____

From	To	Slot size	Number	Diameter	Tele/pipe size	Casing	Liner
158	174	1/8 x 6	28	6"		☒	☒
						☐	☐
						☐	☐
						☐	☐
						☐	☐
						☐	☐

(8) WELL TESTS: Minimum testing time is 1 hour
☐ Pump ☐ Bailer ☒ Air ☐ Flowing Artesian

Yield gal/min	Drawdown	Drill stem at	Time
150 gpm	70'	200	1 hr.

Temperature of water ____ Depth Artesian Flow Found ____
Was a water analysis done? ☐ Yes By whom ____
Did any strata contain water not suitable for intended use? ☐ Too little
☐ Salty ☐ Muddy ☐ Odor ☐ Colored ☐ Other ____
Depth of strata: ____

(9) LOCATION OF WELL by legal description:
County Wasco Latitude ____ Longitude ____
Township 1 (N) or S, Range 13 (E) or W, WM.
Section 10 NE ¼ NW ¼
Tax Lot ____ Lot ____ Block ____ Subdivision ____
Street Address of Well (or nearest address) 911 E. Scenic Dr. The Dalles, OR 97058

(10) STATIC WATER LEVEL:
91 ft. below land surface. Date 03-31-88
Artesian pressure ____ lb. per square inch. Date ____

(11) WATER BEARING ZONES:
Depth at which water was first found 131

From	To	Estimated Flow Rate	SWL
131	147	10 gpm	91
165	170	5 gpm	91
151	165	10 gpm	91
167	202	150 gpm	91

(12) WELL LOG:
Ground elevation ____

Material	From	To	SWL
Top Soil	0	4'	
Clay - brown	4'	10'	
Clay - brown & river gravel	10'	15'	
Siltstone - yellow	15'	23'	
Sandstone - yellow & river gravel	23'	29'	
River gravel - loose & boulders	29'	39'	
River gravel - cemented	39'	45'	
Sandstone - brown	45'	50'	
Pumas - air loss	50'	70'	
Sandstone - brown, med.	70'	75'	
Sandstone - brown			
Claystone - green	75'	80'	
Sandstone - brown	80'	95'	
Siltstone - brown	95'	111'	
Sandstone - brown, gray fine med. hard	111'	131'	
Sandstone - gray	131'	147'	91'
Siltstone - brown w/ brown wb			"
sandstone	147'	151'	"
Siltstone - brown wb	151'	165'	"
Soapstone - white			"
Basalt - gray fract wb	165'	170'	"
- Continued attached page -			"

Date started 02-05-88 Completed 03-31-88

(unbonded) Water Well Constructor Certification:
I certify that the work I performed on the construction, alteration, or abandonment of this well is in compliance with Oregon well construction standards. Materials used and information reported above are true to my best knowledge and belief.

WWC Number ____
Signed ____ Date ____

(bonded) Water Well Constructor Certification:
I accept responsibility for the construction, alteration, or abandonment work performed on this well during the construction dates reported above. all work performed during this time is in compliance with Oregon well construction standards. This report is true to the best of my knowledge and belief.

WWC Number 731
Signed Charles B Moore Date 03-31-88

WHITE COPIES - WATER RESOURCES DEPARTMENT YELLOW COPY - CONSTRUCTOR PINK COPY - CUSTOMER 9809C 10/86

№ 0307

RECEIVED

FEB 9 1988

WATER RESOURCES DEPT.

"START CARD"

NOTICE OF BEGINNING OF WELL CONSTRUCTION

(as required by ORS 537.762)

This form must be completed, signed by both the owner (or authorized agent) and constructor, and the original delivered to the Water Resources Department prior to commencement of construction, alteration or abandonment of each well.

Owner's Name and Mailing Address: City of The Dalles
313 Court St
The Dalles Or 97058

Proposed Commencement Date 2-4-88 well #5

Proposed Well Depth 200', Diameter 8"

and Use:
☐ Domestic ☐ Community ☐ Industrial ☐ Irrigation
☐ Thermal ☐ Injection ☐ Other de-watering

Proposed Well Location: County Wasco

Township 1 (N or S) Range 13 (E or W) Section 10

At least 2 of these must be provided:

1. NE 1/4 of NW 1/4 of above section
2. street address of well location
3. tax lot number of well location
4. attach approved map with location identified. (see reverse of this form for approved maps)

We hereby certify that we have read the back of this form, and that to the best of our knowledge the information provided herein is accurate and the well is being properly located from septic tanks and septic drain fields.

x [signature] SHANNON & WILSON, INC.
Owner's Signature

x Charles L Moore
Bonded Water Well Constructor

For The City of The Dalles.
Title

2/2/88
Date

License No. 731

Company MK Drilling Co

Note: This is not a Water Right application. The owner is responsible for obtaining a Water Right through the Water Resources Department if required.

Form 537.762 1987

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WATER RESOURCES DEPT
SALEM, OREGON

1N/13E - 10bc

Pg 2 of 2

STATE OF OREGON
WATER WELL REPORT
(as required by ORS 537.765)

(1) OWNER:
Well Number:
Name City of The Dalles
Address
City State Zip

(2) TYPE OF WORK:
☐ New Well ☐ Deepen ☐ Recondition ☐ Abandon

(3) DRILL METHOD
☐ Rotary Air ☐ Rotary Mud ☐ Cable
☐ Other

(4) PROPOSED USE:
☐ Domestic ☐ Community ☐ Industrial ☐ Irrigation
☐ Thermal ☐ Injection ☐ Other

(5) BORE HOLE CONSTRUCTION:
Special Construction approval Yes ☐ No ☐ Depth of Completed Well ____ ft.
Explosives used Yes ☐ No ☐ Type ____ Amount ____

HOLE Diameter	From	To	SEAL Material	From	To	Amount sacks or pounds

How was seal placed: Method ☐ A ☐ B ☐ C ☐ D ☐ E
☐ Other
Backfill placed from ____ ft. to ____ ft. Material ____
Gravel placed from ____ ft. to ____ ft. Size of gravel ____

(6) CASING/LINER:

	Diameter	From	To	Gauge	Steel	Plastic	Welded	Threaded
Casing:					☐	☐	☐	☐
					☐	☐	☐	☐
					☐	☐	☐	☐
					☐	☐	☐	☐
Liner:					☐	☐	☐	☐
					☐	☐	☐	☐

Final location of shoe(s)

(7) PERFORATIONS/SCREENS:
☐ Perforations Method
☐ Screens Type ____ Material ____

From	To	Slot size	Number	Diameter	Tele/pipe size	Casing	Liner
						☐	☐
						☐	☐
						☐	☐
						☐	☐
						☐	☐
						☐	☐

(8) WELL TESTS: Minimum testing time is 1 hour
☐ Pump ☐ Bailer ☐ Air ☐ Flowing Artesian

Yield gal/min	Drawdown	Drill stem at	Time
			1 hr.

Temperature of water ____ Depth Artesian Flow Found ____
Was a water analysis done? ☐ Yes By whom ____
Did any strata contain water not suitable for intended use? ☐ Too little
☐ Salty ☐ Muddy ☐ Odor ☐ Colored ☐ Other ____
Depth of strata: ____

(9) LOCATION OF WELL by legal description:
County ____ Latitude ____ ' ____ " Longitude ____ ' ____ "
Township ____ N or S, Range ____ E or W, WM.
Section ____ ____ ¼ ____ ¼
Tax Lot ____ Lot ____ Block ____ Subdivision ____
Street Address of Well (or nearest address) ____

(10) STATIC WATER LEVEL:
____ ft. below land surface. Date ____
Artesian pressure ____ lb. per square inch. Date ____

(11) WATER BEARING ZONES:
Depth at which water was first found ____

From	To	Estimated Flow Rate	SWL

(12) WELL LOG:
Ground elevation ____

Material	From	To	SWL
BASALT - BROWN, MED. WB	170'	176'	91
BASALT - GRAY, MED. W/GREEN SEAMS WB	176'	178'	"
BASALT - BROWN, GRAY, FRACTURED WB	178'	198'	"
BASALT - GRAY, BROWN, MED. WB	198'	202'	91

Date started 02-05-88 Completed 03-31-88

(unbonded) Water Well Constructor Certification:
I certify that the work I performed on the construction, alteration, or abandonment of this well is in compliance with Oregon well construction standards. Materials used and information reported above are true to my best knowledge and belief.

WWC Number ____
Signed ____ Date ____

(bonded) Water Well Constructor Certification:
I accept responsibility for the construction, alteration, or abandonment work performed on this well during the construction dates reported above. all work performed during this time is in compliance with Oregon well construction standards. This report is true to the best of my knowledge and belief.

WWC Number 231
Signed Charles S Moore Date ____

WHITE COPIES - WATER RESOURCES DEPARTMENT YELLOW COPY - CONSTRUCTOR PINK COPY - CUSTOMER 9809C 10/86

№ 0307
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FEB 9 1988
WATER RESOURCES DEPT.
SALEM, OREGON

"START CARD"

NOTICE OF BEGINNING OF WELL CONSTRUCTION

(as required by ORS 537.762)

This form must be completed, signed by both the owner (or authorized agent) and constructor, and the original delivered to the Water Resources Department prior to commencement of construction, alteration or abandonment of each well.

Owner's Name and Mailing Address: City of The Dalles
313 Court St
The Dalles Or 97058

Proposed Commencement Date 2-4-88 Well #5

Proposed Well Depth 200' and Use: Diameter 8"

☐ Domestic ☐ Community ☐ Industrial ☐ Irrigation
☐ Thermal ☐ Injection ☐ Other de-watering

Proposed Well Location: County Wasco

Township 1 (N or S) Range 13 (E or W) Section 10

At least 2 of these must be provided:

1. NE 1/4 of NW 1/4 of above section
2. street address of well location
3. tax lot number of well location
4. attach approved map with location identified. (see reverse of this form for approved maps)

We hereby certify that we have read the back of this form, and that to the best of our knowledge the information provided herein is accurate and the well is being properly located from septic tanks and septic drain fields.

x [signature] SHANNON / WILSON, INC.
Owner's Signature

For The City of The Dalles.
Title

2/2/88
Date

x Charles E Moore
Bonded Water Well Constructor

License No. 731

Company MK Drilling Co

Note: This is not a Water Right application. The owner is responsible for obtaining a Water Right through the Water Resources Department if required.

Form 537.762 1987

RECEIVED
APR 11 1988
WATER RESOURCES DEPT.
SALEM, OREGON

WASCO
002502

1N/13E-10bb
deep.

STATE OF OREGON
WATER WELL REPORT
(as required by ORS 537.765)

(1) OWNER:
Well Number
Name City of The Dalles
Address 313 Court Street
City The Dalles State OR Zip 98058

(2) TYPE OF WORK:
☐ New Well ☒ Deepen ☐ Recondition ☐ Abandon

(3) DRILL METHOD
☒ Rotary Air ☐ Rotary Mud ☐ Cable
☐ Other

(4) PROPOSED USE:
☐ Domestic ☐ Community ☐ Industrial ☐ Irrigation
☐ Thermal ☐ Injection ☐ Other de-watering

(5) BORE HOLE CONSTRUCTION:
Special Construction approval Yes ☐ No ☒ Depth of Completed Well 241.5 ft.
Explosives used Yes ☐ No ☒ Type _____ Amount _____

HOLE Diameter	From	To	SEAL Material	From	To	Amount sacks or pounds
8"	-	227				
6"	227	241.5				

How was seal placed: Method ☐ A ☐ B ☐ C ☐ D ☐ E
☐ Other
Backfill placed from _____ ft. to _____ ft. Material _____
Gravel placed from _____ ft. to _____ ft. Size of gravel _____

(6) CASING/LINER:

	Diameter	From	To	Gauge	Steel	Plastic	Welded	Threaded
Casing:	NA				☐	☐	☐	☐
					☐	☐	☐	☐
					☐	☐	☐	☐
					☐	☐	☐	☐
Liner:	NA				☐	☐	☐	☐
					☐	☐	☐	☐

Final location of shoe(s) _____

(7) PERFORATIONS/SCREENS:
☐ Perforations Method _____
☒ Screens Type Johnson Material stainless

From	To	Slot size	Number	Diameter	Tele/pipe size	Casing	Liner
135	147	0	—	7½	8	☐	☐
147	167	.006	—	7½	8	☐	☐
167	175	0	—	7½	8	☐	☐
						☐	☐
						☐	☐
						☐	☐

(8) WELL TESTS: Minimum testing time is 1 hour
☐ Pump ☐ Bailer ☒ Air ☐ Flowing Artesian

Yield gal/min	Drawdown	Drill stem at	Time
90 gpm	40'	220	1 hr.

Temperature of water _____ Depth Artesian Flow Found _____
Was a water analysis done? ☐ Yes By whom _____
Did any strata contain water not suitable for intended use? ☐ Too little
☐ Salty ☐ Muddy ☐ Odor ☐ Colored ☐ Other _____
Depth of strata: _____

(9) LOCATION OF WELL by legal description:
County Wasco Latitude _____ Longitude _____
Township 1 N or S, Range 13 E or W, WM.
Section 10 NW ¼ NW ¼
Tax Lot _____ Lot _____ Block _____ Subdivision _____
Street Address of Well (or nearest address) 720 E. Scenic Drive
The Dalles, OR 97058

(10) STATIC WATER LEVEL:
110 ft. below land surface. Date 03-31-88
Artesian pressure _____ lb. per square inch. Date _____

(11) WATER BEARING ZONES:
Depth at which water was first found 220'

From	To	Estimated Flow Rate	SWL
220	237	80 gpm	110

(12) WELL LOG:
Ground elevation _____

Material	From	To	SWL
Brownish-black weathered basalt W.B.....	187	220	110
Black basalt, weathered, and green claystone W.B.	220	237	"
Black basalt, slightly weathered, med. hard.....	237	241.5	"

Date started 02-12-88 Completed 03-31-88

(unbonded) Water Well Constructor Certification:
I certify that the work I performed on the construction, alteration, or abandonment of this well is in compliance with Oregon well construction standards. Materials used and information reported above are true to my best knowledge and belief.
WWC Number _____
Signed _____ Date _____

(bonded) Water Well Constructor Certification:
I accept responsibility for the construction, alteration, or abandonment work performed on this well during the construction dates reported above. all work performed during this time is in compliance with Oregon well construction standards. This report is true to the best of my knowledge and belief.
WWC Number 731
Signed [signature] Date 03-31-88

WHITE COPIES - WATER RESOURCES DEPARTMENT YELLOW COPY - CONSTRUCTOR PINK COPY - CUSTOMER 9809C 10/86

92AW

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MAR 30 1988

ATER RESOURCES DEPT.
SALEM, OREGON

№ 0306

"START CARD"

NOTICE OF BEGINNING OF WELL CONSTRUCTION
(as required by ORS 537.762)

This form must be completed, signed by both the owner (or authorized agent) and constructor, and the original delivered to the Water Resources Department prior to commencement of construction, alteration or abandonment of each well.

Owner's Name and Mailing Address: The City of The Dalles
313 Court St.
The Dalles Or.

Proposed Commencement Date: 3-23-88 well #1

Proposed Well Depth: rework & deepen 220, Diameter: 8" - 6"

and Use:

☐ Domestic ☐ Community ☐ Industrial ☐ Irrigation
☐ Thermal ☐ Injection ☒ Other de watering

Proposed Well Location: County _____

Township NE (N or S) Range NW (E or W) Section 10

At least 2 of these must be provided:

1. NW 1/4 of NW 1/4 of above section
2. street address of well location _____
3. tax lot number of well location _____
4. attach approved map with location identified. (see reverse of this form for approved maps)

We hereby certify that we have read the back of this form, and that to the best of our knowledge the information provided herein is accurate and the well is being properly located from septic tanks and septic drain fields.

x [signature] SHANNON & WILSON, INC.
Owner's Signature

x Charles L. Moore
Bonded Water Well Constructor

For The City of The Dalles.
Title

License No. 731

2/2/88
Date

Company M-K Drilling Co.

Note: This is not a Water Right application. The owner is responsible for obtaining a Water Right through the Water Resources Department if required.

Form 537.762 1987

RECEIVED MAR 23 1988

STATE ENGINEER
Salem, Oregon

WASC 062501

Well Record

STATE WELL NO. 1N/13-9J(1)
COUNTY Wasco
APPLICATION NO. .....

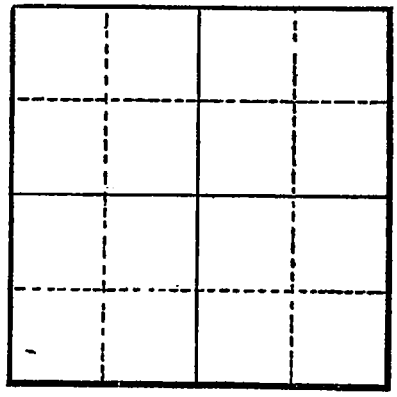
(b) (6)

MAILING ADDRESS: .....

CITY AND STATE: .....

LOCATION OF WELL: Owner's No. .....

NE ¼ SE ¼ Sec. 9 T. 1 ~~S~~. N. R. 13 ~~W~~. E. W.M.



Bearing and distance from section or subdivision corner .....

Altitude at well 680 ft.

TYPE OF WELL: drilled Date Constructed before 1915

Depth drilled 300 ft. ± Depth cased .....

Section .....

CASING RECORD:

6-inch dia.

FINISH:

AQUIFERS:

WATER LEVEL:

-225 ft.

PUMPING EQUIPMENT: Type none H.P. .....
Capacity ..... G.P.M.

WELL TESTS:
Drawdown ..... ft. after ..... hours ..... G.P.M.
Drawdown ..... ft. after ..... hours ..... G.P.M.

USE OF WATER ..... Temp. ..... °F. ....., 19.....
SOURCE OF INFORMATION U.S.G.S.: W.S.P. 659 B. #52
DRILLER or DIGGER .....
ADDITIONAL DATA:
Log ..... Water Level Measurements ..... Chemical Analysis ..... Aquifer Test .....

REMARKS:

State Printing 89316

STATE ENGINEER
Salem, Oregon

WASC
062500

Well Record

STATE WELL NO. 1N/13-9J(2)
COUNTY Wasco
APPLICATION NO. .....

(b) (6)

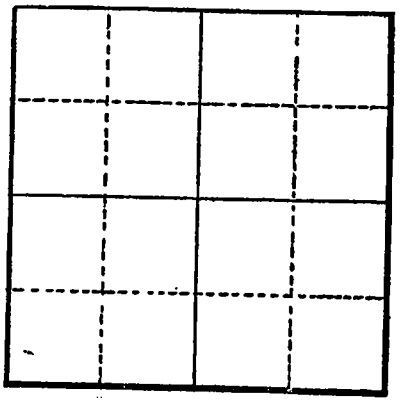
MAILING ADDRESS: .....

CITY AND STATE: .....

LOCATION OF WELL: Owner's No. .....

NE ¼ SE ¼ Sec. 9 T. 1 ~~S~~ N. R. 13 ~~W~~ E., W.M.

Bearing and distance from section or subdivision corner .....



Section .....

Altitude at well 685 ft. ±

TYPE OF WELL: drilled Date Constructed .....

Depth drilled 400 ft. ± Depth cased .....

CASING RECORD:

6-inch dia.

FINISH:

AQUIFERS:

Joint clay

WATER LEVEL:

-300 ft.

PUMPING EQUIPMENT: Type none H.P. .....
Capacity ..... G.P.M.

WELL TESTS:
Drawdown 85 ± ft. after ..... hours ..... G.P.M.
Drawdown ..... ft. after ..... hours ..... G.P.M.

USE OF WATER formerly irrigation Temp. ..... °F. ....., 19.....
SOURCE OF INFORMATION U.S.G.S.: W.S.P. 659 B.
DRILLER or DIGGER .....
ADDITIONAL DATA:
Log ..... Water Level Measurements ..... Chemical Analysis ..... Aquifer Test .....

REMARKS:
Test well for irrigation, abandoned.

State Printing 89316

STATE ENGINEER
Salem, Oregon

WASC
CU2499

Well Record

STATE WELL NO. 1N/13-9L(1)
COUNTY Wasco
APPLICATION NO. .....

(b) (6)

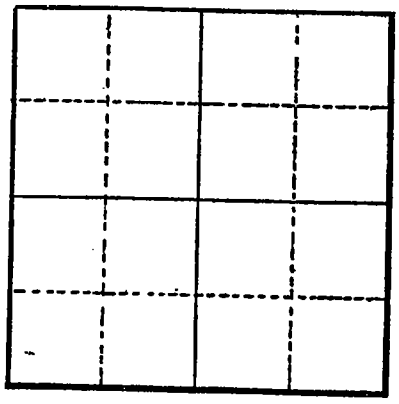
MAILING ADDRESS: .....

CITY AND STATE: .....

LOCATION OF WELL: Owner's No. .....

NE ¼ SW ¼ Sec. 9 T. 1 ~~S.~~ N., R. 13 ~~W.~~ E., W.M.

Bearing and distance from section or subdivision corner .....



Section .....

Altitude at well 510 ft.

TYPE OF WELL: drilled Date Constructed 1926?

Depth drilled 290 ft. Depth cased .....

CASING RECORD:
6-inch dia.

FINISH:

AQUIFERS:

WATER LEVEL:
-105 ft.

PUMPING EQUIPMENT: Type none H.P. .....
Capacity ..... G.P.M.

WELL TESTS:
Drawdown 25± ft. after ..... hours 15 G.P.M.
Drawdown ..... ft. after ..... hours ..... G.P.M.

USE OF WATER none Temp. ..... °F. ....., 19....
SOURCE OF INFORMATION U.S.G.S.: W.S.P. 659 B.
DRILLER or DIGGER .....
ADDITIONAL DATA:
Log ..... Water Level Measurements ..... Chemical Analysis ..... Aquifer Test .....

REMARKS: Test well for irrigation, top of Yakima Basalt reported 280 ft. below surface

State Printing 69316

STATE ENGINEER
Salem, Oregon

WASC

Well Record

STATE WELL NO. 1N/13-9M(1)
COUNTY Wasco
APPLICATION NO. U-811 rev.

(b) (6)

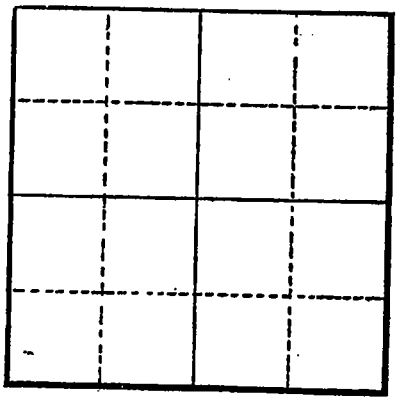
MAILING ADDRESS: Scenic Drive

CITY AND STATE: The Dalles, Oregon

LOCATION OF WELL: Owner's No. .....

NW ¼ SW ¼ Sec. 9 T. 1 ~~N.~~ S., R. 13 ~~E.~~ W., W.M.

Bearing and distance from section or subdivision corner N 17°19' E. -1939' from SW corner Section 9



Section 9

Altitude at well .....

TYPE OF WELL: drilled Date Constructed Nov. 1954

Depth drilled 302½ Depth cased .....

CASING RECORD:

FINISH:

AQUIFERS:

WATER LEVEL:
256 ft. below land surface, Dec. 1954

PUMPING EQUIPMENT: Type ..... H.P. .....
Capacity ..... G.P.M.

WELL TESTS:
Drawdown 13 ft. after 1 hours bailing 4 G.P.M.
Drawdown ..... ft. after ..... hours ..... G.P.M.

USE OF WATER Irrigation Temp. ..... °F. ....., 19.....
SOURCE OF INFORMATION .....
DRILLER or DIGGER .....
ADDITIONAL DATA:
Log ..... Water Level Measurements ..... Chemical Analysis ..... Aquifer Test .....

REMARKS:

State Printing 89316

ORIGINAL
File Original and Duplicate with the STATE ENGINEER, SALEM, OREGON

WASC 002497

WATER WELL REPORT
STATE OF OREGON

State Well No. 1N/13-9P(1)
State Permit No. U-598

(b) (6)

(2) LOCATION OF WELL:
County Wasco Owner's number, if any—
¼ ¼ Section T. R. W.M.
Bearing and distance from section or subdivision corner

(3) TYPE OF WORK (check):
New Well ☐ Deepening ☒ Reconditioning ☐ Abandon ☐
If abandonment, describe material and procedure in Item 11.

(4) PROPOSED USE (check):
Domestic ☐ Industrial ☐ Municipal ☐
Irrigation ☐ Test Well ☒ Other ☐

(5) TYPE OF WELL:
Rotary ☐ Driven ☐
Cable ☒ Jetted ☐
Dug ☐ Bored ☐

(6) CASING INSTALLED:
Threaded ☐ Welded ☐
..... " Diam. from ..... ft. to ..... ft. Gage .....
..... " Diam. from ..... ft. to ..... ft. Gage .....
..... " Diam. from ..... ft. to ..... ft. Gage .....

(7) PERFORATIONS:
Perforated? ☐ Yes ☐ No
Type of perforator used
SIZE of perforations in. by in.
..... perforations from ..... ft. to ..... ft.
..... perforations from ..... ft. to ..... ft.
..... perforations from ..... ft. to ..... ft.
..... perforations from ..... ft. to ..... ft.
..... perforations from ..... ft. to ..... ft.

(8) SCREENS:
Well screen installed ☐ Yes ☒ No
Manufacturer's Name .....
Type ..... Model No. .....
Diam. ..... Slot size ..... Set from ..... ft. to ..... ft.
Diam. ..... Slot size ..... Set from ..... ft. to ..... ft.

(9) CONSTRUCTION:
Was well gravel packed? ☐ Yes ☐ No Size of gravel: .....
Gravel placed from ..... ft. to ..... ft.
Was a surface seal provided? ☐ Yes ☐ No To what depth? ..... ft.
Material used in seal—
Did any strata contain unusable water? ☐ Yes ☐ No
Type of water? Depth of strata
Method of sealing strata off

(10) WATER LEVELS:
April 1961
Static level 606 ft. below land surface Date
Artesian pressure lbs. per square inch Date

Log Accepted by:

[Signed] ..... Date ....., 19.....
(Owner)

(11) WELL TESTS:
Drawdown is amount water level is lowered below static level
Was a pump test made? ☐ Yes ☒ No If yes, by whom?
Yield: 100 gal./min. with little ft. drawdown after hrs.
" " " "
" " " "
Bailer test gal./min. with ft. drawdown after hrs.
Artesian flow g.p.m. Date
Temperature of water Was a chemical analysis made? ☐ Yes ☐ No

(12) WELL LOG:
Depth drilled from 648 ft. to 724 ft. Depth of completed well 724 ft.
Diameter of well 6 inches.

Formation: *Describe by color, character, size of material and structure, and show thickness of aquifers and the kind and nature of the material in each stratum penetrated, with at least one entry for each change of formation.*

MATERIAL	FROM	TO
Grey rock	648	677
Black porous rock	677	724
Cemented from 570 to 648'		

Work started Feb. 27, 1961 Completed April 5, 1961

(13) PUMP:
Manufacturer's Name Same pump that was installed in February, 1960.
Type: Pump set at 714 feet. H.P. .....

Well Driller's Statement:

This well was drilled under my jurisdiction and this report is true to the best of my knowledge and belief.

NAME Bert Clayton & Son
(Person, firm, or corporation) (Type or print)
Address 2313 East 10th Street, The Dalles, Oregon
Driller's well number 54
[Signed] Bert Clayton & Son
(Well Driller)
License No. 54 & 298 Date April 8, 1961

(USE ADDITIONAL SHEETS IF NECESSARY)

NOTICE TO WATER WELL CONTRACTOR: The original and first copy of this report are to be filed with the STATE ENGINEER, SALEM, OREGON 97310 within 30 days from the date of well completion.

RECEIVED JUL 15 1969 STATE ENGINEER SALEM OREGON

WATER WELL REPORT
STATE OF OREGON (Please type or print) Do not write above this line 002496

WASC

State Well No. 1N/13-9dd

State Permit No. .....

(b) (6)

(2) TYPE OF WORK (check):
New Well ☐ Deepening ☐ Reconditioning ☒ Abandon ☐
If abandonment, describe material and procedure in Item 12.

(3) TYPE OF WELL:
Rotary ☐ Driven ☐
Cable ☒ Jetted ☐
Dug ☐ Bored ☐

(4) PROPOSED USE (check):
Domestic ☒ Industrial ☐ Municipal ☐
Irrigation ☐ Test Well ☐ Other ☐

CASING INSTALLED:
Threaded ☐ Welded ☒
6 " Diam. from 0 ft. to 266 ft. Gage .188
" Diam. from ..... ft. to ..... ft. Gage .....
" Diam. from ..... ft. to ..... ft. Gage .....

PERFORATIONS:
Perforated? ☒ Yes ☐ No
Type of perforator used Torch & down drive
Size of perforations 1/4 in. by 1 1/4 in.
1/4 in. by 6 in. perforations from ..... ft. to ..... ft.
perforations from ..... ft. to ..... ft.
84 perforations from 225 ft. to 255 ft.
340 perforations from 135 ft. to 220 ft.
perforations from ..... ft. to ..... ft.

(7) SCREENS:
Well screen installed? ☐ Yes ☒ No
Manufacturer's Name .....
Type ..... Model No. .....
Diam. ..... Slot size ..... Set from ..... ft. to ..... ft.
Diam. ..... Slot size ..... Set from ..... ft. to ..... ft.

(8) WATER LEVEL: Completed well.
Static level 125 ft. below land surface Date 7-9-69
Artesian pressure ..... lbs. per square inch Date .....

(9) WELL TESTS:
Drawdown is amount water level is lowered below static level
Was a pump test made? ☒ Yes ☐ No If yes, by whom? Driller & Pump Installer
Yield: 7 gal./min. with 75 ft. drawdown after 1 hrs.
" " " "
" " " "
Bailer test ..... gal./min. with ..... ft. drawdown after ..... hrs.
Artesian flow ..... g.p.m. Date .....
Temperature of water 58° Was a chemical analysis made? ☐ Yes ☒ No

(10) CONSTRUCTION:
Well seal—Material used Well sealed when drilled
Depth of seal 65 ft.
Diameter of well bore to bottom of seal ..... in.
Were any loose strata cemented off? ☐ Yes ☒ No Depth .....
Was a drive shoe used? ☒ Yes ☐ No
Did any strata contain unusable water? ☐ Yes ☒ No
Type of water? ..... depth of strata .....
Method of sealing strata off .....
Was well gravel packed? ☒ Yes ☐ No Size of gravel 3/4 minus
Gravel placed from 60 ft. to 272 ft.

(11) LOCATION OF WELL:
County Wasco Driller's well number .....
SE ¼ SE ¼ Section 9 T. 1N R. 13E W.M.
Bearing and distance from section or subdivision corner .....

(12) WELL LOG:
Diameter of well below casing 6"
Depth drilled 272 ft. Depth of completed well 272 ft.

Formation: Describe color, texture, grain size and structure of materials; and show thickness and nature of each stratum and aquifer penetrated, with at least one entry for each change of formation. Report each change in position of Static Water Level as drilling proceeds. Note drilling rates.

MATERIAL	From	To	SWL
Cased and perforated with liner.			
Well cased and sealed 65 feet with 10" casing.			
Well was drilled in 1967			

Work started 5-31-69 19 Completed 6-9-69 19
Date well drilling machine moved off of well 6-9-69 19

Drilling Machine Operator's Certification:
This well was constructed under my direct supervision. Materials used and information reported above are true to my best knowledge and belief.
[Signed] Bert Clayton (Drilling Machine Operator) Date 7-7, 19 69
Drilling Machine Operator's License No. 129

Water Well Contractor's Certification:
This well was drilled under my jurisdiction and this report is true to the best of my knowledge and belief.
NAME Bert Clayton and Son (Person, firm or corporation) (Type or print)
Address 2313 E. 10th St., The Dalles, Ore.
[Signed] Bert Clayton (Water Well Contractor)
Contractor's License No. 54 Date 7-7, 19 69

(USE ADDITIONAL SHEETS IF NECESSARY)

NOTICE TO WATER WELL CONTRACTOR
The original and first copy of this report are to be filed with the

WATER RESOURCES DEPARTMENT,
SALEM, OREGON 97310
within 30 days from the date of well completion.

WATER WELL REPORT
STATE OF OREGON
(Please type or print)
(Do not write above this line)

WASC 002495

State Well No. 1N/13E-9bd

State Permit No.

(b) (6)

(2) TYPE OF WORK (check):

New Well [X] Deepening [ ] Reconditioning [ ] Abandon [ ]

If abandonment, describe material and procedure in Item 12.

(3) TYPE OF WELL:

Rotary [X] Driven [ ]
[redacted] [ ] Jetted [ ]
D[redacted] [ ] Bored [ ]

(4) PROPOSED USE (check):

Domestic [X] Industrial [ ] Municipal [ ]
Irrigation [ ] Test Well [ ] Other [ ]

(5) CASING INSTALLED:

Threaded [ ] Welded [X]

6 5/8" Diam. from 0 ft. to 40 ft. Gage .250

[redacted]" Diam. from ft. to ft. Gage

" Diam. from ft. to ft. Gage

(6) PERFORATIONS:

Perforated? [ ] Yes [X] No

Type of perforator used

Size of perforations in. by in.

perforations from ft. to ft.

perforations from ft. to ft.

perforations from ft. to ft.

(7) SCREENS:

Well screen installed? [ ] Yes [X] No

Manufacturer's Name

Type Model No.

Diam. Slot size Set from ft. to ft.

Diam. Slot size Set from ft. to ft.

(8) WELL TESTS:

Drawdown is amount water level is lowered below static level

[redacted] a pump test made? [X] Yes [ ] No If yes, by whom?

Yield: gal./min. with ft. drawdown after hrs.

" " " "

" " " "

Air

[redacted] test 4 gal./min. with 65 ft. drawdown after 1 hrs.

Artesian flow g.p.m.

Temperature of water 56° Depth artesian flow encountered ft.

(9) CONSTRUCTION:

Well seal—Material used cement grout

Well sealed from land surface to 40 ft.

Diameter of well bore to bottom of seal 10 in.

Diameter of well bore below seal 6 in.

Number of sacks of cement used in well seal 18 sacks

How was cement grout placed?

pressure grouted with pump

Was a drive shoe used? [X] Yes [ ] No Plugs Size: location ft.

Did any strata contain unusable water? [X] Yes [ ] No

Type of water? surface depth of strata 15 ft.

Method of sealing strata off cement grout

Was well gravel packed? [ ] Yes [X] No Size of gravel:

Gravel placed from ft. to ft.

(10) LOCATION OF WELL:

County Wasco Driller's well number

SE ¼ NW ¼ Section 9 T. 1 N R. 13 E. W.M.

Bearing and distance from section or subdivision corner

(11) WATER LEVEL: Completed well.

Depth at which water was first found 15 ft.

Static level 58 ft. below land surface. Date 7-28-80

Artesian pressure lbs. per square inch. Date

(12) WELL LOG:

Diameter of well below casing 6"

Depth drilled 187 ft. Depth of completed well 187 ft.

Formation: Describe color, texture, grain size and structure of materials; and show thickness and nature of each stratum and aquifer penetrated, with at least one entry for each change of formation. Report each change in position of Static Water Level and indicate principal water-bearing strata.

MATERIAL	From	To	SWL
Sand, brown	0	5	
Sand, rocks	5	15	6
Sand, brown	15	25	
Sand w/rocks	25	30	
Sandstone, grey	30	45	
Sandstone, brown rocky	45	50	
Sandstone, brown	50	60	
Sandstone, light brown	60	65	
Sandstone, brown	65	120	
Sandstone, grey	120	145	
Sandstone, brown, hard	145	155	
Rock, black w/seams	155	186	58
Clay, green	186	187	58

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SEP 17 1980
WATER RESOURCES DEPT
SALEM, OREGON

Work started July 23 19 80 Completed July 28 19 80

Date well drilling machine moved off of well July 28 19 80

Drilling Machine Operator's Certification:

This well was constructed under my direct supervision. Materials used and information reported above are true to my best knowledge and belief.

[Signed] Gilbert Clayton (Drilling Machine Operator) Date Sept. 15, 1980

Drilling Machine Operator's License No. 129

Water Well Contractor's Certification:

This well was drilled under my jurisdiction and this report is true to the best of my knowledge and belief.

Name Gilbert Clayton Well Drilling (Person, firm or corporation) (Type or print)

Address Rt 1, Box 61-A, The Dalles, OR 97058

[Signed] Gilbert Clayton (Water Well Contractor)

Contractor's License No. 569 Date Sept. 15, 1980

(USE ADDITIONAL SHEETS IF NECESSARY)

SP*45656-119

NOTICE TO WATER WELL CONTRACTOR
The original and first copy of this report are to be filed with the STATE ENGINEER, SALEM, OREGON 97310 within 30 days from the date of well completion.

RECEIVED
DEC - 1 1975
WATER RESOURCES DEPT.

WATER WELL REPORT
STATE OF OREGON
(Please type or print)
(Do not write above this line)

WASC 002494

State Well No. 1N/13E-9ac
State Permit No.

(b) (6)

(2) TYPE OF WORK (check):
New Well ☐ Deepening ☐ Reconditioning ☒ Abandon ☐
If abandonment, describe material and procedure in Item 12.

(3) TYPE OF WELL:
Rotary ☐ Driven ☐
Cable ☒ Jetted ☐
Dug ☐ Bored ☐

(4) PROPOSED USE (check):
Domestic ☐ Industrial ☒ Municipal ☐
Irrigation ☐ Test Well ☐ Other ☐

CASING INSTALLED:
Threaded ☐ Welded ☒
5 " Diam. from 0 ft. to 277 ft. Gage 10
" Diam. from ft. to ft. Gage
" Diam. from ft. to ft. Gage

PERFORATIONS:
Perforated? ☒ Yes ☐ No
Type of perforator used Cutting torch
Size of perforations 1/8 in. by 6 in.
608 perforations from 160 ft. to 280 ft.
perforations from ft. to ft.
perforations from ft. to ft.

(7) SCREENS:
Well screen installed? ☐ Yes ☒ No
Manufacturer's Name
Type Model No.
Diam. Slot size Set from ft. to ft.
Diam. Slot size Set from ft. to ft.

(8) WELL TESTS:
Drawdown is amount water level is lowered below static level
Was a pump test made? ☒ Yes ☐ No If yes, by whom? G. Clayton
Yield: 20 gal./min. with 160 ft. drawdown after 4 hrs.
" " "
" " "
Bailer test gal./min. with ft. drawdown after hrs.
Artesian flow g.p.m.
Temperature of water 58° Depth artesian flow encountered ft.

(9) CONSTRUCTION:
Well seal—Material used Original seal - cement
Well sealed from land surface to 20 ft.
Diameter of well bore to bottom of seal in.
Diameter of well bore below seal in.
Number of sacks of cement used in well seal sacks
Number of sacks of bentonite used in well seal sacks
Brand name of bentonite
Number of pounds of bentonite per 100 gallons of water lbs./100 gals.
Was a drive shoe used? ☐ Yes ☒ No Plugs Size: location ft.
Did any strata contain unusable water? ☐ Yes ☒ No
Type of water? depth of strata
Method of sealing strata off
Was well gravel packed? ☒ Yes ☐ No Size of gravel: 1/4"
Gravel placed from 30 ft. to 280 ft.

(10) LOCATION OF WELL:
County Wasco Driller's well number
NE ¼ SW ¼ Section 9 T. 1N R. 13 E.W.M.
Bearing and distance from section or subdivision corner

(11) WATER LEVEL: Completed well.
Depth at which water was first found ft.
Static level 30 ft. below land surface. Date 10-29-75
Artesian pressure lbs. per square inch. Date

(12) WELL LOG:
Diameter of well below casing
Depth drilled 0 ft. Depth of completed well 280 ft.

Formation: Describe color, texture, grain size and structure of materials; and show thickness and nature of each stratum and aquifer penetrated, with at least one entry for each change of formation. *Report each change in position of Static Water Level and indicate principal water-bearing strata.*

MATERIAL	From	To	SWL
Well was drilled in the 1950's			
Well was pumping sand			

Work started Aug. 29 1975 Completed Oct. 29 1975
Date well drilling machine moved off of well Oct. 29 1975

Drilling Machine Operator's Certification:
This well was constructed under my direct supervision. Materials used and information reported above are true to my best knowledge and belief.
[Signed] Gilbert Clayton Date Nov. 28, 1975
(Drilling Machine Operator)
Drilling Machine Operator's License No. 129

Water Well Contractor's Certification:
This well was drilled under my jurisdiction and this report is true to the best of my knowledge and belief.
Name Gilbert Clayton Well Drilling
(Person, firm or corporation) (Type or print)
Address Rt 1, Box 61-A, The Dalles, Ore.
[Signed] Gilbert Clayton
(Water Well Contractor)
Contractor's License No. 569 Date Nov. 28, 1975

(USE ADDITIONAL SHEETS IF NECESSARY)

SP*45656-119

ORIGINAL
File Original and Duplicate with the STATE ENGINEER, SALEM, OREGON

WASC RECEIVED
002493 MAY 12 1960

WATER WELL REPORT
STATE OF OREGON

State Well No. 1N/13-9Y (1)
State Permit No. U 598

(b) (6)

[redacted]

(2) LOCATION OF WELL:

County Wasco Owner's number, if any—
SE ¼ SW ¼ Section 9 T. 1N R. 13E W.M.
Bearing and distance from section or subdivision corner
1060 ft. N. & 1940 ft. E. from the SW corner of Section 9, T. 1N, R. 13 E.

(3) TYPE OF WORK (check):

[redacted] Well ☒ Deepening ☐ Reconditioning ☐ Abandon ☐
If abandonment, describe material and procedure in Item 11.

(4) PROPOSED USE (check):

Domestic ☐ Industrial ☐ Municipal ☐
[redacted]ation ☒ Test Well ☐ Other ☐

(5) TYPE OF WELL:

Rotary ☐ Driven ☐
Cable ☒ Jetted ☐
Dug ☐ Bored ☐

(6) CASING INSTALLED:

Threaded ☐ Welded ☒
8" Diam. from 0 ft. to 36 ft. Gage 22½
6" Diam. from 0 ft. to 430 ft. Gage 15
" Diam. from ft. to ft. Gage

(7) PERFORATIONS:

Perforated? ☐ Yes ☒ No
Type of perforator used
SIZE of perforations in. by in.
perforations from ft. to ft.
perforations from ft. to ft.
perforations from ft. to ft.
perforations from ft. to ft.
perforations from ft. to ft.

(8) SCREENS:

Well screen installed ☐ Yes ☒ No
Manufacturer's Name
[redacted] Model No.
Diam. Slot size Set from ft. to ft.
Diam. Slot size Set from ft. to ft.

(9) CONSTRUCTION:

[redacted]ell gravel packed? ☐ Yes ☒ No Size of gravel:
Gravel placed from ft. to ft.
Was a surface seal provided? ☐ Yes ☐ No To what depth? ft.
Material used in seal—
Did any strata contain unusable water? ☐ Yes ☐ No
Type of water? Depth of strata
Method of sealing strata off

(10) WATER LEVELS:

Static level 606 ft. below land surface Date
Artesian pressure — lbs. per square inch Date

Log Accepted by:
[Signed] Earl A Ramsham (Owner) Date 5-10, 1960

(11) WELL TESTS:

Drawdown is amount water level is lowered below static level
Was a pump test made? ☒ Yes ☐ No If yes, by whom? Clayton
Yield: 105 gal./min. with 20 ft. drawdown after 3 hrs.
" " " "
" " " "
Bailer test gal./min. with ft. drawdown after hrs.
Artesian flow g.p.m. Date
Temperature of water 74° Was a chemical analysis made? ☐ Yes ☒ No

(12) WELL LOG:

Diameter of well inches.
Depth drilled ft. Depth of completed well ft.
Formation: *Describe by color, character, size of material and structure, and show thickness of aquifers and the kind and nature of the material in each stratum penetrated, with at least one entry for each change of formation.*

MATERIAL	FROM	TO
Soil	0	2
Hard pan	2	6
Blow sand	6	30
Gray sand stone (hard)	30	38
Soft sand stone	38	69
Hard sand stone	69	80
Sandy clay	80	120
Black rock & boulders	120	140
Brown clay	140	200
Brown rock & clay	200	310
Gray rock & clay	310	400
Talc	400	425
Hard gray rock	425	535
Green clay	535	538
Brown lignite	538	541½
Green clay & black rock	541½	544
Black rock	544	553
Gray rock	553	603
Black rock with pyrites	603	605
Black rock	605	612
Black bughole rock	612	614
Gray rock	614	634
Light gray bughole rock	634	638
Light gray rock	638	642
Hard gray rock	642	648

Work started 19 . Completed 19

(13) PUMP:

Manufacturer's Name Fairbanks Morse
Type: submersible H.P. 20

Well Driller's Statement:

This well was drilled under my jurisdiction and this report is true to the best of my knowledge and belief.

NAME Earl A Ramsham + Bert Clayton (Person, firm, or corporation) (Type or print)
Address R2 Box 115 the Dalles Ore
Driller's well number
[Signed] Earl A Ramsham + Bert Clayton (Well Driller)
License No. 54 Date 5-10, 1960

(USE ADDITIONAL SHEETS IF NECESSARY)

NOTICE TO WATER WELL CONTRACTOR
The original and first copy of this report are to be filed with the
STATE ENGINEER, SALEM, OREGON 97310 within 30 days from the date of well completion.

WASC

WATER WELL REPORT

STATE OF OREGON

RECEIVED
NOV 29 1972
STATE ENGINEER
SALEM, OREGON

(Please type or print)

002492 (Do not write above this line)

State Well No. 1N/13E-9

State Permit No. .....

(b) (6)

(2) TYPE OF WORK (check):

New Well [X] Deepening [ ] Reconditioning [ ] Abandon [ ]

If abandonment, describe material and procedure in Item 12.

(3) TYPE OF WELL:

Rotary [ ] Driven [ ]
Cable [X] Jetted [ ]
Dug [ ] Bored [ ]

(4) PROPOSED USE (check):

Domestic [ ] Industrial [ ] Municipal [ ]
Irrigation [ ] Test Well [ ] Other [ ] Stock [X]

(5) CASING INSTALLED:

Threaded [ ] Welded [X]

8 " Diam. from 0 ft. to 20 ft. Gage .250

" Diam. from ..... ft. to ..... ft. Gage .....

" Diam. from ..... ft. to ..... ft. Gage .....

(6) PERFORATIONS:

Perforated? [ ] Yes [X] No.

Type of perforator used

Size of perforations ..... in. by ..... in.

..... perforations from ..... ft. to ..... ft.

..... perforations from ..... ft. to ..... ft.

..... perforations from ..... ft. to ..... ft.

(7) SCREENS:

Well screen installed? [ ] Yes [X] No.

Manufacturer's Name .....

Type ..... Model No. .....

Diam. ..... Slot size ..... Set from ..... ft. to ..... ft.

Diam. ..... Slot size ..... Set from ..... ft. to ..... ft.

(8) WELL TESTS:

Drawdown is amount water level is lowered below static level

Was a pump test made? [ ] Yes [X] No If yes, by whom?

Yield: ..... gal./min. with ..... ft. drawdown after ..... hrs.

" " " "

" " " "

Bailer test 10 gal./min. with 90 ft. drawdown after 1 hrs.

Artesian flow ..... g.p.m.

Temperature of water ..... Depth artesian flow encountered ..... ft.

(9) CONSTRUCTION:

Well seal—Material used Bentonite

Well sealed from land surface to 19 ft.

Diameter of well bore to bottom of seal 12 in.

Diameter of well bore below seal 8 in.

Number of sacks of cement used in well seal none sacks

Number of sacks of bentonite used in well seal 2 sacks

Brand name of bentonite Yellowstone

Number of pounds of bentonite per 100 gallons of water 65 lbs./100 gals.

Was a drive shoe used? [X] Yes [ ] No Plugs ..... Size: location ..... ft.

Did any strata contain unusable water? [ ] Yes [X] No

Type of water? ..... depth of strata .....

Method of sealing strata off .....

Was well gravel packed? [ ] Yes [X] No Size of gravel: .....

Gravel placed from ..... ft. to ..... ft.

(10) LOCATION OF WELL:

County Wasco Driller's well number .....

¼ ¼ Section 9 T. 1N R. 13 E. W.M.

Bearing and distance from section or subdivision corner .....

(11) WATER LEVEL: Completed well.

Depth at which water was first found 292 ft.

Static level 275 ft. below land surface. Date 10/30/72

Artesian pressure ..... lbs. per square inch. Date .....

(12) WELL LOG:

Diameter of well below casing 8"

Depth drilled 390 ft. Depth of completed well 390 ft.

Formation; Describe color, texture, grain size and structure of materials; and show thickness and nature of each stratum and aquifer penetrated, with at least one entry for each change of formation. *Report each change in position of Static Water Level and indicate principal water-bearing strata.*

MATERIAL	From	To	SWL
Brown silt sandstone, rocky	0	22	
Rusty brown sandstone	22	42	
Grey sandstone	42	52	
Brown sandstone	52	72	
Cement rock	72	87	
Grey sandy sandstone	87	107	
Brown sandstone	107	127	
Grey sandstone	127	134	
Brown sandstone	134	142	
Grey rocky sandstone	142	147	
Light brown sandstone	147	230	
Tan sandstone	230	270	
Light brown sandstone	270	290	
Brown clay, hard	290	295	273
Grey clay sandstone	295	300	273
Brown rocky sandstone	300	365	273
Brown sandy sandstone	365	370	275
Brown rocky sandstone	370	387	275
Grey Clay	387	390	275

Work started 10/10 19 72 Completed 10/30 19 72

Date well drilling machine moved off of well 11/1 19 72

Drilling Machine Operator's Certification:

This well was constructed under my direct supervision. Materials used and information reported above are true to my best knowledge and belief.

[Signed] Delbert Clayton (Drilling Machine Operator) Date 11-27-72 19 72

Drilling Machine Operator's License No. 129

Water Well Contractor's Certification:

This well was drilled under my jurisdiction and this report is true to the best of my knowledge and belief.

Name Bert Clayton & Son (Person, firm or corporation) (Type or print)

Address 2313 E. 10th St., The Dalles, Ore.

[Signed] Bert Clayton (Water Well Contractor)

Contractor's License No. 54 Date 11-27, 19 72

(USE ADDITIONAL SHEETS IF NECESSARY)

SP*45656-119

STATE OF OREGON

WATER WELL REPORT

(as required by ORS 537.765)

RECEIVED
DEC 18 1984
DEC 1 1984
WATER RESOURCES DEPT
SALEM, OREGON

WASC 002491

1N/13E-9bd
Rand-
(for official use only)

(b) (6)

(2) TYPE OF WORK (check):

New Well ☐ Deepening ☐ Reconditioning ☒ Abandon ☐

If abandonment, describe material and procedure in Item 12.

(3) TYPE OF WELL:

Rotary Air ☐ Driven ☐
Rotary Mud ☐ Dug ☐
[redacted] ☒ Bored ☐

(4) PROPOSED USE (check):

Domestic ☒ Industrial ☐ Municipal ☐
Irrigation ☐ Thermal: Withdrawal ☐ Reinjection ☐
Other: Piezometric ☐ Grounding ☐ Test ☐

(5) CASING INSTALLED:

Steel ☐ Plastic ☐
Threaded ☐ Welded ☐

" Diam. from ft. to ft. Gauge

" Diam. from ft. to ft. Gauge

[redacted] LINER INSTALLED:

Steel ☒ Plastic ☐
Threaded ☐ Welded ☒

6 " Diam. from + 1 ft. to 180 ft. Gauge .188

(6) PERFORATIONS:

Perforated? ☒ Yes ☐ No

Size of perforations 1/8 in. by 6 in.

76 perforations from 141 ft. to 160 ft.

perforations from ft. to ft.

perforations from ft. to ft.

(7) SCREENS:

Well screen installed? ☐ Yes ☒ No

Manufacturer's Name

Type Model No.

Diam. Slot Size Set from ft. to ft.

Diam. Slot Size Set from ft. to ft.

(8) WELL TESTS:

Drawdown is amount water level is lowered below static level

Was a pump test made? ☐ Yes ☒ No If yes, by whom?

[redacted]i: gal./min. with ft. drawdown after hrs.

" " " "

Air test gal./min. with drill stem at ft. hrs.

Bailer test gal./min. with ft. drawdown after hrs.

Artesian flow g.p.m.

[redacted]perature of water 56° Depth artesian flow encountered ft.

(9) CONSTRUCTION:

Special standards: Yes ☐ No ☒

Well seal—Material used sealed in 1980

Well sealed from land surface to 40 ft.

Diameter of well bore to bottom of seal in.

Diameter of well bore below seal in.

Amount of sealing material sacks ☐ pounds ☐

How was cement grout placed?

Was pump installed? Yes Type Sub HP 3/4 Depth 144 ft.

Was a drive shoe used? ☐ Yes ☒ No Plugs Size: location ft.

Did any strata contain unusable water? ☐ Yes ☒ No

Type of Water? depth of strata

Method of sealing strata off

Was well gravel packed? ☐ Yes ☒ No Size of gravel:

Gravel placed from ft. to ft.

(10) LOCATION OF WELL by legal description:

County Wasco SE ¼ NW ¼ of Section 9 of

Township 1 N (Township is North or South), Range 13 E. (Range is East or West), WM.

Tax Lot Lot Block Subdivision

MAILING ADDRESS OF WELL (or nearest address)

2719 Skyline Road
The Dalles, OR 97058

(11) WATER LEVEL of COMPLETED WELL:

Depth at which water was first found ft.

Static level 58 ft. below land surface. Date

Artesian pressure lbs. per square inch. Date

(12) WELL LOG:

Diameter of well below casing 5½"

Depth drilled ft. Depth of completed well 187 ft.

Formation: Describe color, texture, grain size and structure of materials; and show thickness and nature of each stratum and aquifer penetrated, with at least one entry for each change of formation. Report each change in position of Static Water Level and indicate principal water-bearing strata.

MATERIAL	From	To	SWL

Date work started Nov. 19, 1984 completed Nov. 30, 1984

Date well drilling machine moved off of well November 30, 19 84

(unbonded) Water Well Constructor Certification (if applicable):

This well was constructed under my direct supervision. Materials used and information reported above are true to my best knowledge and belief.

[Signed] Date , 19

(bonded) Water Well Constructor Certification: Fidelity & Deposit Co. of Marylan

Bond 9497437 (number) Issued by: (Surety Company Name)

On behalf of Gilbert Clayton (type or print name of Water Well Constructor)

This well was drilled under my jurisdiction and this report is true to the best of my knowledge and belief:

(Signed) Gilbert Clayton (Water Well Constructor)

(Dated) December 15, 1984

NOTICE TO WATER WELL CONSTRUCTOR
The original and first copy of this report are to be filed with the

WATER RESOURCES DEPARTMENT, SALEM, OREGON 97310 within 30 days from the date of well completion.

SP*46866-690

WATER WELL REPORT
STATE OF OREGON

WASC
002490

RECEIVED
DEC 2 1981
WATER RESOURCES DEPT
SALEM, OREGON

State Well No. 1N/13E-9ba

State Permit No.

(b) (6)

(2) TYPE OF WORK (check):
New Well ☒ Deepening ☐ Reconditioning ☐ Abandon ☐
If abandonment, describe material and procedure in Item 12.

(3) TYPE OF WELL:
Rotary Air ☒ Driven ☐
Rotary Mud ☐ Dug ☐
Cable ☐ Bored ☐

(4) PROPOSED USE (check):
Domestic ☒ Industrial ☐ Municipal ☐
Irrigation ☐ Test Well ☐ Other ☐
Thermal: ☐ Withdrawal ☐ Reinjection ☐

(5) CASING INSTALLED:
Steel ☒ Plastic ☐
Threaded ☐ Welded ☒
8 " Diam. from 0 ft. to 20 ft. Gauge .250
" Diam. from ft. to ft. Gauge

LINER INSTALLED:
6 " Diam. from 7 ft. to 368 ft. Gauge .188

(6) PERFORATIONS:
Perforated? ☒ Yes ☐ No
Type of perforator used cutting torch
Size of perforations 1/8 in. by 6 in.
76 perforations from 348 ft. to 368 ft.
perforations from ft. to ft.
perforations from ft. to ft.

(7) SCREENS:
Well screen installed? ☐ Yes ☒ No
Manufacturer's Name
Type Model No.
Diam. Slot Size Set from ft. to ft.
Diam. Slot Size Set from ft. to ft.

(8) WELL TESTS:
Drawdown is amount water level is lowered below static level
Was a pump test made? ☐ Yes ☒ No If yes, by whom?
Yield: gal./min. with ft. drawdown after hrs.
" " " "
Air test 10 gal./min. with drill stem at 348 ft. 1 hrs.
Bailer test gal./min. with ft. drawdown after hrs.
Artesian flow g.p.m.
Temperature of water 58° Depth artesian flow encountered ft.

(9) CONSTRUCTION:
Special standards: Yes ☐ No ☒
Well seal—Material used cement groute
Well sealed from land surface to 19 ft.
Diameter of well bore to bottom of seal 10 in.
Diameter of well bore below seal 8 in.
Number of sacks of cement used in well seal 6 sacks
How was cement grout placed? pressure grouted with pump
Was pump installed? Yes Type sub. HP 1½ Depth 358 ft.
Was a drive shoe used? ☒ Yes ☐ No Plugs Size: location ft.
Did any strata contain unusable water? ☐ Yes ☒ No
Type of Water? depth of strata
Method of sealing strata off
Was well gravel packed? ☐ Yes ☒ No Size of gravel:
Gravel placed from ft. to ft.

(10) LOCATION OF WELL:
County Wasco Driller's well number
NE ¼ NW ¼ Section 9 T. 1 N R. 13 E W.M.
Tax Lot # Lot Blk Subdivision
Address at well location: Skyline Road
The Dalles, OR 97058

(11) WATER LEVEL: Completed well.
Depth at which water was first found 330 ft.
Static level 253 ft. below land surface. Date 11-20-81
Artesian pressure lbs. per square inch. Date

(12) WELL LOG:
Diameter of well below casing 6"
Depth drilled 368 ft. Depth of completed well 368 ft.
Formation: Describe color, texture, grain size and structure of materials; and show thickness and nature of each stratum and aquifer penetrated, with at least one entry for each change of formation. Report each change in position of Static Water Level and indicate principal water-bearing strata.

MATERIAL	From	To	SWL
Soil, brown clay	0	1	
Sandstone, brown rocky	1	20	
Boulders, bonded	20	25	
Sandstone, brown	25	55	
Sandstone, brown rocky	55	85	
Sandstone, brown	85	105	
Sandstone, brown rocky	105	120	
Sandstone, brown	120	155	
Sandstone, grey	155	180	
Sandstone, brown rocky	180	220	
Sandstone, grey	220	240	
Sandstone, grey rocky	240	260	
Clay, grey	260	285	
Clay, brown	285	300	
Sandstone, brown	300	330	253
Sandstone, grey	330	335	253
Sandstone, fine brown	335	355	253
Sandstone, grey	355	363	253
Clay, brown hard	363	368	253

Work started Nov. 7 19 81 Completed Nov. 19 19 81
Date well drilling machine moved off of well Nov. 20 19 81

Drilling Machine Operator's Certification:
This well was constructed under my direct supervision. Materials used and information reported above are true to my best knowledge and belief.
[Signed] Gilbert Clayton (Drilling Machine Operator) Date 11-30, 19 81
Drilling Machine Operator's License No. 129

Water Well Contractor's Certification:
This well was drilled under my jurisdiction and this report is true to the best of my knowledge and belief.
Name Gilbert Clayton Well Drilling (Person, firm or corporation) (Type or print)
Address Rt. 1, Box 61-A, The Dalles, OR 97058
[Signed] Gilbert Clayton (Water Well Contractor)
Contractor's License No. 569 Date Nov. 30, 19 81

NOTICE TO WATER WELL CONTRACTOR
The original and first copy of this report are to be filed with the
WATER RESOURCES DEPARTMENT, SALEM, OREGON 97310 within 30 days from the date of well completion.

SP*12658-690

STATE ENGINEER
Salem, Oregon

WASC
002489

Well Record

STATE WELL NO. 1N/13-8M(2)
COUNTY Wasco
APPLICATION NO. U 2-6

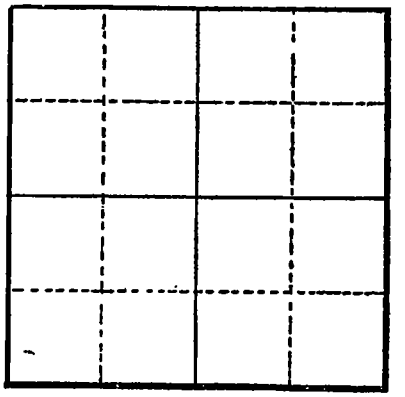
OWNER: (b) (6)

MAILING ADDRESS: Rt. 2

CITY AND STATE: The Dalles, Oregon

LOCATION OF WELL: Owner's No. .....

NW ¼ SW ¼ Sec. 8 T. 1 ~~S~~ N. R. 13 ~~W~~ E., W.M.



Bearing and distance from section or subdivision corner .....

Altitude at well .....

TYPE OF WELL: drilled Date Constructed 1948

Depth drilled 365 Depth cased .....

Section 8

CASING RECORD:

12-inch from 0 to 128'
10-inch liner from 256 to 284 ft.

well drilled 12-inch to 284 and 10-inch from 284 to 365'

FINISH:

AQUIFERS:

Basalt

WATER LEVEL: 247' in 1948

PUMPING EQUIPMENT: Type Turbine 10' H.P. 75
Capacity ..... G.P.M.

WELL TESTS:
Drawdown 6 ft. after ..... hours pumping 1,000 G.P.M.
Drawdown ..... ft. after ..... hours ..... G.P.M.

USE OF WATER Irrigation Temp. ..... °F. ....., 19.....
SOURCE OF INFORMATION .....
DRILLER or DIGGER Harty Bros.
ADDITIONAL DATA:
Log x Water Level Measurements ..... Chemical Analysis ..... Aquifer Test .....

REMARKS:

State Printing 89316

STATE ENGINEER
Salem, Oregon

State Well No. 1N/13-8M(2)
County Wasco
Application No. U-261

Well Log

Owner: (b) (6) Owner's No.

Driller: Harty Bros. Date Drilled 1948

CHARACTER OF MATERIAL	(Feet below land surface) From	To	Thickness (feet)
Conglomerate	0	39	39
Clay, blue, and white talc	39	119	80
Basalt, blue	119	256	137
Shale, blue	256	282	26
Basalt, blue	282	354	72
Lava Porous, and iron pyrites, water bearing	354	365	11

STATE ENGINEER
Salem, Oregon

WASC
002488

OBSERVATION WELL

Well Record

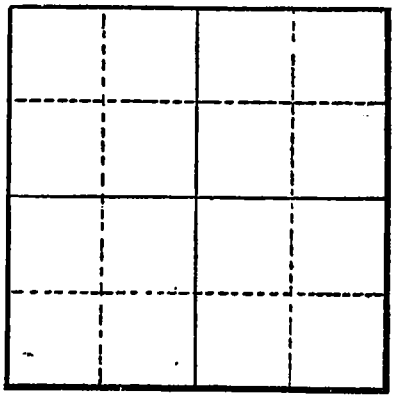
STATE WELL NO. 1N/13-8M(1)
COUNTY Wasco
APPLICATION NO. U-181

OWNER: Mill Creek Irrig. Coop. Inc.
MAILING ADDRESS: Rt. 2
CITY AND STATE: The Dalles

LOCATION OF WELL: Owner's No. .....

NW ¼ SW ¼ Sec. 8 T. 1 ~~N~~ R. 13 ~~E~~ W.M.

Bearing and distance from section or subdivision corner .....



Altitude at well .....

TYPE OF WELL: drilled Date Constructed 1945

Depth drilled 371 Depth cased .....

Section 8

CASING RECORD:

12-inch, set to _____.

FINISH:

Open well below casing

AQUIFERS:

Basalt

WATER LEVEL: 249' in 1945

PUMPING EQUIPMENT: Type Turbine H.P. 75
Capacity ..... G.P.M.

WELL TESTS:
Drawdown 1 ft. after 100 hours pumping 550 G.P.M.
Drawdown ..... ft. after ..... hours ..... G.P.M.

USE OF WATER Irrigation Temp. ..... °F. ....., 19....
SOURCE OF INFORMATION U-181
DRILLER or DIGGER Bert Clayton
ADDITIONAL DATA:
Log x Water Level Measurements x Chemical Analysis ..... Aquifer Test .....

REMARKS: Permit No. U-189, Certificate No. 20790

State Printing 89316

STATE ENGINEER
Salem, Oregon

State Well No. 1N/13-8M(1)
County Wasco
Application No. U-181

Well Log

Owner: Mill Creek Irrigation Coop. Inc. Owner's No.

Driller: Bert Clayton Date Drilled 1945

CHARACTER OF MATERIAL	(Feet below land surface) From	To	Thickness (feet)
Soil, gravel, and boulders	0	18	18
Sandstone and boulders	18	30	12
Clay and sand	30	100	70
Talc and chalk	100	129	29
Shale, brittle, some water	129	130	1
Basalt	130	263	133
Clay, gray, and "rosin" rock	263	289	26
Basalt	289	349	60
Open, water bearing	349	350	1
Basalt	350	371	21

STATE ENGINEER
Salem, Oregon

WASC 002487

OBSERVATION WELL
Well Record

STATE WELL NO. 1N/13-8A(1)
COUNTY Wasco
APPLICATION NO. U-555

OWNER: (b) (6)

MAILING ADDRESS:

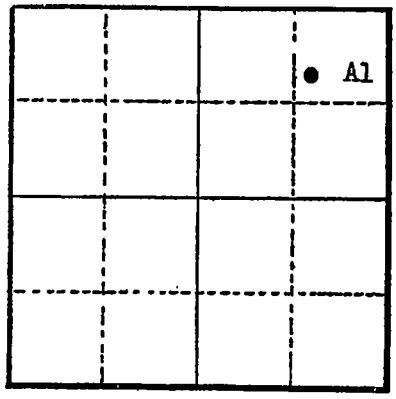
CITY AND STATE:

LOCATION OF WELL: Owner's No.

NE ¼ NE ¼ Sec. 8 T. 1 N., R. 13 E., W.M.

Bearing and distance from section or subdivision corner S 63° 34' W., 1370' from NE cor. Sec. 8

Altitude at well



TYPE OF WELL: Drilled Date Constructed Apr. 54 to July 55

Depth drilled 341 Depth cased

Section 8

CASING RECORD:

Hole 10-inch, reduced to 6-inch

FINISH:

AQUIFERS:

Basalt

WATER LEVEL:

191 feet when completed

PUMPING EQUIPMENT: Type H.P.
Capacity G.P.M.

WELL TESTS:
Drawdown ft. after hours G.P.M.
Drawdown ft. after hours G.P.M.

USE OF WATER Irrigation Temp. °F., 19
SOURCE OF INFORMATION U-555
DRILLER or DIGGER
ADDITIONAL DATA:
Log Water Level Measurements Chemical Analysis Aquifer Test

REMARKS:

State Printing 89316

STATE ENGINEER
Salem, Oregon

State Well No. 1N/13-8A(1)
County Wasco
Application No. U-555

Well Log

Owner: (b) (6) Owner's No.

Driller: Date Drilled 1945-55

CHARACTER OF MATERIAL	(Feet below land surface) From	To	Thickness (feet)
Sand and gravel	0	20	20
Rock and boulders	20	30	10
Sand, water bearing	30	35	5
Sand and shale	35	50	15
Clay and layers of rock	50	272	222
Clay and hard basalt	272	341	69
Basalt, broken	---	---	---

RECEIVED
APR 17 1962
STATE ENGINEER
SALEM, OREGON

WASC

NOTICE TO WATER WELL CONTRACTOR
The original and first copy of this report are to be filed with the STATE ENGINEER, SALEM 10, OREGON within 30 days from the date of well completion.

WATER WELL REPORT
STATE OF OREGON (Please type or print)

002486

State Well No. 1N/13-6A

State Permit No. .....

(b) (6) [redacted]

(2) LOCATION OF WELL:

County Wasco Driller's well number

NE ¼ NE ¼ Section 6 T. 1 N R. 13 E W.M.

Bearing and distance from section or subdivision corner

From thennorthwest corner 450 feet south, 153 feet east to well site.

(3) TYPE OF WORK (check):

New Well ☒ Deepening ☐ Reconditioning ☐ Abandon ☐

If abandonment, describe material and procedure in Item 12.

(4) PROPOSED USE (check):

Domestic ☒ Industrial ☐ Municipal ☐
Irrigation ☐ Test Well ☐ Other ☐

(5) TYPE OF WELL:

Rotary ☐ Driven ☐
Cable ☒ Jetted ☐
Dug ☐ Bored ☐

(6) CASING INSTALLED:

Threaded ☐ Welded ☒

6 " Diam. from 0 ft. to 126½ ft. Gage .250

" Diam. from ft. to ft. Gage

" Diam. from ft. to ft. Gage

(7) PERFORATIONS:

Perforated? ☒ Yes ☐ No

Type of perforator used cut before installation

Size of perforations 1/2" in. by 16 in.

12 perforations from 92 ft. to 122 ft.

perforations from ft. to ft.

perforations from ft. to ft.

perforations from ft. to ft.

perforations from ft. to ft.

(8) SCREENS:

Well screen installed ☐ Yes ☒ No

Manufacturer's Name

Type Model No.

Diam. Slot size Set from ft. to ft.

Diam. Slot size Set from ft. to ft.

(9) CONSTRUCTION:

Well seal—Material used in seal cement

Depth of seal 25 ft. Was a packer used? yes

Diameter of well bore to bottom of seal 12 in.

Were any loose strata cemented off? ☐ Yes ☒ No Depth

Was a drive shoe used? ☐ Yes ☒ No

Was well gravel packed? ☐ Yes ☒ No Size of gravel:

Gravel placed from ft. to ft.

Did any strata contain unusable water? ☐ Yes ☒ No

Type of water? Depth of strata

Method of sealing strata off

(10) WATER LEVELS:

Static level 88 ft. below land surface Date 4/12/62

Artesian pressure lbs. per square inch Date

(11) WELL TESTS:

Drawdown is amount water level is lowered below static level

Was a pump test made? ☐ Yes ☒ No If yes, by whom?

Yield: gal./min. with ft. drawdown after hrs.

" " " "

" " " "

Bailer test 17 gal./min. with 1 ft. drawdown after 1 hrs.

Artesian flow g.p.m. Date

Temperature of water 55 Was a chemical analysis made? ☐ Yes ☒ No

(12) WELL LOG:

Diameter of well below casing cased to bottom

Depth drilled 126½ ft. Depth of completed well 126½ ft.

Formation: *Describe by color, character, size of material and structure, and show thickness of aquifers and the kind and nature of the material in each stratum penetrated, with at least one entry for each change of formation.*

MATERIAL	FROM	TO
Silt and sand	0	2
Sandstone, fine, brown	2	61
Sandstone, fine, grey	61	91
Fractured sandstone with gravel streaks - water bearing	91	126½

Work started 4 - 3 1962 Completed 4 - 13 1962

Date well drilling machine moved off of well 19

(13) PUMP:

Manufacturer's Name

Type: H.P.

Water Well Contractor's Certification:

This well was drilled under my jurisdiction and this report is true to the best of my knowledge and belief.

NAME Dorin Wilburn (Person, firm or corporation) (Type or print)

Address 812 E 7th Street, The Dalles, Ore

Drilling Machine Operator's License No.

[Signed] Dorin Wilburn (Water Well Contractor)

Contractor's License No. 80 Date 4 - 15, 19 62

(USE ADDITIONAL SHEETS IF NECESSARY)

File Original and Duplicate with the STATE ENGINEER, SALEM, OREGON

JAN 8 1960

STATE OF OREGON 002485

State Well No. 1S/13E-6

State Permit No.

(b) (6)

(2) LOCATION OF WELL:

County Wasco Owner's number, if any—

NE ¼ NE ¼ Section 6 T. 1 R. 13 E W.M.

Bearing and distance from section or subdivision corner

Beginning at Southeast corner of above, running north 405 feet, thence west 204 feet to well

TYPE OF WORK (check):

New Well ☒ Deepening ☐ Reconditioning ☐ Abandon ☐

If abandonment, describe material and procedure in Item 11.

PROPOSED USE (check):

Domestic ☒ Industrial ☐ Municipal ☐

Irrigation ☐ Test Well ☐ Other ☐

(5) TYPE OF WELL:

Rotary ☐ Driven ☐

Cable ☒ Jetted ☐

Dug ☐ Bored ☐

(6) CASING INSTALLED:

Threaded ☐ Welded ☒

6 " Diam. from 51 ft. to 94 ft. Gage .280

" Diam. from ft. to ft. Gage

" Diam. from ft. to ft. Gage

(7) PERFORATIONS:

Perforated? ☒ Yes ☐ No

Type of perforator used Slots cut with torch

SIZE of perforations 1/2" in. by 16 in.

10 perforations from 60 ft. to 90 ft.

perforations from ft. to ft.

perforations from ft. to ft.

perforations from ft. to ft.

perforations from ft. to ft.

SCREENS:

Well screen installed ☐ Yes ☐ No

Manufacturer's Name

Type Model No.

Diam. Slot size Set from ft. to ft.

Diam. Slot size Set from ft. to ft.

CONSTRUCTION:

Was well gravel packed? ☐ Yes ☐ No Size of gravel:

Gravel placed from ft. to ft.

Was a surface seal provided? ☒ Yes ☐ No To what depth? ft.

Material used in seal— cement

Did any strata contain unusable water? ☐ Yes ☐ No

Type of water? Depth of strata

Method of sealing strata off

(10) WATER LEVELS:

Static level 60 ft. below land surface Date 12/28/59

Artesian pressure lbs. per square inch Date

Log Accepted by:

[Signed] L. Hahn (Owner) Date Jan. 5, 1960

(11) WELL TESTS:

Drawdown is amount water level is lowered below static level

Was a pump test made? ☐ Yes ☐ No If yes, by whom?

Yield: gal./min. with ft. drawdown after hrs.

" " " "

" " " "

Bailer test 5 gal./min. with 16 ft. drawdown after hrs.

Artesian flow g.p.m. Date

Temperature of water Was a chemical analysis made? ☐ Yes ☐ No

(12) WELL LOG:

Diameter of well 8 inches.

Depth drilled 94 ft. Depth of completed well 94 ft.

Formation: *Describe by color, character, size of material and structure, and show thickness of aquifers and the kind and nature of the material in each stratum penetrated, with at least one entry for each change of formation.*

MATERIAL	FROM	TO
Soil	0	1
Brown sandstone, dense	1	56
Soft conglomerate, streaks gravel, fractured sandstone, some joint clay, - water.	56	93
Yellow clay	93	94

Work started 19 . Completed Dec. 28, 1959

(13) PUMP:

Manufacturer's Name

Type: H.P.

Well Driller's Statement:

This well was drilled under my jurisdiction and this report is true to the best of my knowledge and belief.

NAME Dorin Wilburn (Person, firm, or corporation) (Type or print)

Address 812 E 7th Street, The Dalles, Ore

Driller's well number

[Signed] Dorin Wilburn (Well Driller)

License No. 80 Date Jan. 5, 1960

(USE ADDITIONAL SHEETS IF NECESSARY)

WASC
002484

File Original and First Copy with the STATE ENGINEER, SALEM, OREGON

WATER WELL REPORT
STATE OF OREGON

G1689
G1158

State Well No. 1N/13-6A (1)

State Permit No. G990

(b) (6)

(2) LOCATION OF WELL:

County Wasco Owner's number, if any—

¼ ¼ Section T. R. W.M.

Bearing and distance from section or subdivision corner

(3) TYPE OF WORK (check):

New Well ☐ Deepening ☐ Reconditioning ☐ Abandon ☐

If abandonment, describe material and procedure in Item 11.

(4) PROPOSED USE (check):

Domestic ☐ Industrial ☐ Municipal ☐

Irrigation ☐ Test Well ☐ Other ☐

(5) TYPE OF WELL:

Rotary ☐ Driven ☐

Cable ☒ Jetted ☐

Dug ☐ Bored ☐

(6) CASING INSTALLED:

Threaded ☐ Welded ☐

6 " Diam. from None installed ft. to ft. Gage

" Diam. from ft. to ft. Gage

" Diam. from ft. to ft. Gage

(7) PERFORATIONS:

Perforated? ☐ Yes ☐ No

Type of perforator used

SIZE of perforations in. by in.

perforations from ft. to ft.

perforations from ft. to ft.

perforations from ft. to ft.

perforations from ft. to ft.

perforations from ft. to ft.

(8) SCREENS:

Well screen installed ☐ Yes ☐ No

Manufacturer's Name

Type Model No.

Diam. Slot size Set from ft. to ft.

Diam. Slot size Set from ft. to ft.

(9) CONSTRUCTION:

Was well gravel packed? ☐ Yes ☐ No Size of gravel:

Gravel placed from ft. to ft.

Was a surface seal provided? ☐ Yes ☐ No To what depth? ft.

Material used in seal—

Did any strata contain unusable water? ☐ Yes ☐ No

Type of water? Depth of strata

Method of sealing strata off

(10) WATER LEVELS:

Static level 130 ft. below land surface Date 1946

Artesian pressure lbs. per square inch Date

Log Accepted by:

[Signed] Date , 19

(Owner)

(11) WELL TESTS:

Drawdown is amount water level is lowered below static level

Was a pump test made? ☐ Yes ☐ No If yes, by whom?

Yield: 40 gal./min. with 4.6 ft. drawdown after 3 hrs.

" " " "

" " " "

Bailer test gal./min. with ft. drawdown after hrs.

Artesian flow g.p.m. Date

Temperature of water Was a chemical analysis made? ☐ Yes ☐ No

(12) WELL LOG:

Diameter of well 6 inches.

Depth drilled 176 ft. Depth of completed well ft.

Formation: *Describe by color, character, size of material and structure, and show thickness of aquifers and the kind and nature of the material in each stratum penetrated, with at least one entry for each change of formation.*

MATERIAL	FROM	TO
Sandstone	0	176
Water bearing at bottom.		

Work started 1921± Completed 19

(13) PUMP:

Manufacturer's Name Cook

Type: Turbine H.P. 3

Well Driller's Statement:

This well was drilled under my jurisdiction and this report is true to the best of my knowledge and belief.

NAME Unknown.
(Person, firm, or corporation) (Type or print)

Address

Driller's well number

[Signed]
(Well Driller)

License No. Date , 19

(USE ADDITIONAL SHEETS IF NECESSARY)

ORIGINAL
File Original and Duplicate with the STATE ENGINEER, SALEM, OREGON

WASC 002483

WATER WELL REPORT
STATE OF OREGON

G67

State Well No. 1N/13-6D(1)

State Permit No. G7

(b) (6) [redacted]

(2) LOCATION OF WELL:

County ..... Owner's number, if any— 6

¼ ¼ Section 6 T. 1n R. 13e W.M.

Bearing and distance from section or subdivision corner

w 18.46 AA off Lot 4

(3) TYPE OF WORK (check):

Well ☒ Deepening ☐ Reconditioning ☐ Abandon ☐

If abandonment, describe material and procedure in Item 11.

(4) PROPOSED USE (check):

Domestic ☐ Industrial ☐ Municipal ☐

Irrigation ☒ Test Well ☐ Other ☐

(5) TYPE OF WELL:

Rotary ☐ Driven ☐

Cable ☒ Jetted ☐

Dug ☐ Bored ☐

(6) CASING INSTALLED:

Threaded ☐ Welded ☒

10" Diam. from 0 ft. to 19½ ft. Gage .....

..... " Diam. from ..... ft. to ..... ft. Gage .....

..... " Diam. from ..... ft. to ..... ft. Gage .....

(7) PERFORATIONS:

Perforated? ☐ Yes ☐ No

Type of perforator used

SIZE of perforations ..... in. by ..... in.

..... perforations from ..... ft. to ..... ft.

..... perforations from ..... ft. to ..... ft.

..... perforations from ..... ft. to ..... ft.

..... perforations from ..... ft. to ..... ft.

..... perforations from ..... ft. to ..... ft.

(8) SCREENS:

Well screen installed ☐ Yes ☐ No

Manufacturer's Name .....

Type ..... Model No. .....

Diam. ..... Slot size ..... Set from ..... ft. to ..... ft.

Diam. ..... Slot size ..... Set from ..... ft. to ..... ft.

(9) CONSTRUCTION:

Was well gravel packed? ☐ Yes ☒ No Size of gravel: .....

Gravel placed from ..... ft. to ..... ft.

Was a surface seal provided? ☒ Yes ☐ No To what depth? 19½ ft.

Material used in seal— muck around casing

Did any strata contain unusable water? ☒ Yes ☐ No

Type of water? ..... Depth of strata 101 ft.

Method of sealing strata off

(10) WATER LEVELS:

Static level 86 ft. ft. below land surface Date 6/12/58

Artesian pressure ..... lbs. per square inch Date .....

Log Accepted by:

[Signed] Francis G. Flick (Owner) Date June 16, 1958

(11) WELL TESTS:

Drawdown is amount water level is lowered below static level

Was a pump test made? ☒ Yes ☐ No If yes, by whom? C.F. Peterse

Yield: 16 gal./min. with ..... ft. drawdown after ..... hrs.

" " " "

" " " "

Bailer test ..... gal./min. with ..... ft. drawdown after ..... hrs.

Artesian flow ..... g.p.m. Date .....

Temperature of water 54 Was a chemical analysis made? ☐ Yes ☒ No

(12) WELL LOG:

Diameter of well 10" to 180 ft. 8" to 325 ft. inches.

Depth drilled 325 ft. Depth of completed well 325 ft.

Formation: *Describe by color, character, size of material and structure, and show thickness of aquifers and the kind and nature of the material in each stratum penetrated, with at least one entry for each change of formation.*

MATERIAL	FROM	TO
Gray sand stone	0	6
Cement rock	6	22
Grey sand stone	22	35
Red sand stone	35	45
Grey sand stone	45	62
Yellow clay	62	94
Gravel	94	101
Brown sand clay	101	130
White joint clay	130	150
Blue joint clay	150	172
Brown sand stone	172	325
Water was encountered at 101 feet.		

Work started April 23 1953 Completed Aug. 17 1954

(13) PUMP:

Manufacturer's Name .....

Type: ..... H.P. .....

Well Driller's Statement:

This well was drilled under my jurisdiction and this report is true to the best of my knowledge and belief.

NAME Mr. Bert Clayton (Person, firm, or corporation) (Type or print)

Address 2313 E. 10th St., The Dalles, Oregon

Driller's well number NO: 54

[Signed] Bert Clayton (Well Driller)

License No. 54 Date June 16, 1958

(USE ADDITIONAL SHEETS IF NECESSARY)

NOTICE TO WATER WELL CONTRACTOR
The original and first copy of this report are to be filed with the STATE ENGINEER, SALEM 10, OREGON within 30 days from the date of well completion.

WASC
SEP 30 1964
002482

WATER WELL REPORT
STATE OF OREGON (Please type or print)

State Well No. 1N/13-6
State Permit No.

(b) (6) [redacted]

(2) LOCATION OF WELL:
County Wasco Driller's well number
¼ ¼ Section 6 T. 1.N R. 13E. W.M.
Bearing and distance from section or subdivision corner
17 acres in lot 5 S. E.

(3) TYPE OF WORK (check):
New Well ☐ Deepening ☐ Reconditioning ☒ Abandon ☐
If abandonment, describe material and procedure in Item 12.

(4) PROPOSED USE (check):
Domestic ☒ Industrial ☐ Municipal ☐
Irrigation ☐ Test Well ☐ Other ☐

(5) TYPE OF WELL:
Rotary ☐ Driven ☐
Cable ☐ Jetted ☐
Dug ☐ Bored ☐

(6) CASING INSTALLED:
Threaded ☐ Welded ☒
6" Diam. from 270 ft. to ft. Gage .250
" Diam. from ft. to ft. Gage
" Diam. from ft. to ft. Gage

(7) PERFORATIONS:
Perforated? ☒ Yes ☐ No
Type of perforator used Drive down
Size of perforations ¼ in. by 1¼ in.
100 perforations from 250 ft. to 270 ft.
125 perforations from 245 ft. to 270 ft.
perforations from ft. to ft.
perforations from ft. to ft.
perforations from ft. to ft.

(8) SCREENS:
Well screen installed ☐ Yes ☐ No
Manufacturer's Name
Type Model No.
Diam. Slot size Set from ft. to ft.
Diam. Slot size Set from ft. to ft.

(9) CONSTRUCTION:
Well seal—Material used in seal Bentonite
Depth of seal 18 ft. Was a packer used? yes
Diameter of well bore to bottom of seal 9 in.
Were any loose strata cemented off? ☐ Yes ☐ No Depth
Was a drive shoe used? ☒ Yes ☐ No
Was well gravel packed? ☒ Yes ☐ No Size of gravel: ¾"
Gravel placed from 270 ft. to 18 ft.
Did any strata contain unusable water? ☐ Yes ☐ No
Type of water? Depth of strata
Method of sealing strata off

(10) WATER LEVELS:
Static level 195 ft. below land surface Date Sept. 12
Artesian pressure lbs. per square inch Date

(11) WELL TESTS:
Drawdown is amount water level is lowered below static level
Was a pump test made? ☐ Yes ☐ No If yes, by whom?
Yield: gal./min. with ft. drawdown after hrs.
" " " "
" " " "
Bailer test 2 gal./min. with ft. drawdown after hrs.
Artesian flow g.p.m. Date
Temperature of water Was a chemical analysis made? ☐ Yes ☐ No

(12) WELL LOG:
Diameter of well below casing
Depth drilled ft. Depth of completed well ft.
Formation: *Describe by color, character, size of material and structure, and show thickness of aquifers and the kind and nature of the material in each stratum penetrated, with at least one entry for each change of formation.*

MATERIAL	FROM	TO

Work started Sept. 5 19 64 Completed Sept. 16 1964
Date well drilling machine moved off of well Sept. 18 1964

(13) PUMP:
Manufacturer's Name
Type: H.P.

Water Well Contractor's Certification:
This well was drilled under my jurisdiction and this report is true to the best of my knowledge and belief.

NAME Bert Clayton & Son
(Person, firm or corporation) (Type or print)
Address 2313 E. 10 th. The Dalles, Ore.

Drilling Machine Operator's License No. [redacted] 146
[Signed] Bert Clayton
(Water Well Contractor)
Contractor's License No. 54 Date , 19

(USE ADDITIONAL SHEETS IF NECESSARY)

NOTICE TO WATER WELL CONTRACTOR
The original and first copy of this report are to be filed with the STATE ENGINEER, SALEM, OREGON 97310 within 30 days from the date of well completion.

RECEIVED AUG 8 1967 STATE ENGINEER OREGON

WATER WELL REPORT WASC

STATE OF OREGON
(Please type or print) (Do not write above this line) 002481

State Well No. 1N/13-6

State Permit No.

(b) (6)

(2) TYPE OF WORK (check):

New Well ☒ Deepening ☐ Reconditioning ☐ Abandon ☐

If abandonment, describe material and procedure in Item 12.

(3) TYPE OF WELL:

Rotary ☐ Driven ☐
Cable ☒ Jetted ☐
Dug ☐ Bored ☐

(4) PROPOSED USE (check):

Domestic ☒ Industrial ☐ Municipal ☐
Irrigation ☐ Test Well ☐ Other ☐

(5) CASING INSTALLED:

Threaded ☐ Welded ☒

6 " Diam. from 0 ft. to 160 ft. Gage 250

" Diam. from ft. to ft. Gage

" Diam. from ft. to ft. Gage

PERFORATIONS:

Perforated? ☒ Yes ☐ No.

Type of perforator used Acetylene

Size of perforations 1/8 in. by 6 in.

160 perforations from 80 ft. to 154 ft.

perforations from ft. to ft.

perforations from ft. to ft.

perforations from ft. to ft.

perforations from ft. to ft.

(7) SCREENS:

Well screen installed? ☐ Yes ☒ No

Manufacturer's Name

Type Model No.

Diam. Slot size Set from ft. to ft.

Diam. Slot size Set from ft. to ft.

(8) WATER LEVEL: Completed well.

Static level 65 ft. below land surface Date July 5/67

Artesian pressure None lbs. per square inch Date July 5/67

(9) WELL TESTS:

Drawdown is amount water level is lowered below static level

Was a pump test made? ☐ Yes ☒ No If yes, by whom?

Yield: gal./min. with ft. drawdown after hrs.

" " " "

" " " "

Bailer test 4 gal./min. with 90 ft. drawdown after 1 hrs.

Artesian flow None g.p.m. Date July 5/67

Temperature of water 49 Was a chemical analysis made? ☐ Yes ☒ No

(10) CONSTRUCTION:

Well seal—Material used Bentonite

Depth of seal 40 ft.

Diameter of well bore to bottom of seal 9 in.

Were any loose strata cemented off? ☐ Yes ☒ No Depth

Was a drive shoe used? ☐ Yes ☒ No

Did any strata contain unusable water? ☐ Yes ☒ No

Type of water? depth of strata

Method of sealing strata off

Was well gravel packed? ☐ Yes ☒ No Size of gravel:

Gravel placed from ft. to ft.

(11) LOCATION OF WELL:

County Wasco Driller's well number

¼ ¼ Section 6 T. 1N R. 13 W.M.

Bearing and distance from section or subdivision corner

(12) WELL LOG:

Diameter of well below casing 6"

Depth drilled 165 ft. Depth of completed well 160 ft.

Formation: Describe color, texture, grain size and structure of materials; and show thickness and nature of each stratum and aquifer penetrated, with at least one entry for each change of formation. Report each change in position of Static Water Level as drilling proceeds. Note drilling rates.

MATERIAL	From	To	SWL
Topsoil Sandy loam	0	6	
Sandstone - yellow	6	64	
gravel - free water	64	78	
Grey Clay	78	96	
Sandstone	96	130	
Blue Clay	130	165	
Steel cap welded on casing & temp abandoned.			

Work started May 25 1967 Completed July 1 1967

Date well drilling machine moved off of well Aug 2 1967

Drilling Machine Operator's Certification:

This well was constructed under my direct supervision. Materials used and information reported above are true to my best knowledge and belief.

[Signed] C A Brandt (Drilling Machine Operator) Date July 20, 1967

Drilling Machine Operator's License No. 189

Water Well Contractor's Certification:

This well was drilled under my jurisdiction and this report is true to the best of my knowledge and belief.

NAME Brandt Drilling Co. (Person, firm or corporation) (Type or print)

Address 675 Crestview Rd.

[Signed] C A Brandt (Water Well Contractor)

Contractor's License No. 283 Date Aug 1, 1967

(USE ADDITIONAL SHEETS IF NECESSARY)

NOTICE TO WATER WELL CONTRACTOR
The original and first copy of this report are to be filed with the
STATE ENGINEER, SALEM, OREGON 97310 within 30 days from the date of well completion.

WASC 002480

WATER WELL REPORT
STATE OF OREGON
(Please type or print)
(Do not write above this line)

RECEIVED
APR 23 1974
STATE ENGINEER
SALEM, OREGON

66

State Well No. 1N/13E-6

State Permit No.

(b) (6) [redacted]

(2) TYPE OF WORK (check):
New Well ☐ Deepening ☒ Reconditioning ☐ Abandon ☐
If abandonment, describe material and procedure in Item 12.

(3) TYPE OF WELL:
Rotary ☐ Driven ☐
Cable ☒ Jetted ☐
Dug ☐ Bored ☐

(4) PROPOSED USE (check):
Domestic ☐ Industrial ☐ Municipal ☐
Irrigation ☒ Test Well ☐ Other ☐

(5) CASING INSTALLED:
Threaded ☐ Welded ☒
8" Diam. from 0 ft. to 193½ ft. Gage .250
" Diam. from ft. to ft. Gage
" Diam. from ft. to ft. Gage

(6) PERFORATIONS:
Perforated? ☐ Yes ☒ No.
Type of perforator used
Size of perforations in. by in.
perforations from ft. to ft.
perforations from ft. to ft.
perforations from ft. to ft.

(7) SCREENS:
Well screen installed? ☐ Yes ☒ No
Manufacturer's Name
Type Model No.
Diam. Slot size Set from ft. to ft.
Diam. Slot size Set from ft. to ft.

(8) WELL TESTS:
Drawdown is amount water level is lowered below static level
Was a pump test made? ☐ Yes ☒ No If yes, by whom?
Yield: gal./min. with ft. drawdown after hrs.
" " " "
" " " "
Bailer test 21 gal./min. with 39 ft. drawdown after 1 hrs.
Artesian flow g.p.m.
Temperature of water 60° Depth artesian flow encountered ft.

(9) CONSTRUCTION:
Well seal—Material used Old seal 20 ft. 10" casing
Well sealed from land surface to 19 ft.
Diameter of well bore to bottom of seal in.
Diameter of well bore below seal in.
Number of sacks of cement used in well seal sacks
Number of sacks of bentonite used in well seal sacks
Brand name of bentonite
Number of pounds of bentonite per 100 gallons of water lbs./100 gals.
Was a drive shoe used? ☒ Yes ☐ No Plugs Size: location ft.
Did any strata contain unusable water? ☐ Yes ☒ No
Type of water? depth of strata
Method of sealing strata off
Was well gravel packed? ☐ Yes ☒ No Size of gravel:
Gravel placed from ft. to ft.

(10) LOCATION OF WELL:
County Wasco Driller's well number
NW ¼ NW ¼ Section 6 T. 1N R. 13 E. W.M.
Bearing and distance from section or subdivision corner W 18.46 Ac of Lot 4, 1/2 mile N on Sandland Rd., 100 ft. east from Sandland Rd.

(11) WATER LEVEL: Completed well.
Depth at which water was first found 530 ft.
Static level 501 ft. below land surface. Date 3/27/74
Artesian pressure lbs. per square inch. Date

(12) WELL LOG:
Diameter of well below casing 8"
Depth drilled 375 ft. Depth of completed well 700 ft.
Formation: Describe color, texture, grain size and structure of materials; and show thickness and nature of each stratum and aquifer penetrated, with at least one entry for each change of formation. *Report each change in position of Static Water Level and indicate principal water-bearing strata.*

MATERIAL	From	To	SWL
Sandstone, Silty brown	325	355	
Sandstone, brown	355	390	
Sandstone, brown-rocky	390	405	
Sandstone, brown-clay	405	430	
Sandstone, grey	430	450	
Sandstone, brown	450	465	
Sandstone, fine grey	465	470	
Sandstone, brown-rocky	470	480	
Clay, brown-white	480	485	
Sandstone, grey-rocky	485	490	
Sandstone, grey	490	515	
Sandstone, brown	515	520	
Sandstone, brown-clay	520	530	501
Sandstone, brown	530	565	501
Sandstone, grey	565	590	501
Sandstone, fine grey	590	635	501
Sandstone, brown-rocky	635	670	501
Sandstone, brown-sandy	670	685	501
Sandstone, grey	685	700	501

Work started Dec. 4 19 73 Completed March 27, 19 74
Date well drilling machine moved off of well March 28, 19 74

Drilling Machine Operator's Certification:
This well was constructed under my direct supervision. Materials used and information reported above are true to my best knowledge and belief.
[Signed] Gilbert Clayton (Drilling Machine Operator) Date April 20, 19 74
Drilling Machine Operator's License No. 129

Water Well Contractor's Certification:
This well was drilled under my jurisdiction and this report is true to the best of my knowledge and belief.
Name Gilbert Clayton Well Drilling (Person, firm or corporation) (Type or print)
Address Rt 1, Box 61-A, TheDalles, Ore.
[Signed] Gilbert Clayton (Water Well Contractor)
Contractor's License No. 569 Date April 19, 19 74

(USE ADDITIONAL SHEETS IF NECESSARY)

SP*45656-119

NOTICE TO WATER WELL CONTRACTOR
The original and first copy of this report are to be filed with the

STATE ENGINEER, SALEM, OREGON 97310
within 30 days from the date of well completion.

RECEIVED

WATER WELL REPORT
STATE OF OREGON
(Please type or print)
(Do not write above this line)

WASCO 002479

State Well No. 1N-13E-6
State Permit No.

(b) (6) [redacted]

(2) TYPE OF WORK (check):
New Well ☒ Deepening ☐ Reconditioning ☐ Abandon ☐
If abandonment, describe material and procedure in Item 12.

(3) TYPE OF WELL:
Rotary ☒ Driven ☐
Cable ☐ Jetted ☐
Dug ☐ Bored ☐

(4) PROPOSED USE (check):
Domestic ☒ Industrial ☐ Municipal ☐
Irrigation ☐ Test Well ☐ Other ☐

(5) CASING INSTALLED:
Threaded ☐ Welded ☒
6" Diam. from 0 ft. to 51 ft. Gage .250
" Diam. from ft. to ft. Gage
" Diam. from ft. to ft. Gage

(6) PERFORATIONS:
Perforated? ☒ Yes ☐ No
Type of perforator used
Size of perforations in. by in.
perforations from ft. to ft.
perforations from ft. to ft.
perforations from ft. to ft.

(7) SCREENS:
Well screen installed? ☐ Yes ☒ No
Manufacturer's Name
Type Model No.
Diam. Slot size Set from ft. to ft.
Diam. Slot size Set from ft. to ft.

(8) WELL TESTS:
Drawdown is amount water level is lowered below static level
Was a pump test made? ☐ Yes ☒ No If yes, by whom?
Yield: gal./min. with ft. drawdown after hrs.
[illegible] test 10 gal min with 100% drawdown
" " " "
Bailer test gal./min. with ft. drawdown after hrs.
Artesian flow g.p.m.
[illegible]perature of water Depth artesian flow encountered ft.

(9) CONSTRUCTION:
Well seal—Material used Bentonite
Well sealed from land surface to 30 ft.
Diameter of well bore to bottom of seal 10 in.
Diameter of well bore below seal 6 in.
Number of sacks of cement used in well seal 1 sacks
Number of sacks of bentonite used in well seal 4 sacks
Brand name of bentonite International
Number of pounds of bentonite per 100 gallons of water 100 lbs./100 gals.
Was a drive shoe used? ☒ Yes ☐ No Plugs Size: location ft.
Did any strata contain unusable water? ☐ Yes ☒ No
Type of water? depth of strata
Method of sealing strata off
Was well gravel packed? ☐ Yes ☒ No Size of gravel:
Gravel placed from ft. to ft.

(10) LOCATION OF WELL:
County Wasco Driller's well number
SE ¼ NE ¼ Section 6 T. 1N R. 13E W.M.
Bearing and distance from section or subdivision corner

(11) WATER LEVEL: Completed well.
Depth at which water was first found 500 ft.
Static level 350 ft. below land surface. Date 30 Oct
Artesian pressure lbs. per square inch. Date

(12) WELL LOG:
Diameter of well below casing 6
Depth drilled 530 ft. Depth of completed well 530 ft.

Formation: Describe color, texture, grain size and structure of materials; and show thickness and nature of each stratum and aquifer penetrated, with at least one entry for each change of formation. *Report each change in position of Static Water Level and indicate principal water-bearing strata.*

MATERIAL	From	To	SWL
Soil	0	1	
Sandstone brown	1	5	
Sandstone tan	5	10	
Sandstone brown	10	80	
Sandstone tan	80	102	
Sandstone brown WB	102	530	350

Work started 28 Oct 1975 Completed 30 Oct 1975
Date well drilling machine moved off of well 30 Oct 1975

Drilling Machine Operator's Certification:
This well was constructed under my direct supervision. Materials used and information reported above are true to my best knowledge and belief.
[Signed] [signature] (Drilling Machine Operator) Date 4 Nov, 1975
Drilling Machine Operator's License No. 828

Water Well Contractor's Certification:
This well was drilled under my jurisdiction and this report is true to the best of my knowledge and belief.
Name Richard J. Murray (Person, firm or corporation) (Type or print)
Address 3712 W 8th The Dalles, Oregon
[Signed] Richard J. Murray (Water Well Contractor)
Contractor's License No. 606 Date 4 Nov, 1975

(USE ADDITIONAL SHEETS IF NECESSARY)

SP*45656-119

The original and first copy of this report are to be filed with the

STATE ENGINEER, SALEM, OREGON 97310 within 30 days from the date of well completion.

WASCO WATER WELL REPORT

STATE OF OREGON

002477

(Please type or print)

(Do not write above this line)

RECEIVED
JUN 22 1976
WATER RESOURCES DEPT.
SALEM, OREGON

State Well No. .....

State Permit No. 14/13E-6

(b) (6)

(2) TYPE OF WORK (check):

New Well ☒ Deepening ☐ Reconditioning ☐ Abandon ☐

If abandonment, describe material and procedure in Item 12.

(3) TYPE OF WELL:

Rotary ☒ Driven ☐
Cable ☐ Jetted ☐
Dug ☐ Bored ☐

(4) PROPOSED USE (check):

Domestic ☒ Industrial ☐ Municipal ☐
Irrigation ☐ Test Well ☐ Other ☐

CASING INSTALLED:

Threaded ☐ Welded ☒

6 " Diam. from 0 ft. to 18 ft. Gage .250

" Diam. from ft. to ft. Gage

" Diam. from ft. to ft. Gage

PERFORATIONS:

Perforated? ☐ Yes ☒ No

Type of perforator used

Size of perforations in. by in.

perforations from ft. to ft.

perforations from ft. to ft.

perforations from ft. to ft.

(7) SCREENS:

Well screen installed? ☐ Yes ☒ No

Manufacturer's Name

Type Model No.

Diam. Slot size Set from ft. to ft.

Diam. Slot size Set from ft. to ft.

(8) WELL TESTS:

Drawdown is amount water level is lowered below static level

Was a pump test made? ☐ Yes ☒ No If yes, by whom?

Yield: gal./min. with ft. drawdown after hrs.

gal min air test " "

" " " "

Bailer test gal./min. with ft. drawdown after hrs.

Artesian flow g.p.m.

perature of water Depth artesian flow encountered ft.

(9) CONSTRUCTION:

Well seal—Material used Bentonite

Well sealed from land surface to 18 ft.

Diameter of well bore to bottom of seal 10 in.

Diameter of well bore below seal 6 in.

Number of sacks of cement used in well seal 0 sacks

Number of sacks of bentonite used in well seal 11½ sacks

Brand name of bentonite International

Number of pounds of bentonite per 100 gallons of water 100 lbs./100 gals.

Was a drive shoe used? ☒ Yes ☐ No Plugs Size: location ft.

Did any strata contain unusable water? ☐ Yes ☒ No

Type of water? depth of strata

Method of sealing strata off

Was well gravel packed? ☐ Yes ☒ No Size of gravel:

Gravel placed from ft. to ft.

(10) LOCATION OF WELL:

County Wasco Driller's well number 4 1

NE ¼ SW ¼ Section 6 T. 1N R. 13E W.M.

Bearing and distance from section or subdivision corner

(11) WATER LEVEL: Completed well.

Depth at which water was first found 285 ft.

Static level 303 ft. below land surface. Date 6/6/76

Artesian pressure lbs. per square inch. Date

(12) WELL LOG:

Diameter of well below casing 6

Depth drilled 345 ft. Depth of completed well 345 ft.

Formation: Describe color, texture, grain size and structure of materials; and show thickness and nature of each stratum and aquifer penetrated, with at least one entry for each change of formation. *Report each change in position of Static Water Level and indicate principal water-bearing strata.*

MATERIAL	From	To	SWL
Soil	0	3	
Sandstone brown	3	16	
Clay brown	16	20	
Sandstone brown	20	35	
Sandstone pink-gray	35	42	
Sandstone tan	42	74	
Clay brown	74	90	
Sandstone brown	90	305	
Conglomerate gray Hard	305	335	
Sandstone brown	335	345	303

Work started 6 June 1976 Completed 6 June 1976

Date well drilling machine moved off of well 6 June 1976

Drilling Machine Operator's Certification:

This well was constructed under my direct supervision. Materials used and information reported above are true to my best knowledge and belief.

[Signed] Richard J. Murray (Drilling Machine Operator) Date 20 June, 1976

Drilling Machine Operator's License No. 737

Water Well Contractor's Certification:

This well was drilled under my jurisdiction and this report is true to the best of my knowledge and belief.

Name Richard J. Murray (Person, firm or corporation) (Type or print)

Address 3712 W 8th The Dalles, Oregon

[Signed] Richard J. Murray (Water Well Contractor)

Contractor's License No. 606 Date 20 June, 1976

(USE ADDITIONAL SHEETS IF NECESSARY)

SP*45656-119

NOTICE TO WATER WELL CONTRACTOR
The original and first copy of this report are to be filed with the
STATE ENGINEER, SALEM, OREGON 97310 within 30 days from the date of well completion.

WASC 002478 2477

WATER WELL REPORT
STATE OF OREGON
(Please type or print)
(Do not write above this line)

RECEIVED
JUN 22 1976
WATER RESOURCES DEPT.
SALEM, OREGON

State Well No. .....
State Permit No. 1N/13E-6

(b) (6) [redacted]

(2) TYPE OF WORK (check):
New Well ☒ Deepening ☐ Reconditioning ☐ Abandon ☐
If abandonment, describe material and procedure in Item 12.

(3) TYPE OF WELL:
Rotary ☒ Driven ☐
Cable ☐ Jetted ☐
Dug ☐ Bored ☐

(4) PROPOSED USE (check):
Domestic ☒ Industrial ☐ Municipal ☐
Irrigation ☐ Test Well ☐ Other ☐

CASING INSTALLED:
Threaded ☐ Welded ☒
0 " Diam. from 0 ft. to 18 ft. Gage .250
" Diam. from ft. to ft. Gage
" Diam. from ft. to ft. Gage

PERFORATIONS:
Perforated? ☐ Yes ☒ No
Type of perforator used
Size of perforations in. by in.
perforations from ft. to ft.
perforations from ft. to ft.
perforations from ft. to ft.

(7) SCREENS:
Well screen installed? ☐ Yes ☒ No
Manufacturer's Name
Type Model No.
Diam. Slot size Set from ft. to ft.
Diam. Slot size Set from ft. to ft.

(8) WELL TESTS:
Drawdown is amount water level is lowered below static level
Was a pump test made? ☐ Yes ☒ No If yes, by whom?
Yield: gal./min. with ft. drawdown after hrs.
gal min air test " "
" " " "
Bailer test gal./min. with ft. drawdown after hrs.
Artesian flow g.p.m.
Temperature of water Depth artesian flow encountered ft.

(9) CONSTRUCTION:
Well seal—Material used Bentonite
Well sealed from land surface to 18 ft.
Diameter of well bore to bottom of seal 10 in.
Diameter of well bore below seal 6 in.
Number of sacks of cement used in well seal 0 sacks
Number of sacks of bentonite used in well seal 1½ sacks
Brand name of bentonite International
Number of pounds of bentonite per 100 gallons of water 100 lbs./100 gals.
Was a drive shoe used? ☒ Yes ☐ No Plugs Size: location ft.
Did any strata contain unusable water? ☐ Yes ☒ No
Type of water? depth of strata
Method of sealing strata off
Was well gravel packed? ☐ Yes ☒ No Size of gravel:
Gravel placed from ft. to ft.

(10) LOCATION OF WELL:
County Wasco Driller's well number 4 1
NE ¼ SE ¼ Section 6 T. 1N R. 13E W.M.
Bearing and distance from section or subdivision corner

(11) WATER LEVEL: Completed well.
Depth at which water was first found 285 ft.
Static level 303 ft. below land surface. Date 6/6/76
Artesian pressure lbs. per square inch. Date

(12) WELL LOG:
Diameter of well below casing 6
Depth drilled 345 ft. Depth of completed well 345 ft.

Formation: Describe color, texture, grain size and structure of materials; and show thickness and nature of each stratum and aquifer penetrated, with at least one entry for each change of formation. *Report each change in position of Static Water Level and indicate principal water-bearing strata.*

MATERIAL	From	To	SWL
Soil	0	3	
Sandstone brown	3	16	
Clay brown	16	20	
Sandstone brown	20	35	
Sandstone pink-gray	35	42	
Sandstone tan	42	74	
Clay brown	74	90	
Sandstone brown	90	305	
Conglomerate gray Hard	305	335	
Sandstone brown	335	345	303

RECEIVED
JUL 9 - 1976
WATER RESOURCES DEPT.
SALEM, OREGON

Work started 6 June 1976 Completed 6 June 1976
Date well drilling machine moved off of well 6 June 1976

Drilling Machine Operator's Certification:
This well was constructed under my direct supervision. Materials used and information reported above are true to my best knowledge and belief.
[Signed] Richard J. Murray (Drilling Machine Operator) Date 20 June, 1976
Drilling Machine Operator's License No. 737

Water Well Contractor's Certification:
This well was drilled under my jurisdiction and this report is true to the best of my knowledge and belief.
Name Richard J. Murray (Person, firm or corporation) (Type or print)
Address 3712 W 8th The Dalles, Oregon
[Signed] Richard J. Murray (Water Well Contractor)
Contractor's License No. 606 Date 20 June 1976

NOTICE TO WATER WELL CONTRACTOR
The original and first copy of this report are to be filed with the
STATE ENGINEER, SALEM, OREGON 97310 within 30 days from the date of well completion.

WASC 002476

WATER WELL REPORT
STATE OF OREGON
(Please type or print) (Do not write above this line)

RECEIVED
JUN 22 1976
WATER RESOURCES DEPT.
SALEM, OREGON

State Well No. IN/1E-6
State Permit No.

(b) (6) [redacted]

(2) TYPE OF WORK (check):
New Well ☒ Deepening ☐ Reconditioning ☐ Abandon ☐
If abandonment, describe material and procedure in Item 12.

(3) TYPE OF WELL:
Rotary ☒ Driven ☐
Cable ☐ Jetted ☐
Dug ☐ Bored ☐

(4) PROPOSED USE (check):
Domestic ☒ Industrial ☐ Municipal ☐
Irrigation ☐ Test Well ☐ Other ☐

CASING INSTALLED:
Threaded ☐ Welded ☒
6 " Diam. from 0 ft. to 420 ft. Gage .250
" Diam. from ft. to ft. Gage
" Diam. from ft. to ft. Gage

PERFORATIONS:
Perforated? ☐ Yes ☒ No
Type of perforator used
Size of perforations in. by in.
perforations from ft. to ft.
perforations from ft. to ft.
perforations from ft. to ft.

(7) SCREENS:
Well screen installed? ☐ Yes ☒ No
Manufacturer's Name
Type Model No.
Diam. Slot size Set from ft. to ft.
Diam. Slot size Set from ft. to ft.

(8) WELL TESTS:
Drawdown is amount water level is lowered below static level
Was a pump test made? ☐ Yes ☒ No If yes, by whom?
Yield: gal./min. with ft. drawdown after hrs.
gal min air test 100 % drawdown "
" " " "
Baller test gal./min. with ft. drawdown after hrs.
Artesian flow g.p.m.
Temperature of water Depth artesian flow encountered ft.

(9) CONSTRUCTION:
Well seal—Material used Bentonite
Well sealed from land surface to 18 ft.
Diameter of well bore to bottom of seal 10 in.
Diameter of well bore below seal 8 in. to 390'
Number of sacks of cement used in well seal 0 sacks
Number of sacks of bentonite used in well seal 5 sacks
Brand name of bentonite International
Number of pounds of bentonite per 100 gallons of water 100 lbs./100 gals.
Was a drive shoe used? ☒ Yes ☐ No Plugs Size: location ft.
Did any strata contain unusable water? ☐ Yes ☒ No
Type of water? depth of strata
Method of sealing strata off
Was well gravel packed? ☐ Yes ☒ No Size of gravel:
Gravel placed from ft. to ft.

(10) LOCATION OF WELL:
County Wasco Driller's well number
NE ¼ SW ¼ Section 6 T. 1N R. 13E W.M.
Bearing and distance from section or subdivision corner

(11) WATER LEVEL: Completed well.
Depth at which water was first found 475/310 ft.
Static level over 500 ft. below land surface. Date 16 June
Artesian pressure lbs. per square inch. Date

(12) WELL LOG:
Diameter of well below casing 6
Depth drilled 685 ft. Depth of completed well 685 ft.

Formation: Describe color, texture, grain size and structure of materials; and show thickness and nature of each stratum and aquifer penetrated, with at least one entry for each change of formation. *Report each change in position of Static Water Level and indicate principal water-bearing strata.*

MATERIAL	From	To	SWL
Soil	0	4	
Sandstone brown	4	96	
Clay brown	96	100	
Sandstone brown	100	240	
Conglomerate gray hard	240	280	
Sandstone brown	280	310	
Gravel & sand WB	310	385	
Sand fine brown caving	385	405	
Clay lt. gray	405	418	
Sandstone tan	418	455	
Sandstone gray WB	455	475	
Sandstone brown	475	550	
Clay tan	550	565	
Sandstone brown	565	620	
Sandstone gray	680	680	
Clay gray	680	685	?

Work started 11 June 1976 Completed 16 June 1976
Date well drilling machine moved off of well 16 June 1976

Drilling Machine Operator's Certification:
This well was constructed under my direct supervision. Materials used and information reported above are true to my best knowledge and belief.
[Signed] Richard J. Murray (Drilling Machine Operator) Date 20 June 1976
Drilling Machine Operator's License No. 737

Water Well Contractor's Certification:
This well was drilled under my jurisdiction and this report is true to the best of my knowledge and belief.
Name Richard J. Murray (Person, firm or corporation) (Type or print)
Address 3712 W 8th The Dalles, Oregon
[Signed] Richard J. Murray (Water Well Contractor)
Contractor's License No. 606 Date 20 June, 1976

(USE ADDITIONAL SHEETS IF NECESSARY)

SP*45656-119

NOTICE TO WATER WELL CONTRACTOR
The original and first copy of this report are to be filed with the

STATE ENGINEER, SALEM, OREGON 97310 within 30 days from the date of well completion.

WASC 002475

WATER WELL REPORT

STATE OF OREGON
(Please type or print) (Do not write above this line)

RECEIVED
JUN 22 1976

State Well No. .....
State Permit No. 1N/13E-6

(b) (6)

(2) TYPE OF WORK (check):

New Well ☒ Deepening ☐ Reconditioning ☐ Abandon ☐

If abandonment, describe material and procedure in Item 12.

(3) TYPE OF WELL:

Rotary ☒ Driven ☐
Cable ☐ Jetted ☐
Dug ☐ Bored ☐

(4) PROPOSED USE (check):

Domestic ☒ Industrial ☐ Municipal ☐
Irrigation ☐ Test Well ☐ Other ☐

CASING INSTALLED:

Threaded ☐ Welded ☒

6 " Diam. from 0 ft. to 220 ft. Gage .250
" Diam. from ft. to ft. Gage
" Diam. from ft. to ft. Gage

PERFORATIONS:

Perforated? ☐ Yes ☒ No

Type of perforator used
Size of perforations in. by in.
perforations from ft. to ft.
perforations from ft. to ft.
perforations from ft. to ft.

(7) SCREENS:

Well screen installed? ☐ Yes ☒ No

Manufacturer's Name
Type Model No.
Diam. Slot size Set from ft. to ft.
Diam. Slot size Set from ft. to ft.

(8) WELL TESTS:

Drawdown is amount water level is lowered below static level

Was a pump test made? ☐ Yes ☒ No If yes, by whom?

Yield: gal./min. with ft. drawdown after hrs.
1 gal min air test " "
" " " "

Bailer test gal./min. with ft. drawdown after hrs.

Artesian flow g.p.m.

Temperature of water Depth artesian flow encountered ft.

(9) CONSTRUCTION:

Well seal—Material used Bentonite
Well sealed from land surface to 18 ft.
Diameter of well bore to bottom of seal 10 in.
Diameter of well bore below seal 6 in.
Number of sacks of cement used in well seal 0 sacks
Number of sacks of bentonite used in well seal 2 sacks
Brand name of bentonite International
Number of pounds of bentonite per 100 gallons of water 100 lbs./100 gals.
Was a drive shoe used? ☒ Yes ☐ No Plugs Size: location ft.
Did any strata contain unusable water? ☐ Yes ☒ No
Type of water? depth of strata
Method of sealing strata off
Was well gravel packed? ☐ Yes ☒ No Size of gravel:
Gravel placed from ft. to ft.

(10) LOCATION OF WELL:

County WASCO OREGON Driller's well number #2

NE ¼ SW ¼ Section 6 T. 1N R. 13 E W.M.

Bearing and distance from section or subdivision corner

(11) WATER LEVEL: Completed well.

Depth at which water was first found 310 ft.
Static level 303 ft. below land surface. Date 11 June
Artesian pressure lbs. per square inch. Date

(12) WELL LOG:

Diameter of well below casing 6
Depth drilled 380 ft. Depth of completed well 318 ft.

Formation: Describe color, texture, grain size and structure of materials; and show thickness and nature of each stratum and aquifer penetrated, with at least one entry for each change of formation. *Report each change in position of Static Water Level and indicate principal water-bearing strata.*

MATERIAL	From	To	SWL
Soil	0	4	
Sandstone tan	4	36	
Clay brown	36	38	
Sandstone brown	38	96	
Clay brown	96	100	
Sandstone brown	100	240	
Conglomerate gray hard	240	280	
Sandstone brown	280	310	
Sand brown WB caving	310	380	303

Work started 7 June 19 76 Completed 11 June 19 76
Date well drilling machine moved off of well 11 June 19 76

Drilling Machine Operator's Certification:

This well was constructed under my direct supervision. Materials used and information reported above are true to my best knowledge and belief.

[Signed] Richard J. Murray (Drilling Machine Operator) Date 29 June, 19 76

Drilling Machine Operator's License No. 737

Water Well Contractor's Certification:

This well was drilled under my jurisdiction and this report is true to the best of my knowledge and belief.

Name Richard J. Murray (Person, firm or corporation) (Type or print)
Address 3712 W 8th The Dalles, Oregon

[Signed] Richard J. Murray (Water Well Contractor)

Contractor's License No. 606 Date 20 June, 19 76

(USE ADDITIONAL SHEETS IF NECESSARY)

SP*45656-119

NOTICE TO WATER WELL CONTRACTOR
The original and first copy of this report are to be filed with the STATE ENGINEER, SALEM, OREGON 97310 within 30 days from the date of well completion.

WASCO

WATER WELL REPORT
STATE OF OREGON
(Please type or print)

002474 (Do not write above this line)

RECEIVED SEP 2 1976 WATER RESOURCES DEPT. SALEM, OREGON

State Well No. 1N/13E-6aa

State Permit No.

(b) (6)

(2) TYPE OF WORK (check):
New Well ☐ Deepening ☒ Reconditioning ☐ Abandon ☐
If abandonment, describe material and procedure in Item 12.

(3) TYPE OF WELL:
Rotary ☒ Driven ☐
Cable ☐ Jetted ☐
Dug ☐ Bored ☐

(4) PROPOSED USE (check):
Domestic ☒ Industrial ☐ Municipal ☐
Irrigation ☐ Test Well ☐ Other ☐

(5) CASING INSTALLED: Threaded ☐ Welded ☒
6 " Diam. from 0 ft. to 223 ft. Gage .250
" Diam. from ft. to ft. Gage
" Diam. from ft. to ft. Gage

PERFORATIONS: Perforated? ☐ Yes ☒ No
Type of perforator used
Size of perforations in. by in.
perforations from ft. to ft.
perforations from ft. to ft.
perforations from ft. to ft.

(7) SCREENS: Well screen installed? ☐ Yes ☒ No
Manufacturer's Name
Type Model No.
Diam. Slot size Set from ft. to ft.
Diam. Slot size Set from ft. to ft.

(8) WELL TESTS: Drawdown is amount water level is lowered below static level
Was a pump test made? ☐ Yes ☒ No If yes, by whom?
Yield: gal./min. with ft. drawdown after hrs.
12 gal. min. air test " "
" " " "
Bailer test gal./min. with ft. drawdown after hrs.
Artesian flow g.p.m.
Temperature of water Depth artesian flow encountered ft.

(9) CONSTRUCTION:
Well seal—Material used Bentonite
Well sealed from land surface to 18 ft.
Diameter of well bore to bottom of seal 10 in.
Diameter of well bore below seal 6 in.
Number of sacks of cement used in well seal 0 sacks
Number of sacks of bentonite used in well seal 2 sacks
Brand name of bentonite International
Number of pounds of bentonite per 100 gallons of water 100 lbs./100 gals.
Was a drive shoe used? ☒ Yes ☐ No Plugs Size: location ft.
Did any strata contain unusable water? ☐ Yes ☒ No
Type of water? depth of strata
Method of sealing strata off
Was well gravel packed? ☐ Yes ☒ No Size of gravel:
Gravel placed from ft. to ft.

(10) LOCATION OF WELL:
County Wasco Driller's well number
NE ¼ NE ¼ Section 6 T. 1N R. 13E W.M.
Bearing and distance from section or subdivision corner

(11) WATER LEVEL: Completed well.
Depth at which water was first found 235 ft.
Static level 162 ft. below land surface. Date 1 Aug
Artesian pressure lbs. per square inch. Date

(12) WELL LOG: Diameter of well below casing 6
Depth drilled 360 ft. Depth of completed well 360 ft.

Formation: Describe color, texture, grain size and structure of materials; and show thickness and nature of each stratum and aquifer penetrated, with at least one entry for each change of formation. *Report each change in position of Static Water Level and indicate principal water-bearing strata.*

MATERIAL	From	To	SWL
Gravel	160	165	
Sandstone tan	165	184	
Claystone gray WB	184	360	162

Work started 1 Aug 1976 Completed 1 Aug 1976
Date well drilling machine moved off of well 1 August 1976

Drilling Machine Operator's Certification:
This well was constructed under my direct supervision. Materials used and information reported above are true to my best knowledge and belief.
[Signed] Richard J. Murray (Drilling Machine Operator) Date 21 Aug., 1976
Drilling Machine Operator's License No. 737

Water Well Contractor's Certification:
This well was drilled under my jurisdiction and this report is true to the best of my knowledge and belief.
Name Richard J. Murray (Person, firm or corporation) (Type or print)
Address 3712 W 8th The Dalles, Oregon
[Signed] Richard J Murray (Water Well Contractor)
Contractor's License No. 606 Date 21 August, 1976

(USE ADDITIONAL SHEETS IF NECESSARY)

SP*45656-119

NOTICE TO WATER WELL CONTRACTOR
The original and first copy of this report are to be filed with the
STATE ENGINEER, SALEM, OREGON 97310 within 30 days from the date of well completion.

WWSC

WATER WELL REPORT
STATE OF OREGON

002473

(Please type or print)

(Do not write above this line)

RECEIVED
DEC 29 1976
WATER RESOURCES DEPT.
SALEM, OREGON

State Well No. 1N-13E 6QC

State Permit No.

(b) (6)

(2) TYPE OF WORK (check):

New Well [X] Deepening [ ] Reconditioning [ ] Abandon [ ]

If abandonment, describe material and procedure in Item 12.

(3) TYPE OF WELL:

Rotary [X] Driven [ ]
Cable [ ] Jetted [ ]
[redacted] [ ] Bored [ ]

(4) PROPOSED USE (check):

Domestic [X] Industrial [ ] Municipal [ ]
Irrigation [ ] Test Well [ ] Other [ ]

(5) CASING INSTALLED:

Threaded [ ] Welded [X]

8 " Diam. from 0 ft. to 22½ ft. Gage .250

" Diam. from ft. to ft. Gage

[redacted] " Diam. from ft. to ft. Gage

(6) PERFORATIONS:

Perforated? [ ] Yes [X] No.

Type of perforator used

Size of perforations in. by in.

perforations from ft. to ft.

perforations from ft. to ft.

perforations from ft. to ft.

(7) SCREENS:

Well screen installed? [ ] Yes [X] No

Manufacturer's Name

Type Model No.

Diam. Slot size Set from ft. to ft.

Diam. Slot size Set from ft. to ft.

(8) WELL TESTS:

Drawdown is amount water level is lowered below static level

Was a pump test made? [ ] Yes [X] No If yes, by whom?

[redacted]ld: gal./min. with ft. drawdown after hrs.

" " " "

Air " " "

[redacted]r test 30 gal./min. with 40 ft. drawdown after 1 hrs.

[redacted]tesian flow g.p.m.

Temperature of water 58° Depth artesian flow encountered ft.

(9) CONSTRUCTION:

Well seal—Material used Bentonite

Well sealed from land surface to 21 ft.

Diameter of well bore to bottom of seal 12 in.

Diameter of well bore below seal 8 in.

Number of sacks of cement used in well seal none sacks

Number of sacks of bentonite used in well seal 2 sacks

Brand name of bentonite Yellowstone

Number of pounds of bentonite per 100 gallons of water 65 lbs./100 gals.

Was a drive shoe used? [X] Yes [ ] No Plugs Size: location ft.

Did any strata contain unusable water? [ ] Yes [X] No

Type of water? depth of strata

Method of sealing strata off

Was well gravel packed? [ ] Yes [X] No Size of gravel:

Gravel placed from ft. to ft.

(10) LOCATION OF WELL:

County Wasco Driller's well number

SW ¼ NE ¼ Section 6 T. 1 N R. 13 E. W.M.

Bearing and distance from section or subdivision corner

(11) WATER LEVEL: Completed well.

Depth at which water was first found 285 ft.

Static level 265 ft. below land surface. Date 12-18-76

Artesian pressure lbs. per square inch. Date

(12) WELL LOG:

Diameter of well below casing 8"

Depth drilled 365 ft. Depth of completed well 365 ft.

Formation: Describe color, texture, grain size and structure of materials; and show thickness and nature of each stratum and aquifer penetrated, with at least one entry for each change of formation. *Report each change in position of Static Water Level and indicate principal water-bearing strata.*

MATERIAL	From	To	SWL
Soil, brown clay	0	3	
Clay, brown	3	20	
Sandstone, grey rocky	20	45	
Sandstone, brown	45	55	
Sandstone, grey	55	60	
Sandstone, brown	60	80	
Sandstone, grey	80	88	
Sandstone, grey sandy	88	90	
Sandstone, grey	90	95	
Sandstone, grey rocky	95	107	
Sandstone, brown	107	157	
Sandstone, light brown	157	185	
Sandstone, brown	185	205	
Sandstone, reddish brown	205	245	
Sandstone, brown rocky	245	285	
Sandstone, grey	285	315	265
Sandstone, clay, brown	315	325	265
Sandstone, grey porous	325	365	265

Work started 12-1-76 19 Completed 12-14-76 19

Date well drilling machine moved off of well 12-14-76 19

Drilling Machine Operator's Certification:

This well was constructed under my direct supervision. Materials used and information reported above are true to my best knowledge and belief.

[Signed] Gilbert Clayton (Drilling Machine Operator) Date 12-27, 19 76

Drilling Machine Operator's License No. 129

Water Well Contractor's Certification:

This well was drilled under my jurisdiction and this report is true to the best of my knowledge and belief.

Name Gilbert Clayton Well Drilling (Person, firm or corporation) (Type or print)

Address Rt 1, Box 61-A, The Dalles, OR 9705

[Signed] Gilbert Clayton (Water Well Contractor)

Contractor's License No. 569 Date December 27, 19 76

(USE ADDITIONAL SHEETS IF NECESSARY)

SP*45656-119

NOTICE TO WATER WELL CONTRACTOR
The original and first copy of this report are to be filed with the

STATE ENGINEER, SALEM, OREGON 97310 within 30 days from the date of well completion.

WASCO 002472

WATER WELL REPORT

STATE OF OREGON

(Please type or print)

(Do not write above this line)

RECEIVED
AUG 31 1976
WATER RESOURCES DEPT.
SALEM, OREGON

State Well No. .....

State Permit No. 1N/13E-6 dc

(b) (6) [redacted]

(2) TYPE OF WORK (check):

New Well ☒ Deepening ☐ Reconditioning ☐ Abandon ☐

If abandonment, describe material and procedure in Item 12.

(3) TYPE OF WELL:

Rotary ☐ Driven ☐
Cable ☒ Jetted ☐
D[redacted] ☐ Bored ☐

(4) PROPOSED USE (check):

Domestic ☒ Industrial ☐ Municipal ☐
Irrigation ☐ Test Well ☐ Other ☐

(5) CASING INSTALLED:

Threaded ☐ Welded ☒

6 " Diam. from 0 ft. to 56 ft. Gage .250
4 " Diam. from 0 ft. to 150 ft. Gage 3/8 in
plastic liner used Diam. from [redacted] ft. to ..... ft. Gage .....

(6) PERFORATIONS:

Perforated? ☐ Yes ☒ No.

Type of perforator used slots 1/8 in X 3 in sawed

Size of perforations 1/8 in. by 3 in.

120 perforations from 110 ft. to 150 ft.
..... perforations from ..... ft. to ..... ft.
..... perforations from ..... ft. to ..... ft.

(7) SCREENS:

Well screen installed? ☐ Yes ☒ No

Manufacturer's Name .....
Type ..... Model No. .....
Diam. ..... Slot size ..... Set from ..... ft. to ..... ft.
Diam. ..... Slot size ..... Set from ..... ft. to ..... ft.

(8) WELL TESTS:

Drawdown is amount water level is lowered below static level

Was a pump test made? ☐ Yes ☒ No If yes, by whom?

[redacted]: gal./min. with ..... ft. drawdown after ..... hrs.
" " " "
" " " "

Bailer test 15 gal./min. with 30 ft. drawdown after 1 hrs.

Artesian flow ..... g.p.m.

Temperature of water 58 Depth artesian flow encountered ..... ft.

(9) CONSTRUCTION:

Well seal—Material used cement

Well sealed from land surface to 18 ft.

Diameter of well bore to bottom of seal 10 4 in.

Diameter of well bore below seal 6 in.

Number of sacks of cement used in well seal 8 sacks

Number of sacks of bentonite used in well seal ..... sacks

Brand name of bentonite .....

Number of pounds of bentonite per 100 gallons of water ..... lbs./100 gals.

Was a drive shoe used? ☒ Yes ☐ No Plugs ..... Size: location ..... ft.

Did any strata contain unusable water? ☐ Yes ☒ No

Type of water? ..... depth of strata .....

Method of sealing strata off .....

Was well gravel packed? ☐ Yes ☒ No Size of gravel: .....

Gravel placed from ..... ft. to ..... ft.

(10) LOCATION OF WELL:

County Wasco Driller's well number .....

NE ¼ SE ¼ Section XX 6 T. 1 N R. 13 E W.M.

Bearing and distance from section or subdivision corner

200 ft. South and 80 ft. West of the Northeast Corner of the N.E.¼ S.E.¼ Section 6, T 1 N.

(11) WATER LEVEL: Completed well.

Depth at which water was first found 103 ft.

Static level 103 ft. below land surface. Date 7/30/76

Artesian pressure ..... lbs. per square inch. Date .....

(12) WELL LOG:

Diameter of well below casing 6 in

Depth drilled 150 ft. Depth of completed well 150 ft.

Formation: Describe color, texture, grain size and structure of materials; and show thickness and nature of each stratum and aquifer penetrated, with at least one entry for each change of formation. *Report each change in position of Static Water Level and indicate principal water-bearing strata.*

MATERIAL	From	To	SWL
dirt	0	3	
sand stone grey	3	18	
sand stone brown	18	23	
hard rock	23	40	
sandstone grey hard w/rocks	40	65	
sand stone soft grey	65	80	
wet sand stone grey	80	85	
sandstone course hard grey	85	103	
sandstone grey water bearing	103	150	103

Work started July 19 1976 Completed Aug. 4 1976

Date well drilling machine moved off of well Aug. 5 1976

Drilling Machine Operator's Certification:

This well was constructed under my direct supervision. Materials used and information reported above are true to my best knowledge and belief.

[Signed] Tom Bernard (Drilling Machine Operator) Date 4 Aug, 1976

Drilling Machine Operator's License No. 828

Water Well Contractor's Certification:

This well was drilled under my jurisdiction and this report is true to the best of my knowledge and belief.

Name Harry Douthit (Person, firm or corporation) (Type or print)

Address Rt. 4 Box 64, The Dalles, Ore. 97058

[Signed] Harry Douthit (Water Well Contractor)

Contractor's License No. 571 Date Aug. 5, 1976

(USE ADDITIONAL SHEETS IF NECESSARY)

SP*45656-119

NOTICE TO WATER WELL CONTRACTOR
The original and first copy of this report are to be filed with the WATER RESOURCES DEPARTMENT, SALEM, OREGON 97310 within 30 days from the date of well completion.

WATER WELL REPORT
STATE OF OREGON
(Please type or print) (Do not write above this line)

RECEIVED NOV 18 1977 WASC 002471

State Well No. 1N/13E-6aa

State Permit No.

(b) (6)

(2) TYPE OF WORK (check):
New Well ☒ Deepening ☐ Reconditioning ☐ Abandon ☐
If abandonment, describe material and procedure in Item 12.

(3) TYPE OF WELL:
Rotary ☐ Driven ☐
Cable ☒ Jetted ☐
Dug ☐ Bored ☐

(4) PROPOSED USE (check):
Domestic ☒ Industrial ☐ Municipal ☐
Irrigation ☐ Test Well ☐ Other ☐

(5) CASING INSTALLED:
Threaded ☐ Welded ☐
6" Diam. from 0 ft. to 19½ ft. Gage ¼"
" Diam. from ft. to ft. Gage
" Diam. from ft. to ft. Gage

(6) PERFORATIONS:
Perforated? ☐ Yes ☐ No.
Type of perforator used
Size of perforations in. by in.
perforations from ft. to ft.
perforations from ft. to ft.
perforations from ft. to ft.

(7) SCREENS:
Well screen installed? ☐ Yes ☒ No
Manufacturer's Name
Type Model No.
Diam. Slot size Set from ft. to ft.
Diam. Slot size Set from ft. to ft.

(8) WELL TESTS:
Drawdown is amount water level is lowered below static level
Was a pump test made? ☐ Yes ☐ No If yes, by whom?
Yield: gal./min. with ft. drawdown after hrs.
" " " "
" " " "
Bailer test 5 gal./min. with 1 ft. drawdown after 1 hrs.
Artesian flow g.p.m.
Temperature of water Depth artesian flow encountered ft.

(9) CONSTRUCTION:
Well seal—Material used Concrete
Well sealed from land surface to 19½ ft.
Diameter of well bore to bottom of seal 10 in.
Diameter of well bore below seal 7 in.
Number of sacks of cement used in well seal 3 sacks
How was cement grout placed?
Was a drive shoe used? ☐ Yes ☒ No Plugs Size: location ft.
Did any strata contain unusable water? ☐ Yes ☒ No
Type of water? depth of strata
Method of sealing strata off
Was well gravel packed? ☐ Yes ☒ No Size of gravel:
Gravel placed from ft. to ft.

(10) LOCATION OF WELL:
County Wasco Driller's well number
NE ¼ NE ¼ Section 6 T. 1N R. 13E W.M.
Bearing and distance from section or subdivision corner
945' West and 17' North S.E. Crnr. Gov't Lot 1

(11) WATER LEVEL: Completed well.
Depth at which water was first found 93 ft.
Static level 76 ft. below land surface. Date 10-19-77
Artesian pressure lbs. per square inch. Date

(12) WELL LOG:
Diameter of well below casing 6"
Depth drilled 103 ft. Depth of completed well 103 ft.
Formation: Describe color, texture, grain size and structure of materials; and show thickness and nature of each stratum and aquifer penetrated, with at least one entry for each change of formation. Report each change in position of Static Water Level and indicate principal water-bearing strata.

MATERIAL	From	To	SWL
Top Soil	0	5	
Large Rock & Sandstone	5	10	
Coarse Sandstone	10	20	
Sandstone & Clay	20	40	
Sandstone & Hard BlackRock	40	50	
Fine Sandstone & Clay	50	65	
Gravel	65	70	
Course Sandstone	70	83	76
Fine Sandstone	83	93	76
Sandstone & Hard Black Rock	93	103	76

Work started 9-10 19 77 Completed 10-19 19 77
Date well drilling machine moved off of well 10-19- 19 77

Drilling Machine Operator's Certification:
This well was constructed under my direct supervision. Materials used and information reported above are true to my best knowledge and belief.
[Signed] Marty G Mahl (Drilling Machine Operator) Date Nov. 15, 19 77
Drilling Machine Operator's License No.

Water Well Contractor's Certification:
This well was drilled under my jurisdiction and this report is true to the best of my knowledge and belief.
Name (Person, firm or corporation) (Type or print)
Address
[Signed] (Water Well Contractor)
Contractor's License No. Date 19

(USE ADDITIONAL SHEETS IF NECESSARY)

SP*45656-119

NOTICE TO WATER WELL CONTRACTOR
The original and first copy of this report are to be filed with the
STATE ENGINEER, SALEM, OREGON 97310 within 30 days from the date of well completion.

WASC

WATER WELL REPORT
STATE OF OREGON
002470
(Please type or print)
(Do not write above this line)

RECEIVED
SEP 2 1976
WATER RESOURCES DEPT.

State Well No. .....
State Permit No. 1N/13

(b) (6)

(2) TYPE OF WORK (check):
New Well ☒ Deepening ☐ Reconditioning ☐ Abandon ☐
If abandonment, describe material and procedure in Item 12.

(3) TYPE OF WELL:
Rotary ☒ Driven ☐
Cable ☐ Jetted ☐
Dug ☐ Bored ☐

(4) PROPOSED USE (check):
Domestic ☒ Industrial ☐ Municipal ☐
Irrigation ☐ Test Well ☐ Other ☐

(5) CASING INSTALLED:
Threaded ☐ Welded ☐
6 " Diam. from 0 ft. to 18 ft. Gage .250
" Diam. from ft. to ft. Gage
" Diam. from ft. to ft. Gage

(6) PERFORATIONS:
Perforated? ☐ Yes ☒ No.
Type of perforator used
Size of perforations in. by in.
perforations from ft. to ft.
perforations from ft. to ft.
perforations from ft. to ft.

(7) SCREENS:
Well screen installed? ☐ Yes ☒ No
Manufacturer's Name
Type Model No.
Diam. Slot size Set from ft. to ft.
Diam. Slot size Set from ft. to ft.

(8) WELL TESTS:
Drawdown is amount water level is lowered below static level
Was a pump test made? ☐ Yes ☒ No If yes, by whom?
Yield: gal./min. with ft. drawdown after hrs.
1 gal min air test " "
" " " "
Bailer test gal./min. with ft. drawdown after hrs.
Artesian flow g.p.m.
Temperature of water Depth artesian flow encountered ft.

(9) CONSTRUCTION:
Well seal—Material used Bentonite
Well sealed from land surface to 18 ft.
Diameter of well bore to bottom of seal 10 in.
Diameter of well bore below seal 8 in.
Number of sacks of cement used in well seal 0 sacks
Number of sacks of bentonite used in well seal 2 sacks
Brand name of bentonite International
Number of pounds of bentonite per 100 gallons of water 100 lbs./100 gals.
Was a drive shoe used? ☐ Yes ☒ No Plugs Size: location ft.
Did any strata contain unusable water? ☐ Yes ☒ No
Type of water? depth of strata
Method of sealing strata off
Was well gravel packed? ☐ Yes ☒ No Size of gravel:
Gravel placed from ft. to ft.

(10) LOCATION OF WELL:
County Wasco Driller's well number #4
NE ¼ SW ¼ Section 6 T. 1N R. 13E W.M.
Bearing and distance from section or subdivision corner

(11) WATER LEVEL: Completed well.
Depth at which water was first found 300 ft.
Static level 282 ft. below land surface. Date 1/8/76
Artesian pressure lbs. per square inch. Date

(12) WELL LOG:
Diameter of well below casing 8
Depth drilled 450 ft. Depth of completed well 450 ft.

Formation: Describe color, texture, grain size and structure of materials; and show thickness and nature of each stratum and aquifer penetrated, with at least one entry for each change of formation. *Report each change in position of Static Water Level and indicate principal water-bearing strata.*

MATERIAL	From	To	SWL
Soil	0	1	
Sandstone brown	1	35	
Clay brown	35	74	
Sandstone brown	74	165	
Conglomerate med WB	165	325	282
Sandstone tan	325	358	
Clay lt. gray	358	370	
Clay dk. gray	370	420	
Sandstone tan	420	450	

Work started 29 July 1976 Completed 30 July 1976
Date well drilling machine moved off of well 30 July 1976

Drilling Machine Operator's Certification:
This well was constructed under my direct supervision. Materials used and information reported above are true to my best knowledge and belief.
[Signed] Richard J. Murray (Drilling Machine Operator) Date 21 Aug, 1976
Drilling Machine Operator's License No. 737

Water Well Contractor's Certification:
This well was drilled under my jurisdiction and this report is true to the best of my knowledge and belief.
Name Richard J. Murray (Person, firm or corporation) (Type or print)
Address 3712 W 8th The Dalles, Oregon
[Signed] Richard J. Murray (Water Well Contractor)
Contractor's License No. 606 Date 21 August, 1976

(USE ADDITIONAL SHEETS IF NECESSARY)

SP*45656-119

NOTICE TO WATER WELL CONTRACTOR
The original and first copy of this report are to be filed with the

WATER RESOURCES DEPARTMENT.
SALEM, OREGON 97310
within 30 days from the date of well completion.

9

WATER WELL REPORT

STATE OF OREGON

(Please type or print)

(Do not write above this line)

WASC State Well No. 1N/13E-6bd

002469 State Permit No.

(b) (6)

RECEIVED
1978
WATER RESOURCES DEPT.
SALEM, OREGON

(2) TYPE OF WORK (check):

New Well ☒ Deepening ☐ Reconditioning ☐ Abandon ☐

If abandonment, describe material and procedure in Item 12.

(3) TYPE OF WELL:

Rotary ☐ Driven ☐
Cable ☒ Jetted ☐
Dug ☐ Bored ☐

(4) PROPOSED USE (check):

Domestic ☒ Industrial ☐ Municipal ☐
Irrigation ☐ Test Well ☐ Other ☐

(5) CASING INSTALLED:

Threaded ☐ Welded ☒

6 " Diam. from 0 ft. to 323 ft. Gage .250

" Diam. from ft. to ft. Gage

" Diam. from ft. to ft. Gage

PERFORATIONS:

Perforated? ☐ Yes ☒ No.

Type of perforator used

Size of perforations in. by in.

perforations from ft. to ft,

perforations from ft. to ft.

perforations from ft. to ft.

(7) SCREENS:

Well screen installed? ☐ Yes ☒ No

Manufacturer's Name

Type Model No.

Diam. Slot size Set from ft. to ft.

Diam. Slot size Set from ft. to ft.

(8) WELL TESTS:

Drawdown is amount water level is lowered below static level

Was a pump test made? ☐ Yes ☒ No If yes, by whom?

Yield: gal./min. with ft. drawdown after hrs.

" " " "

" " " "

Bailer test 10 gal./min. with 20 ft. drawdown after 1 hrs.

Artesian flow g.p.m.

Temperature of water Depth artesian flow encountered ft.

(9) CONSTRUCTION:

Well seal—Material used Bentonite

Well sealed from land surface to 18 ft.

Diameter of well bore to bottom of seal 10 in.

Diameter of well bore below seal 6 in.

Number of sacks of cement used in well seal 0 sacks

How was cement grout placed?

2 sacks International bentonite

Was a drive shoe used? ☒ Yes ☐ No Plugs Size: location ft.

Did any strata contain unusable water? ☐ Yes ☒ No

Type of water? depth of strata

Method of sealing strata off

Was well gravel packed? ☐ Yes ☒ No Size of gravel:

Gravel placed from ft. to ft.

(10) LOCATION OF WELL:

County Wasco Driller's well number

SE ¼ NW ¼ Section 6 T. 1N R. 13E W.M.

Bearing and distance from section or subdivision corner

(11) WATER LEVEL: Completed well.

Depth at which water was first found 710 ft.

Static level 633 ft. below land surface. Date 5/27/78

Artesian pressure lbs. per square inch. Date

(12) WELL LOG:

Diameter of well below casing 6

Depth drilled 780 ft. Depth of completed well 790 ft.

Formation: Describe color, texture, grain size and structure of materials; and show thickness and nature of each stratum and aquifer penetrated, with at least one entry for each change of formation. Report each change in position of Static Water Level and indicate principal water-bearing strata.

MATERIAL	From	To	SWL
Soil	0	3	
Clay brown	3	80	
Clay gray	80	140	
Clay yellow	140	180	
Claystome gray	180	240	
Sandstone brown	240	410	
Sandstone gray	410	520	
Sandstone brown WB	520	750	
Conglomerate gray	750	790	633

Work started 13 May 1978 Completed 28 May 1978

Date well drilling machine moved off of well 28 May 1978

Drilling Machine Operator's Certification:

This well was constructed under my direct supervision. Materials used and information reported above are true to my best knowledge and belief.

[Signed] Richard J Murray (Drilling Machine Operator) Date 12 June 1978

Drilling Machine Operator's License No. 737

Water Well Contractor's Certification:

This well was drilled under my jurisdiction and this report is true to the best of my knowledge and belief.

Name Murray Well Drilling Inc. (Person, firm or corporation) (Type or print)

Address 3712 W 8th The Dalles, Oregon

[Signed] Richard J Murray Pres (Water Well Contractor)

Contractor's License No. 606 Date 12 June 1978

(USE ADDITIONAL SHEETS IF NECESSARY)

SP*45656-119

NOTICE TO WATER WELL CONTRACTOR
The original and first copy of this report are to be filed with the STATE ENGINEER, SALEM, OREGON 97310 within 30 days from the date of well completion.

RECEIVED
NOV 17 1978
WATER RESOURCES DEPT.

WATER WELL REPORT
STATE OF OREGON
(Please type or print) WASC
(Do not write above this line) 002468

State Well No. 1N/13E-6Q9
State Permit No.

(b) (6)

(2) TYPE OF WORK (check):
New Well ☒ Deepening ☐ Reconditioning ☐ Abandon ☐
If abandonment, describe material and procedure in Item 12.

(3) TYPE OF WELL:
Rotary ☒ Driven ☐
Cable ☐ Jetted ☐
Dug ☐ Bored ☐

(4) PROPOSED USE (check):
Domestic ☒ Industrial ☐ Municipal ☐
Irrigation ☐ Test Well ☐ Other ☐

CASING INSTALLED:
Threaded ☐ Welded ☒
8" Diam. from 0 ft. to 20 ft. Gage .250
" Diam. from ft. to ft. Gage
" Diam. from ft. to ft. Gage

PERFORATIONS:
Perforated? ☐ Yes ☒ No
Type of perforator used
Size of perforations in. by in.
perforations from ft. to ft.
perforations from ft. to ft.
perforations from ft. to ft.

(7) SCREENS:
Well screen installed? ☐ Yes ☒ No
Manufacturer's Name
Type Model No.
Diam. Slot size Set from ft. to ft.
Diam. Slot size Set from ft. to ft.

(8) WELL TESTS:
Drawdown is amount water level is lowered below static level
Was a pump test made? ☐ Yes ☒ No If yes, by whom?
Yield: gal./min. with ft. drawdown after hrs.
" " " "
" " " "
Air
Bailer test 6 gal./min. with 20 ft. drawdown after 1 hrs.
Artesian flow g.p.m.
Temperature of water 56° Depth artesian flow encountered ft.

(9) CONSTRUCTION:
Well seal—Material used cement grout
Well sealed from land surface to 18 ft.
Diameter of well bore to bottom of seal 12 in.
Diameter of well bore below seal 8 in.
Number of sacks of cement used in well seal 4 sacks
Number of sacks of bentonite used in well seal sacks
Brand name of bentonite
Number of pounds of bentonite per 100 gallons of water lbs./100 gals.
Was a drive shoe used? ☒ Yes ☐ No Plugs Size: location ft.
Did any strata contain unusable water? ☐ Yes ☒ No
Type of water? depth of strata
Method of sealing strata off
Was well gravel packed? ☐ Yes ☒ No Size of gravel:
Gravel placed from ft. to ft.

(10) LOCATION OF WELL:
County Wasco Driller's well number
NE ¼ NE ¼ Section 6 T. 1 N R. 13 E. W.M.
Bearing and distance from section or subdivision corner

(11) WATER LEVEL: Completed well.
Depth at which water was first found 185 ft.
Static level 142 ft. below land surface. Date 10-17-78
Artesian pressure lbs. per square inch. Date

(12) WELL LOG:
Diameter of well below casing 8"
Depth drilled 350 ft. Depth of completed well 350 ft.

Formation: Describe color, texture, grain size and structure of materials; and show thickness and nature of each stratum and aquifer penetrated, with at least one entry for each change of formation. *Report each change in position of Static Water Level and indicate principal water-bearing strata.*

MATERIAL	From	To	SWL
Soil, rocky	0	2	
Sandstone, grey rocky	2	8	
Sandstone, brown rocky	8	25	
Separation	25	27	
Sandstone, brown	27	87	
Sandstone, brown rocky	87	107	
Sandstone, grey fine	107	112	
Sandstone, brown rocky	112	127	
Sandstone, grey fine	127	132	
Sandstone, brown silty	132	142	
Sandstone, grey fine	142	152	142
Sandstone, brown	152	167	142
Sandstone, rusty brown	167	220	142
Sandstone, brown silty	220	350	142

Work started Oct. 11 1978 Completed Oct. 17 1978
Date well drilling machine moved off of well Oct. 17 1978

Drilling Machine Operator's Certification:
This well was constructed under my direct supervision. Materials used and information reported above are true to my best knowledge and belief.
[Signed] Gilbert C Clayton (Drilling Machine Operator) Date 11-14-78, 19
Drilling Machine Operator's License No. 129

Water Well Contractor's Certification:
This well was drilled under my jurisdiction and this report is true to the best of my knowledge and belief.
Name Gilbert Clayton Well Drilling (Person, firm or corporation) (Type or print)
Address Route 1, Box 61-A, The Dalles, OR 97058
[Signed] Gilbert C Clayton (Water Well Contractor)
Contractor's License No. 569 Date 11-14-78, 19

(USE ADDITIONAL SHEETS IF NECESSARY)

SP*45656-119

NOTICE TO WATER WELL CONTRACTOR
The original and first copy of this report are to be filed with the WATER RESOURCES DEPARTMENT, SALEM, OREGON 97310 within 30 days from the date of well completion.

RECEIVED DEC 7 1978 WATER RESOURCES DEPT.

WATER WELL REPORT STATE OF OREGON

(Please type or print) (Do not write above this line) WASC 002467

State Well No. 1N/13E-6qc

State Permit No.

(b) (6)

(2) TYPE OF WORK (check):

New Well [X] Deepening [ ] Reconditioning [ ] Abandon [ ]

If abandonment, describe material and procedure in Item 12.

(3) TYPE OF WELL:

Rotary [X] Driven [ ]
Cable [ ] Jetted [ ]
Dug [ ] Bored [ ]

(4) PROPOSED USE (check):

Domestic [X] Industrial [ ] Municipal [ ]
Irrigation [ ] Test Well [ ] Other [ ]

(5) CASING INSTALLED:

Threaded [ ] Welded [X]

8 " Diam. from 0 ft. to 20 ft. Gage .250

" Diam. from ft. to ft. Gage

" Diam. from ft. to ft. Gage

(6) PERFORATIONS:

Perforated? [ ] Yes [X] No

Type of perforator used

Size of perforations in. by in.

perforations from ft. to ft.

perforations from ft. to ft.

perforations from ft. to ft.

(7) SCREENS:

Well screen installed? [ ] Yes [X] No

Manufacturer's Name

Type Model No.

Diam. Slot size Set from ft. to ft.

Diam. Slot size Set from ft. to ft.

(8) WELL TESTS:

Drawdown is amount water level is lowered below static level

Was a pump test made? [ ] Yes [X] No If yes, by whom?

Yield: gal./min. with ft. drawdown after hrs.

" " "

" " "

Air
Bailer test 20 gal./min. with 20 ft. drawdown after 1 hrs.

Artesian flow g.p.m.

Temperature of water 58° Depth artesian flow encountered ft.

(9) CONSTRUCTION:

Well seal—Material used cement grout

Well sealed from land surface to 18 ft.

Diameter of well bore to bottom of seal 12 in.

Diameter of well bore below seal 8 in.

Number of sacks of cement used in well seal 7 sacks

How was cement grout placed? poured around outside

Was a drive shoe used? [ ] Yes [X] No Plugs Size: location ft.

Did any strata contain unusable water? [ ] Yes [X] No

Type of water? depth of strata

Method of sealing strata off

Was well gravel packed? [ ] Yes [X] No Size of gravel:

Gravel placed from ft. to ft.

(10) LOCATION OF WELL:

County Wasco Driller's well number

SW ¼ NE ¼ Section 6 T. 1 N R. 13 E. W.M.

Bearing and distance from section or subdivision corner

(11) WATER LEVEL: Completed well.

Depth at which water was first found 320 ft.

Static level 290 ft. below land surface. Date 11-27-78

Artesian pressure lbs. per square inch. Date

(12) WELL LOG:

Diameter of well below casing 8"

Depth drilled 360 ft. Depth of completed well 360 ft.

Formation: Describe color, texture, grain size and structure of materials; and show thickness and nature of each stratum and aquifer penetrated, with at least one entry for each change of formation. Report each change in position of Static Water Level and indicate principal water-bearing strata.

MATERIAL	From	To	SWL
Soil, brown	0	8	
Sandstone, grey rocky	8	40	
Sandstone, light brown rocky	40	75	
Sandstone, brown	75	120	
Clay, yellow	120	120½	
Sandstone, brown	120½	130	
Sandstone, light brown	130	175	
Sandstone, dark brown	175	200	
Sandstone, grey	200	215	
Sandstone, brown	215	221	
Clay, yellow rocky	221	226	
Sandstone, brown	226	250	
Sandstone, grey	250	260	
Sandstone, brown	260	265	
Sandstone, grey	265	275	
Sandstone, brown	275	285	
Sandstone, yellow brown	285	290	
Sandstone, grey rocky	290	315	
Sandstone, grey	315	360	290

Work started Nov. 22 19 78 Completed Nov. 27 19 78

Date well drilling machine moved off of well Nov. 27 19 78

Drilling Machine Operator's Certification:

This well was constructed under my direct supervision. Materials used and information reported above are true to my best knowledge and belief.

[Signed] Gilbert C. Clayton (Drilling Machine Operator) Date 12-5-78, 19

Drilling Machine Operator's License No. 129

Water Well Contractor's Certification:

This well was drilled under my jurisdiction and this report is true to the best of my knowledge and belief.

Name Gilbert Clayton Well Drilling (Person, firm or corporation) (Type or print)

Address Rt 1, Box 61-A, The Dalles, OR 97058

[Signed] Gilbert C. Clayton (Water Well Contractor)

Contractor's License No. 569 Date Dec. 5, 19 78

(USE ADDITIONAL SHEETS IF NECESSARY)

SP*45856-119

NOTICE TO WATER WELL CONTRACTOR
The original and first copy of this report are to be filed with the WATER RESOURCES DEPARTMENT, SALEM, OREGON 97310 within 30 days from the date of well completion.

RECEIVED
JAN 25 1979
WATER RESOURCES DEPT

WATER WELL REPORT
STATE OF OREGON
(Please type or print)
(Do not write above this line) 002466

WASC

State Well No. 1N/13E-6g K

State Permit No.

(b) (6) [redacted]

(2) TYPE OF WORK (check):
New Well ☐ Deepening ☒ Reconditioning ☐ Abandon ☐
If abandonment, describe material and procedure in Item 12.

(3) TYPE OF WELL:
Rotary ☒ Driven ☐
Cable ☐ Jetted ☐
Dug ☐ Bored ☐

(4) PROPOSED USE (check):
Domestic ☒ Industrial ☐ Municipal ☐
Irrigation ☐ Test Well ☐ Other ☐

(5) CASING INSTALLED:
Threaded ☐ Welded ☒
8 " Diam. from 0 ft. to 20 ft. Gage .250
6 " Diam. from 0 ft. to 518 ft. Gage .188
" Diam. from ft. to ft. Gage

(6) PERFORATIONS:
Perforated? ☐ Yes ☒ No
Type of perforator used
Size of perforations in. by in.
perforations from ft. to ft.
perforations from ft. to ft.
perforations from ft. to ft.

(7) SCREENS:
Well screen installed? ☐ Yes ☒ No
Manufacturer's Name
Type Model No.
Diam. Slot size Set from ft. to ft.
Diam. Slot size Set from ft. to ft.

(8) WELL TESTS:
Drawdown is amount water level is lowered below static level
Was a pump test made? ☐ Yes ☒ No If yes, by whom?
Yield: gal./min. with ft. drawdown after hrs.
" " "
" " "
Air Bailer test 20 gal./min. with 120 ft. drawdown after 1 hrs.
Artesian flow g.p.m.
Temperature of water 60° Depth artesian flow encountered ft.

(9) CONSTRUCTION:
Well seal—Material used Cement grout
Well sealed from land surface to 18 ft.
Diameter of well bore to bottom of seal 12 in.
Diameter of well bore below seal 8 & 6 in.
Number of sacks of cement used in well seal 5 sacks
How was cement grout placed? poured around outside of 8" casing
Was a drive shoe used? ☒ Yes ☐ No Plugs Size: location ft.
Did any strata contain unusable water? ☐ Yes ☒ No
Type of water? depth of strata
Method of sealing strata off
Was well gravel packed? ☐ Yes ☒ No Size of gravel:
Gravel placed from ft. to ft.

(10) LOCATION OF WELL:
County Wasco Driller's well number
NW ¼ NE ¼ Section 6 T. 1 N R. 13 E. W.M.
Bearing and distance from section or subdivision corner

(11) WATER LEVEL: Completed well.
Depth at which water was first found 220 ft.
Static level 690 ft. below land surface. Date 12-27-78
Artesian pressure lbs. per square inch. Date

(12) WELL LOG:
Diameter of well below casing 6"
Depth drilled 880 ft. Depth of completed well 880 ft.

Formation: Describe color, texture, grain size and structure of materials; and show thickness and nature of each stratum and aquifer penetrated, with at least one entry for each change of formation. Report each change in position of Static Water Level and indicate principal water-bearing strata.

MATERIAL	From	To	SWL
Reamed old 6" well 200 ft.			
Sandstone, brown	0	50	
Sandstone, redish brown	50	65	
pine wood	65	80	
Sandstone, light brown	80	90	
pine wood/brown sandstone	90	125	
Sandstone, grey	125	140	
pine wood	140	185	
sandstone, grey	185	205	
sandstone, brown	205	220	
clay, blue	220	290	
clay, yellow	290	310	
sandstone, brown	310	365	
sandstone/bonded boulders	365	415	
Sandstone, brown	415	465	
Clay, yellow	465	510	
Sandstone, brown	510	735	
Sandstone, grey	735	830	690
Clay, white	830	831	690
Sandstone, brown	831	880	690

Work started Nov. 27 19 78 Completed Dec. 27 19 78
Date well drilling machine moved off of well Dec. 27 19 78

Drilling Machine Operator's Certification:
This well was constructed under my direct supervision. Materials used and information reported above are true to my best knowledge and belief.
[Signed] Gilbert Clayton (Drilling Machine Operator) Date Jan. 22, 19 79
Drilling Machine Operator's License No. 129

Water Well Contractor's Certification:
This well was drilled under my jurisdiction and this report is true to the best of my knowledge and belief.
Name Gilbert Clayton Well Drilling (Person, firm or corporation) (Type or print)
Address Rt 1, Box 61-A, The Dalles OR 97058
[Signed] Gilbert Clayton (Water Well Contractor)
Contractor's License No. 569 Date Jan. 22, 19 79

(USE ADDITIONAL SHEETS IF NECESSARY)

SP*45656-119

NOTICE TO WATER WELL CONTRACTOR
The original and first copy of this report are to be filed with the WATER RESOURCES DEPARTMENT, SALEM, OREGON 97310 within 30 days from the date of well completion.

RECEIVED
DEC 17 1979
WATER RESOURCES DEPT

SLC-644-0624

WATER WELL REPORT
STATE OF OREGON
(Please type or print) (Do not write above this line)

WASC 002465

State Well No. 1N/13E-6aa

State Permit No. .....

(b) (6) [redacted]

(2) TYPE OF WORK (check):
New Well ☒ Deepening ☐ Reconditioning ☐ Abandon ☐
If abandonment, describe material and procedure in Item 12.

(3) TYPE OF WELL:
Rotary ☐ Driven ☐
Cable ☒ Jetted ☐
Bored ☐

(4) PROPOSED USE (check):
Domestic ☒ Industrial ☐ Municipal ☐
Irrigation ☐ Test Well ☐ Other ☐

(5) CASING INSTALLED:
Threaded ☐ Welded ☐
6" Diam. from 0 ft. to 19½ ft. Gage 1/4"
..." Diam. from ... ft. to ... ft. Gage ...
..." Diam. from ... ft. to ... ft. Gage ...

(6) PERFORATIONS:
Perforated? ☐ Yes ☐ No.
Type of perforator used
Size of perforations in. by in.
... perforations from ... ft. to ... ft.
... perforations from ... ft. to ... ft.
... perforations from ... ft. to ... ft.

(7) SCREENS:
Well screen installed? ☐ Yes ☒ No
Manufacturer's Name
Type ... Model No.
Diam. ... Slot size ... Set from ... ft. to ... ft.
Diam. ... Slot size ... Set from ... ft. to ... ft.

(8) WELL TESTS:
Drawdown is amount water level is lowered below static level
Was a pump test made? ☐ Yes ☐ No If yes, by whom?
[redacted]d: gal./min. with ft. drawdown after hrs.
" " " "
" " " "
Bailer test 5 gal./min. with 1 ft. drawdown after 1 hrs.
[redacted]sian flow g.p.m.
Temperature of water Depth artesian flow encountered ... ft.

(9) CONSTRUCTION:
Well seal—Material used Concrete
Well sealed from land surface to 19½ ft.
Diameter of well bore to bottom of seal 10 in.
Diameter of well bore below seal 7 in.
Number of sacks of cement used in well seal 3 sacks
How was cement grout placed? Poured grout mixture and tamped in with 2" pole to provide uniform consitency to pour
Was a drive shoe used? ☐ Yes ☒ No Plugs ... Size: location ... ft.
Did any strata contain unusable water? ☐ Yes ☒ No
Type of water? depth of strata
Method of sealing strata off
Was well gravel packed? ☐ Yes ☒ No Size of gravel: ...
Gravel placed from ... ft. to ... ft.

(10) LOCATION OF WELL:
County Wasco Driller's well number
NE ¼ NE ¼ Section 6 T. 1N R. 13E W.M.
Bearing and distance from section or subdivision corner
980' S. 260' W FROM NE. CORNER of SECTION 6

(11) WATER LEVEL: Completed well.
Depth at which water was first found 91 ft.
Static level 65 ft. below land surface. Date Dec 1, 1979
Artesian pressure lbs. per square inch. Date

(12) WELL LOG:
Diameter of well below casing 6"
Depth drilled 99 ft. Depth of completed well 99 ft.

Formation: Describe color, texture, grain size and structure of materials; and show thickness and nature of each stratum and aquifer penetrated, with at least one entry for each change of formation. Report each change in position of Static Water Level and indicate principal water-bearing strata.

MATERIAL	From	To	SWL
Soil	0	8'	
Soil, Clay, Sandrock mix	8	12'	
Sandrock	12	35'	
Sandrock	35'	42'	
Sandrock Cement gravel	42'	54'	
Fine Sandrock & Clay	54	67	65
Gravel	67	73	65
Course Sandrock	73	85	65
Fine Sandrock	85	91	65
Sandrock & Hard Blk rock	91	99	65

RECEIVED
DEC 17 1979
WATER RESOURCES DEPT
SALEM, OREGON

Work started March 12 19 78 Completed Dec 1 19 79
Date well drilling machine moved off of well Dec 10 19 79

Drilling Machine Operator's Certification:
This well was constructed under my direct supervision. Materials used and information reported above are true to my best knowledge and belief.
[Signed] Steven R. Mahon (Drilling Machine Operator) Date Dec 10, 1979
Drilling Machine Operator's License No. ...

Water Well Contractor's Certification:
This well was drilled under my jurisdiction and this report is true to the best of my knowledge and belief.
Name ... (Person, firm or corporation) (Type or print)
Address ...
[Signed] ... (Water Well Contractor)
Contractor's License No. ... Date ..., 19...

(USE ADDITIONAL SHEETS IF NECESSARY)

SP*45656-119

WATER WELL REPORT
STATE OF OREGON

WASCO 002464

RECEIVED
OCT 5 1981
WATER RESOURCES DEPT
SALEM, OREGON

State Well No. 1N/13E-6 dc

State Permit No.

(b) (6)

(2) TYPE OF WORK (check):
New Well ☒ Deepening ☐ Reconditioning ☐ Abandon ☐
If abandonment, describe material and procedure in Item 12.

(3) TYPE OF WELL:
Rotary Air ☒ Driven ☐
Rotary Mud ☐ Dug ☐
[redacted] ☐ Bored ☐

(4) PROPOSED USE (check):
Domestic ☒ Industrial ☐ Municipal ☐
Irrigation ☐ Test Well ☐ Other ☐
Thermal: ☐ Withdrawal ☐ Reinjection ☐

(5) CASING INSTALLED:
Steel ☒ Plastic ☐
Threaded ☐ Welded ☒
8 " Diam. from 0 ft. to 20 ft. Gauge .250
" Diam. from ft. to ft. Gauge

[redacted] LINER INSTALLED:
6 " Diam. from 0 ft. to 317 ft. Gauge .188

(6) PERFORATIONS:
Perforated? ☒ Yes ☐ No
Type of perforator used Cutting Torch
Size of perforations 3/16 in. by 6 in.
76 perforations from 296 ft. to 316 ft.
perforations from ft. to ft.
perforations from ft. to ft.

(7) SCREENS:
Well screen installed? ☐ Yes ☒ No
Manufacturer's Name
Type Model No.
Diam. Slot Size Set from ft. to ft.
Diam. Slot Size Set from ft. to ft.

(8) WELL TESTS:
Drawdown is amount water level is lowered below static level

Was a pump test made? ☐ Yes ☒ No If yes, by whom?
[redacted] gal./min. with ft. drawdown after hrs.
" " " "
Air test 20 gal./min. with drill stem at 296 ft. 1 hrs.
Bailer test gal./min. with ft. drawdown after hrs.
Artesian flow g.p.m.
[redacted] perature of water 58° Depth artesian flow encountered ft.

(9) CONSTRUCTION:
Special standards: Yes ☐ No ☒
Well seal—Material used cement grout
Well sealed from land surface to 19 ft.
Diameter of well bore to bottom of seal 10 in.
Diameter of well bore below seal 8 in.
Number of sacks of cement used in well seal 4 sacks
How was cement grout placed? pressure grouted with pump
Was pump installed? no Type HP Depth ft.
Was a drive shoe used? ☒ Yes ☐ No Plugs Size: location ft.
Did any strata contain unusable water? ☐ Yes ☒ No
Type of Water? depth of strata
Method of sealing strata off
Was well gravel packed? ☒ Yes ☐ No Size of gravel: pea
Gravel placed from 200 ft. to 316 ft.

(10) LOCATION OF WELL:
County Wasco Driller's well number
SW ¼ SE ¼ Section 6 T. 1 N R. 13 E W.M.
Tax Lot # Lot Blk Subdivision
Address at well location: Route 5
The Dalles, OR 97058

(11) WATER LEVEL: Completed well.
Depth at which water was first found 265 ft.
Static level 216 ft. below land surface. Date 9-2-81
Artesian pressure lbs. per square inch. Date

(12) WELL LOG:
Diameter of well below casing 6"
Depth drilled 316 ft. Depth of completed well 316 ft.

Formation: Describe color, texture, grain size and structure of materials; and show thickness and nature of each stratum and aquifer penetrated, with at least one entry for each change of formation. Report each change in position of Static Water Level and indicate principal water-bearing strata.

MATERIAL	From	To	SWL
Sandstone, brown	0	20	
Sandstone, rocky, brown	20	60	
Sandstone, brown	60	125	
Sandstone, rocky, grey	125	145	
Samdstone, Silty, brown	145	230	
Sandstone, rocky, brown	230	250	
Sandstone, silty, brown	250	280	
Sandstone, grey/gravel	280	310	216
Sandstone, brown	310	316	216

Work started Aug. 25 1981 Completed Sept. 2 1981
Date well drilling machine moved off of well Sept. 2 1981

Drilling Machine Operator's Certification:
This well was constructed under my direct supervision. Materials used and information reported above are true to my best knowledge and belief.
[Signed] Gilbert Clayton (Drilling Machine Operator) Date 9-28 1981
Drilling Machine Operator's License No. 129

Water Well Contractor's Certification:
This well was drilled under my jurisdiction and this report is true to the best of my knowledge and belief.
Name Gilbert Clayton Well Drilling (Person, firm or corporation) (Type or print)
Address Rt 1, Box 61-A, The Dalles, OR 97058
[Signed] Gilbert Clayton (Water Well Contractor)
Contractor's License No. 569 Date Sept. 28, 1981

NOTICE TO WATER WELL CONTRACTOR
The original and first copy of this report are to be filed with the

WATER RESOURCES DEPARTMENT, SALEM, OREGON 97310 within 30 days from the date of well completion.

SP*12658-690

WATER WELL REPORT
STATE OF OREGON

WASC 002463

RECEIVED
NOV 3 1981
WATER RESOURCES DEPT
SALEM, OREGON

State Well No. 1N/13E-6ba

State Permit No. .....

(b) (6) [redacted]

(2) TYPE OF WORK (check):

New Well [X] Deepening [ ] Reconditioning [ ] Abandon [ ]

If abandonment, describe material and procedure in Item 12.

(3) TYPE OF WELL:

Rotary Air [X] Driven [ ]
Rotary Mud [ ] Dug [ ]
[redacted] [ ] Bored [ ]

(4) PROPOSED USE (check):

Domestic [X] Industrial [ ] Municipal [ ]
Irrigation [ ] Test Well [ ] Other [ ]
Thermal: [ ] Withdrawal [ ] Reinjection [ ]

(5) CASING INSTALLED:

Steel [X] Plastic [ ]
Threaded [ ] Welded [X]

8 " Diam. from 0 ft. to 20 ft. Gauge 250

" Diam. from ft. to ft. Gauge

[redacted]LINER INSTALLED:

" Diam. from ft. to ft. Gauge

(6) PERFORATIONS:

Perforated? [ ] Yes [X] No

Type of perforator used

Size of perforations in. by in.

perforations from ft. to ft.

perforations from ft. to ft.

perforations from ft. to ft.

(7) SCREENS:

Well screen installed? [ ] Yes [X] No

Manufacturer's Name

Type Model No.

Diam. Slot Size Set from ft. to ft.

Diam. Slot Size Set from ft. to ft.

(8) WELL TESTS:

Drawdown is amount water level is lowered below static level

Was a pump test made? [ ] Yes [X] No If yes, by whom?

[redacted] gal./min. with ft. drawdown after hrs.

" " " "

Air test 9 gal./min. with drill stem at 300 ft. 1 hrs.

Bailer test gal./min. with ft. drawdown after hrs.

[redacted] g.p.m.

[redacted] 58° Depth artesian flow encountered ft.

(9) CONSTRUCTION:

Special standards: Yes [ ] No [X]

Well seal—Material used Cement grout

Well sealed from land surface to 19 ft.

Diameter of well bore to bottom of seal 10 in.

Diameter of well bore below seal 8 in.

Number of sacks of cement used in well seal 6 sacks

How was cement grout placed?

pressure grounted with pump

Was pump installed? no Type HP Depth ft.

Was a drive shoe used? [X] Yes [ ] No Plugs Size: location ft.

Did any strata contain unusable water? [ ] Yes [X] No

Type of Water? depth of strata

Method of sealing strata off

Was well gravel packed? [ ] Yes [X] No Size of gravel:

Gravel placed from ft. to ft.

(10) LOCATION OF WELL:

County Wasco Driller's well number

NE ¼ NW ¼ Section 6 T. 1 N R. 13 E. W.M.

Tax Lot # Lot Blk Subdivision

Address at well location: Rt 5, Box 56
The Dalles, OR 97058

(11) WATER LEVEL: Completed well.

Depth at which water was first found 280 ft.

Static level 250 ft. below land surface. Date 10-6-81

Artesian pressure lbs. per square inch. Date

(12) WELL LOG:

Diameter of well below casing 8"

Depth drilled 310 ft. Depth of completed well 310 ft.

Formation: Describe color, texture, grain size and structure of materials; and show thickness and nature of each stratum and aquifer penetrated, with at least one entry for each change of formation. Report each change in position of Static Water Level and indicate principal water-bearing strata.

MATERIAL	From	To	SWL
Soil, brown clay	0	3	
Clay, brown	3	20	
Sandstone, rocky gray	20	45	
Sandstone, brown	45	55	
Sandstone, gray	55	60	
Sandstone, brown	60	85	
Sandstone, gray	85	108	
Sandstone, brown	108	160	
Sandstone, light brown	160	188	
Sandstone, reddish brown	188	240	
Sandstone, Rocky brown	240	280	250
Sandstone, gray	280	300	250
Sandstone, rocky gray	300	306	250
Clay, gray	306	310	250

Work started Oct. 2 1981 Completed Oct. 6 1981

Date well drilling machine moved off of well October 6 1981

Drilling Machine Operator's Certification:

This well was constructed under my direct supervision. Materials used and information reported above are true to my best knowledge and belief.

[Signed] Gilbert Clayton (Drilling Machine Operator) Date 10-30, 1981

Drilling Machine Operator's License No. 129

Water Well Contractor's Certification:

This well was drilled under my jurisdiction and this report is true to the best of my knowledge and belief.

Name Gilbert Clayton Well Drilling (Person, firm or corporation) (Type or print)

Address Rt 1, Box 61-A, The Dalles, OR 97058

[Signed] Gilbert Clayton (Water Well Contractor)

Contractor's License No. 569 Date October 30, 19 81

NOTICE TO WATER WELL CONTRACTOR
The original and first copy of this report are to be filed with the

WATER RESOURCES DEPARTMENT,
SALEM, OREGON 97310
within 30 days from the date of well completion.

SP*12658-690

WATER WELL REPORT
STATE OF OREGON

WASC 002461

RECEIVED
OCT 13 1982
WATER RESOURCES DEPT.
SALEM, OREGON

State Well No. 1N/13E-6bb

State Permit No.

(b) (6)

(2) TYPE OF WORK (check):

New Well [X] Deepening [ ] Reconditioning [ ] Abandon [ ]

If abandonment, describe material and procedure in Item 12.

(3) TYPE OF WELL:

Rotary Air [X] Driven [ ]
Rotary Mud [ ] Dug [ ]
[redacted] [X] Bored [ ]

(4) PROPOSED USE (check):

Domestic [X] Industrial [ ] Municipal [ ]
Irrigation [ ] Test Well [ ] Other [ ]
Thermal: [ ] Withdrawal [ ] Reinjection [ ]

(5) CASING INSTALLED:

Steel [X] Plastic [ ]
Threaded [ ] Welded [X]

8 " Diam. from 0 ft. to 19 ft. Gauge .250

" Diam. from ft. to ft. Gauge

[redacted] LINER INSTALLED:

6 " Diam. from 0 ft. to 171 ft. Gauge .188

(6) PERFORATIONS:

Perforated? [X] Yes [ ] No

Type of perforator used cutting torch

Size of perforations 1/8 in. by 6 in.

266 perforations from 101 ft. to 170 ft.

perforations from ft. to ft.

perforations from ft. to ft.

(7) SCREENS:

Well screen installed? [ ] Yes [X] No

Manufacturer's Name

Type Model No.

Diam. Slot Size Set from ft. to ft.

Diam. Slot Size Set from ft. to ft.

(8) WELL TESTS:

Drawdown is amount water level is lowered below static level

[redacted] pump test made? [ ] Yes [X] No If yes, by whom?

[redacted] Yield: gal./min. with ft. drawdown after hrs.

" " " "

Air test gal./min. with drill stem at ft. hrs.

Bailer test 15 gal./min. with 0 ft. drawdown after 1 hrs.

[redacted] Artesian flow g.p.m.

Temperature of water 55° Depth artesian flow encountered ft.

(9) CONSTRUCTION:

Special standards: Yes [ ] No [X]

Well seal—Material used Cement Groute

Well sealed from land surface to 18 ft.

Diameter of well bore to bottom of seal 10 in.

Diameter of well bore below seal 8 in.

Number of sacks of cement used in well seal 3 sacks

How was cement grout placed? pressure grouted with pump

Was pump installed? yes Type Sub HP 2 Depth 160 ft.

Was a drive shoe used? [X] Yes [ ] No Plugs Size: location ft.

Did any strata contain unusable water? [ ] Yes [X] No

Type of Water? depth of strata

Method of sealing strata off

Was well gravel packed? [X] Yes [ ] No Size of gravel: pea

Gravel placed from 100 ft. to 170 ft.

(10) LOCATION OF WELL:

County Wasco Driller's well number

NW ¼ NW ¼ Section 6 T. 1 N R. 13 E. W.M.

Tax Lot # Lot Blk Subdivision

Address at well location: Route 5, Box 40

(11) WATER LEVEL: Completed well.

Depth at which water was first found 105 ft.

Static level [redacted] 101 ft. below land surface. Date 9-20-82

Artesian pressure lbs. per square inch. Date

(12) WELL LOG:

Diameter of well below casing 6"

Depth drilled 171 ft. Depth of completed well 171 ft.

Formation: Describe color, texture, grain size and structure of materials; and show thickness and nature of each stratum and aquifer penetrated, with at least one entry for each change of formation. Report each change in position of Static Water Level and indicate principal water-bearing strata.

MATERIAL	From	To	SWL
Soil, brown	0	2	
Sandstone, brown	2	15	
Sandstone, light brown	15	40	
Sandstone, grey	40	50	
Sandstone, red rocky	50	60	
Sandstone, brown	60	90	
Sandstone, brown rocky	90	105	101
Sandstone, grey	105	150	101
Sand & gravel	150	170	101
Clay, yellow	170	171	101

Work started July 27 19 82 Completed Sept. 20 19 82

Date well drilling machine moved off of well Sept. 20 19 82

Drilling Machine Operator's Certification:

This well was constructed under my direct supervision. Materials used and information reported above are true to my best knowledge and belief.

[Signed] (Drilling Machine Operator) Date 10-8, 19 82

Drilling Machine Operator's License No.

Water Well Contractor's Certification:

This well was drilled under my jurisdiction and this report is true to the best of my knowledge and belief.

Name Gilbert Clayton Well Drilling (Person, firm or corporation) (Type or print)

Address 1951 Lambert St., The Dalles, OR 97058

[Signed] Gilbert Clayton (Water Well Contractor)

Contractor's License No. 569 Date October 8, 19 82

NOTICE TO WATER WELL CONTRACTOR
The original and first copy of this report are to be filed with the

WATER RESOURCES DEPARTMENT,
SALEM, OREGON 97310
within 30 days from the date of well completion.

SP*12658-690

WATER WELL REPORT
STATE OF OREGON

WASCO 002460

RECEIVED
AUG 30 1982
WATER RESOURCES DEPT.
SALEM, OREGON

State Well No. 1N/13E-6bb

State Permit No.

(b) (6)

(2) TYPE OF WORK (check):
New Well [X] Deepening [ ] Reconditioning [ ] Abandon [ ]
If abandonment, describe material and procedure in Item 12.

(3) TYPE OF WELL:
Rotary Air [X] Driven [ ]
Rotary Mud [ ] Dug [ ]
Cable [ ] Bored [ ]

(4) PROPOSED USE (check):
Domestic [X] Industrial [ ] Municipal [ ]
Irrigation [ ] Test Well [ ] Other [ ]
Thermal: [ ] Withdrawal [ ] Reinjection [ ]

(5) CASING INSTALLED:
Steel [X] Plastic [ ]
Threaded [ ] Welded [X]
8" Diam. from 0 ft. to 20 ft. Gauge .250
" Diam. from ft. to ft. Gauge

LINER INSTALLED:
" Diam. from ft. to ft. Gauge

(6) PERFORATIONS:
Perforated? [ ] Yes [X] No
Type of perforator used
Size of perforations in. by in.
perforations from ft. to ft.
perforations from ft. to ft.
perforations from ft. to ft.

(7) SCREENS:
Well screen installed? [ ] Yes [X] No
Manufacturer's Name
Type Model No.
Diam. Slot Size Set from ft. to ft.
Diam. Slot Size Set from ft. to ft.

(8) WELL TESTS:
Drawdown is amount water level is lowered below static level
Was a pump test made? [ ] Yes [X] No If yes, by whom?
Yield: gal./min. with ft. drawdown after hrs.
" " " "
Air test 5 gal./min. with drill stem at 100 ft. 1 hrs.
Bailer test gal./min. with ft. drawdown after hrs.
Artesian flow g.p.m.
Temperature of water 56° Depth artesian flow encountered ft.

(9) CONSTRUCTION:
Special standards: Yes [ ] No [X]
Well seal—Material used cement groute
Well sealed from land surface to 18 ft.
Diameter of well bore to bottom of seal 10 in.
Diameter of well bore below seal 8 in.
Number of sacks of cement used in well seal 3 sacks
How was cement grout placed? pressure grouted with pump
Was pump installed? no Type HP Depth ft.
Was a drive shoe used? [ ] Yes [X] No Plugs Size: location ft.
Did any strata contain unusable water? [ ] Yes [X] No
Type of Water? depth of strata
Method of sealing strata off
Was well gravel packed? [ ] Yes [X] No Size of gravel:
Gravel placed from ft. to ft.

(10) LOCATION OF WELL:
County Wasco Driller's well number
NW ¼ NW ¼ Section 6 T. 1 N R. 13 E. W.M.
Tax Lot # Lot Blk Subdivision
Address at well location:

(11) WATER LEVEL: Completed well.
Depth at which water was first found 95 ft.
Static level 85 ft. below land surface. Date 7-27-82
Artesian pressure lbs. per square inch. Date

(12) WELL LOG:
Diameter of well below casing 8"
Depth drilled 188 ft. Depth of completed well 188 ft.
Formation: Describe color, texture, grain size and structure of materials; and show thickness and nature of each stratum and aquifer penetrated, with at least one entry for each change of formation. Report each change in position of Static Water Level and indicate principal water-bearing strata.

MATERIAL	From	To	SWL
soil, brown	0	3	
Sandstone, brown	3	63	
Sandstone, rocky brown	63	83	
Sandstone, grey	83	95	
Gravel, bonded	95	103	85
clay, yellow	103	148	"
Clay, grey	148	178	"
Sandstone, grey	178	188	"

Work started July 23 19 82 Completed July 27 19 82
Date well drilling machine moved off of well July 27 19 82

Drilling Machine Operator's Certification:
This well was constructed under my direct supervision. Materials used and information reported above are true to my best knowledge and belief.
[Signed] Gilbert Clayton (Drilling Machine Operator) Date 8-25, 19 82
Drilling Machine Operator's License No.

Water Well Contractor's Certification:
This well was drilled under my jurisdiction and this report is true to the best of my knowledge and belief.
Name Gilbert Clayton Well Drilling (Person, firm or corporation) (Type or print)
Address 1951 Lambert St., The Dalles OR 9705
[Signed] Gilbert Clayton (Water Well Contractor)
Contractor's License No. 569 Date August 25, 19 82

NOTICE TO WATER WELL CONTRACTOR
The original and first copy of this report are to be filed with the WATER RESOURCES DEPARTMENT, SALEM, OREGON 97310 within 30 days from the date of well completion.

SP*12658-690

WATER WELL REPORT
STATE OF OREGON

RECEIVED
MAY 14 1984
WATER RESOURCES DEPT
SALEM, OREGON

WASCO State Well No. 1N/13E-6bc

State Permit No. 62459

PLEASE TYPE or PRINT IN INK

(b) (6)

(2) TYPE OF WORK (check):
New Well ☒ Deepening ☐ Reconditioning ☐ Abandon ☐
If abandonment, describe material and procedure in Item 12.

(3) TYPE OF WELL:
Rotary Air ☒ Driven ☐
Rotary Mud ☐ Dug ☐
Cable ☐ Bored ☐

(4) PROPOSED USE (check):
Domestic ☒ Industrial ☐ Municipal ☐
Irrigation ☐ Test Well ☐ Other ☐
Thermal: Withdrawal ☐ Reinjection ☐

(5) CASING INSTALLED:
Steel ☒ Plastic ☐
Threaded ☐ Welded ☒
8 " Diam. from +1 ft. to 19 ft. Gauge 250
" Diam. from ft. to ft. Gauge

LINER INSTALLED:
" Diam. from ft. to ft. Gauge

(6) PERFORATIONS:
Perforated? ☐ Yes ☒ No
Type of perforator used
Size of perforations in. by in.
perforations from ft. to ft.
perforations from ft. to ft.
perforations from ft. to ft.

(7) SCREENS:
Well screen installed? ☐ Yes ☒ No
Manufacturer's Name
Type Model No.
Diam. Slot Size Set from ft. to ft.
Diam. Slot Size Set from ft. to ft.

(8) WELL TESTS:
Drawdown is amount water level is lowered below static level
Was a pump test made? ☐ Yes ☒ No If yes, by whom?
Yield: gal./min. with ft. drawdown after hrs.
" " " "
Air test 7 gal./min. with drill stem at 260 ft. 1 hrs.
Bailer test gal./min. with ft. drawdown after hrs.
Artesian flow g.p.m.
Temperature of water 56° Depth artesian flow encountered ft.

(9) CONSTRUCTION:
Special standards: Yes ☐ No ☒
Well seal—Material used Cement grout
Well sealed from land surface to 19 ft.
Diameter of well bore to bottom of seal 10 in.
Diameter of well bore below seal 8 in.
Number of sacks of cement used in well seal 3½ sacks
How was cement grout placed? pressure grouted with pump
Was pump installed? no Type HP Depth ft.
Was a drive shoe used? ☐ Yes ☒ No Plugs Size: location ft.
Did any strata contain unusable water? ☐ Yes ☒ No
Type of Water? depth of strata
Method of sealing strata off
Was well gravel packed? ☐ Yes ☒ No Size of gravel:
Gravel placed from ft. to ft.

(10) LOCATION OF WELL:
County Wasco Driller's well number
NE ¼ NW ¼ Section 6 T. 1 N R. 13 E, W.M.
Tax Lot # Lot Blk Subdivision
Address at well location:

(11) WATER LEVEL: Completed well.
Depth at which water was first found 230 ft.
Static level 209 ft. below land surface. Date 5-1-84
Artesian pressure lbs. per square inch. Date

(12) WELL LOG:
Diameter of well below casing 8"
Depth drilled 270 ft. Depth of completed well 270 ft.

Formation: Describe color, texture, grain size and structure of materials; and show thickness and nature of each stratum and aquifer penetrated, with at least one entry for each change of formation. Report each change in position of Static Water Level and indicate principal water-bearing strata.

MATERIAL	From	To	SWL
Brown clay soil	0	2	
brown sandy clay	2	5	
sandstone, brown	5	19	
Sandstone, brown medium	19	68	
Sandstone, brown rocky	68	85	
Sandstone, brown med. hard	85	94	
Sandstone, brown, rocky	94	108	
Sandstone, brown medium	108	131	
Sandstone, brown rocky	131	156	
Sandstone, brown grey cong	156	186	
Sandstone, brown grey	186	190	
Sandstone, brown grey cong	190	210	
Sandstone, brown medium	210	218	
Sandstone, brown with black gravel, water bear	218	233	209
Sandstone, brown conglom.	233	243	
Sandstone, broken brown yellow clay water bear.	243	265	
	265	270	209

Work started April 30, 1984 Completed May 1, 1984
Date well drilling machine moved off of well May 1 1984

(unbonded) Water Well Constructor Certification (if applicable):
This well was constructed under my direct supervision. Materials used and information reported above are true to my best knowledge and belief.
[Signed] Gilbert L. Clayton Date May 9, 1984

Bonded Water Well Constructor Certification:
Bond 9497437 (number) Issued by: Fidelity & Deposit Co of Maryland (Surety Company Name)
This well was drilled under my jurisdiction and this report is true to the best of my knowledge and belief.
Name Gilbert Clayton Well Drilling (Person, firm or corporation) (Type or print)
Address 1951 Lambert St., The Dalles OR 9705
[Signed] Gilbert Clayton (Water Well Constructor)
Date May 9, 1984

NOTICE TO WATER WELL CONSTRUCTOR
The original and first copy of this report are to be filed with the WATER RESOURCES DEPARTMENT, SALEM, OREGON 97310 within 30 days from the date of well completion.

SP*45292-690

NOTICE TO WATER WELL CONTRACTOR
The original and first copy of this report are to be filed with the WATER RESOURCES DEPARTMENT, SALEM, OREGON 97310 within 30 days from the date of well completion.

RECEIVED
APR 10 1987

WATER WELL REPORT
STATE OF OREGON
(Please type or print) (Do not write above this line)

WASC 062458

State Well No. 1N/13E-6d

State Permit No.

(b) (6)

(2) TYPE OF WORK (check):
New Well ☒ Deepening ☐ Reconditioning ☐ Abandon ☐
If abandonment, describe material and procedure in Item 12.

(3) TYPE OF WELL:
Rotary ☐ Driven ☐
Cable ☒ Jetted ☐
Dug ☐ Bored ☐

(4) PROPOSED USE (check):
Domestic ☒ Industrial ☐ Municipal ☐
Irrigation ☒ Test Well ☐ Other ☐

(5) CASING INSTALLED: Threaded ☐ Welded ☐
6 " Diam. from 0 ft. to 281 ft. Gage .288
" Diam. from ft. to ft. Gage
" Diam. from ft. to ft. Gage

(6) PERFORATIONS: Perforated? ☒ Yes ☐ No.
Type of perforator used cut slots
Size of perforations ¼ in. by 8 in.
75 perforations from 180 ft. to 280 ft.
perforations from ft. to ft.
perforations from ft. to ft.

(7) SCREENS: Well screen installed? ☐ Yes ☒ No
Manufacturer's Name
Type Model No.
Diam. Slot size Set from ft. to ft.
Diam. Slot size Set from ft. to ft.

(8) WELL TESTS: Drawdown is amount water level is lowered below static level
Was a pump test made? ☐ Yes ☒ No If yes, by whom?
Yield: gal./min. with ft. drawdown after hrs.
" " " "
" " " "
Bailer test 23 gal./min. with 45 ft. drawdown after 1½ hrs.
Artesian flow g.p.m.
Temperature of water 56 Depth artesian flow encountered ft.

(9) CONSTRUCTION:
Well seal—Material used cement
Well sealed from land surface to 30 ft.
Diameter of well bore to bottom of seal 8 10 in.
Diameter of well bore below seal 8 in.
Number of sacks of cement used in well seal 9 sacks
How was cement grout placed? presure grouted
Was a drive shoe used? ☐ Yes ☒ No Plugs Size: location ft.
Did any strata contain unusable water? ☐ Yes ☒ No
Type of water? depth of strata
Method of sealing strata off
Was well gravel packed? ☒ Yes ☐ No Size of gravel: pea
Gravel placed from 30 ft. to 280 ft.

(10) LOCATION OF WELL:
County wasco Driller's well number 77
SW ¼ SE ¼ Section 6 T. 1 N R. 13 East W.M.
Bearing and distance from section or subdivision corner
Tax Lot 1701

(11) WATER LEVEL: Completed well.
Depth at which water was first found 160 ft.
Static level 135 ft. below land surface. Date 12/5/86
Artesian pressure lbs. per square inch. Date

(12) WELL LOG: Diameter of well below casing 6
Depth drilled 281 ft. Depth of completed well 277 ft.
Formation: Describe color, texture, grain size and structure of materials; and show thickness and nature of each stratum and aquifer penetrated, with at least one entry for each change of formation. Report each change in position of Static Water Level and indicate principal water-bearing strata.

MATERIAL	From	To	SWL
dirt	0	8	
sandstone hard brown	8	22	
sandstone soft brown	22	32	
claystone brown soft	32	40	
sandstone brown soft	40	110	
sandstone grey soft	110	130	
sandstone firm grey	130	155	
claystone blue soft	155	210	140
claystone rusty orange firm	210	215	140
claystone blue hard	215	245	140
claystone blue crumbly	245	265	140
sandstone grey soft	265	275	135
claystone grey soft	275	281	135

Work started November 10/86 Completed March 20 1987
Date well drilling machine moved off of well April 6 1987

Drilling Machine Operator's Certification:
This well was constructed under my direct supervision. Materials used and information reported above are true to my best knowledge and belief.
[Signed] [signature] (Drilling Machine Operator) Date 3/22, 1987
Drilling Machine Operator's License No.

Water Well Contractor's Certification:
This well was drilled under my jurisdiction and this report is true to the best of my knowledge and belief.
Name Harry Douthit Well Drilling (Person, firm or corporation) (Type or print)
Address 3343 Browns Creek, The Dalles, Ore.
[Signed] [signature] (Water Well Contractor)
Contractor's License No. Date 3/22, 1987

(USE ADDITIONAL SHEETS IF NECESSARY)

SP*45656-119

STATE ENGINEER
Salem, Oregon

WMASSC OBSERVATION WELL

Well Record

002457

STATE WELL NO 1N/13-5G(1)
COUNTY Wasco
APPLICATION NO. U-184

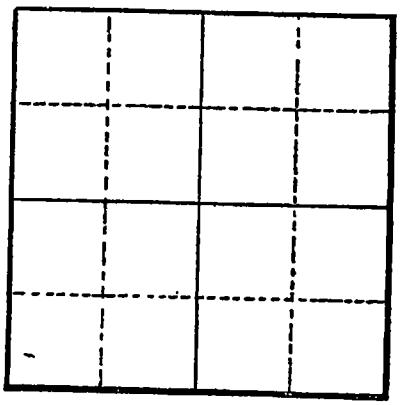
OWNER: Cherry Heights Irr. Coop. Inc.
MAILING ADDRESS:

LOCATION OF WELL: Owner's No.
CITY AND STATE: The Dalles, Oregon

SW ¼ NE ¼ Sec. 5 T. 1 ~~S~~ N. R. 13 ~~W~~ E., W.M.

Bearing and distance from section or subdivision corner 693' N & 607' E from center of Sec. 5

Altitude at well



Section 5

TYPE OF WELL: drilled Date Constructed Dec.1945-Mar.56

Depth drilled 546 Depth cased 340

CASING RECORD:

12-inch, cased to 340

FINISH:

Open hole below 340'

AQUIFERS:

Basalt

WATER LEVEL: 386' March 1946

PUMPING EQUIPMENT: Type Turbine H.P. 150
Capacity G.P.M.

WELL TESTS:
Drawdown 4 ft. after hours 950 G.P.M.
Drawdown ft. after hours G.P.M.

USE OF WATER Temp. °F., 19
SOURCE OF INFORMATION U-184
DRILLER or DIGGER Bert Clayton
ADDITIONAL DATA:
Log x Water Level Measurements x Chemical Analysis Aquifer Test

REMARKS:

State Printing 89816