

City of



AR0148

Department of Public Utilities

Environmental Services Section • 209-498-1718 • FAX 498-1700  
Wastewater Management Division  
5607 West Jensen Avenue  
Fresno, California 93706-9458

CERTIFIED MAIL

U.S. ENVIRONMENTAL PROTECTION AGENCY  
75 Hawthorne Street, H-6-2  
San Francisco, CA 94105

DATE: January 13, 1993

ATTN.: BRET MOXLEY

REGARDING: LANDFILL GROUND WATER MONITORING WELLS-FOURTH QUARTER 1992

PLEASE FIND:

FOR YOUR:

AS:

- |  |  |  |
|--|--|--|
| <input type="checkbox"/> Memorandum              | <input type="checkbox"/> Approval          | <input type="checkbox"/> Requested           |
| <input type="checkbox"/> Copy                    | <input type="checkbox"/> Information       | <input type="checkbox"/> Promised            |
| <input type="checkbox"/> Letter                  | <input type="checkbox"/> File              | <input type="checkbox"/> No exceptions taken |
| <input type="checkbox"/> Permit                  | <input type="checkbox"/> Action            | <input type="checkbox"/> Corrections needed  |
| <input checked="" type="checkbox"/> Test Results | <input checked="" type="checkbox"/> Review | <input type="checkbox"/> Rejected            |
| <input type="checkbox"/> Manifest                | <input type="checkbox"/> Distribution      |  |
| <input type="checkbox"/> Plans                   | <input type="checkbox"/> Use               |  |
| <input type="checkbox"/> Specifications          | <input type="checkbox"/> Comments          |  |
| <input type="checkbox"/> Report                  | <input type="checkbox"/> Return By: _____  |  |

REMARKS: \_\_\_\_\_  
\_\_\_\_\_

FROM: *Kareen Baker*  
KAREEN BAKER  
Chief of Wastewater  
Environmental Services

COPIES TO: JOE SALLEE, Manager Solide Waste Division  
JOHN MITCHELL, City Manager's Office  
GEORGE SLATER, Public Works  
CHRIS SANDERS, Regional Water Quality Control Board  
WAYNE PICKENS, CDM, Inc.

City of Fresno - Landfill Groundwater Monitoring  
4th Quarter 1992

WELL LOCATION	SAMPLED INORGANICS	SAMPLED ORGANICS	TESTED INORGANICS	TESTED ORGANICS
UW-1A (Shallow)	12/07/92		Dry	
UW-1B (Medium)	12/07/92		X	
UW-1C (Deep)	12/07/92		X	
UW-2A (Shallow)	12/09/92		*	
UW-2B (Medium)	12/09/92		*	
UW-2C (Deep)	12/09/92		*	
DW-1A (Shallow)	12/09/92		Dry	
DW-1B (Medium)	12/08/92		X	
DW-1C (Deep)	12/08/92		X	
DW-2A (Shallow)	12/09/92		Dry	
DW-2B (Medium)	12/08/92		X	
DW-2C (Deep)	12/07/92		X	
W-1R	12/09/92		Dry	
W-2	12/10/92		Dry	
W-3	12/10/92		**	
W-4	12/09/92		Dry	
W-5	12/09/92		Dry	
W-6	12/10/92		Dry	
MW-1	12/10/92		***	
MW-2	12/09/92		Dry	
MW-3	12/09/92		Dry	
MW-4	12/10/92		Dry	
OW-1A	12/08/92		X	

2000EL.WPR/13  
January 4, 1993

- \* Wells in a grape field. Inaccessible due to heavy rains.
- \*\* Lock changed by contractor, unable to access.
- \*\*\* Well within locked fence, unable to access.

2000EL.WPR/13  
1/4/93

CITY OF FRESNO - CHAIN OF CUSTODY

Groundwater Monitoring

Well Water Source: Landfill Groundwater

Date Sampled: 12-7-92

Sampled By: DDO

Well Designation: UW-1A

Well Location Groundwater

69.75

Static Water Level from Top of Well Casing before Sampling: ~~70.6~~ Depth of Well Bottom 70.4

Calculated volume in well: ~~0.1~~ Required Purge Volume (3times the volume) ~~0.3~~

SAMPLING LOG

Time: _____	Time: _____	Time: _____	Time: _____	Time: _____	Time: _____
EC: _____	EC: _____	EC: _____	EC: _____	EC: _____	EC: _____
pH: _____	pH: _____	pH: _____	pH: _____	pH: _____	pH: _____
Temp: _____	Temp: _____	Temp: _____	Temp: _____	Temp: _____	Temp: _____
Sampled: _____	Sampled: _____	Sampled: _____	Sampled: _____	Sampled: _____	Sampled: _____

ANALYSIS REQUESTED

<u>  </u> Temperature	<u>  </u> Sulfides	<u>X</u> Magnesium	<u>X</u> Ammonia-N	Total Kjeldahl-N (TKN)
<u>X</u> Alkalinity	<u>X</u> COD	<u>X</u> Iron	<u>X</u> Organic-N	Total Dissolved Solids
<u>X</u> Chlorides	<u>X</u> Sodium	<u>  </u> Sulfate	<u>X</u> Boron	Specific Conductance
<u>X</u> Nitrate	<u>X</u> Potassium	<u>X</u> Calcium	<u>X</u> Sulfide	Total Hardness
<u>  </u> Other				

Notes: Purged well for 15 minutes - No water produced.

Relinquished By: _____	Date: _____	Time: _____
Received By: _____	Date: _____	Time: _____
Relinquished By: _____	Date: _____	Time: _____
Received By: _____	Date: _____	Time: _____

2000EF.WPT/1  
06/04/91

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 Wastewater Management Division  
 5607 West Jensen Avenue  
 Fresno, California 93706-9458

## SPECIAL LANDFILL QUARTERLY MONITORING, 1992

Sample Location	UW-1B				MDL	MCL
	3/2	6/1	9/14	12/7		
DATE COLLECTED	3/2	6/1	9/14	12/7		
TEMPERATURE (°C)	17.2	23.8	24.0	18.3		
pH (LAB)	7.30	7.39	7.16	7.00		
TOTAL DISSOLVED SOLIDS (mg/L)	977	761	640	750	4	
ALKALINITY (as CaCO <sub>3</sub> ) (mg/L)	466	390	360	390	5	
SPECIFIC CONDUCTANCE (EC) (µmhos/cm 25°C)	1660	1136	981	1118		
CHLORIDE (Cl) (mg/L)	100	53	30	77	2.0	
NITRATE-N (NO <sub>3</sub> -N) (mg/L)	42	27	24	25	0.1	10
AMMONIA-N (NH <sub>3</sub> -N) (mg/L)	*	*	*	*	1.0	
ORGANIC-N (N) (mg/L)	*	*	*	*	1.0	
TOTAL KJELDAHL-N (N) (mg/L)	<1.0	<1.0	<1.0	<1.0	1.0	
SULFATE (SO <sub>4</sub> ) (mg/L)	69	52	42	44	1.0	
SULFIDE (S <sup>2-</sup> ) (mg/L)	<0.5	<0.5	<0.5	<0.5	0.5	
TOTAL HARDNESS (as CaCO <sub>3</sub> ), (mg/L)	590	460	380	440	10	
COD (mg/L)	<5	<5	<5	<5	5	
SODIUM (Na) (mg/L)	85	68	60	67	0.05	
POTASSIUM (K) (mg/L)	9.5	7.9	7.1	7.5	0.05	
CALCIUM (Ca) (mg/L)	140	98	79	94	0.2	
MAGNESIUM (Mg) (mg/L)	68	50	40	47	0.06	
IRON (Fe) (mg/L)	0.08	0.21	<0.02	<0.02	0.02	0.3

MDL = Method Detection Limit  
 MCL = Maximum Contaminant Level  
 ND = None Detected  
 \* = TKN <1.0 mg/L; Ammonia not analyzed



Mark Banuelos  
 Laboratory Supervisor

STATE OF FRESNO - CHAIN OF CUSTODY

Groundwater Monitoring

Well Water Source: Groundwater

Date Sampled: 12-7-92

Sampled By: DD

Well Designation: DW-1B

Well Location Landfill

Static Water Level from Top of Well Casing before Sampling: 68.33 Depth of Well Bottom 95.38

Calculated volume in well: 6.1 Required Purge Volume (3times the volume) 18.3

SAMPLING LOG

Time: <u>1155</u>	Time: <u>1200</u>	Time: <u>1205</u>	Time: _____	Time: _____	Time: _____
EC: <u>.30</u>	EC: <u>.54</u>	EC: <u>.59</u>	EC: _____	EC: _____	EC: _____
pH: <u>7.4</u>	pH: <u>7.3</u>	pH: <u>7.2</u>	pH: _____	pH: _____	pH: _____
Temp: <u>69</u>	Temp: <u>69</u>	Temp: <u>65</u>	Temp: _____	Temp: _____	Temp: _____
Sampled: <u>no</u>	Sampled: <u>no</u>	Sampled: <u>yes</u>	Sampled: _____	Sampled: _____	Sampled: _____

ANALYSIS REQUESTED

<input type="checkbox"/> Temperature	<input type="checkbox"/> Sulfides	<input checked="" type="checkbox"/> Magnesium	<input checked="" type="checkbox"/> Ammonia-N	<input checked="" type="checkbox"/> Total Kjeldahl-N (TKN)
<input checked="" type="checkbox"/> Alkalinity	<input checked="" type="checkbox"/> COD	<input checked="" type="checkbox"/> Iron	<input checked="" type="checkbox"/> Organic-N	<input checked="" type="checkbox"/> Total Dissolved Solids
<input checked="" type="checkbox"/> Chlorides	<input checked="" type="checkbox"/> Sodium	<input type="checkbox"/> Sulfate	<input checked="" type="checkbox"/> Boron	<input checked="" type="checkbox"/> Specific Conductance
<input checked="" type="checkbox"/> Nitrate	<input checked="" type="checkbox"/> Potassium	<input checked="" type="checkbox"/> Calcium	<input checked="" type="checkbox"/> Sulfide	<input checked="" type="checkbox"/> Total Hardness
<input type="checkbox"/> Other				

Notes:

WMD 25059

Relinquished By: \_\_\_\_\_

Received By: \_\_\_\_\_

Relinquished By: \_\_\_\_\_

Received By: \_\_\_\_\_

Date: 12-7-92

Date: 12-7-92

Date: \_\_\_\_\_

Date: \_\_\_\_\_

Time: 1630

Time: 1630

Time: \_\_\_\_\_

Time: \_\_\_\_\_

2000EF.WPT/1

06/04/91

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## SPECIAL LANDFILL QUARTERLY MONITORING, 1992

Sample Location	UW-1C				MDL	MCL
	3/2	6/1	9/16	12/7		
DATE COLLECTED	3/2	6/1	9/16	12/7		
TEMPERATURE (°C)	17.2	23.2	22.7	17.2		
pH (LAB)	7.39	7.36	7.07	7.08		
TOTAL DISSOLVED SOLIDS (mg/L)	756	728	678	740	4	
ALKALINITY (as CaCO <sub>3</sub> ) (mg/L)	460	460	470	470	5	
SPECIFIC CONDUCTANCE (EC) (µmhos/cm 25°C)	1230	1124	1133	1139		
CHLORIDE (Cl) (mg/L)	50	50	45	48	2.0	
NITRATE-N (NO <sub>3</sub> -N) (mg/L)	17	15	18	13	0.1	10
AMMONIA-N (NH <sub>3</sub> -N) (mg/L)	*	*	*	*	1.0	
ORGANIC-N (N) (mg/L)	*	*	*	*	1.0	
TOTAL KJELDAHL-N (N) (mg/L)	<1.0	<1.0	<1.0	<1.0	1.0	
SULFATE (SO <sub>4</sub> ) (mg/L)	42	40	42	37	1.0	
SULFIDE (S <sup>2-</sup> ) (mg/L)	<0.5	<0.5	<0.5	<0.5	0.5	
TOTAL HARDNESS (as CaCO <sub>3</sub> ) (mg/L)	488	480	480	470	10	
COD (mg/L)	5	<5	<5	<5	5	
SODIUM (Na) (mg/L)	56	61	59	60	0.05	
POTASSIUM (K) (mg/L)	11	10	11	10	0.05	
CALCIUM (Ca) (mg/L)	110	100	100	99	0.2	
MAGNESIUM (Mg) (mg/L)	55	53	53	52	0.06	
IRON (Fe) (mg/L)	<0.02	0.06	<0.02	<0.02	0.02	0.3

MDL = Method Detection Limit  
 MCL = Maximum Contaminant Level  
 ND = None Detected  
 \* = TKN <1.0 mg/L; Ammonia not analyzed



Mark Banuelos  
 Laboratory Supervisor

Groundwater Monitoring

Well Water Source: Groundwater  
 Date Sampled: 12-7-92  
 Sampled By: DDP

Well Designation: GW-1C Well Location Landfill

Static Water Level from Bottom of Packer ~~Top of Well Casing~~ before Sampling: 193.8 Depth of Well Bottom 147.67  
 Calculated volume in well: 2.3 Required Purge Volume (3times the volume) 6.9

SAMPLING LOG

Time: <u>1755</u>	Time: <u>1300</u>	Time: _____	Time: _____	Time: _____	Time: _____
EC: <u>73</u>	EC: <u>79</u>	EC: _____	EC: _____	EC: _____	EC: _____
pH: <u>8.0</u>	pH: <u>7.9</u>	pH: _____	pH: _____	pH: _____	pH: _____
Temp: <u>64</u>	Temp: <u>63</u>	Temp: _____	Temp: _____	Temp: _____	Temp: _____
Sampled: <u>Yes</u>	Sampled: <u>Yes</u>	Sampled: _____	Sampled: _____	Sampled: _____	Sampled: _____

ANALYSIS REQUESTED

<input type="checkbox"/> Temperature	<input type="checkbox"/> Sulfides	<input checked="" type="checkbox"/> Magnesium	<input checked="" type="checkbox"/> Ammonia-N	<input type="checkbox"/> Total Kjeldahl-N (TKN)
<input checked="" type="checkbox"/> Alkalinity	<input checked="" type="checkbox"/> COD	<input checked="" type="checkbox"/> Iron	<input checked="" type="checkbox"/> Organic-N	<input type="checkbox"/> Total Dissolved Solids
<input checked="" type="checkbox"/> Chlorides	<input checked="" type="checkbox"/> Sodium	<input type="checkbox"/> Sulfate	<input checked="" type="checkbox"/> Boron	<input type="checkbox"/> Specific Conductance
<input checked="" type="checkbox"/> Nitrate	<input checked="" type="checkbox"/> Potassium	<input checked="" type="checkbox"/> Calcium	<input checked="" type="checkbox"/> Sulfide	<input type="checkbox"/> Total Hardness
<input type="checkbox"/> Other				

Notes: WMD 25060

Relinquished By: <u>JM DDP</u>	Date: <u>12-7-92</u>	Time: <u>1630</u>
Received By: _____	Date: <u>12-7-92</u>	Time: <u>1630</u>
Relinquished By: _____	Date: _____	Time: _____
Received By: _____	Date: _____	Time: _____

Groundwater Monitoring

Water Source: Groundwater  
Date Sampled: 12-9-92  
Sampled By: DDP

Well Designation: GW-2A

Well Location Landfill

Static Water Level from Top of Well Casing before Sampling: \_\_\_\_\_ Depth of Well Bottom \_\_\_\_\_  
Calculated volume in well: \_\_\_\_\_ Required Purge Volume (3times the volume) \_\_\_\_\_

SAMPLING LOG

Time: _____	Time: _____	Time: _____	Time: _____	Time: _____	Time: _____
EC: _____	EC: _____	EC: _____	EC: _____	EC: _____	EC: _____
pH: _____	pH: _____	pH: _____	pH: _____	pH: _____	pH: _____
Temp: _____	Temp: _____	Temp: _____	Temp: _____	Temp: _____	Temp: _____
Sampled: _____	Sampled: _____	Sampled: _____	Sampled: _____	Sampled: _____	Sampled: _____

ANALYSIS REQUESTED

____ Temperature	____ Sulfides	____ Magnesium	____ Ammonia-N	____ Total Kjeldahl-N (TKN)
____ Alkalinity	____ COD	____ Iron	____ Organic-N	____ Total Dissolved Solids
____ Chlorides	____ Sodium	____ Sulfate	____ Boron	____ Specific Conductance
____ Nitrate	____ Potassium	____ Calcium	____ Sulfide	____ Total Hardness
____ Other				

Notes: Wells not accessible, due to deep mud in the grape vineyard.

Relinquished By: _____	Date: _____	Time: _____
Received By: _____	Date: _____	Time: _____
Relinquished By: _____	Date: _____	Time: _____
Received By: _____	Date: _____	Time: _____

2000EF.WPT/1  
06/04/91



CITY OF FRESNO - CHAIN OF CUSTODY

Groundwater Monitoring

Well Water Source: Groundwater

Date Sampled: 12-9-92

Sampled By: DDO

Well Designation: OW-2B

Well Location Landfill

Static Water Level from Top of Well Casing before Sampling: \_\_\_\_\_ Depth of Well Bottom \_\_\_\_\_

Calculated volume in well: \_\_\_\_\_ Required Purge Volume (3times the volume) \_\_\_\_\_

SAMPLING LOG

Time: _____	Time: _____	Time: _____	Time: _____	Time: _____	Time: _____
EC: _____	EC: _____	EC: _____	EC: _____	EC: _____	EC: _____
pH: _____	pH: _____	pH: _____	pH: _____	pH: _____	pH: _____
Temp: _____	Temp: _____	Temp: _____	Temp: _____	Temp: _____	Temp: _____
Sampled: _____	Sampled: _____	Sampled: _____	Sampled: _____	Sampled: _____	Sampled: _____

ANALYSIS REQUESTED

_____ Temperature	_____ Sulfides	_____ Magnesium	_____ Ammonia-N	_____ Total Kjeldahl-N (TKN)
_____ Alkalinity	_____ COD	_____ Iron	_____ Organic-N	_____ Total Dissolved Solids
_____ Chlorides	_____ Sodium	_____ Sulfate	_____ Boron	_____ Specific Conductance
_____ Nitrate	_____ Potassium	_____ Calcium	_____ Sulfide	_____ Total Hardness
_____ Other				

Notes: Wells not accessible, due to deep mud in the grape vineyard.

Relinquished By: _____	Date: _____	Time: _____
Received By: _____	Date: _____	Time: _____
Relinquished By: _____	Date: _____	Time: _____
Received By: _____	Date: _____	Time: _____

2000EF.WPT/1  
06/04/91

CITY OF FRESNO - CHAIN OF CUSTODY

Groundwater Monitoring

Well Water Source: Groundwater

Date Sampled: 12-9-92

Sampled By: DDO

Well Designation: UW-2C

Well Location Landfill

Static Water Level from Top of Well Casing before Sampling: \_\_\_\_\_ Depth of Well Bottom \_\_\_\_\_

Calculated volume in well: \_\_\_\_\_ Required Purge Volume (3times the volume) \_\_\_\_\_

SAMPLING LOG

Time: _____	Time: _____	Time: _____	Time: _____	Time: _____	Time: _____
EC: _____	EC: _____	EC: _____	EC: _____	EC: _____	EC: _____
pH: _____	pH: _____	pH: _____	pH: _____	pH: _____	pH: _____
Temp: _____	Temp: _____	Temp: _____	Temp: _____	Temp: _____	Temp: _____
Sampled: _____	Sampled: _____	Sampled: _____	Sampled: _____	Sampled: _____	Sampled: _____

ANALYSIS REQUESTED

____ Temperature	____ Sulfides	____ Magnesium	____ Ammonia-N	____ Total Kjeldahl-N (TKN)
____ Alkalinity	____ COD	____ Iron	____ Organic-N	____ Total Dissolved Solids
____ Chlorides	____ Sodium	____ Sulfate	____ Boron	____ Specific Conductance
____ Nitrate	____ Potassium	____ Calcium	____ Sulfide	____ Total Hardness
____ Other				

Notes: Wells not accessible, due to deep mud in the grape vineyard.

Relinquished By: _____	Date: _____	Time: _____
Received By: _____	Date: _____	Time: _____
Relinquished By: _____	Date: _____	Time: _____
Received By: _____	Date: _____	Time: _____

2000EF.WPT/1  
06/04/91

Groundwater Monitoring

Well Water Source: Groundwater  
Date Sampled: 12-9-92  
Sampled By: DDO

Well Designation: DW-1A

Well Location Landfill

Static Water Level from Top of Well Casing before Sampling: 56.5 Depth of Well Bottom 50.0  
Calculated volume in well: 0 Required Purge Volume (3times the volume) 0

SAMPLING LOG

Time: _____	Time: _____	Time: _____	Time: _____	Time: _____	Time: _____
EC: _____	EC: _____	EC: _____	EC: _____	EC: _____	EC: _____
pH: _____	pH: _____	pH: _____	pH: _____	pH: _____	pH: _____
Temp: _____	Temp: _____	Temp: _____	Temp: _____	Temp: _____	Temp: _____
Sampled: _____	Sampled: _____	Sampled: _____	Sampled: _____	Sampled: _____	Sampled: _____

ANALYSIS REQUESTED

____ Temperature	____ Sulfides	____ Magnesium	____ Ammonia-N	____ Total Kjeldahl-N (TKN)
____ Alkalinity	____ COD	____ Iron	____ Organic-N	____ Total Dissolved Solids
____ Chlorides	____ Sodium	____ Sulfate	____ Boron	____ Specific Conductance
____ Nitrate	____ Potassium	____ Calcium	____ Sulfide	____ Total Hardness
____ Other				

Notes: Purged unsuccessfully for 15 minutes

Relinquished By: _____	Date: _____	Time: _____
Received By: _____	Date: _____	Time: _____
Relinquished By: _____	Date: _____	Time: _____
Received By: _____	Date: _____	Time: _____

2000EF.WPT/1  
06/04/91

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 5607 West Jensen Avenue  
 Fresno, California 93706-9458

## SPECIAL LANDFILL QUARTERLY MONITORING, 1992

Sample Location	DW-1B				MDL	MCL
	3/5	6/17	9/17	12/8		
DATE COLLECTED	3/5	6/17	9/17	12/8		
TEMPERATURE (°C)	21.6	24.0	21.4	20.6		
pH (LAB)	7.24	7.23	7.18	6.89		
TOTAL DISSOLVED SOLIDS (mg/L)	578	622	610	576	4	
ALKALINITY (as CaCO <sub>3</sub> ) (mg/L)	478	570	520	470	5	
SPECIFIC CONDUCTANCE (EC) (µmhos/cm 25°C)	895	1037	988	926		
CHLORIDE (Cl) (mg/L)	22	21	21	22	2.0	
NITRATE-N (NO <sub>3</sub> -N) (mg/L)	2.3	2.6	2.2	2.1	0.1	10
AMMONIA-N (NH <sub>3</sub> -N) (mg/L)	*	*	*	*	1.0	
ORGANIC-N (N) (mg/L)	*	*	*	*	1.0	
TOTAL KJELDAHL-N (N) (mg/L)	<1.0	<1.0	<1.0	<1.0	1.0	
SULFATE (SO <sub>4</sub> ) (mg/L)	9.7	9.4	10	11	1.0	
SULFIDE (S <sup>2-</sup> ) (mg/L)	<0.5	<0.5	<0.5	<0.5	0.5	
TOTAL HARDNESS (as CaCO <sub>3</sub> ) (mg/L)	410	450	430	390	10	
COD (mg/L)	<5	9	<5	<5	5	
SODIUM (Na) (mg/L)	56	60	56	54	0.05	
POTASSIUM (K) (mg/L)	9.5	9.9	9.5	8.9	0.05	
CALCIUM (Ca) (mg/L)	84	97	87	79	0.2	
MAGNESIUM (Mg) (mg/L)	52	54	49	45	0.06	
IRON (Fe) (mg/L)	0.04	0.02	<0.02	<0.02	0.02	0.3

MDL = Method Detection Limit  
 MCL = Maximum Contaminant Level  
 ND = None Detected  
 \* = TKN <1.0 mg/L; Ammonia not analyzed



Mark Banuelos  
 Laboratory Supervisor

GROUNDWATER MONITORING - CHAIN OF CUSTODY  
Groundwater Monitoring

Well Water Source: Groundwater  
Date Sampled: 12-8-92  
Sampled By: DDP

Well Designation: DW-1B

Well Location Landfill

Static Water Level from ~~Top of Well Casing~~ <sup>Bottom of Packer</sup> before Sampling: 94.8 Depth of Well Bottom 108.6  
Calculated volume in well: 2.3 Required Purge Volume (3times the volume) 6.9

SAMPLING LOG

Time: <u>1100</u>	Time: <u>1105</u>	Time: <u>1110</u>	Time: <u>1115</u>	Time: _____	Time: _____
EC: <u>.67</u>	EC: <u>.68</u>	EC: <u>.66</u>	EC: <u>.67</u>	EC: _____	EC: _____
pH: <u>7.0</u>	pH: <u>7.2</u>	pH: <u>7.5</u>	pH: <u>7.5</u>	pH: _____	pH: _____
Temp: <u>69</u>	Temp: <u>69</u>	Temp: <u>69</u>	Temp: <u>69</u>	Temp: _____	Temp: _____
Sampled: <u>No</u>	Sampled: <u>No</u>	Sampled: <u>No</u>	Sampled: <u>Yes</u>	Sampled: _____	Sampled: _____

ANALYSIS REQUESTED

<input type="checkbox"/> Temperature	<input type="checkbox"/> Sulfides	<input checked="" type="checkbox"/> Magnesium	<input checked="" type="checkbox"/> Ammonia-N	<input checked="" type="checkbox"/> Total Kjeldahl-N (TKN)
<input checked="" type="checkbox"/> Alkalinity	<input checked="" type="checkbox"/> COD	<input checked="" type="checkbox"/> Iron	<input checked="" type="checkbox"/> Organic-N	<input checked="" type="checkbox"/> Total Dissolved Solids
<input checked="" type="checkbox"/> Chlorides	<input checked="" type="checkbox"/> Sodium	<input type="checkbox"/> Sulfate	<input checked="" type="checkbox"/> Boron	<input checked="" type="checkbox"/> Specific Conductance
<input checked="" type="checkbox"/> Nitrate	<input checked="" type="checkbox"/> Potassium	<input checked="" type="checkbox"/> Calcium	<input checked="" type="checkbox"/> Sulfide	<input checked="" type="checkbox"/> Total Hardness
<input type="checkbox"/> Other				

Notes: WMD 25091

Relinquished By: [Signature]  
Received By: \_\_\_\_\_  
Relinquished By: \_\_\_\_\_  
Received By: \_\_\_\_\_

Date: 12-8-92  
Date: 12-8-92  
Date: \_\_\_\_\_  
Date: \_\_\_\_\_

Time: 1545  
Time: 1545  
Time: \_\_\_\_\_  
Time: \_\_\_\_\_

2000EF.WPT/1  
06/04/91

Environmental Services Section • 209-498-1718 • FAX 498-1700  
 Wastewater Management Division  
 5607 West Jensen Avenue  
 Fresno, California 93706-9458

## SPECIAL LANDFILL QUARTERLY MONITORING, 1992

Sample Location	DW-1C				MDL	MCL
	3/5	6/17	9/17	12/8		
DATE COLLECTED	3/5	6/17	9/17	12/8		
TEMPERATURE (°C)	21.4	26.6	26.5	20.0		
pH (LAB)	7.39	7.52	7.40	7.13		
TOTAL DISSOLVED SOLIDS (mg/L)	310	298	350	372	4	
ALKALINITY (as CaCO <sub>3</sub> ) (mg/L)	186	210	230	230	5	
SPECIFIC CONDUCTANCE (EC) (µmhos/cm 25°C)	445	475	530	530		
CHLORIDE (Cl) (mg/L)	23	21	19	22	2.0	
NITRATE-N (NO <sub>3</sub> -N) (mg/L)	2.3	3.1	2.3	2.2	0.1	10
AMMONIA-N (NH <sub>3</sub> -N) (mg/L)	*	*	*	*	1.0	
ORGANIC-N (N) (mg/L)	*	*	*	*	1.0	
TOTAL KJELDAHL-N (N) (mg/L)	<1.0	<1.0	<1.0	<1.0	1.0	
SULFATE (SO <sub>4</sub> ) (mg/L)	8.9	9.3	9.3	12	1.0	
SULFIDE (S <sup>2-</sup> ) (mg/L)	<0.5	<0.5	<0.5	<0.5	0.5	
TOTAL HARDNESS (as CaCO <sub>3</sub> ), (mg/L)	180	180	210	210	10	
COD (mg/L)	<5	<5	<5	<5	5	
SODIUM (Na) (mg/L)	26	26	28	28	0.05	
POTASSIUM (K) (mg/L)	7.4	7.4	7.8	7.6	0.05	
CALCIUM (Ca) (mg/L)	38	39	43	43	0.2	
MAGNESIUM (Mg) (mg/L)	23	21	23	24	0.06	
IRON (Fe) (mg/L)	<0.02	<0.02	<0.02	<0.02	0.02	0.3

MDL = Method Detection Limit  
 MCL = Maximum Contaminant Level  
 ND = None Detected  
 \* = TKN <1.0 mg/L; Ammonia not analyzed



Mark Banuelos  
 Laboratory Supervisor

Groundwater Monitoring

Well water source: Groundwater  
Date Sampled: 12-8-92  
Sampled By: DDO

Well Designation: DW-1C

Well Location Landfill

Static Water Level from ~~Top of Well Casing~~ <sup>Bottom of Packer</sup> before Sampling: 133.8 Depth of Well Bottom 158.75  
Calculated volume in well: 4.0 Required Purge Volume (3times the volume) 12.0

SAMPLING LOG

Time: <u>1310</u>	Time: <u>1315</u>	Time: <u>1320</u>	Time: _____	Time: _____	Time: _____
EC: <u>140</u>	EC: <u>142</u>	EC: <u>142</u>	EC: _____	EC: _____	EC: _____
pH: <u>7.2</u>	pH: <u>7.4</u>	pH: <u>7.4</u>	pH: _____	pH: _____	pH: _____
Temp: <u>69</u>	Temp: <u>68</u>	Temp: <u>68</u>	Temp: _____	Temp: _____	Temp: _____
Sampled: <u>no</u>	Sampled: <u>no</u>	Sampled: <u>yes</u>	Sampled: _____	Sampled: _____	Sampled: _____

ANALYSIS REQUESTED

<input type="checkbox"/> Temperature	<input checked="" type="checkbox"/> Sulfides	<input checked="" type="checkbox"/> Magnesium	<input checked="" type="checkbox"/> Ammonia-N	<input type="checkbox"/> Total Kjeldahl-N (TKN)
<input checked="" type="checkbox"/> Alkalinity	<input checked="" type="checkbox"/> COD	<input checked="" type="checkbox"/> Iron	<input checked="" type="checkbox"/> Organic-N	<input type="checkbox"/> Total Dissolved Solids
<input checked="" type="checkbox"/> Chlorides	<input checked="" type="checkbox"/> Sodium	<input type="checkbox"/> Sulfate	<input checked="" type="checkbox"/> Boron	<input type="checkbox"/> Specific Conductance
<input checked="" type="checkbox"/> Nitrate	<input checked="" type="checkbox"/> Potassium	<input checked="" type="checkbox"/> Calcium	<input checked="" type="checkbox"/> Sulfide	<input type="checkbox"/> Total Hardness
<input type="checkbox"/> Other				

Notes: WMD 25092

Relinquished By: <u>Jm DDO</u>	Date: <u>12-8-92</u>	Time: <u>1545</u>
Received By: _____	Date: <u>12-8-92</u>	Time: _____
Relinquished By: _____	Date: _____	Time: _____
Received By: _____	Date: _____	Time: _____

Groundwater Monitoring

Well Water Source: Groundwater  
Date Sampled: 12-9-92  
Sampled By: DD

Well Designation: DW-2A

Well Location Landfill

Static Water Level from Top of Well Casing before Sampling: 58.0 Depth of Well Bottom 67.0  
Calculated volume in well: 0 Required Purge Volume (3times the volume) 0

SAMPLING LOG

Time: _____	Time: _____	Time: _____	Time: _____	Time: _____	Time: _____
EC: _____	EC: _____	EC: _____	EC: _____	EC: _____	EC: _____
pH: _____	pH: _____	pH: _____	pH: _____	pH: _____	pH: _____
Temp: _____	Temp: _____	Temp: _____	Temp: _____	Temp: _____	Temp: _____
Sampled: _____	Sampled: _____	Sampled: _____	Sampled: _____	Sampled: _____	Sampled: _____

ANALYSIS REQUESTED

___ Temperature	___ Sulfides	___ Magnesium	___ Ammonia-N	___ Total Kjeldahl-N (TKN)
___ Alkalinity	___ COD	___ Iron	___ Organic-N	___ Total Dissolved Solids
___ Chlorides	___ Sodium	___ Sulfate	___ Boron	___ Specific Conductance
___ Nitrate	___ Potassium	___ Calcium	___ Sulfide	___ Total Hardness
___ Other				

Notes: Well would not purge after 15 minutes

Relinquished By: _____	Date: _____	Time: _____
Received By: _____	Date: _____	Time: _____
Relinquished By: _____	Date: _____	Time: _____
Received By: _____	Date: _____	Time: _____

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 Wastewater Management Division  
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 Fresno, California 93706-9458

## SPECIAL LANDFILL QUARTERLY MONITORING, 1992

Sample Location	DW-2B				MDL	MCL
	3/3	6/15	9/17	12/8		
DATE COLLECTED	3/3	6/15	9/17	12/8		
TEMPERATURE (°C)	22.2	21.8	22.3	21.7		
pH (LAB)	7.23	7.18	6.98	6.88		
TOTAL DISSOLVED SOLIDS (mg/L)	770	756	846	712	4	
ALKALINITY (as CaCO <sub>3</sub> ) (mg/L)	589	640	610	550	5	
SPECIFIC CONDUCTANCE (EC) (µmhos/cm 25°C)	1160	1212	1291	1104		
CHLORIDE (Cl) (mg/L)	25	25	21	25	2.0	
NITRATE-N (NO <sub>3</sub> -N) (mg/L)	8.4	8.4	8.9	6.4	0.1	10
AMMONIA-N (NH <sub>3</sub> -N) (mg/L)	*	*	*	*	1.0	
ORGANIC-N (N) (mg/L)	*	*	*	*	1.0	
TOTAL KJELDAHL-N (N) (mg/L)	<1.0	<1.0	<1.0	<1.0	1.0	
SULFATE (SO <sub>4</sub> ) (mg/L)	23	24	28	22	1.0	
SULFIDE (S <sup>2-</sup> ) (mg/L)	<0.5	<0.5	<0.5	<0.5	0.5	
TOTAL HARDNESS (as CaCO <sub>3</sub> ) (mg/L)	570	550	590	500	10	
COD (mg/L)	<5	7	<5	<5	5	
SODIUM (Na) (mg/L)	58	61	67	54	0.05	
POTASSIUM (K) (mg/L)	11	11	11	10	0.05	
CALCIUM (Ca) (mg/L)	120	120	120	110	0.2	
MAGNESIUM (Mg) (mg/L)	61	62	63	54	0.06	
IRON (Fe) (mg/L)	0.02	0.03	<0.02	<0.02	0.02	0.3

MDL = Method Detection Limit  
 MCL = Maximum Contaminant Level  
 ND = None Detected  
 \* = TKN <1.0 mg/L; Ammonia not analyzed



Mark Banuelos  
 Laboratory Supervisor

Groundwater Monitoring

Date Sampled: 12-8-92

Sampled By: DDP

Well Designation: DW-2B

Well Location Landfill

Bottom of Packer

Static Water Level from ~~Top of Well Casing~~ before Sampling: 95.8 Depth of Well Bottom 110.22

Calculated volume in well: 2.35 Required Purge Volume (3times the volume) 7.05

SAMPLING LOG

Time: <del>ASX</del>	Time: <u>0955</u>	Time: <u>1000</u>	Time: _____	Time: _____	Time: _____
EC: <del>ASX</del>	EC: <u>73</u>	EC: <u>79</u>	EC: _____	EC: _____	EC: _____
pH: <del>ASX</del>	pH: <u>7.6</u>	pH: <u>7.7</u>	pH: _____	pH: _____	pH: _____
Temp: <del>ASX</del>	Temp: <u>70</u>	Temp: <u>71</u>	Temp: _____	Temp: _____	Temp: _____
Sampled: <del>ASX</del>	Sampled: <u>no</u>	Sampled: <u>yes</u>	Sampled: _____	Sampled: _____	Sampled: _____

ANALYSIS REQUESTED

<input type="checkbox"/> Temperature	<input type="checkbox"/> Sulfides	<input checked="" type="checkbox"/> Magnesium	<input checked="" type="checkbox"/> Ammonia-N	<input checked="" type="checkbox"/> Total Kjeldahl-N (TKN)
<input checked="" type="checkbox"/> Alkalinity	<input checked="" type="checkbox"/> COD	<input checked="" type="checkbox"/> Iron	<input checked="" type="checkbox"/> Organic-N	<input checked="" type="checkbox"/> Total Dissolved Solids
<input checked="" type="checkbox"/> Chlorides	<input checked="" type="checkbox"/> Sodium	<input type="checkbox"/> Sulfate	<input checked="" type="checkbox"/> Boron	<input checked="" type="checkbox"/> Specific Conductance
<input checked="" type="checkbox"/> Nitrate	<input checked="" type="checkbox"/> Potassium	<input checked="" type="checkbox"/> Calcium	<input checked="" type="checkbox"/> Sulfide	<input checked="" type="checkbox"/> Total Hardness
<input type="checkbox"/> Other				

Notes: WMD 25093

Relinquished By: <u>DDP</u>	Date: <u>12-8-92</u>	Time: <u>1545</u>
Received By: <u>Jm</u>	Date: <u>12-8-92</u>	Time: <u>1545</u>
Relinquished By: _____	Date: _____	Time: _____
Received By: _____	Date: _____	Time: _____

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## SPECIAL LANDFILL QUARTERLY MONITORING, 1992

Sample Location	DW-2C				MDL	MCL
	3/3	6/15	9/16	12/7		
DATE COLLECTED	3/3	6/15	9/16	12/7		
TEMPERATURE (°C)	21.6	22.1	28.9	22.8		
pH (LAB)	7.26	7.37	6.98	7.34		
TOTAL DISSOLVED SOLIDS (mg/L)	453	424	474	458	4	
ALKALINITY (as CaCO <sub>3</sub> ) (mg/L)	326	340	330	320	5	
SPECIFIC CONDUCTANCE (EC) (µmhos/cm 25°C)	661	690	710	684		
CHLORIDE (Cl) (mg/L)	16	18	17	17	2.0	
NITRATE-N (NO <sub>3</sub> -N) (mg/L)	3.9	3.7	4.0	3.4	0.1	10
AMMONIA-N (NH <sub>3</sub> -N) (mg/L)	*	*	*	*	1.0	
ORGANIC-N (N) (mg/L)	*	*	*	*	1.0	
TOTAL KJELDAHL-N (N) (mg/L)	<1.0	<1.0	<1.0	<1.0	1.0	
SULFATE (SO <sub>4</sub> ) (mg/L)	12	13	13	11	1.0	
SULFIDE (S <sup>2-</sup> ) (mg/L)	<0.5	<0.5	<0.5	<0.5	0.5	
TOTAL HARDNESS (as CaCO <sub>3</sub> ), (mg/L)	310	300	300	290	10	
COD (mg/L)	<5	<5	<5	<5	5	
SODIUM (Na) (mg/L)	30	32	32	30	0.05	
POTASSIUM (K) (mg/L)	9.5	9.4	9.4	8.9	0.05	
CALCIUM (Ca) (mg/L)	66	65	65	61	0.2	
MAGNESIUM (Mg) (mg/L)	33	34	34	32	0.06	
IRON (Fe) (mg/L)	<0.02	<0.02	0.09	<0.02	0.02	0.3

MDL = Method Detection Limit  
 MCL = Maximum Contaminant Level  
 ND = None Detected  
 \* = TKN <1.0 mg/L; Ammonia not analyzed



Mark Banuelos  
 Laboratory Supervisor

CHAIN OF CUSTODY  
Groundwater Monitoring

Well Water Source: Groundwater  
Date Sampled: 12-7-92  
Sampled By: DDP

Well Designation: DW-2C

Well Location Landfill

Static Water Level from <sup>Bottom of Packer</sup> ~~Top of Well Casing~~ before Sampling: 144.81 Depth of Well Bottom 169.37  
Calculated volume in well: 4.0 Required Purge Volume (3times the volume) 12.0

SAMPLING LOG

Time: <u>1550</u>	Time: <u>1555</u>	Time: <u>1600</u>	Time: _____	Time: _____	Time: _____
EC: <u>.54</u>	EC: <u>.56</u>	EC: <u>.56</u>	EC: _____	EC: _____	EC: _____
pH: <u>7.4</u>	pH: <u>7.2</u>	pH: <u>7.1</u>	pH: _____	pH: _____	pH: _____
Temp: <u>71</u>	Temp: <u>73</u>	Temp: <u>73</u>	Temp: _____	Temp: _____	Temp: _____
Sampled: <u>NO</u>	Sampled: <u>NO</u>	Sampled: <u>YES</u>	Sampled: _____	Sampled: _____	Sampled: _____

ANALYSIS REQUESTED

<input checked="" type="checkbox"/> Temperature	<input type="checkbox"/> Sulfides	<input checked="" type="checkbox"/> Magnesium	<input checked="" type="checkbox"/> Ammonia-N	<input type="checkbox"/> Total Kjeldahl-N (TKN)
<input checked="" type="checkbox"/> Alkalinity	<input checked="" type="checkbox"/> COD	<input checked="" type="checkbox"/> Iron	<input checked="" type="checkbox"/> Organic-N	<input type="checkbox"/> Total Dissolved Solids
<input checked="" type="checkbox"/> Chlorides	<input checked="" type="checkbox"/> Sodium	<input type="checkbox"/> Sulfate	<input checked="" type="checkbox"/> Boron	<input type="checkbox"/> Specific Conductance
<input checked="" type="checkbox"/> Nitrate	<input checked="" type="checkbox"/> Potassium	<input checked="" type="checkbox"/> Calcium	<input checked="" type="checkbox"/> Sulfide	<input type="checkbox"/> Total Hardness
<input type="checkbox"/> Other				

Notes: WMD 25061

Relinquished By: SM DDP  
Received By: \_\_\_\_\_  
Relinquished By: \_\_\_\_\_  
Received By: \_\_\_\_\_

Date: 12-7-92  
Date: 12-7-92  
Date: \_\_\_\_\_  
Date: \_\_\_\_\_

Time: 1630  
Time: 1630  
Time: \_\_\_\_\_  
Time: \_\_\_\_\_

CITY OF FRESNO - CHAIN OF CUSTODY

Groundwater Monitoring

Well Water Source: Groundwater

Date Sampled: 12-9-92

Sampled By: DDN

Well Designation: W1R

Well Location Landfill

Static Water Level from Top of Well Casing before Sampling: 70.2 Depth of Well Bottom 71.37

Calculated volume in well: .191

Required Purge Volume (3times the volume) .57

SAMPLING LOG

Time: _____	Time: _____	Time: _____	Time: _____	Time: _____	Time: _____
EC: _____	EC: _____	EC: _____	EC: _____	EC: _____	EC: _____
pH: _____	pH: _____	pH: _____	pH: _____	pH: _____	pH: _____
Temp: _____	Temp: _____	Temp: _____	Temp: _____	Temp: _____	Temp: _____
Sampled: _____	Sampled: _____	Sampled: _____	Sampled: _____	Sampled: _____	Sampled: _____

ANALYSIS REQUESTED

____ Temperature	____ Sulfides	____ Magnesium	____ Ammonia-N	____ Total Kjeldahl-N (TKN)
____ Alkalinity	____ COD	____ Iron	____ Organic-N	____ Total Dissolved Solids
____ Chlorides	____ Sodium	____ Sulfate	____ Boron	____ Specific Conductance
____ Nitrate	____ Potassium	____ Calcium	____ Sulfide	____ Total Hardness
____ Other				

Notes: Well would not purge after 15 minutes

Relinquished By: \_\_\_\_\_  
 Received By: \_\_\_\_\_  
 Relinquished By: \_\_\_\_\_  
 Received By: \_\_\_\_\_

Date: \_\_\_\_\_  
 Date: \_\_\_\_\_  
 Date: \_\_\_\_\_  
 Date: \_\_\_\_\_

Time: \_\_\_\_\_  
 Time: \_\_\_\_\_  
 Time: \_\_\_\_\_  
 Time: \_\_\_\_\_

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06/04/91

Groundwater Monitoring

well water source: \_\_\_\_\_

Date Sampled: 12-10-92

Sampled By: J. Engelman

Well Designation: W-2

Well Location LANDFILL

Static Water Level from Top of Well Casing before Sampling: \_\_\_\_\_ Depth of Well Bottom \_\_\_\_\_

Calculated volume in well: \_\_\_\_\_ Required Purge Volume (3times the volume) \_\_\_\_\_

SAMPLING LOG

Time: _____	Time: _____	Time: _____	Time: _____	Time: _____	Time: _____
EC: _____	EC: _____	EC: _____	EC: _____	EC: _____	EC: _____
pH: _____	pH: _____	pH: _____	pH: _____	pH: _____	pH: _____
Temp: _____	Temp: _____	Temp: _____	Temp: _____	Temp: _____	Temp: _____
Sampled: _____	Sampled: _____	Sampled: _____	Sampled: _____	Sampled: _____	Sampled: _____

ANALYSIS REQUESTED

____ Temperature	____ Sulfides	____ Magnesium	____ Ammonia-N	____ Total Kjeldahl-N (TKN)
____ Alkalinity	____ COD	____ Iron	____ Organic-N	____ Total Dissolved Solids
____ Chlorides	____ Sodium	____ Sulfate	____ Boron	____ Specific Conductance
____ Nitrate	____ Potassium	____ Calcium	____ Sulfide	____ Total Hardness
____ Other				

Notes:

*Well dry, would not purge*

Relinquished By: \_\_\_\_\_  
 Received By: \_\_\_\_\_  
 Relinquished By: \_\_\_\_\_  
 Received By: \_\_\_\_\_

Date: \_\_\_\_\_  
 Date: \_\_\_\_\_  
 Date: \_\_\_\_\_  
 Date: \_\_\_\_\_

Time: \_\_\_\_\_  
 Time: \_\_\_\_\_  
 Time: \_\_\_\_\_  
 Time: \_\_\_\_\_

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06/04/91

Groundwater Monitoring

well water source: \_\_\_\_\_

Date Sampled: 12-10-92

Sampled By: J. Engelman

Well Designation: W-3

Well Location LANDFILL

Static Water Level from Top of Well Casing before Sampling: \_\_\_\_\_ Depth of Well Bottom \_\_\_\_\_

Calculated volume in well: \_\_\_\_\_ Required Purge Volume (3times the volume) \_\_\_\_\_

SAMPLING LOG

Time: _____	Time: _____	Time: _____	Time: _____	Time: _____	Time: _____
EC: _____	EC: _____	EC: _____	EC: _____	EC: _____	EC: _____
pH: _____	pH: _____	pH: _____	pH: _____	pH: _____	pH: _____
Temp: _____	Temp: _____	Temp: _____	Temp: _____	Temp: _____	Temp: _____
Sampled: _____	Sampled: _____	Sampled: _____	Sampled: _____	Sampled: _____	Sampled: _____

ANALYSIS REQUESTED

____ Temperature	____ Sulfides	____ Magnesium	____ Ammonia-N	____ Total Kjeldahl-N (TKN)
____ Alkalinity	____ COD	____ Iron	____ Organic-N	____ Total Dissolved Solids
____ Chlorides	____ Sodium	____ Sulfate	____ Boron	____ Specific Conductance
____ Nitrate	____ Potassium	____ Calcium	____ Sulfide	____ Total Hardness
____ Other				

Notes: Contractor changed lock, unable to access wellhead

Relinquished By: \_\_\_\_\_  
 Received By: \_\_\_\_\_  
 Relinquished By: \_\_\_\_\_  
 Received By: \_\_\_\_\_

Date: \_\_\_\_\_  
 Date: \_\_\_\_\_  
 Date: \_\_\_\_\_  
 Date: \_\_\_\_\_

Time: \_\_\_\_\_  
 Time: \_\_\_\_\_  
 Time: \_\_\_\_\_  
 Time: \_\_\_\_\_

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06/04/91

Vertical text and stamps at the bottom of the page, including "NOV 1992" and other illegible markings.

Groundwater Monitoring

Well Water Source: Groundwater  
Date Sampled: 12-9-92  
Sampled By: DDP

Well Designation: W-4

Well Location Landfill

Static Water Level from Top of Well Casing before Sampling: 68.5 Depth of Well Bottom 67.35

Calculated volume in well: 0 Required Purge Volume (3times the volume) 0

SAMPLING LOG

Time: _____	Time: _____	Time: _____	Time: _____	Time: _____	Time: _____
EC: _____	EC: _____	EC: _____	EC: _____	EC: _____	EC: _____
pH: _____	pH: _____	pH: _____	pH: _____	pH: _____	pH: _____
Temp: _____	Temp: _____	Temp: _____	Temp: _____	Temp: _____	Temp: _____
Sampled: _____	Sampled: _____	Sampled: _____	Sampled: _____	Sampled: _____	Sampled: _____

ANALYSIS REQUESTED

<input type="checkbox"/> Temperature	<input type="checkbox"/> Sulfides	<input checked="" type="checkbox"/> Magnesium	<input type="checkbox"/> Ammonia-N	<input type="checkbox"/> Total Kjeldahl-N (TKN)
<input checked="" type="checkbox"/> Alkalinity	<input type="checkbox"/> COD	<input type="checkbox"/> Iron	<input checked="" type="checkbox"/> Organic-N	<input type="checkbox"/> Total Dissolved Solids
<input checked="" type="checkbox"/> Chlorides	<input checked="" type="checkbox"/> Sodium	<input checked="" type="checkbox"/> Sulfate	<input checked="" type="checkbox"/> Boron	<input type="checkbox"/> Specific Conductance
<input checked="" type="checkbox"/> Nitrate	<input checked="" type="checkbox"/> Potassium	<input checked="" type="checkbox"/> Calcium	<input checked="" type="checkbox"/> Sulfide	<input type="checkbox"/> Total Hardness
<input type="checkbox"/> Other				

Notes: Well would not purge after 15 minutes

Relinquished By: _____	Date: _____	Time: _____
Received By: _____	Date: _____	Time: _____
Relinquished By: _____	Date: _____	Time: _____
Received By: _____	Date: _____	Time: _____

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Groundwater Monitoring

Well Water Source: Groundwater  
Date Sampled: 12-9-92  
Sampled By: DDO

Well Designation: W-5

Well Location Landfill

Static Water Level from Top of Well Casing before Sampling: 74.1 Depth of Well Bottom 71.37  
Calculated volume in well: 0 Required Purge Volume (3times the volume) 0

SAMPLING LOG

Time: _____	Time: _____	Time: _____	Time: _____	Time: _____	Time: _____
EC: _____	EC: _____	EC: _____	EC: _____	EC: _____	EC: _____
pH: _____	pH: _____	pH: _____	pH: _____	pH: _____	pH: _____
Temp: _____	Temp: _____	Temp: _____	Temp: _____	Temp: _____	Temp: _____
Sampled: _____	Sampled: _____	Sampled: _____	Sampled: _____	Sampled: _____	Sampled: _____

ANALYSIS REQUESTED

_____ Temperature	_____ Sulfides	_____ Magnesium	_____ Ammonia-N	_____ Total Kjeldahl-N (TKN)
_____ Alkalinity	_____ COD	_____ Iron	_____ Organic-N	_____ Total Dissolved Solids
_____ Chlorides	_____ Sodium	_____ Sulfate	_____ Boron	_____ Specific Conductance
_____ Nitrate	_____ Potassium	_____ Calcium	_____ Sulfide	_____ Total Hardness
_____ Other				

Notes: Well would not purge after 15 minutes

Relinquished By: _____	Date: _____	Time: _____
Received By: _____	Date: _____	Time: _____
Relinquished By: _____	Date: _____	Time: _____
Received By: _____	Date: _____	Time: _____

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06/04/91

ANALYST: \_\_\_\_\_  
 DATE: \_\_\_\_\_  
 TIME: \_\_\_\_\_  
 LOCATION: \_\_\_\_\_  
 WELL: \_\_\_\_\_  
 DEPTH: \_\_\_\_\_  
 METHOD: \_\_\_\_\_  
 COMMENTS: \_\_\_\_\_

Groundwater Monitoring

well water source: \_\_\_\_\_

Date Sampled: 12-10-92

Sampled By: J. Engelman

Well Designation: W-6

Well Location LANDFILL

Static Water Level from Top of Well Casing before Sampling: \_\_\_\_\_

Depth of Well Bottom \_\_\_\_\_

Calculated volume in well: \_\_\_\_\_

Required Purge Volume (3times the volume) \_\_\_\_\_

SAMPLING LOG

Time: _____	Time: _____	Time: _____	Time: _____	Time: _____	Time: _____
EC: _____	EC: _____	EC: _____	EC: _____	EC: _____	EC: _____
pH: _____	pH: _____	pH: _____	pH: _____	pH: _____	pH: _____
Temp: _____	Temp: _____	Temp: _____	Temp: _____	Temp: _____	Temp: _____
Sampled: _____	Sampled: _____	Sampled: _____	Sampled: _____	Sampled: _____	Sampled: _____

ANALYSIS REQUESTED

____ Temperature	____ Sulfides	____ Magnesium	____ Ammonia-N	____ Total Kjeldahl-N (TKN)
____ Alkalinity	____ COD	____ Iron	____ Organic-N	____ Total Dissolved Solids
____ Chlorides	____ Sodium	____ Sulfate	____ Boron	____ Specific Conductance
____ Nitrate	____ Potassium	____ Calcium	____ Sulfide	____ Total Hardness
____ Other				

Notes:

*Well dry, would not purge*

Relinquished By: \_\_\_\_\_

Date: \_\_\_\_\_

Time: \_\_\_\_\_

Received By: \_\_\_\_\_

Date: \_\_\_\_\_

Time: \_\_\_\_\_

Relinquished By: \_\_\_\_\_

Date: \_\_\_\_\_

Time: \_\_\_\_\_

Received By: \_\_\_\_\_

Date: \_\_\_\_\_

Time: \_\_\_\_\_

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06/04/91

Groundwater Monitoring

well water source: \_\_\_\_\_

Date Sampled: 12-10-92

Sampled By: J. Engelman

Well Designation: MW-1

Well Location LANDFILL

Static Water Level from Top of Well Casing before Sampling: \_\_\_\_\_

Depth of Well Bottom \_\_\_\_\_

Calculated volume in well: \_\_\_\_\_

Required Purge Volume (3times the volume) \_\_\_\_\_

SAMPLING LOG

Time: _____	Time: _____	Time: _____	Time: _____	Time: _____	Time: _____
EC: _____	EC: _____	EC: _____	EC: _____	EC: _____	EC: _____
pH: _____	pH: _____	pH: _____	pH: _____	pH: _____	pH: _____
Temp: _____	Temp: _____	Temp: _____	Temp: _____	Temp: _____	Temp: _____
Sampled: _____	Sampled: _____	Sampled: _____	Sampled: _____	Sampled: _____	Sampled: _____

ANALYSIS REQUESTED

____ Temperature	____ Sulfides	____ Magnesium	____ Ammonia-N	____ Total Kjeldahl-N (TKN)
____ Alkalinity	____ COD	____ Iron	____ Organic-N	____ Total Dissolved Solids
____ Chlorides	____ Sodium	____ Sulfate	____ Boron	____ Specific Conductance
____ Nitrate	____ Potassium	____ Calcium	____ Sulfide	____ Total Hardness
____ Other				

Notes:

*Inside locked fence, no access to wellhead*

Relinquished By: \_\_\_\_\_  
 Received By: \_\_\_\_\_  
 Relinquished By: \_\_\_\_\_  
 Received By: \_\_\_\_\_

Date: \_\_\_\_\_  
 Date: \_\_\_\_\_  
 Date: \_\_\_\_\_  
 Date: \_\_\_\_\_

Time: \_\_\_\_\_  
 Time: \_\_\_\_\_  
 Time: \_\_\_\_\_  
 Time: \_\_\_\_\_

Groundwater Monitoring

Well Water Source: Groundwater  
Date Sampled: 12-9-92  
Sampled By: DDO

Well Designation: MW-2

Well Location Landfill

Static Water Level from Top of Well Casing before Sampling: 68.75 Depth of Well Bottom 68.0

Calculated volume in well: 0 Required Purge Volume (3times the volume) 0

SAMPLING LOG

Time: _____	Time: _____	Time: _____	Time: _____	Time: _____	Time: _____
EC: _____	EC: _____	EC: _____	EC: _____	EC: _____	EC: _____
pH: _____	pH: _____	pH: _____	pH: _____	pH: _____	pH: _____
Temp: _____	Temp: _____	Temp: _____	Temp: _____	Temp: _____	Temp: _____
Sampled: _____	Sampled: _____	Sampled: _____	Sampled: _____	Sampled: _____	Sampled: _____

ANALYSIS REQUESTED

____ Temperature	____ Sulfides	____ Magnesium	____ Ammonia-N	____ Total Kjeldahl-N (TKN)
____ Alkalinity	____ COD	____ Iron	____ Organic-N	____ Total Dissolved Solids
____ Chlorides	____ Sodium	____ Sulfate	____ Boron	____ Specific Conductance
____ Nitrate	____ Potassium	____ Calcium	____ Sulfide	____ Total Hardness
____ Other				

Notes: Well would not purge after 15 minutes

Relinquished By: _____	Date: _____	Time: _____
Received By: _____	Date: _____	Time: _____
Relinquished By: _____	Date: _____	Time: _____
Received By: _____	Date: _____	Time: _____

Groundwater Monitoring

Well Water Source: Groundwater

Date Sampled: 12-9-92

Sampled By: DDP

Well Designation: MW-3

Well Location Landfill

Static Water Level from Top of Well Casing before Sampling: 66.1 Depth of Well Bottom 65.41

Calculated volume in well: Q Required Purge Volume (3times the volume) Q

SAMPLING LOG

Time: _____	Time: _____	Time: _____	Time: _____	Time: _____	Time: _____
EC: _____	EC: _____	EC: _____	EC: _____	EC: _____	EC: _____
pH: _____	pH: _____	pH: _____	pH: _____	pH: _____	pH: _____
Temp: _____	Temp: _____	Temp: _____	Temp: _____	Temp: _____	Temp: _____
Sampled: _____	Sampled: _____	Sampled: _____	Sampled: _____	Sampled: _____	Sampled: _____

ANALYSIS REQUESTED

_____ Temperature	_____ Sulfides	_____ Magnesium	_____ Ammonia-N	_____ Total Kjeldahl-N (TKN)
_____ Alkalinity	_____ COD	_____ Iron	_____ Organic-N	_____ Total Dissolved Solids
_____ Chlorides	_____ Sodium	_____ Sulfate	_____ Boron	_____ Specific Conductance
_____ Nitrate	_____ Potassium	_____ Calcium	_____ Sulfide	_____ Total Hardness
_____ Other				

Notes: Well would not purge after 15 minutes

Relinquished By: \_\_\_\_\_  
 Received By: \_\_\_\_\_  
 Relinquished By: \_\_\_\_\_  
 Received By: \_\_\_\_\_

Date: \_\_\_\_\_  
 Date: \_\_\_\_\_  
 Date: \_\_\_\_\_  
 Date: \_\_\_\_\_

Time: \_\_\_\_\_  
 Time: \_\_\_\_\_  
 Time: \_\_\_\_\_  
 Time: \_\_\_\_\_

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Groundwater Monitoring

well water source: \_\_\_\_\_

Date Sampled: 12-10-92

Sampled By: J. Engelman

Well Designation: MW-4

Well Location LANDFILL

Static Water Level from Top of Well Casing before Sampling: \_\_\_\_\_ Depth of Well Bottom \_\_\_\_\_

Calculated volume in well: \_\_\_\_\_ Required Purge Volume (3times the volume) \_\_\_\_\_

SAMPLING LOG

Time: _____	Time: _____	Time: _____	Time: _____	Time: _____	Time: _____
EC: _____	EC: _____	EC: _____	EC: _____	EC: _____	EC: _____
pH: _____	pH: _____	pH: _____	pH: _____	pH: _____	pH: _____
Temp: _____	Temp: _____	Temp: _____	Temp: _____	Temp: _____	Temp: _____
Sampled: _____	Sampled: _____	Sampled: _____	Sampled: _____	Sampled: _____	Sampled: _____

ANALYSIS REQUESTED

____ Temperature	____ Sulfides	____ Magnesium	____ Ammonia-N	____ Total Kjeldahl-N (TKN)
____ Alkalinity	____ COD	____ Iron	____ Organic-N	____ Total Dissolved Solids
____ Chlorides	____ Sodium	____ Sulfate	____ Boron	____ Specific Conductance
____ Nitrate	____ Potassium	____ Calcium	____ Sulfide	____ Total Hardness
____ Other				

Notes:

*Well dry, would not purge*

Relinquished By: _____	Date: _____	Time: _____
Received By: _____	Date: _____	Time: _____
Relinquished By: _____	Date: _____	Time: _____
Received By: _____	Date: _____	Time: _____

2000EF.WPT/1  
06/04/91

Environmental Services Section • 209-498-1718 • FAX 498-1700  
 Wastewater Management Division  
 5607 West Jensen Avenue  
 Fresno, California 93706-9458

## SPECIAL LANDFILL QUARTERLY MONITORING, 1992

Sample Location	OW-1				MDL	MCL
	3/5	6/17	9/17	12/8		
DATE COLLECTED	3/5	6/17	9/17	12/8		
TEMPERATURE (°C)	21.3	23.6	25.2	19.4		
pH (LAB)	7.14	7.17	7.05	6.91		
TOTAL DISSOLVED SOLIDS (mg/L)	660	652	708	736	4	
ALKALINITY (as CaCO <sub>3</sub> ) (mg/L)	592	640	630	650	5	
SPECIFIC CONDUCTANCE (EC) (µmhos/cm 25°C)	1030	1079	1118	1150		
CHLORIDE (Cl) (mg/L)	10	9.0	8.1	8.2	2.0	
NITRATE-N (NO <sub>3</sub> -N) (mg/L)	0.7	0.8	0.8	0.6	0.1	10
AMMONIA-N (NH <sub>3</sub> -N) (mg/L)	*	*	*	*	1.0	
ORGANIC-N (N) (mg/L)	*	*	*	*	1.0	
TOTAL KJELDAHL-N (N) (mg/L)	<1.0	<1.0	<1.0	<1.0	1.0	
SULFATE (SO <sub>4</sub> ) (mg/L)	6.6	6.5	5.7	7.9	1.0	
SULFIDE (S <sup>2-</sup> ) (mg/L)	<0.5	<0.5	<0.5	<0.5	0.5	
TOTAL HARDNESS (as CaCO <sub>3</sub> ), (mg/L)	500	500	510	540	10	
COD (mg/L)	<5	10	<5	<5	5	
SODIUM (Na) (mg/L)	62	60	58	59	0.05	
POTASSIUM (K) (mg/L)	8.6	8.4	8.6	8.6	0.05	
CALCIUM (Ca) (mg/L)	110	110	110	110	0.2	
MAGNESIUM (Mg) (mg/L)	63	56	56	60	0.06	
IRON (Fe) (mg/L)	0.03	0.02	<0.02	0.02	0.02	0.3

MDL = Method Detection Limit  
 MCL = Maximum Contaminant Level  
 ND = None Detected  
 \* = TKN <1.0 mg/L; Ammonia not analyzed



Mark Banuelos  
 Laboratory Supervisor

Groundwater Monitoring

Well water source: Groundwater  
 Date Sampled: 12-8-92  
 Sampled By: DDP

Well Designation: OU-1

Well Location Cand Gill

Static Water Level from ~~Top of well casing~~ <sup>Bottom of Piecer</sup> before Sampling: 81.7 Depth of Well Bottom 105.0  
 Calculated volume in well: 3.8 Required Purge Volume (3times the volume) 11.4

SAMPLING LOG

Time: <u>1435</u>	Time: <u>1440</u>	Time: _____	Time: _____	Time: _____	Time: _____
EC: <u>.79</u>	EC: <u>.75</u>	EC: _____	EC: _____	EC: _____	EC: _____
pH: <u>7.0</u>	pH: <u>6.9</u>	pH: _____	pH: _____	pH: _____	pH: _____
Temp: <u>66</u>	Temp: <u>67</u>	Temp: _____	Temp: _____	Temp: _____	Temp: _____
Sampled: <u>no</u>	Sampled: <u>yes</u>	Sampled: _____	Sampled: _____	Sampled: _____	Sampled: _____

ANALYSIS REQUESTED

<input type="checkbox"/> Temperature	<input type="checkbox"/> Sulfides	<input checked="" type="checkbox"/> Magnesium	<input checked="" type="checkbox"/> Ammonia-N	<input checked="" type="checkbox"/> Total Kjeldahl-N (TKN)
<input checked="" type="checkbox"/> Alkalinity	<input checked="" type="checkbox"/> COD	<input checked="" type="checkbox"/> Iron	<input checked="" type="checkbox"/> Organic-N	<input checked="" type="checkbox"/> Total Dissolved Solids
<input checked="" type="checkbox"/> Chlorides	<input checked="" type="checkbox"/> Sodium	<input type="checkbox"/> Sulfate	<input checked="" type="checkbox"/> Boron	<input checked="" type="checkbox"/> Specific Conductance
<input checked="" type="checkbox"/> Nitrate	<input checked="" type="checkbox"/> Potassium	<input checked="" type="checkbox"/> Calcium	<input checked="" type="checkbox"/> Sulfide	<input checked="" type="checkbox"/> Total Hardness
<input type="checkbox"/> Other				

Notes: WMD 25094

Relinquished By: Jm DDP  
 Received By: \_\_\_\_\_  
 Relinquished By: \_\_\_\_\_  
 Received By: \_\_\_\_\_

Date: 12-8-92 Time: 1545  
 Date: 12-8-92 Time: 1545  
 Date: \_\_\_\_\_ Time: \_\_\_\_\_  
 Date: \_\_\_\_\_ Time: \_\_\_\_\_