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EPA Region 5 Records Ctr.



223797

FINAL
REMEDIAL INVESTIGATION REPORT
FOR
PRISTINE, INC. SITE; READING, OHIO
APPENDICES

DOCUMENT NO.: 115-R11-RT-CMKQ-1

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APPENDIX A

Project Activities and Milestones

comply with the regulations. An enforcement sampling survey is conducted at the same time in conjunction with Ohio EPA personnel.

June 11, 1980 — Ohio Attorney General's Office, representing Ohio EPA, files a complaint in Court of Common Pleas, Hamilton County, Ohio, requesting improvement of site compliance with applicable rules and regulation pertaining to the Pristine, Inc. site. A partial consent decree is filed at the same time, enjoining Pristine, Inc. to cease operation of its incinerator and discontinue receipt of wastes, except to the extent that such actions are in full compliance with the provisions of the consent decree.

REMEDIAL RESPONSE ACTIONS

This section covers the period from June 11, 1980, to October 9, 1984. During This period, the activities at the site were primarily directed toward improving environmental conditions at the site. This section includes activities performed by Pristine, Inc. as well as those performed by the U.S. EPA.

June 16, 1980 — Per partial consent decree: Pristine, Inc. to submit a SPOC plan in compliance with and including provisions of consent decree (plan submitted, not acceptable).

June 30, 1980 — Per partial consent decree: all wastes to be removed from within buildings (not completed), pumps and sumps to be installed to make the incinerator's wet scrubber system a closed loop (completed), interlock between fuel feed and scrubber water pressure to be installed (not completed), continuous temperature recording to be installed on incinerator (completed), plan for characterizing incoming wastes to be submitted (not completed).

July 15, 1980 — Per partial consent decree: plan for sampling containers of unknown waste to be submitted (completed), plan for disposal of contents of large storage tank (#1) to be submitted (completed).

September 15, 1980 — Per partial consent decree: on-site drum inventory to be reduce to 1,000 drums (not completed), contents of second large storage tank (#2) to be properly disposed of (not completed), leaking or open drums to be repaired or covered (not completed), all activities at open neutralization pit to cease (not completed), certain specified wastes (>5 ppm PCB, >5% halogenated hydrocarbons, cyanides, insecticides, pesticides, herbicides, rodenticides) to be removed from site (not completed).

October 1, 1980 — Ohio EPA conducts site inspection to document status of compliance with partial consent decree; a total of 4,615 drums are counted and the total volume of wastes in 8 bulk storage tanks is estimated to be 154,479 gallons.

November 1980 — Several site inspections are made to determine the status of compliance with consent decree.

WASTE TREATMENT, STORAGE AND DISPOSAL OPERATIONS

This part of the site chronology covers the period from November 1974, when Pristine, Inc. began its liquid waste disposal operations, to June 11, 1980, when a complaint and partial consent decree relating to conditions at and operation of the site were filed by the Ohio Attorney General's Office.

November, 1974 — Pristine, Inc. begins liquid waste disposal operations.

February 11, 1977 — Ohio EPA issues Pristine, Inc. a permit to operate a liquid waste incinerator effective March 28, 1977; the permit is good for three years.

1977 to 1979 — Ohio EPA, Division of Air Pollution Control records numerous and repeated violations of Ohio's air pollution regulation relative to organic vapor emissions and excessive smoke from the incinerator.

April 4, 1979 — Ohio EPA conducts a site inspection. Between 8,000 and 10,000 drums of waste and 13 bulk storage tanks containing several hundred thousand gallons of waste each are found on site. Gross contamination of the surface soils, due to leakage from the drums and tanks, is noted.

April to August, 1979 — Additional air pollution violation are logged by the Ohio EPA, including fumes from neutralization or adipoyl chloride.

August to December 1979 — Ohio EPA prepares modifications to the terms and conditions of Pristine, Inc.'s permit to operate the incinerator. Air pollution violations continue to occur.

December 4, 1979 — Ohio EPA issues modifications to Pristine, Inc.'s permit to operate methods and use of control equipment, permissible waste types and sampling of incoming wastes, and maintenance and malfunction records.

January 22, 1980 — City of Reading Fire Chief orders Pristine, Inc. to discontinue operations for failure to correct fire code violations documented in August 1979. February 19, 1980 — Pristine, Inc. allowed to re-open and operate if done so within a new set of guidelines. Two days later, an air pollution violation is logged.

March 4, 1980 — In accordance with modified permit to operate, Pristine, Inc. was to required reduce waste inventory to 2,000 drum-equivalents by this date; this requirement was not met.

March 21, 1980 — Ohio EPA's efforts to achieve compliance with the modified permit to operate at Pristine, Inc. are referred to the Ohio Attorney General's office.

April 10, 1980 — U.S. EPA personnel conduct a SPOC inspection of the Pristine, Inc. site and issue a Notice of Violation for failure to

approximately 500 cubic yards of bulked contaminated sludges and soils, about 15,600 gallons of bulked drum and tank wastes composed of solvents, acids and PCB-contaminated liquids, and 42 intact drums were removed from the site. At the end of this activity most of the drummed wastes had been removed from the site.

November 15, 1982 — In a letter to U.S. EPA Region V, Ohio EPA requests that Pristine, Inc. be made eligible for planned removal actions and commits to the required 10% state matching of costs. The detailed scope of the needed removal actions are presented in this submittal.

December 31, 1982 — Pristine, Inc. to have obtained contractor to perform remaining cleanup activities.

January 31, 1983 — Ecolotech, Inc. to have obtained contractor to perform remaining cleanup activities.

February to October 1983 — Ohio EPA continues efforts to get remaining cleanup done by Pristine, Inc. through cooperative and consent agreements. Site visit by CH2M HILL personnel preparing a RAMP for the site conducted in April 1983.

November 1983 — 33,000 gallons of contaminated water and 3,100 gallons of chlorinated solvents removed.

December 1983 to February 1984 — Efforts to complete cleanup pursued under CERCLA.

March 13, 1984 — A Unilateral Administrative Order was issued under authority of Section 106 (a) of CERCLA to Pristine, Inc. requiring removal of the contents of six tanks, three pits, and visibly contaminated soil. If not performed by the responsible parties, these activities would be done by the U.S. EPA as an emergency removal.

April 3, 1984 — Meeting held between Pristine, Inc. and U.S. EPA to discuss terms of consent order to comply with Administrative Order. The tank contents have been removed, but no other actions have been taken. Deadlines for repair of the runoff collection system and removal of contaminated soil are extended to April 30, 1984 and June 30, 1984 respectively.

April 26, 1984 — Repair work on runoff collection system undertaken. The activated carbon filters were subsequently found to be incompletely removing organic contamination from collection pond discharge.

April 30, 1984 — U.S. EPA and five respondents execute a Consent Order pursuant to §106 of CERCLA. The respondents are Pristine, Inc. Riley Kirman an officer and Principal Manager of Pristine, Inc. and Oren Long, Pauline Long and Jane Long, owners of the site on which the facility is located. The Consent Order Provided an extension of time, until June 30, 1984 to complete soil removal and removal of contents of a collection pit, as required in the March 3, 1984 Unilateral Administrative Order.

December 4, 1980 — State of Ohio files contempt charges for noncompliance with provisions of partial consent decree of June 11, 1980.

December 23, 1980 — Per partial consent decree: total inventory to be reduced to 55,000 gallons (not completed), all storage areas to consist of curbed concrete pads (not completed), new caustic scrubber system to be installed (not completed), trial burns and stack testing to be performed (not completed).

January 31, 1981 — Per partial consent decree, Pristine, Inc. to have complied with all provisions of the consent decree; continued operation of the incinerator dependent on compliance status (Pristine not in compliance). State of Ohio files to find Pristine, Inc. in contempt for failure to comply.

May 6, 1981 — A Munc Pro Tunc order is filed finding Pristine, Inc. in contempt of court for failure to comply with the partial consent order of June 11, 1980; Pristine ordered to purge itself of contempt by complying with provisions of original order in accordance with a revised schedule.

May 20, 1981 — Site inspection by Ohio EPA personnel reveals that approximately 20 to 30 drums have been punctured with a pick-axe and allowed to drain into the soil.

June 20, 1981 — Following the filing of additional contempt charges, a second Munc Pro Tunc order is filed, extending the compliance schedule again.

August 19, 1981 — An Interim Status inspection is conducted; fifty-nine violations are noted.

September 8, 1981 — Ohio Attorney General's Office files a motion for determination of Pristine's failure to purge itself of contempt, and for a temporary restraining order, which is granted, to cease all incineration and neutralization activities on-site and restrict waste activities to removal.

October 8, 1981 — Pristine, Inc. is denied approval for a Hazardous Waste Facility Installation and Operation Permit by the Hazardous Waste Facility Approval Board.

March 22, 1982 — Ohio EPA Southwest District Office receives scoping document from U.S. EPA (Technical Assistance Team) for planned removal action at Pristine, Inc., incorporating results of site status inspection conducted on March 2, 1982. Inspection showed the waste inventory to consist of approximately 300 drum-equivalents of paint sludge and contaminated soil contained in three open dumpsters; about 870 drums containing paint sludges, acid sludges, acid, DDT, fatty acids, lab packs, flammable solvents, cyanides, and chlorinated solvent sludge; and about 187,000 gallons of liquids and sludges, predominantly acids and solvents, in 12 bulk storage tanks.

March 1982 — Pristine, Inc. hires My-Trex, Inc. of Richfield, Ohio to perform cleanup activities at the site. Over the next several months,

REMEDIAL INVESTIGATION ACTIVITIES AND MILESTONES

This part of the site chronology covers the period from September 1984 to October 1985 while the field activities of the remedial investigation were being performed.

September 4, 1984 — Work assignment for Pristine, Inc. authorized by U.S. EPA.

September 17, 1984 — Work Plan Memorandum submitted to U.S. EPA.

October 9-10, 1984 — Conducted site visit with Ohio EPA personnel.

October 25, 1984 — Existing Condition Memorandum submitted to U.S. EPA.

November 6, 1984 — Compiled Site Plan submitted to U.S. EPA.

November 15, 1984 — QAPP and Sampling and Analysis Plan submitted to U.S. EPA.

December 4, 1984 — Site Management Plan submitted to REM II and U.S. EPA.

January 8, 1985 — Draft Work Plan submitted to U.S. EPA.

January 28, 1985 — Revised QAPP submitted to U.S. EPA.

February 26, 1985 — Revised QAPP submitted to REM II and U.S. EPA.

March 1, 1985 — Revised Work Plan submitted to U.S. EPA.

April 19, 1985 — Final QAPP sent to REM II and U.S. EPA.

April 23, 1985 — Work Plan approved by U.S. EPA RPM.

April 24, 1985 — Work Plan approved by U.S. EPA, Region V.
Mobilization Plan for field work initiated.

April 25, 1985 — Phased feasibility study Plan submitted to U.S. EPA.

May 15, 1985 — Drilling subcontractor was selected.

May 20, 1985 — Mobilization of field facilities began and completed on May 23, 1985.

May 24, 1985 — Six soil samples collected from trench located on the southeast corner of the site. Samples identification numbers include: PI-ST41-01, PI-ST41-DP, PI-ST42-01, PI-ST43-01, PI-ST44-01, PI-ST44-MS.

May 29, 1985 — Seven sediment samples collected from various locations at the site. Sample identification numbers include: PI-SD08-01, PI-SD09-01, PI-SD10-01, PI-SD11-01, PI-SD11-DP, PI-SD12-01, and PI-SD14-MS.

April 30 to May 10, 1984 — Soil removal activities undertaken. A total of 240 to 300 cubic yards of soil was excavated and taken to licensed off site disposal facilities.

June 4, 1984 — Pristine, Inc. notifies U.S. EPA of verbal approval of Metropolitan Sewerage District to discharge water from collection pond to nearby sanitary sewers on a temporary basis.

June 27 to July 3, 1984 — Sludge removal activities at the runoff collection pond are undertaken. A total of 180 to 225 cubic yards of contaminated sludge were excavated and taken to a licensed off site disposal facility.

July 11, 1984 — Samples collected from the bottom of the pond excavation to confirm that enough sludge/soil was removed.

August 20, 1984 — Based on a verbal report of contaminated concentrations found at the bottom of the pond excavation, U.S. EPA decides that the most prudent course of action with respect to the Section 106 Order is to allow partial backfilling and relining of the collection pond.

October 9-10, 1984 — Representatives of the REM II project team meet on-site with Ohio and U.S. EPA personnel to review site history, waste disposal and storage practices, and past remedial activities; and to examine the current status of the site.

June 22, 1985 — Drilled and installed monitoring well GW-62.

June 24, 1985 — Groundwater monitoring wells installation completed.

June 25, 1985 — Groundwater samples from monitoring wells GW-50, GW-51 and GW-52 were collected. Sample identification numbers are: PI-GW52-01, PI-GW51-01, PI-GW50-01 and PI-GW51-DP.

June 26, 1985 — Groundwater samples from monitoring wells GW-45, GW-46, GW-49, GW-53, GW-57, and GW-58 were collected. Sample identification numbers include: PI-GW45-01, PI-GW46-01 and DP, PI-GW49-01, PI-GW53-01, PI-GW57-01, and PI-GW58-01.

June 27, 1985 — Groundwater samples from monitoring wells GW-47, GW-48, GW-55, GW-56, GW-59, W-60, GW-62, and surface water from the tile drain along south access road were collected. Sample identification numbers include: PI-GW47-01, PI-GW48-01, PI-GW55-01, PI-GW56-01, PI-GW59-01, PI-GW60-01, PI-GW62-01, and PI-SFDT-01.

June 28, 1985 — Demobilization of field facilities initiated.

July 1, 1985 — Demobilization completed.

July 31, 1985 — Technical memorandum regarding soil trench, surface water, sediment and water supply submitted to U.S. EPA RPM.

August 16, 1985 — Soil Area and Soil Boring Technical Memorandum was submitted.

August 29, 1985 — Technical memorandum on stormwater and groundwater submitted to U.S. EPA RPM.

September 23, 1985 — Mobilization for second round of groundwater sampling initiated.

September 24, 1985 — Measured water level in all monitoring wells.

September 25, 1985 — Conducted baildown testing on wells GW-50, GW-51, GW-52, GW-53, GW-56, GW-57, GW-58, GW-59, GW-60, and GW-62.

September 26, 1985 — Conducted baildown testing on wells GW-45, GW-46, GW-48, and GW-49, collected groundwater samples from wells GW-51 and GW-52.

September 27, 1985 — Groundwater samples collected from wells GW-53, GW-56, GW-57, GW-58, GW-59, GW-60, GW-61, and GW-62.

September 29, 1985 — Groundwater samples collected from wells GW-45, GW-46, GW-48, GW-49, and GW-50.

October 1, 1985 — Demobilization of second round sampling completed.

May 30, 1985 — Six surface water samples collected. Sample location and identification number include: collection pond (PI-SF04-01), ditch on the north end of the building (PI-SF05-01), ditch on the north end down stream (PI-SF06-01), pond near road (PI-SF07-01), and (PI-SF07-DP and PI-SF01-EK).

June 3, 1985 — Four stormwater samples collected. Sample location and identification number include: north end swale (PI-SR02-01 and PI-SR02-DP), south end swale (PI-SR03-01 and PI-SR03-02).

June 4, 1985 — Began drilling monitoring well GW-52 and completed on June 6, 1985.

June 7, 1985 — Monitoring well GW-51 drilled and installed.

June 8, 1985 — Monitoring well GW-50 drilled and installed.

June 10, 1985 — Eight water supply samples collected from the Reading well field. Sample location and identification number include: Well #2 (PI-WS15-01), Well #3 (PI-WS16-01), Well #4 (PI-WS17-01), Well #12 (PI-WS18-01), Well #9 (PI-WS19-01), Well #10 (PI-WS20-01), Well #7 (PI-WS21-01), and Well #1 (PI-WS22-01) monitoring well GW 53 and 54 drilled and installed.

June 11, 1985 — Drilled and installed monitoring well GW45.

June 12, 1985 — Drilled and installed monitoring well GW55 and 56. Eight soil area samples collected from various areas at the site. Sample identification numbers are: PI-SA23-01, PI-SA24-01, PI-SA25-01, PI-SA26-01, PI-SA27-01, PI-SA28-01, PI-SA29-01, and PI-SA30-01.

June 13, 1985 — Drilled and installed monitoring well GW-58. Eight soil samples collected from various areas. Sample identification numbers are: PI-SA31-01, PI-SA32-01, PI-SA33-01, PI-SA33-MS, PI-SA33-02, PI-SA34-01, PI-SA34-DP and PI-SA34-02.

June 14, 1985 — Three soil boring areas sampled. Sample identification numbers include: PI-SB35-01 through 05, PI-SB36-01 through 05, PI-SB37-01 thru 05.

June 17, 1985 — Drilled and installed monitoring well GW-47. Also collected water supply from General Electric Co. wells sample number PI-WSGE-01.

June 18, 1985 — Drilled and installed monitoring well GW-46.

June 19, 1985 — Drilled and installed monitoring well GW-49. Drilling of monitoring well GW-57 began and completed on June 21, 1985.

June 20, 1985 — Drilled and installed monitoring well GW-60.

June 21, 1985 — Drilled and installed monitoring wells GW-59, 60A and 61. Drilling began on monitoring well GW-48 and completed on June 24, 1985.

APPENDIX B

Soil Area Sampling

TABLE B-1
SUMMARY OF SOIL AREAS SAMPLING PROGRAM
PRISTINE, INC.

FIELD SAMPLE	CRL ID	DATE SAMPLED	TIME SAMPLED	ANALYSIS	TRAFFIC REPORT	DATE SHIPPED	LABORATORY
PI-SA2301	85RL01557	6/12/85	0830	ORGANICS	EXTRACTBL VOA	EC 868 EC 868	COMPU/CHEM
		6/12/85	0830	INORGANICS	METALS CYANIDE FLUORIDE	MED 463 MED 463 SAS 1746E	ROCKY MOUNTAIN ANALYTICAL
PI-SA23MS	85RL01557	6/12/85	0840	ORGANICS	EXTRACTBL VOA	EC 868 EC 868	COMPU/CHEM
		6/12/85	0840	INORGANICS	METALS CYANIDE FLUORIDE	MED 463 MED 463 SAS 1746E	
PI-SA2401	85RL01558	6/12/85	0915	ORGANICS	EXTRACTBL VOA	EC 869 EC 869	COMPU/CHEM
		6/12/85	0915	INORGANICS	METALS CYANIDE FLUORIDE	MED 464 MED 464 SAS 1746E	ROCKY MOUNTAIN ANALYTICAL
PI-SA2501	85RL01558	6/12/85	0950	ORGANICS	EXTRACTBL VOA	EC 870 EC 870	COMPU/CHEM
		6/12/85	0950	INORGANICS	METALS CYANIDE FLUORIDE	MED 465 MED 465 SAS 1746E	ROCKY MOUNTAIN ANALYTICAL
PI-SA2601	85RL01560	6/12/85	1025	ORGANICS	EXTRACTBL VOA	EC 871 EC 871	COMPU/CHEM
		6/12/85	1025	INORGANICS	METALS CYANIDE FLUORIDE	MED 466 MED 466 SAS 1746E	
PI-SA2701	85RL01561	6/12/85	1110	ORGANICS	EXTRACTBL VOA	EC 872 EC 871	COMPU/CHEM
		6/12/85	1110	INORGANICS	METALS CYANIDE FLUORIDE	MED 467 MED 467 SAS 1746E	ROCKY MOUNTAIN ANALYTICAL
PI-SA27DP	85RL01061	6/12/85	1115	ORGANICS	EXTRACTBL VOA	EC 873 EC 873	COMPU/CHEM
		6/12/85	1115	INORGANICS	METALS CYANIDE FLUORIDE	MED 468 MED 468 SAS 1746E	ROCKY MOUNTAIN ANALYTICAL
PI-SA2801	85RL01562	6/12/85	1200	ORGANICS	EXTRACTBL VOA	EC 874 EC 874	COMPU/CHEM
		6/12/85	1200	INORGANICS	METALS CYANIDE FLUORIDE	MED 469 MED 469 SAS 1746E	ROCKY MOUNTAIN ANALYTICAL

Pristine, Inc.
Sampling Memorandum
Date: August 16, 1985

SOIL AREA SAMPLES

Samples of surficial soil material were collected in ten on-site and two off site areas. The locations and configurations of these areas and their designations are shown in Figure 1-7. A summary of the sampling program is given in Table B-1.

Within each on-site area, soil material was collected at five discrete locations and composited to form one sample for that area. At most locations, soil was collected to a depth of six inches using a four-inch diameter bucket auger. At several locations within areas SA27 and SA28 only two to three inches of soil could be collected because a concrete pad was present near the ground surface. At these locations enough soil was taken to fill the auger. Each time the auger was filled it was brought to a central location within the area where its contents were emptied onto a sheet of Teflon. The soil on the Teflon sheet was covered with plastic until all five locations had been sampled. After being thoroughly mixed with a stainless steel spatula, the composite sample was placed in the sample bottles with disposable plastic scoops. The auger, Teflon sheets and steel spatula were decontaminated in accordance with the standard protocol prior to use in each area.

Within each off site area soil material was collected from two depth intervals at five discrete locations to form two composite samples for that area. First, a four-inch bucket auger was used to collect soil material to a depth of six inches at the five sampling locations within the area. Sample materials were transferred to, stored and mixed on a Teflon sheet and placed in sample containers as described above. The auger was then used to remove another six inches of soil from the auger holes already present at each of the five locations. This soil which came from a depth interval of six to twelve inches was discarded. After decontamination of the auger, stainless steel spatulas and Teflon sheets, soil material was collected from a depth of twelve to eighteen inches at the same five locations with the auger. Finally, the sample materials collected from this last depth interval were transferred to, stored and mixed on a Teflon sheet and placed in sample containers as described above.

Descriptions of the five sampling locations within each of the twelve areas and of the individual soil samples collected at those locations are presented in Table B-2. The approximate positions of the individual sampling locations within each area are shown in Figure 1-7.

TABLE B-1 (Continued)

SUMMARY OF SOIL AREAS SAMPLING PROGRAM
PRISTINE, INC.

FIELD SAMPLE	CRL ID	DATE SAMPLED	TIME SAMPLED	ANALYSIS	TRAFFIC REPORT	DATE SHIPPED	LABORATORY
PI-SAJ402	85RL01570	6/13/85	1225	ORGANICS	EXTRCTBL	EC 883	COMPU/CHEM
				VOA	EC 883		
		6/13/85	1225	INORGANICS	METALS	MED 478	ROCKY MOUNTAIN ANALYTICAL
				CYANIDE	MED 478		
				FLUORIDE	SAS 1746E		
PI-SAJ40P	85RL01069	6/13/85	1200	ORGANICS	EXTRCTBL	EC 882	COMPU/CHEM
				VOA	EC 882		
		6/13/85	1200	INORGANICS	METALS	MED 477	ROCKY MOUNTAIN ANALYTICAL
				CYANIDE	MED 477		
				FLUORIDE			

TABLE B-1 (Continued)

SUMMARY OF SOIL AREAS SAMPLING PROGRAM
PRISTINE, INC.

FIELD SAMPLE	CRL ID	DATE SAMPLED	TIME SAMPLED	ANALYSIS	TRAFFIC REPORT	DATE SHIPPED	LABORATORY
PI-SA2901	85RL01563	6/12/85	1245	ORGANICS	EXTRACTBL VOA	EC 875	COMPU/CHEM
		6/12/85	1245	INORGANICS	METALS CYANIDE FLUORIDE	EC 875 MED 470 MED 470 SAS 1746E	ROCKY MOUNTAIN ANALYTICAL
PE-SA3001	85RL01564	6/12/85	1330	ORGANICS	EXTRACTBL VOA	EC 876	COMPU/CHEM
		6/12/85	1330	INORGANICS	METALS CYANIDE FLUORIDE	EC 876 MED 471 MED 471	ROCKY MOUNTAIN ANALYTICAL
PI-SA3101	85RL01565	6/13/85	0805	ORGANICS	EXTRACTBL VOA	EC 877	COMPU/CHEM
		6/13/85	0805	INORGANICS	METALS CYANIDE FLUORIDE	EC 877 MED 472 MED 472 SAS 1746E	ROCKY MOUNTAIN ANALYTICAL
PI-SA3201	85RL01566	6/13/85	0900	ORGANICS	EXTRACTBL VOA	EC 878	COMPU/CHEM
		6/13/85	0900	INORGANICS	METALS CYANIDE FLUORIDE	EC 878 MED 473 MED 473 SAS 1746E	ROCKY MOUNTAIN ANALYTICAL
PI-SA3301	85RL01567	6/13/85	1000	ORGANICS	EXTRACTBL VOA	EC 879	COMPU/CHEM
		6/13/85	1000	INORGANICS	METALS CYANIDE FLUORIDE	EC 879 MED 474 MED 474 SAS 1746E	ROCKY MOUNTAIN ANALYTICAL
PI-SA3302	85RL01568	6/13/85	1100	ORGANICS	EXTRACTBL VOA	EC 880	COMPU/CHEM
		6/13/85	1100	INORGANICS	METALS CYANIDE FLUORIDE	EC 880 MED 475 MED 475 SAS 1746E	ROCKY MOUNTAIN ANALYTICAL
PI-SA33MS	85RL01167	6/13/85	1015	ORGANICS	EXTRACTBL VOA	EC 879	COMPU/CHEM
		6/13/85	1015	INORGANICS	METALS CYANIDE FLUORIDE	EC 879 MED 474 MED 474 SAS 1746E	ROCKY MOUNTAIN ANALYTICAL
PI-SA3401	85RL01569	6/13/85	1155	ORGANICS	EXTRACTBL VOA	EC 881	COMPU/CHEM
		6/13/85	1155	INORGANICS	METALS CYANIDE	EC 881 MED 476 MED 476	ROCKY MOUNTAIN ANALYTICAL

TABLE B-2 (Continued)

Description of Soil Area Sampling Locations

<u>Soil Area Number</u>	<u>Location Descriptions</u>	<u>Sample Descriptions</u>
SA27	1) Near soil boring SB39	1) Brown-black clayey sand
	2) At middle of north edge	2) Brown sandy clay
	3) NE corner	3) Brown-black clayey sand
	4) South edge, north of building	4) Brown-black clayey sand
	5) SW corner	5)
SA28	1) Center of concrete pad	1) Brown gravelly clay
	2) NE corner, below RR grade	2) Brown gravelly clay
	3) East edge of site, below tanks on RR	3) Brown-orange clay
	4) SE corner, below RR grade	4) Black coarse sand
	5) South edge, west of mixing tank	5) Tan clay with orange streaks
SA29	1) NW corner, near green tank	1) Brown sand
	2) Center of area, north of western small tank	2) Brown-gray sand
	3) SE quadrant, east of fuel tank	3) Brown-gray sand
	4) South edge, south of red tank	4) Black sand
	5) SW corner, near GW 56	5) Brown-gray sand
SA30	1) SW corner, over neutralization pit	1)
	2) West of cooling tower	2)
	3) East of cooling tower	3)
	4) Near PCB/soybean oil tank	4)
	5) Near incinerator	5)

TABLE B-2

Description of Soil Area Sampling Locations

<u>Soil Area Number</u>	<u>Location Descriptions</u>	<u>Sample Descriptions</u>
SA23	1) 3 feet from fence, at middle of northern edge	1) Brown clay
	2) 10 feet east of road, at center of SW quadrant	2) Sandy clay
	3) Near east edge in SE quadrant	3) Brown clay
	4) Near soil boring SB35	4) Brown clay
	5) SW corner	5) Sandy clay with topsoil
SA24	1) Near soil boring SB36	1) Brown-orange mottled clay
	2) Near telephone pole	2) Olive-yellow gravelly clay
	3) 50 feet NW of telephone	3) Olive-yellow-brown clay
	4) 20 feet from fence, near center of east edge	4) Orange-brown sandy clay
	5) NE corner	5) Orange-brown gravelly clay
SA25	1) Near soil boring SB37	1) Brown sandy clay
	2) At middle of west edge	2) Orange-brown sandy clay
	3) Center NE part of NE quadrant	3) Brown gravelly clay
	4) SE corner	4) Orange-brown sandy clay
	5) Middle of south edge	5) Gray-black sandy clay
SA26	1) NW corner	1)
	2) NE corner	2) Gray sandy clay
	3) Middle eastern edge	3) Brown-orange clay
	4) SE corner	4) Yellow-brown clay
	5) SW corner, near tanker	5) Gray silt/sand

TABLE B-2 (Continued)

Description of Soil Area Sampling Locations

<u>Soil Area Number</u>	<u>Location Descriptions</u>	<u>Sample Descriptions</u>
SA31	1) Near soil boring SB40	1) Brown clay
	2) Between tanks #1 & #2	2) Brown clay with gravel
	3) West of tank #1	3) Brown clayey sand
	4) NE quadrant, west of road	4) Black gravelly, coarse sand
	5) SW corner, near GW 58	5) Brown clayey sand
SA32	1) NE corner, near GW49	1) Dark brown clay and sand
	2) SE corner	2) Brown sandy clay
	3) Near soil boring SB38	3) Brown clayey sand and gravel
	4) SW corner, near tank #2	4) Brown gravelly clay
	5) SE edge of empty concrete tank pad	5) Brown clay
SA33	1) NE corner	1) Brown sandy clay
	2) NW corner	2) Brown sandy clay
	3) Center	3) Brown sandy clay
	4) SW corner	4) Brown sandy clay
	5) SE corner	5) Brown sandy clay
SA34	1) Near reading well #7	1) Black sand
	2) Near reading well #10	2) Black sand
	3) Near reading well #9	3) Red sand
	4) Midway between reading wells #7 & #9	4) Brown sand
	5) Near entrance from CDS property	5) Brown sand

APPENDIX C

Soil Trench Sampling

TABLE C-1

SUMMARY OF SOIL TRENCH SAMPLING PROGRAM
PRISTINE, INC.

FIELD SAMPLE	CRL ID	DATE SAMPLED	TIME SAMPLED	ANALYSIS	TRAFFIC REPORT	DATE SHIPPED	LABORATORY
PI-ST4101	85RL01S01	5/24/85	1205	ORGANICS	VOA	EC 806	5/24/85 CALIFORNIA ANALYTICAL
				EXTRACTBL	EC 806		
		5/24/85	1205	INORGANICS	METALS	MED 151	5/24/85 ROCKY MOUNTAIN ANALYTICAL
				CYANIDE	MED 151		
PI-ST410P	85RL01D01	5/24/85	1210	ORGANICS	VOA	EC 807	5/24/85 CALIFORNIA ANALYTICAL
				EXTRACTBL	EC 807		
		5/24/85	1210	INORGANICS	METALS	MED 152	5/24/85 ROCKY MOUNTAIN ANALYTICAL
				CYANIDE	MED 152		
PI-ST4201	85RL01S02	5/24/85	1220	ORGANICS	VOA	EC 808	5/24/85 CALIFORNIA ANALYTICAL
				EXTRACTBL	EC 808		
		5/24/85	1220	INORGANICS	METALS	MED 153	5/24/85 ROCKY MOUNTAIN ANALYTICAL
				CYANIDE	MED 153		
PI-ST4301	85RL01S03	5/24/85	1230	ORGANICS	VOA	EC 809	5/24/85 CALIFORNIA ANALYTICAL
				EXTRACTBL	EC 809		
		5/24/85	1230	INORGANICS	METALS	MED 154	5/24/85 ROCKY MOUNTAIN ANALYTICAL
				CYANIDE	MED 154		
PI-ST4401	85RL01S04	5/24/85	1240	ORGANICS	VOA	EC 810	5/24/85 CALIFORNIA ANALYTICAL
				EXTRACTBL	EC 810		
		5/24/85	1240	INORGANICS	METALS	MED 155	5/24/85 ROCKY MOUNTAIN ANALYTICAL
				CYANIDE	MED 155		
PI-ST44MS	85RL01104	5/24/85	1250	ORGANICS	VOA	EC 811	5/24/85 CALIFORNIA ANALYTICAL
				EXTRACTBL	EC 811		
		5/24/85	1250	INORGANICS	METALS	MED 156	5/24/85 ROCKY MOUNTAIN ANALYTICAL
				CYANIDE	MED 156		

Pristine, Inc.
Sampling Memorandum
Date: July 31, 1985

SOIL TRENCH SAMPLES

On May 24, 1985, a test trench, 80 feet long and six feet deep, was excavated in the southeastern corner of the Pristine site to look for evidence of reported bulk dumping in that area. The location of the trench is shown in Figure 1-8. A summary of the sampling program is given in Table C-1.

During excavation of the trench, ambient and in-trench air conditions were monitored for organic vapors, hydrogen cyanide, hydrogen sulfide, and explosive gases. Detailed air-monitoring data are presented in Table C-2. HNu readings of volatile organics in the trench ranged from 1 to 150 ppm with the highest values occurring in the southeastern half of the trench. HNu readings of organic vapors from the spoil piles excavated from this part of the trench ranged from 50 to 110 ppm. No hydrogen sulfide or hydrogen cyanide was detected, and there was no obvious evidence of previous excavations or waste disposal in the area.

Groundwater seepage was noted at the southeastern end of the trench and in the center of the trench where an eight-inch water main was encountered.

Samples were collected using a 4-inch diameter bucket auger that was angled into the sidewall of the trench from the opposite side. The sample numbers, distance along the trench and depth below ground surface are as follows:

- o PI-ST41-01 - 10 feet from SE end of trench, depth 2.0 feet
- o PI-ST42-01 - 10 feet from SE end of trench, depth 3.75 feet
- o PI-ST43-01 - 48 feet from SE end of trench, depth 3.75 feet
- o PI-ST44-01 - 70 feet from SE end of trench, depth 4.0 feet.

The material retrieved by the auger was emptied onto a sheet of Teflon for closer examination and organic vapor screening. The screening data are presented in Table C-3. Following examination and screening, the samples were placed in appropriate containers using disposable plastic spatulas and scoops. The auger and Teflon sheet were decontaminated in accordance with the standard protocol prior to each use.

Samples were shipped as low hazard samples to California Analytical and Rocky Mountain Analytical on May 24, 1985 for RAS organic and inorganic analysis.

TABLE C-3

Soil Trench Sample Organic Vapor Screening

<u>Sample</u>	<u>Distance*/Depth (ft)</u>		<u>HNu (ppm)</u>
PIST41-01	10	2	19
PIST41-DP	10	2	19
PIST42-01	10	3.75	8
PIST43-01	48	3.75	3
PIST44-01	70	4	1.5
PIST44-MS	70	4	1.5

* Distances from SE end of trench

HNu calibrated 5/22/85
Span spot 5.2

TABLE C-2

Summary of Air Monitoring Data

<u>Distance (ft)</u>	<u>Activity/Source</u>	<u>HNu (ppm)</u>
0-10	Ambient	0.8
	Excavation	150
	Fresh spoil	110
	Old spoil	30
	On completion	15-25
10-20	Excavation	>200
	Fresh spoil	50-60
	On completion	15
20-30	Ambient	1
	Excavation	50-100
	On completion	5-15
30-40	Excavation	50-75
	Fresh spoil	3
	On completion	5-6
40-50	Excavation	11-30
	On completion	6-9
50-60	Excavation	20-60
	Fresh spoil	15
	On completion	2-9
60-70	Excavation	6-20
	Fresh spoil	10-30
	On completion	2-2.4
70-80	Excavation	10
	Fresh spoil	10-30
	On completion	7

HNu calibrated 5/22/85

Span spot 5.2

Draeger Tube #: Hydrocyanic Acid 2/a
Hydrogen Sulfide 1/c

APPENDIX D

Soil Borings Sampling

TABLE D-1

SUMMARY OF SOIL BORINGS SAMPLING PROGRAM
PRISTINE, INC.

FIELD SAMPLE	CRL ID	DATE SAMPLED	TIME SAMPLED	ANALYSIS	TRAFFIC REPORT	DATE SHIPPED	LABORATORY
PI-SB3501	85RL01S27	6/14/85	0730	ORGANICS	EXTRACTBL VOA	EC 832 EC 832	COMPU/CHEM
		6/14/85	0730	INORGANICS	METALS CYANIDE FLUORIDE	MED 177 MED 177 SAS 1746E	ROCKY MOUNTAIN ANALYTICAL
PI-SB3502	85RL01S28	6/14/85	0740	ORGANICS	EXTRACTBL VOA	EC 833 EC 833	COMPU/CHEM
		6/14/85	0740	INORGANICS	METALS CYANIDE FLUORIDE	MED 178 MED 178 SAS 1746E	ROCKY MOUNTAIN ANALYTICAL
PI-SB3503	85RL01S29	6/14/85	0750	ORGANICS	EXTRACTBL VOA	EC 834 EC 834	COMPU/CHEM
		6/14/85	0750	INORGANICS	METALS CYANIDE FLUORIDE	MED 179 MED 179 SAS 1746E	ROCKY MOUNTAIN ANALYTICAL
PI-SB350P	85RL01D29	6/14/85	0800	ORGANICS	EXTRACTBL VOA	EC 835 EC 835	COMPU/CHEM
		6/14/85	0800	INORGANICS	METALS CYANIDE FLUORIDE	MED 180 MED 180 SAS 1746E	ROCKY MOUNTAIN ANALYTICAL
PI-SB3504	85RL01S30	6/14/85	0810	ORGANICS	EXTRACTBL VOA	EC 836 EC 836	COMPU/CHEM
		6/14/85	0810	INORGANICS	METALS CYANIDE FLUORIDE	MED 181 MED 181 SAS 1746E	ROCKY MOUNTAIN ANALYTICAL
PI-SB3505	85RL01S31	6/14/85	0820	ORGANICS	EXTRACTBL VOA	EC 837 EC 837	COMPU/CHEM
		6/14/85	0820	INORGANICS	METALS CYANIDE FLUORIDE	MED 182 MED 182 SAS 1746E	ROCKY MOUNTAIN ANALYTICAL
PI-SB3601	85RL01S32	6/14/85	0855	ORGANICS	EXTRACTBL VOA	EC 838 EC 838	COMPU/CHEM
		6/14/85	0855	INORGANICS	METALS CYANIDE FLUORIDE	MED 183 MED 183 SAS 1746E	ROCKY MOUNTAIN ANALYTICAL

SOIL BORING SAMPLES

Seven borings were drilled at the site to assess the vertical distribution of contaminants in the soil. The locations and designations of the soil borings are shown in Figure 1-9. The borings were advanced using 4.25-inch I.D. hollow stem augers and were sampled continuously from the ground surface to a depth of 9 feet. A summary of the sampling program is given in Table D-1.

Two methods were used for sample collection. At borings SB35, SB36, and SB37 a five-foot long, split tube coring device having an inside diameter of 4 inches was used. The coring device was positioned inside the augers with its cutting edge about 6 inches ahead of the auger bit. As the augers were advanced in each of two coring runs (first 4 feet, then 5 feet), the coring tube — which did not rotate with the augers — simultaneously collected a relatively undisturbed, continuous sample. At borings SB38, SB39, SB40, and SBCP an oversized split-spoon having an inside diameter of 2.5 inches was used. The split-spoon was driven into the ground in consecutive 18-inch intervals for the entire depth of the boring.

Upon recovery from the borehole the sampler (split-tube or split-spoon) was placed on a clean surface and opened. As the sampler was opened the soil material was qualitatively screened for organic vapors with an HNu instrument and described by a qualified geologist. The instrument readings and soil descriptions were entered in the sampling logbook. The soil material was then transferred directly from the sampler to individual sample containers using a stainless steel spatula.

Five samples were collected for laboratory analysis in each boring. Samples collected using split-tubes comprised a 6-inch depth increment. Those collected using split-spoons comprised a 9-inch depth increment. A longer increment was used for the split-spoon samples because the sample diameter was smaller; thus, less material was collected within any given depth interval. The samples to be analyzed in their respective depth intervals are presented in Table D-2. Samples collected for CLP RAS organics analysis were sent to Pedco Environmental, Inc. (SB35 to SB37) and Compu/Chem (SB38 to SB40 and SBCP) laboratories. All samples collected for CLP RAS inorganics and fluoride by SAS were sent to Rocky Mountain Analytical Laboratories. Samples collected for pH testing were analyzed in a field laboratory using a 1:1 soil:water slurry method. The pH data are presented in Table D-3.

The drilling rig and all related equipment and tools were steam cleaned prior to drilling at each boring location. The split-tube samplers were also steam cleaned prior to use at each boring. The split-spoons and spatulas were cleaned in accordance with the standard equipment decontamination protocol prior to each use.

TABLE D-1 (Continued)

SUMMARY OF SOIL BORINGS SAMPLING PROGRAM
PRISTINE, INC.

FIELD SAMPLE	CRL ID	DATE SAMPLED	TIME SAMPLED	ANALYSIS	TRAFFIC REPORT	DATE SHIPPED	LABORATORY
PI-SB3703	85RL01539	6/14/85	1120	ORGANICS	EXTRACTBL VOA	EC 846 EC 846	COMPU/CHEM
		6/14/85	1120	INORGANICS	METALS CYANIDE FLUORIDE	MED 191 MED 191 SAS 1746E	ROCKY MOUNTAIN ANALYTICAL
PI-SB370P	85RL01539	6/14/85	1130	ORGANICS	EXTRACTBL VOA	EC 847 EC 847	COMPU/CHEM
		6/14/85	1130	INORGANICS	METALS CYANIDE FLUORIDE	MED 192 MED 192 SAS 1746E	ROCKY MOUNTAIN ANALYTICAL
PI-SB3704	85RL01540	6/14/85	1135	ORGANICS	EXTRACTBL VOA	EC 848 EC 848	COMPU/CHEM
		6/14/85	1135	INORGANICS	METALS CYANIDE FLUORIDE	MED 193 MED 193 SAS 1746E	ROCKY MOUNTAIN ANALYTICAL
PI-SB3705	85RL01541	6/14/85	1145	ORGANICS	EXTRACTBL VOA	EC 849 EC 849	COMPU/CHEM
		6/14/85	1145	INORGANICS	METALS CYANIDE FLUORIDE	MED 194 MED 194 SAS 1746E	ROCKY MOUNTAIN ANALYTICAL
PI-SB3801	85RL01542	6/19/85	1120	ORGANICS	EXTRACTBL VOA	EC 850 EC 850	COMPU/CHEM
		6/19/85	1120	INORGANICS	METALS CYANIDE FLUORIDE	MED 195 MED 195 SAS 1746E	ROCKY MOUNTAIN ANALYTICAL
PI-SB3802	85RL01543	6/19/85	1125	ORGANICS	EXTRACTBL VOA	EC 851 EC 851	COMPU/CHEM
		6/19/85	1125	INORGANICS	METALS CYANIDE FLUORIDE	MED 196 MED 196 SAS 1746E	ROCKY MOUNTAIN ANALYTICAL
PI-SB3803	85RL01544	6/19/85	1130	ORGANICS	EXTRACTBL VOA	EC 852 EC 852	COMPU/CHEM
		6/19/85	1130	INORGANICS	METALS CYANIDE FLUORIDE	MED 197 MED 197 SAS 1746E	ROCKY MOUNTAIN ANALYTICAL

TABLE D-1 (Continued)

SUMMARY OF SOIL BORINGS SAMPLING PROGRAM
PRISTINE, INC.

FIELD SAMPLE	CRL ID	DATE SAMPLED	TIME SAMPLED	ANALYSIS	TRAFFIC REPORT	DATE SHIPPED	LABORATORY
PI-SB3602	85RL01S33	6/14/85	0900	ORGANICS	EXTRACTBL VOA	EC 839 EC 839	COMPU/CHEM
		6/14/85	0900	INORGANICS	METALS CYANIDE FLUORIDE	MED 184 MED 184 SAS 1746E	ROCKY MOUNTAIN ANALYTICAL
PI-SB3603	85RL01S34	6/14/85	0910	ORGANICS	EXTRACTBL VOA	EC 840 EC 840	COMPU/CHEM
		6/14/85	0910	INORGANICS	METALS CYANIDE FLUORIDE	MED 185 MED 185 SAS 1746E	ROCKY MOUNTAIN ANALYTICAL
PI-SB36MS	85RL01X34	6/14/85	0925	ORGANICS	EXTRACTBL VOA	EC 840 EC 840	COMPU/CHEM
		6/14/85	0925	INORGANICS	METALS CYANIDE FLUORIDE	MED 185 MED 185 SAS 1746E	ROCKY MOUNTAIN ANALYTICAL
PI-SB36MS	85RL01X34	6/14/85	0925	ORGANICS	EXTRACTBL VOA	EC 840 EC 840	COMPU/CHEM
		6/14/85	0925	INORGANICS	METALS CYANIDE FLUORIDE	MED 185 MED 185 SAS 1746E	ROCKY MOUNTAIN ANALYTICAL
PI-SB3604	85RL01X35	6/14/85	0935	ORGANICS	EXTRACTBL VOA	EC 842 EC 842	COMPU/CHEM
		6/14/85	0935	INORGANICS	METALS CYANIDE FLUORIDE	MED 187 MED 187 SAS 1746E	ROCKY MOUNTAIN ANALYTICAL
PI-SB3605	85RL01S36	6/14/85	0945	ORGANICS	EXTRACTBL VOA	EC 843 EC 843	COMPU/CHEM
		6/14/85	0945	INORGANICS	METALS CYANIDE FLUORIDE	MED 188 MED 188 SAS 1746E	ROCKY MOUNTAIN ANALYTICAL
PI-SB3701	85RL01S37	6/14/85	1050	ORGANICS	EXTRACTBL VOA	EC 844 EC 844	COMPU/CHEM
		6/14/85	1050	INORGANICS	METALS CYANIDE FLUORIDE	MED 189 MED 189 SAS 1746E	ROCKY MOUNTAIN ANALYTICAL
PI-SB3702	85RL01S38	6/14/85	1100	ORGANICS	EXTRACTBL VOA	EC 845 EC 845	COMPU/CHEM
		6/14/85	1100	INORGANICS	METALS CYANIDE FLUORIDE	MED 190 MED 190 SAS 1746E	ROCKY MOUNTAIN ANALYTICAL

TABLE D-1 (Continued)

SUMMARY OF SOIL BORINGS SAMPLING PROGRAM
PRISTINE, INC.

FIELD SAMPLE	CRL ID	DATE SAMPLED	TIME SAMPLED	ANALYSIS	TRAFFIC REPORT	DATE SHIPPED	LABORATORY
PI-SB3904	85RL01550	6/19/85	1045	ORGANICS	EXTRACTBL VOA	EC 860 EC 860	COMPU/CHEM
		6/19/85	1045	INORGANICS	METALS CYANIDE FLUORIDE	MED 455 MED 455 SAS 1746E	ROCKY MOUNTAIN ANALYTICAL
PI-SB3905	85RL01551	6/19/85	1054	ORGANICS	EXTRACTBL VOA	EC 861 EC 861	COMPU/CHEM
		6/19/85	1054	INORGANICS	METALS CYANIDE FLUORIDE	MED 456 MED 456 SAS 1746E	ROCKY MOUNTAIN ANALYTICAL
PI-SB4001	85RL01552	6/19/85	1220	ORGANICS	EXTRACTBL VOA	EC 862 EC 862	COMPU/CHEM
		6/19/85	1220	INORGANICS	METALS CYANIDE FLUORIDE	MED 457 MED 457 SAS 1746E	ROCKY MOUNTAIN ANALYTICAL
PI-SB4002	85RL01553	6/19/85	1225	ORGANICS	EXTRACTBL VOA	EC 863 EC 863	COMPU/CHEM
		6/19/85	1225	INORGANICS	METALS CYANIDE FLUORIDE	MED 458 MED 458 SAS 1746E	ROCKY MOUNTAIN ANALYTICAL
PI-SB4003	85RL01554	6/19/85	1235	ORGANICS	EXTRACTBL VOA	EC 864 EC 864	COMPU/CHEM
		6/19/85	1235	INORGANICS	METALS CYANIDE FLUORIDE	MED 459 MED 459 SAS 1746E	ROCKY MOUNTAIN ANALYTICAL
PI-SB40MS	85RL01554	6/19/85	1240	ORGANICS	EXTRACTBL VOA	EC 864 EC 864	COMPU/CHEM
		6/19/85	1240	INORGANICS	METALS CYANIDE FLUORIDE	MED 459 MED 459 SAS 1746E	ROCKY MOUNTAIN ANALYTICAL
PI-SB40MS	85RL01549	6/19/85	1235	ORGANICS	EXTRACTBL VOA	EC 864 EC 864	COMPU/CHEM
		6/19/85	1235	INORGANICS	METALS CYANIDE FLUORIDE	MED 459 MED 459 SAS 1746E	ROCKY MOUNTAIN ANALYTICAL

TABLE D-1 (Continued)

SUMMARY OF SOIL BORINGS SAMPLING PROGRAM
PRISTINE, INC.

FIELD SAMPLE	CRL ID	DATE SAMPLED	TIME SAMPLED	ANALYSIS	TRAFFIC REPORT	DATE SHIPPED	LABORATORY
PI-SB38MS	85RL01144	6/19/85	1140	ORGANICS	EXTRACTBL VOA	EC 852 EC 852	COMPU/CHEM
		6/19/85	1140	INORGANICS	METALS CYANIDE FLUORIDE	MED 197 MED 197 SAS 1746E	ROCKY MOUNTAIN ANALYTICAL
PI-SB38MS	85RL01138	6/19/85	1130	ORGANICS	EXTRACTBL VOA	EC 952 EC 852	COMPU/CHEM
		6/19/85	1130	INORGANICS	METALS CYANIDE FLUORIDE	MED 197 MED 197 SAS 1746E	ROCKY MOUNTAIN ANALYTICAL
PI-SB3804	85RL01545	6/19/85	1150	ORGANICS	EXTRACTBL VOA	EC 954 EC 854	COMPU/CHEM
		6/19/85	1150	INORGANICS	METALS CYANIDE FLUORIDE	MED 199 MED 199 SAS 1746E	ROCKY MOUNTAIN ANALYTICAL
PI-SB3805	85RL01546	6/19/85	1200	ORGANICS	EXTRACTBL VOA	EC 855 EC 855	COMPU/CHEM
		6/19/85	1200	INORGANICS	METALS CYANIDE FLUORIDE	MED 200 MED 200 SAS 1746E	ROCKY MOUNTAIN ANALYTICAL
PI-SB3901	85RL01547	6/19/85	1002	ORGANICS	EXTRACTBL VOA	EC 856 EC 856	COMPU/CHEM
		6/19/85	1002	INORGANICS	METALS CYANIDE FLUORIDE	MED 451 MED 451 SAS 1746E	ROCKY MOUNTAIN ANALYTICAL
PI-SB3902	85RL01548	6/19/85	1009	ORGANICS	EXTRACTBL VOA	EC 857 EC 857	COMPU/CHEM
		6/19/85	1009	INORGANICS	METALS CYANIDE FLUORIDE	MED 452 MED 452 SAS 1746E	ROCKY MOUNTAIN ANALYTICAL
PI-SB3903	85RL01549	6/19/85	1028	ORGANICS	EXTRACTBL VOA	EC 858 EC 858	COMPU/CHEM
		6/19/85	1028	INORGANICS	METALS CYANIDE FLUORIDE	MED 453 MED 453 SAS 1746E	ROCKY MOUNTAIN ANALYTICAL
PI-SB390P	85RL01049	6/19/85	1040	ORGANICS	EXTRACTBL VOA	EC 859 EC 859	COMPU/CHEM
		6/19/85	1040	INORGANICS	METALS CYANIDE FLUORIDE	MED 454 MED 454 SAS 1746E	ROCKY MOUNTAIN ANALYTICAL

TABLE D-2

Summary of Sampling Depths

<u>Sample Number</u>	<u>Nominal Depth (ft)</u>	<u>Actual Depth (ft)</u>
SB35-01	0	0.0 - 0.5
SB35-02	1	1.0 - 1.5
SB35-03	2	2.0 - 3.0
SB35-DP	2	2.0 - 3.0
SB35-04	4	4.0 - 4.5
SB35-05	8	8.0 - 8.5
SB36-01	0	0.0 - 0.5
SB36-02	1	1.0 - 1.5
SB36-03	2	2.0 - 3.0
SB36-MS	2	2.0 - 3.0
SB36-04	4	4.0 - 4.5
SB36-05	8	8.0 - 8.5
SB37-01	0	0.0 - 0.5
SB37-02	1	1.0 - 1.5
SB37-03	2	2.0 - 3.0
SB37-DP	2	2.0 - 3.0
SB37-04	4	4.0 - 4.5
SB37-05	8	7.0 - 7.5
SB38-01	0	0.0 - 0.75
SB38-02	1	0.75 - 1.5
SB38-03	2	2.0 - 3.0
SB38-MS	2	2.0 - 3.75
SB38-04	4	3.75 - 4.5
SB38-05	8	7.5 - 8.25
SB39-01	0	0.0 - 0.75
SB39-02	1	0.75 - 1.5
SB39-03	2	1.5 - 3.0
SB39-DP	2	1.5 - 3.0
SB39-04	4	3.75 - 4.5
SB39-05	8	7.75 - 8.5
SB40-01	0	0.0 - 0.75
SB40-02	1	0.75 - 1.5
SB40-03	2	2.0 - 3.0
SB40-MS	2	2.0 - 3.75
SB40-04	4	3.75 - 4.5
SB40-05	8	7.75 - 8.5
SBCP-01	0	0.83 - 1.58
SBCP-02	1	1.58 - 2.33
SBCP-03	2	2.33 - 3.83
SBCP-DP	2	2.33 - 3.83
SBCP-04	4	4.58 - 5.33
SBCP-05	8	8.53 - 9.33

TABLE D-1 (Continued)

SUMMARY OF SOIL BORINGS SAMPLING PROGRAM
PRISTINE, INC.

FIELD SAMPLE	CRL ID	DATE SAMPLED	TIME SAMPLED	ANALYSIS	TRAFFIC REPORT	DATE SHIPPED	LABORATORY
PI-SB4004	85RL01555	6/19/85	1245	ORGANICS	EXTRACTBL VOA	EC 866	COMPU/CHEM
		6/19/85	1245	INORGANICS	METALS CYANIDE FLUORIDE	EC 866 MED 461 MED 461 SAS 1746E	ROCKY MOUNTAIN ANALYTICAL
PI-SB4005	85RL01556	6/19/85	1250	ORGANICS	EXTRACTBL VOA	EC 867	COMPU/CHEM
		6/19/85	1245	INORGANICS	METALS CYANIDE FLUORIDE	EC 867 MED 462 MED 462 SAS 1746E	ROCKY MOUNTAIN ANALYTICAL
PI-SB4001	85RL01590	6/19/85	1059	ORGANICS	EXTRACTBL VOA	EC 906	COMPU/CHEM
		6/19/85	1059	INORGANICS	METALS CYANIDE FLUORIDE	EC 906 MED 701 MED 701 SAS 1746E	ROCKY MOUNTAIN ANALYTICAL
PI-SB4002	85RL01591	6/19/85	1105	ORGANICS	EXTRACTBL VOA	EC 907	COMPU/CHEM
		6/19/85	1105	INORGANICS	METALS CYANIDE FLUORIDE	EC 907 MED 702 MED 702 SAS 1746E	ROCKY MOUNTAIN ANALYTICAL
PI-SB4003	85RL01592	6/19/85	1124	ORGANICS	EXTRACTBL VOA	EC 908	COMPU/CHEM
		6/19/85	1124	INORGANICS	METALS CYANIDE FLUORIDE	EC 908 MED 703 MED 703 SAS 1746E	ROCKY MOUNTAIN ANALYTICAL
PI-SB4004	85RL01593	6/19/85	1157	ORGANICS	EXTRACTBL VOA	EC 909	COMPU/CHEM
		6/19/85	1157	INORGANICS	METALS CYANIDE FLUORIDE	EC 909 MED 704 MED 704 SAS 1746E	ROCKY MOUNTAIN ANALYTICAL
PI-SB4005	85RL01594	6/19/85	1215	ORGANICS	EXTRACTBL VOA	EC 910	COMPU/CHEM
		6/19/85	1215	INORGANICS	METALS CYANIDE FLUORIDE	EC 910 MED 705 MED 705 SAS 1746E	ROCKY MOUNTAIN ANALYTICAL
PI-SB4006	85RL01593	6/19/85	1134	ORGANICS	EXTRACTBL VOA	EC 911	COMPU/CHEM
		6/19/85	1134	INORGANICS	METALS CYANIDE FLUORIDE	EC 911 MED 706 MED 706 SAS 1746E	ROCKY MOUNTAIN ANALYTICAL

TABLE D-3

Summary of pH Data

<u>Sample Number</u>	<u>Laboratory Data (pH)</u>				<u>Mean (pH)</u>	<u>Std. Dev.</u>
SB35-01	3.15	3.10	3.10	3.15	3.1	0.03
SB35-02	3.75	3.70	3.70	3.70	3.7	0.03
SB35-03	6.40	6.60	6.60	6.55	6.5	0.09
SB35-DP	6.60	6.70	6.70	6.75	6.7	0.06
SB35-04	6.70	6.75	6.85	6.85	6.8	0.08
SB35-05	7.10	7.05	7.15	7.70	7.1	0.06
SB36-01	3.00	3.00	3.00	3.00	3.0	0.00
SB36-02	5.60	5.65	5.65	5.60	5.6	0.03
SB36-03	7.15	7.20	7.15	7.20	7.2	0.03
SB36-MS	7.10	7.10	7.10	7.10	7.1	0.00
SB36-04	7.25	7.25	7.20	7.20	7.2	0.03
SB36-05	6.90	6.95	7.00	7.05	7.0	0.06
SB37-01	3.45	3.40	3.40	3.45	3.4	0.03
SB37-02	4.00	4.20	4.15	4.15	4.1	0.09
SB37-03	7.15	7.15	6.85	7.00	7.0	0.14
SB37-DP	6.60	6.90	6.95	6.95	6.9	0.17
SB37-04	6.80	7.00	7.05	7.05	7.0	0.12
SB37-05	7.00	6.95	6.95	7.00	7.0	0.03
SB38-01	6.00	6.05	6.15	6.00	6.1	0.07
SB38-02	3.20	3.20	3.20	3.20	3.2	0.00
SB38-03	2.30	2.80	2.80	2.80	2.8	0.00
SB38-MS	6.00	6.00	6.10	6.15	6.1	0.08
SB38-04	4.50	4.60	4.50	4.70	4.6	0.10
SB38-05	-	-	-	-	-	-
SB39-01	6.85	6.85	6.95	7.00	6.9	0.08
SB39-02	6.30	6.35	6.40	6.40	6.4	0.05
SB39-03	6.30	6.40	6.40	6.40	6.4	0.05
SB39-DP	6.40	6.40	6.40	6.40	6.4	0.00
SB39-04	7.30	7.35	7.35	7.35	7.3	0.03
SB39-05	6.60	6.60	6.70	6.70	6.7	0.06
SB40-01	6.30	6.45	6.45	6.50	6.4	0.09
SB40-02	6.30	6.40	6.40	6.40	6.4	0.05
SB40-03	3.40	3.50	3.45	3.45	3.5	0.04
SB40-MS	5.80	5.70	5.75	5.80	5.8	0.05
SB40-04	4.40	4.40	4.40	4.35	4.4	0.03
SB40-05	6.80	6.85	6.80	6.80	6.8	0.03
SBCP-01	-	-	-	-	-	-
SBCP-02	-	-	-	-	-	-
SBCP-03	-	-	-	-	-	-
SBCP-DP	-	-	-	-	-	-
SBCP-04	-	-	-	-	-	-
SBCP-05	-	-	-	-	-	-

APPENDIX E
Groundwater Sampling .

Pristine, Inc.
Sampling Memorandum
Date: August 29, 1985

and Analysis Plan, with the exception that only two replicate measurements were made. Sampling data and field measurements are presented in Table E-3.

Sample aliquots collected for metals, cyanide and fluoride analysis were filtered prior to preservation and shipment. Filtering was performed using disposable, 150-ml filter apparatus with a 45 micron filter and a hand vacuum pump. Filtrate was temporarily stored in a decontaminated glass jar until an entire, one-liter sample aliquot had been filtered. After rinsing any residual sediment from the sample bottle with deionized water, the filtered sample was returned to the sample bottle for preservation and shipment. Fresh filter apparatus were used for the first aliquot from each well and whenever the filter in use could not be satisfactorily rinsed of sediment (using deionized water in a wash bottle).

Pumps and bailers used for well purging were cleaned in accordance with the standard decontamination protocol prior to use at each well. For the pumps, this included pumping the detergent/wash water and tap/rinse water through the pump and related tubing. The Teflon bailer was also cleaned in accordance with the standard protocol. The ten feet of nylon or polyethylene cord closest to a used bailer was cut off and the cord retied to the bailer before it was used at another well.

GROUNDWATER SAMPLING

Eighteen monitoring wells were installed at ten locations on and adjacent to the Pristine, Inc. site. The locations and designations of these wells are shown in Figure 1-10. Detailed information regarding the installation of the monitoring wells (e.g. drilling methods, soil stratigraphy, well construction and well development) can be found in the Hydrogeology Memo. A summary of the sampling program is given in Table E-1. Well depths and stratigraphic units adjacent to screened intervals are summarized in Table E-2.

A total of sixteen groundwater samples were collected during the initial round of sampling conducted in June 1985. Two wells, GW54 and GW61, did not contain enough water to allow even partial sample collection at the time of sampling. Well GW54 had contained water after installation, but it did not recover sufficiently after well development. Well GW61 had not contained water at any time after installation.

With the exception of three wells, as noted below, the monitoring wells were purged prior to sample collection. The volumes of water removed during purging ranged from 3.1 to 5.8 static well volumes as determined just prior to purging. Static well volumes were calculated using water level measurements obtained with an electrical water-level sounder to any accuracy of 0.01 feet. Purging was performed using a peristaltic pump, a submersible pump, or a PVC bailer depending on well depth.

The three wells that were not purged prior to sample collection -- GW47, GW55, and GW56 -- contained 0.28, 0.11 and 0.16 gallons respectively at the time of sample collection. In addition to containing much less water than the 1.8 gallons required to fill a complete sample bottle set, these three wells were determined to be slow rechargers during well development. The decision to collect (partial) samples from these wells without purging was made in full recognition that the data would not be representative of adjacent groundwater conditions. However, given the parameters sampled for and analyzed -- volatile organics from all three wells and filtered metals from well GW56 -- the data should represent minimum contaminant conditions.

Groundwater samples were collected using a Teflon bailer. The bailer was lowered to the top of the static water column in the well with a nylon or polyethylene cord. Because the volume of the bailer was about 750 ml, it was necessary to lower, fill, and retrieve the bailer about nine times for each sample collected. The general sequence of bottle filling was as follows: metals (to be filtered), cyanide (to be filtered), fluoride (to be filtered), volatile organics, extractable organics. Both VOA vials were filled from the same bailer and were the first bottles filled from that bailer. Field measurements of pH, specific conductance and temperature were made in accordance with the procedures contained in Appendix A of the Sampling

Sample aliquots collected for metals, cyanide and fluoride analysis were filtered prior to preservation and shipment. Filtering was performed using disposable, 150-ml filter apparatus with a 45 micron filter and a hand vacuum pump. Filtrate was temporarily stored in a decontaminated glass jar until an entire, one-liter sample aliquot had been filtered. After rinsing any residual sediment from the sample bottle with deionized water, the filtered sample was returned to the sample bottle for preservation and shipment. Fresh filter apparatus were used for the first aliquot from each well and whenever the filter in use could not be satisfactorily rinsed of sediment (using deionized water in a wash bottle).

Pumps and bailers used for well purging were cleaned in accordance with the standard decontamination protocol prior to use at each well. For the pumps, this included pumping the detergent/wash water and tap/rinse water through the pump and related tubing. The Teflon bailer was also cleaned in accordance with the standard protocol except the rinse with organic-free water was omitted. The ten feet of nylon or polyethylene cord closest to a used bailer was cut off and the cord retied to the bailer before it was used at another well.

GROUNDWATER SAMPLING-ROUND 2

A total of 15 groundwater samples were collected during the second round of sampling conducted in September 1985. Five wells, GW50, GW56, GW58, GW61 and GW62 contained enough water for partial sample collection. Three wells, GW47, GW54, and GW55 did not contain enough water to allow even partial sample collection at this time. A summary of the sampling program for the second round is presented in Table E-1.

Baildown tests were performed on all wells with the exception of GW47, GW54, GW55 and GW61. Baildown tests were not performed on these wells due to insufficient water volumes. A summary of the baildown tests is provided in the Hydrogeology Memo. Baildown tests were performed one to three days prior to sampling, except in wells GW50 and GW62 which were sampled four days after testing (Table E-4). The required three to five well volumes were removed from all sampled wells, except GW61, for the baildown tests a short time prior to sampling, and it was deemed unnecessary to purge wells again. The decision to collect partial samples from wells GW47, GW54, GW55, and GW61 without purging was made in full recognition that the data would not be representative of adjacent groundwater conditions.

Wells GW50, GW56, and GW61 contained insufficient volumes to collect samples. It was decided to collect a partial sample for volatile organic analysis. Well GW62 contained enough water for collection of samples for volatile organics, metals, cyanide, and one-half the required volume for semi-volatiles, pesticides, and PCBs analysis. Well GW61 contained only 0.10 gallons of water. Because it contained much less than the 1.8 gallons required to fill a complete sample bottle set and because it appeared to be a very slow recharger, the decision to collect a (partial) sample from this well without purging was made in full recognition that the data would not be representative of adjacent groundwater conditions. However, because volatile organics were the parameters analyzed, the data should represent minimum contaminant conditions.

Groundwater samples were collected using a Teflon bailer. The bailer was lowered to the top of the static water column in the well with a nylon or polyethylene cord. Because the volume of the bailer was about 750 ml, it was necessary to lower, fill, and retrieve the bailer about nine times for each sample collected. The general sequence of bottle filling was as follows: metals (to be filtered), cyanide (to be filtered), fluoride (to be filtered), volatile organics, extractable organics. Both VOA vials were filled from the same bailer and were the first bottles filled from that bailer. Field measurements of pH, specific conductance and temperature were made in accordance with the procedures contained in Appendix A of the Sampling and Analysis Plan. Sampling data and field measurements are presented in Table E-5.

TABLE E-1 (Continued)

SUMMARY OF GROUNDWATER SAMPLING PROGRAM
PRISTINE, INC.

FIELD SAMPLE	CRL ID	DATE SAMPLED	TIME SAMPLED	ANALYSIS	TRAFFIC REPORT	DATE SHIPPED	LABORATORY
PI-6W5101	85RL01S78	6/25/85	1710	ORGANICS	VOA EXTRACTBL	EC 891 EC 891	PEDCO
		6/25/85	1710	INORGANICS	METALS-F CYANIDE FLUORIDE METALS-UNFSAS SUSSLDS	MED 486 MED 486 SAS 1746E SAS 1746E SAS 1746E	ROCKY MOUNTAIN ANALYTICAL
PI-6W510P	95RL01078	6/25/85	1737	ORGANICA	VOA EXTRACTBL	EC 892 EC 892	PEDCO
		6/25/85	1737	INORGANICS	METALS-F CYANIDE FLUORIDE METALS-UNFSAS SUSSLDS	MED 487 MED 487 SAS 1746E SAS 1746E SAS 1746E	ROCKY MOUNTAIN ANALYTICAL
PI-6W5201	85RL01S79	6/25/85	1542	ORGANICS	VOA EXTRACTBL	EC 893 EC 893	PEDCO
		6/25/85	1542	INORGANICS	METALS-F CYANIDE FLUORIDE	MED 488 MED 488 SAS 1746E	ROCKY MOUNTAIN ANALYTICAL
PI-6W5301	85RL01S80	6/26/85	1010	ORGANICS	VOA EXTRACTBL	EC 894 EC 894	PEDCO
		6/26/85	1010	INORGANICS	METALS-F CYANIDE FLUORIDE METALS-UNFSAS SUSSLDS	MED 489 MED 489 SAS 1746E SAS 1746E SAS 1746E	ROCKY MOUNTAIN ANALYTICAL
PI-6W5401	NOT SAMPLED						
PI-6W5501	85RL01S82	6/27/85	0950	ORGANICS	VOA EXTRACTBL	EC 896 EC 896	PEDCO
		6/27/85	0950	INORGANICS	METALS-F CYANIDE FLUORIDE	INSUFFICIENT WATER VOLUME IN WELL INSUFFICIENT WATER VOLUME IN WELL INSUFFICIENT WATER VOLUME IN WELL	
PI-6W5601	85RL01S93	6/27/85	0930	ORGANICS	VOA EXTRACTBL	EC 897 EC 897	PEDCO
		6/27/85	0930	INORGANICS	METALS-F CYANIDE FLUORIDE	MED 492 MED 492 SAS 1746E	ROCKY MOUNTAIN ANALYTICAL

TABLE E-1

SUMMARY OF GROUNDWATER SAMPLING PROGRAM
PRISTINE, INC.

FIELD SAMPLE	CRL ID	DATE SAMPLED	TIME SAMPLED	ANALYSIS	TRAFFIC REPORT	DATE SHIPPED	LABORATORY
PI-6W4501	85RL01S72	6/26/85	1810	ORGANICS	VOA EXTRACTBL	EC 884 EC 844	PEDCO
		6/26/85	1810	INORGANICS	METALS-F CYANIDE FLUORIDE	MED 479 MED 479 SAS 1746E	ROCKY MOUNTAIN ANALYTICAL
PI-6W4601	85RL01S73	6/26/85	1848	ORGANICS	VOA EXTRACTBL	EC 885 EC 885	PEDCO
		6/26/85	1848	INORGANICS	METALS-F CYANIDE FLUORIDE	MED 480 MED 480 SAS 1746E	ROCKY MOUNTAIN ANALYTICAL
PI-6W4701	85RL01S74	6/28/85	1005	ORGANICS	VOA EXTRACTBL	EC 886 INSUFFICIENT WATER VOLUME IN WELL	PEDCO
		6/28/85	1005	INORGANICS	METALS-F CYANIDE FLUORIDE	INSUFFICIENT WATER VOLUME IN WELL INSUFFICIENT WATER VOLUME IN WELL INSUFFICIENT WATER VOLUME IN WELL	
PI-6W4801	85RL01S75	6/28/85	0935	ORGANICS	VOA EXTRACTBL	EC 887 EC 887	PEDCO
		6/28/85	0935	INORGANICS	METALS-F CYANIDE FLUORIDE	MED 482 MED 482 SAS 1746E	ROCKY MOUNTAIN ANALYTICAL
PI-6W488K	85RL01R75	6/28/85	0907	ORGANICS	VOA EXTRACTBL	EC 888 EC 888	PEDCO
		6/28/85	0907	INORGANICS	METALS-F CYANIDE FLUORIDE	MED 483 MED 483 SAS 1746E	ROCKY MOUNTAIN ANALYTICAL
PI-6W4901	85RL01S76	6/26/85	1741	ORGANICS	VOA EXTRACTBL	EC 889 EC 889	PEDCO
		6/26/85	1741	INORGANICS	METALS-F CYANIDE FLUORIDE	MED 484 MED 484 SAS 1746E	ROCKY MOUNTAIN ANALYTICAL
PI-6W5001	85RL01S77	6/26/85	0727	ORGANICS	VOA EXTRACTBL	EC 890 EC 890	PEDCO
		6/26/85	0727	INORGANICS	METALS-F CYANIDE FLUORIDE	MED 485 MED 485 SAS 1746E	ROCKY MOUNTAIN ANALYTICAL

NOTE: Scientific notation (such as 2×10^{-6}) is a shorthand way of indicating decimal places, i.e., the size of a number. A negative exponent indicates that the decimal should be moved the specified number of places to the left (e.g., $2.4 \times 10^{-3} = 0.0024$), while a positive exponent indicates the number of places it should be moved to the right (e.g., $2.4 \times 10^3 = 2,400$).

TABLE 5-16
ASSUMPTIONS USED IN CALCULATE DOSES FROM
SURFACE WATER EXPOSURE

Parameter	Value
1. Body weight	35 kg
2. Surface area of skin	9,400 cm ²
3. Frequency of swims	5 times/week for 20 weeks/year
4. Frequency over lifetime	6 years/lifetime
5. Duration of each swim	2 hours
6. Water flux across body surface	0.5 mg/cm ² /hour
7. Dermal absorption	100% for organic compounds; 0% for cadmium, fluoride, and lead
8. Oral absorption	100% for organic compounds and fluoride; 0% for cadmium and lead
9. Amount of water ingested during each swim	0.10 liter

Source: Versar, 1986.

Since applicable or relevant and appropriate standards and criteria do not exist for all of the potential exposure pathways considered to be complete under future use scenarios, a more complete risk assessment is presented in the following section of this report.

5.3.4 Risk Assessment--Future Reuse of the Site

5.3.4.1 Groundwater

The evaluation of the risks associated with exposure to groundwater is based on the indicator chemical concentrations shown in Table 5-5. Once again, it is assumed that the exposed individuals weigh 70 kg and consumes 2 liters of water per day.

The lifetime excess cancer risks associated with the potentially carcinogenic indicator chemicals detected in groundwater are shown in Table 5-15. The excess cancer risks associated with the most probable potential future exposure may be higher than 10^{-4} , and they may be higher than 10^{-1} under worst-case exposure conditions. This suggests that very high health risks may result from exposure to groundwater contaminated at the reported levels.

Daily doses and the AICs for future chronic exposure to the noncarcinogenic indicator chemicals found in the groundwater are also presented in Table 5-15. Under the worst-case exposure conditions, chronic ingestion of water contaminated at this level is likely to pose health risks to exposed individuals; while under most probable conditions, ingestion is not likely to pose health risks.

5.3.4.2 Surface Water

Doses resulting from swimming and wading in the creek are estimated based on dermal contact and incidental ingestion of water using the assumptions summarized in Table 5-16 (adapted from Versar 1986). The assessment is made more conservative by using the estimated concentrations in Mill Creek after a storm. It is highly unlikely that such concentrations would occur throughout the swimming season.

Similar to the assumptions used when assessing exposure to contaminated soil, older children (ages 6-11) are considered to be of primary concern. Exposure to the metals is assumed to be negligible, because they are strongly adsorbed to sediments and will not be found in the water column. Further, dermal adsorption of cadmium, fluoride, and lead is assumed to be negligible.

The dermal dose was calculated using the following formula:

$$\text{Dermal dose} = \frac{(C) (Flux) (D) (F) (A) (DA)}{(BW)},$$

TABLE 5-15

DOSES AND RISKS ASSOCIATED WITH CONTAMINANTS PRESENT IN
GROUNDWATER IF THE PRISTINE SITE IS REUSED

(Exposure point: Private well, potential future use)

Potential Carcinogen	Total Dose (mg/kg/day)		Carcinogenic Potency (mg/kg/day) ⁻¹	Incremental Lifetime Cancer Risk	
	Most Prob- able Case	Worst Case		Most Prob- able Case	Worst Case
Benzene	6.0×10^{-4}	0.97	0.052 [A] ^a	3.1×10^{-5}	5.0×10^{-2}
Tetrachloroethene	1.7×10^{-4}	0.046	0.011 [B2] ^a	1.9×10^{-6}	5.0×10^{-4}
Vinyl chloride	4.0×10^{-4}	0.024	2.3 [A] ^a	9.2×10^{-4}	5.4×10^{-2}
Total				9.5×10^{-4}	1.0×10^{-1}

Noncarcinogens	Total Dose (mg/kg/day)		Acceptable In- take for Chronic Exposure (mg/kg/day)	Dose:AIC	
	Most Prob- able Case	Worst Case		Most Prob- able Case	Worst Case
Cadmium	6.6×10^{-5}	0.0013	5.0×10^{-4}	0.13	2.6
Fluoride	0.032	0.77	0.11 ^b	0.29	7.0
Lead	1.7×10^{-4}	0.0051	2.9×10^{-4} (c)	0.59	18
Phenol	1.8×10^{-4}	0.13	0.10	0.0018	1.3

^aAll potency factors used in this report are followed by USEPA's qualitative weight of evidence classification. The significance and appropriate use of these designations are discussed in USEPA's Proposed Guidelines for Carcinogenic Risk Assessment (Fed. Reg. 49:46294-46301, November 23, 1984) and in other USEPA documents. [A] is the designation of a human carcinogen. Group [B2] compounds are probable human carcinogens based on sufficient evidence from animal studies but inadequate evidence from human studies.

^bThe AIC for fluoride was calculated from the MCL of 4.0 mg/day, assuming that the average person weighs 70 kg and drinks 2 liters of water per day.

^cUse of an acceptable daily intake (AIC) is not recommended for lead. A draft health advisory (HA) value of 2×10^{-2} mg/day (2.9×10^{-4} mg/kg/day) is provided for guidance.

TABLE 5-13
FINAL CONCENTRATIONS OF CONTAMINANTS
IN MILL CREEK

(All values are in $\mu\text{g/liter}$)

Chemical	Most Probable	Worst Case
Benzene	0.0067	0.0073
Cadmium	0.027	0.047
Dieldrin	0.00029	0.00053
Fluoride	3.6	5.3
Lead	0.7	2.2
Phenol	0.053	0.67
Tetrachloroethene	0.035	0.73

TABLE 5-14

COMPARISON OF FEDERAL CRITERIA, ADVISORIES, AND GUIDELINES AND STATE STANDARDS
TO ESTIMATED GROUNDWATER EXPOSURE POINT CONCENTRATIONS
AT THE PRISTINE SITE UNDER A FUTURE-USE SCENARIO

(All values are in µg/liter)

Chemical	Type of Criterion	Value of Criterion	Exposure Point Concentration		Ratio of Concentration to Criteria	
			Most Prob-able Case	Worst Case	Most Prob-able Case	Worst Case
<u>Potential Carcinogens</u>						
Benzene	Proposed MCL ^a	5			4.2	6,800
	AWQC	0.67	21*	34,000*	31	51,000
Tetrachloroethene	AWQC	0.88	5.9*	1,600*	6.7	1,800
Vinyl chloride	Proposed MCL	1.0			14	830
	AWQC	2.0	14*	830*	7.0	410
<u>Noncarcinogens</u>						
Cadmium	MCL	10			0.23	4.5
	AWQC	10	2.3*	45*	0.23	4.5
	Proposed RMCL	5			0.46	9.0
Fluoride	MCL	4,000	1,100	27,000*	0.28	6.8
Lead	MCL	50			0.12	3.6
	RMCL	20	6.0	180*	0.30	9.0
	AWQC	50			0.12	3.6
Phenol	AWQC	3,500	6.2	4,500*	0.0018	730

^aRecommended maximum contaminant levels (RMCLs) are based only on consideration of potential toxic effects. RMCLs for potential human carcinogens are zero. Maximum contaminant levels (MCLs), which are federally enforceable standards, are set at some value greater than zero based on consideration of technical feasibility of control, analytical techniques, economic impact, and other factors.

^bAmbient water quality criterion. These values are adjusted for exposure by ingestion of drinking water only. For potential carcinogens, AWQC documents provide water concentrations corresponding to incremental lifetime cancer risks of 10^{-6} , 10^{-5} , and 10^{-4} . Concentrations corresponding to the midpoint of this range (10^{-5}) are shown in this table.

*Concentration exceeds criteria and/or standard.

Annual precipitation in Cincinnati (10 miles southwest of the site) averages 40 inches (NOAA, 1984). NOAA (1984) reports an average of 131 days of precipitation per year. The maximum 24-hour rain storm of record is 4.54 inches, and it occurred in September 1979.

Surface runoff from the 24-hour storm described above is estimated using the SCS curve number method. A curve number of 92 corresponds to soil hydrological group D, bare surface, and moderately wet antecedent soil conditions (considered to be reflective of conditions at the site) and indicates that significant runoff can occur. Using this curve, a storm of 4.54 inches would generate 3.64 inches of runoff. The total volume of runoff generated from the drainage area (8,000 square feet) would be 0.054 acre-feet of water. The maximum rate of runoff was estimated to be 0.0029 cu ft/sec using the following equation (USEPA, 1982):

$$q_p = \frac{aA_w RQF}{T_r(R - 0.2W)}$$

where

q_p = peak runoff rate (cu ft/sec),

a = units conversion constant (1.01),

A_w = watershed area (acres),

R = total storm rainfall (inches),

T_r = storm duration (hours), and

W = water retention parameter.

The universal soil loss equation was used to estimate the amount of soil lost in this rain event:

$$Y(S)_E = 95 (Vq_p)^{0.56} KLSCP,$$

where

$Y(S)_E$ = soil lost per event (tons),

V = volume of runoff (acre-feet),

K = soil-erodibility factor,

L = slope-length factor,

S = slope-steepness factor,

C = cover factor, and

P = erosion control practice factor.

Approximately 0.57 tons of soil are lost as a result of this storm.

Mill Creek is a small meandering stream approximately 20 feet wide and 0.5 feet deep at low flow. The stream has a slope of approximately 8 feet/mile with a flow rate (measured at low flow) of 10 cu ft/sec (Fidler, 1970). If it is assumed that there are not changes over time in contaminant concentrations in the ditch, concentrations in the stream resulting from storm water runoff can be estimated from the data in Table 5-5. It is also assumed that there are no contaminants in the stream before the storm and that the stream water and ditch water flow at the rates discussed above. The latter assumption is particularly conservative because a low flow value is used for the stream, whereas a storm flow value is used for the ditch. In addition, because the stormwater samples were not filtered, it is not possible to estimate the distribution of the contamination between particulate matter and the storm water. The concentrations in the stream are estimated using the mass balance equation:

$$C = \frac{C_u Q_u + C_d Q_d}{Q_u + Q_d},$$

where

C = final concentration in stream (mg/liter),

C_u = initial concentration in stream (mg/liter),

Q_u = flow of stream (cu ft/sec),

C_d = concentration in storm water (mg/liter), and

Q_d = flow of storm water (cu ft/sec).

The resulting stream concentrations are shown in Table 5-13.

5.3.3 Comparison to Applicable or Relevant and Appropriate Criteria and Guidelines

A comparison of available criteria with estimated future concentrations of indicator chemicals in the lower aquifer system is presented in Table 5-14. Concentrations of all three of the carcinogenic indicator chemicals exceed the recommended criteria for these compounds, suggesting that based on a consideration of potential increased cancer incidence, health risks may be associated with exposure. There appears to be an adequate margin of safety for individuals exposed to the noncarcinogens under the most probable case but not under the worst case.

TABLE E-1 (Continued)

SUMMARY OF GROUNDWATER SAMPLING PROGRAM
PRISTINE, INC.

FIELD SAMPLE	CRL ID	DATE SAMPLED	TIME SAMPLED	ANALYSIS	TRAFFIC REPORT	DATE SHIPPED	LABORATORY
PI-GW4502	85RL01S93	9/29/85	1210	ORGANICS	VOA EXTRACTBL	EC 917 EC 917	PEDCO
		9/29/85	1210	INORGANICS	METALS-F CYANIDE FLUORIDE	MED 716 MED 716 SAS 1947E	US TESTING
PI-GW4602	85RL01S94	9/29/85	1050	ORGANICS	VOA EXTRACTBL	EC 918 EC 918	PEDCO
		9/29/85	1050	INORGANICS	METALS-F CYANIDE FLUORIDE	MED 717 MED 717 SAS 1947E	US TESTING
PI-GW4702	NOT SAMPLED						
PI-GW4802	85RL01S95	9/29/85	1100	ORGANICS	VOA EXTRACTBL	EC 919 EC 919	PEDCO
		9/29/85	1100	INORGANICS	METALS-F CYANIDE FLUORIDE	MED 718 MED 718 SAS 1947E	US TESTING
PI-GW48BK	85RL01R95	9/29/85	1200	ORGANICS	VOA EXTRACTBL	EC 920 EC 920	PEDCO
		9/29/85	1200	INORGANICS	METALS-F CYANIDE FLUORIDE	MED 719 MED 719 SAS 1947E	US TESTING
PI-GW4902	85RL01S96	9/29/85	0943	ORGANICS	VOA EXTRACTBL	EC 921 EC 921	PEDCO
		9/29/85	0943	INORGANICS	METALS-F CYANIDE FLUORIDE	MED 720 MED 720 SAS 1947E	US TESTING
PI-GW5002	85RL01S97	9/29/85	0900	ORGANICS	VOA EXTRACTBL	EC 922 EC 922	PEDCO
		9/29/85	0900	INORGANICS	METALS-F CYANIDE FLUORIDE	MED 721 MED 721 SAS 1947E	US TESTING
PI-GW5102	85RL01S98	9/26/85	1330	ORGANICS	VOA EXTRACTBL	EC 923 EC 923	PEDCO
		9/26/85	1330	INORGANICS	METALS-F CYANIDE FLUORIDE METALS-UMS SSSLOS	MED 722 MED 722 SAS 1947E SAS 1947E SAS 1947E	US TESTING

TABLE E-1 (Continued)

SUMMARY OF GROUNDWATER SAMPLING PROGRAM
PRISTINE, INC.

FIELD SAMPLE	CRL ID	DATE SAMPLED	TIME SAMPLED	ANALYSIS	TRAFFIC REPORT	DATE SHIPPED	LABORATORY
PI-6W5701	85RL01584	6/26/85	1132	ORGANICS	VOA EXTRACTBL	EC 898 EC 898	PEDCO
		6/26/85	1132	INORGANICS	METALS-F CYANIDE FLUORIDE METALS-UMFS SUSSLOS	MED 493 MED 493 SAS 1746E SAS 1746E SAS 1746E	ROCKY MOUNTAIN ANALYTICAL
PI-6W570P	85RL01084	6/26/85	1218	ORGANICS	VOA EXTRACTBL	EC 899 EC 899	PEDCO
		6/26/85	1218	INORGANICS	METALS-F CYANIDE FLUORIDE	MED 494 MED 494 SAS 1746E	ROCKY MOUNTAIN ANALYTICAL
PI-6W5801	85RL01585	6/26/85	1431	ORGANICS	VOA EXTRACTBL	EC 900 EC 900	PEDCO
		6/26/85	1431	INORGANICS	METALS-F CYANIDE FLUORIDE	MED 495 MED 495 SAS 1746E	ROCKY MOUNTAIN ANALYTICAL
PI-6W5901	85RL01586	6/27/85	1110	ORGANICS	VOA EXTRACTBL	EC 901 EC 901	PEDCO
		6/27/85	1110	INORGANICS	METALS-F CYANIDE FLUORIDE	MED 496 MED 496 SAS 1746E	ROCKY MOUNTAIN ANALYTICAL
PI-6W6001	85RL01587	6/27/85	1045	ORGANICS	VOA EXTRACTBL	EC 902 EC 902	PEDCO
		6/27/85	1045	INORGANICS	METALS-F CYANIDE FLOURIDE	MED 497 MED 497 SAS 1746E	ROCKY MOUNTAIN ANALYTICAL
PI-6W608K	85RL01R87	6/27/85	1045	ORGANICS	VOA EXTRACTBL	EC 903 EC 903	PEDCO
		6/27/85	1045	INORGANICS	METALS-F CYANIDE FLUORIDE	MED 498 MED 498 SAS 1746E	ROCKY MOUNTAIN ANALYTICAL
PI-6W6101	NOT SAMPLED						
PI-6W6201	85RL01589	6/27/85	1345	ORGANICS	VOA EXTRACTBL	EC 905 EC 905	PEDCO
		6/27/85	1345	INORGANICS	METALS-F CYANIDE FLUORIDE	MED 500 MED 500 SAS 1746E	ROCKY MOUNTAIN ANALYTICAL

TABLE E-1 (Continued)

SUMMARY OF GROUNDWATER SAMPLING PROGRAM
PRISTINE, INC.

FIELD SAMPLE	CAL ID	DATE SAMPLED	TIME SAMPLED	ANALYSIS	TRAFFIC REPORT	DATE SHIPPED	LABORATORY
PI-6W51DP	85RL01D98	9/26/85	1340	ORGANICS	VOA	EC 924	PEDCO
					EXTRACTBL	EC 924	
		9/26/85	1340	INORGANICS	METALS-F	MED 724	US TESTING
					CYANIDE	MED 724	
					FLUORIDE	SAS 1947E	
					METALS-UMFSAS	SAS 1947E	
					SUSSLOS	SAS 1947E	
PI-6W5202	85RL01S99	9/26/85	1430	ORGANICS	VOA	EC 925	PEDCO
					EXTRACTBL	EC 925	
		9/26/85	1430	INORGANICS	METALS-F	MED 726	US TESTING
					CYANIDE	MED 726	
					FLUORIDE	SAS 1947E	
PI-6W5302	85RL02S01	9/27/85	0910	ORGANICS	VOA	EC 926	PEDCO
					EXTRACTBL	EC 926	
		9/27/85	0910	INORGANICS	METALS-F	MED 727	US TESTING
					CYANIDE	MED 727	
					FLUORIDE	SAS 1947E	
					METALS-UMFSAS	SAS 1947E	
					SUSSLOS	SAS 1947E	
PI-6W5402	NOT SAMPLED						
PI-6W5502	NOT SAMPLED						
PI-6W5602	85RL02S02	9/27/85	1110	ORGANICS	VOA	EC 927	PEDCO
					EXTRACTBL	INSUFFICIENT WATER VOLUME IN WELL	
		9/27/85	1110	INORGANICS	METALS-F	INSUFFICIENT WATER VOLUME IN WELL	
					CYANIDE	INSUFFICIENT WATER VOLUME IN WELL	
					FLUORIDE	INSUFFICIENT WATER VOLUME IN WELL	
PI-6W5702	85RL02S03	9/27/85	0940	ORGANICS	VOA	EC 928	
					EXTRACTBL	EC 928	
		9/27/85	0940	INORGANICS	METALS-F	MED 728	US TESTING
					CYANIDE	MED 728	
					FLUORIDE	SAS 1947E	
					METALS-UMFSAS	SAS 1947E	
					SUSSLOS	SAS 1947E	
PI-6W57DP	85RL02D03	9/27/85	0950	ORGANICS	VOA	EC 929	PEDCO
					EXTRACTBL	EC 929	
		9/27/85	0950	INORGANICS	METALS-F	MED 730	US TESTING
					CYANIDE	MED 730	
					FLUORIDE	SAS 1947E	

TABLE E-1 (Continued)

SUMMARY OF GROUNDWATER SAMPLING PROGRAM
PRISTINE, INC.

FIELD SAMPLE	CRL ID	DATE SAMPLED	TIME SAMPLED	ANALYSIS	TRAFFIC REPORT	DATE SHIPPED	LABORATORY
PI-6W5802	85RL02S04	9/27/85	1120	ORGANICS	VOA	EC 930	9/27/85 PEDCO
					EXTRACTBL	INSUFFICIENT WATER VOLUME IN WELL	
		9/27/85	1120	INORGANICS	METALS-F CYANIDE FLUORIDE	MED 731 MED 731 SAS 1947E	9/30/85 US TESTING
PI-6W5902	85RL02S05	9/27/85	0835	ORGANICS	VOA	EC 931	9/27/85 PEDCO
					EXTRACTBL	EC 935	
		9/27/85	0835	INORGANICS	METALS-F CYANIDE FLUORIDE	MED 732 MED 732 SAS 1947E	9/30/85 US TESTING
PI-6W6002	85RL02S06	9/27/85	0820	ORGANICS	VOA	EC 932	9/27/85 PEDCO
					EXTRACTBL	EC 932	
		9/27/85	0820	INORGANICS	METALS-F CYANIDE FLUORIDE	MED 733 MED 733 SAS 1947E	9/30/85 US TESTING
PI-6W608K	85RL02R06	9/27/85	0800	ORGANICS	VOA	EC 933	9/27/85 PEDCO
					EXTRACTBL	EC 933	
		9/27/85	0800	INORGANICS	METALS-F CYANIDE FLUORIDE	MED 734 MED 734 SAS 1947E	9/30/85 US TESTING
PI-6W6101	85RL02S08	9/29/85	1245	ORGANICS	VOA	EC 917	9/30/85 PEDCO
					EXTRACTBL	INSUFFICIENT WATER VOLUME IN WELL	
		9/29/85	1245	INORGANICS	METALS-F CYANIDE FLUORIDE	INSUFFICIENT WATER VOLUME IN WELL INSUFFICIENT WATER VOLUME IN WELL INSUFFICIENT WATER VOLUME IN WELL	
PI-6W6202	85RL02S07	9/29/85	0943	ORGANICS	VOA	EC 934	9/30/85 PEDCO
					EXTRACTBL	EC 934	
		9/29/85	0943	INORGANICS	METALS-F CYANIDE FLUORIDE	MED 736 MED 736 SAS 1947E	9/30/85 US TESTING

TABLE E-2

Summary of Well Depths and Stratigraphic Units

<u>Well Number</u>	<u>Well Depth¹</u>	<u>Stratigraphic Unit Adjacent to Screened Interval</u>
GW45	18.5	Upper sand layer
GW46	20.0	Upper sand layer
GW47	48.5	Lower sand layer
GW48	87.5	Water supply aquifer
GW49	16.5	Upper sand layer and lake deposits
GW50	20.0	Lake deposits
GW51	25.0	Lake deposits
GW52	80.5	Water supply aquifer
GW53	17.5	Lake deposits and fill
GW54	27.5	Lower sand layer
GW55	28.5	Middle sand layer and lake deposits
GW56	38.0	Lower sand layer
GW57	79.5	Water supply aquifer
GW58	30.5	Middle sand layer
GW59	17.5	Lake deposits
GW60A	23.3	Lake deposits and till
GW61	15.5	Till
GW62	18.0	Lake deposits

¹ Feet below ground surface

TABLE E-3

Summary of Field Measurements
First Round Sampling

<u>Well Number</u>	<u>pH Measurements</u>		<u>Specific Conduc. Measurements</u>		<u>Temperature Measurements</u>	
GW45	6.38	6.40	2800	2700	19	19.5
GW46	6.20	6.40	4000	3950	19	18
GW47	-	-	-	-	-	-
GW48	6.92	6.75	1880	1900	18.5	18.5
GW49	6.26	6.85	2750	-	19	-
GW50	6.00	6.15	580	-	18	-
GW51	5.88	5.71	6900	6200	19	19
GW52	6.79	6.79	1100	1100	17	17
GW53	6.42	6.52	3600	3500	18	17
GW54	-	-	-	-	-	-
GW55	-	-	-	-	-	-
GW56	-	-	-	-	-	-
GW57	6.79	6.84	1420	1400	20	19.5
GW58	6.49	6.47	2700	2700	17	17
GW59	6.40	6.52	4180	4300	15	14.5
GW60A	6.26	6.44	5000	5100	16	15
GW61	-	-	-	-	-	-
GW62	7.20	7.00	2080	2050	18	18

TABLE E-4

Baildown Test and Sampling Dates - Round 2

<u>Well Number</u>	<u>Date of Baildown Test</u>	<u>Date Of Sampling</u>
GW45	September 26, 1986	September 29, 1986
GW46	September 26, 1986	September 29, 1986
GW47	—	—
GW48	September 26, 1986	September 29, 1986
GW49	September 28, 1986	September 29, 1986
GW50	September 24, 1986	September 29, 1986
GW51	September 24, 1986	September 26, 1986
GW52	September 25, 1986	September 26, 1986
GW53	September 25, 1986	September 27, 1986
GW54	—	—
GW55	—	—
GW56	September 25, 1986	September 27, 1986
GW57	September 25, 1986	September 27, 1986
GW58	September 25, 1986	September 27, 1986
GW59	September 24, 1986	September 27, 1986
GW60	September 24, 1986	September 27, 1986
GW61	—	September 29, 1986
GW62	September 25, 1986	September 29, 1986

TABLE E-5

Summary of Field Parameters
Second Round of Sampling

<u>Well Number</u>	<u>pH Measurements</u>	<u>Specific Conductivity Measurements</u>	<u>Temperature Measurements</u>
GW45	6.57, 6.58, 6.57, 6.59	2700, 2650, 2700, 2700	—
GW46	6.57, 6.58, 6.59, 6.59	4000, 4000, 4000, 4000	—
GW47	- - - -	- - - -	—
GW48	7.24, 7.30, 7.32, 7.36	1500, 1400, 1450, 1500	—
GW49	- - - -	- - - -	—
GW50	6.19, 6.17, 6.16, 6.15	4800, 5000, 5000, 5000	—
GW51	5.93, 5.91, 5.92, 5.92	5400, 5200, 5200, 5200	—
GW52	7.00, 7.02, 7.03, 7.03	1200, 1000, 1000, 1000	18
GW53	6.73, 6.70, 6.70, 6.71	3400, 3400, 3450, 3450	—
GW54	- - - -	- - - -	—
GW55	- - - -	- - - -	—
GW56	6.59, 6.60, 6.61, 6.60	5000, 4800, 4800, 4800	—
GW57	6.84, 6.87, 6.86, 6.88	1700, 1700, 1700, 1700	—
GW58	6.75, 6.79, 6.76, 6.76	2800, 2800, 2800, 2800	—
GW59	6.55, 6.57, 6.58, 6.58	3800, 4000, 3900, 4000	—
GW60	6.51, 6.56, 6.57, 6.56	4300, 4000, 4200, 4200	—
GW62	6.72, 6.71, 6.70, 6.69	2000, 2500, 1800, 2000	—

APPENDIX F
Water Supply Sampling

Pristine, Inc.
Sampling Memorandum
Date: July 31, 1985

WATER SUPPLY SAMPLES

Water supply samples were collected from one industrial well and eight municipal wells in the site vicinity. The locations and designations of these wells are shown in Figure 1-11. A summary of the sampling program is given in Table F-1. Access to the wells was coordinated by the U.S.EPA. Personnel from the City of Reading Water Department and General Electric's environmental compliance group assisted with well operations.

Samples were collected as close to the well head as possible, with samples bottles filled directly from a tap/spigot, valves, hose or directly from a discharge flange. With one exception, the well pumps were operating for at least 10 minutes prior to collection of the sample. Relevant sampling data are presented in Table F-2, which also shows the well-owner's designations. A split sample was collected by GE personnel for independent laboratory analysis.

Field measurement of pH, specific conductance and temperature were performed using the procedures contained in Appendix A of the Sampling and Analysis Plan. The field measurement data are presented in Table F-3. With the exception of the specific conductance measurements for WS19, all field measurements were within precision criteria.

WATER SUPPLY SAMPLES - ROUND 2

Water supply samples were collected from seven municipal wells in the Reading well field. Municipal well #9 was sampled during the first round but was down for repairs during the second round of sampling.) The locations and designations of these wells are shown on Figure 1-11. A summary of the sampling program is given in Table F-1. Access to the wells was coordinated by the U.S. EPA. Personnel from the City of Reading Water Department assisted with well operations.

Samples were collected as close to the well head as possible, with sample bottles filled directly from a tap/spigot, valves, hose or directly from a discharge flange. The well pumps were operating for at least 10 minutes prior to collection of the sample. Relevant sampling data are presented in Table F-4, which also shows the well owner's designations.

Field measurement of pH, specific conductance and temperature were performed using the procedures contained in Appendix A of the Sampling and Analysis Plan. The field measurement data are presented in Table F-5. All field measurements were within precision criteria.

TABLE F-1

SUMMARY OF WATER SUPPLY SAMPLING PROGRAM
PRISTINE, INC.

FIELD SAMPLE	CRL ID	DATE SAMPLED	TIME SAMPLED	ANALYSIS	TRAFFIC REPORT	DATE SHIPPED	LABORATORY
ROUND 1							
PI-WS1501	85RL01S19	6/10/85	1200	ORGANICS	EXTRA PEST/PCB VOA	NONE NONE NONE	6/11/85 CENTRAL REGION LAB
		6/10/85	1200	INORGANICS	METALS-UNF CYANIDE MINERALS NUTRIENT	NONE NONE NONE NONE	6/11/85 CENTRAL REGION LAB
PI-WS1601	85RL01S20	6/10/85	1150	ORGANICS	EXTRACTBL PEST/PCB VOA	NONE NONE NONE	6/11/85 CENTRAL REGION LAB
		6/10/85	1150	INORGANICS	METALS-UNF CYANIDE MINERALS NUTRIENT	NONE NONE NONE NONE	6/11/85 CENTRAL REGION LAB
PI-WS1701	85RL01S21	6/10/85	1120	ORGANICS	EXTRACTBL PEST/PCB VOA	NONE NONE NONE	6/11/85 CENTRAL REGION LAB
		6/10/85	1120	INORGANICS	METALS-UNF CYANIDE MINERALS NUTRIENT	NONE NONE NONE NONE	6/11/85 CENTRAL REGION LAB
PI-WS1801	85RL01S22	6/10/85	1130	ORGANICS	EXTRACTBL PEST/PCB VOA	NONE NONE NONE	6/11/85 CENTRAL REGION LAB
		6/10/85	1130	INORGANICS	METALS-UNF CYANIDE MINERALS NUTRIENT	NONE NONE NONE NONE	6/11/85 CENTRAL REGION LAB
PI-WS1901	85RL01S23	6/10/85	0845	ORGANICS	EXTRACTBL PEST/PCB VOA	NONE NONE NONE	6/11/85 CENTRAL REGION LAB
		6/10/85	0845	INORGANICS	METALS-UNF CYANIDE MINERALS NUTRIENT	NONE NONE NONE NONE	6/11/85 CENTRAL REGION LAB

TABLE F-1 (Continued)

SUMMARY OF WATER SUPPLY SAMPLING PROGRAM
PRISTINE, INC.

FIELD SAMPLE	CRL ID	DATE SAMPLED	TIME SAMPLED	ANALYSIS	TRAFFIC REPORT	DATE SHIPPED	LABORATORY	
PI-WS2001	85RL01524	6/10/85	0915	ORGANICS	EXTRACTBL	NONE	6/11/85	CENTRAL REGION LAB
					PEST/PCB	NONE		
					VOA	NONE		
		6/10/85	0915	INORGANICS	METALS-UNF	NONE	6/11/85	CENTRAL REGION LAB
					CYANIDE	NONE		
					MINERALS	NONE		
					NUTRIENT	NONE		
PI-WS200P	85RL01524	6/10/85	0920	ORGANICS	EXTRACTBL	NONE	6/11/85	CENTRAL REGION LAB
					PEST/PCB	NONE		
					VOA	NONE		
		6/10/85	0920	INORGANICS	METALS-UNF	NONE	6/11/85	CENTRAL REGION LAB
					CYANIDE	NONE		
					MINERALS	NONE		
					NUTRIENT	NONE		
PI-WS208K	85RL01524	6/10/85	0910	ORGANICS	EXTRACTBL	NONE	6/11/85	CENTRAL REGION LAB
					PEST/PCB	NONE		
					VOA	NONE		
		6/10/85	0910	INORGANICS	METALS-UNF	NONE	6/11/85	CENTRAL REGION LAB
					CYANIDE	NONE		
					MINERALS	NONE		
					NUTRIENT	NONE		
PI-WS2101	85RL01525	6/10/85	0950	ORGANICS	EXTRACTBL	NONE	6/11/85	CENTRAL REGION LAB
					PEST/PCB	NONE		
					VOA	NONE		
		6/10/85	0950	INORGANICS	METALS-UNF	NONE	6/11/85	CENTRAL REGION LAB
					CYANIDE	NONE		
					MINERALS	NONE		
					NUTRIENT	NONE		
PI-WS2201	85RL01526	6/10/85	1215	ORGANICS	EXTRACTBL	NONE	6/11/85	CENTRAL REGION LAB
					PEST/PCB	NONE		
					VOA	NONE		
		6/10/85	1215	INORGANICS	METALS-UNF	NONE	6/11/85	CENTRAL REGION LAB
					CYANIDE	NONE		
					MINERALS	NONE		
					NUTRIENT	NONE		
PI-WS6E01	85RL01571	6/10/85	1410	ORGANICS	EXTRACTBL	NONE	6/17/85	CENTRAL REGION LAB
					PEST/PCB	NONE		
					VOA	NONE		
		6/10/85	1410	INORGANICS	METALS-UNF	NONE	6/17/85	CENTRAL REGION LAB
					CYANIDE	NONE		
					MINERALS	NONE		
					NUTRIENT	NONE		

TABLE F-1 (Continued)

SUMMARY OF WATER SUPPLY SAMPLING PROGRAM
PRISTINE, INC.

FIELD SAMPLE	CRL ID	DATE SAMPLED	TIME SAMPLED	ANALYSIS	TRAFFIC REPORT	DATE SHIPPED	LABORATORY
PI-WS2102	85RL02513	9/30/85	1030	ORGANICS	EXTRACTBL PEST/PCB VOA	NONE NONE NONE	10/01/85 CENTRAL REGION LAB
		9/30/85	1030	INORGANICS	METALS-UNF CYANIDE MINERALS NUTRIENT	NONE NONE NONE NONE	10/01/85 CENTRAL REGION LAB
PI-WS210P	85RL02013	9/30/85	1035	ORGANICS	EXTRACTBL PEST/PCB VOA	NONE NONE NONE	10/01/85 CENTRAL REGION LAB
		9/30/85	1035	INORGANICS	METALS-UNF CYANIDE MINERALS NUTRIENT	NONE NONE NONE NONE	10/01/85 CENTRAL REGION LAB
PI-WS21MS	85RL02113	9/30/85	1040	ORGANICS	EXTRACTBL PEST/PCB VOA	NONE NONE NONE	10/01/85 CENTRAL REGION LAB
		9/30/85	1040	INORGANICS	METALS-UNF CYANIDE MINERALS NUTRIENT	NONE NONE NONE NONE	10/01/85 CENTRAL REGION LAB
PI-WS21BK	85RL02R13	9/30/85	1045	ORGANICS	EXTRACTBL PEST/PCB VOA	NONE NONE NONE	10/01/85 CENTRAL REGION LAB
		9/30/85	1045	INORGANICS	METALS-UNF CYANIDE MINERALS NUTRIENT	NONE NONE NONE NONE	10/01/85 CENTRAL REGION LAB
PI-WS2202	85RL02509	9/30/85	1010	ORGANICS	EXTRACTBL PEST/PCB VOA	NONE NONE NONE	10/01/85 CENTRAL REGION LAB
		9/30/85	1010	INORGANICS	METALS-UNF CYANIDE MINERALS NUTRIENT	NONE NONE NONE NONE	10/01/85 CENTRAL REGION LAB

TABLE F-1 (Continued)
SUMMARY OF WATER SUPPLY SAMPLING PROGRAM
PRISTINE, INC.

FIELD SAMPLE	CRL ID	DATE SAMPLED	TIME SAMPLED	ANALYSIS	TRAFFIC REPORT	DATE SHIPPED	LABORATORY
ROUND 2							
PI-WS1502	85RL02S10	9/30/85	1000	ORGANICS	EXTRACTBL	NONE	10/01/85 CENTRAL REGION LAB
					PEST/PCB	NONE	
		9/30/85	1000	INORGANICS	VOA	NONE	10/01/85 CENTRAL REGION LAB
					METALS-UNF	NONE	
					CYANIDE	NONE	
					MINERALS	NONE	
					NUTRIENT	NONE	
PI-WS1602	85RL02S11	9/30/85	0950	ORGANICS	EXTRACTBL	NONE	10/01/85 CENTRAL REGION LAB
					PEST/PCB	NONE	
		9/30/85	0950	INORGANICS	VOA	NONE	10/01/85 CENTRAL REGION LAB
					METALS-UNF	NONE	
					CYANIDE	NONE	
					MINERALS	NONE	
					NUTRIENT	NONE	
PI-WS1702	85RL02S12	9/30/85	0945	ORGANICS	EXTRACTBL	NONE	10/01/85 CENTRAL REGION LAB
					PEST/PCB	NONE	
		9/30/85	0945	INORGANICS	VOA	NONE	10/01/85 CENTRAL REGION LAB
					METALS-UNF	NONE	
					CYANIDE	NONE	
					MINERALS	NONE	
					NUTRIENT	NONE	
PI-WS1802	85RL02S13	9/30/85	1100	ORGANICS	EXTRACTBL	NONE	10/01/85 CENTRAL REGION LAB
					PEST/PCB	NONE	
		9/30/85	1100	INORGANICS	VOA	NONE	10/01/85 CENTRAL REGION LAB
					METALS-UNF	NONE	
					CYANIDE	NONE	
					MINERALS	NONE	
					NUTRIENT	NONE	
PI-WS1902		NOT SAMPLED					
PI-WS2002	85RL02S14	9/30/85	1050	ORGANICS	EXTRACTBL	NONE	10/01/85 CENTRAL REGION LAB
					PEST/PCB	NONE	
		9/30/85	1050	INORGANICS	VOA	NONE	10/01/85 CENTRAL REGION LAB
					METALS-UNF	NONE	
					CYANIDE	NONE	
					MINERALS	NONE	
					NUTRIENT	NONE	

TABLE F-2

Summary of Sampling Data

<u>Sample Number</u>	<u>Well Designation</u>	<u>Pumping Status</u>	<u>Description of Sample Collection Location</u>
WS15	Reading #2	2 gpm, 15 min	3/4-inch spigot
WS16	Reading #3	3 gpm, 10 min	1-inch spigot
WS17	Reading #4	150 gpm, 8 min	1-inch spigot
WS18	Reading #12	200 gpm, 10 min	3-inch pipe - directly
WS19	Reading #9	200 gpm, 20 min	3-inch gate valve - directly
WS20	Reading #10	3 gpm, 40 min	5-foot hose from 1/2-inch spigot
WS21	Reading #7	200 gpm, 30 min	Discharge flange - directly
WS22	Reading #1	gpm, 30 min	3/4-inch spigot
WSGE	Genl Elec #6	At least 10 min	Below pressure gauge

TABLE F-3

Summary of Field Parameters

<u>Sample Number</u>	<u>pH</u>	<u>Specific Conductance</u>	<u>Temperature</u>
WS15	6.9	1060	17
WS16	6.9	1000	18
WS17	6.9	907	18
WS18	6.8	883	18
WS19	6.8	867	18
WS20	6.7	857	17
WS21	6.9	907	18
WS22	7.0	813	17
WSGE	7.5	700	20

TABLE F-4

Summary of Sampling Data
Round 2

<u>Sample Number</u>	<u>Well Designation</u>	<u>Pumping Status</u>	<u>Description of Sample Collection Location</u>
WS15	Reading #2	2 gpm, 15 min	3/4-inch spigot
WS16	Reading #3	3 gpm, 10 min'	1-inch spigot
WS17	Reading #4	150 gpm, 8 min	1-inch spigot
WS18	Reading #12	200 gpm, 10 min	3-inch pipe - directly
WS19	Reading #9	Not sampled Round 2	
WS20	Reading #10	3 gpm, 40 min	5-foot hose from 1/2-inch spigot
WS21	Reading #7	200 gpm, 30 min	Discharge flange - directly
WS22	Reading #1	gpm, 30 min	3/4-inch spigot
WSGE	Genl Elec #6	Not sampled Round 2	

TABLE F-5

Summary of Field Parameters
Round 2

<u>Well Number</u>	<u>pH Measurements</u>	<u>Specific Conductivity Measurements</u>	<u>Temperature Measurements</u>
WS15	6.94, 6.96, 6.97, 6.98	1100, 1075, 1125, 1110	—
WS16	6.96, 6.97, 6.99, 6.99	900, 925, 890, 950	—
WS17	7.04, 7.07, 7.10, 7.08	850, 825, 825, 825	—
WS18	7.06, 7.10, 7.11, 7.12	850, 850, 890, 875	—
WS19	Not sampled Round 2		
WS20	6.93, 6.96, 6.97, 6.96	850, 875, 875, 890	—
WS21	6.96, 6.95, 7.01, 6.98	950, 950, 925, 950	—
WS22	6.91, 6.99, 6.99, 7.00	900, 875, 875, 900	—
WSGE	Not sampled Round 2		

APPENDIX G

Surface Water Sampling

TABLE G-2

Summary of Field Parameters

<u>Sample Number</u>	<u>pH</u>	<u>Specific Conductance</u>	<u>Temp.</u>
SF04	7.6	3100	20
SF05	6.8	6167	20
SF06	7.3	3783	22
SF07	2.6	7500	24

TABLE G-1

SUMMARY OF SURFACE WATER SAMPLING PROGRAM
PRISTINE, INC.

FIELD SAMPLE	CRL ID	DATE SAMPLED	TIME SAMPLED	ANALYSIS	TRAFFIC REPORT	DATE SHIPPED	LABORATORY
PI-SF0401	85RL01S08	5/30/85	0910	ORGANICS	VOA EXTRACTBL	EC 817	PEDCO
		5/30/85	0910	INORGANICS	METALS-UNF CYANIDE FLUORIDE METALS-F	EC 817 MED 162 MED 162 SAS 1716E SAS 1716E	ROCKY MOUNTAIN ANALYTICAL
PI-SF0501	85RL01S09	5/30/85	0945	ORGANICS	VOA EXTRACTBL	EC 818	PEDCO
		5/30/85	0945	INORGANICS	METALS-UNF CYANIDE FLUORIDE	EC 818 MED 163 MED 163 SAS 1716E	ROCKY MOUNTAIN ANALYTICAL
PI-SF0601	85RL01S10	5/30/85	1005	ORGANICS	VOA EXTRACTBL	EC 819	PEDCO
		5/30/85	1005	INORGANICS	METALS-UNF CYANIDE FLUORIDE	EC 819 MED 164 MED 164 SAS 1716E	ROCKY MOUNTAIN ANALYTICAL
PI-SF0701	85RL01S11	5/30/85	1045	ORGANICS	VOA EXTRACTBL	EC 820	PEDCO
		5/30/85	1045	INORGANICS	METALS-UNF CYANIDE FLUORIDE METALS-F	EC 820 MED 165 MED 165 SAS 1716E SAS 1716E	ROCKY MOUNTAIN ANALYTICAL
PI-SF07DP	85RL01D11	5/30/85	1100	ORGANICS	VOA EXTRACTBL	EC 821	PEDCO
		5/30/85	1100	INORGANICS	METALS-UNF CYANIDE FLUORIDE METALS-F	EC 821 MED 166 MED 166 SAS 1716E SAS 1716E	ROCKY MOUNTAIN ANALYTICAL
PI-SF078K	85RL01B11	5/30/85	1140	ORGANICS	VOA EXTRACTBL	EC 822	PEDCO
		5/30/85	1140	INORGANICS	METALS-UNF CYANIDE FLUORIDE	EC 822 MED 167 MED 167 SAS 1716E	ROCKY MOUNTAIN ANALYTICAL
PI-SWDT01	85RL01S88	6/27/85	1507	ORGANICS	VOA EXTRACTBL	EC 904	PEDCO
		6/27/85	1507	INORGANICS	METALS-UNF CYANIDE FLUORIDE	EC 904 MED 499 MED 499 SAS 1716E	ROCKY MOUNTAIN ANALYTICAL

SURFACE WATER SAMPLES

Surface water samples were collected at six locations on and adjacent to the site. The locations and sample designations are shown in Figure 1-12. A summary of the sampling program is given in Table G-1. Water samples collected at the two locations situated in the middle of the site were combined to form one composite sample. The water samples collected at each of the other four locations were retained as grab samples.

The sample at location SFDT was added during the field investigation. (A dry monitoring well made laboratory space available.) This location consists of a fifteen-inch clay tile that appears to extend back under the site. The tile outfall had been sampled in April 1980 by the Ohio EPA but was not included in this field investigation because it was thought to have been destroyed during remediation of a large acid spill in June 1981. The tiles continued existence was discovered during installation of monitoring well GW 62.

At all locations sampling procedures consisted of submerging an intermediate collection bottle directly in the water body. When the collection bottle was as full as possible its contents were poured into the various sample bottles until each contained the required amount. Samples collected from ponds (SF04 and SF07) were obtained from the edge of the water body. Samples collected in ditches (SF05, SF06 and SFDT) were obtained at midstream. The water in the ditches was moving so slowly as to be nearly stagnant.

Field measurement of pH, specific conductance and temperature was performed using the procedures contained in Appendix A of this Sampling and Analysis Plan. The field measurement data are presented in Table G-2. All field measurements were within precision criteria.

APPENDIX H
Sediment Sampling

TABLE H-2

Summary of Sample Descriptions

<u>Sample Number</u>	<u>Sample Description</u>
SD08	Black to dark brown clayey silty sand
SD09	Black silty clay
SD10	Black silty clay to clayey silt; organic
SD11	Light to dark brown silty clay, some sand
SD12	Brown clayey silt, some sand
SD13	Brown clayey silt, some sand
SD14	Silty sand, some gravel

SEDIMENT SAMPLES

Sediment samples were collected at seven locations on and adjacent to the site. The locations and sample designations are shown in Figure 1-13. A summary of the sampling program is given in Table H-1. Five of the sample locations (SD08, SD11, SD12, SD13 and SD14) are not normally submerged, but are within stormwater gulleys. The other two locations (SD09 and SD10) are under standing water in the drainage ditch along the north side of Cincinnati Drum Service property.

Six sediment samples were collected using a 4-inch diameter bucket auger, and consisted of the top 6 inches of solid material at the sampling location. The material collected in the auger was emptied onto a sheet of Teflon, screened for organic vapors with an HNu, and then transferred into the sample containers using disposable plastic spatulas and scoops. Sample descriptions and organic vapor screening data are presented in Table H-2.

The seventh sediment sample (SD14), located on the south access road, was collected with a properly decontaminated steel shovel. The sediment, which was about three inches thick, was scraped off the asphalt roadway, placed on a Teflon sheet, and transferred into sample containers using disposable plastic spatulas and scoops. The Teflon sheet and bucket auger were decontaminated in accordance with the standard decontamination protocol prior to each use.

TABLE H-1
SUMMARY OF SEDIMENT SAMPLING PROGRAM
PRISTINE, INC.

FIELD SAMPLE	CRL ID	DATE SAMPLED	TIME SAMPLED	ANALYSIS		TRAFFIC REPORT	DATE SHIPPED	LABORATORY
PI-SD0801	85RL01S12	5/29/85	0955	ORGANICS	VOA EXTRACTBL	EC 823 EC 823	5/29/85	PEDCO
		5/29/85	0955	INORGANICS	METALS CYANIDE	MED 168 MED 168	5/29/85	ROCKY MOUNTAIN ANALYTICAL
PI-SD0901	85RL01S13	5/29/85	1005	ORGANICS	VOA EXTRACTBL	EC 824 EC 824	5/29/85	PEDCO
		5/29/85	1005	INORGANICS	METALS CYANIDE	MED 169 MED 169	5/29/85	ROCKY MOUNTAIN ANALYTICAL
PI-SD1001	85RL01S14	5/29/85	1025	ORGANICS	VOA EXTRACTBL	EC 825 EC 825	5/29/85	PEDCO
		5/29/85	1025	INORGANICS	METALS CYANIDE	MED 170 MED 170	5/29/85	ROCKY MOUNTAIN ANALYTICAL
PI-SD1101	85RL01S15	5/29/85	1040	ORGANICS	VOA EXTRACTBL	EC 826 EC 826	5/29/85	PEDCO
		5/29/85	1040	INORGANICS	METALS CYANIDE	MED 171 MED 171	5/29/85	ROCKY MOUNTAIN ANALYTICAL
PI-SD110P	85RL01D15	5/29/85	1045	ORGANICS	VOA EXTRACTBL	EC 827 EC 827	5/29/85	PEDCO
		5/29/85	1045	INORGANICS	METALS CYANIDE	MED 172 MED 172	5/29/85	ROCKY MOUNTAIN ANALYTICAL
PI-SD1201	85RL01S16	5/29/85	1125	ORGANICS	VOA EXTRACTBL	EC 828 EC 828	5/29/85	PEDCO
		5/29/85	1125	INORGANICS	METALS CYANIDE	MED 173 MED 173	5/29/85	ROCKY MOUNTAIN ANALYTICAL
PI-SD1301	85RL01S17	5/29/85	1140	ORGANICS	VOA EXTRACTBL	EC 829 EC 829	5/29/85	PEDCO
		5/29/85	1140	INORGANICS	METALS METALS	MED 174 MED 174	5/29/85	ROCKY MOUNTAIN ANALYTICAL
PI-SD1401	85RL01S18	5/29/85	1150	ORGANICS	VOA EXTRACTBL	EC 830 EC 830	5/29/85	PEDCO
		5/29/85	1150	INORGANICS	METALS CYANIDE	MED 175 MED 175	5/29/85	ROCKY MOUNTAIN ANALYTICAL
PI-SD14MS	85RL01X18	5/29/85	1155	ORGANICS	VOA EXTRACTBL	EC 831 EC 831	5/29/85	PEDCO
		5/29/85	1155	INORGANICS	METALS CYANIDE	MED 176 MED 176	5/29/85	ROCKY MOUNTAIN ANALYTICAL

APPENDIX I

Stormwater Sampling

STORMWATER SAMPLES

Stormwater sampling stations were installed at three locations on the site. The locations and designations of the sampling stations are shown in Figure 1-14. A summary of the sampling program is given in Table I-1. Station SR02 was relocated to the position shown in the figure from that originally proposed in the Sampling and Analysis Plan during field activities. The relocation was done because observations of runoff from storm events that occurred during mobilization indicated that more off site stormwater migration was occurring along the northern access road and along the shallow drainageway at the middle of the site. Figure 1-14 also shows the approximate drainage areas of the two surface runoff stations and the extent of the tile drain that outfalls at station SR01.

The stormwater sampling stations consisted of 2.5-gallon pails placed in holes dug in the ground such that the top of each pail was roughly flush with the ground surface. At the surface runoff locations (SR02 and SR03), a plastic (PVC) channel was installed with the end of the channel extending over the pail. At the tile drain station (SR01), the pail was placed so that the end of the tile extended over the rim of the pail. These installations are illustrated in Figure I-1.

A total of three investigative samples, one duplicate and one blank, were collected during two storm events. Station SR01 was not sampled during either storm event because there was not enough flow to fill an entire sample bottle set. The sample and duplicate collected at location SR02 were taken by filling the bottles with runoff flowing through the plastic channel. The first sample collected at SR03 was taken after precipitation had stopped. The VOA vials were filled with water standing in a small hole upstream from the pail at which a sediment sample had been previously collected. The other sample bottles were filled with water standing in the collection pail using an intermediate bottle to transfer the water from the pail to the sample bottle. The second sample collected at SR03 was the only sample collected during the second storm event. For this sample, sample bottles were filled with runoff flowing through the plastic channel.

The estimated flow rates shown in Table SR-1 were made by noting the time required to fill a 1/2-gallon amber sample bottle. Field measurements of pH, specific conductance and temperature were performed using the procedures contained in Appendix A of the Sampling and Analysis Plan. The field data and QC statistics are presented in Table I-2. All field measurements were within applicable QC precision criteria.

TABLE I-1

SUMMARY OF STORMWATER SAMPLING PROGRAM
PRISTINE, INC.

FIELD SAMPLE	CRL ID	DATE SAMPLED	TIME SAMPLED	ANALYSIS	TRAFFIC REPORT	DATE SHIPPED	LABORATORY
PI-SR0201	BSRL01506	6/03/85	0930	ORGANICS	VOA EXTRACTBL	EC 813	PEDCO
		6/03/85	0930	INORGANICS	METALS-UMF CYANIDE FLUORIDE	EC 813 MED 158 MED 158 SAS 1716E	ROCKY MOUNTAIN ANALYTICAL
PI-SR020P	BSRL01006	6/03/85	0930	ORGANICS	VOA EXTRACTBL	EC 814	PEDCO
		6/03/85	0930	INORGANICS	METALS-UMF CYANIDE FLUORIDE	EC 814 MED 159 MED 159 SAS 1716E	ROCKY MOUNTAIN ANALYTICAL
PI-SR02BK	BSRL01807	6/03/85	1025	ORGANICS	VOA EXTRACTBL	EC 816	PEDCO
		6/03/85	1025	INORGANICS	METALS-UMF CYANIDE	EC 816 MED 161 MED 161	ROCKY MOUNTAIN ANALYTICAL
PI-SR0301	BSRL01507	6/03/85	1005	ORGANICS	VOA EXTRACTBL	EC 815	PEDCO
		6/03/85	1005	INORGANICS	METALS-UMF CYANIDE FLUORIDE	EC 815 MED 160 MED 160 SAS 1716E	ROCKY MOUNTAIN ANALYTICAL
PI-SR0302	BSRL01505	6/07/85	0700	ORGANICS	VOA EXTRACTBL	EC 812	PEDCO
		6/07/85	0700	INORGANICS	METALS-UMF CYANIDE FLUORIDE	EC 812 MED 157 MED 157 SAS 1716E	ROCKY MOUNTAIN ANALYTICAL

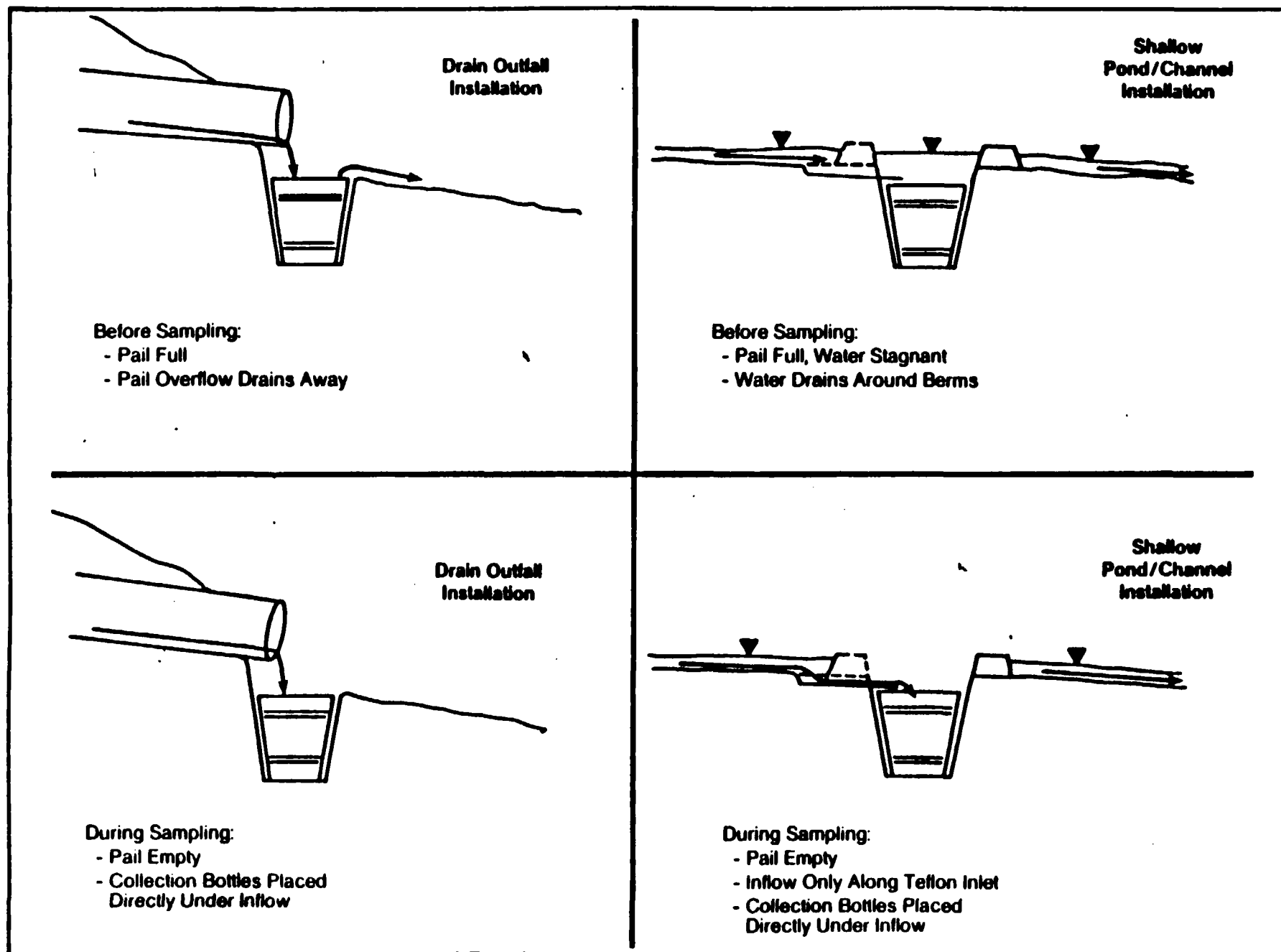


FIGURE I-1 SEAWATER SAMPLING STATION DIAGRAM

TABLE I-2

Summary of Field Parameters

<u>Sample Number</u>	<u>Parameter</u>	<u>Mean Field Measurements</u>
SR02-01	pH	4.5
	Specific Conductance	1800
	Temperature	18
SR02-DP	pH	4.6
	Specific Conductance	1800
	Temperature	18
SR03-01	pH	7.0
	Specific Conductance	892
	Temperature	19
SR03-02	pH	7.0
	Specific Conductance	797
	Temperature	22

APPENDIX J
Analytical Data

TABLE 1
SUMMARY OF SOIL AREAS ANALYTICAL DATA
PRISTINE, INC.

Volatiles (ug/kg)	SA2301	SA2401	SA2501	SA2601	SA2701	SA27DP	SA2801	SA2901	SA3001
1. Chloroethane	---	---	---	---	---	---	---	---	---
2. Bromoethane	---	---	---	---	---	---	---	---	---
3. Vinyl chloride	---	---	---	---	---	---	---	---	---
4. Chloroethane	---	---	---	---	---	---	---	---	---
5. Methylene Chloride	7.6 B	25 B	14 B	14 B	11 B	9.5 B	10 B	4400 B	30 B
6. Acetone	7.7 BJ	35 B	11 BJ	5.9 BJ	7.9 BJ	9.2 BJ	7.8 BJ	7000BJ	7.1 B
7. Carbon Disulfide	---	---	---	---	---	---	---	---	---
8. 1,1-Dichloroethene	---	---	---	---	---	---	---	---	---
9. 1,1-Dichloroethane	---	---	---	---	---	---	---	---	---
10. trans-1,2-Dichloroethene	---	---	---	---	---	---	3.75	---	---
11. Chloroform	---	---	5.6 J	---	2.8 J	---	---	---	54
12. 1,2-Dichloroethane	---	---	---	---	---	---	---	---	110
13. 2-Butanone	---	---	---	---	---	---	---	9400 B	---
14. 1,1,1-Trichloroethane	---	---	---	---	---	---	4.5 J	---	3.4 J
15. Carbon Tetrachloride	---	---	---	---	---	---	---	---	---
16. Vinyl Acetate	---	---	---	---	---	---	---	---	34
17. Bromodichloroethane	---	---	---	---	---	---	---	---	---
18. 1,1,2,2-Tetrachloroethane	---	---	---	---	---	---	---	---	---
19. 1,2-Dichloropropane	---	---	---	---	---	---	---	---	---
20. trans-1,3-Dichloropropene	---	---	---	---	---	---	---	---	---
21. Trichloroethene	---	---	---	---	4.1 J	---	6.8	---	---
22. Dibromochloroethane	---	---	---	---	---	---	---	---	---
23. 1,1,2-Trichloroethane	---	---	---	---	---	---	---	---	93
24. Benzene	---	---	---	---	---	---	---	---	---
25. cis-1,3-Dichloropropene	---	---	---	---	---	---	---	---	---
26. 2-Chloroethyl Vinyl Ether	---	---	---	---	---	---	---	---	---
27. Bromoform	---	---	---	---	---	---	---	---	---
28. 2-Hexanone	---	---	---	---	---	---	---	---	---
29. 4-Methyl-2-pentanone	---	---	---	---	---	---	---	---	---
30. Tetrachloroethene	4.75	4.4 J	3.9 J	---	81	76	16	120000	38
31. Toluene	---	---	---	---	---	---	---	---	53
32. Chlorobenzene	---	---	---	---	---	---	---	---	3.6 J
33. Ethyl Benzene	---	---	---	---	---	---	---	---	---
34. Styrene	---	---	---	---	---	---	---	---	7.9
35. Total Axylenes	---	---	---	---	---	---	---	---	---

--- = COMPOUND WAS ANALYZED FOR, BUT NOT DETECTED WITHIN DETECTION LIMITS

B = ANALYTE WAS FOUND IN THE BLANK AS WELL AS THE SAMPLE

J = INDICATES AN ESTIMATED VALUE

TABLE 1
SUMMARY OF SOIL AREAS ANALYTICAL DATA
PRISTINE, INC.

Volatiles (ug/kg)	SA3101	SA3201	SA3301	SA3302	SA3401	SA340P	SA3402
1. Chloroethane	---	---	---	---	---	---	---
2. Bromoethane	---	---	---	---	---	---	---
3. Vinyl chloride	---	---	---	---	---	---	---
4. Chloroethane	---	---	---	---	---	---	---
5. Methylene Chloride	6.5 B	12 B	10 B	6.2 B	9.8 B	9.6 B	10 B
6. Acetone	7.0 J	9.7 J	28	---	---	19 B	22 B
7. Carbon Disulfide	---	---	---	---	---	---	---
8. 1,1-Dichloroethene	---	---	---	---	---	---	---
9. 1,1-Dichloroethane	---	---	---	---	---	---	---
10. trans-1,2-Dichloroethene	---	---	---	---	---	---	---
11. Chloroform	---	---	---	---	---	---	---
12. 1,2-Dichloroethane	---	---	---	---	---	---	---
13. 2-Butanone	---	---	---	---	---	---	---
14. 1,1,1-Trichloroethane	---	---	---	---	---	---	---
15. Carbon Tetrachloride	---	---	---	---	---	---	---
16. Vinyl Acetate	---	---	---	---	---	---	---
17. Bromodichloromethane	---	---	---	---	---	---	---
18. 1,1,2,2-Tetrachloroethane	---	---	---	---	---	---	---
19. 1,2-Dichloropropane	---	---	---	---	---	---	---
20. trans-1,3-Dichloropropene	---	---	---	---	---	---	---
21. Trichloroethene	---	---	---	---	---	---	---
22. Dibromochloromethane	---	---	---	---	---	---	---
23. 1,1,2-Trichloroethane	---	---	---	---	---	---	---
24. Benzene	---	---	---	---	---	---	---
25. cis-1,3-Dichloropropene	---	---	---	---	---	---	---
26. 2-Chloroethyl Vinyl Ether	---	---	---	---	---	---	---
27. Bromoform	---	---	---	---	---	---	---
28. 2-Hexanone	---	---	---	---	---	---	---
29. 4-Methyl-2-pentanone	---	---	---	---	---	---	---
30. Tetrachloroethene	4.5 J	---	---	---	---	---	---
31. Toluene	---	---	---	---	---	---	---
32. Chlorobenzene	---	---	---	---	---	---	---
33. Ethyl Benzene	---	---	---	---	---	---	---
34. Styrene	---	---	---	---	---	---	---
35. Total Axylenes	---	---	---	---	---	---	---

--- = COMPOUND WAS ANALYZED FOR, BUT NOT DETECTED WITHIN DETECTION LIMITS

B = ANALYTE WAS FOUND IN THE BLANK AS WELL AS THE SAMPLE

J = INDICATES AN ESTIMATED VALUE

TABLE 1
SUMMARY OF SOIL AREAS ANALYTICAL DATA
PRISTINE, INC.

Semi-Volatiles (ug/kg)	SA2301	SA2401	SA2501	SA2601	SA2701	SA270P	SA2801	SA2901	SA3001
36. N-Nitrosodiaethylamine	---	---	---	---	---	---	---	---	---
37. Phenol	---	---	470	---	---	---	---	---	---
38. Aniline	---	---	---	---	---	---	---	---	---
39. bis(2-Chloroethyl) ether	---	---	---	---	---	---	---	---	---
40. 2-Chlorophenol	---	---	---	---	---	---	---	---	---
41. 1,3-Dichlorobenzene	---	---	---	---	---	---	---	---	---
42. 1,4-Dichlorobenzene	---	---	---	---	---	---	---	---	---
43. Benzyl Alcohol	---	---	---	---	---	---	---	---	---
44. 1,2-Dichlorobenzene	---	---	---	---	---	---	---	---	61000
45. 2-Methylphenol	---	---	---	---	---	---	---	---	---
46. bis(2-Chloroisopropyl) ether	---	---	---	---	---	---	---	---	---
47. 4-Methylphenol	---	---	---	---	---	---	---	---	---
48. n-Nitroso-Dipropylamine	---	---	---	---	---	---	---	---	---
49. Hexachloroethane	---	---	---	---	---	---	---	---	---
50. Nitrobenzene	---	---	---	---	---	---	---	---	---
51. Isophorone	---	---	---	---	---	---	---	---	---
52. 2-Nitrophenol	---	---	---	---	---	---	---	---	---
53. 2,4-Diethylphenol	---	---	---	---	---	---	---	---	---
54. Benzoic Acid	---	---	---	---	---	---	---	---	---
55. bis(2-Chloroethoxy) ethane	---	---	---	---	---	---	---	---	---
56. 2,4-Dichlorophenol	---	---	---	---	---	---	---	---	---
57. 1,2,4-Trichlorobenzene	---	---	---	---	---	---	---	---	---
58. Naphthalene	---	---	---	---	---	---	---	---	---
59. 4-Chloroaniline	---	---	---	---	---	---	---	---	---
60. Hexachlorobutadiene	---	---	---	---	---	---	---	---	---
61. 4-Chloro-3-ethylphenol (para-chloro-ortho-cresol)	---	---	---	---	---	---	---	---	---
62. 2-Methylnaphthalene	---	---	---	---	---	---	---	---	---
63. Hexachlorocyclopentadiene	---	---	---	---	---	---	---	---	---
64. 2,4,6-Trichlorophenol	---	---	---	---	---	---	---	---	---
65. 2,4,5-Trichlorophenol	---	---	---	---	---	---	---	---	---
66. 2-Chloronaphthalene	---	---	---	---	---	---	---	---	---
67. 2-Nitroaniline	---	---	---	---	---	---	---	---	---
68. Dimethyl Phthalate	---	---	---	---	---	---	---	---	---
69. Acenaphthylene	---	---	---	---	---	---	---	---	---
70. 3-Nitroaniline	---	---	---	---	---	---	---	---	---

--- = COMPOUND WAS ANALYZED FOR, BUT NOT DETECTED WITHIN DETECTION LIMITS

B = ANALYTE WAS FOUND IN THE BLANK AS WELL AS THE SAMPLE

J = INDICATES AN ESTIMATED VALUE

TABLE 1
SUMMARY OF SOIL AREAS ANALYTICAL DATA
PRISTINE, INC.

Semi-Volatiles (ug/kg)	SA3101	SA3201	SA3301	SA3302	SA3401	SA340P	SA3402
36. N-Nitrosodimethylamine	---	---	---	---	---	---	---
37. Phenol	---	---	---	---	---	---	---
38. Aniline	---	---	---	---	---	---	---
39. bis(2-Chloroethyl) ether	---	---	---	---	---	---	---
40. 2-Chlorophenol	---	---	---	---	---	---	---
41. 1,3-Dichlorobenzene	---	---	---	---	---	---	---
42. 1,4-Dichlorobenzene	---	---	---	---	---	---	---
43. Benzyl Alcohol	---	---	---	---	---	---	---
44. 1,2-Dichlorobenzene	---	---	---	---	---	---	---
45. 2-Methylphenol	---	---	---	---	---	---	---
46. bis(2-Chloroisopropyl) ether	---	---	---	---	---	---	---
47. 4-Methylphenol	---	---	---	---	---	---	---
48. n-Nitroso-Dipropylamine	---	---	---	---	---	---	---
49. Hexachloroethane	---	---	---	---	---	---	---
50. Nitrobenzene	---	---	---	---	---	---	---
51. Isophorone	---	---	---	---	---	---	---
52. 2-Nitrophenol	---	---	---	---	---	---	---
53. 2,4-Dimethylphenol	---	---	---	---	---	---	---
54. Benzoic Acid	---	---	---	---	---	---	---
55. bis(2-Chloroethoxy) ethane	---	---	---	---	---	---	---
56. 2,4-Dichlorophenol	---	---	---	---	---	---	---
57. 1,2,4-Trichlorobenzene	---	---	---	---	---	---	---
58. Naphthalene	---	---	---	---	---	---	---
59. 4-Chloroaniline	---	---	---	---	---	---	---
60. Hexachlorobutadiene	---	---	---	---	---	---	---
61. 4-Chloro-3-methylphenol (para-chloro-meta-cresol)	---	---	---	---	---	---	---
62. 2-Methylnaphthalene	---	---	220 J	---	---	---	---
63. Hexachlorocyclopentadiene	---	---	---	---	---	---	---
64. 2,4,6-Trichlorophenol	---	---	---	---	---	---	---
65. 2,4,5-Trichlorophenol	---	---	---	---	---	---	---
66. 2-Chloronaphthalene	---	---	---	---	---	---	---
67. 2-Nitroaniline	---	---	---	---	---	---	---
68. Diethyl Phthalate	---	---	---	---	---	---	---
69. Acenaphthylene	---	---	---	---	---	---	---
70. 3-Nitroaniline	---	---	---	---	---	---	---

--- = COMPOUND WAS ANALYZED FOR, BUT NOT DETECTED WITHIN DETECTION LIMITS

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J = INDICATES AN ESTIMATED VALUE

TABLE I
SUMMARY OF SOIL AREAS ANALYTICAL DATA
PRISTINE, INC.

Semi-Volatiles (ug/kg)	SA2301	SA2401	SA2501	SA2601	SA2701	SA270P	SA2801	SA2901	SA3001
71. Acenaphthene	---	---	---	---	---	---	---	---	---
72. 2,4-Dinitrophenol	---	---	---	---	---	---	---	---	---
73. 4-Nitrophenol	---	---	---	---	---	---	---	---	---
74. Dibenzofuran	---	---	---	---	---	---	---	---	---
75. 2,4-Dinitrotoluene	---	---	---	---	---	---	---	---	---
76. 2,6-Dinitrotoluene	---	---	---	---	---	---	---	---	---
77. Diethylphthalate	---	---	---	---	---	---	---	---	---
78. 4-Chlorophenyl Phenyl ether	---	---	---	---	---	---	---	---	---
79. Fluorene	---	---	---	---	---	---	---	---	---
80. 4-Nitroaniline	---	---	---	---	---	---	---	---	---
81. 4,6-Dinitro-2-methylphenol	---	---	---	---	---	---	---	---	---
82. N-nitrosodiphenylamine	---	---	---	---	---	---	---	---	---
83. 4-Bromophenyl Phenyl ether	---	---	---	---	---	---	---	---	---
84. Hexachlorobenzene	---	---	---	---	---	---	---	---	---
85. Pentachlorophenol	---	---	---	---	---	---	---	---	---
86. Phenanthrene	---	---	380 J	---	---	---	---	---	---
87. Anthracene	---	---	---	---	---	---	---	---	---
88. Di-n-butylphthalate	---	---	---	---	---	---	---	---	---
89. Fluoranthene	---	---	1000	330 J	---	---	---	---	---
90. Benzidine	---	---	---	---	---	---	---	---	---
91. Pyrene	---	---	870	210 J	---	---	---	---	---
92. Butyl Benzyl Phthalate	2000 J	---	1600	290	---	3500 J	---	---	---
93. 3,3'-Dichlorobenzidine	---	---	---	---	---	---	---	---	---
94. Benzo(a)anthracene	---	---	640	520	---	---	---	---	---
95. bis(2-ethylhexyl)phthalate	22000	3100	7700	6000	13000 J	11000	31000	100000	46000
96. Chrysene	---	---	700	---	---	---	---	---	---
97. Di-n-octyl Phthalate	---	---	---	520	---	---	---	---	---
98. Benzo(b)fluoranthene	---	---	1500	260 J	---	---	---	---	---
99. Benzo(k)fluoranthene	---	---	1500	260 J	---	---	---	---	---
100. Benzo(a)pyrene	---	---	640	---	---	---	---	---	---
101. Ideno(1,2,3-cd)pyrene	---	---	---	---	---	---	---	---	---
102. Dibenzo(a,h)anthracene	---	---	---	---	---	---	---	---	---
103. Benzo(g,h,i)perylene	---	---	---	---	---	---	---	---	---

--- = COMPOUND WAS ANALYZED FOR, BUT NOT DETECTED WITHIN DETECTION LIMITS
B = ANALYTE WAS FOUND IN THE BLANK AS WELL AS THE SAMPLE
J = INDICATES AN ESTIMATED VALUE

TABLE 1
SUMMARY OF SOIL AREAS ANALYTICAL DATA
PRISTINE, INC.

Semi-Volatiles (ug/kg)	SA3101	SA3201	SA3301	SA3302	SA3401	SA340P	SA3402
71. Acenaphthene	---	---	---	---	---	---	---
72. 2,4-Dinitrophenol	---	---	---	---	---	---	---
73. 4-Nitrophenol	---	---	---	---	---	---	---
74. Dibenzofuran	---	---	---	---	---	---	---
75. 2,4-Dinitrotoluene	---	---	---	---	---	---	---
76. 2,6-Dinitrotoluene	---	---	---	---	---	---	---
77. Diethylphthalate	---	---	---	---	---	---	---
78. 4-Chlorophenyl Phenyl ether	---	---	---	---	---	---	---
79. Fluorene	---	---	---	---	---	---	---
80. 4-Nitroaniline	---	---	---	---	---	---	---
81. 4,6-Dinitro-2-ethylphenol	---	---	---	---	---	---	---
82. N-nitrosodiphenylamine	---	---	---	---	---	---	---
83. 4-Bromophenyl Phenyl ether	---	---	---	---	---	---	---
84. Hexachlorobenzene	---	---	---	---	---	---	---
85. Pentachlorophenol	---	---	---	---	---	---	---
86. Phenanthrene	---	---	440	---	---	---	---
87. Anthracene	---	---	---	---	---	---	---
88. Di-n-butylphthalate	---	---	---	---	---	---	---
89. Fluoranthene	---	---	650	---	---	---	---
90. Benzidine	---	---	---	---	---	---	---
91. Pyrene	---	---	570	---	---	---	---
92. Butyl Benzyl Phthalate	180 J	---	---	---	---	---	---
93. 3,3'-Dichlorobenzidine	---	---	---	---	---	---	---
94. Benzo(a)anthracene	---	---	450	---	---	---	---
95. bis(2-ethylhexyl)phthalate	2600	16000	660	440	630	510	660
96. Chrysene	---	---	580	---	---	---	---
97. Di-n-octyl Phthalate	---	---	---	---	---	---	---
98. Benzo(b)fluoranthene	---	---	1200	---	---	---	---
99. Benzo(k)fluoranthene	---	---	1200	---	---	---	---
100. Benzo(a)pyrene	---	---	520	---	---	---	---
101. Indeno(1,2,3-cd)pyrene	---	---	480	---	---	---	---
102. Dibenz(a,h)anthracene	---	---	---	---	---	---	---
103. Benzo(g,h,i)perylene	---	---	470	---	---	---	---

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J = INDICATES AN ESTIMATED VALUE

TABLE 1
SUMMARY OF SOIL AREAS ANALYTICAL DATA
PRISTINE, INC.

Pesticides (ug/kg)	SA2301	SA2401	SA2501	SA2601	SA2701	SA270P	SA2801	SA2901	SA3001
104. Alpha-BHC	---	---	---	---	---	---	---	---	---
105. beta BHC	---	---	---	---	---	---	---	---	---
106. delta-BHC	---	---	---	---	---	---	---	---	---
107. gamma-BHC (Lindane)	---	---	---	84	---	---	---	---	---
108. Heptachlor	72 J	---	---	46	---	---	---	---	---
109. Aldrin	110	---	210	260	590	890	97 J	---	170 J
110. Heptachlor Epoxide	---	---	---	---	---	---	---	---	---
111. Endosulfan I	---	---	---	---	---	---	---	---	---
112. Dieldrin	560	---	210	150	300	760	---	---	1500
113. 4,4'-DDE	410	---	300	210	1600	3000	370	---	---
114. Endrin	---	---	---	---	---	---	---	---	---
115. Endosulfan II	---	---	---	---	---	---	---	---	---
116. 4,4'-DDD	1600	1600	380	430	680	1600	---	---	---
117. Endrin Aldehyde	---	---	---	---	---	---	---	---	---
118. Endosulfan Sulfate	---	---	---	---	---	---	---	---	---
119. 4,4'-DDT	10000	7800	2300	4600	2800	8300	620	---	---
120. Endrin Ketone	---	---	---	---	---	---	---	---	---
121. Methoxychlor	---	---	---	---	---	---	---	---	---
122. Chlordane	830 J	730	210 J	440	---	---	---	---	---
123. Toxaphene	---	---	---	---	---	---	---	---	---
124. AROCLOR-1016	---	---	---	---	---	---	---	---	---
125. AROCLOR-1221	---	---	---	---	---	---	---	---	---
126. AROCLOR-1232	---	---	---	---	---	---	---	---	---
127. AROCLOR-1242	---	---	---	---	---	---	---	---	---
128. AROCLOR-1248	---	---	---	---	---	4200	---	55000	---
129. AROCLOR-1254	---	---	---	---	---	---	---	---	---
130. AROCLOR-1260	---	---	---	---	---	---	---	---	---

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TABLE 1
SUMMARY OF SOIL AREAS ANALYTICAL DATA
PRISTINE, INC.

Pesticides (ug/kg)	SA3101	SA3201	SA3301	SA3302	SA3401	SA340P	SA3402
104. Alpha-BHC	---	---	---	---	---	---	---
105. beta BHC	---	---	---	---	---	---	---
106. delta-BHC	---	---	---	---	---	---	---
107. gamma-BHC (Lindane)	---	---	---	---	---	---	---
108. Heptachlor	---	---	---	---	---	---	---
109. Aldrin	92	3800	---	---	---	---	---
110. Heptachlor Epoxide	---	---	---	---	---	---	---
111. Endosulfan I	---	---	---	---	---	---	---
112. Dieldrin	140	1500	---	---	5.0	11	460
113. 4,4'-DDE	120	---	---	---	---	---	---
114. Endrin	---	---	---	---	---	---	---
115. Endosulfan II	---	---	---	---	---	---	---
116. 4,4'-DDD	---	---	400	---	---	---	---
117. Endrin Aldehyde	---	---	---	---	---	---	---
118. Endosulfan Sulfate	---	---	---	---	---	---	---
119. 4,4'-DDT	160	---	3900	30	19	38	---
120. Endrin Ketone	---	---	---	---	---	---	---
121. Methoxychlor	---	---	---	---	---	---	---
122. Chlordane	---	---	---	---	---	---	---
123. Toxaphene	---	---	---	---	---	---	---
124. AROCLOR-1016	---	---	---	---	---	---	---
125. AROCLOR-1221	---	---	---	---	---	---	---
126. AROCLOR-1232	---	---	---	---	---	---	---
127. AROCLOR-1242	---	---	---	---	---	---	---
128. AROCLOR-1248	---	---	---	---	---	---	---
129. AROCLOR-1254	---	---	---	---	---	---	---
130. AROCLOR-1260	---	---	---	---	---	---	---

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TABLE 1
SUMMARY OF SOIL AREAS ANALYTICAL DATA
PRISTINE, INC.

Inorganics (mg/kg)	SA2301	SA2401	SA2501	SA2601	SA2701	SA270P	SA2801	SA2901	SA3001
1. Aluminum	11900	9790	10400	4900	9860	7150	2900	3120	9320
2. Antimony	(R)	(R)	(R)	(R)	(R)	(R)	(R)	(R)	(R)
3. Arsenic	9.8	7.6	27	8.7	35	29	16	9	10
4. Barium	125	80(X)	108(X)	160	293	507	248	236	140
5. Beryllium	0.26(X)	0.74(X)	0.65(X)	0.31(X)	0.72(X)	0.59(X)	---	0.29(X)	0.59(X)
6. Cadmium (IC)	4.9	3.2	3.3	3.3	9.3	13	4.6	26	11
7. Calcium	13900	48600	48400	19800	41500	57700	104000	87600	28400
8. Chromium	90*	27*	56*	45*	239*	439*	124*	166*	117*
9. Cobalt	13(X)	10(X)	9.2(X)	5.2(X)	14(X)	12(X)	4.6(X)	8.2(X)	8.3(X)
10. Copper	44	34	95	46	73	97	51	118	96
11. Iron	30900	22200	32100	17800	32100	25900	17500	33400	24200
12. Lead (IC)	229*	54*	139*	211*	772*	1260*	577*	597*	790*
13. Magnesium	5760	11700	5280	2350	7740	14100	7800	15900	4670
14. Manganese	405(*R)	486(*R)	296(*R)	213(*R)	513(*R)	473(*R)	105(*R)	337(*R)	434(*R)
15. Mercury	1.1*	0.44*	0.87*	0.63*	3*	4.9*	3.3*	1.2*	0.53*
16. Nickel	35	24	28	12(X)	29	24	10(X)	39	19(X)
17. Potassium	1550(X)	1510(X)	1770(X)	1230(X)	1380(X)	1070(X)	550(X)	592(X)	1070(X)

--- = COMPOUND ANALYZED FOR, BUT NOT DETECTED WITHIN DETECTION LIMITS

(X) = CONCENTRATION LESS THAN THE REQUIRED DETECTION

(R) = SPIKE SAMPLE RECOVERY NOT WITHIN CONTROL LIMITS

* = DUPLICATE ANALYSIS NOT WITHIN CONTROL LIMITS

(IC) = INDICATOR COMPOUND

TABLE I
SUMMARY OF SOIL AREAS ANALYTICAL DATA
PRISTINE, INC.

Inorganics (mg/kg)	SA3101	SA3201	SA3301	SA3302	SA3401	SA340P	SA3402
18. Selenium	(R)	(R)	(R)	(R)	(R)	(R)	(R)
19. Silver	2.2(X)	1.9(X)	2.7(X)	2.4	---	---	---
20. Sodium	494X	516(X)	688(X)	1860(X)	1250(X)	981(X)	1280(X)
21. Thallium	(R)	(R)	(R)	(R)	(R)	(R)	(R)
22. Tin	---	14(X)	---	---	---	---	---
23. Vanadium	38	24(X)	20(X)	18(X)	22(X)	46	30
24. Zinc	182(R)	210(R)	123(R)	82(R)	58(R)	61(R)	82(R)
25. Cyanide	10	1.6	---	---	---	---	---
26. Fluoride (IC)	298	256	352	352	216	350	247

--- = COMPOUND ANALYZED FOR, BUT NOT DETECTED WITHIN DETECTION LIMITS

(X) = CONCENTRATION LESS THAN THE REQUIRED DETECTION

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* = DUPLICATE ANALYSIS NOT WITHIN CONTROL LIMITS

(IC) = INDICATOR COMPOUND

TABLE 1
SUMMARY OF SOIL AREAS ANALYTICAL DATA
PRISTINE, INC.

Inorganics (mg/kg)	SA2301	SA2401	SA2501	SA2601	SA2701	SA27DP	SA2801	SA2901	SA3001
18. Selenium	(R)	(R)	(R)	(R)	(R)	(R)	(R)	(R)	(R)
19. Silver	2.7(X)	2.1(X)	3.9(X)	---	17	17	4.7(X)	12	3.2(X)
20. Sodium	1320(X)	1310(X)	1200(X)	972(X)	1160(X)	966(X)	1130(X)	1650(X)	949(X)
21. Thallium	(R)	(R)	(R)	(R)	(R)	(R)	(R)	(R)	(R)
22. Tin	---	---	---	11(X)	---	20(X)	23(X)	45	33
23. Vanadium	51	40	47	67	40	19(X)	38	26(X)	24(X)
24. Zinc	812(R)	118(R)	177(R)	118(R)	427(R)	645(R)	165(R)	384(R)	208(R)
25. Cyanide	2.2	---	2.7	1.2	6.7	10	11	5.1	7
26. Fluoride (IC)	202	417	470	250	244	301	288	344	404

--- = COMPOUND ANALYZED FOR, BUT NOT DETECTED WITHIN DETECTION LIMITS

(X) = CONCENTRATION LESS THAN THE REQUIRED DETECTION

(R) = SPIKE SAMPLE RECOVERY NOT WITHIN CONTROL LIMITS

* = DUPLICATE ANALYSIS NOT WITHIN CONTROL LIMITS

(IC) = INDICATOR COMPOUND

TABLE I
SUMMARY OF SOIL AREAS ANALYTICAL DATA
PRISTINE, INC.

Inorganics (mg/kg)	SAJ101	SAJ201	SAJ301	SAJ302	SAJ401	SAJ40P	SAJ402
1. Aluminum	8630	8980	9440	6290	4380	5830	8470
2. Antimony	(R)	(R)	(R)	(R)	(R)	(R)	(R)
3. Arsenic	8.6	7.8	11	10	13	19	7.1
4. Barium	131	115(X)	74(X)	58(X)	333	295	131
5. Beryllium	0.73(X)	0.76(X)	0.67(X)	0.52(X)	1.2(X)	1.2(X)	0.7(X)
6. Cadmium (IC)	4.7	4.4	---	2.4(X)	3.1(X)	---	---
7. Calcium	33400	45300	25100	86500	42300	36000	56100
8. Chromium	35*	639*	33*	13*	16*	15*	18*
9. Cobalt	11(X)	9.3(X)	8.7(X)	12(X)	7(X)	6.7(X)	10(X)
10. Copper	170	47	39	32	85	90	41
11. Iron	24100	22300	26600	26900	12000	10300	19100
12. Lead (IC)	153*	2560*	83*	23*	32*	39*	24*
13. Magnesium	9930	15400	5800	13200	7420	6940	7710
14. Manganese	362(+R)	577(+R)	390(+R)	479(+R)	293(+R)	278(+R)	836(+R)
15. Mercury	0.51*	0.69*	0.25*	---	---	---	0.12*, X
16. Nickel	21(X)	20(X)	19(X)	27	12(X)	12(X)	17(X)
17. Potassium	950(X)	1240(X)	1680(X)	1850(X)	833(X)	817(X)	1220(X)

--- = COMPOUND ANALYZED FOR, BUT NOT DETECTED WITHIN DETECTION LIMITS

(X) = CONCENTRATION LESS THAN THE REQUIRED DETECTION

(R) = SPIKE SAMPLE RECOVERY NOT WITHIN CONTROL LIMITS

* = DUPLICATE ANALYSIS NOT WITHIN CONTROL LIMITS

(IC) = INDICATOR COMPOUND

TABLE 2
SUMMARY OF SOIL TRENCH ANALYTICAL DATA
PRISTINE, INC.

Volatiles (ug/kg)	ST4101	ST41DP	ST4201	ST4301	ST4401	ST44MS
1. Chloromethane	---	---	---	---	---	---
2. Bromomethane	---	---	---	---	---	---
3. Vinyl chloride	---	---	---	---	---	---
4. Chloroethane	---	---	---	---	---	---
5. Methylene Chloride	590 B	8900 B	3900 B	37B	300 B	93 B
6. Acetone	3600 B,J	14000 B	14000 B	3200 B,J	2200 B,J	2300 B,J
7. Carbon Disulfide	---	---	---	3 J	---	---
8. 1,1-Dichloroethene	---	---	---	---	---	---
9. 1,1-Dichloroethane	---	---	---	---	---	---
10. trans-1,2-Dichloroethene	---	---	---	---	---	---
11. Chloroform	60	1600 B	740 B	5 J	90	43
12. 1,2-Dichloroethane	300	3500	1700	---	1500 J	900 J
13. 2-Butanone	---	26000 B	20000 B	71 BJ	79 BJ	78 BJ
14. 1,1,1-Trichloroethane	---	---	---	---	140	---
15. Carbon Tetrachloride	---	---	---	---	---	---
16. Vinyl Acetate	R	---	---	---	---	---
17. Bromodichloromethane	R	R	---	---	R	R
18. 1,1,2,2-Tetrachloroethane	---	---	---	---	---	---
19. 1,2-Dichloropropane	---	---	---	---	---	---
20. trans-1,3-Dichloropropene	---	---	---	---	---	---
21. Trichloroethene	---	---	---	---	---	---
22. Dibromochloroethane	---	---	---	---	---	---
23. 1,1,2-Trichloroethane	33	---	350	3 J	46	41
24. Benzene	47	1200	390	---	19	11
25. cis-1,3-Dichloropropene	---	---	---	---	---	---
26. 2-Chloroethyl Vinyl Ether	---	---	---	---	---	---
27. Bromoform	---	---	---	---	---	---
28. 2-Hexanone	---	---	---	---	---	---
29. 4-Methyl-2-pentanone	89 J	---	---	---	---	---
30. Tetrachloroethene	---	---	---	---	---	---
31. Toluene	360	7400	6500	27	480	400
32. Chlorobenzene	8.4	---	290	---	11	11
33. Ethyl Benzene	6.0	---	260	5.7	---	---
34. Styrene	---	---	---	---	---	---
35. Total Axylenes	23	---	770	23	17	20

--- = COMPOUND ANALYZED FOR, BUT NOT DETECTED WITHIN DETECTION LIMITS
 B = ANALYTE WAS FOUND IN THE BLANK AS WELL AS THE SAMPLE
 J = INDICATES AN ESTIMATED VALUE
 R = RESTRICTED DATA-NOT USABLE

TABLE 2
SUMMARY OF SOIL TRENCH ANALYTICAL DATA
PRISTINE, INC.

Semi-Volatiles (ug/kg)	ST4101	ST41DP	ST4201	ST4301	ST4401	ST44MS
36. N-Nitrosodimethylamine	NA	NA	NA	NA	NA	NA
37. Phenol	6200	5600	1400	1200	410	870
38. Aniline	---	---	---	---	---	---
39. bis(2-Chloroethyl) ether	---	---	---	---	---	---
40. 2-Chlorophenol	---	---	---	---	---	---
41. 1,3-Dichlorobenzene	---	---	---	---	---	---
42. 1,4-Dichlorobenzene	---	---	210 J	50 J	---	---
43. Benzyl Alcohol	---	---	---	---	---	---
44. 1,2-Dichlorobenzene	150 J	280 J	13000	2700	50 J	100 J
45. 2-Methylphenol	---	---	---	---	---	---
46. bis(2-Chloroisopropyl) ether	---	---	---	---	---	---
47. 4-Methylphenol	230 J	230 J	---	---	---	---
48. n-Nitroso-Dipropylamine	---	---	---	---	---	---
49. Hexachloroethane	---	---	---	---	---	---
50. Nitrobenzene	---	---	---	---	---	---
51. Isophorone	---	---	---	---	---	---
52. 2-Nitrophenol	---	---	---	---	---	---
53. 2,4-Dimethylphenol	---	---	---	---	---	---
54. Benzoic Acid	1300 J	740 J	---	---	---	---
55. bis(2-Chloroethoxy) methane	---	---	---	---	---	---
56. 2,4-Dichlorophenol	---	---	---	---	---	---
57. 1,2,4-Trichlorobenzene	---	---	---	---	---	---
58. Naphthalene	---	80 J	---	---	---	---
59. 4-Chloroaniline	---	---	---	---	---	---
60. Hexachlorobutadiene	---	---	---	---	---	---
61. 4-Chloro-3-methylphenol (para-chloro-meta-cresol)	---	---	---	---	---	---
62. 2-Methylnaphthalene	---	---	---	---	---	---
63. Hexachlorocyclopentadiene	---	---	---	---	---	---
64. 2,4,6-Trichlorophenol	---	---	---	---	---	---
65. 2,4,5-Trichlorophenol	---	---	---	---	---	---
66. 2-Chloronaphthalene	---	---	---	---	---	---
67. 2-Nitroaniline	---	---	---	---	---	---
68. Dimethyl Phthalate	---	---	---	---	---	---
69. Acenaphthylene	---	---	---	---	---	---
70. 3-Nitroaniline	---	---	---	---	---	---

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R = RESTRICTED DATA-NOT USABLE

TABLE 2
SUMMARY OF SOIL TRENCH ANALYTICAL DATA
PRISTINE, INC.

Semi-Volatiles (ug/kg)	ST4101	ST41DP	ST4201	ST4301	ST4401	ST44MS
71. Acenaphthene	---	---	---	---	---	---
72. 2,4-Dinitrophenol	---	---	---	---	---	---
73. 4-Nitrophenol	---	---	---	---	---	---
74. Dibenzofuran	---	---	---	---	---	---
75. 2,4-Dinitrotoluene	---	---	---	---	---	---
76. 2,6-Dinitrotoluene	---	---	---	---	---	---
77. Diethylphthalate	---	---	---	---	---	---
78. 4-Chlorophenyl Phenyl ether	---	---	---	---	---	---
79. Fluorene	---	---	---	---	---	---
80. 4-Nitroaniline	---	---	---	---	---	---
91. 4,6-Dinitro-2-methylphenol	---	---	---	---	---	---
82. N-nitrosodiphenylamine	---	---	---	---	---	---
83. 4-Bromophenyl Phenyl ether	---	---	---	---	---	---
84. Hexachlorobenzene	---	---	---	---	---	---
85. Pentachlorophenol	---	---	---	---	---	---
86. Phenanthrene	100 J	34 J	---	---	---	---
87. Anthracene	---	---	---	---	---	---
88. Di-n-butylphthalate	---	110 J	90 J	60 J	---	---
89. Fluoranthene	130 J	240 J	---	---	---	---
90. Benzidine	NA	NA	NA	NA	NA	---
91. Pyrene	120 J	179 J	---	---	---	---
92. Butyl Benzyl Phthalate	150 JB	220 JB	200 JB	300 JB	90 JB	170 JB
93. 3,3'-Dichlorobenzidine	NA	NA	NA	NA	NA	NA
94. Benzo(a)anthracene	77 J	150 J	---	---	---	---
95. bis(2-ethylhexyl)phthalate	190 J	110 J	240 J	70 J	20 J	40 J
96. Chrysene	120 J	220 J	---	---	---	---
97. Di-n-octyl Phthalate	---	---	---	---	---	---
98. Benzo(b)fluoranthene	340 J	250 J	---	---	---	---
99. Benzo(k)fluoranthene	340 J	250 J	---	---	---	---
100. Benzo(a)pyrene	120 J	200 J	---	---	---	---
101. Ideno(1,2,3-cd)pyrene	---	110 J	---	---	---	---
102. Dibenz(a,h)anthracene	---	---	---	---	---	---
103. Benzo(g,h,i)perylene	95 J	130 J	---	---	---	---

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TABLE 2
SUMMARY OF SOIL TRENCH ANALYTICAL DATA
PRISTINE, INC.

Pesticides (ug/kg)	ST4101	ST410P	ST4201	ST4301	ST4401	ST44MS
104. Alpha-BHC	---	---	---	---	---	---
105. beta BHC	---	---	---	---	---	---
106. delta-BHC	---	---	---	---	---	---
107. gamma-BHC (Lindane)	---	---	---	---	---	---
108. Heptachlor	---	---	---	---	---	---
109. Aldrin	---	---	---	J	---	---
110. Heptachlor Epoxide	---	---	---	---	---	---
111. Endosulfan I	---	---	---	---	---	---
112. Dieldrin	---	---	---	---	---	---
113. 4,4'-DDE	---	---	---	---	---	---
114. Endrin	---	---	---	---	---	---
115. Endosulfan II	---	---	---	---	---	---
116. 4,4'-DDD	---	---	---	---	---	---
117. Endrin Aldehyde	---	---	---	---	---	---
118. Endosulfan Sulfate	---	---	---	---	---	---
119. 4,4'-DDT	---	---	---	---	---	---
120. Endrin Ketone	---	---	---	---	---	---
121. Methoxychlor	---	---	---	---	---	---
122. Chlordane	---	---	---	---	---	---
123. Toxaphene	---	---	---	---	---	---
124. AROCLOR-1016	---	---	---	---	---	---
125. AROCLOR-1221	---	---	---	---	---	---
126. AROCLOR-1232	---	---	---	---	---	---
127. AROCLOR-1242	---	---	---	---	---	---
128. AROCLOR-1248	---	---	---	---	---	---
129. AROCLOR-1254	---	---	---	---	---	---
130. AROCLOR-1260	---	---	---	---	---	---

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TABLE 2
SUMMARY OF SOIL TRENCH ANALYTICAL DATA
PRISTINE, INC.

Inorganics (mg/kg)	ST4101	ST41DP	ST4201	ST4301	ST4401	ST44MS
1. Aluminum	2370	2190	13200	4950	7680	9110
2. Antimony	(R)	(R)	(R)	(R)	(R)	(R)
3. Arsenic	5.1(X)	4.9(X)	26	12	25	(R)
4. Barium	145	144	96(X)	33(X)	39(X)	45(X)
5. Beryllium	---	---	0.55(X)	0.39(X)	0.43(X)	0.51(X)
6. Cadmium (IC)	---	---	---	---	---	---
7. Calcium	6220	7980	4530	13800	13700	117000
8. Chromium	9.2	9.7	30	11	11	15
9. Cobalt	---	---	10(X)	7.6(X)	9.1(X)	9.4(X)
10. Copper	15(X)	13(X)	40	21	21	21
11. Iron	8890*	10700*	39900*	19800*	18800*	21000*
12. Lead (IC)	61*	77*	27*	11	10	11
13. Magnesium	289(X)	247(X)	4080	39800	32100	30200
14. Manganese	31*	31*	187*	1670*	540*	563*
15. Mercury	0.16	0.15	---	---	---	---
16. Nickel	---	---	28	21(X)	17(X)	20(X)
17. potassium	1510(X)	1760(X)	2190(X)	1110(X)	1580(X)	2030(X)

--- = COMPOUND ANALYZED FOR, BUT NOT DETECTED WITHIN DETECTION LIMITS
 (X) = CONCENTRATION LESS THAN THE REQUIRED DETECTION LIMITS
 (R) = SPIKE SAMPLE RECOVERY NOT WITHIN CONTROL LIMITS
 * = DUPLICATE ANALYSIS NOT WITHIN CONTROL LIMITS
 (IC) = INDICATOR COMPOUND

TABLE 2
SUMMARY OF SOIL TRENCH ANALYTICAL DATA
PRISTINE, INC.

Inorganics (ug/kg)	ST4101	ST41DP	ST4201	ST4301	ST4401	ST44MS
18. Selenium	(R)	(R)	(R)	(R)	(R)	(R)
19. Silver	---	---	3.6(X)	2.2(X)	1.8(X)	---
20. Sodium	---	---	---	1700(X)	1390(X)	1060(X)
21. Thallium	---	---	---	---	---	---
22. Tin	16(X)	11(X)	---	---	---	---
23. Vanadium	9.6(X)	9.8(X)	40	16(X)	17(X)	21(X)
24. Zinc	15	14	95	65	57	51
25. Cyanide	---	---	---	---	---	---

--- = COMPOUND ANALYZED FOR, BUT NOT DETECTED WITHIN DETECTION LIMITS

(X) = CONCENTRATION LESS THAN THE REQUIRED DETECTION

(R) = SPIKE SAMPLE RECOVERY NOT WITHIN CONTROL LIMITS

* = DUPLICATE ANALYSIS NOT WITHIN CONTROL LIMITS

(IC) = INDICATOR COMPOUND

TABLE 3
SUMMARY OF SOIL BORINGS ANALYTICAL DATA
PRISTINE, INC.

Inorganics (mg/kg)	SBCP01	SBCP02	SBCP03	SBCP04	SBCP05
18. Selenium	E, (R)	E, (R)	---	E, (R)	---
19. Silver	3.4(X, R)	2.9(X, R)	---	---	2.1(X)
20. Sodium	2100(X)	2130(X)	2360(X)	2500(X)	2200(X)
21. Thallium	---	---	---	---	---
22. Tin	---	---	---	---	---
23. Vanadium	38	45	35(X)	24(X)	31
24. Zinc	63	100	78	32	30
25. Cyanide	---	---	---	---	---
26. Fluoride (ppm)	112	138	35	157	160

--- = COMPOUND ANALYZED BUT NOT DETECTED WITHIN DETECTION LIMITS

R = CONCENTRATION LESS THAN THE REPORTED DETECTION

X = SOME SAMPLE RECOVERY NOT WITHIN CONTROL LIMITS

• = ANALYTES ANALYZED BUT NOT WITHIN CONTROL LIMITS

E = DATA NOT USEABLE

ND = NOT DETECTED

TABLE 3
SUMMARY OF SOIL BORINGS ANALYTICAL DATA
PRISTINE, INC.

Inorganics (mg/kg)	SB3901	SB3902	SB3903	SB3904	SB3905	SB4001	SB4002	SB4003	SB4004	SB4005
18. Selenium	---	---	---	---	---	---	---	---	---	---
19. Silver	---	2.2(X, R)	2.3(X, R)	3.1(X, R)	2.7(X, R)	2.2(X, R)	3.3(X, R)	1.8(X, R)	2.4(X, R)	4.4(X, R)
20. Sodium	544(X)	---	---	---	---	---	---	---	---	---
21. Thallium	---	---	---	---	---	---	---	---	---	---
22. Tin	---	---	---	---	---	---	15(X)	---	---	---
23. Vanadium	3.6(X)	18(X)	37	38	29	35	27(X)	25(X)	23(X)	71
24. Zinc	4.3(X)	64	101	93	63	91	110	46	453	101
25. Cyanide	---	---	---	---	---	---	1.5	---	---	---
26. Fluoride (ppm)	339	330	359	659	175	221	100	386	306	123

--- = SAMPLE ANALYZED FOR, BUT NOT DETECTED WITHIN DETECTION LIMITS

X = CONCENTRATION LESS THAN THE ASSIGNED DETECTION

R = SPONGE SAMPLE RECOVERY NOT WITHIN CONTROL LIMITS

* = QUALITY ANALYSIS NOT WITHIN CONTROL LIMITS

5 = DATA UNRELIABLE

ND = ANALYSIS OVERLAP

TABLE 3
SUMMARY OF SOIL BORINGS ANALYTICAL DATA
PRISTINE, INC.

Inorganics (ug/kg)	SB3501	SB3502	SB3503	SB350P	SB3504	SB3505	SB3601	SB3602	SB3603	SB360S	SB3604	SB3605
18. Selenium	E, (R)	E, (R)	E, (R)	E, (R)	E, (R)	E, (R)	E, (R)	E, (R)	E, (R)	E, (R)	E, (R)	E, (R)
19. Silver	3(X)	2.2(X)	3(X)	3(X)	—	—	2.9(X)	3.2(X)	3.5(X)	—	2.7(X)	—
20. Sodium	1510(X)	1690(X)	1550(X)	1230(X)	1130(X)	1470(X)	1600(X)	1130(X)	3600	—	2380(X)	3010
21. Thallium	—	—	—	—	—	—	—	—	—	—	—	—
22. Tin	—	142	—	—	—	—	—	—	—	—	—	9.5(X)
23. Vanadium	38	32	31	33	22(X)	38(X)	41	44	25(X)	—	33	50
24. Zinc	132*	37*	41*	502*	100*	78*	164*	143*	67*	*	50*	—
25. Cyanide	E, (R)	(R)	(R)	(R)	(R)	(R)	10(X)	(R)	(R)	(R)	(R)	(R)
26. Fluoride (ID)	370	241	306	155	56	50	82	107	147	—	125	476

— = BORING ANALYZED FOR, BUT NOT DETECTED WITHIN DETECTION LIMITS

(X) = CONCENTRATION LESS THAN THE REQUIRED DETECTION

(R) = SPONGE SAMPLE RECOVERY NOT WITHIN CONTROL LIMITS

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E = EXTRA NOT SAMPLED

ID = IDENTIFIER NUMBER

TABLE 3
SUMMARY OF SOIL BORINGS ANALYTICAL DATA
PRISTINE, INC.

Inorganics (mg/kg)	SB3701	SB3702	SB37MS	SB3703	SB3704	SB3705	SB3801	SB3802	SB3803	SB3804	SB3805
18. Selenium	E, (R)	E, (R)	E, (R)	E, (R)	E, (R)	E, (R)	---	---	---	---	---
19. Silver	2.9(X)	3.3(X)	1.9(X)	---	2.3(X)	2.4(X)	---	---	2.9(X,R)	3. (X,R)	2.8(X,R)
20. Sodium	1190(X)	1470(X)	2320(X)	2260(X)	2260(X)	2040(X)	---	---	---	---	---
21. Thallium	---	---	---	---	---	---	---	---	---	---	---
22. Tin	---	---	---	---	---	---	---	---	---	---	---
23. Vanadium	54	45	30	40	30(X)	19(X)	13(X)	38	53	51	
24. Zinc	141*	158*	133*	159*	89*	76*	103	75	95	84	90
25. Cyanide	1.1(R)	(R)	(R)	(R)	(R)	(R)	---	---	---	---	---
26. Fluoride (IC)	357	513	494	459	268	337	141	95	147	192	129

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* = DUPLICATE ANALYSIS NOT WITHIN CONTROL LIMITS

E = DATA NOT USEABLE

(IC) = INDICATOR CHEMICAL

TABLE 3
SUMMARY OF SOIL BORINGS ANALYTICAL DATA
PRISTINE, INC.

Volatiles (ug/kg)	SB3501	SB3502	SB3503	SB350P	SB3504	SB3505	SB3601	SB3602	SB3603	SB3604	SB3605
1. Chloroethane	---	---	---	---	---	---	---	---	---	---	---
2. Bromoethane	---	---	---	---	---	---	---	---	---	---	---
3. Vinyl chloride	---	---	---	---	---	---	---	---	---	---	---
4. Chloroethane	---	---	---	---	---	---	---	---	---	---	---
5. Methylene Chloride	82 B	9.6 B	5.9	13 B	7.9 B	9.6 B	8.9 B	7.7 B	9.8 B	14 B	5.6 B
6. Acetone	13 B	290 B	380	330 B	36 B	50 B	9.6 B,J	11 B,J	12 B	17 B	29 B
7. Carbon Disulfide	---	---	---	---	---	---	---	---	---	---	---
8. 1,1-Dichloroethene	23 K	---	---	---	---	---	---	---	---	---	---
9. 1,1-Dichloroethane	---	---	---	---	---	---	---	---	---	---	---
10. trans-1,2-Dichloroethene	---	---	---	---	---	---	---	---	---	---	---
11. Chloroform	---	---	---	---	2.9 J	---	3.5 J	---	---	---	---
12. 1,2-Dichloroethane	---	---	---	---	---	---	---	---	---	2.9 J	---
13. 2-Butanone	---	46	170	---	---	9.0 J	---	---	---	---	---
14. 1,1,1-Trichloroethane	---	---	---	---	---	---	3.7 J	---	---	---	---
15. Carbon Tetrachloride	---	---	---	---	---	---	---	---	---	---	---
16. Vinyl Acetate	---	---	---	---	---	---	---	---	---	---	---
17. Bromodichloromethane	---	---	---	---	---	---	---	---	---	---	---
18. 1,1,2,2-Tetrachloroethane	---	---	---	---	---	---	---	---	---	---	---
19. 1,2-Dichloropropane	---	---	---	---	---	---	---	---	---	---	---
20. trans-1,3-Dichloropropene	---	---	---	---	---	---	---	---	---	---	---
21. Trichloroethene	20	3.9 J	---	---	21	---	38	---	---	---	---
22. Dibromochloromethane	---	---	---	---	---	---	---	---	---	---	---
23. 1,1,2-Trichloroethane	---	---	---	---	---	---	---	---	---	---	---
24. Benzene	---	---	---	---	5.1 J	---	---	---	---	---	---
25. cis-1,3-Dichloropropene	---	---	---	---	---	---	---	---	---	---	---
26. 2-Chloroethyl Vinyl Ether	---	---	---	---	---	---	---	---	---	---	---
27. Bromoform	---	---	---	---	---	---	---	---	---	---	---
28. 2-Hexanone	---	---	---	---	---	---	---	---	---	---	---
29. 4-Methyl-2-pentanone	---	---	---	---	---	---	---	---	---	---	---
30. Tetrachloroethene	18	---	---	---	6.8	---	58	---	---	---	---
31. Toluene	3.6 J	---	---	---	---	---	---	---	---	---	---
32. Chlorobenzene	---	---	---	---	---	---	---	---	---	---	---
33. Ethyl Benzene	---	---	---	---	---	---	---	---	---	---	---
34. Styrene	---	---	---	---	---	---	---	---	---	---	---
35. Total Xylenes	---	---	---	---	---	---	---	---	---	---	---

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TABLE 3
SUMMARY OF SOIL BORINGS ANALYTICAL DATA
PRISTINE, INC.

Volatiles (ug/kg)	SB3701	SB3702	SB3703	SB370P	SB3704	SB3705	SB3801	SB3802	SB3803	SB3804
1. Chloromethane	---	---	---	---	---	---	---	---	---	---
2. Bromomethane	---	---	---	---	---	---	---	---	---	---
3. Vinyl chloride	---	---	---	---	---	---	---	---	---	---
4. Chloroethane	---	---	---	---	---	---	---	---	---	---
5. Methylene Chloride	19 B	24 B	18 B	32 B	14 B	30 B	140.35	63.49	330.79 B	685.64
6. Acetone	9.4 B,J	7.7 B,J	27 B	150 B	25 B	44 B	85.56	117.22	127.23	120.3
7. Carbon Disulfide	---	---	---	---	---	---	---	---	---	---
8. 1,1-Dichloroethene	---	---	---	---	---	---	---	---	---	---
9. 1,1-Dichloroethane	---	---	---	---	---	8.5	---	---	---	---
10. trans-1,2-Dichloroethene	---	---	---	---	---	---	---	---	---	---
11. Chloroform	---	---	---	---	---	---	18.71	---	58.17	181.1
12. 1,2-Dichloroethane	---	---	---	---	---	53	31.58	20.76	178.12	426.9
13. 2-Butanone	---	---	---	---	---	9.0 J	---	---	---	---
14. 1,1,1-Trichloroethane	---	---	---	---	---	---	---	---	---	---
15. Carbon Tetrachloride	---	---	---	---	---	---	---	---	---	---
16. Vinyl Acetate	---	---	---	---	---	---	---	---	---	---
17. Bromodichloromethane	---	---	---	---	---	---	---	---	---	---
18. 1,1,2,2-Tetrachloroethane	---	---	---	---	---	---	---	---	---	---
19. 1,2-Dichloropropane	---	---	---	---	---	---	---	---	---	---
20. trans-1,3-Dichloropropene	---	---	---	---	---	---	---	---	---	---
21. Trichloroethene	---	---	---	---	---	---	---	---	---	---
22. Dibromochloromethane	---	---	---	---	---	---	---	---	---	---
23. 1,1,2-Trichloroethane	---	---	---	---	---	---	---	---	15.27	60.80
24. Benzene	---	---	---	---	---	---	---	---	6.36	---
25. cis-1,3-Dichloropropene	---	---	---	---	---	---	---	---	---	---
26. 2-Chloroethyl Vinyl Ether	---	---	---	---	---	---	---	---	---	---
27. Bromoform	---	---	---	---	---	---	---	---	---	---
28. 2-Hexanone	---	---	---	---	---	---	---	---	---	---
29. 4-Methyl-2-pentanone	---	---	---	---	---	---	---	---	---	---
30. Tetrachloroethene	---	---	---	---	---	---	---	---	---	---
31. Toluene	---	---	---	---	---	---	4.56 J	2.44 J	12.60	336.35
32. Chlorobenzene	---	---	---	---	---	---	---	---	---	---
33. Ethyl Benzene	---	---	---	---	---	---	1.29 J	---	17.81	---
34. Styrene	---	---	---	---	---	---	3.27 J	---	---	---
35. Total Xylenes	---	---	---	---	---	---	5.61 J	---	104.33	32.34

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TABLE 3
SUMMARY OF SOIL BORINGS ANALYTICAL DATA
PRISTINE, INC.

Volatiles (ug/kg)	SB3901	SB3902	SB3903	SB390P	SB3904	SB3905	SB4001	SB4002	SB4003	SB4004	SB4005
1. Chloromethane	---	---	---	---	---	---	---	---	---	---	---
2. Bromomethane	---	---	---	---	---	---	---	---	---	---	---
3. Vinyl chloride	---	---	---	---	---	---	---	---	---	---	---
4. Chloroethane	---	---	---	---	---	---	---	---	---	---	---
5. Methylene Chloride	31.75	227.82	75.00	94.85	75.80	118.06	118.148	286.108	12910.88	616.238	379.318
6. Acetone	---	1558.75	237.50	210.77	---	165.29	---	584.86	56338 B	51163 B	3333
7. Carbon Disulfide	---	109.11	---	---	---	---	---	---	---	---	---
8. 1,1-Dichloroethene	---	---	---	---	---	---	---	---	---	---	---
9. 1,1-Dichloroethane	---	---	---	---	---	22.43	---	---	---	---	---
10. trans-1,2-Dichloroethene	---	---	---	---	---	16.53	---	---	---	---	---
11. Chloroform	9.95	---	---	---	---	18.89	---	32.11	211.27	69.77	---
12. 1,2-Dichloroethane	86.77	143.88	106.25	86.65	---	6139.32	---	---	751.17	1,128	75.8
13. 2-Butanone	---	371.70	---	---	---	---	---	---	786.38	1,279	241.3
14. 1,1,1-Trichloroethane	24.34	---	---	---	---	---	---	---	---	---	---
15. Carbon Tetrachloride	---	---	---	---	---	---	---	---	---	---	---
16. Vinyl Acetate	---	---	---	---	---	---	---	---	---	---	---
17. Bromodichloromethane	---	---	---	---	---	---	---	---	---	---	---
18. 1,1,2,2-Tetrachloroethane	---	---	---	---	---	---	---	---	---	---	---
19. 1,2-Dichloropropane	---	---	---	---	---	---	---	---	---	---	---
20. trans-1,3-Dichloropropene	---	---	---	---	---	---	---	---	---	---	---
21. Trichloroethene	4.02 J	---	---	---	---	3.66 J	---	---	---	---	---
22. Dibromochloromethane	---	---	---	---	---	---	---	---	---	---	---
23. 1,1,2-Trichloroethane	---	---	---	---	---	---	---	---	---	---	---
24. Benzene	---	22.78	8.0	---	---	76.74	---	57.34	27,000	1,140	48.2
25. cis-1,3-Dichloropropene	---	---	---	---	---	---	---	---	---	---	---
26. 2-Chloroethyl Vinyl Ether	---	---	---	---	---	---	---	---	---	---	---
27. Bromoform	---	---	---	---	---	---	---	---	---	---	---
28. 2-Hexanone	---	---	---	---	---	---	---	---	---	---	---
29. 4-Methyl-2-pentanone	---	50.36	12.00	---	---	---	---	---	---	---	---
30. Tetrachloroethene	68.78	---	25.00	3.75	---	---	12.54	---	---	---	---
31. Toluene	10.58	79.14	66.25	21.08	12.36	43.68	---	83.72	57518	848.848	149.4
32. Chlorobenzene	---	---	---	---	---	---	---	---	481.22	581.40	---
33. Ethyl Benzene	6.46	---	9.00	---	---	---	---	---	39.91	58.14	26.4
34. Styrene	---	---	---	---	---	---	---	---	---	---	---
35. Total xylenes	37.04	8.51	53.75	7.96	396 J	2.24 J	---	---	269.95	465.12	172.4

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PRISTINE, INC.

Volatiles (ug/kg)	SBCP01	SBCP02*	SBCP03	SBCP0P	SBCP04	SBCP05
1. Chloroethane	---	---	---	---	---	---
2. Bromoethane	---	---	---	---	---	---
3. Vinyl chloride	---	---	---	---	---	---
4. Chloroethane	---	---	---	---	---	---
5. Methylene Chloride	52	570	41	18K	30K	---
6. Acetone	2190	560	---	---	160	---
7. Carbon Disulfide	---	---	---	---	---	---
8. 1,1-Dichloroethane	18K	---	22K	32	15K	39
9. 1,1-Dichloroethane	---	---	---	---	---	---
10. trans-1,2-Dichloroethane	110	---	55	39	---	---
11. Chloroform	2K	---	3K	---	---	---
12. 1,2-Dichloroethane	---	---	---	66	---	400
13. 2-Butanone	2500	2300	---	---	---	170
14. 1,1,1-Trichloroethane	---	190K	100	120	26K	---
15. Carbon Tetrachloride	---	---	---	---	---	---
16. Vinyl Acetate	---	---	---	---	---	---
17. Bromodichloromethane	---	---	---	---	---	---
18. 1,1,2,2-Tetrachloroethane	---	---	---	---	---	---
19. 1,2-Dichloropropane	---	---	---	---	---	61
20. trans-1,3-Dichloropropene	---	---	---	---	---	---
21. Trichloroethene	310	440K	140	210	45K	---
22. Dibromochloromethane	---	---	---	---	---	---
23. 1,1,2-Trichloroethane	---	---	---	---	---	---
24. Benzene	---	---	---	---	---	75
25. cis-1,3-Dichloropropene	---	---	---	---	---	---
26. 2-Chloroethyl Vinyl Ether	---	---	---	---	---	---
27. Bromoform	---	---	---	---	---	---
28. 2-Hexanone	---	---	---	---	---	---
29. 4-Methyl-2-pentanone	260	---	---	---	---	---
30. Tetrachloroethene	84	430K	97	380	49K	---
31. Toluene	1400	4400	570	150	370	60
32. Chlorobenzene	29K	120K	---	7K	---	---
33. Ethyl Benzene	57	140K	24K	14K	15K	---
34. Styrene	---	---	---	---	---	---
35. Total Xylenes	190	320K	130	110	80	---

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PRISTINE, INC.

Semi-Volatiles (ug/kg)	SB3701	SB3702	SB3703	SB37DP	SB3704	SB3705	SB3801	SB3802	SB3803	SB3804
36. N-Nitrosodimethylamine	---	---	---	---	---	---	---	---	---	---
37. Phenol	---	---	---	---	---	---	---	---	---	---
38. Aniline	---	---	---	---	---	---	---	---	---	---
39. bis(2-Chloroethyl) ether	---	---	---	---	---	---	---	---	---	---
40. 2-Chlorophenol	---	---	---	---	---	---	---	---	---	---
41. 1,3-Dichlorobenzene	---	---	---	---	---	---	---	---	---	---
42. 1,4-Dichlorobenzene	---	---	---	---	---	---	---	---	---	---
43. Benzyl Alcohol	---	---	---	---	---	---	---	---	---	---
44. 1,2-Dichlorobenzene	---	---	---	---	---	---	---	---	---	633.8
45. 2-Methylphenol	---	---	---	---	---	---	---	---	---	---
46. bis(2-Chloroisopropyl) ether	---	---	---	---	---	---	---	---	---	---
47. 4-Methylphenol	---	---	---	---	---	---	---	---	---	---
48. n-Nitroso-Dipropylamine	---	---	---	---	---	---	---	---	---	---
49. Hexachloroethane	---	---	---	---	---	---	---	---	---	---
50. Nitrobenzene	---	---	---	---	---	---	---	---	---	---
51. Isophorone	---	---	---	---	---	---	---	---	---	---
52. 2-Nitrophenol	---	---	---	---	---	---	---	---	---	---
53. 2,4-Dimethylphenol	---	---	---	---	---	---	---	---	---	---
54. Benzoic Acid	---	---	---	---	---	---	---	---	---	---
55. bis(2-Chloroethoxy) methane	---	---	---	---	---	---	---	---	---	---
56. 2,4-Dichlorophenol	---	---	---	---	---	---	---	---	---	---
57. 1,2,4-Trichlorobenzene	---	---	---	---	---	---	---	---	---	---
58. Naphthalene	---	---	---	---	---	---	---	---	---	---
59. 4-Chloroaniline	---	---	---	---	---	---	---	---	---	---
60. Hexachlorobutadiene	---	---	---	---	---	---	---	---	---	---
61. 4-Chloro-3-methylphenol (para-chloro-meta-cresol)	---	---	---	---	---	---	---	---	---	---
62. 2-Methylnaphthalene	---	---	---	---	---	---	---	---	---	---
63. Hexachlorocyclopentadiene	---	---	---	---	---	---	---	---	---	---
64. 2,4,6-Trichlorophenol	---	---	---	---	---	---	---	---	---	---
65. 2,4,5-Trichlorophenol	---	---	---	---	---	---	---	---	---	---
66. 2-Chloronaphthalene	---	---	---	---	---	---	---	---	---	---
67. 2-Nitroaniline	---	---	---	---	---	---	---	---	---	---
68. Dimethyl Phthalate	---	---	---	---	---	---	---	---	---	---
69. Acenaphthylene	---	---	---	---	---	---	---	---	---	---
70. 3-Nitroaniline	---	---	---	---	---	---	---	---	---	---

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PRISTINE, INC.

Semi-Volatiles (ug/kg)	SB3501	SB3502	SB3503	SB35DP	SB3504	SB3505	SB3601	SB3602	SB3603	SB3604	SE
36. N-Nitrosodisethylamine	---	---	---	---	---	---	---	---	---	---	-
37. Phenol	---	18000	---	---	---	---	---	---	---	---	-
38. Aniline	---	---	---	---	---	---	---	---	---	---	-
39. bis(2-Chloroethyl) ether	---	---	---	---	---	---	---	---	---	---	-
40. 2-Chlorophenol	---	---	---	---	---	---	---	---	---	---	-
41. 1,3-Dichlorobenzene	---	---	---	---	---	---	---	---	---	---	-
42. 1,4-Dichlorobenzene	---	---	---	---	---	---	---	---	---	---	-
43. Benzyl Alcohol	---	---	---	---	---	---	---	---	---	---	-
44. 1,2-Dichlorobenzene	---	---	---	---	---	---	---	---	---	---	8400
45. 2-Methylphenol	---	---	---	---	---	---	---	---	---	---	-
46. bis(2-Chloroisopropyl) ether	---	---	---	---	---	---	---	---	---	---	-
47. 4-Methylphenol	---	---	---	---	---	---	---	---	---	---	-
48. n-Nitroso-Dipropylamine	---	---	---	---	---	---	---	---	---	---	-
49. Hexachloroethane	---	---	---	---	---	---	---	---	---	---	-
50. Nitrobenzene	---	---	---	---	---	---	---	---	---	---	-
51. Isophorone	---	---	---	---	---	---	---	---	---	---	-
52. 2-Nitrophenol	---	---	---	---	---	---	---	---	---	---	-
53. 2,4-Diethylphenol	---	---	---	---	---	---	---	---	---	---	-
54. Benzoic Acid	---	---	---	---	---	---	---	---	---	---	-
55. bis(2-Chloroethoxy) methane	---	---	---	---	---	---	---	---	---	---	-
56. 2,4-Dichlorophenol	---	---	---	---	---	---	---	---	---	---	-
57. 1,2,4-Trichlorobenzene	---	---	---	---	---	---	---	---	---	---	-
58. Naphthalene	---	---	---	---	---	---	---	---	---	---	-
59. 4-Chloroaniline	---	---	---	---	---	---	---	---	---	---	-
60. Hexachlorobutadiene	---	---	---	---	---	---	---	---	---	---	-
61. 4-Chloro-3-methylphenol (para-chloro-meta-cresol)	---	---	---	---	---	---	---	---	---	---	-
62. 2-Methylnaphthalene	---	---	---	---	---	---	---	---	---	---	-
63. Hexachlorocyclopentadiene	---	---	---	---	---	---	---	---	---	---	-
64. 2,4,6-Trichlorophenol	---	---	---	---	---	---	1900 J	---	---	---	-
65. 2,4,5-Trichlorophenol	---	---	---	---	---	---	---	---	---	---	-
66. 2-Chloronaphthalene	---	---	---	---	---	---	---	---	---	---	-
67. 2-Nitroaniline	---	---	---	---	---	---	---	---	---	---	-
68. Diethyl Phthalate	---	---	---	---	---	---	---	---	---	---	-
69. Acenaphthylene	---	---	---	---	---	---	---	---	---	---	-
70. 3-Nitroaniline	---	---	---	---	---	---	---	---	---	---	-

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Semi-Volatiles (ug/kg)	SBCP01	SBCP02	SBCP03	SBCPDP	SBCP04	SBCP05
36. N-Nitrosodiaethylamine	---	---	---	---	---	---
37. Phenol	440K	930	---	490K	660	---
38. Aniline	---	---	---	---	---	---
39. bis(2-Chloroethyl) ether	---	---	---	---	---	---
40. 2-Chlorophenol	---	---	---	---	---	---
41. 1,3-Dichlorobenzene	---	---	---	---	---	---
42. 1,4-Dichlorobenzene	---	---	---	---	---	---
43. Benzyl Alcohol	---	---	---	---	---	---
44. 1,2-Dichlorobenzene	---	---	---	---	---	---
45. 2-Methylphenol	120K	350K	---	190K	---	---
46. bis(2-Chloroisopropyl) ether	---	---	---	---	---	---
47. 4-Methylphenol	---	370K	220K	200K	160K	---
48. n-Nitroso-Dipropylamine	---	---	---	---	---	---
49. Hexachloroethane	---	---	---	---	---	---
50. Nitrobenzene	---	---	---	---	---	---
51. Isophorone	---	---	---	---	---	---
52. 2-Nitrophenol	---	---	---	---	---	---
53. 2,4-Dimethylphenol	---	---	---	---	---	---
54. Benzoic Acid	---	---	---	---	---	---
55. bis(2-Chloroethoxy) methane	---	140K	---	910	870	---
56. 2,4-Dichlorophenol	---	---	---	---	---	---
57. 1,2,4-Trichlorobenzene	---	---	75K	---	---	---
58. Naphthalene	340K	---	1000	63K	47K	---
59. 4-Chloroaniline	---	---	---	---	---	---
60. Hexachlorobutadiene	---	---	---	---	---	---
61. 4-Chloro-3-methylphenol (para-chloro-meta-cresol)	---	---	---	---	---	---
62. 2-Methylnaphthalene	4K	---	180K	---	---	---
63. Hexachlorocyclopentadiene	---	---	---	---	---	---
64. 2,4,6-Trichlorophenol	---	---	---	---	---	---
65. 2,4,5-Trichlorophenol	---	---	---	---	---	---
66. 2-Chloronaphthalene	---	---	---	---	---	---
67. 2-Nitroaniline	---	---	---	---	---	---
68. Dimethyl Phthalate	---	---	---	---	---	---
69. Acenaphthylene	---	---	---	---	---	---
70. 3-Nitroaniline	---	---	---	---	---	---

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PRISTINE, INC.

Semi-Volatiles (ug/kg)	SB3901	SB3902	SB3903	SB390P	SB3904	SB3905	SB4001	SB4002	SB4003	SB4004	SB4005
36. N-Nitrosodimethylamine	---	---	---	---	---	---	---	---	---	---	---
37. Phenol	---	2960	6375	1340	---	590.32	---	342 J	1291	5790	410
38. Aniline	---	---	---	---	---	---	---	---	---	---	---
39. bis(2-Chloroethyl) ether	---	---	---	---	---	---	---	---	---	---	---
40. 2-Chlorophenol	---	---	---	---	---	---	---	---	---	---	---
41. 1,3-Dichlorobenzene	---	---	---	---	---	---	---	---	---	---	---
42. 1,4-Dichlorobenzene	---	---	---	---	---	---	---	---	---	---	---
43. Benzyl Alcohol	---	---	---	---	---	---	---	---	---	---	---
44. 1,2-Dichlorobenzene	---	---	---	---	---	---	---	214 J	1643	143'	---
45. 2-Methylphenol	---	---	---	---	---	---	---	---	---	---	---
46. bis(2-Chloroisopropyl) ether	---	---	---	---	---	---	---	---	---	---	---
47. 4-Methylphenol	---	---	337.50 J	---	---	---	---	---	---	---	---
48. n-Nitroso-Dipropylamine	---	---	---	---	---	---	---	---	---	---	---
49. Hexachloroethane	---	---	---	---	---	---	---	---	---	---	---
50. Nitrobenzene	---	---	---	---	---	---	---	---	---	905	110
51. Isophorone	---	---	---	---	---	---	---	---	---	---	---
52. 2-Nitrophenol	---	---	---	---	---	---	---	---	---	---	---
53. 2,4-Dimethylphenol	---	---	---	---	---	---	---	---	---	---	172.41
54. Benzoic Acid	---	---	---	---	---	---	---	---	---	2070	747.13
55. bis(2-Chloroethoxy) ethane	---	---	---	---	---	---	---	---	---	---	---
56. 2,4-Dichlorophenol	---	---	---	---	---	---	---	---	---	---	---
57. 1,2,4-Trichlorobenzene	---	---	---	---	---	---	---	---	---	---	---
58. Naphthalene	---	---	---	---	---	---	---	---	---	---	---
59. 4-Chloroaniline	---	---	---	---	---	---	---	---	---	---	---
60. Hexachlorobutadiene	---	---	---	---	---	---	---	---	---	---	---
61. 4-Chloro-3-methylphenol (para-chloro-meta-cresol)	---	---	---	---	---	---	---	---	---	---	---
62. 2-Methylnaphthalene	---	---	---	---	---	---	---	---	---	---	---
63. Hexachlorocyclopentadiene	---	---	---	---	---	---	---	---	---	---	---
64. 2,4,6-Trichlorophenol	---	---	---	---	---	---	---	---	---	---	---
65. 2,4,5-Trichlorophenol	---	---	---	---	---	---	---	---	---	---	---
66. 2-Chloronaphthalene	---	---	---	---	---	---	---	---	---	---	---
67. 2-Nitroaniline	---	---	---	---	---	---	---	---	---	---	---
68. Diethyl Phthalate	660 J	---	---	---	---	---	---	---	---	---	---
69. Acenaphthylene	---	---	---	---	---	---	---	---	---	---	---
70. 3-Nitroaniline	---	---	---	---	---	---	---	---	---	---	---

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Semi-Volatiles (ug/kg)	SB3701	SB3702	SB3703	SB370P	SB3704	SB3705	SB3801	SB3802	SB3803	SB3804
71. Acenaphthene	---	---	---	---	---	---	---	---	---	---
72. 2,4-Dinitrophenol	---	---	---	---	---	---	---	---	---	---
73. 4-Nitrophenol	---	---	---	---	---	---	---	---	---	---
74. Dibenzofuran	---	---	---	---	---	---	---	---	---	---
75. 2,4-Dinitrotoluene	---	---	---	---	---	---	---	---	---	---
76. 2,6-Dinitrotoluene	---	---	---	---	---	---	---	---	---	---
77. Diethylphthalate	---	---	330 J	290 J	270 J	240 J	---	---	---	---
78. 4-Chlorophenyl Phenyl ether	---	---	---	---	---	---	---	---	---	---
79. Fluorene	---	---	---	---	---	---	---	---	---	---
80. 4-Nitroaniline	---	---	---	---	---	---	---	---	---	---
81. 4,6-Dinitro-2-methylphenol	---	---	---	---	---	---	---	---	---	---
82. N-nitrosodiphenylamine	---	---	---	---	---	---	---	---	---	---
83. 4-Bromophenyl Phenyl ether	---	---	---	---	---	---	---	---	---	---
84. Hexachlorobenzene	---	---	---	---	---	---	---	---	---	---
85. Pentachlorophenol	---	---	---	---	---	---	---	---	---	---
86. Phenanthrene	200 J	---	---	---	---	---	---	91.7 J	---	---
87. Anthracene	---	---	---	---	---	---	---	---	---	---
88. Di-n-butylphthalate	---	---	---	---	---	---	---	---	203.56 J	219.92 J
89. Fluoranthene	270 J	---	---	---	---	---	---	---	---	---
90. Benzidine	---	---	---	---	---	---	---	---	---	---
91. Pyrene	380 J	---	---	---	---	---	---	---	---	---
92. Butyl Benzyl Phthalate	340 J	---	---	---	---	---	192 J	128 J	139.95 J	168.18 J
93. 3,3'-Dichlorobenzidine	---	---	---	---	---	---	---	---	---	---
94. Benzo(a)anthracene	180 J	---	---	---	---	---	---	---	---	---
95. bis(2-ethylhexyl)phthalate	1300	390 J	590	420	250 J	---	1130 B	189 BJ	470.74 B	327 BJ
96. Chrysene	200 J	---	---	---	---	---	---	---	---	---
97. Di-n-octyl Phthalate	---	---	---	---	---	---	---	---	---	---
98. Benzo(b)fluoranthene	370 J	---	---	---	---	---	---	---	---	---
99. Benzo(k)fluoranthene	370 J	---	---	---	---	---	---	---	---	---
100. Benzo(a)pyrene	---	---	---	---	---	---	---	---	---	---
101. Ideno(1,2,3-cd)pyrene	---	---	---	---	---	---	---	---	---	---
102. Dibenz(a,h)anthracene	---	---	---	---	---	---	---	---	---	---
103. Benzo(g,h,i)perylene	---	---	---	---	---	---	---	---	---	---

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TABLE 3
SUMMARY OF SOIL BORINGS ANALYTICAL DATA
PRISTINE, INC.

Semi-Volatiles (ug/kg)	SB3501	SB3502	SB3503	SB350P	SB3504	SB3505	SB3601	SB3602	SB3603	SB3604	SB3605
71. Acenaphthene	---	---	---	---	---	---	---	---	---	---	---
72. 2,4-Dinitrophenol	---	---	---	---	---	---	---	---	---	---	---
73. 4-Nitrophenol	---	---	---	---	---	---	---	---	---	---	---
74. Dibenzofuran	---	---	---	---	---	---	---	---	---	---	---
75. 2,4-Dinitrotoluene	---	---	---	---	X	---	---	---	---	---	---
76. 2,6-Dinitrotoluene	---	---	---	---	---	---	---	---	---	---	---
77. Diethylphthalate	---	---	---	---	---	---	1400 J	---	---	---	---
78. 4-Chlorophenyl Phenyl ether	---	---	---	---	---	---	---	---	---	---	---
79. Fluorene	---	---	---	---	---	---	---	---	---	---	---
80. 4-Nitroaniline	---	---	---	---	---	---	---	---	---	---	---
81. 4,6-Dinitro-2-ethylphenol	---	---	---	---	---	---	---	---	---	---	---
82. N-nitrosodiphenylamine	---	---	---	---	---	---	---	---	---	---	---
83. 4-Brecophenyl Phenyl ether	---	---	---	---	---	---	---	---	---	---	---
84. Hexachlorobenzene	---	---	---	---	---	---	---	---	---	---	---
85. Pentachlorophenol	---	---	---	---	---	---	---	---	---	---	---
86. Phenanthrene	---	---	---	---	---	---	---	---	---	---	---
87. Anthracene	---	---	---	---	---	---	---	---	---	---	---
88. Di-n-butylphthalate	---	---	---	---	---	---	---	---	---	---	---
89. Fluoranthene	---	---	---	---	---	---	---	---	---	---	---
90. Benzidine	---	---	---	---	---	---	---	---	---	---	---
91. Pyrene	---	---	---	---	---	---	---	---	---	---	---
92. Butyl Benzyl Phthalate	---	---	---	---	---	---	1500 J	---	---	---	---
93. 3,3'-Dichlorobenzidine	---	---	---	---	---	---	---	---	---	---	---
94. Benzo(a)anthracene	---	---	---	---	---	---	---	---	---	---	---
95. bis(2-ethylhexyl)phthalate	9500	---	---	---	---	---	28000	200 J	---	---	---
96. Chrysene	---	---	---	---	---	---	---	---	---	---	---
97. Di-n-octyl Phthalate	---	---	---	---	---	---	---	---	---	---	---
98. Benzo(b)fluoranthene	---	---	---	---	---	---	---	---	---	---	---
99. Benzo(k)fluoranthene	---	---	---	---	---	---	---	---	---	---	---
100. Benzo(a)pyrene	---	---	---	---	---	---	---	---	---	---	---
101. Ideno(1,2,3-cd)pyrene	---	---	---	---	---	---	---	---	---	---	---
102. Dibenz(a,h)anthracene	---	---	---	---	---	---	---	---	---	---	---
103. Benzo(g,h,i)perylene	---	---	---	---	---	---	---	---	---	---	---

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TABLE 3
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PRISTINE, INC.

Semi-Volatiles (ug/kg)	SBCP01	SBCP02	SBCP03	SBCPDP	SBCP04	SBCP05
71. Acenaphthene	---	---	---	---	---	---
72. 2,4-Dinitrophenol	---	---	---	---	---	---
73. 4-Nitrophenol	---	---	---	---	---	---
74. Dibenzofuran	---	---	---	---	---	---
75. 2,4-Dinitrotoluene	---	---	---	---	---	---
76. 2,6-Dinitrotoluene	---	---	---	---	J	---
77. Diethylphthalate	---	---	---	---	---	---
78. 4-Chlorophenyl Phenyl ether	---	---	---	---	---	---
79. Fluorene	---	---	---	---	---	---
80. 4-Nitroaniline	---	---	---	---	---	---
81. 4,6-Dinitro-2-methylphenol	---	---	---	---	---	---
82. N-nitrosodiphenylamine	---	---	---	---	---	---
83. 4-Bromophenyl Phenyl ether	---	---	---	---	---	---
84. Hexachlorobenzene	---	---	---	---	---	---
85. Pentachlorophenol	---	---	---	---	---	---
86. Phenanthrene	---	---	85K	---	---	---
87. Anthracene	---	---	---	---	---	---
88. Di-n-butylphthalate	---	---	---	---	---	---
89. Fluoranthene	---	---	---	---	---	---
90. Benzidine	---	---	---	---	---	---
91. Pyrene	---	---	---	---	---	---
92. Butyl Benzyl Phthalate	390K	---	1500	---	---	---
93. 3,3'-Dichlorobenzidine	---	---	---	---	---	---
94. Benzo(a)anthracene	---	L	---	---	---	---
95. bis(2-ethylhexyl)phthalate	2200	300K	6500	230K	520K	---
96. Chrysene	---	---	---	---	---	---
97. Di-n-octyl Phthalate	---	---	---	---	---	---
98. Benzo(b)fluoranthene	---	---	---	---	---	---
99. Benzo(k)fluoranthene	---	---	---	---	---	---
100. Benzo(a)pyrene	---	---	---	---	---	---
101. Indeno(1,2,3-cd)pyrene	---	---	---	---	---	---
102. Dibenz(a,h)anthracene	---	---	---	---	---	---
103. Benzo(g,h,i)perylene	---	---	---	---	---	---

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PRISTINE, INC.

Semi-Volatiles (ug/kg)	SB3901	SB3902	SB3903	SB390P	SB3904	SB3905	SB4001	SB4002	SB4003	SB4004	SB4005
71. Acenaphthene	---	---	---	---	---	---	---	---	---	---	---
72. 2,4-Dinitrophenol	---	---	---	---	---	---	---	---	---	---	---
73. 4-Nitrophenol	---	---	---	---	---	---	---	---	---	---	---
74. Dibenzofuran	---	---	---	---	---	---	---	---	---	---	---
75. 2,4-Dinitrotoluene	---	---	---	---	---	---	---	---	---	---	---
76. 2,6-Dinitrotoluene	---	---	---	---	---	---	---	---	---	---	---
77. Diethylphthalate	---	---	---	---	---	---	---	---	---	---	---
78. 4-Chlorophenyl Phenyl ether	---	---	---	---	---	---	---	---	---	---	---
79. Fluorene	---	---	---	---	---	---	---	---	---	---	---
80. 4-Nitroaniline	---	---	---	---	---	---	---	---	---	---	---
81. 4,6-Dinitro-2-methylphenol	---	---	---	---	---	---	---	---	---	8580	4023
82. N-nitrosodiphenylamine	2320 J	---	---	---	---	---	114 J	---	---	---	---
83. 4-Bromophenyl Phenyl ether	---	---	---	---	---	---	---	---	---	---	---
84. Hexachlorobenzene	---	---	---	---	---	---	---	---	---	---	---
85. Pentachlorophenol	---	---	---	---	---	---	---	---	---	---	---
86. Phenanthrene	929 J	---	---	---	---	---	---	---	---	---	---
87. Anthracene	---	---	---	---	---	---	---	---	---	---	---
88. Di-n-butylphthalate	437 J	1103	987.50	1991	1728	1771	1140	776	1174	404 J	276 J
89. Fluoranthene	---	---	---	---	---	---	85.52 J	---	---	---	---
90. Benzidine	---	---	---	---	---	---	---	---	---	---	---
91. Pyrene	913 J	---	---	---	---	---	103 J	---	---	---	---
92. Butyl Benzyl Phthalate	495 J	204	225	---	---	177	87 J	---	223 J	---	161 J
93. 3,3'-Dichlorobenzidine	---	---	---	---	---	---	---	---	---	---	---
94. Benzo(a)anthracene	---	---	---	---	---	---	---	---	---	---	---
95. bis(2-ethylhexyl)phthalate	1720 B,J	444	1875	550 J	227.22B,J	956.32	1482 B	203 BJ	399 B,J	---	759 B,J
96. Chrysene	---	---	---	---	---	---	---	---	---	---	---
97. Di-n-octyl Phthalate	---	---	---	---	---	---	---	---	---	---	---
98. Benzo(b)fluoranthene	---	---	---	---	---	---	---	---	---	---	---
99. Benzo(k)fluoranthene	---	---	---	---	---	---	---	---	---	---	---
100. Benzo(a)pyrene	---	---	---	---	---	---	---	---	---	---	---
101. Ideno(1,2,3-cd)pyrene	---	---	---	---	---	---	---	---	---	---	---
102. Dibenzo(a,h)anthracene	---	---	---	---	---	---	---	---	---	---	---
103. Benzo(g,h,i)perylene	---	---	---	---	---	---	---	---	---	---	---

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PRISTINE, INC.

Pesticides (ug/kg)	SB3701	SB3702	SB3703	SB370P	SB3704	SB3705	SB3801	SB3802	SB3803	SB3804	SB3805
104. Alpha-BHC	---	---	---	---	---	---	---	---	---	---	---
105. beta BHC	---	---	---	---	---	---	---	---	---	---	---
106. delta-BHC	---	---	---	---	---	---	---	---	---	---	---
107. gamma-BHC (Lindane)	8.3	---	---	---	---	---	---	---	---	---	---
108. Heptachlor	---	---	---	---	---	---	---	---	---	---	---
109. Aldrin	49	---	14	28	---	---	89	---	---	---	---
110. Heptachlor Epoxide	---	---	---	---	---	---	---	---	---	---	---
111. Endosulfan I	---	---	---	---	---	---	---	---	---	---	---
112. Dieldrin	74	---	12	7.0	---	---	149	---	---	---	---
113. 4,4'-DDE	45	---	3.4 J	1.7 J	---	---	---	---	---	---	---
114. Endrin	---	---	---	---	---	---	---	---	---	---	---
115. Endosulfan II	---	---	---	---	---	---	---	---	---	---	---
116. 4,4'-DDD	18	---	2.9 J	---	---	---	---	---	---	---	---
117. Endrin Aldehyde	---	---	---	---	---	---	---	---	---	---	---
118. Endosulfan Sulfate	---	---	---	---	---	---	---	---	---	---	---
119. 4,4'-DDT	440	---	64	22	---	6.9	---	---	---	---	---
120. Endrin Ketone	---	---	---	---	---	---	---	---	---	---	---
121. Methoxychlor	---	---	---	---	---	---	---	---	---	---	---
122. Chlordane	---	---	---	---	---	---	---	---	---	---	---
123. Toxaphene	---	---	---	---	---	---	---	---	---	---	---
124. AROCLOR-1016	---	---	---	---	---	---	---	---	---	---	---
125. AROCLOR-1221	---	---	---	---	---	---	---	---	---	---	---
126. AROCLOR-1232	---	---	---	---	---	---	---	---	---	---	---
127. AROCLOR-1242	---	---	---	---	---	---	---	---	---	---	---
128. AROCLOR-1248	---	---	---	---	---	---	---	---	---	---	---
129. AROCLOR-1254	---	---	---	---	---	---	---	---	---	---	---
130. AROCLOR-1260	---	---	---	---	---	---	---	---	---	---	---

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PRISTINE, INC.

Pesticides (ug/kg)	SB3501	SB3502	SB3503	SB350P	SB3504	SB3505	SB3601	SB3602	SB3603	SB3604	SB36
104. Alpha-BHC	---	---	---	---	---	---	---	---	---	---	---
105. beta BHC	---	---	---	---	---	---	---	---	---	---	---
106. delta-BHC	---	---	---	---	---	---	---	---	---	---	---
107. gamma-BHC (Lindane)	86	---	---	---	---	---	---	---	---	---	---
108. Heptachlor	---	---	---	---	7	---	200 J	---	---	---	---
109. Aldrin	180	---	---	---	---	---	---	---	---	---	---
110. Heptachlor Epoxide	---	---	---	---	---	---	---	---	---	---	---
111. Endosulfan I	---	---	---	---	---	---	---	---	---	---	---
112. Dieldrin	---	---	---	---	3.4 J	---	---	---	---	---	---
113. 4,4'-DDE	180	---	---	---	---	---	---	---	---	---	---
114. Endrin	---	---	---	---	---	---	---	---	---	---	---
115. Endosulfan II	---	---	---	---	---	---	---	---	---	---	---
116. 4,4'-DDD	570	---	---	---	42	---	2100	---	---	---	---
117. Endrin Aldehyde	---	---	---	---	---	---	---	---	---	---	---
118. Endosulfan Sulfate	---	---	---	---	---	---	---	---	---	---	---
119. 4,4'-DDT	8600	---	---	---	9.9	---	18000	---	---	---	---
120. Endrin Ketone	---	---	---	---	---	---	---	---	---	---	---
121. Methoxychlor	---	---	---	---	---	---	---	---	---	---	---
122. Chlordane	1200	---	---	---	---	---	---	---	---	---	---
123. Toxaphene	---	---	---	---	---	---	---	---	---	---	---
124. AROCLOR-1016	---	---	---	---	---	---	---	---	---	---	---
125. AROCLOR-1221	---	---	---	---	---	---	---	---	---	---	---
126. AROCLOR-1232	---	---	---	---	---	---	---	---	---	---	---
127. AROCLOR-1242	---	---	---	---	---	---	---	---	---	---	---
128. AROCLOR-1248	---	---	---	---	---	---	---	---	---	---	---
129. AROCLOR-1254	---	---	---	---	---	---	---	---	---	---	---
130. AROCLOR-1260	---	---	---	---	---	---	---	---	---	---	---

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Pesticides (ug/kg)	SBCP01	SBCP02	SBCP03	SBCPDP	SBCP04	SBCP05
104. Alpha-BHC	---	---	---	---	---	---
105. beta BHC	---	---	---	---	---	---
106. delta-BHC	---	---	---	---	---	---
107. gamma-BHC (Lindane)	---	---	---	---	---	---
108. Heptachlor	---	---	---	---	---	---
109. Aldrin	---	---	---	---	---	---
110. Heptachlor Epoxide	---	---	---	---	---	---
111. Endosulfan I	---	---	---	---	---	---
112. Dieldrin	---	---	---	---	---	---
4,4'-DDE	---	---	---	5.8	1.9	---
114. Endrin	---	---	---	---	---	---
115. Endosulfan II	---	---	---	---	---	---
116. 4,4'-DDD	---	---	---	1.9	0.9	---
117. Endrin Aldehyde	---	---	---	---	---	---
118. Endosulfan Sulfate	---	---	---	---	---	---
119. 4,4'-DDT	---	---	---	9.7	4.8	---
120. Endrin Ketone	---	---	---	---	---	---
121. Methoxychlor	---	---	---	---	---	---
122. Chlordane	---	---	---	---	---	---
123. Toxaphene	---	---	---	---	---	---
124. AROCLOR-1016	---	---	---	---	---	---
125. AROCLOR-1221	---	---	---	---	---	---
126. AROCLOR-1232	---	---	---	---	---	---
127. AROCLOR-1242	---	---	---	---	---	---
128. AROCLOR-1248	---	---	---	---	---	---
AROCLOR-1254	---	---	---	---	---	---
130. AROCLOR-1260	---	---	---	---	---	---

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Pesticides (ug/kg)	SB3901	SB3902	SB3903	SB390P	SB3904	SB3905	SB4001	SB4002	SB4003	SB4004	SB4005
104. Alpha-BHC	---	---	---	---	---	---	---	---	---	---	---
105. beta BHC	---	---	---	---	---	---	---	---	---	---	---
106. delta-BHC	---	---	---	---	---	---	---	---	---	---	---
107. gamma-BHC (Lindane)	---	---	---	---	---	---	---	---	---	---	---
108. Heptachlor	---	---	---	---	---	---	---	---	---	---	---
109. Aldrin	---	---	---	---	---	9.3	18	---	---	---	---
110. Heptachlor Epoxide	---	---	---	---	---	---	---	---	---	---	---
111. Endosulfan I	---	---	---	---	---	---	---	---	---	---	---
112. Dieldrin	---	---	---	---	---	---	---	---	---	---	---
113. 4,4'-DDE	370	---	132	50	---	79	---	---	---	---	---
114. Endrin	---	---	---	---	---	---	---	---	---	---	---
115. Endosulfan II	---	---	---	---	---	---	---	---	---	---	---
116. 4,4'-DDD	203	---	34	32	---	52	---	---	---	---	---
117. Endrin Aldehyde	---	---	---	---	---	---	---	---	---	---	---
118. Endosulfan Sulfate	---	---	---	---	---	---	---	---	---	---	---
119. 4,4'-DDT	1347	---	291	209	---	247	---	---	---	---	---
120. Endrin Ketone	---	---	---	---	---	---	---	---	---	---	---
121. Methoxychlor	---	---	---	---	---	---	---	---	---	---	---
122. Chlordane	---	---	---	---	---	---	---	---	---	---	---
123. Toxaphene	---	---	---	---	---	---	---	---	---	---	---
124. AROCLOR-1016	---	---	---	---	---	---	---	---	---	---	---
125. AROCLOR-1221	---	---	---	---	---	---	---	---	---	---	---
126. AROCLOR-1232	---	---	---	---	---	---	---	---	---	---	---
127. AROCLOR-1242	---	---	---	---	---	---	---	---	---	---	---
128. AROCLOR-1248	---	---	---	---	---	---	---	---	---	---	---
129. AROCLOR-1254	---	---	---	---	---	---	---	---	---	---	---
130. AROCLOR-1260	---	---	---	---	---	---	---	---	---	---	---

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Inorganics (mg/kg)	SB3501	SB3502	SB3503	SB350P	SB3504	SB3505	SB3601	SB3602	SB3603	SB36MS	SB3604	SB3605
1. Aluminum	7840*	1360*	11800*	13200*	9390*	9700*	12100*	20700*	10300*	---	13300*	2370*
2. Antimony	(R)	(R)	(R)	(R)	(R)	(R)	(R)	(R)	(R)	(R)	(R)	(R)
3. Arsenic	7.7	11	8.2	11	6(X)	10	9.8	37	9.2	---	26	1
4. Barium	128(X)	97(X)	76(X)	61(X)	51(X)	52(X)	89(X)	89(X)	58(X)	---	99(X)	13
5. Beryllium	0.41(X)	0.19(X)	0.76(X)	0.89(X)	0.38(X)	0.46(X)	0.72(X)	1.8(X)	1.1(X)	---	0.96(X)	0.26(X)
6. Cadmium (IC)	8.5	---	---	2.8(X)	---	---	2.4(X)	---	---	---	3.2	---
7. Calcium	86800*	15800*	197000*	29500*	18000*	24800*	31500*	6740*	157000*	---	80100*	18000*
8. Chromium	130(*R)	14(*R)	17(*R)	18(*R)	14(*R)	16(*R)	42(*R)	31(*R)	18(*R)	(*R)	23(*R)	7.3(*R)
9. Cobalt	6.9(X)	3.1(X)	15(X)	14(X)	7.9X	10(X)	13(X)	29(X)	12(X)	---	18(X)	5.2(X)
10. Copper	48	84	81	59	25	27	36	48	30	---	38	1
11. Iron	25100*	27500*	23400*	23000*	16100*	24300*	25400*	43500*	21500*	*	31300*	1170*
12. Lead (IC)	258*	146*	22*	14	23*	27*	78*	29*	11	*	19*	9
13. Magnesium	8180	828(X)	9500	10500	9230	14500	10300	5830	26100	---	18800	321
14. Manganese	170*	124*	779*	1130*	286*	868*	602*	1010*	1100*	---	690*	133
15. Mercury	0.36	0.22	---	---	---	---	0.35	---	---	---	---	---
16. Nickel	16(X)	7.3(X)	29	37	15(X)	18(X)	25	41	26	---	45	14(X)
17. Potassium	1400(X)	1750(X)	1560(X)	1510(X)	1150(X)	1350(X)	1940(X)	2710(X)	2280(X)	---	2690(X)	548(X)

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TABLE 3
SUMMARY OF SOIL BORINGS ANALYTICAL DATA
PRISTINE, INC.

Inorganics (mg/kg)	SB3701	SB3702	SB37MS	SB3703	SB3704	SB3705	SB3801	SB3802	SB3803	SB3804	SB3805
1. Aluminum	18400*	21600*	12600*	14700*	11500*	6980*	5890*	11200*	12700*	14300*	10500*
2. Antimony	(R)	(R)	(R)	(R)	(R)	(R)	---	---	---	---	---
3. Arsenic	36	29	9.4	30	9.6	8.9	4.6X	9.5	35	13	14
4. Barium	83(X)	120(X)	71(X)	78(X)	92(X)	24(X)	36(X)	89(X)	147	6	97(X)
5. Beryllium	0.9(X)	1.5(X)	0.76(X)	1(X)	0.91(X)	0.38(X)	0.21(X)	0.37(X)	0.48(X)	0.55(X)	0.81(X)
6. Cadmium (IC)	3.3	9(X)	---	---	---	---	---	3.8	---	---	3.5
7. Calcium	2040(*,X)	12200*	87800*	75600*	69500*	84900*	113000	2530(X)	2160(X)	6900	20600
8. Chromium	30(*R)	29(*R)	21(*R)	28(*R)	21(*R)	13(*R)	13*	23*	27*	28*	24*
9. Cobalt	11(X)	18(X)	13(X)	16(X)	18(X)	11(X)	5.6(X)	7.3(X)	10(X)	10(X)	9.8(X)
10. Copper	60	42	57	67	36	30	16	34	46	39	33
11. Iron	37100*	40800*	28200*	34100*	31700*	22700*	10200*	26300*	41700*	37200*	31800*
12. Lead (IC)	29*	32*	25*	36*	12*	19*	55*	11	19	19*	77*
13. Magnesium	4190	5010	16500	15500	20100	31000	34800	2180(X)	3020(X)	4990	5430
14. Manganese	438*	723*	694*	756*	565*	497*	417	218	548	196	281
15. Mercury	0.93	---	---	---	---	---	0.11(X)	---	---	---	---
16. Nickel	32	39	35	39	40	29	11(X)	19(X)	24(X)	24(X)	20(X)
17. Potassium	1780(X)	2050(X)	1870(X)	2090(X)	1740(X)	1660(X)	876(X)	1470(X)	2460(X)	3720	1940(X)

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TABLE 3
SUMMARY OF SOIL BORINGS ANALYTICAL DATA
PRISTINE, INC.

Inorganics (ug/kg)	SBCP01	SBCP02	SBCP03	SBCPDP	SBCP04	SBCP05
1. Aluminum	8540	13700	10200	9850	12900	6020
2. Antimony	---	---	---	---	---	---
3. Arsenic	41	40	12	36	13	12
4. Barium	78(X)	88(X)	83(X)	67(X)	75(X)	20(X)
5. Beryllium	0.43(X)	1.13(X)	0.73(X)	0.63(X)	0.79(X)	0.55(X)
6. Cadmium (IC)	3.9	3.1(X)	---	---	3.2	---
7. Calcium	70300	65000	80200	71200	70700	104000
8. Chromium	66	28	19	19	21	11
9. Cobalt	6(X)	22(X)	13(X)	15(X)	13(X)	7.5(X)
10. Copper	41	31	25	26	26	22
11. Iron	45600*	55900*	26700*	30300*	26800*	20300*
12. Lead (IC)	79*	39*	54*	24*	15	12
13. Magnesium	3310(X)	12800	17600	21500	19300	35900
14. Manganese	91	1040	503	431	422	508
15. Mercury	---	---	---	---	---	---
16. Nickel	19(X)	52	32	33	34	22(X)
17. Potassium	2670(X)	2380(X)	1990(X)	1920(X)	2880(X)	1610(X)

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TABLE 3
SUMMARY OF SOIL BORINGS ANALYTICAL DATA
PRISTINE, INC.

Inorganics (mg/kg)	SB3901	SB3902	SB3903	SB390P	SB3904	SB3905	SB4001	SB4002	SB4003	SB4004	SB4005
1. Aluminum	7.92*	6370*	13800*	14200*	12400*	13200*	9840*	10100*	10800*	14000*	15700*
2. Antimony	---	---	---	---	---	---	---	---	---	---	---
3. Arsenic	3.7(X)	6.9	12	27	24	12	11	8.6	25	38	9.2
4. Barium	6.3(X)	59(X)	99(X)	95(X)	70(X)	66(X)	116	58(X)	36(X)	64(X)	73(X)
5. Beryllium	---	0.29(X)	0.68(X)	0.81(X)	0.71(X)	0.66(X)	0.36(X)	0.22(X)	0.95(X)	0.39(X)	0.79(X)
6. Cadmium (IC)	---	3.2	2.9(X)	3.4	2.6(X)	3.2	4.7	2.8(X)	5.2	---	3.7
7. Calcium	161000	137000	40200	46000	128000	40400	35900	30000	117000	6890	93000
8. Chromium	32*	55*	34*	41*	19*	36*	49*	12*	15	31*	21*
9. Cobalt	---	7.6(X)	9.7(X)	9.5(X)	12(X)	12(X)	8.3(X)	7.4(X)	19(X)	9.7(X)	11(X)
10. Copper	6.8(X)	16	27	26	25	37	39	16	38	54	22
11. Iron	2740*	14000*	16400*	19300*	24300*	25800*	20700*	17400*	18300*	42900*	24600*
12. Lead (IC)	6.3	19*	64*	43*	11	28*	143*	14	8.7	22*	18
13. Magnesium	36000	11400	7500	12600	21200	11700	10500	8490	36000	3430	23700
14. Manganese	109	647	238	317	701	583	415	363	1290	181	584
15. Mercury	0.78	0.98	0.096(X)	0.12(X)	---	---	---	---	---	---	---
16. Nickel	---	14(X)	16(X)	20(X)	24	24	19(X)	12(X)	26	21(X)	22(X)
17. Potassium	---	1640(X)	3270	2740(X)	3060	2550(X)	1220(X)	913(X)	3050	4960	3720

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TABLE 4
SUMMARY OF GROUNDWATER ANALYTICAL DATA
PRISTINE, INC.

Volatiles-Round 1 (ug/l)	GW5201	GW5301	GW5401	GW5501	GW5601	GW5701	GW570P
1. Chloroethane	---	---	NS	---	---	---	---
2. Bromoethane	---	---	NS	---	---	---	---
3. Vinyl chloride	---	180	NS	---	210	---	---
4. Chloroethane	---	---	NS	---	---	---	---
5. Methylene Chloride	21 J	50	NS	140 B	250 B	18 B	9 B
6. Acetone	790	160	NS	3300B, J	1200B, J	93000B	130 B
7. Carbon Disulfide	---	---	NS	---	---	---	---
8. 1,1-Dichloroethane	---	---	NS	270	9.3 J	---	---
9. 1,1-Dichloroethane	---	---	NS	640 J	18 J	---	---
10. trans-1,2-Dichloroethane	---	1200 J	NS	59	9.7 J	---	---
11. Chloroform	---	---	NS	190	---	7.4	6.6
12. 1,2-Dichloroethane	---	2100 J	NS	150	1200 J	22	22
13. 2-Butanone	---	---	NS	41	---	---	---
14. 1,1,1-Trichloroethane	---	---	NS	2000 J	4.1 J	---	---
15. Carbon Tetrachloride	---	---	NS	---	---	---	---
16. Vinyl Acetate	---	---	NS	---	---	---	---
17. Bromodichloromethane	---	---	NS	---	---	---	---
18. 1,1,2,2-Tetrachloroethane	---	---	NS	---	---	---	---
19. 1,2-Dichloropropane	---	---	NS	---	500	---	---
20. trans-1,3-Dichloropropene	---	---	NS	---	---	---	---
21. Trichloroethane	---	---	NS	5.7 J	13 J	---	---
22. Dibromochloroethane	---	---	NS	---	---	---	---
23. 1,1,2-Trichloroethane	---	---	NS	6.8	5200 J	---	---
24. Benzene	---	---	NS	16.5	2300 J	2.7 J	---
25. cis-1,3-Dichloropropene	---	---	NS	---	---	---	---
26. 2-Chloroethyl Vinyl Ether	---	---	NS	---	---	---	---
27. Bromoform	---	---	NS	---	---	---	---
28. 2-Hexanone	---	---	NS	---	1500 J	---	---
29. 4-Methyl-2-pentanone	---	---	NS	---	2300 J	---	---
30. Tetrachloroethane	---	---	NS	130	9.4 J	---	---
31. Toluene	---	---	NS	180	3800 J	---	---
32. Chlorobenzene	---	---	NS	---	29	---	---
33. Ethyl Benzene	---	---	NS	---	290	---	---
34. Styrene	---	---	NS	---	---	---	---
35. Total Xylenes	---	---	NS	---	1700 J	---	---

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TABLE 4
SUMMARY OF GROUNDWATER ANALYTICAL DATA
PRISTINE, INC.

Volatiles-Round 1 (ug/l)	GW4501	GW4601	GW4701	GW4801	GW48BK	GW4901	GW5001	GW5101	GW51DP
1. Chloroethane	---	---	---	---	---	---	---	---	---
2. Bromoethane	---	---	---	---	---	---	---	---	---
3. Vinyl chloride	6.3	830	---	---	---	11 J	---	120	---
4. Chloroethane	---	---	---	---	---	---	380	1200 J	---
5. Methylene Chloride	2300 B,J	15000B,J	8700 B	1500 B	1600 B	1500 B,J	73	210	190000B,J
6. Acetone	160 B	21000B,J	11000B,J	350 B	630 B	1200 B,J	390	910	43000 B
7. Carbon Disulfide	---	170	---	---	---	---	---	---	---
8. 1,1-Dichloroethene	7.3	150 J	---	---	---	---	---	---	---
9. 1,1-Dichloroethane	4.6 J	1900 J	---	---	---	---	790	3000 J	---
10. trans-1,2-Dichloroethene	7.6	160	---	---	---	11 J	---	56	---
11. Chloroform	1500 J	11000J	---	---	---	920	---	---	---
12. 1,2-Dichloroethane	940 J	12000J	630	---	---	910	---	44	---
13. 2-Butanone	---	28000J	---	---	---	700	---	---	---
14. 1,1,1-Trichloroethane	18	350	---	---	---	---	---	---	---
15. Carbon Tetrachloride	---	---	---	---	---	---	---	---	---
16. Vinyl Acetate	---	---	---	---	---	---	---	---	---
17. Bromodichloroethane	---	---	---	---	---	---	---	---	---
18. 1,1,2,2-Tetrachloroethane	---	31	---	---	---	---	---	---	---
19. 1,2-Dichloropropane	---	---	---	---	---	---	---	---	---
20. trans-1,3-Dichloropropene	---	---	---	---	---	---	---	---	---
21. Trichloroethene	13	1100 J	---	---	---	63	---	---	---
22. Dibromochloroethane	---	---	---	---	---	---	---	---	---
23. 1,1,2-Trichloroethane	2100 J	2500 J	---	---	---	4500 J	---	---	---
24. Benzene	6100 J	22000 J	---	---	---	19000 J	---	---	---
25. cis-1,3-Dichloropropene	---	---	---	---	---	---	---	---	---
26. 2-Chloroethyl Vinyl Ether	---	---	---	---	---	---	---	---	---
27. Bromoform	---	---	---	---	---	---	---	---	---
28. 2-Hexanone	---	250	---	---	---	---	---	---	---
29. 4-Methyl-2-pentanone	---	4300 J	---	---	---	10000J	---	---	---
30. Tetrachloroethene	12	190	---	---	---	31	15 J	---	---
31. Toluene	5000 J	27000 J	180 B	---	---	27000 J	---	61	---
32. Chlorobenzene	410	540	---	---	---	1000	---	---	---
33. Ethyl Benzene	68	951	---	56 J	---	1800 J	---	---	---
34. Styrene	8.3	---	---	130	---	154	---	---	---
35. Total Axylenes	522	4500 J	---	270 B	---	8000 J	---	---	---

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TABLE 4
SUMMARY OF GROUNDWATER ANALYTICAL DATA
PRISTINE, INC.

Volatiles-Round 2 (ug/l)	GW4502	GW4602	GW4702	GW4802	GW488K	GW4902	GW5002	GW5102	GW510P
1. Chloroethane	---	---	NA	---	---	---	---	---	---
2. Bromoethane	---	---	NA	---	---	---	---	---	---
3. Vinyl Chloride	---	---	NA	---	---	---	19J	200	220
4. Chloroethane	---	---	NA	---	---	---	210	780	770
5. Methylene Chloride	4500B	41000B	NA	510B	620B	170000B	65	200B	210B
6. Acetone	1500B	510000B	NA	7200B	17000B	35000B	96000B	390B	1000B
7. Carbon Disulfide	---	---	NA	---	---	---	---	---	---
8. 1,1-Dichloroethene	---	---	NA	---	---	---	---	---	---
9. 1,1-Dichloroethane	---	---	NA	---	---	---	590	1300	1300
10. trans-1,2-Dichloroethene	---	---	NA	---	---	---	59	72	30
11. Chloroform	330	12000	NA	---	140	14000	---	---	---
12. 1,2-Dichloroethane	480	56000	NA	750	---	17000	10J	57	61
13. 2-Butanone	---	---	NA	---	---	---	---	---	---
14. 1,1,1-Trichloroethane	---	---	NA	---	---	---	---	40	47
15. Carbon Tetrachloride	---	---	NA	---	---	---	---	---	---
16. Vinyl Acetate	---	---	NA	---	---	---	---	---	---
17. Bromodichloroethane	---	---	NA	---	---	---	---	---	---
18. 1,1,2,2-Tetrachloroethane	---	---	NA	---	---	---	---	---	---
19. 1,2-Dichloropropane	1300	---	NA	---	---	33000	---	---	---
20. trans-1,3-Dichloropropane	---	---	NA	---	---	---	---	---	---
21. Trichloroethene	---	1500J	NA	---	---	---	65	---	---
22. Dibromochloroethane	---	---	NA	---	---	---	---	---	---
23. 1,1,2-Trichloroethane	---	2000J	NA	---	---	---	---	---	---
24. Benzene	650	34000J	NA	---	---	12000J	---	34J	38J
25. cis-1,3-Dichloropropene	---	---	NA	---	---	---	---	---	---
26. 2-Chloroethyl Vinyl Ether	---	---	NA	---	---	---	---	---	---
27. Bromoform	---	---	NA	---	---	---	---	---	---
28. 2-Hexanone	---	9200J	NA	---	---	---	---	31J	41J
29. 4-Methyl-2-Pentanone	---	---	NA	---	---	---	---	---	---
30. Tetrachloroethane	---	---	NA	---	---	---	---	---	---
31. Toluene	6000	88000	NA	---	---	3700	16J	89	99
32. Chlorobenzene	---	320J	NA	---	---	---	---	---	---
33. Ethyl Benzene	---	---	NA	---	---	---	---	---	---
34. Styrene	---	---	NA	---	---	---	---	---	---
35. Total Xylenes	61J	3000	NA	---	---	1500J	20J	---	---

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SUMMARY OF GROUNDWATER ANALYTICAL DATA
PRISTINE, INC.

Volatiles-Round 1 (ug/l)	GM5801	GM5901	GM6001	GM608K	GM6101	GM6201
1. Chloroethane	---	---	---	---	NS	---
2. Bromoethane	---	---	---	---	NS	---
3. Vinyl chloride	---	31	58	---	NS	---
4. Chloroethane	---	---	---	---	NS	---
5. Methylene Chloride	7.3 B	74 B	190 B	140 B	NS	71 B
6. Acetone	130000B	66000B	740 B	380 B	NS	66 B
7. Carbon Disulfide	---	---	---	---	NS	---
8. 1,1-Dichloroethane	38	---	---	---	NS	---
9. 1,1-Dichloroethane	15	11	16 J	---	NS	44
10. trans-1,2-Dichloroethane	---	2.5 J	---	---	NS	120
11. Chloroform	950	20	27	---	NS	27
12. 1,2-Dichloroethane	6.5	250	280	---	NS	120
13. 2-Butanone	---	---	---	---	NS	---
14. 1,1,1-Trichloroethane	6100	---	---	---	NS	150
15. Carbon Tetrachloride	---	---	---	---	NS	---
16. Vinyl Acetate	---	---	---	---	NS	---
17. Bromodichloroethane	---	---	---	---	NS	---
18. 1,1,2,2-Tetrachloroethane	3.8 J	---	---	---	NS	---
19. 1,2-Dichloropropane	---	---	---	---	NS	---
20. trans-1,3-Dichloropropene	---	---	---	---	NS	---
21. Trichloroethene	3.9 J	---	---	---	NS	14 J
22. Dibromochloroethane	---	---	---	---	NS	---
23. 1,1,2-Trichloroethane	55	---	---	---	NS	---
24. Benzene	4.3 J	6.9	21 J	---	NS	---
25. cis-1,3-Dichloropropene	---	---	---	---	NS	---
26. 2-Chloroethyl Vinyl Ether	---	---	---	---	NS	---
27. Bromoform	---	---	---	---	NS	---
28. 2-Hexanone	---	---	---	---	NS	---
29. 4-Methyl-2-pentanone	---	13	---	---	NS	---
30. Tetrachloroethene	1600	---	---	---	NS	32
31. Toluene	---	48	140	2.7 J	NS	2.4 J
32. Chlorobenzene	---	5.5	---	---	NS	---
33. Ethyl Benzene	---	---	42	---	NS	---
34. Styrene	---	---	---	---	NS	---
35. Total Xylenes	---	---	---	---	NS	3.7 J

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TABLE 4
SUMMARY OF GROUNDWATER ANALYTICAL DATA
PRISTINE, INC.

Volatiles-Round 2 (ug/l)	GW5802	GW5902	GW6002	GW608K	GW6101	GW6202
1. Chloromethane	---	---	---	---	---	---
2. Bromomethane	---	---	---	---	---	---
3. Vinyl Chloride	---	---	17J	---	---	7J
4. Chloroethane	---	---	---	---	---	---
5. Methylene Chloride	1100B	440B	93B	188J	8	5
6. Acetone	26000BJ	4000BJ	---	768J	3400B	13000B
7. Carbon Disulfide	---	---	---	---	---	---
8. 1,1-Dichloroethene	---	---	---	---	---	---
9. 1,1-Dichloroethane	---	---	---	---	---	25
10. trans-1,2-Dichloroethene	---	---	---	---	---	19
11. Chloroform	1100	---	---	---	10	---
12. 1,2-Dichloroethane	63J	580	120	---	11	27
13. 2-Butanone	---	---	---	---	---	---
14. 1,1,1-Trichloroethane	790	---	---	---	---	8
15. Carbon Tetrachloride	---	---	---	---	---	---
16. Vinyl Acetate	---	---	---	---	---	---
17. Bromodichloromethane	---	---	---	---	---	---
18. 1,1,2,2-Tetrachloroethane	---	---	---	---	---	---
19. 1,2-Dichloropropane	---	300	---	---	---	---
20. trans-1,3-Dichloropropane	---	---	---	---	---	---
21. Trichloroethene	---	---	---	---	---	8
22. Dibromochloromethane	---	---	---	---	---	---
23. 1,1,2-Trichloroethane	---	---	---	---	---	---
24. Benzene	---	---	---	---	---	---
25. cis-1,3-Dichloropropene	---	---	---	---	---	---
26. 2-Chloroethyl Vinyl Ether	---	---	---	---	---	---
27. Bromoform	---	---	---	---	---	---
28. 2-Hexanone	---	---	---	---	---	---
29. 4-Methyl-2-Pentanone	---	---	---	---	---	---
30. Tetrachloroethene	490	---	---	---	2J	4J
31. Toluene	---	---	---	8	---	---
32. Chlorobenzene	---	---	---	---	---	---
33. Ethyl Benzene	---	---	---	---	---	---
34. Styrene	---	---	---	---	---	---
35. Total Xylenes	---	---	---	---	---	---

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SUMMARY OF GROUNDWATER ANALYTICAL DATA
PRISTINE, INC.

Volatiles-Round 2 (ug/l)	GW5202	GW5302	GW5402	GW5501	GW5602	GW5702	GW570P
1. Chloroethane	---	---	NS	NS	---	---	---
2. Bromoethane	---	---	NS	NS	---	---	---
3. Vinyl Chloride	---	790	NS	NS	---	---	---
4. Chloroethane	---	---	NS	NS	---	---	---
5. Methylene Chloride	BB	1240B	NS	NS	4300000B	630B	340B
6. Acetone	1200B	2900BJ	NS	NS	4.2E6B	1.4E5B	18000B
7. Carbon Disulfide	---	---	NS	NS	450J	---	---
8. 1,1-Dichloroethane	---	---	NS	NS	---	---	---
9. 1,1-Dichloroethane	---	---	NS	NS	---	---	---
10. trans-1,2-Dichloroethane	---	3100	NS	NS	---	---	---
11. Chloroform	---	29J	NS	NS	8100	---	27J
12. 1,2-Dichloroethane	---	3600	NS	NS	41000	70J	78J
13. 2-Butanone	---	---	NS	NS	---	---	---
14. 1,1,1-Trichloroethane	---	---	NS	NS	---	---	---
15. Carbon Tetrachloride	---	---	NS	NS	---	---	---
16. Vinyl Acetate	---	---	NS	NS	---	---	---
17. Dibromochloroethane	---	---	NS	NS	---	---	---
18. 1,1,2,2-Tetrachloroethane	---	---	NS	NS	---	---	---
19. 1,2-Dichloropropane	---	---	NS	NS	92000	330J	210
20. trans-1,3-Dichloropropane	---	---	NS	NS	---	---	---
21. Trichloroethene	---	---	NS	NS	---	---	---
22. Dibromochloroethane	---	---	NS	NS	---	---	---
23. 1,1,2-Trichloroethane	---	---	NS	NS	---	---	---
24. Benzene	3J	---	NS	NS	3300J	---	---
25. cis-1,3-Dichloropropene	---	---	NS	NS	---	---	---
26. 2-Chloroethyl Vinyl Ether	---	---	NS	NS	---	---	---
27. Bromoform	---	---	NS	NS	---	---	---
28. 2-Hexanone	---	---	NS	NS	9400J	---	---
29. 4-Methyl-2-Pentanone	---	---	NS	NS	---	---	---
30. Tetrachloroethene	---	---	NS	NS	---	---	---
31. Toluene	---	---	NS	NS	7500	---	---
32. Chlorobenzene	---	---	NS	NS	---	---	---
33. Ethyl Benzene	---	---	NS	NS	3300J	---	---
34. Styrene	---	---	NS	NS	---	---	---
35. Total xylenes	---	12J	NS	NS	20000	490J	---

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PRISTINE, INC.

Semi-Volatiles-Round 1 (ug/l)	GW5201	GW5301	GW5401	GW5501	GW5601	GW5701	GW570P
36. N-Nitrosodimethylamine	---	---	NS	---	---	---	---
37. Phenol	---	---	NS	---	---	---	---
38. Aniline	---	---	NS	---	---	---	---
39. bis(2-Chloroethyl) ether	---	---	NS	---	---	---	---
40. 2-Chlorophenol	---	---	NS	---	---	---	---
41. 1,3-Dichlorobenzene	---	---	NS	---	---	---	---
42. 1,4-Dichlorobenzene	---	---	NS	---	---	---	---
43. Benzyl Alcohol	---	---	NS	---	---	---	---
44. 1,2-Dichlorobenzene	---	---	NS	---	---	---	---
45. 2-Methylphenol	---	---	NS	---	---	---	---
46. bis(2-Chloroisopropyl) ether	---	---	NS	---	---	---	---
47. 4-Methylphenol	---	---	NS	---	---	---	---
48. n-Nitroso-Dipropylamine	---	---	NS	---	---	---	---
49. Hexachloroethane	---	---	NS	96	---	---	---
50. Nitrobenzene	---	---	NS	---	---	---	---
51. Isophorone	50	---	NS	---	---	---	---
52. 2-Nitrophenol	---	---	NS	---	---	---	---
53. 2,4-Diethylphenol	---	---	NS	---	---	---	---
54. Benzoic Acid	---	---	NS	---	---	---	---
55. bis(2-Chloroethoxy) methane	---	---	NS	---	---	---	---
56. 2,4-Dichlorophenol	---	---	NS	---	---	---	---
57. 1,2,4-Trichlorobenzene	---	---	NS	---	---	---	---
58. Naphthalene	---	---	NS	---	---	---	---
59. 4-Chloroaniline	---	---	NS	---	---	---	---
60. Hexachlorobutadiene	---	---	NS	---	---	---	---
61. 4-Chloro-3-methylphenol (para-chloro-meta-cresol)	---	---	NS	---	---	---	---
62. 2-Methylnaphthalene	---	---	NS	---	---	---	---
63. Hexachlorocyclopentadiene	---	---	NS	---	---	---	---
64. 2,4,6-Trichlorophenol	---	---	NS	---	---	---	---
65. 2,4,5-Trichlorophenol	---	---	NS	---	---	---	---
66. 2-Chloronaphthalene	---	---	NS	---	---	---	---
67. 2-Nitroaniline	---	---	NS	---	---	---	---
68. Diethyl Phthalate	---	---	NS	---	---	---	---
69. Acenaphthylene	---	---	NS	---	---	---	---
70. 3-Nitroaniline	---	---	NS	---	---	---	---

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PRISTINE, INC.

Semi-Volatiles-Round 1 (ug/l)	GW4501	GW4601	GW4701	GW4801	GW48BK	GW4901	GW5001	GW5101	GW51DP
36. N-Nitrosodimethylamine	---	---	NA	---	---	---	NA	---	---
37. Phenol	---	---	NA	---	---	---	NA	---	NA
38. Aniline	---	---	NA	---	---	---	NA	---	---
39. bis(2-Chloroethyl) ether	---	---	NA	---	---	---	NA	---	---
40. 2-Chlorophenol	---	---	NA	---	---	---	NA	---	NA
41. 1,3-Dichlorobenzene	---	---	NA	---	---	---	NA	---	---
42. 1,4-Dichlorobenzene	6 J	---	NA	---	---	11 J	NA	---	NA
43. Benzyl Alcohol	---	---	NA	---	---	---	NA	---	---
44. 1,2-Dichlorobenzene	560	37	NA	---	---	960	NA	---	---
45. 2-Methylphenol	---	---	NA	---	---	---	NA	---	---
46. bis(2-Chloroisopropyl) ether	---	---	NA	---	---	---	NA	---	---
47. 4-Methylphenol	---	---	NA	---	---	---	NA	---	---
48. n-Nitroso-Dipropylamine	---	---	NA	---	---	---	NA	---	NA
49. Hexachloroethane	---	---	NA	---	---	---	NA	96	---
50. Nitrobenzene	---	---	NA	---	---	1200	NA	120	---
51. Isophorone	---	---	NA	---	---	27	NA	---	---
52. 2-Nitrophenol	---	---	NA	---	---	---	NA	---	---
53. 2,4-Dimethylphenol	---	---	NA	---	---	---	NA	580	---
54. Benzoic Acid	---	---	NA	---	---	---	NA	---	---
55. bis(2-Chloroethoxy) methane	---	---	NA	---	---	---	NA	---	---
56. 2,4-Dichlorophenol	---	---	NA	---	---	---	NA	---	---
57. 1,2,4-Trichlorobenzene	---	---	NA	---	---	---	NA	---	NA
58. Naphthalene	---	---	NA	---	---	---	NA	---	---
59. 4-Chloroaniline	---	---	NA	---	---	---	NA	---	---
60. Hexachlorobutadiene	---	---	NA	---	---	---	NA	---	---
61. 4-Chloro-3-methylphenol (para-chloro-meta-cresol)	---	---	NA	---	---	---	NA	---	NA
62. 2-Methylnaphthalene	---	---	NA	---	---	---	NA	---	---
63. Hexachlorocyclopentadiene	---	---	NA	---	---	---	NA	---	---
64. 2,4,6-Trichlorophenol	---	---	NA	---	---	---	NA	---	---
65. 2,4,5-Trichlorophenol	---	---	NA	---	---	---	NA	---	---
66. 2-Chloronaphthalene	---	---	NA	---	---	---	NA	---	---
67. 2-Nitroaniline	---	---	NA	---	---	---	NA	---	---
68. Diethyl Phthalate	---	---	NA	---	---	---	NA	38	---
69. Acenaphthylene	---	---	NA	---	---	---	NA	---	---
70. 3-Nitroaniline	---	---	NA	---	---	---	NA	---	---

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PRISTINE, INC.

Semi-Volatiles-Round 2 (ug/l)	GW4502	GW4602	GW4702	GW4802	GW48BK	GW4902	GW5002	GW5102	GW510P
36. N-Nitrosodimethylamine	---	---	NA	---	---	---	---	---	---
37. Phenol	---	---	NA	---	---	4500	---	---	---
38. Aniline	---	---	NA	---	---	---	---	---	---
39. bis(2-Chloroethyl) ether	---	---	NA	---	---	---	---	---	---
40. 2-Chlorophenol	---	---	NA	---	---	---	---	---	---
41. 1,3-Dichlorobenzene	---	---	NA	---	---	---	---	---	---
42. 1,4-Dichlorobenzene	---	---	NA	---	---	17B	---	---	---
43. Benzyl Alcohol	---	---	NA	---	---	---	---	---	---
44. 1,2-Dichlorobenzene	240B	310B	NA	---	---	1300B	---	---	---
45. 2-Methylphenol	49	---	NA	---	---	---	---	---	---
46. bis(2-Chloroisopropyl) ether	---	---	NA	---	---	---	---	---	---
47. 4-Methylphenol	5J	---	NA	---	---	---	---	---	---
48. n-Nitroso-Diisopropylamine	---	---	NA	---	---	---	---	---	---
49. Hexachloroethane	---	---	NA	---	---	---	---	---	---
50. Nitrobenzene	---	---	NA	---	---	---	---	---	---
51. Isophorone	---	---	NA	---	---	---	---	---	---
52. 2-Nitrophenol	---	---	NA	---	---	---	---	---	---
53. 2,4-Dimethylphenol	---	---	NA	---	---	---	---	---	---
54. Benzoic Acid	21J	---	NA	---	---	---	---	---	---
55. bis(2-Chloroethoxy) ethane	---	---	NA	---	---	---	---	---	---
56. 2,4-Dichlorophenol	---	---	NA	---	---	---	---	---	---
57. 1,2,4-Trichlorobenzene	---	---	NA	---	---	---	---	---	---
58. Naphthalene	---	---	NA	---	---	---	---	---	---
59. 4-Chloroaniline	---	---	NA	---	---	---	---	---	---
60. Hexachlorobutadiene	---	---	NA	---	---	---	---	---	---
61. 4-Chloro-3-methylphenol (para-chloro-meta-cresol)	---	---	NA	---	---	---	---	---	---
62. 2-Methylnaphthalene	---	---	NA	---	---	---	---	---	---
63. Hexachlorocyclopentadiene	---	---	NA	---	---	---	---	---	---
64. 2,4,6-Trichlorophenol	---	---	NA	---	---	---	---	---	---
65. 2,4,5-Trichlorophenol	---	---	NA	---	---	---	---	---	---
66. 2-Chloronaphthalene	---	---	NA	---	---	---	---	---	---
67. 2-Nitroaniline	---	---	NA	---	---	---	---	---	---
68. Dimethyl Phthalate	---	---	NA	---	---	---	---	---	---
69. Acenaphthylene	---	---	NA	---	---	---	---	---	---
70. 3-Nitroaniline	---	---	NA	---	---	---	---	---	---

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PRISTINE, INC.

Semi-Volatiles-Round 1 (ug/l)	GW5801	GW5901	GW6001	GW60BK	GW6101	GW6201
36. N-Nitrosodiaethylamine	---	---	---	---	NS	---
37. Phenol	---	---	---	---	NS	---
38. Aniline	---	---	---	---	NS	---
39. bis(2-Chloroethyl) ether	---	---	---	---	NS	---
40. 2-Chlorophenol	---	---	---	---	NS	---
41. 1,3-Dichlorobenzene	---	---	---	---	NS	---
42. 1,4-Dichlorobenzene	---	---	---	---	NS	---
43. Benzyl Alcohol	---	---	---	---	NS	---
44. 1,2-Dichlorobenzene	---	27	54	---	NS	---
45. 2-Methylphenol	---	---	---	---	NS	---
46. bis(2-Chloroisopropyl) ether	---	---	---	---	NS	---
47. 4-Methylphenol	---	17	28	---	NS	---
48. n-Nitroso-Diisopropylamine	---	---	---	---	NS	---
49. Hexachloroethane	---	---	---	---	NS	---
50. Nitrobenzene	---	---	---	---	NS	---
51. Isophorone	---	---	---	---	NS	---
52. 2-Nitrophenol	---	---	---	---	NS	---
53. 2,4-Dimethylphenol	---	---	---	---	NS	---
54. Benzoic Acid	---	---	---	---	NS	---
55. bis(2-Chloroethoxy) ethane	---	---	---	---	NS	---
56. 2,4-Dichlorophenol	---	---	---	---	NS	---
57. 1,2,4-Trichlorobenzene	---	---	---	---	NS	---
58. Naphthalene	---	---	---	---	NS	---
59. 4-Chloroaniline	---	---	---	---	NS	---
60. Hexachlorobutadiene	---	---	---	---	NS	---
61. 4-Chloro-3-methylphenol (para-chloro-meta-cresol)	---	---	---	---	NS	---
62. 2-Methylnaphthalene	---	---	---	---	NS	---
63. Hexachlorocyclopentadiene	---	---	---	---	NS	---
64. 2,4,6-Trichlorophenol	---	---	---	---	NS	---
65. 2,4,5-Trichlorophenol	---	---	---	---	NS	---
66. 2-Chloronaphthalene	---	---	---	---	NS	---
67. 2-Nitroaniline	---	---	---	---	NS	---
68. Diethyl Phthalate	---	---	---	---	NS	---
69. Acenaphthylene	---	---	---	---	NS	---
70. 3-Nitroaniline	---	---	---	---	NS	---

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PRISTINE, INC.

Semi-Volatiles-Round 2 (ug/l)	GW5202	GW5302	GW5402	GW5502	GW5002	GW5701	GW570P
36. N-Nitrosodimethylamine	---	---	NS	NS	NA	---	---
37. Phenol	---	---	NS	NS	NA	---	---
38. Aniline	---	---	NS	NS	NA	---	---
39. bis(2-Chloroethyl) ether	---	---	NS	NS	NA	---	---
40. 2-Chlorophenol	---	---	NS	NS	NA	---	---
41. 1,3-Dichlorobenzene	---	---	NS	NS	NA	---	---
42. 1,4-Dichlorobenzene	---	---	NS	NS	NA	---	---
43. Benzyl Alcohol	---	---	NS	NS	NA	---	---
44. 1,2-Dichlorobenzene	---	---	NS	NS	NA	---	---
45. 2-Methylphenol	---	---	NS	NS	NA	---	---
46. bis(2-Chloroisopropyl) ether	---	---	NS	NS	NA	---	---
47. 4-Methylphenol	---	---	NS	NS	NA	---	---
48. n-Nitroso-Dipropylamine	---	---	NS	NS	NA	---	---
49. Hexachloroethane	---	---	NS	NS	NA	---	---
50. Nitrobenzene	---	---	NS	NS	NA	---	---
51. Isophorone	---	---	NS	NS	NA	---	---
52. 2-Nitrophenol	---	---	NS	NS	NA	---	---
53. 2,4-Dimethylphenol	---	---	NS	NS	NA	---	---
54. Benzoic Acid	---	11J	NS	NS	NA	---	---
55. bis(2-Chloroethoxy) ethane	---	---	NS	NS	NA	---	---
56. 2,4-Dichlorophenol	---	---	NS	NS	NA	---	---
57. 1,2,4-Trichlorobenzene	---	---	NS	NS	NA	---	---
58. Naphthalene	---	---	NS	NS	NA	---	---
59. 4-Chloroaniline	---	---	NS	NS	NA	---	---
60. Hexachlorobutadiene	---	---	NS	NS	NA	---	---
61. 4-Chloro-3-methylphenol (para-chloro-meta-cresol)	---	---	NS	NS	NA	---	---
62. 2-Methylnaphthalene	---	---	NS	NS	NA	---	---
63. Hexachlorocyclopentadiene	---	---	NS	NS	NA	---	---
64. 2,4,6-Trichlorophenol	---	---	NS	NS	NA	---	---
65. 2,4,5-Trichlorophenol	---	---	NS	NS	NA	---	---
66. 2-Chloronaphthalene	---	---	NS	NS	NA	---	---
67. 2-Nitroaniline	---	---	NS	NS	NA	---	---
68. Dimethyl Phthalate	---	---	NS	NS	NA	---	---
69. Acenaphthylene	---	---	NS	NS	NA	---	---
70. 3-Nitroaniline	---	---	NS	NS	NA	---	---

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PRISTINE, INC.

Semi-Volatiles-Round 2 (ug/l)	GW5802	GW5902	GW6002	GW60BK	GW6101	GW6202
36. N-Nitrosodimethylamine	---	---	---	---	NA	---
37. Phenol	---	---	---	---	NA	---
38. Aniline	---	---	---	---	NA	---
39. bis(2-Chloroethyl) ether	---	---	---	---	NA	---
40. 2-Chlorophenol	---	---	---	---	NA	---
41. 1,3-Dichlorobenzene	---	---	---	---	NA	---
42. 1,4-Dichlorobenzene	---	---	---	---	NA	---
43. Benzyl Alcohol	---	---	---	---	NA	---
44. 1,2-Dichlorobenzene	---	---	348	---	NA	---
45. 2-Methylphenol	---	---	---	---	NA	---
46. bis(2-Chloroisopropyl) ether	---	---	---	---	NA	---
47. 4-Methylphenol	---	---	48	---	NA	---
48. n-Nitroso-Dipropylamine	---	---	---	---	NA	---
49. Hexachloroethane	---	---	---	---	NA	---
50. Nitrobenzene	---	---	---	---	NA	---
51. Isophorone	---	---	---	---	NA	---
52. 2-Nitrophenol	---	---	---	---	NA	---
53. 2,4-Dimethylphenol	---	---	---	---	NA	---
54. Benzoic Acid	---	---	---	---	NA	---
55. bis(2-Chloroethoxy) methane	---	---	---	---	NA	---
56. 2,4-Dichlorophenol	---	---	---	---	NA	---
57. 1,2,4-Trichlorobenzene	---	---	---	---	NA	---
58. Naphthalene	---	---	---	---	NA	---
59. 4-Chloroaniline	---	---	---	---	NA	---
60. Hexachlorobutadiene	---	---	---	---	NA	---
61. 4-Chloro-3-methylphenol (para-chloro-meta-cresol)	---	---	---	---	NA	---
62. 2-Methylnaphthalene	---	---	---	---	NA	---
63. Hexachlorocyclopentadiene	---	---	---	---	NA	---
64. 2,4,6-Trichlorophenol	---	---	---	---	NA	---
65. 2,4,5-Trichlorophenol	---	---	---	---	NA	---
66. 2-Chloronaphthalene	---	---	---	---	NA	---
67. 2-Nitroaniline	---	---	---	---	NA	---
68. Dimethyl Phthalate	---	---	---	---	NA	---
69. Acenaphthylene	---	---	---	---	NA	---
70. 3-Nitroaniline	---	---	---	---	NA	---

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TABLE 4
SUMMARY OF GROUNDWATER ANALYTICAL DATA
PRISTINE, INC.

Semi-Volatiles-Round 1 (ug/l)	GW5201	GW5301	GW5401	GW5501	GW5601	GW5701	GW570P
71. Acenaphthene	---	---	NS	---	---	---	---
72. 2,4-Dinitrophenol	---	---	NS	---	---	---	---
73. 4-Nitrophenol	---	---	NS	---	---	---	---
74. Dibenzofuran	---	---	NS	---	---	---	---
75. 2,4-Dinitrotoluene	---	---	NS	---	---	---	---
76. 2,6-Dinitrotoluene	---	---	NS	---	---	---	---
77. Diethylphthalate	---	---	NS	---	---	---	---
78. 4-Chlorophenyl Phenyl ether	---	---	NS	---	---	---	---
79. Fluorene	---	---	NS	---	---	---	---
80. 4-Nitroaniline	---	---	NS	---	---	---	---
81. 4,6-Dinitro-2-ethylphenol	---	---	NS	---	---	---	---
82. N-nitrosodiphenylamine	---	---	NS	---	---	---	---
83. 4-Bromophenyl Phenyl ether	---	---	NS	---	---	---	---
84. Hexachlorobenzene	---	---	NS	---	---	---	---
85. Pentachlorophenol	---	---	NS	---	---	---	---
86. Phenanthrene	---	---	NS	---	---	---	---
87. Anthracene	---	---	NS	---	---	---	---
88. Di-n-butylphthalate	---	---	NS	---	---	---	---
89. Fluoranthene	---	---	NS	---	---	---	---
90. Benzidine	---	---	NS	---	---	---	---
91. Pyrene	---	---	NS	---	---	---	---
92. Butyl Benzyl Phthalate	---	---	NS	---	---	5.8 J	---
93. 3,3'-Dichlorobenzidine	---	---	NS	---	---	---	---
94. Benzo(a)anthracene	---	---	NS	---	---	---	---
95. bis(2-ethylhexyl)phthalate	---	5 J	NS	---	---	---	4.6 J
96. Chrysene	---	---	NS	---	---	---	---
97. Di-n-octyl Phthalate	---	---	NS	---	---	---	---
98. Benzo(b)fluoranthene	---	---	NS	---	---	---	---
99. Benzo(k)fluoranthene	---	---	NS	---	---	---	---
100. Benzo(a)pyrene	---	---	NS	---	---	---	---
101. Indeno(1,2,3-cd)pyrene	---	---	NS	---	---	---	---
102. Dibenz(a,h)anthracene	---	---	NS	---	---	---	---
103. Benzo(g,h,i)perylene	---	---	NS	---	---	---	---

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TABLE 4
SUMMARY OF GROUNDWATER ANALYTICAL DATA
PRISTINE, INC.

Semi-Volatiles-Round 1 (ug/l)	GM4501	GM4601	GM4701	GM4801	GM488X	GM4901	GM5001	GM5101	GM51DP
71. Acenaphthene	---	---	NA	---	---	---	NA	---	NA
72. 2,4-Dinitrophenol	---	---	NA	---	---	---	NA	---	---
73. 4-Nitrophenol	---	---	NA	---	---	---	NA	---	NA
74. Dibenzofuran	---	---	NA	---	---	---	NA	---	---
75. 2,4-Dinitrotoluene	---	---	NA	---	---	---	NA	---	NA
76. 2,6-Dinitrotoluene	---	42	NA	---	---	---	NA	---	---
77. Diethylphthalate	---	---	NA	---	---	---	NA	---	---
78. 4-Chlorophenyl Phenyl ether	---	---	NA	---	---	---	NA	---	---
79. Fluorene	---	---	NA	---	---	---	NA	---	---
80. 4-Nitroaniline	---	---	NA	---	---	---	NA	---	---
81. 4,6-Dinitro-2-ethylphenol	---	---	NA	---	---	---	NA	---	---
82. N-nitrosodiphenylamine	---	---	NA	---	---	---	NA	---	---
83. 4-Bromophenyl Phenyl ether	---	---	NA	---	---	---	NA	---	---
84. Hexachlorobenzene	---	---	NA	---	---	---	NA	---	---
85. Pentachlorophenol	---	---	NA	---	---	---	NA	---	NA
86. Phenanthrene	---	---	NA	---	---	---	NA	---	---
87. Anthracene	---	---	NA	---	---	---	NA	---	---
88. Di-n-butylphthalate	---	---	NA	---	---	---	NA	---	NA
89. Fluoranthene	---	---	NA	---	---	---	NA	---	---
90. Benzidine	---	---	NA	---	---	---	NA	---	---
91. Pyrene	---	---	NA	---	---	---	NA	---	NA
92. Butyl Benzyl Phthalate	---	---	NA	---	2.6 J	---	NA	---	---
93. 3,3'-Dichlorobenzidine	---	---	NA	---	---	---	NA	---	---
94. Benzo(a)anthracene	---	---	NA	---	---	---	NA	---	---
95. bis(2-ethylhexyl)phthalate	11 B	---	NA	24	5.6 J	---	NA	---	---
96. Chrysene	---	---	NA	---	---	---	NA	---	---
97. Di-n-octyl Phthalate	---	---	NA	---	---	---	NA	---	---
98. Benzo(b)fluoranthene	---	---	NA	---	---	---	NA	---	---
99. Benzo(k)fluoranthene	---	---	NA	---	---	---	NA	---	---
100. Benzo(a)pyrene	---	---	NA	---	---	---	NA	---	---
101. Indeno(1,2,3-cd)pyrene	---	---	NA	---	---	---	NA	---	---
102. Dibenz(a,h)anthracene	---	---	NA	---	---	---	NA	---	---
103. Benzo(g,h,i)perylene	---	---	NA	---	---	---	NA	---	---

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TABLE 4
SUMMARY OF GROUNDWATER ANALYTICAL DATA
PRISTINE, INC.

Semi-Volatiles-Round 2 (ug/l)	GW4502	GW4602	GW4702	GW4802	GW48BK	GW4902	GW5002	GW5102	GW51DP
71. Acenaphthene	---	---	NA	---	---	---	---	---	---
72. 2,4-Dinitrophenol	---	---	NA	---	---	---	---	---	---
73. 4-Nitrophenol	---	---	NA	---	---	---	---	---	---
74. Dibenzofuran	---	---	NA	---	---	---	---	---	---
75. 2,4-Dinitrotoluene	---	---	NA	---	---	---	---	---	---
76. 2,6-Dinitrotoluene	---	---	NA	---	---	---	---	---	---
77. Diethylphthalate	5J	---	NA	---	---	---	---	---	---
79. 4-Chlorophenyl Phenyl ether	---	---	NA	---	---	---	---	---	---
79. Fluorene	---	---	NA	---	---	---	---	---	---
80. 4-Nitroaniline	---	---	NA	---	---	---	---	---	---
81. 4,6-Dinitro-2-ethylphenol	---	---	NA	---	---	---	---	---	---
92. N-nitrosodiphenylamine	---	---	NA	5JB	---	---	---	---	---
93. 4-Bromophenyl Phenyl ether	---	---	NA	---	---	---	---	---	---
94. Hexachlorobenzene	---	---	NA	---	---	---	---	---	---
95. Pentachlorophenol	---	---	NA	---	---	---	---	---	---
96. Phenanthrene	---	14	NA	---	---	---	---	---	---
97. Anthracene	---	---	NA	---	---	---	---	---	---
98. Di-n-butylphthalate	---	---	NA	---	---	---	---	---	---
99. Fluoranthene	---	---	NA	---	---	---	---	---	---
90. Benzidine	---	---	NA	---	---	---	---	---	---
91. Pyrene	---	---	NA	---	---	---	---	---	---
92. Butyl Benzyl Phthalate	---	---	NA	---	---	---	---	---	2J
93. 3,3'-Dichlorobenzidine	---	---	NA	---	---	---	---	---	---
94. Benzo(a)anthracene	---	---	NA	---	---	---	---	---	---
95. bis(2-ethylhexyl)phthalate	6J	---	NA	54B	26	17	---	7JB	4JB
96. Chrysene	---	---	NA	---	---	---	---	---	---
97. Di-n-octyl Phthalate	---	---	NA	---	---	---	---	---	---
98. Benzo(b)fluoranthene	---	---	NA	---	---	---	---	---	---
99. Benzo(k)fluoranthene	---	---	NA	---	---	---	---	---	---
100. Benzo(a)pyrene	---	---	NA	---	---	---	---	---	---
101. Indeno(1,2,3-cd)pyrene	---	---	NA	---	---	---	---	---	---
102. Dibenz(a,h)anthracene	---	---	NA	---	---	---	---	---	---
103. Benzo(g,h,i)perylene	---	---	NA	---	---	---	---	---	---

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PRISTINE, INC.

Semi-Volatiles-Round 1 (ug/l)	6N5801	6N5901	6N6001	6N608K	6N6101	6N6201
71. Acenaphthene	---	---	---	---	NS	---
72. 2,4-Dinitrophenol	---	---	---	---	NS	---
73. 4-Nitrophenol	---	---	---	---	NS	---
74. Dibenzofuran	---	---	---	---	NS	---
75. 2,4-Dinitrotoluene	---	---	---	---	NS	---
76. 2,6-Dinitrotoluene	---	---	---	---	NS	---
77. Diethylphthalate	---	---	---	---	NS	---
78. 4-Chlorophenyl Phenyl ether	---	---	---	---	NS	---
79. Fluorene	---	---	---	---	NS	---
80. 4-Nitroaniline	---	---	---	---	NS	---
81. 4,6-Dinitro-2-ethylphenol	---	---	---	---	NS	---
82. N-nitrosodiphenylamine	---	---	---	---	NS	---
83. 4-Bromophenyl Phenyl ether	---	---	---	---	NS	---
84. Hexachlorobenzene	---	---	---	---	NS	---
85. Pentachlorophenol	---	---	---	---	NS	---
86. Phenanthrene	---	---	---	---	NS	---
87. Anthracene	---	---	---	---	NS	---
88. Di-n-butylphthalate	---	---	---	---	NS	---
89. Fluoranthene	---	---	---	---	NS	---
90. Benzidine	---	---	---	---	NS	---
91. Pyrene	---	---	---	---	NS	---
92. Butyl Benzyl Phthalate	4.6 J	---	---	---	NS	---
93. 3,3'-Dichlorobenzidine	---	---	---	---	NS	---
94. Benzo(a)anthracene	---	---	---	---	NS	---
95. bis(2-ethylhexyl)phthalate	6.4 J	6 J	7.8 J	4.8 J	NS	4 J
96. Chrysene	---	---	---	---	NS	---
97. Di-n-octyl Phthalate	---	---	---	---	NS	---
98. Benzo(b)fluoranthene	---	---	---	---	NS	---
99. Benzo(k)fluoranthene	---	---	---	---	NS	---
100. Benzo(a)pyrene	---	---	---	---	NS	---
101. Ideno(1,2,3-cd)pyrene	---	---	---	---	NS	---
102. Dibenz(a,h)anthracene	---	---	---	---	NS	---
103. Benzo(g,h,i)perylene	---	---	---	---	NS	---

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SUMMARY OF GROUNDWATER ANALYTICAL DATA
PRISTINE, INC.

Semi-Volatiles-Round 2 (ug/l)	GW5802	GW5902	GW6002	GW608K	GW6101	GW6202
71. Acenaphthene	---	---	---	---	NA	---
72. 2,4-Dinitrophenol	---	---	---	---	NA	---
73. 4-Nitrophenol	---	---	---	---	NA	---
74. Dibenzofuran	---	---	---	---	NA	---
75. 2,4-Dinitrotoluene	---	---	---	---	NA	---
76. 2,6-Dinitrotoluene	---	---	---	---	NA	---
77. Diethylphthalate	---	5J	---	---	NA	5J
78. 4-Chlorophenyl Phenyl ether	---	---	---	---	NA	---
79. Fluorene	---	---	---	---	NA	---
80. 4-Nitroaniline	---	---	---	---	NA	---
81. 4,6-Dinitro-2-methylphenol	---	---	---	---	NA	---
82. N-nitrosodiphenylamine	---	5JB	---	---	NA	---
83. 4-Bromophenyl Phenyl ether	---	---	---	---	NA	---
84. Hexachlorobenzene	---	---	---	---	NA	---
85. Pentachlorophenol	---	9J	---	---	NA	---
86. Phenanthrene	---	---	---	---	NA	---
87. Anthracene	---	---	---	---	NA	---
88. Di-n-butylphthalate	---	5J	---	6J	NA	---
89. Fluoranthene	---	---	---	---	NA	---
90. Benzidine	---	---	---	---	NA	---
91. Pyrene	---	---	---	---	NA	---
92. Butyl Benzyl Phthalate	---	5J	---	---	NA	---
93. 2,3'-Dichlorobenzidine	---	---	---	---	NA	---
94. Benzo(a)anthracene	---	---	---	---	NA	---
95. bis(2-ethylhexyl)phthalate	---	80B	38J	34J	NA	5J
96. Chrysene	---	---	---	---	NA	---
97. Di-n-octyl Phthalate	---	---	---	---	NA	---
99. Benzo(b)fluoranthene	---	---	---	---	NA	---
99. Benzo(k)fluoranthene	---	---	---	---	NA	---
100. Benzo(a)pyrene	---	---	---	---	NA	---
101. Ideno(1,2,3-cd)pyrene	---	---	---	---	NA	---
102. Dibenzo(a,h)anthracene	---	---	---	---	NA	---
103. Benzo(g,h,i)perylene	---	---	---	---	NA	---

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PRISTINE, INC.

Semi-Volatiles-Round 2 (ug/l)	GW5202	GW5302	GW5402	GW5502	GW5602	GW5702	GW57DP
71. Acenaphthene	---	---	NS	NS	NA	---	---
72. 2,4-Dinitrophenol	---	---	NS	NS	NA	---	---
73. 4-Nitrophenol	---	---	NS	NS	NA	---	---
74. Dibenzofuran	---	---	NS	NS	NA	---	---
75. 2,4-Dinitrotoluene	---	---	NS	NS	NA	---	---
76. 2,6-Dinitrotoluene	---	---	NS	NS	NA	---	---
77. Diethylphthalate	---	2J	NS	NS	NA	---	---
78. 4-Chlorophenyl Phenyl ether	---	---	NS	NS	NA	---	---
79. Fluorene	---	---	NS	NS	NA	---	---
80. 4-Nitroaniline	---	---	NS	NS	NA	---	---
81. 4,5-Dinitro-2-methylphenol	---	---	NS	NS	NA	---	---
82. N-nitrosodiphenylamine	---	5JB	NS	NS	NA	---	---
83. 4-Bromophenyl Phenyl ether	---	---	NS	NS	NA	---	---
84. Hexachlorobenzene	---	---	NS	NS	NA	---	---
85. Pentachlorophenol	---	26?	NS	NS	NA	---	---
86. Phenanthrene	---	---	NS	NS	NA	---	---
87. Anthracene	---	---	NS	NS	NA	---	---
88. Di-n-butylphthalate	---	2J?	NS	NS	NA	---	---
89. Fluoranthene	---	---	NS	NS	NA	---	---
90. Benzidine	---	---	NS	NS	NA	---	---
91. Pyrene	---	---	NS	NS	NA	---	---
92. Butyl Benzyl Phthalate	---	2J?	NS	NS	NA	---	---
93. 3,3'-Dichlorobenzidine	---	---	NS	NS	NA	---	---
94. Benzo(a)anthracene	---	---	NS	NS	NA	---	---
95. bis(2-ethylhexyl)phthalate	110J	100B	NS	NS	NA	130J	130J
96. Chrysene	---	---	NS	NS	NA	---	---
97. Di-n-octyl Phthalate	---	---	NS	NS	NA	---	---
98. Benzo(b)fluoranthene	---	---	NS	NS	NA	---	---
99. Benzo(k)fluoranthene	---	---	NS	NS	NA	---	---
100. Benzo(a)pyrene	---	---	NS	NS	NA	---	---
101. Indeno(1,2,3-cd)pyrene	---	---	NS	NS	NA	---	---
102. Dibenzo(a,h)anthracene	---	---	NS	NS	NA	---	---
103. Benzo(g,h,i)perylene	---	---	NS	NS	NA	---	---

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PRISTINE, INC.

Pesticides-Round 1 (ug/l)	GW5201	GW5301	GW5401	GW5501	GW5601	GW5701	GW570P
104. Alpha-BHC	---	---	NS	---	---	---	---
105. beta BHC	---	---	NS	---	---	---	---
106. delta-BHC	---	---	NS	---	---	---	---
107. gamma-BHC (Lindane)	---	---	NS	---	---	---	---
108. Heptachlor	---	---	NS	---	---	---	---
109. Aldrin	---	---	NS	---	---	---	---
110. Heptachlor Epoxide	---	---	NS	---	---	---	---
111. Endosulfan I	---	---	NS	---	---	---	---
112. Dieldrin	---	---	NS	---	---	---	---
113. 4,4'-DDE	---	---	NS	---	---	---	---
114. Endrin	---	---	NS	---	---	---	---
115. Endosulfan II	---	---	NS	---	---	---	---
116. 4,4'-DDD	---	---	NS	---	---	---	---
117. Endrin Aldehyde	---	---	NS	---	---	---	---
118. Endosulfan Sulfate	---	---	NS	---	---	---	---
119. 4,4'-DDT	---	---	NS	---	---	---	---
120. Endrin Ketone	---	---	NS	---	---	---	---
121. Methoxychlor	---	---	NS	---	---	---	---
122. Chlordane	---	---	NS	---	---	---	---
123. Toxaphene	3.5	---	NS	---	---	---	---
124. AROCLOR-1016	---	---	NS	---	---	---	---
125. AROCLOR-1221	---	---	NS	---	---	---	---
126. AROCLOR-1232	---	---	NS	---	---	---	---
127. AROCLOR-1242	---	---	NS	---	---	---	---
128. AROCLOR-1248	---	---	NS	---	---	---	---
129. AROCLOR-1254	---	---	NS	---	---	---	---
130. AROCLOR-1260	---	---	NS	---	---	---	---

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PRISTINE, INC.

Pesticides-Round 1 (ug/l)	GW4501	GW4601	GW4701	GW4801	GW488K	GW4901	GW5001	GW5101	GW510P
104. Alpha-BHC	---	---	NA	---	---	---	NA	---	---
105. beta BHC	---	---	NA	---	---	---	NA	---	---
106. delta-BHC	---	---	NA	---	---	---	NA	---	---
107. gamma-BHC (Lindane)	---	---	NA	---	---	---	NA	---	---
108. Heptachlor	---	---	NA	---	---	---	NA	---	---
109. Aldrin	---	---	NA	J--	---	---	NA	---	---
110. Heptachlor Epoxide	---	---	NA	---	---	---	NA	---	---
111. Endosulfan I	---	---	NA	---	---	---	NA	---	---
112. Dieldrin	---	---	NA	---	---	---	NA	---	---
113. 4,4'-DDE	---	---	NA	---	---	---	NA	---	---
114. Endrin	---	---	NA	---	---	---	NA	---	---
115. Endosulfan II	---	---	NA	---	---	---	NA	---	---
116. 4,4'-DDD	---	---	NA	---	---	---	NA	---	---
117. Endrin Aldehyde	---	---	NA	---	---	---	NA	---	---
118. Endosulfan Sulfate	---	---	NA	---	---	---	NA	---	---
119. 4,4'-DDT	---	---	NA	---	---	---	NA	---	---
120. Endrin Ketone	---	---	NA	---	---	---	NA	---	---
121. Methoxychlor	---	---	NA	---	---	---	NA	---	---
122. Chlordane	---	---	NA	---	---	---	NA	---	---
123. Toxaphene	---	---	NA	---	---	---	NA	---	---
124. AROCLOR-1016	---	---	NA	---	---	---	NA	---	---
125. AROCLOR-1221	---	---	NA	---	---	---	NA	---	---
126. AROCLOR-1232	---	---	NA	---	---	---	NA	---	---
127. AROCLOR-1242	---	---	NA	---	---	---	NA	---	---
128. AROCLOR-1248	---	---	NA	---	---	---	NA	---	---
129. AROCLOR-1254	---	---	NA	---	---	---	NA	---	---
130. AROCLOR-1260	---	---	NA	---	---	---	NA	---	---

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PRISTINE, INC.

Pesticides-Round 2 (ug/l)	GW4502	GW4602	GW4702	GW4802	GW48BK	GW4902	GW5002	GW5102	GW510P
104. Alpha-BHC	---	---	NA	---	---	---	---	---	---
105. beta BHC	0.40	---	NA	---	---	0.10	---	---	---
106. delta-BHC	0.22	---	NA	---	---	---	---	---	---
107. gamma-BHC (Lindane)	---	---	NA	---	---	0.09	---	---	---
108. Heptachlor	---	---	NA	---	---	---	---	---	---
109. Aldrin	0.06	---	NA	---	---	---	---	---	---
110. Heptachlor Epoxide	---	---	NA	---	---	---	---	---	---
111. Endosulfan I	---	---	NA	---	---	---	---	---	---
112. Dieldrin	---	---	NA	---	---	---	---	---	---
113. 4,4'-DDE	---	---	NA	---	---	---	---	---	---
114. Endrin	---	---	NA	---	---	---	---	---	---
115. Endosulfan II	---	---	NA	---	---	---	---	---	---
116. 4,4'-DDD	0.14	---	NA	---	---	---	---	---	---
117. Endrin Aldehyde	---	---	NA	---	---	---	---	---	---
118. Endosulfan Sulfate	---	---	NA	---	---	---	---	---	---
119. 4,4'-DDT	---	---	NA	---	---	---	---	---	---
120. Endrin Ketone	---	---	NA	---	---	---	---	---	---
121. Methoxychlor	---	---	NA	---	---	---	---	---	---
122. Chlordane	---	---	NA	---	---	---	---	---	---
123. Toxaphene	---	---	NA	---	---	---	---	---	---
124. AROCLOR-1016	---	---	NA	---	---	---	---	---	---
125. AROCLOR-1221	---	---	NA	---	---	---	---	---	---
126. AROCLOR-1232	---	---	NA	---	---	---	---	---	---
127. AROCLOR-1242	---	---	NA	---	---	---	---	---	---
128. AROCLOR-1248	---	---	NA	---	---	---	---	---	---
129. AROCLOR-1254	---	---	NA	---	---	---	---	---	---
130. AROCLOR-1260	---	---	NA	---	---	---	---	---	---

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TABLE 4
SUMMARY OF GROUNDWATER ANALYTICAL DATA
PRISTINE, INC.

Pesticides-Round 1 (ug/l)	GW5801	GW5901	GW6001	GW608K	GW6101	GW6201
104. Alpha-BHC	---	---	---	---	NS	---
105. Beta BHC	---	---	---	---	NS	---
106. delta-BHC	---	---	---	---	NS	---
107. gamma-BHC (Lindane)	---	---	---	---	NS	---
108. Heptachlor	---	---	---	---	NS	---
109. Aldrin	---	---	---	---	NS	---
110. Heptachlor Epoxide	---	---	---	---	NS	---
111. Endosulfan I	---	---	---	---	NS	---
112. Dieldrin	---	---	---	---	---	---
113. 4,4'-DDE	---	---	---	---	NS	---
114. Endrin	---	---	---	---	NS	---
115. Endosulfan II	---	---	---	---	NS	---
116. 4,4'-DDD	---	---	---	---	NS	---
117. Endrin Aldehyde	---	---	---	---	NS	---
118. Endosulfan Sulfate	---	---	---	---	NS	---
119. 4,4'-DDT	---	---	---	---	NS	---
120. Endrin Ketone	---	---	---	---	NS	---
121. Methoxychlor	---	---	---	---	NS	---
122. Chlordane	---	---	---	---	NS	---
123. Toxaphene	---	---	---	---	NS	---
124. AROCLOR-1016	---	---	---	---	NS	---
125. AROCLOR-1221	---	---	---	---	NS	---
126. AROCLOR-1232	---	---	---	---	NS	---
127. AROCLOR-1242	---	---	---	---	NS	---
128. AROCLOR-1248	---	---	---	---	NS	---
129. AROCLOR-1254	---	---	---	---	NS	---
130. AROCLOR-1260	---	---	---	---	NS	---

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TABLE 4
SUMMARY OF GROUNDWATER ANALYTICAL DATA
PRISTINE, INC.

Pesticides-Round 2 (ug/l)	GW5802	GW5902	GW6002	GW60BK	GW6101	GW6202
104. Alpha-BHC	---	---	---	---	NA	---
105. beta BHC	---	---	---	---	NA	---
106. delta-BHC	---	---	---	---	NA	---
107. gamma-BHC (Lindane)	---	---	---	---	NA	---
108. Heptachlor	---	---	---	---	NA	---
109. Aldrin	---	---	---	---	NA	---
110. Heptachlor Epoxide	---	---	---	---	NA	---
111. Endosulfan I	---	---	---	---	NA	---
112. Dieldrin	---	---	---	---	NA	---
113. 4,4'-DDE	---	---	---	---	NA	---
114. Endrin	---	---	---	---	NA	---
115. Endosulfan II	---	---	---	---	NA	---
116. 4,4'-DDD	---	---	---	---	NA	---
117. Endrin Aldehyde	---	---	---	---	NA	---
118. Endosulfan Sulfate	---	---	---	---	NA	---
119. 4,4'-DDT	---	---	---	---	NA	---
120. Endrin Ketone	---	---	---	---	NA	---
121. Methoxychlor	---	---	---	---	NA	---
122. Chlordane	---	---	---	---	NA	---
123. Toxaphene	---	---	---	---	NA	---
124. AROCLOR-1016	---	---	---	---	NA	---
125. AROCLOR-1221	---	---	---	---	NA	---
126. AROCLOR-1232	---	---	---	---	NA	---
127. AROCLOR-1242	---	---	---	---	NA	---
128. AROCLOR-1248	---	---	---	---	NA	---
129. AROCLOR-1254	---	---	---	---	NA	---
130. AROCLOR-1260	---	---	---	---	NA	---

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TABLE 4
SUMMARY OF GROUNDWATER ANALYTICAL DATA
PRISTINE, INC.

Pesticides-Round 2 (ug/l)	GW5202	GW5302	GW5402	GW5502	GW5602	GW5702	GW570P
104. Alpha-BHC	---	---	NS	NS	NA	---	---
105. beta BHC	---	---	NS	NS	NA	---	---
106. delta-BHC	---	---	NS	NS	NA	---	---
107. gamma-BHC (Lindane)	---	---	NS	NS	NA	---	---
108. Heptachlor	---	---	NS	NS	NA	---	---
109. Aldrin	---	---	NS	NS	NA	---	---
110. Heptachlor Epoxide	---	---	NS	NS	NA	---	---
111. Endosulfan I	---	---	NS	NS	NA	---	---
112. Dieldrin	---	---	NS	NS	NA	---	---
113. 4,4'-DDE	---	---	NS	NS	NA	---	---
114. Endrin	---	---	NS	NS	NA	---	---
115. Endosulfan II	---	---	NS	NS	NA	---	---
116. 4,4'-DDD	---	---	NS	NS	NA	---	---
117. Endrin Aldehyde	---	---	NS	NS	NA	---	---
118. Endosulfan Sulfate	---	---	NS	NS	NA	---	---
119. 4,4'-DDT	---	---	NS	NS	NA	---	---
120. Endrin Ketone	---	---	NS	NS	NA	---	---
121. Methoxychlor	---	---	NS	NS	NA	---	---
122. Chlordane	---	---	NS	NS	NA	---	---
123. Toxaphene	---	---	NS	NS	NA	---	---
124. AROCLOR-1016	---	---	NS	NS	NA	---	---
125. AROCLOR-1221	---	---	NS	NS	NA	---	---
126. AROCLOR-1232	---	---	NS	NS	NA	---	---
127. AROCLOR-1242	---	---	NS	NS	NA	---	---
128. AROCLOR-1248	---	---	NS	NS	NA	---	---
129. AROCLOR-1254	---	---	NS	NS	NA	---	---
130. AROCLOR-1260	---	---	NS	NS	NA	---	---

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SUMMARY OF GROUNDWATER ANALYTICAL DATA
PRISTINE, INC.

Inorganics (ug/l) Round 1	GW5201	GW5301	GW5301 NF	GW5401	GW5501	GW5601	GW5701	GW5701 NF	GW570P
1. Aluminum	---	---	4320	NS	NA	---	---	32200	---
2. Antimony	---	---	---	NS	NA	---	---	---	---
3. Arsenic	---	---	---	NS	NA	---	---	79	---
4. Barium	184(X)	42(X)	161(X)	NS	NA	60(X)	212	547	242
5. Beryllium	---	---	0.5(X)	NS	NA	---	---	3.6(X)	---
6. Cadmium (IC)	---	---	---	NS	NA	---	---	9.4	---
7. Calcium	208000	593000	590000	NS	NA	665000	226000	346000	255000
8. Chromium	---	---	11	NS	NA	5.2(X)	---	67	---
9. Cobalt	---	8.1(X)	14	NS	NA	19(X)	4.4(X)	108	11(X)
10. Copper	4.3(X)	---	24	NS	NA	12(X)	---	154	6.3(X)
11. Iron	222	148	9520	NS	NA	96(X)	---	113000	67
12. Lead (IC)	---	---	---	NS	NA	32	---	148	---
13. Magnesium	52700	432000	440000	NS	NA	421000	57200	112000	69700
14. Manganese	167	4470	4180	NS	NA	5690	216	2290	395
15. Mercury	---	---	---	NS	NA	---	---	0.21	---
16. Nickel	---	15(X)	27(X)	NS	NA	36(X)	---	122	---
17. Potassium	5340	6910	10700	NS	NA	190000	4640(X)	12400	7090

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SUMMARY OF GROUNDWATER ANALYTICAL DATA
PRISTINE, INC.

Inorganics (ug/l) Round 1	GW4501	GW4601	GW4701	GW4801	GW48BK	GW4901	GW5001	GW5101 NF	GW510P NF	GW5101	GW510P
1. Aluminum	46(X)	32(X)	NA	---	---	31(X)	304	107000	133000	23400	25000
2. Antimony	---	---	NA	---	---	---	---	84(X)	92(X)	48(X)	71
3. Arsenic	---	---	NA	---	---	3(X)	---	272	260	164	196
4. Barium	36(X)	67(X)	NA	196(X)	---	96(X)	31(X)	630	982	29(X)	27(X)
5. Beryllium	---	---	NA	---	---	0.5(X)	0.4(X)	8.8(X)	11	3.9(X)	3.8(X)
6. Cadmium (IC)	---	---	NA	---	---	---	---	35	39	25	25
7. Calcium	510000	506000	NA	291000	---	597000	500000	607000	660000	477000	476000
8. Chromium	---	---	NA	---	---	4(X)	7.3(X)	137	189	21	24
9. Cobalt	9.9(X)	27(X)	NA	19(X)	---	10(X)	109	664	722	522	603
10. Copper	3.8(X)	13(X)	NA	5.7(X)	3.6(X)	8.1(X)	12(X)	176	245	27	31
11. Iron	165	201	NA	55(X)	31	35(X)	5620	556000	621000	408000	417000
12. Lead (IC)	---	---	NA	---	---	---	---	156	178	51	58
13. Magnesium	198000	395000	NA	83300	---	162000	890000	900000	909000	727000	734000
14. Manganese	3890	3460	NA	1400	5.1(X)	8540	66500	117000	118000	113000	121000
15. Mercury	---	---	NA	---	---	---	---	0.19(X)	0.44	---	---
16. Nickel	17(X)	56	NA	11(X)	---	15(X)	76	716	823	477	563
17. Potassium	4740(X)	30300	NA	17200	---	7010	16300	273000	252000	244000	232000

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PRISTINE, INC.

Inorganics (ug/l) Round 1	GW5301	GW5901	GW6001	GW608K	GW6101	GW6201
1. Aluminum	---	---	---	---	NS	313(X)
2. Antimony	---	---	---	---	NS	---
3. Arsenic	---	25	51	---	NS	---
4. Barium	44(X)	53(X)	52(X)	---	NS	58(X)
5. Beryllium	---	---	---	---	NS	0.4(X)
6. Cadmium (IC)	---	---	---	---	NS	---
7. Calcium	571000	567000	611000	393(X)	NS	335000
8. Chromium	4(X)	---	4.9(X)	---	NS	---
9. Cobalt	---	6.5(X)	12(X)	---	NS	---
10. Copper	7.7(X)	6.5(X)	7(X)	9.7(X)	NS	3(X)
11. Iron	46(X)	10500	30100	46(X)	NS	128
12. Lead (IC)	---	---	---	---	NS	---
13. Magnesium	175000	212000	214000	---	NS	53900
14. Manganese	794	6390	5700	3.2(X)	NS	5930
15. Mercury	---	---	---	---	NS	---
16. Nickel	---	7.1(X)	12(X)	---	NS	6(X)
17. Potassium	12600	27800	32300	---	NS	12500

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TABLE 4
SUMMARY OF GROUNDWATER ANALYTICAL DATA
PRISTINE, INC.

Inorganics (ug/l) Round 2	SW4502	SW4602	SW4702	SW4802	SW48BK	SW4902	SW5002	SW5102	SW5102 NF	SW5102F	SW5102F NF
1. Aluminum	293	489	NS	353	233	448	NA	13700	21300	17400	49700
2. Antimony	55(X)	50(X)	NS	---	56(X)	---	NA	---	---	---	---
3. Arsenic	---	23	NS	---	---	---	NA	---	---	---	---
4. Barium	45(X)	20(X)	NS	133(X)J	6.2(X)J	70(X)J	NA	47(X)J	1390(X)J	23(X)J	101(X)J
5. Beryllium	---	---	NS	---	---	---	NA	4.2(X)	17	4.3(X)	3.4
6. Cadmium (IC)	---	---	NS	4.4(X)	---	---	NA	13	45	13	26
7. Calcium	604000	652000	NS	272000	647(X)	582000	NA	489000	940000	454000	851000
8. Chromium	---	---	NS	---	---	---	NA	---	226	---	---
9. Cobalt	25(X)	35(X)	NS	16(X)	---	6.5(X)	NA	334	511	217	425
10. Copper	4.3(X)	---	NS	3.5(X)	9.6(X)	8.2(X)	NA	51	740	26	39
11. Iron	1750	33800	NS	196	34(X)	113	NA	219000	664000	105000	375000
12. Lead (IC)	---	---	NS	---	---	---	NA	---	---	170	24
13. Magnesium	125000	475000	NS	30000	323(X)	135000	NA	627000	300000J	582100	790000
14. Manganese	4790J	3450J	NS	5750J	11(X)	5150J	NA	74600J	39300	33500J	64000J
15. Mercury	---	---	NS	---	---	---	NA	---	---	---	---
16. Nickel	5.5(X)	56	NS	22(X)	7.9(X)	---	NA	212	739	1191	479
17. Potassium	2340(X)J	27700J	NS	21300J	604(X)J	3700(X)J	NA	252000J	215000J	219000J	203000J

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SUMMARY OF GROUNDWATER ANALYTICAL DATA
PRISTINE, INC.

Inorganics (ug/l) Found 2	SW5502	SW5702	SW6002	SW608K	SW6101	SW6202
1. Aluminum	321	500	215	141(X)	NA	337
2. Antimony	---	30	---	---	NA	---
3. Arsenic	---	---	---	---	NA	---
4. Barium	26(X)J	40(X)J	45(X)J	5.3(X)J	NA	35(X)J
5. Beryllium	---	---	1.3(X)	---	NA	---
6. Cadmium (IC)	---	2.4(X)	---	---	NA	---
7. Calcium	527000	696000	722000	223(X)	NA	267000
8. Chromium	---	---	---	---	NA	---
9. Cobalt	---	21(X)	3.8(X)	---	NA	---
10. Copper	---	---	---	4.8(X)	NA	33
11. Iron	139	570	7460	32(X)	NA	136
12. Lead (IC)	56	36	72	---	NA	31
13. Magnesium	209000	151---	271000	171(X)	NA	42700
14. Manganese	1190J	12900J	5750J	---	NA	5760J
15. Mercury	---	---	---	---	NA	---
16. Nickel	---	53(X)	---	---	NA	---
17. Potassium	5300J	14900J	30800J	295(X)J	NA	27100J

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TABLE 4
SUMMARY OF GROUNDWATER ANALYTICAL DATA
FRISTINE, INC.

Inorganics (ug/l) Round 2	GW5202	GW5302	GW5302 NF	GW5402	GW5502	GW5602	GW5702	GW5702 NF	GW570P
1. Aluminum	552	521	3350	NS	NS	NA	552	19400	548
2. Antimony	---	50(X)	45(X)	NS	NS	NA	41(X)	---	---
3. Arsenic	---	---	---	NS	NS	NA	---	28	---
4. Barium	1540	32(X)J	120(X)J	NS	NS	NA	32(X)J	4720	93(X)J
5. Beryllium	---	---	---	NS	NS	NA	---	1.5(X)	---
6. Cadmium (IC)	---	5.9	9.1	NS	NS	NA	3.2(X)	11	2.2(X)
7. Calcium	200000	507000	5525000	NS	NS	NA	253000	359000	293000
8. Chromium	---	---	---	NS	NS	NA	---	19	---
9. Cobalt	9.5	12(X)	15(X)	NS	NS	NA	6.9(X)	56	7.1(X)
10. Copper	---	5.1(X)	38	NS	NS	NA	14(X)	30	6.5(X)
11. Iron	1530	175	11200	NS	NS	NA	223	52400	202
12. Lead (IC)	---	3.5	52	NS	NS	NA	---	---	15
13. Magnesium	57300	385000	459000	NS	NS	NA	57700	102000	74500
14. Manganese	370	4600J	4920J	NS	NS	NA	780J	1510J	429J
15. Mercury	---	---	---	NS	NS	NA	---	---	---
16. Nickel	16(X)	10(X)	13(X)	NS	NS	NA	---	39	---
17. Potassium	4290(X)J	3990J	3860J	NS	NS	NA	4300(X)J	6320J	4090(X)J

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SUMMARY OF GROUNDWATER ANALYTICAL DATA
PRISTINE, INC.

Inorganics (ug/l)	GW5201	GW5301	GW5301 NF	GW5401	GW5501	GW5601	GW5701	GW5701 NF	GW570P
Round 1									
18. Selenium	---	---	---	NS	NA	---	---	---	---
19. Silver	---	---	---	NS	NA	---	---	3.4 (X)	---
20. Sodium	45500	87600	93700	NS	NA	256000	79500	93600	89200
21. Thallium	---	---	---	NS	NA	---	---	---	---
22. Tin	---	---	---	NS	NA	---	---	---	---
23. Vanadium	---	---	16(X)	NS	NA	---	---	107	---
24. Zinc	24	---	52	NS	NA	81	7.1(X)	455	6.7(X)
25. Cyanide	---	NR	---	NS	NA	NR	NR	11	---
26. Fluoride (IC)	240	170	NR	NS	NA	NR	260	NR	300

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FRISTINE, INC.

Inorganics (ug/L) Round 1	SW4501	SW4601	SW4701	SW4801	SW483K	SW4901	SW5001	SW5101 NF	SW510P NF	SW5101	SW510P
18. Selenium	---	---	NA	---	---	---	---	---	---	---	---
19. Silver	---	---	NA	---	---	---	---	75	75	24	24
20. Sodium	77600	152000	NA	146000	---	38200	165000	230000	311000	237000	223000
21. Thallium	---	---	NA	---	---	19	---	---	---	---	---
22. Tin	---	---	NA	---	---	---	---	---	---	---	---
23. Vanadium	---	---	NA	---	---	---	---	191	190	18.13	20.11
24. Zinc	151	68	NA	20	12(1)	12(1)	15(1)	1010	1320	416	439
25. Cyanide	---	---	NA	---	---	19	11	---	---	NR	NR
26. Fluoride (10)	170	190	NA	200	---	240	2000	NR	NR	14000	12000

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NS = NOT SAMPLED

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(10) = INDICATOR COMPOUND

TABLE 4
SUMMARY OF GROUNDWATER ANALYTICAL DATA
PRISTINE, INC.

Inorganics (ug/L) Round 2	GW4502	GW4602	GW4702	GW4802	GW489K	GW4902	GW5005Z	GW5102	GW5102 NF	GW510P	GW510P NF
18. Selenide	---	---	NS	---	---	---	NA	---	---	---	---
19. Silver	---	---	NS	---	5.8(X)	4--	NA	---	---	---	---
20. Sodium	80900J	152000J	NS	133000J	931(X)J	42900J	NA	221000J	163000J	177000J	117000J
21. Thallium	---	---	NS	---	---	---	NA	---	---	---	---
22. Tin	---	---	NS	---	---	---	NA	---	---	---	---
23. Vanadium	20(X)	26(X)	NS	23(X)	17(X)	22(X)	NA	22(X)	411	26(X)	52
24. Zinc	29J	41J	NS	51J	83J	15(X)J	NA	194J	1920J	176J	1000J
25. Cyanide	---	---	NS	---	---	---	NA	---	NA	---	NA
26. Fluoride (IC)	1000	1200	NS	1200	100	1400	NA	27000	NA	22000	NA

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TABLE 4
SUMMARY OF GROUNDWATER ANALYTICAL DATA
PRISTINE, INC.

Inorganics (ug/l)	SW5801	SW5901	SW6001	SW605K	SW6101	SW6201
Round 1						
18. Selenium	---	---	---	---	NS	---
19. Silver	---	---	---	---	NS	---
20. Sodium	11100	432000	521000	152(X)	NS	244000
21. Thallium	---	---	---	---	NS	---
22. Tin	---	---	---	---	NS	---
23. Vanadium	---	---	4.5(X)	---	NS	---
24. Zinc	34	68	62	38	NS	18(X)
25. Cyanide	---	---	---	---	NS	14
26. Fluoride (IC)	320	1000	2300	---	NS	500

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TABLE 4
SUMMARY OF GROUNDWATER ANALYTICAL DATA
PRISTINE, INC.

Inorganics (ug/l) Round 2	SW5302	SW5902	SW6002	SW603K	SW6101	SW6202
18. Selenium	---	---	---	---	NA	---
19. Silver	---	---	---	---	NA	---
20. Sodium	53200J	499000J	584000J	1391J	NA	243000J
21. Thallium	---	---	---	---	NA	---
22. Tin	---	---	---	---	NA	---
23. Vanadium	50	35(X)	17(X)	6.1(X)	NA	19(X)
24. Zinc	67J	57J	---	24	NA	36J
25. Cyanide	---	---	---	---	NA	---
26. Fluoride (IC)	1700	1400	6100	150	NA	NR

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TABLE 4
SUMMARY OF GROUNDWATER ANALYTICAL DATA
PRISTINE, INC.

Inorganics (ug/l) Found C	GW5292	GW5302	GW5702 VF	GW5402	GW5502	GW5602	GW5702	GW5702 VF	GW570P
13. Barium	---	---	---	NS	NS	NA	---	---	---
19. Silver	---	---	---	NS	NS	NA	---	---	---
20. Soda	277000	822000	534000	NS	NS	NA	558000	728000	917000
21. Thallium	---	---	---	NS	NS	NA	---	---	---
22. Tin	---	---	---	NS	NS	NA	---	---	---
23. Vanadium	45(1)	56	44(1)	NS	NS	NA	84	112	91
24. Zinc	50J	51J	144J	NS	NS	NA	340	314J	29J
25. Uranide	---	---	NA	NS	NS	NA	---	NA	---
26. Fluoride (IC)	2000	1400	NA	NS	NS	NA	1000	NA	1100

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TABLE 5
SUMMARY OF WATER SUPPLY ANALYTICAL DATA
PRISTINE, INC.

Inorganics (ug/l) Round 2	WS1502	WS1602	WS1702	WS1802	WS1902	WS2002	WS2102	WS210P	WS218K	WS2202
1. Aluminum	---	---	---	---	NS	---	---	---	---	---
2. Antimony	---	---	---	---	NS	---	---	---	---	---
3. Arsenic	10.7	23.3	92.1	13.2	NS	13.7	11.2	14.0	---	22.9
4. Barium	216	108	166	125	NS	96	197	191	---	138
5. Beryllium	---	---	---	---	NS	---	---	---	---	---
6. Cadmium (IC)	---	---	---	---	NS	---	4	---	---	---
7. Calcium	129000	111000	951000	174000	NS	127000	130000	124000	---	121000
8. Chromium	---	---	25	---	NS	---	---	---	---	---
9. Cobalt	---	---	---	---	NS	---	---	---	---	---
10. Copper	---	41	20	8	NS	---	---	---	---	---
11. Iron	3100	7010	25700	7590	NS	5850	7230	6980	---	7590
12. Lead (IC)	---	---	---	---	NS	---	---	---	---	---
13. Magnesium	42700	35400	16500	35000	NS	38900	37900	37400	---	41500
14. Manganese	509	522	588	506	NS	701	555	536	---	635
15. Mercury	NR	NR	NR	NR	NS	NR	NR	NR	NR	NR
16. Nickel	---	---	26	---	NS	---	---	---	---	---
17. Potassium	7580	7970	5400	7610	NS	10300	5120	2890	---	9790

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TABLE 5
SUMMARY OF WATER SUPPLY ANALYTICAL DATA
PRISTINE, INC.

Inorganics (ug/l) Round 1	WS1501	WS1601	WS1701	WS1801	WS1901	WS2001	WS20DP	WS20BK	WS2101	WS2201	WSSE01
1. Aluminum	---	---	---	---	---	---	---	---	230	---	---
2. Antimony	---	---	---	---	---	---	---	---	---	---	---
3. Arsenic	15	16	64	29	44	43	35	---	36	12	15
4. Barium	191	137	106	113	150	36.7	37.4	---	155	153	482
5. Beryllium	---	---	---	---	---	---	---	---	---	---	---
6. Cadmium (IC)	---	---	---	---	---	---	---	---	6.44	---	3.61
7. Calcium	137000	125000	11000	131000	127000	126000	126000	---	137000	122000	108000
8. Chromium	8.01	---	8.91	---	---	---	---	---	20.8	8.93	15.3
9. Cobalt	---	---	---	---	---	---	---	---	---	---	61.4
10. Copper	13.8	---	74.3	---	---	---	---	---	99.3	---	---
11. Iron	7620	7940	7150	7530	6090	4290	4360	---	10600	6440	3660
12. Lead (IC)	---	---	4.0	---	---	---	---	---	4.6	---	---
13. Magnesium	37100	32000	31900	30100	30300	31700	32000	---	30700	32900	31000
14. Manganese	567	562	525	416	515	626	622	---	436	566	104
15. Mercury	---	---	---	---	---	---	---	---	---	---	0.1
16. Nickel	33.7	16.0	29.4	---	---	---	29.5	---	44.0	---	44.0
17. Potassium	7410	7650	6210	7790	6490	3200	7990	---	9580	7660	---

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TABLE 5
SUMMARY OF WATER SUPPLY ANALYTICAL DATA
PRISTINE, INC.

Volatiles - Round 2 (ug/l)	WS1502	WS1602	WS1702	WS1802	WS1902	WS2002	WS2102	WS210P	WS218K	WS2202	WS2202
1. Chloromethane	---	---	---	---	NS	---	---	---	---	---	---
2. Bromomethane	---	---	---	---	NS	---	---	---	---	---	---
3. Vinyl chloride	---	---	---	---	NS	---	---	---	---	---	---
4. Chloroethane	---	---	---	---	NS	---	---	---	---	5.2	---
5. Methylene Chloride	.6	1.2	---	---	NS	1.1	1.2	28	10	---	---
6. Acetone	---	---	---	J	NS	---	---	---	---	---	---
7. Carbon Disulfide	---	---	---	---	NS	---	---	---	---	---	---
8. 1,1-Dichloroethene	---	---	---	---	NS	---	---	---	---	---	---
9. 1,1-Dichloroethane	---	---	2.7	---	NS	---	---	---	---	---	---
10. trans-1,2-Dichloroethene	30	18	21	---	NS	---	5.2	5.2	---	11	---
11. Chloroform	---	---	---	---	NS	---	---	---	150	---	---
12. 1,2-Dichloroethane	---	---	---	---	NS	---	4.4	4.4	---	---	---
13. 2-Butanone	---	---	---	---	NS	---	---	---	---	---	---
14. 1,1,1-Trichloroethane	---	---	---	---	NS	---	---	---	---	---	---
15. Carbon Tetrachloride	---	---	---	---	NS	---	---	---	---	---	---
16. Vinyl Acetate	---	---	---	---	NS	---	---	---	---	---	---
17. Bromodichloromethane	---	---	---	---	NS	---	---	---	---	---	---
18. 1,1,2,2-Tetrachloroethane	---	---	---	---	NS	---	---	---	---	---	---
19. 1,2-Dichloropropane	---	---	---	---	NS	---	---	---	---	---	---
20. trans-1,3-Dichloropropene	---	---	---	---	NS	---	---	---	---	---	---
21. Trichloroethene	---	---	---	---	NS	---	1.3	1.2	---	---	---
22. Dibromochloromethane	---	---	---	---	NS	---	---	---	---	---	---
23. 1,1,2-Trichloroethane	---	---	---	---	NS	---	---	---	---	---	---
24. Benzene	---	---	---	---	NS	---	---	---	---	9.5	---
25. cis-1,3-Dichloropropene	---	---	---	---	NS	---	---	---	---	---	---
26. 2-Chloroethyl Vinyl Ether	---	---	---	---	NS	---	---	---	---	---	---
27. Bromoform	---	---	---	---	NS	---	---	---	---	---	---
28. 2-Hexanone	---	---	---	---	NS	---	---	---	---	---	---
29. 4-Methyl-2-pentanone	---	---	---	---	NS	---	---	---	---	---	---
30. Tetrachloroethene	---	---	---	---	NS	---	---	---	---	---	---
31. Toluene	---	---	---	---	NS	---	---	4	---	---	---
32. Chlorobenzene	---	---	---	---	NS	---	---	---	---	---	---
33. Ethyl Benzene	---	---	---	---	NS	---	---	---	---	---	---
34. Styrene	---	---	---	---	NS	---	---	---	---	---	---
35. Total Xylenes	---	---	---	---	NS	---	---	---	---	---	---

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TABLE 5
SUMMARY OF WATER SUPPLY ANALYTICAL DATA
PRISTINE, INC.

Volatiles - Round 1 (ug/l)	WS1501	WS1601	WS1701	WS1801	WS1901	WS2001	WS20DP	WS20BK	WS2101	WS2201	WS6E01
1. Chloroethane	---	---	---	---	---	---	---	---	---	---	---
2. Bromoethane	---	---	---	---	---	---	---	---	---	---	---
3. Vinyl chloride	---	---	---	---	---	---	---	---	---	---	---
4. Chloroethane	---	---	---	---	---	---	---	---	---	5.9	---
5. Methylene Chloride	0.7	1.6	2.2	0.8	---	---	---	23	---	---	---
6. Acetone	---	---	---	---	---	---	---	---	---	170	48
7. Carbon Disulfide	---	---	---	---	---	---	---	---	---	---	---
8. 1,1-Dichloroethene	---	---	---	---	---	---	---	---	---	---	---
9. 1,1-Dichloroethane	0.6	1.7	1.0	---	---	---	---	---	---	---	---
10. trans-1,2-Dichloroethene	25	45	20	---	---	---	---	---	0.9	9.5	---
11. Chloroform	---	---	---	---	---	---	---	---	---	---	---
12. 1,2-Dichloroethane	---	---	---	---	---	---	---	---	---	---	---
13. 2-Butanone	---	---	---	---	---	---	---	---	---	---	---
14. 1,1,1-Trichloroethane	---	---	---	---	---	---	---	---	---	---	---
15. Carbon Tetrachloride	---	---	---	---	---	---	---	---	---	---	---
16. Vinyl Acetate	---	---	---	---	---	---	---	---	---	---	---
17. Bromodichloromethane	---	---	---	---	---	---	---	---	---	---	---
18. 1,1,2,2-Tetrachloroethane	---	---	---	---	---	---	---	---	---	---	---
19. 1,2-Dichloropropane	---	---	---	---	---	---	---	---	---	---	---
20. trans-1,3-Dichloropropene	---	---	---	---	---	---	---	---	---	---	---
21. Trichloroethene	---	---	---	---	---	---	---	---	---	---	---
22. Dibromochloroethane	---	---	---	---	---	---	---	---	---	---	---
23. 1,1,2-Trichloroethane	---	---	---	---	---	---	---	---	---	---	---
24. Benzene	---	---	---	---	---	---	---	---	---	8.1	---
25. cis-1,3-Dichloropropene	---	---	---	---	---	---	---	---	---	---	---
26. 2-Chloroethyl Vinyl Ether	---	---	---	---	---	---	---	---	---	---	---
27. Bromoform	---	---	---	---	---	---	---	---	---	---	---
28. 2-Hexanone	---	---	---	---	---	---	---	---	---	---	---
29. 4-Methyl-2-pentanone	---	---	---	---	---	---	---	---	---	---	---
30. Tetrachloroethene	---	---	---	---	---	---	---	---	---	---	---
31. Toluene	---	---	---	---	---	---	---	---	---	---	---
32. Chlorobenzene	---	---	---	---	---	---	---	---	---	---	---
33. Ethyl Benzene	---	---	---	---	---	---	---	---	---	---	---
34. Styrene	---	---	---	---	---	---	---	---	---	---	---
35. Total Xylenes	---	---	---	---	---	---	---	---	---	---	---

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TABLE 5
SUMMARY OF WATER SUPPLY ANALYTICAL DATA
PRISTINE, INC.

Semi-Volatiles - Round 1 (ug/l)	WS1501	WS1601	WS1701	WS1801	WS1901	WS2001	WS200P	WS20BK	WS2101	WS2201	WS6E01
71. Acenaphthene	---	---	---	---	---	---	---	---	---	---	---
72. 2,4-Dinitrophenol	---	---	---	---	---	---	---	---	---	---	---
73. 4-Nitrophenol	---	---	---	---	---	---	---	---	---	---	---
74. Dibenzofuran	---	---	---	---	---	---	---	---	---	---	---
75. 2,4-Dinitrotoluene	---	---	---	---	---	---	---	---	---	---	---
76. 2,6-Dinitrotoluene	---	---	---	---	---	---	---	---	---	---	---
77. Diethylphthalate	---	---	---	---	---	---	---	---	---	---	---
78. 4-Chlorophenyl Phenyl ether	---	---	---	---	---	---	---	---	---	---	---
79. Fluorene	---	---	---	---	---	---	---	---	---	---	---
80. 4-Nitroaniline	---	---	---	---	---	---	---	---	---	---	---
81. 4,6-Dinitro-2-methylphenol	---	---	---	---	---	---	---	---	---	---	---
82. N-nitrosodiphenylamine	---	---	---	---	---	---	---	---	---	---	---
83. 4-Bromophenyl Phenyl ether	---	---	---	---	---	---	---	---	---	---	---
84. Hexachlorobenzene	---	---	---	---	---	---	---	---	---	---	---
85. Pentachlorophenol	---	---	---	---	---	---	---	---	---	---	---
86. Phenanthrene	---	---	---	---	---	---	---	---	---	---	---
87. Anthracene	---	---	---	---	---	---	---	---	---	---	---
88. Di-n-butylphthalate	---	---	---	---	---	---	---	---	---	---	---
89. Fluoranthene	---	---	---	---	---	---	---	---	---	---	---
90. Benzidine	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	N
91. Pyrene	---	---	---	---	---	---	---	---	---	---	---
92. Butyl Benzyl Phthalate	---	---	---	---	---	---	---	---	---	---	---
93. 3,3'-Dichlorobenzidine	NR	NR	NR	NR	NR	NR	NA	NR	NR	NR	N
94. Benzo(a)anthracene	---	---	---	---	---	---	---	---	---	---	---
95. bis(2-ethylhexyl)phthalate	---	---	---	---	---	---	---	---	---	---	---
96. Chrysene	---	---	---	---	---	---	---	---	---	---	---
97. Di-n-octyl Phthalate	---	---	---	---	---	---	---	---	---	---	---
98. Benzo(b)fluoranthene	---	---	---	---	---	---	---	---	---	---	---
99. Benzo(k)fluoranthene	---	---	---	---	---	---	---	---	---	---	---
100. Benzo(a)pyrene	---	---	---	---	---	---	---	---	---	---	---
101. Indeno(1,2,3-cd)pyrene	---	---	---	---	---	---	---	---	---	---	---
102. Dibenzo(a,h)anthracene	---	---	---	---	---	---	---	---	---	---	---
103. Benzo(g,h,i)perylene	---	---	---	---	---	---	---	---	---	---	---

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SUMMARY OF WATER SUPPLY ANALYTICAL DATA
PRISTINE, INC.

Semi-Volatiles - Round 1 (ug/l)	WS1501	WS1601	WS1701	WS1801	WS1901	WS2001	WS200P	WS208K	WS2101	WS2201	WS61
36. N-Nitrosodimethylamine	NR	NR	NR	NR	NR	NR	NA	NR	NR	NR	
37. Phenol	---	---	---	---	---	---	---	---	---	---	---
38. Aniline	---	---	---	---	---	---	---	---	---	---	---
39. bis(2-Chloroethyl) ether	---	---	---	---	---	---	---	---	---	---	---
40. 2-Chlorophenol	---	---	---	---	---	---	---	---	---	---	---
41. 1,3-Dichlorobenzene	---	---	---	---	---	---	---	---	---	---	---
42. 1,4-Dichlorobenzene	---	---	---	---	---	---	---	---	---	---	---
43. Benzyl Alcohol	---	---	---	---	---	---	---	---	---	---	---
44. 1,2-Dichlorobenzene	---	---	---	---	---	---	---	---	---	---	---
45. 2-Methylphenol	---	---	---	---	---	---	---	---	---	---	---
46. bis(2-Chloroisopropyl) ether	---	---	---	---	---	---	---	---	---	---	---
47. 4-Methylphenol	---	---	---	---	---	---	---	---	---	---	---
48. n-Nitroso-Dipropylamine	---	---	---	---	---	---	---	---	---	---	---
49. Hexachloroethane	---	---	---	---	---	---	---	---	---	---	---
50. Nitrobenzene	---	---	---	---	---	---	---	---	---	---	---
51. Isophorone	---	---	---	---	---	---	---	---	---	---	---
52. 2-Nitrophenol	---	---	---	---	---	---	---	---	---	---	---
53. 2,4-Dimethylphenol	---	---	---	---	---	---	---	---	---	---	---
54. Benzoic Acid	---	---	---	---	---	---	---	---	---	---	---
55. bis(2-Chloroethoxy) methane	---	---	---	---	---	---	---	---	---	---	---
56. 2,4-Dichlorophenol	---	---	---	---	---	---	---	---	---	---	---
57. 1,2,4-Trichlorobenzene	---	---	---	---	---	---	---	---	---	---	---
58. Naphthalene	---	---	---	---	---	---	---	---	---	---	---
59. 4-Chloroaniline	---	---	---	---	---	---	---	---	---	---	---
60. Hexachlorobutadiene	---	---	---	---	---	---	---	---	---	---	---
61. 4-Chloro-3-methylphenol (para-chloro-meta-cresol)	---	---	---	---	---	---	---	---	---	---	---
62. 2-Methylnaphthalene	---	---	---	---	---	---	---	---	---	---	---
63. Hexachlorocyclopentadiene	---	---	---	---	---	---	---	---	---	---	---
64. 2,4,6-Trichlorophenol	---	---	---	---	---	---	---	---	---	---	---
65. 2,4,5-Trichlorophenol	---	---	---	---	---	---	---	---	---	---	---
66. 2-Chloronaphthalene	---	---	---	---	---	---	---	---	---	---	---
67. 2-Nitroaniline	NR	NR	NR	NR	NR	NR	NA	NR	NR	NR	
68. Diethyl Phthalate	---	---	---	---	---	---	---	---	---	---	---
69. Acenaphthylene	---	---	---	---	---	---	---	---	---	---	---
70. 3-Nitroaniline	---	---	---	---	---	---	---	---	---	---	---

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TABLE 5
SUMMARY OF WATER SUPPLY ANALYTICAL DATA
PRISTINE, INC.

Semi-Volatiles - Round 2 (ug/l)	WS1502	WS1602	WS1702	WS1802	WS1902	WS2002	WS2102	WS21DP	WS21BK	WS2202	WS
71. Acenaphthene	---	---	---	---	NS	---	---	---	---	---	---
72. 2,4-Dinitrophenol	---	---	---	---	NS	---	---	---	---	---	---
73. 4-Nitrophenol	---	---	---	---	NS	---	---	---	---	---	---
74. Dibenzofuran	---	---	---	---	NS	---	---	---	---	---	---
75. 2,4-Dinitrotoluene	---	---	---	---	NS	---	---	---	---	---	---
76. 2,6-Dinitrotoluene	---	---	---	---	NS	---	---	---	---	---	---
77. Diethylphthalate	---	---	---	---	NS	---	---	---	---	---	---
78. 4-Chlorophenyl Phenyl ether	---	---	---	---	NS	---	---	---	---	---	---
79. Fluorene	---	---	---	---	NS	---	---	---	---	---	---
80. 4-Nitroaniline	---	---	---	---	NS	---	---	---	---	---	---
81. 4,6-Dinitro-2-ethylphenol	---	---	---	---	NS	---	---	---	---	---	---
82. N-nitrosodiphenylamine	---	---	---	---	NS	---	---	---	---	---	---
83. 4-Bromophenyl Phenyl ether	---	---	---	---	NS	---	---	---	---	---	---
84. Hexachlorobenzene	---	---	---	---	NS	---	---	---	---	---	---
85. Pentachlorophenol	---	---	---	---	NS	---	---	---	---	---	---
86. Phenanthrene	---	---	---	---	NS	---	---	---	---	---	---
87. Anthracene	---	---	---	---	NS	---	---	---	---	---	---
88. Di-n-butylphthalate	---	---	---	---	NS	---	---	---	---	---	---
89. Fluoranthene	---	---	---	---	NS	---	---	---	---	---	---
90. Benzidine	---	---	---	---	NS	---	---	---	---	---	---
91. Pyrene	---	---	---	---	NS	---	---	---	---	---	---
92. Butyl Benzyl Phthalate	---	---	---	---	NS	---	---	---	---	---	---
93. 3,3'-Dichlorobenzidine	---	---	---	---	NS	---	---	---	---	---	---
94. Benzo(a)anthracene	---	---	---	---	NS	---	---	---	---	---	---
95. bis(2-ethylhexyl)phthalate	---	---	---	---	NS	---	---	---	---	---	---
96. Chrysene	---	---	---	---	NS	---	---	---	---	---	---
97. Di-n-octyl Phthalate	---	---	---	---	NS	---	---	---	---	---	---
98. Benzo(b)fluoranthene	---	---	---	---	NS	---	---	---	---	---	---
99. Benzo(k)fluoranthene	---	---	---	---	NS	---	---	---	---	---	---
100. Benzo(a)pyrene	---	---	---	---	NS	---	---	---	---	---	---
101. Indeno(1,2,3-cd)pyrene	---	---	---	---	NS	---	---	---	---	---	---
102. Dibenz(a,h)anthracene	---	---	---	---	NS	---	---	---	---	---	---
103. Benzo(g,h,i)perylene	---	---	---	---	NS	---	---	---	---	---	---

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TABLE 5
SUMMARY OF WATER SUPPLY ANALYTICAL DATA
PRISTINE, INC.

Semi-Volatiles - Round 2 (ug/l)	WS1502	WS1602	WS1702	WS1802	WS1902	WS2002	WS2102	WS210P	WS218K	WS2202	WSGE02
36. N-Nitrosodimethylamine	---	---	---	---	NS	---	---	---	---	---	NS
37. Phenol	---	---	---	---	NS	---	---	---	---	---	NS
38. Aniline	---	---	---	---	NS	---	---	---	---	---	NS
39. bis(2-Chloroethyl) ether	---	---	---	---	NS	---	---	---	---	---	NS
40. 2-Chlorophenol	---	---	---	---	NS	---	---	---	---	---	NS
41. 1,3-Dichlorobenzene	---	---	---	---	NS	---	---	---	---	---	NS
42. 1,4-Dichlorobenzene	---	---	---	---	NS	---	---	---	---	---	NS
43. Benzyl Alcohol	---	---	---	---	NS	---	---	---	---	---	NS
44. 1,2-Dichlorobenzene	---	---	---	---	NS	---	---	---	---	---	NS
45. 2-Methylphenol	---	---	---	---	NS	---	---	---	---	---	NS
46. bis(2-Chloroisopropyl) ether	---	---	---	---	NS	---	---	---	---	---	NS
47. 4-Methylphenol	---	---	---	---	NS	---	---	---	---	---	NS
48. n-Nitroso-Dipropylamine	---	---	---	---	NS	---	---	---	---	---	NS
49. Hexachloroethane	---	---	---	---	NS	---	---	---	---	---	NS
50. Nitrobenzene	---	---	---	---	NS	---	---	---	---	---	NS
51. Isophorone	---	---	---	---	NS	---	---	---	---	---	NS
52. 2-Nitrophenol	---	---	---	---	NS	---	---	---	---	---	NS
53. 2,4-Diethylphenol	---	---	---	---	NS	---	---	---	---	---	NS
54. Benzoic Acid	---	---	---	---	NS	---	---	---	---	---	NS
55. bis(2-Chloroethoxy) methane	---	---	---	---	NS	---	---	---	---	---	NS
56. 2,4-Dichlorophenol	---	---	---	---	NS	---	---	---	---	---	NS
57. 1,2,4-Trichlorobenzene	---	---	---	---	NS	---	---	---	---	---	NS
58. Naphthalene	---	---	---	---	NS	---	---	---	---	---	NS
59. 4-Chloroaniline	---	---	---	---	NS	---	---	---	---	---	NS
60. Hexachlorobutadiene	---	---	---	---	NS	---	---	---	---	---	NS
61. 4-Chloro-3-methylphenol (para-chloro-meta-cresol)	---	---	---	---	NS	---	---	---	---	---	NS
62. 2-Methylnaphthalene	---	---	---	---	NS	---	---	---	---	---	NS
63. Hexachlorocyclopentadiene	---	---	---	---	NS	---	---	---	---	---	NS
64. 2,4,6-Trichlorophenol	---	---	---	---	NS	---	---	---	---	---	NS
65. 2,4,5-Trichlorophenol	---	---	---	---	NS	---	---	---	---	---	NS
66. 2-Chloronaphthalene	---	---	---	---	NS	---	---	---	---	---	NS
67. 2-Nitroaniline	---	---	---	---	NS	---	---	---	---	---	NS
68. Dimethyl Phthalate	---	---	---	---	NS	---	---	---	---	---	NS
69. Acenaphthylene	---	---	---	---	NS	---	---	---	---	---	NS
70. 3-Nitroaniline	---	---	---	---	NS	---	---	---	---	---	NS

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TABLE 5
SUMMARY OF WATER SUPPLY ANALYTICAL DATA
PRISTINE, INC.

Pesticides - Round 2 (ug/l)	WS1502	WS1602	WS1702	WS1802	WS1902	WS2002	WS2102	WS210P	WS21BK	WS2202
104. Alpha-BHC	---	---	---	---	NS	---	---	---	---	---
105. beta BHC	---	---	---	---	NS	---	---	---	---	---
106. delta-BHC	---	---	---	---	NS	---	---	---	---	---
107. gamma-BHC (Lindane)	---	---	---	---	NS	---	---	---	---	---
108. Heptachlor	---	---	---	---	NS	---	---	---	---	---
109. Aldrin	---	---	---	J	NS	---	---	---	---	---
110. Heptachlor Epoxide	---	---	---	---	NS	---	---	---	---	---
111. Endosulfan I	---	---	---	---	NS	---	---	---	---	---
112. Dieldrin	---	---	---	---	NS	---	---	---	---	---
113. 4,4'-DDE	---	---	---	---	NS	---	---	---	---	---
114. Endrin	---	---	---	---	NS	---	---	---	---	---
115. Endosulfan II	---	---	---	---	NS	---	---	---	---	---
116. 4,4'-DDD	---	---	---	---	NS	---	---	---	---	---
117. Endrin Aldehyde	---	---	---	---	NS	---	---	---	---	---
118. Endosulfan Sulfate	---	---	---	---	NS	---	---	---	---	---
119. 4,4'-DDT	---	---	---	---	NS	---	---	---	---	---
120. Endrin Ketone	---	---	---	---	NS	---	---	---	---	---
121. Methoxychlor	---	---	---	---	NS	---	---	---	---	---
122. Chlordane	---	---	---	---	NS	---	---	---	---	---
123. Toxaphene	---	---	---	---	NS	---	---	---	---	---
124. AROCLOR-1016	---	---	---	---	NS	---	---	---	---	---
125. AROCLOR-1221	---	---	---	---	NS	---	---	---	---	---
126. AROCLOR-1232	---	---	---	---	NS	---	---	---	---	---
127. AROCLOR-1242	---	---	---	---	NS	---	---	---	---	---
128. AROCLOR-1248	---	---	---	---	NS	---	---	---	---	---
129. AROCLOR-1254	---	---	---	---	NS	---	---	---	---	---
130. AROCLOR-1260	---	---	---	---	NS	---	---	---	---	---

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TABLE 5
SUMMARY OF WATER SUPPLY ANALYTICAL DATA
PRISTINE, INC.

Pesticides - Round 1 (ug/l)	WS1501	WS1601	WS1701	WS1801	WS1901	WS2001	WS200P	WS20BK	WS2101	WS2201	WS6E01
104. Alpha-BHC	---	---	---	---	---	---	---	---	---	---	---
105. beta BHC	---	---	---	---	---	---	---	---	---	---	---
106. delta-BHC	---	---	---	---	---	---	---	---	---	---	---
107. gamma-BHC (Lindane)	---	---	---	---	---	---	---	---	---	---	---
108. Heptachlor	---	---	---	---	---	---	---	---	---	---	---
109. Aldrin	---	---	---	---	---	---	---	---	---	---	---
110. Heptachlor Epoxide	---	---	---	---	---	---	---	---	---	---	---
111. Endosulfan I	---	---	---	---	---	---	---	---	---	---	---
112. Dieldrin	---	---	---	---	---	---	---	---	---	---	---
113. 4,4'-DDE	---	---	---	---	---	---	---	---	---	---	---
114. Endrin	---	---	---	---	---	---	---	---	---	---	---
115. Endosulfan II	---	---	---	---	---	---	---	---	---	---	---
116. 4,4'-DDD	---	---	---	---	---	---	---	---	---	---	---
117. Endrin Aldehyde	---	---	---	---	---	---	---	---	---	---	---
118. Endosulfan Sulfate	---	---	---	---	---	---	---	---	---	---	---
119. 4,4'-DDT	---	---	---	---	---	---	---	---	---	---	---
120. Endrin Ketone	---	---	---	---	---	---	---	---	---	---	---
121. Methoxychlor	---	---	---	---	---	---	---	---	---	---	---
122. Chlordane	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR
123. Toxaphene	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR
124. AROCLOR-1016	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR
125. AROCLOR-1221	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR
126. AROCLOR-1232	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR
127. AROCLOR-1242	---	---	---	---	---	---	---	---	---	---	---
128. AROCLOR-1248	---	---	---	---	---	---	---	---	---	---	---
129. AROCLOR-1254	---	---	---	---	---	---	---	---	---	---	---
130. AROCLOR-1260	---	---	---	---	---	---	---	---	---	---	---

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TABLE 5
SUMMARY OF WATER SUPPLY ANALYTICAL DATA
PRISTINE, INC.

Inorganics (ug/l) Round 2	WS1502	WS1602	WS1702	WS1802	WS1902	WS2002	WS2102	WS210P	WS218K	WS2202
18. Selenium	---	---	---	---	NS	---	---	---	---	---
19. Silver	---	---	---	---	NS	---	---	---	---	---
20. Sodium	82000	72200	90100	71500	NS	40000	59600	59100	---	48300
21. Thallium	---	---	---	---	NS	---	---	---	---	2.8
22. Tin	---	---	---	---	NS	---	---	---	---	---
23. Vanadium	---	---	---	---	NS	---	---	---	---	---
24. Zinc	---	---	---	---	NS	---	---	---	---	---
25. Cyanide	---	---	---	---	NS	---	---	---	---	---
26. Nitrate	---	---	---	---	NS	---	---	---	---	---
27. Ammonia	1950	640	1000	510	NS	320	320	320	---	1080
28. TKN	1160	810	1820	420	NS	350	490	450	---	1190
29. Phosphorous	---	---	290	70	NS	---	30	90	---	---
30. Alkalinity	355000	322000	330000	33000	NS	355000	335000	350000	---	370000
31. Sulfate	155000	149000	121000	118000	NS	138000	144000	141000	---	93000
32. Chloride	139000	78000	76000	65000	NS	55000	79000	78000	---	76000

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(IC) = Indicator Compound

TABLE 6
SUMMARY OF SURFACE WATER ANALYTICAL DATA
PRISTINE, INC.

Semi-Volatiles (ug/l)	SF0401	SF0501	SF0601	SF0701	SF07DP	SF07BK	SF0701
36. N-Nitrosodimethylamine	---	---	---	---	---	---	---
37. Phenol	---	---	---	7.6 J	8.0 J	---	230
38. Aniline	---	---	---	4 J	5.8 J	---	---
39. bis(2-Chloroethyl) ether	---	---	---	---	---	---	---
40. 2-Chlorophenol	---	---	---	---	---	---	---
41. 1,3-Dichlorobenzene	---	---	---	---	---	---	---
42. 1,4-Dichlorobenzene	---	---	---	---	---	---	---
43. Benzyl Alcohol	---	---	---	---	---	---	---
44. 1,2-Dichlorobenzene	---	---	---	---	---	---	14
45. 2-Methylphenol	---	---	---	17 J	---	---	19
46. bis(2-Chloroisopropyl) ether	---	---	---	---	---	---	---
47. 4-Methylphenol	---	---	---	---	13.2	---	15
48. n-Nitroso-Dipropylamine	---	---	---	---	---	---	---
49. Hexachloroethane	---	---	---	---	---	---	---
50. Nitrobenzene	---	---	---	---	---	---	---
51. Isophorone	---	---	---	---	---	---	---
52. 2-Nitrophenol	---	---	---	---	---	---	9 J
53. 2,4-Diethylphenol	---	---	---	---	---	---	---
54. Benzoic Acid	11 J	---	---	21.6 J	34 J	---	---
55. bis(2-Chloroethoxy) methane	---	---	---	---	---	---	---
56. 2,4-Dichlorophenol	---	---	---	---	---	---	---
57. 1,2,4-Trichlorobenzene	---	---	---	---	---	---	---
58. Naphthalene	---	---	---	---	---	---	---
59. 4-Chloroaniline	---	---	---	---	---	---	---
60. Hexachlorobutadiene	---	---	---	---	---	---	---
61. 4-Chloro-3-methylphenol (para-chloro-meta-cresol)	---	---	---	---	---	---	13
62. 2-Methylnaphthalene	---	---	---	---	---	---	---
63. Hexachlorocyclopentadiene	---	---	---	---	---	---	---
64. 2,4,6-Trichlorophenol	---	---	---	---	---	---	---
65. 2,4,5-Trichlorophenol	---	---	---	---	---	---	---
66. 2-Chloronaphthalene	---	---	---	---	---	---	---
67. 2-Nitroaniline	---	---	---	---	---	---	---
68. Diethyl Phthalate	---	---	---	---	---	---	---
69. Acenaphthylene	---	---	---	---	---	---	---
70. 3-Nitroaniline	---	---	---	---	---	---	---

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TABLE 6
SUMMARY OF SURFACE WATER ANALYTICAL DATA
PRISTINE, INC.

Pesticides (ug/l)	SF0401	SF0501	SF0601	SF0701	SF07DP	SF07BK	SFDT01
104. Alpha-BHC	0.19	---	---	---	---	---	---
105. beta BHC	---	---	---	---	---	---	---
106. delta-BHC	---	---	---	---	---	---	---
107. gamma-BHC (Lindane)	---	---	---	---	---	---	---
108. Heptachlor	---	---	---	---	---	---	---
109. Aldrin	---	---	---	---	---	---	---
110. Heptachlor Epoxide	---	---	---	---	---	---	---
111. Endosulfan I	---	---	---	---	---	---	---
112. Dieldrin	---	---	---	---	---	---	---
113. 4,4'-DDE	---	---	0.86	0.127	0.07 J	---	---
114. Endrin	---	---	---	---	---	---	---
115. Endosulfan II	---	---	---	---	---	---	---
116. 4,4'-DDD	0.07 J	0.1	0.78	0.15	0.09 J	---	---
117. Endrin Aldehyde	---	---	---	---	---	---	---
118. Endosulfan Sulfate	---	---	---	---	---	---	---
119. 4,4'-DDT	1.82	---	---	0.47	---	---	---
120. Endrin Ketone	---	---	---	---	---	---	---
121. Methoxychlor	---	---	---	---	---	---	---
122. Chlordane	---	---	---	---	---	---	---
123. Toxaphene	---	---	---	---	---	---	---
124. AROCLOR-1016	---	---	---	---	---	---	---
125. AROCLOR-1221	---	---	---	---	---	---	---
126. AROCLOR-1232	---	---	---	---	---	---	---
127. AROCLOR-1242	---	---	---	---	---	---	---
128. AROCLOR-1248	---	---	---	---	---	---	---
129. AROCLOR-1254	---	---	---	---	---	---	---
130. AROCLOR-1260	---	---	---	---	---	---	---

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PRISTINE, INC.

Semi-Volatiles (ug/l)	SF0401	SF0501	SF0601	SF0701	SF07DP	SF07BK	SF0701
71. Acenaphthene	---	---	---	---	---	---	---
72. 2,4-Dinitrophenol	---	---	---	---	---	---	---
73. 4-Nitrophenol	---	---	---	---	---	---	---
74. Dibenzofuran	---	---	---	---	---	---	---
75. 2,4-Dinitrotoluene	---	---	---	---	---	---	---
76. 2,6-Dinitrotoluene	---	---	---	---	J	---	---
77. Diethylphthalate	---	---	---	---	---	---	---
78. 4-Chlorophenyl Phenyl ether	---	---	---	---	---	---	---
79. Fluorene	---	---	---	---	---	---	---
80. 4-Nitroaniline	---	---	---	---	---	---	---
81. 4,6-Dinitro-2-methylphenol	---	---	---	---	---	---	---
82. N-nitrosodiphenylamine	---	---	---	---	---	---	---
83. 4-Bromophenyl Phenyl ether	---	---	---	---	---	---	---
84. Hexachlorobenzene	---	---	---	---	---	---	---
85. Pentachlorophenol	---	---	---	---	13.2 J	---	---
86. Phenanthrene	---	---	---	---	---	---	---
87. Anthracene	---	---	---	---	---	---	---
88. Di-n-butylphthalate	---	---	---	---	2.2 J	---	---
89. Fluoranthene	---	---	---	---	---	---	---
90. Benzidine	---	---	---	---	---	---	---
91. Pyrene	---	---	---	---	---	---	---
92. Butyl Benzyl Phthalate	---	5 J	---	3 J	3.4 J	6.2 B,J	---
93. 3,3'-Dichlorobenzidine	---	---	---	---	---	---	---
94. Benzo(a)anthracene	---	---	---	---	---	---	---
95. bis(2-ethylhexyl)phthalate	11.2 J	27.4 J	104 J	23.4 J	10.6 J	990 B	12
96. Chrysene	---	---	---	---	---	---	---
97. Di-n-octyl Phthalate	---	---	---	---	---	---	---
98. Benzo(b)fluoranthene	---	---	---	---	---	---	---
99. Benzo(k)fluoranthene	---	---	---	---	---	---	---
100. Benzo(a)pyrene	---	---	---	---	---	---	---
101. Ideno(1,2,3-cd)pyrene	---	---	---	---	---	---	---
102. Dibenz(a,h)anthracene	---	---	---	---	---	---	---
103. Benzo(g,h,i)perylene	---	---	---	---	---	---	---

--- = COMPOUND ANALYZED FOR, BUT NOT DETECTED WITHIN DETECTION LIMITS
B = ANALYTE WAS FOUND IN THE BLANK AS WELL AS THE SAMPLE
J = INDICATES AN ESTIMATED VALUE

TABLE 6
SUMMARY OF SURFACE WATER ANALYTICAL DATA
PRISTINE, INC.

Volatiles (ug/l)	SF0401	SF0501	SF0601	SF0701	SF070P	SF07BK	SFDT01
1. Chloroethane	---	---	---	---	---	---	---
2. Bromoethane	---	---	---	---	---	---	---
3. Vinyl chloride	---	---	---	---	---	---	---
4. Chloroethane	---	---	---	---	---	---	---
5. Methylene Chloride	15.3 B,J	9.2 B,J	18 B,J	5.6 B,J	12.1 B,J	34.2 B,J	16000B
6. Acetone	---	2.6 B,J	---	60, B	46.1 B,J	---	9.1 B
7. Carbon Disulfide	85.8 J	28.8 J	11.2 J	---	---	13.9	---
8. 1,1-Dichloroethene	---	9	---	---	---	---	3.1 J
9. 1,1-Dichloroethane	---	50.2	---	---	---	---	13
10. trans-1,2-Dichloroethene	---	87.6 J	---	5.8	9.5 J	---	110
11. Chloroform	---	---	---	---	---	---	100
12. 1,2-Dichloroethane	---	6200	149 J	---	---	---	220
13. 2-Butanone	---	---	---	---	---	---	---
14. 1,1,1-Trichloroethane	---	49.5 J	---	7.2	---	---	685 J
15. Carbon Tetrachloride	---	---	---	---	---	---	---
16. Vinyl Acetate	---	---	---	---	---	---	87
17. Dibromochloroethane	---	---	---	---	---	---	---
18. 1,1,2,2-Tetrachloroethane	---	---	---	---	---	---	9
19. 1,2-Dichloropropane	---	92.3	---	---	---	---	---
20. trans-1,3-Dichloropropene	---	---	---	---	---	---	---
21. Trichloroethene	---	10.8	---	1.2 J	---	---	10
22. Dibromochloroethane	---	---	---	---	---	---	---
23. 1,1,2-Trichloroethane	---	---	---	---	---	---	12
24. Benzene	---	9.3	---	---	---	---	2 J
25. cis-1,3-Dichloropropene	---	---	---	---	---	---	---
26. 2-Chloroethyl Vinyl Ether	---	---	---	---	---	---	---
27. Bromoform	---	---	---	---	---	---	---
28. 2-Hexanone	---	---	---	---	---	---	---
29. 4-Methyl-2-pentanone	---	---	---	---	---	---	---
30. Tetrachloroethene	1.9 J	---	---	---	---	---	250
31. Toluene	1.3 J	6	---	---	3.3 J	---	3.8 J
32. Chlorobenzene	---	---	---	---	---	---	---
33. Ethyl Benzene	---	---	---	---	---	---	---
34. Styrene	3.9 BJ	1.5 BJ	---	---	---	---	---
35. Total Xylenes	---	2.2	---	2.1 J	---	---	14

--- = COMPOUND ANALYZED FOR, BUT NOT DETECTED WITHIN DETECTION LIMITS

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TABLE 5
SUMMARY OF WATER SUPPLY ANALYTICAL DATA
PRISTINE, INC.

Inorganics (ug/l) Round 1	WS1501	WS1601	WS1701	WS1801	WS1901	WS2001	WS200P	WS205K	WS2101	WS2201	WS6601
18. Selenium	---	---	---	---	---	---	---	---	---	---	---
19. Silver	---	---	---	---	---	---	---	---	36.8	---	37.8
20. Sodium	77900	49900	57200	24800	25200	30300	30600	---	25100	44000	21700
21. Thallium	---	---	---	---	---	---	---	---	---	---	---
22. Tin	---	---	---	---	---	---	---	---	173	---	---
23. Vanadium	---	---	---	---	---	---	---	---	57.4	---	---
24. Zinc	---	---	---	---	---	---	---	---	---	---	---
25. Cyanide	---	---	---	---	---	---	---	---	---	---	---
26. Fluoride (IC)	200	300	400	100	100	100	100	---	100	400	300
27. Chloride	117000	82000	74000	63000	62000	54000	54000	---	65000	82000	41000
28. Sulfate	120000	156000	123000	101000	97000	114000	116000	---	100000	83000	75000
29. Alkalinity	368000	345000	335000	355000	358000	352000	350000	---	355000	368000	345000
30. Nitrate	---	---	---	---	---	---	---	---	---	---	---
31. TKN	1170	1100	520	330	480	500	530	---	380	1130	520
32. Ammonia	970	910	310	300	420	470	500	---	340	1100	500
33. TOC	10000	8000	9000	3000	---	5000	6000	---	11000	---	17000
34. Phosphorous	---	70	60	120	70	---	---	---	170	---	---

--- = COMPOUND ANALYZED FOR, BUT NOT DETECTED WITHIN DETECTION LIMITS
(IC) = Indicator Compound

TABLE 6
SUMMARY OF SURFACE WATER ANALYTICAL DATA
PRISTINE, INC.

Inorganics (ug/l)	SF0401	SF0501	SF0601	SF0701	SF07BP	SF07BK	SF0701
18. Selenium	---	---	---	---	---	---	---
19. Silver	---	0.3(X)	5.3(X)	55	50	---	4.5(X)
20. Sodium	242000	760000	505000	37100	38400	3700(X)	193000
21. Thallium	---	---	---	---	---	---	---
22. Tin	---	---	---	---	---	---	---
23. Vanadium	4(X)	3.4(X)	7.5(X)	4400	4840	---	25(X)
24. Zinc	3.8(X)	99	182	16100	16000	2(X)	251
25. Cyanide	---	---	11	12	---	---	43
26. Fluoride (IC)	2400	1500	2400	---	---	---	1300

--- = COMPOUND ANALYZED FOR, BUT NOT DETECTED WITHIN DETECTION LIMITS
(X) CONCENTRATION LESS THAN THE REQUIRED DETECTION LIMITS
(R) = SPIKE SAMPLES RECOVERY NOT WITHIN CONTROL LIMITS
(IC) = INDICATOR COMPOUND

TABLE 5
SUMMARY OF SURFACE WATER ANALYTICAL DATA
PRISTINE, INC.

Inorganics (ug/l)	SF0401	SF0501	SF0601	SF0701	SF070P	SF079K	SF0701
1. Aluminum	208	1800	953	124000	191000	---	14400
2. Antimony	---	---	---	149	214	---	---
3. Arsenic	5.01(R)	---	---	418	447	---	---
4. Barium	33(X)	33(X)	51(X)	---	---	---	32(X)
5. Beryllium	---	---	---	124	15	---	1(X)
6. Cadmium (IC)	---	4.3(X)	---	176	176	---	7.7
7. Calcium	573000	412000	291000	473000	513000	---	151000
8. Chromium	---	124	73	6140	6480	---	42
9. Cobalt	---	12(X)	4.6(X)	286	288	---	22(X)
10. Copper	18(X)	41	29	2460	2560	---	95
11. Iron	762	8930	6620	567000	579000	---	15300
12. Lead (IC)	---	65	172	371	393	6.1	71
13. Magnesium	152000	472000	217000	950000	952000	---	74300
14. Manganese	2290	6520	1570	19800	19300	---	2420
15. Mercury	0.12(X)	0.15	1.1	0.19(X)	0.72	---	0.52
16. Nickel	12(X)	40(X)	12(X)	620	634	---	59
17. Potassium	112600	2200	10700	18000	10900	---	17500

--- = COMPOUND ANALYZED FOR, BUT NOT DETECTED WITHIN DETECTION LIMITS
(X) = CONCENTRATION LESS THAN THE REQUIRED DETECTION
(R) = SPIKE SAMPLE RECOVERY NOT WITHIN CONTROL LIMITS
(IC) = INDICATOR COMPOUND

TABLE 7
SUMMARY OF SEDIMENT ANALYTICAL DATA
PRISTINE, INC.

Inorganics (ug/kg)	SD0801	SD0901	SD1001	SD1101	SD110P	SD1201	SD1301	SD1401	SD14MS
18. Selenium	---	(R)	(R)	(R)	(R)	(R)	(R)	(R)	(R)
19. Silver	7.2*	27*	97*	5(+,I)	4.8(+,I)	9.5(+,I)	2(+,I)	4.9(X)	13*
20. Sodium	1370(X)	2040(X)	4000(X)	963(X)	1120(X)	---	2530(X)	1840(X)	1910(X)
21. Thallium	---	---	---	---	---	---	---	---	---
22. Tin	16(X)	47	92	---	---	---	---	20	30
23. Vanadium	73	38(X)	75	32	32	30(X)	19(X)	12(X)	14(X)
24. Zinc	429	306	1570	152	321	252	102	252	336
25. Cyanide	5.2	4.2	2.8	4.8	4.7	4.2	---	0.73	0.95

--- = COMPOUND ANALYZED FOR, BUT NOT DETECTED WITHIN DETECTION LIMITS
(X) = CONCENTRATION LESS THAN THE REQUIRED DETECTION LIMITS
(R) = SPIKE SAMPLE RECOVERY NOT WITHIN CONTROL LIMITS
* = DUPLICATE ANALYSIS NOT WITHIN CONTROL LIMITS

TABLE 7
SUMMARY OF SEDIMENT ANALYTICAL DATA
PRISTINE, INC.

Inorganics (ug/kg)	SD0801	SD0901	SD1001	SD1101	SD110P	SD1201	SD1301	SD1401	SD14MS
1. Aluminum	5100	7550	12400	10500	10000	7470	4710	1690	2210
2. Antimony	19(X)	59	---	---	22(X)	---	---	---	---
3. Arsenic	15	52	59	40	38	32	13	6.6	9.0
4. Barium	222	284	786	101(X)	105(X)	103(X)	60(X)	127	284
5. Beryllium	0.52(X)	0.69(X)	0.9(X)	0.8(X)	0.8(X)	0.58(X)	0.35(X)	---	0.52(X)
6. Cadmium (IC)	5.9(R)	11(R)	45(R)	2.8(X,R)	4.8(R)	(R)	(R)	6.1(R)	7.4(R)
7. Calcium	54400*	31700*	14200*	7580*	7580(X)	2370(X)	103000*	107000*	55500*
8. Chromium	343(R)	602*	1520(R)	82(R)	55(R)	136(R)	27(R)	92(R)	117(R)
9. Cobalt	9.2(X)	15(X)	33(X)	17(X)	17(X)	6.9(X)	8.2(X)	7.7(X)	10(X)
10. Copper	76	1020	302	46	46	57	34	74	101
11. Iron	20400	36500	38800	37600	38900	20600	18600	33600	32700
12. Lead (IC)	551(R)	1340(X,R)	2410(X,R)	107(X,R)	74(X,R)	234(R)	70(X,R)	465(R)	642(X,R)
13. Magnesium	10900	8670	5900(X)	4060	4010	1850(X)	46500	24600	10200
14. Manganese	137*	464*	135*	765*	1744*	108*	527*	489*	407*
15. Mercury	2.2(R)	4(R)	15(R)	5.7(R)	9.6(R)	4.5(R)	0.40(R)	2.4(R)	3.4(R)
16. Nickel	20(X)	105	60	34	37	21(X)	16	29	16
17. Potassium	108(X)	1100(X)	1510(X)	1400(X)	1240(X)	710(X)	1090(X)	---	529(X)

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(IC) = INDICATOR COMPOUND

TABLE 7
SUMMARY OF SEDIMENT ANALYTICAL DATA
PRISTINE, INC.

Pesticides (ug/kg)	SD0801	SD0901	SD1001	SD1101	SD110P	SD1201	SD1301	SD1401	SD14MS
104. Alpha-BHC	---	---	---	---	---	---	---	---	---
105. beta BHC	---	---	---	---	---	---	---	---	---
106. delta-BHC	---	---	---	---	---	---	---	---	---
107. gamma-BHC (Lindane)	148 J	---	---	---	---	---	---	---	---
108. Heptachlor	---	---	---	---	---	---	---	---	---
109. Aldrin	160 J	---	---	---	251	38 J	---	---	38.1
110. Heptachlor Epoxide	---	---	---	---	---	---	---	---	---
111. Endosulfan I	---	---	---	---	---	---	---	---	---
112. Dieldrin	---	---	---	---	75 J	45 J	4.8 J	46	35
113. 4,4'-DDE	1106	1098	2847	355	1800	791	---	245	179
114. Endrin	---	---	---	---	---	---	---	---	---
115. Endosulfan II	---	---	---	---	---	---	---	---	---
116. 4,4'-DDD	1745	1040	1731	185 J	980	381	3.3 J	69	55
117. Endrin Aldehyde	---	---	---	---	---	---	---	---	---
118. Endosulfan Sulfate	---	---	---	---	---	---	---	---	---
119. 4,4'-DDT	20734	---	---	712	4006	2438	16	444	347
120. Endrin Ketone	---	---	---	---	---	---	---	---	---
121. Methoxychlor	---	---	---	---	---	---	---	---	---
122. Chlordane	---	---	---	---	---	---	---	---	---
123. Toxaphene	---	---	---	---	---	---	---	---	---
124. AROCLOR-1016	---	---	---	---	---	---	---	---	---
125. AROCLOR-1221	---	---	---	---	---	---	---	---	---
126. AROCLOR-1232	---	---	---	---	---	---	---	---	---
127. AROCLOR-1242	---	---	---	---	---	---	---	---	---
128. AROCLOR-1248	---	---	---	---	---	---	---	---	---
129. AROCLOR-1254	---	---	---	---	---	---	---	---	---
130. AROCLOR-1260	---	---	---	---	---	---	---	---	---

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J = INDICATES AN ESTIMATED VALUE

R = RESTRICTED DATA-ESTIMATED, REVIEWER COMMENT

TABLE 7
SUMMARY OF SEDIMENT ANALYTICAL DATA
PRISTINE, INC.

Semi-Volatiles (ug/kg)	SD0801	SD0901	SD1001	SD1101	SD11DP	SD1201	SD1301	SD1401	SD14MS
71. Acenaphthene	---	---	---	---	---	---	---	---	---
72. 2,4-Dinitrophenol	---	---	---	---	---	---	---	---	---
73. 4-Nitrophenol	---	---	---	---	---	---	---	---	---
74. Dibenzofuran	---	---	---	---	---	---	---	---	---
75. 2,4-Dinitrotoluene	---	---	---	---	---	---	---	---	---
76. 2,6-Dinitrotoluene	---	---	---	---	---	---	---	---	---
77. Diethylphthalate	---	---	---	---	---	---	---	---	---
78. 4-Chlorophenyl Phenyl ether	---	---	---	---	---	---	---	---	---
79. Fluorene	---	---	---	---	---	---	---	---	---
80. 4-Nitroaniline	---	---	---	---	---	---	---	---	---
81. 4,6-Dinitro-2-methylphenol	---	---	---	---	---	---	---	---	---
82. N-nitrosodiphenylamine	227.01 J	---	---	---	---	---	---	---	---
83. 4-Bromophenyl Phenyl ether	---	---	---	---	---	---	---	---	---
84. Hexachlorobenzene	---	---	---	---	---	---	---	---	---
85. Pentachlorophenol	---	---	---	---	---	---	---	---	---
86. Phenanthrene	590.24R	---	---	---	---	---	---	486.04 J	268.60 J
87. Anthracene	---	---	---	---	---	---	---	---	---
88. Di-n-butylphthalate	1929.8R	---	---	---	---	---	1218.2J	1344.4J	803.79J
89. Fluoranthene	1021.6R	---	---	---	---	---	---	1241R	991.74R
90. Benzidine	---	---	---	---	---	---	---	---	---
91. Pyrene	998.86R	---	---	---	---	---	---	620.48 J	547.52 J
92. Butyl Benzyl Phthalate	4653.88	6300B, J	---	---	---	---	155.04BJ	1964.88J	1343B, JB
93. 3,3'-Dichlorobenzidine	---	---	---	---	---	---	---	---	---
94. Benzo(a)anthracene	306.47J	---	---	---	---	---	---	413.65J	309.92J
95. bis(2-ethylhexyl)phthalate	21566B	63600B, J	143000BJ	---	8000B, J	12000BJ	841.64BJ	12410 JB	17562B
96. Chrysene	374.57R	---	---	---	---	---	---	610.13 J	420 J
97. Di-n-octyl Phthalate	---	---	---	---	---	---	---	---	---
98. Benzo(b)fluoranthene	---	---	---	---	---	---	---	---	---
99. Benzo(k)fluoranthene	522.13J	---	---	---	---	---	---	---	---
100. Benzo(a)pyrene	---	---	---	---	---	---	---	---	---
101. Indeno(1,2,3-cd)pyrene	---	---	---	---	---	---	---	---	---
102. Dibenzo(a,h)anthracene	---	---	---	---	---	---	---	---	---
103. Benzo(g,h,i)perylene	---	---	---	---	---	---	---	---	---

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TABLE 7
SUMMARY OF SEDIMENT ANALYTICAL DATA
PRISTINE, INC.

Semi-Volatiles (ug/kg)	SD0801	SD0901	SD1001	SD1101	SD11DP	SD1201	SD1301	SD1401	SD14MS
36. N-Nitrosodimethylamine	---	---	---	---	---	---	---	---	---
37. Phenol	987.51R	---	---	---	---	---	---	837.64R	2376R
38. Aniline	---	---	---	---	---	---	---	---	---
39. bis(2-Chloroethyl) ether	---	---	---	---	---	---	---	---	---
40. 2-Chlorophenol	---	---	---	---	---	---	---	---	---
41. 1,3-Dichlorobenzene	---	---	---	---	---	---	---	---	---
42. 1,4-Dichlorobenzene	---	---	---	---	---	---	---	---	---
43. Benzyl Alcohol	---	---	---	---	---	---	---	---	---
44. 1,2-Dichlorobenzene	---	---	---	---	---	---	---	---	---
45. 2-Methylphenol	---	---	---	---	---	---	---	---	---
46. bis(2-Chloroisopropyl) ether	---	---	---	---	---	---	---	---	---
47. 4-Methylphenol	---	---	---	---	---	---	---	---	---
48. n-Nitroso-Dipropylamine	---	---	---	---	---	---	---	---	---
49. Hexachloroethane	---	---	---	---	---	---	---	---	---
50. Nitrobenzene	---	---	---	---	---	---	---	---	---
51. Isophorone	---	---	---	---	---	---	---	---	---
52. 2-Nitrophenol	---	---	---	---	---	---	---	---	---
53. 2,4-Dimethylphenol	---	---	---	---	---	---	---	---	---
54. Benzoic Acid	---	---	---	---	---	---	---	---	---
55. bis(2-Chloroethoxy) ethane	---	---	---	---	---	---	---	---	---
56. 2,4-Dichlorophenol	---	---	---	---	---	---	---	---	---
57. 1,2,4-Trichlorobenzene	---	---	---	---	---	---	---	---	---
58. Naphthalene	---	---	---	---	---	---	---	---	---
59. 4-Chloroaniline	---	---	---	---	---	---	---	---	---
60. Hexachlorobutadiene	---	---	---	---	---	---	---	---	---
61. 4-Chloro-3-methylphenol (para-chloro-meta-cresol)	---	---	---	---	---	---	---	---	---
62. 2-Methylnaphthalene	---	---	---	---	---	---	---	---	---
63. Hexachlorocyclopentadiene	---	---	---	---	---	---	---	---	---
64. 2,4,6-Trichlorophenol	---	---	---	---	---	---	---	---	---
65. 2,4,5-Trichlorophenol	---	---	---	---	---	---	---	---	---
66. 2-Chloronaphthalene	---	---	---	---	---	---	---	---	---
67. 2-Nitroaniline	---	---	---	---	---	---	---	---	---
68. Diethyl Phthalate	---	---	---	---	---	---	---	---	---
69. Acenaphthylene	---	---	---	---	---	---	---	---	---
70. 3-Nitroaniline	---	---	---	---	---	---	---	---	---

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R = RESTRICTED DATA-ESTIMATED, REVIEWER COMMENT

TABLE 7
SUMMARY OF SEDIMENT ANALYTICAL DATA
PRISTINE, INC.

Volatiles (ug/kg)	SD0801	SD0901	SD1001	SD1101	SD11DP	SD1201	SD1301	SD1401	SD14MS
1. Chloroethane	---	---	---	---	---	---	---	---	---
2. Bromoethane	---	---	---	---	---	---	---	---	---
3. Vinyl chloride	---	---	---	---	---	---	---	---	---
4. Chloroethane	---	---	---	---	---	---	---	---	---
5. Methylene Chloride	415.448	346.308	258.548	233.548	152.428	59.66 B	29.90 B	149.958	179.758
6. Acetone	13.28	---	---	---	---	---	---	---	---
7. Carbon Disulfide	---	---	---	---	---	---	---	---	---
8. 1,1-Dichloroethene	---	---	---	---	---	---	---	---	---
9. 1,1-Dichloroethane	---	85.47	---	---	---	---	---	---	---
10. trans-1,2-Dichloroethene	---	87.68 J	---	---	---	---	---	---	---
11. Chloroform	---	---	---	---	---	---	---	---	---
12. 1,2-Dichloroethane	---	2423.4 J	1148	---	---	---	---	---	---
13. 2-Butanone	---	---	---	---	---	---	---	---	---
14. 1,1,1-Trichloroethane	---	146.56 J	---	---	19.70	11.86	---	---	---
15. Carbon Tetrachloride	---	---	---	---	---	---	---	---	---
16. Vinyl Acetate	---	---	---	---	---	---	---	---	---
17. Bromodichloroethane	---	---	---	---	---	---	---	---	---
18. 1,1,2,2-Tetrachloroethane	---	---	---	---	---	---	---	---	---
19. 1,2-Dichloropropane	---	102.46	82.28	---	---	---	---	---	---
20. trans-1,3-Dichloropropene	---	---	---	---	---	---	---	---	---
21. Trichloroethene	50.8	173.8	89.76	---	7.68	---	---	---	---
22. Dibromochloroethane	---	---	---	---	---	---	---	---	---
23. 1,1,2-Trichloroethane	---	---	---	---	---	---	---	---	---
24. Benzene	---	17.67	---	---	---	---	---	---	---
25. cis-1,3-Dichloropropene	---	---	---	---	---	---	---	---	---
26. 2-Chloroethyl Vinyl Ether	---	---	---	---	---	---	---	---	---
27. Bromoform	---	---	---	---	---	---	---	---	---
28. 2-Hexanone	---	718.55J	---	---	---	---	---	---	---
29. 4-Methyl-2-pentanone	---	629.65	---	---	---	---	---	---	---
30. Tetrachloroethene	331.44	153.05	504.07	---	125.15	57.99	3.45 J	3.45 J	---
31. Toluene	51.42	10517	---	76.89	---	---	---	7.65	11.05
32. Chlorobenzene	---	---	---	---	---	---	---	---	---
33. Ethyl Benzene	---	600.52	186.99	---	---	---	---	---	---
34. Styrene	---	---	---	---	---	---	---	---	---
35. Total Xylenes	---	3359.3	447.15	---	---	---	---	---	---

--- = COMPOUND ANALYZED FOR, BUT NOT DETECTED WITHIN DETECTION LIMITS
 B = ANALYTE WAS FOUND IN THE BLANK AS WELL AS THE SAMPLE
 J = INDICATES AN ESTIMATED VALUE
 R = RESTRICTED DATA-ESTIMATED, REVIEWER COMMENT

TABLE 8
SUMMARY OF STORMWATER ANALYTICAL DATA
PRISTINE, INC.

Inorganics (ug/l)	SR0202	SR0201	SR020P	SR0301	SR02BK
18. Selenium	E	E	E	E	E
19. Silver	12	---	---	5.1(X)	3.4(X)
20. Sodium	10000	23000	24200	11800	3730(X)
21. Thallium	---	---	---	---	---
22. Tin	74	---	---	23(X)	---
23. Vanadium	50	14(X)	21(X)	24(X)	---
24. Zinc	622	1330	1240	263	---
25. Cyanide	18	---	---	---	---
26. Fluoride (IC)	820	2000	2000	1300	---

--- = COMPOUND ANALYZED FOR, BUT NOT DETECTED WITHIN DETECTION LIMITS

(X) = CONCENTRATION LESS THAN THE REQUIRED DETECTION LIMITS

E = DATA NOT USEABLE

(IC) = INDICATOR COMPOUND

TABLE 8
SUMMARY OF STORMWATER ANALYTICAL DATA
PRISTINE, INC.

Inorganics - (ug/l)	SR0302	SR0201	SR020P	SR0301	SR029K
1. Aluminum	19100	12100	22500	9650	---
2. Antimony	28(X)	---	---	---	---
3. Arsenic	42	16	15	6.6(X)	---
4. Barium	344	32(X)	53(X)	126(X)	---
5. Beryllium	1(X)	2.6(X)	3.3(X)	0.4(X)	---
6. Cadmium (IC)	16	20	17	6.1	---
7. Calcium	205000	317000	315000	229000	---
8. Chromium	196	54	73	71	---
9. Cobalt	20(X)	50	48(X)	4.4(X)	---
10. Copper	173	168	157	72	---
11. Iron	40700	6250	9510	13100	---
12. Lead (IC)	758	59	102	240	---
13. Magnesium	14800	132000	122000	16500	---
14. Manganese	764	6100	5530	346	---
15. Mercury	6.6	---	0.26	2.10	0.11(X)
16. Nickel	44	105	99	19(X)	---
17. Potassium	7390	10300	10700	6240	---

--- = COMPOUND ANALYZED FOR, BUT NOT DETECTED WITH DETECTION LIMITS

(X) = CONCENTRATION LESS THAN THE REQUIRED DETECTION LIMITS

E = DATA NOT USEABLE

(IC) = INDICATOR COMPOUND

TABLE 8
SUMMARY OF STORMWATER ANALYTICAL DATA
PRISTINE, INC

Pesticides (ug/l)	SR0201	SR020P	SR02BK	SR0301	SR0302
104. Alpha-BHC	---	---	---	---	---
105. beta BHC	---	---	---	---	---
106. delta-BHC	---	---	---	---	---
107. gamma-BHC (Lindane)	0.27	0.26	---	0.03 J	0.03 J
108. Heptachlor	---	---	---	---	---
109. Aldrin	---	---	---	---	---
110. Heptachlor Epoxide	---	---	---	---	---
111. Endosulfan I	---	---	---	---	---
112. Dieldrin	0.2	0.19	---	0.18	0.12
113. 4,4'-DDE	---	---	---	---	0.06 J
114. Endrin	---	---	---	---	---
115. Endosulfan II	---	---	---	---	---
116. 4,4'-DDD	0.24	0.2	---	0.04 J	0.05 J
117. Endrin Aldehyde	---	---	---	---	---
118. Endosulfan Sulfate	---	---	---	---	---
119. 4,4'-DDT	1.45	1.3	---	0.13	0.21
120. Endrin Ketone	0.12	0.14	---	---	---
121. Methoxychlor	---	---	---	---	---
122. Chlordane	---	---	---	---	---
123. Toxaphene	---	---	---	---	---
124. AROCLOR-1016	---	---	---	---	---
125. AROCLOR-1221	---	---	---	---	---
126. AROCLOR-1232	---	---	---	---	---
127. AROCLOR-1242	---	---	---	---	---
128. AROCLOR-1248	---	---	---	---	---
129. AROCLOR-1254	---	---	---	---	---
130. AROCLOR-1260	---	---	---	---	---

--- = COMPOUND WAS ANALYZED FOR, BUT NOT DETECTED WITHIN DETECTION LIMITS

B = ANALYTE WAS FOUND IN THE BLANK AS WELL AS THE SAMPLE

J = INDICATES AN ESTIMATED VALUE

TABLE 8
SUMMARY OF STORMWATER ANALYTICAL DATA
PRISTINE, INC

Semi-Volatiles (ug/l)	SR0201	SR02DP	SR02BK	SR0301	SR0302
71. Acenaphthene	---	---	---	---	---
72. 2,4-Dinitrophenol	---	---	---	---	---
73. 4-Nitrophenol	---	---	---	---	---
74. Dibenzofuran	---	---	---	---	---
75. 2,4-Dinitrotoluene	---	---	---	---	---
76. 2,6-Dinitrotoluene	---	---	---	---	---
77. Diethylphthalate	---	---	---	---	---
78. 4-Chlorophenyl Phenyl ether	---	---	---	---	---
79. Fluorene	---	---	---	---	---
80. 4-Nitroaniline	---	---	---	---	---
81. 4,6-Dinitro-2-methylphenol	---	---	---	---	---
82. N-nitrosodiphenylamine	3.2 J	---	---	---	2.4 J
83. 4-Bromophenyl Phenyl ether	---	---	---	---	---
84. Hexachlorobenzene	---	---	---	---	---
85. Pentachlorophenol	2.6 J	---	---	---	---
86. Phenanthrene	---	---	---	---	---
87. Anthracene	---	---	---	---	---
88. Di-n-butylphthalate	---	---	---	---	---
89. Fluoranthene	---	---	---	---	---
90. Benzidine	---	---	---	---	---
91. Pyrene	---	---	---	---	---
92. Butyl Benzyl Phthalate	2.6 J	---	---	---	3.2 J
93. 3,3'-Dichlorobenzidine	---	---	---	---	---
94. Benzo(a)anthracene	---	---	---	---	---
95. bis(2-ethylhexyl)phthalate	3.8 J	---	---	4.2 J	6.2 J
96. Chrysene	---	---	---	---	---
97. Di-n-octyl Phthalate	---	---	---	---	---
98. Benzo(b)fluoranthene	---	---	---	---	---
99. Benzo(k)fluoranthene	---	---	---	---	---
100. Benzo(a)pyrene	---	---	---	---	---
101. Indeno(1,2,3-cd)pyrene	---	---	---	---	---
102. Dibenz(a,h)anthracene	---	---	---	---	---
103. Benzo(g,h,i)perylene	---	---	---	---	---

--- = COMPOUND WAS ANALYZED FOR, BUT NOT DETECTED WITHIN DETECTION LIMITS

B = ANALYTE WAS FOUND IN THE BLANK AS WELL AS THE SAMPLE

J = INDICATES AN ESTIMATED VALUE

TABLE 8
SUMMARY OF STORMWATER ANALYTICAL DATA
PRISTINE, INC

Semi-Volatiles (ug/l)	SR0201	SR020P	SR028X	SR0301	SR0302
36. N-Nitrosodimethylamine	---	---	---	---	---
37. Phenol	---	---	---	---	---
38. Aniline	---	---	---	---	---
39. bis(2-Chloroethyl) ether	---	---	---	---	---
40. 2-Chlorophenol	---	---	---	---	---
41. 1,3-Dichlorobenzene	---	---	---	---	---
42. 1,4-Dichlorobenzene	---	---	---	---	---
43. Benzyl Alcohol	---	---	---	---	---
44. 1,2-Dichlorobenzene	---	---	---	---	---
45. 2-Methylphenol	---	---	---	---	---
46. bis(2-Chloroisopropyl) ether	---	---	---	---	---
47. 4-Methylphenol	---	---	---	---	---
48. n-Nitroso-Dipropylamine	---	---	---	---	---
49. Hexachloroethane	---	---	---	---	---
50. Nitrobenzene	---	---	---	---	---
51. Isophorone	3 J	---	---	---	---
52. 2-Nitrophenol	---	---	---	---	---
53. 2,4-Dimethylphenol	---	---	---	---	---
54. Benzoic Acid	21.8 J	18.4 J	---	7.4 J	15.2 J
55. bis(2-Chloroethoxy) methane	---	---	---	---	---
56. 2,4-Dichlorophenol	---	---	---	---	---
57. 1,2,4-Trichlorobenzene	---	---	---	---	---
58. Naphthalene	---	---	---	---	---
59. 4-Chloroaniline	---	---	---	---	---
60. Hexachlorobutadiene	---	---	---	---	---
61. 4-Chloro-3-methylphenol (para-chloro-meta-cresol)	---	---	---	---	---
62. 2-Methylnaphthalene	---	---	---	---	---
63. Hexachlorocyclopentadiene	---	---	---	---	---
64. 2,4,6-Trichlorophenol	---	---	---	---	---
65. 2,4,5-Trichlorophenol	---	---	---	---	---
66. 2-Chloronaphthalene	---	---	---	---	---
67. 2-Nitroaniline	---	---	---	---	---
68. Diethyl Phthalate	---	---	---	---	---
69. Acenaphthylene	---	---	---	---	---
70. 3-Nitroaniline	---	---	---	---	---

--- = COMPOUND WAS ANALYZED FOR, BUT NOT DETECTED WITHIN DETECTION LIMITS

B = ANALYTE WAS FOUND IN THE BLANK AS WELL AS THE SAMPLE

J = INDICATES AN ESTIMATED VALUE

TABLE 8
SUMMARY OF STORMWATER ANALYTICAL DATA
PRISTINE, INC

Volatiles (ug/l)	SR0201	SR02DP	SR02BK	SR0301	SR0302
1. Chloroethane	---	---	---	---	---
2. Bromoethane	---	---	---	---	---
3. Vinyl chloride	---	---	---	---	---
4. Chloroethane	---	---	---	---	---
5. Methylene Chloride	5.1 B,J	5.1 B,J	31.9 B,J	4.4 B,J	1.5 B,J
6. Acetone	40.8	36.8	23.7	---	---
7. Carbon Disulfide	---	---	10.	---	---
8. 1,1-Dichloroethene	---	---	---	---	---
9. 1,1-Dichloroethane	---	---	---	---	---
10. trans-1,2-Dichloroethene	---	---	---	---	---
11. Chloroform	---	---	---	---	---
12. 1,2-Dichloroethane	---	---	---	---	---
13. 2-Butanone	---	---	---	---	---
14. 1,1,1-Trichloroethane	---	---	---	---	---
15. Carbon Tetrachloride	---	---	---	---	---
16. Vinyl Acetate	---	---	---	---	---
17. Bromodichloroethane	---	---	---	---	---
18. 1,1,2,2-Tetrachloroethane	---	---	---	---	---
19. 1,2-Dichloropropane	---	---	---	---	---
20. trans-1,3-Dichloropropene	---	---	---	---	---
21. Trichloroethene	---	---	---	---	---
22. Dibromochloroethane	---	---	---	---	---
23. 1,1,2-Trichloroethane	---	---	---	---	---
24. Benzene	---	---	---	---	---
25. cis-1,3-Dichloropropene	---	---	---	---	---
26. 2-Chloroethyl Vinyl Ether	10 R	---	10 R	10 R	10 R
27. Bromoform	---	---	---	---	---
28. 2-Hexanone	---	---	---	---	---
29. 4-Methyl-2-pentanone	---	---	---	---	---
30. Tetrachloroethene	---	---	---	---	---
31. Toluene	---	---	---	---	---
32. Chlorobenzene	---	---	---	---	---
33. Ethyl Benzene	---	---	---	---	---
34. Styrene	---	---	---	---	1.6 J
35. Total Xylenes	2.8 J	---	---	---	2.0 J

--- = COMPOUND WAS ANALYZED FOR, BUT NOT DETECTED WITHIN DETECTION LIMITS
 B = ANALYTE WAS FOUND IN THE BLANK AS WELL AS THE SAMPLE
 J = INDICATES AN ESTIMATED VALUE

APPENDIX K

Tentatively Identified Compounds

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- 2 Tentatively Identified Compounds - Soil Trench
- 3 Tentatively Identified Compounds - Soil Boring
- 4 Tentatively Identified Compounds - Groundwater
- 5 Tentatively Identified Compounds - Water Supply
- 6 Tentatively Identified Compounds - Surface Water
- 7 Tentatively Identified Compounds - Sediment
- 8 Tentatively Identified Compounds - Stormwater

Organics Analysis Data Sheet
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Tentatively Identified Compounds

CAS Number	Compound Name	Fraction	Scan Number	Estimated Concentration (ug/l or ug/g)
1.	Quinoline or Isoquinoline	B	766	300
2.	Ketone		831	200
3.	Unknown		961	8000
4.	"		1015	900
5.	"		1130	400
6.			1228	400
7.	Unknown		1326	1000
8.	"		1408	700
9.	"		1424	700
10.	"		1434	2000
11.				
12.				
13.	Unknown	V	732	40
14.	108-86-1 Benzene		698	60
15.	107-04-2 Benzene chloro & fluo		325	100
16.	109-99-5 Tetrahydrofuran		176	40
17.				
18.				
19.				
20.				
21.				
22.				
23.				
24.				
25.				
26.				
27.				
28.				
29.				
30.				

Organics Analysis Data Sheet
(Page 4)

EC86 ✓

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Tentatively Identified Compounds

CAS Number	Compound Name	Fraction	Scan Number	Estimated Concentration (ug/l or ug/gt)
1.	UNKNOWN	B	613	600
2.	"		671	1000
3.	"		752	6000
4.	"		831	600
5.	"		885	7000
6.	"		963	9000
7.	"		1925	9000
8.				
9. 126-43-5	dibromo ethane	✓	901	40
10. 127-04-0	trichloro ethane		321	900
11.	UNKNOWN		282	600
12. 109-99-9	tetrachloro ethane		195	300
13.				
14.	UNKNOWN	Acet'd	983	1700
15.	"		1014	900
16.	"		1243	700
17.	"		1325	600
18.	"		1408	400
19.	"		1434	1300
20.				
21.				
22.				
23.				
24.				
25.				
26.				
27.				
28.				
29.				
30.				

Laboratory Name PC-ASD-000000
Case No 4501

Sample Number
EC861

Organics Analysis Data Sheet
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Tentatively Identified Compounds

CAS Number	Compound Name	Fraction	Scan Number	Estimated Concentration (ug/l or ug/kg)
1.	UNKNOWN	B	1037	400
2.	"		1069	400
3.	Alkyl Benzene		1080	200
4.	UNKNOWN		1425	2000
5.	UNKNOWN		1541	400
6.				
7. 107-04-0	Bromochloroethane	V	321	30
8.				
9.				
10.				
11.				
12.				
13.				
14.				
15.				
16.				
17.				
18.				
19.				
20.				
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25.				
26.				
27.				
28.				
29.				
30.				

Organics Analysis Data Sheet
(Page 4)

Tentatively Identified Compounds

CAS Number	Compound Name	Fraction	Scan Number	Estimated Concentration (ug/l or ug/kg)
1.	UNKNOWN	B	897	100
2.	"		1015	100
3.	ESTER		1325	600
4.	UNKNOWN		1408	500
5.	"		1435	2000
6.	"		1471	300
7.				
8.	None	✓		
9.				
10.				
11.				
12.				
13.				
14.				
15.				
16.				
17.				
18.				
19.				
20.				
21.				
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27.				
28.				
29.				
30.				

Laboratory Name _____

Case No. 4501

Sample Number
EC859 4501

Organics Analysis Data Sheet (Page 4)

Tentatively Identified Compounds

CAS Number	Compound Name	Fraction	Scan Number	Estimated Concentration (ug/l or ug/kg)
1.	UNKNOWN	B	959	400
2.	ALKY BENZENE		1037	300
3.	UNKNOWN		1069	400
4.	"		1424	1000
5.	PHENYLENE ?		1228	50000
6.				
7.	None	✓		
8.				
9.				
10.				
11.				
12.				
13.				
14.				
15.				
16.				
17.				
18.				
19.				
20.				
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28.				
29.				
30.				

Laboratory Name _____
Case No. 4501

Sample Number
EC-860

Organics Analysis Data Sheet
(Page 4)

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Tentatively Identified Compounds

CAS Number	Compound Name	Fraction	Scan Number	Estimated Concentration (ug/l or ug/kg)
1.	<i>None</i>	<i>V</i>		
2.				
3.	<i>Unknown</i>	<i>B</i>	<i>1425</i>	<i>1700</i>
4.				
5.				
6.				
7.				
8.				
9.				
10.				
11.				
12.				
13.				
14.				
15.				
16.				
17.				
18.				
19.				
20.				
21.				
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27.				
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29.				
30.				

Laboratory Name _____
Case No. 4301

Sample Number
EC85-7

Organics Analysis Data Sheet
(Page 4)

Tentatively Identified Compounds

CAS Number	Compound Name	Fraction	Scan Number	Estimated Concentration (ug/l or ug/kg)
1.	UNKNOWN	B	1033	800
2.	"		1070	3000
3.	"		1424	800
4.				
5.	None	V		
6.				
7.				
8.				
9.				
10.				
11.				
12.				
13.				
14.				
15.				
16.				
17.				
18.				
19.				
20.				
21.				
22.				
23.				
24.				
25.				
26.				
27.				
28.				
29.				
30.				

Case No 4561Sample Number
ECFSPOrganics Analysis Data Sheet
(Page 4)

Tentatively Identified Compounds

CAS Number	Compound Name	Fraction	Scan Number	Estimated Concentration (ug/l or ug/kg)
1.	Alkyl Benzenes	B	1016	400
2.			1036	800
3.	Alkanes		1071	800
4.	Alkyl Benzenes		1080	800
5.	Unknown		1425	600
6.	Unknown		1252	500000
7.				
8.	NONE	✓		
9.				
10.				
11.				
12.				
13.				
14.				
15.				
16.				
17.				
18.				
19.				
20.				
21.				
22.				
23.				
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28.				
29.				
30.				

Laboratory Name PEL ASSOCIATES
Case No 4501

Sample Number
ECFSJ-

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Organics Analysis Data Sheet
(Page 4)

Tentatively Identified Compounds

CAS Number	Compound Name	Fraction	Scan Number	Estimated Concentration (ug/l or ug/kg)
1.	UNKNOWN	B	522	200
2.	ALCANTARA		542	900
3.	UNKNOWN		1069	200
4.			1425	200
5.				
6. 12-04-0	Brown oil (w/ & trace)	✓	323	30
7. 12-16-1	Brown liquid		698	6
8.				
9.				
10.				
11.				
12.				
13.				
14.				
15.				
16.				
17.				
18.				
19.				
20.				
21.				
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26.				
27.				
28.				
29.				
30.				

Case No

4501

Sample Number

ECFSZ

Organics Analysis Data Sheet
(Page 4)

Tentatively Identified Compounds

CAS Number	Compound Name	Fraction	Scan Number	Estimated Concentration (ug/l or ug/kg)
1.	None	B		
2.				
3.	UNKNOWN	V	145	5
4.				
5.				
6.				
7.				
8.				
9.				
10.				
11.				
12.				
13.				
14.				
15.				
16.				
17.				
18.				
19.				
20.				
21.				
22.				
23.				
24.				
25.				
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27.				
28.				
29.				
30.				

Laboratory Name: PEI Associates
Case No: 4501

Sample Number
EC 852 11

Organics Analysis Data Sheet
(Page 4)

Tentatively Identified Compounds

CAS Number	Compound Name	Fraction	Scan Number	Estimated Concentration (ug/l or ug/kg)
1.	UNKNOWN	B	491	200
2.	"		1015	200
3.	"		1069	300
4.	"		1425	1000
5.				
6. 109-99-9	Tetrahydrofuran	✓	196	2
7. 107-04-0	Benzene		322	90
8.				
9.				
10.				
11.				
12.				
13.				
14.				
15.				
16.				
17.				
18.				
19.				
20.				
21.				
22.				
23.				
24.				
25.				
26.				
27.				
28.				
29.				
30.				

Laboratory Name Sun Chemical

Case No 4501

Sample Number:

ECFS4

Organics Analysis Data Sheet
(Page 4)

Tentatively Identified Compounds

CAS Number	Compound Name	Fraction	Scan Number	Estimated Concentration (ug/l or ug/g)
1.	UNKNOWN	B	493	400
2.	ALKANE		582	400
3.	UNKNOWN		752	300
4.	"		832	400
5.	"		923	300
6.	"		1425	1000
7.				
8. 107-04-6	bromodichloromethane	✓	322	300 ✓
9	UNKNOWN - dibromomethane?		403	6
10. 108-96-1	bromobenzene		697	100
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Laboratory Name PEI Associates
Case No: 4501

Sample Number
ECFSD

23

Organics Analysis Data Sheet
(Page 4)

Tentatively Identified Compounds

CAS Number	Compound Name	Fraction	Scan Number	Estimated Concentration (ug/l or ug/kg)
1.	ALKANE	B	539	300
2.	UNKNOWN		1325	300
3.	"		1808	400
4.	"		1425	400
5.	"		1935	200
6.				
7.	None	✓		
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Laboratory Name PEI Associates
Case No 4501

Sample Number
ECFS-1

Organics Analysis Data Sheet
(Page 4)

Tentatively Identified Compounds

CAS Number	Compound Name	Fraction	Scan Number	Estimated Concentration (ug/l or ug/kg)
1.	UNKNOWN	B	491	400
2.	"		1825	1000
3.	"		1244	200000
4.				
5. 107-04-0	Bromo chloro ethane	✓	324	10
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ORGANICS ANALYSIS DATA SHEET (PAGE 4)
TENTATIVELY IDENTIFIED COMPOUNDS

SAMPLE NUMBER EC848
COMPUchem FILE GH053515C15

CAS NUMBER	COMPOUND NAME	FRACTION	SCAN NUMBER	ESTIMATED CONC (UG/L OR UG/KG)
1 123-42-2	~~2-PENTANONE, 4-HYDROXY-4-METHYL-~~ <i>Acetone Acetone Contaminant</i>	SEM11	344	2000. J D
~~2 1121-86-0~~	~~2-CYCLOHEPTEN-1-ONE~~ <i>Chloroform + d3 2,4-dinitrophenol</i>	~~SEM11~~	~~706~~	~~150. J~~
~~1 629-74-3~~	~~1-HEXADECYNE~~ <i>lab artifact</i>	SEM11	1026	9900. J

40.400 ✓ 40.00 ✓

SPECTROSCOPIST MM
DATE 6/20/85

ORGANICS ANALYSIS DATA SHEET (PAGE 4)
TENTATIVELY IDENTIFIED COMPOUNDS

SAMPLE NUMBER EC849
COMPUCHEM FILE GJ853516A15

CAS NUMBER	COMPOUND NAME	FRACTION	SCAN NUMBER	ESTIMATED CONC (UG/L OR UG/KG)
~~1~~ ~~753-29-1~~	~~1-PENTENE, 2-METHYL~~ <i>Not present on PIS</i>	~~SEM11~~	~~281~~	~~9000~~ <i>93.4 J</i>
~~2~~ ~~123-42-2~~	~~2-PENTANONE, 4-HYDROXY-4-METHYL-~~ <i>ketone</i>	~~SEM11~~	~~412~~	~~1700~~ <i>1700 J D</i>
~~3~~ ~~84-66-2~~	~~1,2-BENZENEDICARBOXYLIC ACID, DIETHYLESTER~~ <i>P.P.</i>	~~SEM11~~	~~983~~	~~160~~ <i>130 J</i>

~~39.6~~
~~40.600~~ = ~~40.00~~
~~39.6~~ = ~~40.00~~
~~39.6~~ = ~~40.00~~
~~40.6~~
~~40.6~~ = ~~40.00~~

SPECTROSCOPIST *L.H.*
DATE *6-24-85*

ORGANICS ANALYSIS DATA SHEET (PAGE 4)
TENTATIVELY IDENTIFIED COMPOUNDS

SAMPLE NUMBER EC847
COMPUCHEM FILE GH053514C15

CAS NUMBER	COMPOUND NAME	FRACTION	SCAN NUMBER	ESTIMATED CONC. (UG/L OR UG/KG)
1 123-42-2	~~Acetone Carbamate~~ 2-PENTANONE, 4-HYDROXY-4-METHYL-	SEMI1	346	1700. J0
2 62016-34-6	Alkane OCTANE, 2,3,7-TRIMETHYL-	SEMI1	661	890. J
3 17301-32-5	Alkane UNDECANE, 4,7-DIMETHYL-	SEMI1	676	1400. J
4 638-66-4	Unknown OCTADECANAL	SEMI1	682	310. J
5 13287-21-3	Alkane TRIDECANE, 6-METHYL-	SEMI1	687	560. J
6 61141-80-8	Unknown CYCLOHEXANE, 1,2-DIETHYL-3-METHYL-	SEMI1	692	440. J
7 18344-37-1	Alkane HEPTADECANE, 2,6,10,14-TETRAMETHYL-	SEMI1	696	340. J
8 1454-85-9	Alcohol 1-HEPTADECANOL	SEMI1	704	2600. J
9 3913-02-8	Alcohol 1-OCTANOL, 2-BUTYL-	SEMI1	730	8400. J
10 3913-02-8	Unknown 1-OCTANOL, 2-BUTYL-	SEMI1	751	3400. J
11 54832-83-6	Unknown 1H-INDENE, OCTAHYDRO-2,2,4,4,7,7-HEXAMETHYL-, TRANS-	SEMI1	755	8800. J
12 6971-40-0	Unknown 17-PENTATRIACONTENE	SEMI1	774	660. J
13 2425-54-9	Unknown TETRADECANE, 1-CHLORO-	SEMI1	796	370. J

38.600/ 40.00/

SPECTROSCOPIST EP
DATE 6/20/05

ORGANICS ANALYSIS DATA SHEET (PAGE 4)
TENTATIVELY IDENTIFIED COMPOUNDS

SAMPLE NUMBER EC847
COMPUchem FILE GH833514C15

CAS NUMBER	COMPOUND NAME	FRACTION	SCAN NUMBER	ESTIMATED CONC. (UG/L OR UG/KG)	
14 18544-96-4	<i>Unknown</i> OCTADECANE, 6-ETHYL-	SEM11	800	110.	J
15 2988-78-3	<i>Unknown</i> BUTANE, 1,4-DICYCLOPENTYL-	SEM11	811	2800.	J
16 629-78-7	<i>Alkane</i> HEPTADECANE	SEM11	831	1800.	J
17 629-78-7	<i>Alkane</i> HEPTADECANE	SEM11	854	900.	J
18 62816-37-9	<i>Alkane</i> OCTANE, 2,4,6-TRIMETHYL-	SEM11	877	2100.	J
19 3913-82-8	<i>Alcohol</i> 1-OCTANOL, 2-BUTYL-	SEM11	897	400.	J
20 7845-71-8	<i>Unknown</i> UNDECANE, 2-ETHYL-	SEM11	905	160.	J
21 629-78-7	<i>Alkane</i> HEPTADECANE	SEM11	962	300.	J
~~22 629-74-3~~	<i>Lab artifact</i> ~~1-HEXADECYNE~~	~~SEM11~~	~~1027~~	~~1600.~~	~~J~~

38.600 40.00

SPECTROSCOPIST SP
DATE 6/20/05

Organics Analysis Data Sheet
(Page 4)

Tentatively Identified Compounds

CAS Number	Compound Name	Fraction	RT or Scan Number	Estimated Concentration (ug/l or ug/g)
1.	NO VOA COMPOUNDS FOUND			
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ORGANICS ANALYSIS DATA SHEET (PAGE 4)
TENTATIVELY IDENTIFIED COMPOUNDS

SAMPLE NUMBER EC846
COMPUchem FILE GH053513C15

CAS NUMBER	COMPOUND NAME	FRACTION	SCAN NUMBER	ESTIMATED CONC. (UG/L OR UG/KG)
629-78-7	Alkane HEPTADECANE	SEMII	832	2800. J
629-78-7	Alkane HEPTADECANE	SEMII	854	1600. J
3913-82-8	Unknown 1-OCTANOL, 2-BUTYL-	SEMII	872	220. J
629-78-7	Alkane HEPTADECANE	SEMII	877	3600. J
3913-82-8	Unknown 1-OCTANOL, 2-BUTYL-	SEMII	897	770. J
1560-97-0	Unknown DODECANE, 2-METHYL-	SEMII	985	360. J
629-78-7	Alkane HEPTADECANE	SEMII	921	1000. J
629-78-7	Alkane HEPTADECANE	SEMII	963	510. J
~~629-74-3~~	Lab artifact ~~1-HEXADECYNE~~	~~SEMII~~	~~1027~~	~~2000. J~~

39.600 ✓ 40.00 ✓

SPECTROSCOPIST BP
DATE 4/20/05

Organics Analysis Data Sheet
(Page 4)

Tentatively Identified Compounds

CAS Number	Compound Name	Fraction	RT or Scan Number	Estimated Concentration (ug/l or ug/l)
1.	NO VOA COMPOUNDS FOUND			
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ORGANICS ANALYSIS DATA SHEET (PAGE 4)

SAMPLE NUMBER EC846

COMPUCHEM FILE GH853513C15

TENTATIVELY IDENTIFIED COMPOUNDS

CAS NUMBER	COMPOUND NAME	FRACTION	SCAN NUMBER	ESTIMATED CONC. (UG/L OR UG/KG)
1 123-42-2	~~2-PENTANONE, 4-HYDROXY-4-METHYL-~~ <i>Acetone contamination Ketone</i>	SEMI1	345	1400. JB
2 62016-34-6	~~OCTANE, 2,3,7-TRIMETHYL-~~ <i>Unknown</i>	SEMI1	661	960. J
3 17301-32-5	~~UNDECANE, 4,7-DIMETHYL-~~ <i>Alkane</i>	SEMI1	677	1900. J
4 62016-33-5	~~OCTANE, 2,3,6-TRIMETHYL-~~ <i>Alkane</i>	SEMI1	683	360. J
5 13287-21-3	~~TRIDECANE, 6-METHYL-~~ <i>Alkane</i>	SEMI1	687	670. J
~~6 61142-79-8~~	~~I-DECENE, 8-METHYL-~~ <i>Unknown</i>	~~SEMI1~~	~~693~~	~~400. J~~
~~7 3913-02-0~~	~~I-OCTANOL, 2-BUTYL-~~ <i>Unknown</i>	~~SEMI1~~	~~697~~	~~510. J~~
~~8 930-02-9~~	~~OCTADECANE, 1-(ETHENYLOXY)-~~ <i>Unknown</i>	~~SEMI1~~	~~705~~	~~3600. J~~
~~9 53045-13-1~~	~~TETRADECANE, 6,9-DIMETHYL-~~ <i>Unknown</i>	~~SEMI1~~	~~741~~	~~12000. J~~
~~10 10042-59-8~~	~~I-HEPTANOL, 2-PROPYL-~~ <i>Unknown</i>	~~SEMI1~~	~~791~~	~~29000. J~~
~~11 52783-43-4~~	~~NONADECANOL~~ <i>Unknown</i>	~~SEMI1~~	~~797~~	~~2900. J~~
~~12 112-40-3~~	~~DODECANE~~ <i>Unknown</i>	~~SEMI1~~	~~806~~	~~5200. J~~
~~13 17312-59-3~~	~~UNDECANE, 4-ETHYL-~~ <i>Unknown</i>	~~SEMI1~~	~~815~~	~~2200. J~~

39.600 40.00

SPECTROSCOPIST *JP*DATE *6/20/05*

Sample Number
EC845

Organics Analysis Data Sheet
(Page 4)

Tentatively Identified Compounds

CAS Number	Compound Name	Fraction	RT or Scan Number	Estimated Concentration (ug/l or ug/g)
1.	NO VOA COMPOUNDS FOUND			
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ORGANICS ANALYSIS DATA SHEET (PAGE 4)
TENTATIVELY IDENTIFIED COMPOUNDS

SAMPLE NUMBER EC845
COMPUCHEM FILE GH053512C15

CAS NUMBER	COMPOUND NAME	FRACTION	SCAN NUMBER	ESTIMATED CONC. (UG/L OR UG/KG)	
1 123-42-2	~~Acetone, Cytamination: Acetone~~ ~~2-PENTANONE, 4-HYDROXY-4-METHYL-~~	SEM11	344	1500.	J ^B
2 1502-05-2	~~CYCLODECANOL~~	SEM11	707	260.	J
3 629-74-3	~~I-HEXADECYNE *~~	SEM11	1025	15000.	J
4 301-02-0	~~9-OCTADECENALDE, (2)-~~	SEM11	1134	370.	J

41.000 ✓ 40.00 ✓

SPECTROSCOPIST BP
DATE 6/20/85

EC 844

Organics Analysis Data Sheet
(Page 4)

Tentatively Identified Compounds

CAS Number	Compound Name	Fraction	RT or Scan Number	Estimated Concentration (ug/l or ug/kg)
1.	NO VOA COMPOUNDS FOUND			
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ORGANICS ANALYSIS DATA SHEET (PAGE 4)
TENTATIVELY IDENTIFIED COMPOUNDS

SAMPLE NUMBER EC844
COMPUCHEN FILE GH853511C15

CAS NUMBER	COMPOUND NAME	FRACTION	SCAN NUMBER	ESTIMATED CONC (UG/L OR UG/KG)
1' 123-42-2	~~2-PENTANONE, 4-HYDROXY-4-ETHYL-~~ <i>Acetone, carbon tetrachloride, hexane</i>	SEM11	344	1100. JB
~~2 1121-66-0~~	~~2-CYCLOHEPTEN-1-ONE~~ <i>Unknown - dg. 2, 1 dinitrophenol</i>	~~SEM11~~	~~700~~	~~520. J~~
3 629-74-3	~~1-HEXADECYNE~~ <i>has no effect</i>	SEM11	1028	6200. J
4 6971-40-0	~~17-PENTATRIACONTENE~~ <i>Hydrocarbon, Unknown</i>	SEM11	1039	390. J
~~5 17061-50-5~~	~~1,2-BIS(BENZOICACID)ETHYLENE DIETHYL 2-NETHYLPROPYLESTER~~ <i>P.P. Unknown</i>	~~SEM11~~	~~1135~~	~~390. J~~
~~6 307-00-9~~	~~BENZOTRIELIOPANTHENE~~ <i>PP</i>	SEM11	1290	500. J

39.900 ✓ 40.00 ✓

SPECTROSCOPIST AP
DATE 6/20/85

Organics Analysis Data Sheet
(Page 4)

Tentatively Identified Compounds

CAS Number	Compound Name	Fraction	RT or Scan Number	Estimated Concentration (ug/l or ug/g)
1.	NO VOA COMPOUNDS FOUND			
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ORGANICS ANALYSIS DATA SHEET (PAGE 4)
TENTATIVELY IDENTIFIED COMPOUNDS

SAMPLE NUMBER EC843
COMPUCHEM FILE G0853510A21

CAS NUMBER	COMPOUND NAME	FRACTION	SCAN NUMBER	ESTIMATED CONC. (UG/L OR UG/KG)
1 123-42-2	~~2-PENTANONE, 4-HYDROXY-4-METHYL-~~ <i>Ratio Confirmation</i>	G0853510	301	2400. J ^β
2 100-86-1	~~BENZENE, BRUNO-~~ <i>Alkene Aryl Halide</i>	G0853510	375	1200. J
3 493-82-7	~~NAPHTHALENE, DECAHYDRO-, TRANS-~~ <i>Alkene Alicyclic</i>	G0853510	468	2300. J
4 3618-12-0	~~CYCLODECENE~~ <i>Alkene Alicyclic, unsaturated</i>	G0853510	499	2600. J
5 629-74-3	~~1-HEXADECYNE~~ <i>Lab. Ref. Std.</i>	G0853510	957	4300. J

194.000 40.00

SPECTROSCOPIST *ADL*
DATE *6/29/85*

Sample Number

EC842

Organics Analysis Data Sheet
(Page 4)

Tentatively Identified Compounds

CAS Number	Compound Name	Fraction	RT or Scan Number	Estimated Concentration (ug/l or ug/kg)
1.	NO VA COMPOUNDS FOUND			
2.				
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(CONTINUED FROM PREVIOUS PAGE)

TENTATIVELY IDENTIFIED COMPOUNDS

CAS NUMBER	COMPOUND NAME	FRACTION	SCAN NUMBER	ESTIMATED CONC. (UG/L OR UG/KG)	
1 123-42-2	~~2-PENTANONE, 4-HYDROXY-4-METHYL-~~ <i>Picetone Contamination</i>	GH853589	326	1100.	JB
~~2 1121-66-8~~	~~2-CYCLOHEPTEN-1-ONE~~ <i>P.P. D3 - 2,4-Dinitrophenol</i>	GH853589	748	1000.	J
~~3 629-74-3~~	~~1-HEXADECYNE~~ <i>Lab. Artifact</i>	GH853589	979	4000.	J
~~4 295-65-8~~	~~CYCLOHEXADECANE~~ <i>Hydrocarbon</i>	GH853589	987	590.	J

39.400 40.00

SPECTROSCOPIST

DATE

tc
6/20/18

Sample Number
EC839

Organics Analysis Data Sheet
(Page 4)

Tentatively Identified Compounds

CAS Number	Compound Name	Fraction	RT or Scan Number	Estimated Concentration (ug/l or ug/kg)
1.	NO VOA COMPOUNDS FOUND			
2.				
3.				
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ORGANICS ANALYSIS DATA SHEET (PAGE 4)
TENTATIVELY IDENTIFIED COMPOUNDS

SAMPLE NUMBER EC839
COMPUCHEM FILE GH853587A21

	CAS NUMBER	COMPOUND NAME	FRACTION	SCAN NUMBER	ESTIMATED CONC. (UG/L OR (UG/KG))	
1	123-42-2	~~2-PENTANONE, 4-HYDROXY-4-METHYL-~~ <i>Acetone Contamination</i>	GH853587	327	1800.	J ^B
2	629-74-3	~~1-HEXADECYNE~~ <i>Lab Artifact</i>	GH853587	987	920.	J
3	381-82-8	~~9-OCTADECENYLIDE, (Z)-~~ <i>Amide</i>	GH853587	1093	320.	J

41.100 40.00

SPECTROSCOPIST *AC*

DATE *6/20/15*

ORGANICS ANALYSIS DATA SHEET (PAGE 4)
TENTATIVELY IDENTIFIED COMPOUNDS

SAMPLE NUMBER EL838
COMPUCHEM FILE GD053506A21

CAS NUMBER	COMPOUND NAME	FRACTION	SCAN NUMBER	ESTIMATED CONC. (UG/L OR UG/KG)	
18344-37-1	<i>Hydrocarbon</i> HEPTADECANE, 2,6,10,14-TETRAMETHYL-	GD053506	697	2500.	J
629-78-7	<i>Hydrocarbon</i> HEPTADECANE	GD053506	763	4300.	J
1921-70-6	<i>Hydrocarbon</i> PENTADECANE, 2,6,10,14-TETRAMETHYL-	GD053506	811	4600.	J
13464-19-2	<i>Unknown</i> CARBONCHLOROTHIOTICACID, 5-PHENYLESTER	GD053506	858	15000.	J
621-33-0	<i>Unknown</i> BENZENAMINE, 3-ETHOXY-	GD053506	927	3100.	J
2921-88-2	<i>Unknown</i> PHOSPHOROTHIOTICACID, O,O-DIETHYLO-(3,5,6-TRICHLORO-2-	GD053506	940	6000.	J
629-74-3	<i>Lab. identified</i> 1-HEXADECYNE	GD053506	958	17000.	J
35724-36-6	<i>Unknown</i> ASPIROFRACITIN-17-OL	GD053506	971	2000.	J
5183-74-2	<i>chlorinated</i> 4,7-METHANO-1H-INDENE, 1,2,4,5,6,7,8,8-OCTACHLORO-2,3	GD053506	992	2400.	J
5183-74-2	<i>chlorinated</i> 4,7-METHANO-1H-INDENE, 1,2,4,5,6,7,8,8-OCTACHLORO-2,3	GD053506	1003	4000.	J
10224-91-6	<i>Unknown</i> ETHANE, 1,1-BIS(P-ETHYLPHENYL)-	GD053506	1011	2700.	J
53-19-0	<i>DOT</i> BENZENE, 1-CHLORO-2-(2,2-DICHLORO-1-(4-CHLOROPHENYL)E	GD053506	1022	4900.	J
34101-86-5	<i>Unknown</i> BENZENE, 1,1'-(1,2-ETHANEDIYL)BIS(3,4-DIMETHYL-	GD053506	1030	13000.	J

206.000 40.00

SPECTROSCOPIST SC
DATE 6/1/00

ORGANICS ANALYSIS DATA SHEET (PAGE 4)
TENTATIVELY IDENTIFIED COMPOUNDS

SAMPLE NUMBER EL838
COMPUCHEN FILE GD853586A21

CAS NUMBER	COMPOUND NAME	FRACTION	SCAN NUMBER	ESTIMATED CONC. (UG/L OR UG/KG)	
14 4329-12-8	<i>DDD</i> BENZENE, 1-CHLORO-3-(2,2-DICHLORO-1-(4-CHLOROPHENYL)E	GD853586	1046	28000.	J
15 50-29-3	<i>DDD</i> BENZENE, 1,1'-(2,2,2-TRICHLOROETHYLIDENE)BIS(4-CHLORO	GD853586	1074	14000.	J
~~16 55836-30-1~~	<i>Y. unknown</i> ~~HEXADECANOIC ACID, 2-ONO-METHYLESTER~~	~~GD853586~~	~~1152~~	~~3500.~~	~~J~~
<i>Y. unknown</i> 17 53888-81-6	BENZENE, 1,1'-(1,3-PROPANEDIYLBIS(OXYMETHYLENE)BIS-	GD853586	1161	3700.	J
<i>Y. unknown</i> 18 56852-43-8	BENZENEETHANOL, 2-(PHENYLMETHOXY)-	GD853586	1171	5900.	J
~~19 91053-50-6~~	<i>Y. unknown</i> ~~PTERTIOTINE, 6-METHYL-2,4,7-TRIS(TRIMETHYLSILOXY)-~~	~~GD853586~~	~~1176~~	~~3600.~~	~~J~~
<i>Y. unknown</i> 20 31756-69-1	CHOLEST-4-EN-6-ONE, 3.BETA.-FLUORO-	GD853586	1193	4900.	J

286.000 40.00

55836-30-1 *unknown*

1152 3500J

SPECTROSCOPIST *Sc*
DATE *6/11/82*

1 31053-50-6 *unknown*

1176 3600J

ORGANICS ANALYSIS DATA SHEET (PAGE 4)

TENTATIVELY IDENTIFIED COMPOUNDS

SAMPLE NUMBER EC837

COMPUCHEN FILE GH053502A21

CAS NUMBER	COMPOUND NAME	FRACTION	SCAN NUMBER	ESTIMATED CONC. (UG/L OR UG/KG)	
123-39-7	~~FORMAMIDE, N-ETHYL-~~ <i>Amide</i>	GH053502	260	260.	J ^B
60-12-2	~~FORMAMIDE, N,N-DIMETHYL-~~	GH053502	273	3700.	J ^B
123-42-2	~~2-PENTANONE, 4-HYDROXY-4-METHYL-~~ <i>Acetone contamination</i>	GH053502	326	1000.	J ^B
~~10103-10-4~~	~~1H-TRIAZOLE-4-CARBONAMIDE, N-PHENYL-~~ <i>P.P. Diazepam diphenol</i>	GH053502	733	560.	J
10544-50-0	~~SULFUR, MOL. (50)~~ <i>Sulfur</i>	GH053502	975	4500.	J
629-74-3	~~1-HEXADECYNE~~ <i>Lab. Artifact</i>	GH053502	985	7900.	J

30.600 40.00

SPECTROSCOPIST TCDATE 6/10/11

EC838

Organics Analysis Data Sheet
(Page 4)

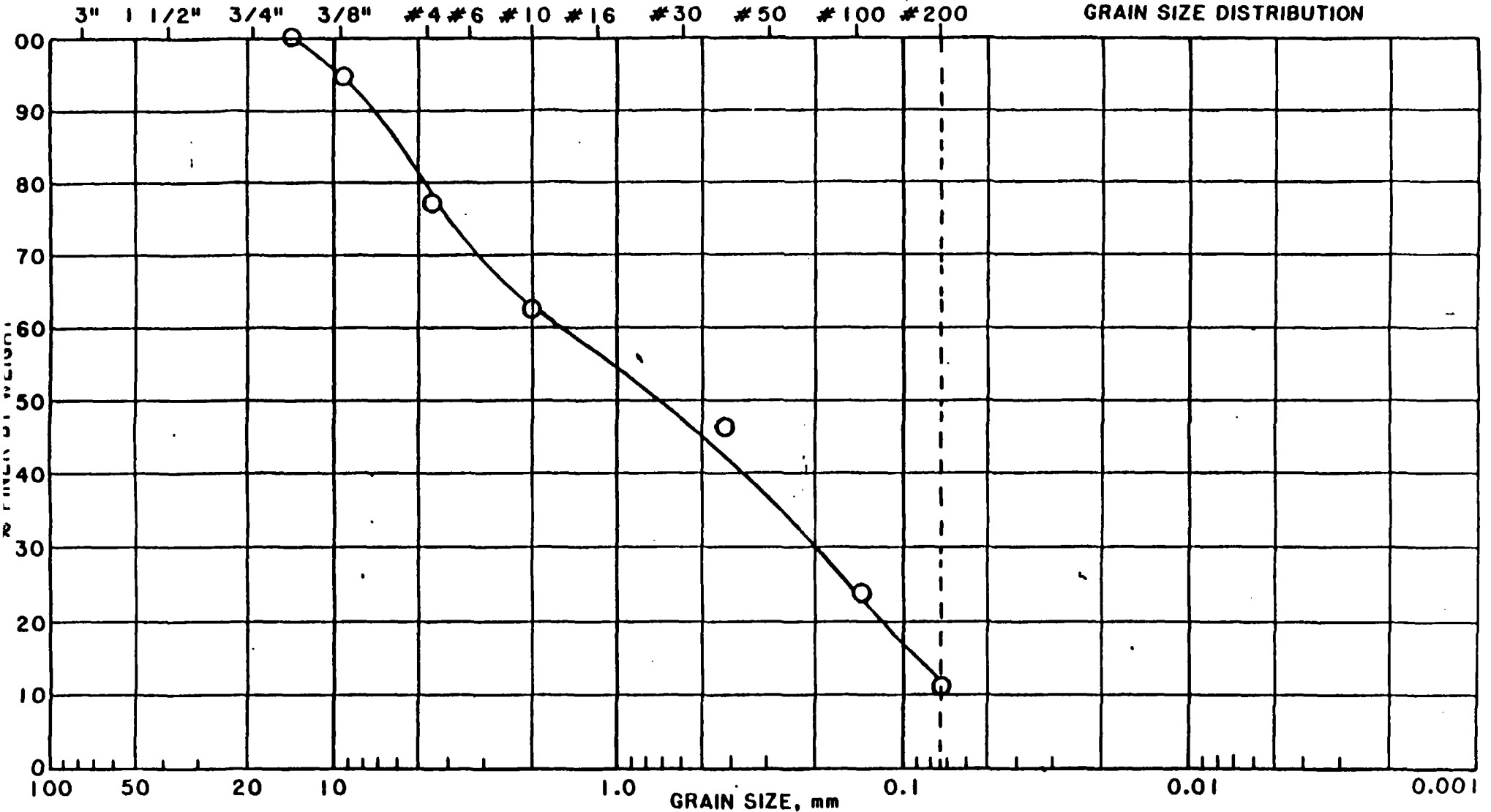
Tentatively Identified Compounds

CAS Number	Compound Name	Fraction	RT or Scan Number	Estimated Concentration (ug/l or ug/lb)
1.	NO VOA COMPOUNDS FOUND			
2.				
3.				
4.				
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53 - ATYPICAL

U.S. STANDARD SIEVE NUMBERS

ENGINEERS INTERNATIONAL, INC.
GRAIN SIZE DISTRIBUTION

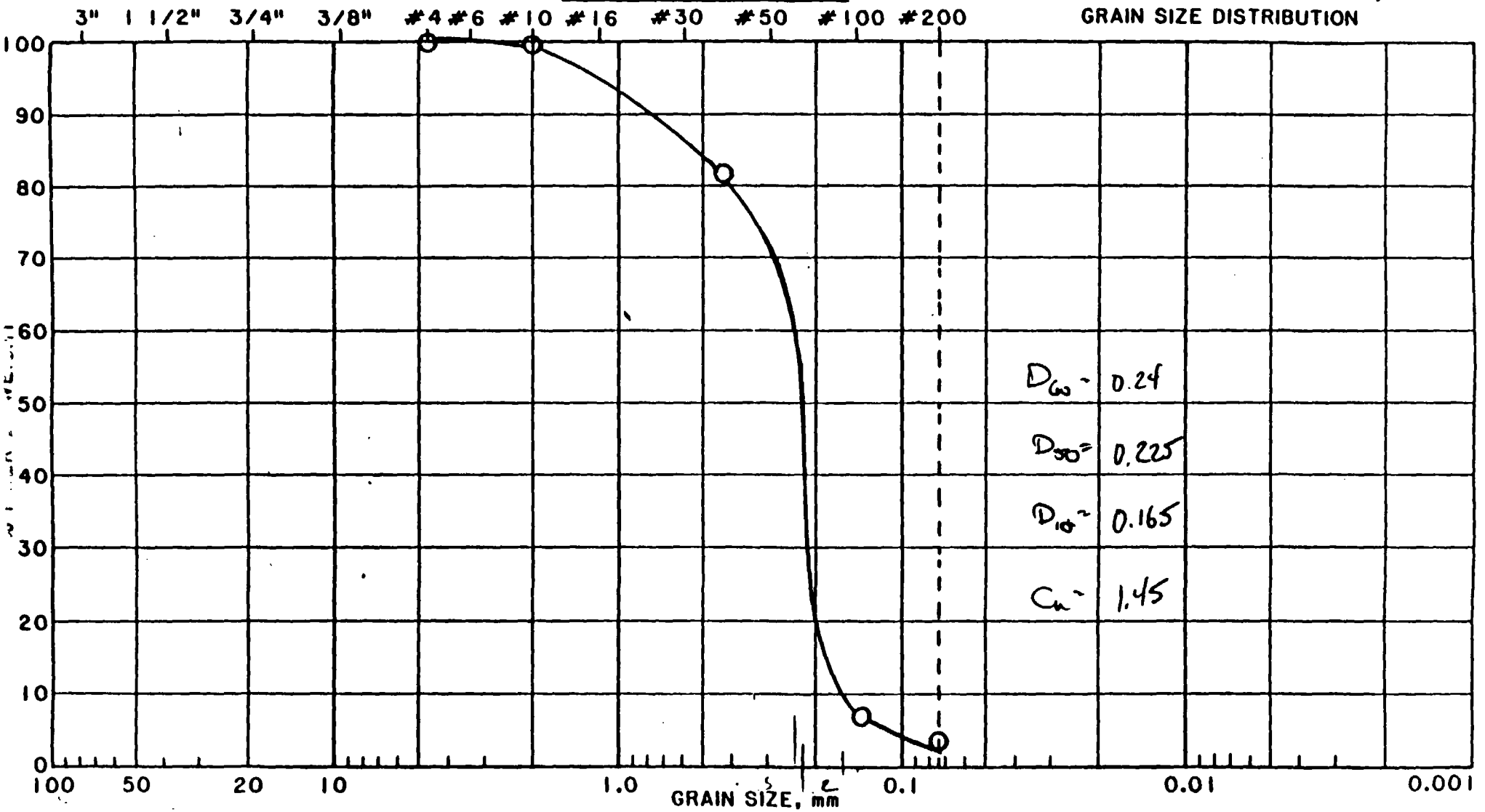


COARSE	FINE	COARSE	MEDIUM	FINE	
GRAVEL		SAND			FINES

PROJECT NAME Pristine, Ohio Superfund Site PROJECT NO. 1257
 CLIENT Camp Dresser & McKee, Inc. DATE 10-13-85 BY CGK CK LH
 BORING NO. - SAMPLE NO. PI-SL 47-20 LL - PL - PI -

34

U.S. STANDARD SIEVE NUMBERS

ENGINEERS INTERNATIONAL, INC.
GRAIN SIZE DISTRIBUTION

COARSE	FINE	COARSE	MEDIUM	FINE	
GRAVEL		SAND			FINES

PROJECT NAME Pristine, Ohio Superfund Site PROJECT NO. 1257

CLIENT Camp Dresser & McKee, Inc. DATE 10-13-85 BY CGK CK 1W

Laboratory Name PEI Associates
Case No. 4501

Sample Number
EC866

Organics Analysis Data Sheet
(Page 4)

Tentatively Identified Compounds

CAS Number	Compound Name	Fraction	Scan Number	Estimated Concentration (ug/l or pg/l)
1.	UNKNOWN	B	607	500
2.	"		665	600
3.	"		745	1000
4.	"		844	2000
5.	"		958	1000
6.	"		976	2000
7.	Oxygenated Aromatics		1007	800
8.	UNKNOWN		1317	1000
9.	"		1915	1000
10.	"		1425	1000
11.	"		2072	4000
12.				
13.	Brown Compound	V	60	70
14.	UNKNOWN		195	200
15.	UNKNOWN		282	800
16. 107-04-0	Brown Chloroethane		321	1000
17. 106-93-1	Substance & Chloro		900	10
18. 108-86-1	Brown Compound		646	3000
19.				
20.	UNKNOWN	B Cont'd	845	600
21.	"		915	700
22.	"		1229	400
23.	"		1426	2000
24.				
25.				
26.				
27.				
28.				
29.				
30.				

Laboratory Name PEL ASD-13-03
Case No. 4501

Sample Number
ECF67

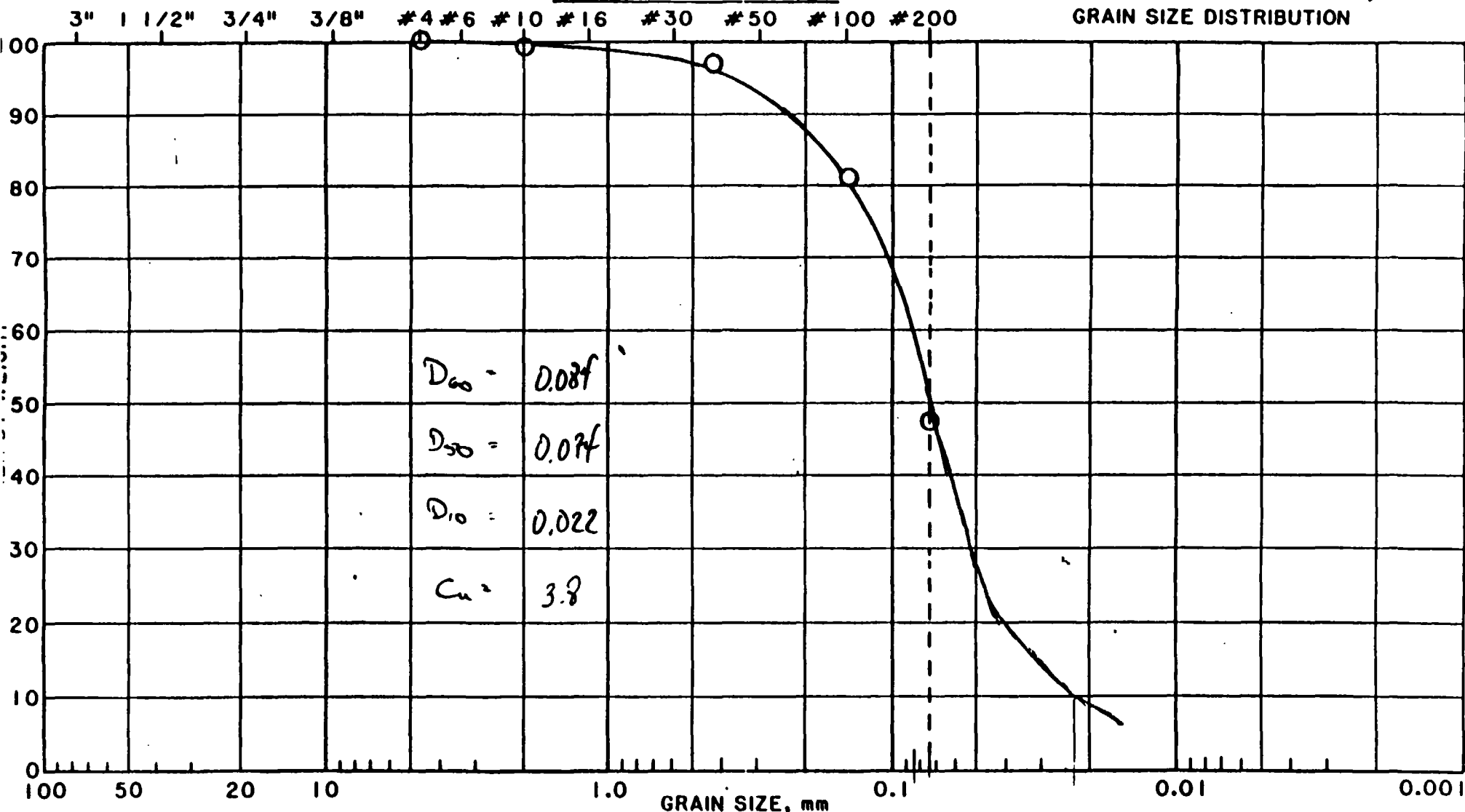
Organics Analysis Data Sheet
(Page 4)

Tentatively Identified Compounds

CAS Number	Compound Name	Fraction	Scan Number	Estimated Concentration (ug/l or ug/kg)
1.				
2.				
3.	unknown	B	796	20000
4.	"		823	1000
5.	"		877	5000
6.	"		955	6000
7.	"		976	2000
8.				
9.				
10.	66-93-4 <i>di-bromo + Pheno</i>	V	965	20
11.	67-09-0 <i>Bromo Chloro + Pheno</i>		323	200
12.	unknown		284	100
13.	719-99-1 <i>Tetra Hydro fur an</i>		196	50
14.	<i>Alcohol</i>		149	20
15.	unknown		61	20
16.				
17.	unknown	Acetate	845	600
18.	"		915	600
19.	"		1229	400
20.	"		1426	700
21.				
22.				
23.				
24.				
25.				
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U.S. STANDARD SIEVE NUMBERS

ENGINEERS INTERNATIONAL, INC.
GRAIN SIZE DISTRIBUTION

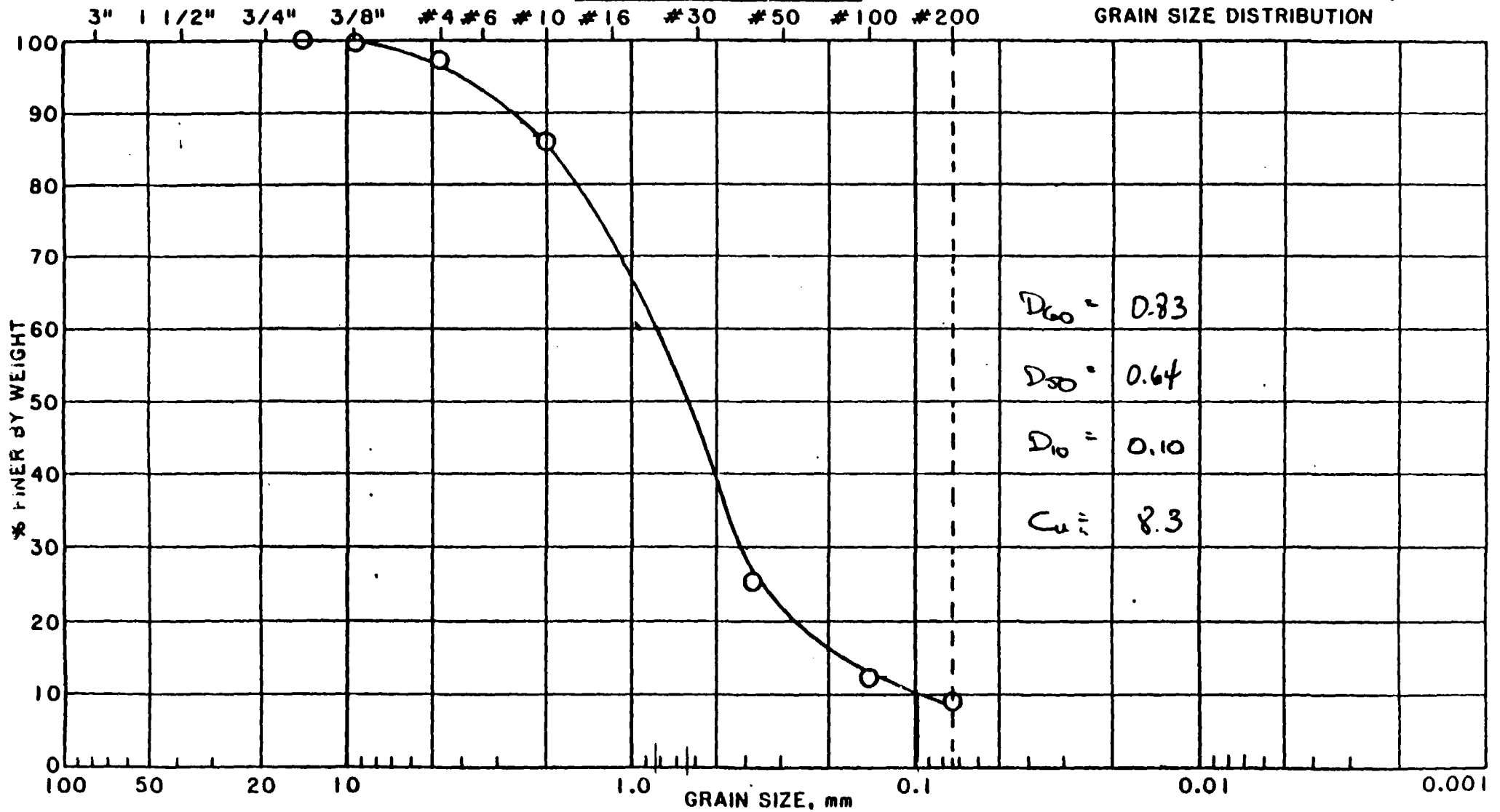


COARSE	FINE	COARSE	MEDIUM	FINE	
GRAVEL		SAND			FINES

PROJECT NAME Pristine, Ohio Superfund Site PROJECT NO. 1257
CLIENT Camp Dresser & McKee, Inc. DATE 10-13-85 BY CGK CK LH
BORING NO. - SAMPLE NO. PI-SL 57-01 LL - PL - PI -

52

U.S. STANDARD SIEVE NUMBERS

ENGINEERS INTERNATIONAL, INC.
GRAIN SIZE DISTRIBUTION

COARSE	FINE	COARSE	MEDIUM	FINE	
GRAVEL		SAND			FINES

PROJECT NAME Pristine, Ohio Superfund Site PROJECT NO. 1257
 CLIENT Camp Dresser & Menees, Inc. DATE 10-13-85 BY CGK CK LH

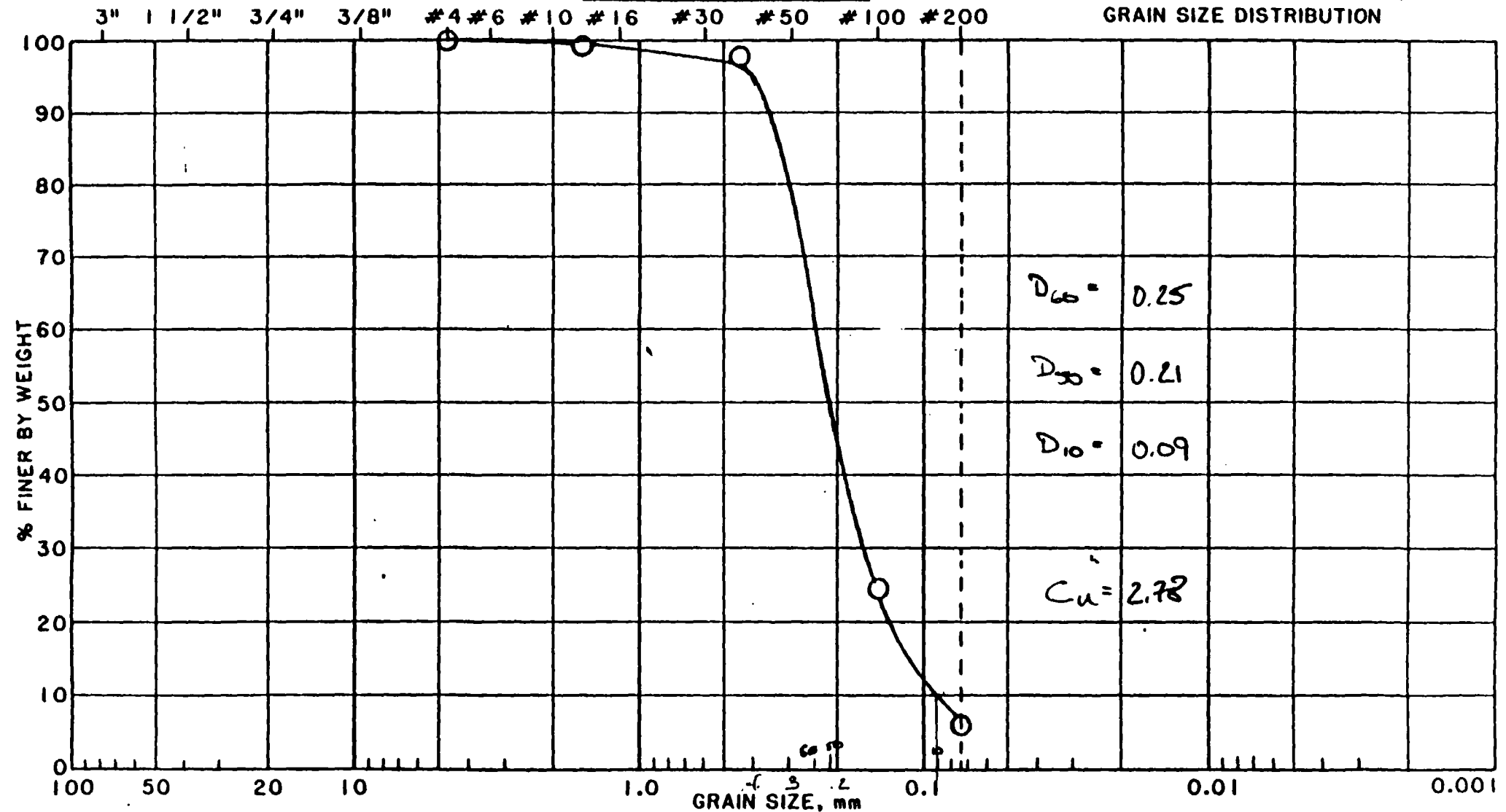
TABLE 1: Summary of Atterberg Limits Test Results
on Samples from Pristine Ohio Superfund Site

	<u>Sample Number</u>	<u>Liquid Limit</u>	<u>Plastic Limit</u>	<u>Plasticity Index</u>	<u>Classification</u>
L1	PI-SL45-04	33	17	16	CL
	PI-SL45-04*	33	17	16	CL
L2	PI-SL47-15	45	23	22	CL
T	PI-SL48-03	22	15	7	CL-ML
L3	PI-SL48-04	40	22	18	CL
T	PI-SL52-17	21	14	7	CL-ML
L2	PI-SL54-07	45	26	19	CL
L1	PI-SL56-05	31	17	14	CL
T	PI-SL57-02	23	10	13	CL
L3	PI-SL57-05	27	14	13	CL

* Quality Assurance duplicate test

51

U.S. STANDARD SIEVE NUMBERS

ENGINEERS INTERNATIONAL, INC.
GRAIN SIZE DISTRIBUTION

COARSE	FINE	COARSE	MEDIUM	FINE	
GRAVEL		SAND			FINES

PROJECT NAME Pristine, Ohio Superfund Site PROJECT NO. 1257

CLIENT Camp Dresser & M Inc. DATE 3-85 BY CGK CK LH

BORING NO. - SAMPLE NO. PI-SL 45-07 LL - PL - PI -

Sample Number
EC910

Organics Analysis Data Sheet
(Page 4)

Tentatively Identified Compounds

CAS Number	Compound Name	Fraction	RT or Scan Number	Estimated Concentration (ug/l or ug/kg)
1. _____	C ₈ H ₁₈ O	25	306	1.0
2. _____	unknown	25	340	1.0
3. 123-42-2	2-pentanone, 4-methyl-4-methyl-	25	372	1.0
4. _____	unknown	25	392	1.0
5. _____	C ₁₂ H ₂₂ isomer	25	401	1.0
6. _____	C ₁₂ H ₂₂ isomer	25	1034	1.0
7. _____	unknown	25	1112	1.0
8. _____	unknown	25	1186	1.0
9. _____	unknown hydrocarbon	25	1190	1.0
10. _____	unknown	25	1257	1.0
11. 10644-50-0	sulfur, mol. (S8)	25	1430	1.0
12. 109999	FURAN, tetrahydro	VOA	394	4.0
13. _____				
14. _____				
15. _____				
16. _____				
17. _____				
18. _____				
19. _____				
20. _____				
21. _____				
22. _____				
23. _____				
24. _____				
25. _____				
26. _____				
27. _____				
28. _____				
29. _____				
30. _____				

Sample Number
EC911

Organics Analysis Data Sheet
(Page 4)

Tentatively Identified Compounds

CAS Number	Compound Name	Fraction	RT or Scan Number	Estimated Concentration (ug/l or ug/kg)
1. 108-21-4	acetic acid, 1-methylethyl ester	ABN	332	1100
2. 123-47-2	2-pentanone, 4-hydroxy-4-methyl-	ABN	374	170,000
3. ———	C ₉ H ₂₀ isomer	ABN	382	790
4. ———	C ₉ H ₂₀ isomer	ABN	392	1300
5. ———	unknown	ABN	454	310
6. ———	unknown	ABN	527	370
7. ———	unknown	ABN	603	230
8. ———	unknown	ABN	912	270
9. ———	unknown	ABN	1040	270
10. 126-73-8	phosphoric acid tributyl ester	ABN	1052	510
11. ———	unknown	ABN	1114	310
12. ———	unknown hydrocarbon	ABN	1256	240
13. 57-10-3	hexadecanoic acid	ABN	1364	470
14. 10544-90-0	sulfur, mol. (S ₈)	ABN	1429	6200
15. ———	unknown	ABN	1475	970
16. ———	unknown	ABN	1752	230
17. ———				
18. ———				
19. ———				
20. ———				
21. ———				
22. ———				
23. ———				
24. ———				
25. ———				
26. ———				
27. ———				
28. ———				
29. ———				
30. ———				

Sample Number
EC906

Organics Analysis Data Sheet
(Page 4)

Tentatively Identified Compounds

CAS Number	Compound Name	Fraction	RT or Scan Number	Estimated Concentration (ug/l or ug/kg)
1. 129-42-2	2-pentanone, 4-hydroxy-4-methyl-	ABN	372	64,000
2. —————	C ₉ H ₁₈ isomer	ABN	394	370
3. —————	C ₉ H ₁₈ isomer	ABN	424	300
4. —————	unknown hydrocarbon	ABN	559	550
5. 106-62-7	1-propanol, 2-methyl-2-butyl- 7-10-88	ABN	610	770
6. —————	unknown	ABN	617	1000
7. —————	unknown hydrocarbon	ABN	669	620
8. 143-22-6	ethanol, 2-[2-(2-butoxyethyl)-2-methyl-2-propyl-]	ABN	762	1900
9. —————	unknown hydrocarbon	ABN	950	430
10. —————	unknown hydrocarbon	ABN	1033	660
11. —————	unknown	ABN	1111	1100
12. —————	unknown	ABN	1185	590
13. 57-10-3	hexadecanoic acid	ABN	1365	1900
14. 105-20-8	sulfur, mol (38)	ABN	1426	3000
15. —————	unknown	ABN	1477	6400
16. —————	carboxylic acid	ABN	1489	1200
17. —————	unknown	ABN	1610	1700
18. —————	unknown	ABN	1752	1800
19. —————				
20. —————				
21. —————				
22. —————				
23. —————				
24. —————				
25. —————				
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28. —————				
29. —————				
30. —————				

Sample Number
EC907

Organics Analysis Data Sheet
(Page 4)

Tentatively Identified Compounds

CAS Number	Compound Name	Fraction	RT or Scan Number	Estimated Concentration (ug/l or ug)
1. 23-42-2	2-pentanone, 4-hydroxy-4-methyl-	AGN	573	49,000
2. —————	C ₈ H ₁₈ Isomer	AGN	884	810
3. —————	C ₁₀ H ₂₂ Isomer	AGN	975	500
4. 111-76-2	ethanol, 2-butyl-	AGN	443	10
5. 111-77-3	ethanol, 2-(2-methoxyethoxy)-	AGN	482	10
6. —————	unknown	AGN	527	870
7. 5446-78-5	ethanol, 1-(2-butoxyethoxy)-	AGN	761	1000
8. 91-44-7	benzocyclopentadiene, N,N-diethyl-	AGN	746	380
9. 112-27-6	ethanol, 2,2'-[1,2-ethanediylbis(oxy)]bis-	AGN	1037	650
10. 57-10-3	hexadecanoic acid	AGN	1363	200
11. 10544-92-0	adipic acid (98)	AGN	1429 - 1435	9400
12. —————	unknown	AGN	1474	280
13. —————				
14. —————				
15. —————				
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29. —————				
30. —————				

Sample Number
EC90E

Organics Analysis Data Sheet
(Page 4)

Tentatively Identified Compounds

CAS Number	Compound Name	Fraction	RT or Scan Number	Estimated Concentration (ug/l or ug/kg)
1. 123-42-2	2-pentanone, 4-hydroxy-4-methyl-	ABN	378	-- 000
2. 124-18-5	decane	ABN	560	2300
3. 1120-21-4	undecane	ABN	670	2300
4. 629-59-4	tetradecane	ABN	952	2600
5. 629-62-9	pentadecane	ABN	1035	5000
6. 644-76-3	hexadecane	ABN	1118	5400
7. 629-78-7	heptadecane	ABN	1188	4200
8. ————	unknown hydrocarbon	ABN	1192	3100
9. ————	octadecane	ABN	1259	3700
10. 57-10-3	hexadecanoic acid	ABN	1376	12 000
11. ————	unknown	ABN	1391	2900
12. 10544-50-0	sulfur, mol. (s8)	ABN	1432	15 000
13. ————	unknown	ABN	1454	5500
14. ————	unknown	ABN	1490	40000
15. ————	unknown	ABN	1557	4200
16. ————	unknown	ABN	1614	9300
17. ————	unknown	ABN	1754	10 000
18. ————	unknown	ABN	1852	4600
19. ————	unknown	ABN	1922	7900
20. ————	unknown	ABN	2074	3000
21. ————	unknown	ABN	2159	5700
22. ————				
23. ————				
24. ————				
25. ————				
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30. ————				

Sample Number
EC 909

Organics Analysis Data Sheet
(Page 4)

Tentatively Identified Compounds

CAS Number	Compound Name	Fraction	RT or Scan Number	Estimated Concentration (ug/l or ug/kg)
1. 123-42-2	2-pentanone, 4-hydroxy, 4-methyl-	ABN	37-	120000
2. —————	unknown	ABN	38-	630
3. —————	C ₁₀ H ₁₂ isomer	ABN	39-	930
4. —————	unknown	ABN	5-	240
5. 872-50-4	2-pyrrolidinone, 1-methyl-	ABN	6-	440
6. —————	unknown	ABN	9-	290
7. —————	unknown	ABN	11-	330
8. 57-10-3	hexadecanoic acid	ABN	12-	570
9. 10344-50-0	sulfur mol (S8)	ABN	13-	3600
10. —————	unknown	ABN	14-	690
11. —————				
12. —————				
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Sample Number

EC881

Organics Analysis Data Sheet
(Page 4)

Tentatively Identified Compounds

CAS Number	Compound Name	Fraction	RT or Scan Number	Estimated Concentration (ug/l or ug/kg)
1.	NO VOA COMPOUNDS FOUND			
2.				
3.				
4.				
5.				
6.				
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ORGANICS ANALYSIS DATA SHEET (PAGE 4)
TENTATIVELY IDENTIFIED COMPOUNDS

SAMPLE NUMBER EC880
COMPUCHEM FILE GH853332A22

CAS NUMBER	COMPOUND NAME	FRACTION	SCAN NUMBER	ESTIMATED CONC. (UG/L OR UG/KG)
100-88-3	<i>alkane</i> BENZENE, METHYL-	SEMI1	233	<i>380</i> -300. J <i>✓</i>
141-79-7	<i>ketone</i> 3-PENTEN-2-ONE, 4-METHYL-	SEMI1	261	<i>720</i> -630. J <i>✓</i>
123-42-2	<i>alcohol</i> 2-PENTANONE, 4-HYDROXY-4-METHYL-	SEMI1	296	<i>5200</i> 4500. J <i>✓</i>
3074-71-3	<i>alkane</i> HEPTANE, 2,3-DIMETHYL-	SEMI1	312	<i>260</i> -230. J
100-41-4	<i>alkane</i> BENZENE, ETHYL-	SEMI1	318	<i>400</i> -350. J <i>✓</i>
~~13189-13-4~~	~~<i>carbamate</i> 1,1-DIMETHYL-4-CARBAMATE, N-PHENYL-~~	~~SEMI1~~	~~630~~	~~<i>780</i> -600. J~~
57-10-3	<i>carbamate</i> HEXADECANOIC ACID	SEMI1	865	<i>410</i> -380. J
629-74-3	<i>alkyne</i> 1-HEXADECYNE	SEMI1	985	<i>9700</i> 8500. J <i>✓</i>
629-74-3	<i>alkyne</i> 1-HEXADECYNE	SEMI1	972	<i>390</i> -300. J <i>✓</i>
23435-19-3	<i>alkanol</i> 2-PROPANOL, 1-(2-METHYLPROPOXY)-	SEMI1	998	<i>400</i> -350. J
23435-19-3	<i>alkanol</i> 2-PROPANOL, 1-(2-METHYLPROPOXY)-	SEMI1	1087	<i>250</i> -220. J
6005-01-5	<i>alkene</i> 3,7,11-TRIDECATRIENITRILE, 4,8,12-TRIMETHYL-	SEMI1	1178	<i>240</i> -210. J

38.9
13.400 40.00

SPECTROSCOPIST *BAL*
DATE *6/2/01*

ORGANICS ANALYSIS DATA SHEET (PAGE 4)

TENTATIVELY IDENTIFIED COMPOUNDS

SAMPLE NUMBER EC881

COMPUCHEM FILE CH853333A22

CAS NUMBER	COMPOUND NAME	FRACTION	SCAN NUMBER	ESTIMATED CONC. (UG/L OR UG/KG)
3 23436-19-3	~~2-PROPANOL,1-(2-ETHYLPROPOXY)-~~	SEMI1	1086	290. J
4 4682-84-0	~~2,6,10-DODECATRIEN-1-OL,3,7,11-TRIMETHYL-~~	SEMI1	1177	350. J
5 1639-83-8	~~3-PENTANETHIOL,3-ETHYL-~~	SEMI1	1214	340. J

33.600 40.00

SPECTROSCOPIST BMLDATE 6/12/81

ORGANICS ANALYSIS DATA SHEET (PAGE 4)

TENTATIVELY IDENTIFIED COMPOUNDS

SAMPLE NUMBER EC881

COMPUCHEM FILE GH853333A22

CAS NUMBER	COMPOUND NAME	FRACTION	SCAN NUMBER	ESTIMATED CONC (UG/L OR UG/KG)
100-88-3	~~BENZENE, METHYL-~~ <i>ALKENE TOLUENE</i>	SEM11	233	430 838. J
141-79-7	~~3-PENTEN-2-ONE, 4-METHYL-~~ <i>ALKENE ALKENONE</i>	SEM11	260	870 550. J
123-42-2	~~2-PENTANONE, 4-HYDROXY-4-METHYL-~~ <i>ALCONE</i>	SEM11	296	5700 4300. J
17314-92-0	~~BENZENE, (3,3-DIMETHYLBUTYL)-~~ <i>ALKENE AROMATIC</i>	SEM11	317	490 878. J
~~1121-66-0~~	~~2-CYCLOHEPTEN-1-ONE~~ <i>ALKENE</i>	~~SEM11~~	~~630~~	~~770 548. J~~
1653-31-2	~~2-TRIDECANOL~~ <i>ALIPHATIC</i>	SEM11	885	370 280. J
629-74-3	~~1-HEXADECYNE~~ <i>ALK. ALK. ALK.</i>	SEM11	831	530 400. J
1454-85-9	~~1-HEPTADECANOL~~ <i>ALIPHATIC</i>	SEM11	837	870 848. J
57-10-3	~~HEXADECANOIC ACID~~ <i>ALK. ALK.</i>	SEM11	865	1100 848. J
143-20-2	~~9-OCTADECEN-1-OL, (2)-~~ <i>ALK. ALK.</i>	SEM11	983	1600 12000. J
21964-40-7	~~1,12-TRIDECADIENE~~ <i>ALKENE ALIPHATIC</i>	SEM11	925	570 430. J
21964-40-7	~~1,12-TRIDECADIENE~~ <i>ALKENE</i>	SEM11	972	580 440. J
23435-19-3	~~2-PROPANOL, 1-(2-METHYLPROPOXY)-~~ <i>ALK. ALK.</i>	SEM11	998	580 440. J

44.2
40.00SPECTROSCOPIST *DL*DATE *6/12/85*

ORGANICS ANALYSIS DATA SHEET (PAGE 4)
TENTATIVELY IDENTIFIED COMPOUNDS

SAMPLE NUMBER EC882
COMPUCHEN FILE GH853334A22

CAS NUMBER	COMPOUND NAME	FRACTION	SCAN NUMBER	ESTIMATED CONC. (UG/L OR UG/KG)
1 100-88-3	~~BENZENE, METHYL-~~ <i>Alkane</i>	SEM11	228	400 300: J
2 4359-77-7	~~2-PENTANONE, 3-METHYLENE-~~ <i>Alkane</i>	SEM11	256	920 540: J
3 123-42-2	~~2-PENTANONE, 4-HYDROXY-4-METHYL-~~ <i>Alkane Contaminant</i>	SEM11	292	900 4000: J
4 100-41-4	~~BENZENE, ETHYL-~~ <i>Alkane</i>	SEM11	314	380 200: J
~~5 1121-66-0~~	~~2-CYCLOHEPTEN-1-ONE~~ <i>Alkane</i>	~~SEM11~~	~~689~~	~~950 110: J~~
65 57-10-3	~~HEXADECANOIC ACID~~ <i>Alkane</i>	SEM11	864	980 720: J
74 629-74-3	~~1-HEXADECYNE~~ <i>Alkane</i>	SEM11	983	1000 7700: J
87 1454-85-9	~~1-HEPTADECANOL~~ <i>Alkane</i>	SEM11	910	660 490: J
88 3854-92-0	~~3-PENTANOL, 2,3,4-TRIMETHYL-~~ <i>Alkane</i>	SEM11	997	350 200: J
109 624-15-7	~~2,6-OCTADIEN-1-OL, 3,7-DIMETHYL-~~ <i>Alkane</i>	SEM11	1175	290 220: J
110 4541-13-3	~~1-BUTANOL, 4-(HEXYLOXY)-~~ <i>Alkane</i>	SEM11	1212	390 290: J

44.8
39.400 40.00

SPECTROSCOPIST *AL*
DATE *5/17/88*

EC882

Organics Analysis Data Sheet
(Page 4)

Tentatively Identified Compounds

CAS Number	Compound Name	Fraction	RT or Scan Number	Estimated Concentration (ug/l or ug/kg)
1.	NO VOA COMPOUNDS FOUND			
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ORGANICS ANALYSIS DATA SHEET (PAGE 4)
TENTATIVELY IDENTIFIED COMPOUNDS

SAMPLE NUMBER EC883
COMPUCHEM FILE CH853335A22

CAS NUMBER	COMPOUND NAME	FRACTION	SCAN NUMBER	ESTIMATED CONC. (UG/L OR UG/KG)	
100-88-3	<i>Alkene</i> BENZENE, METHYL-	SEM11	238	<i>450</i> ~~400~~	J <i>0</i>
141-79-7	<i>Alcohol</i> 3-PENTEN-2-ONE, 4-METHYL-	SEM11	258	<i>950</i> ~~750~~	J
123-42-2	<i>Alcohol, conjugated</i> 2-PENTANONE, 4-HYDROXY-4-METHYL-	SEM11	294	<i>6800</i> ~~5700~~	J <i>1</i>
638-29-9	<i>Alcohol</i> PENTANOYLCHLORIDE	SEM11	310	<i>250</i> ~~210~~	J
100-41-4	<i>Alkene</i> BENZENE, ETHYL-	SEM11	316	<i>480</i> ~~400~~	J <i>0</i>
29012-79-1	<i>Alcohol</i> HYDROXYLAMINE, O-DECYL-	SEM11	805	<i>230</i> ~~190~~	J
629-74-3	<i>Lab artifact</i> 1-HEXADECYNE	SEM11	832	<i>300</i> ~~250~~	J <i>0</i>
1454-85-9	<i>Alcohol</i> 1-HEPTADECANOL	SEM11	838	<i>490</i> ~~410~~	J
629-74-3	<i>Lab artifact</i> 1-HEXADECYNE	SEM11	984	<i>12000</i> ~~10000~~	J <i>0</i>
68-57-1	<i>Alcohol</i> 2,7,13,6-DIMETHYLNAPHTH(2,3-B)OXIRENE, 3,4,5,6,9,9-HE	SEM11	967	<i>690</i> ~~560~~	J
629-74-3	<i>Lab artifact</i> 1-HEXADECYNE	SEM11	972	<i>380</i> ~~320~~	J <i>0</i>
23436-19-3	<i>Alcohol</i> 2-PROPANOL, 1-(2-METHYLPROPOXY)-	SEM11	998	<i>440</i> ~~370~~	J
61142-74-3	<i>Alcohol</i> CYCLOHEXANE, 3,4-BIS(1-METHYLETHENYL)-1,1-DIMETHYL-	SEM11	1177	<i>390</i> ~~280~~	J

40.0
33.100 40.00

SPECTROSCOPIST *ALC*
DATE *6/11/01*

Sample number:
EC883

Organics Analysis Data Sheet
(Page 4)

Tentatively Identified Compounds

CAS Number	Compound Name	Fraction	RT or Scan Number	Estimated Concentration (ug/l or ug/kg)
1.	NO VOA COMPOUNDS FOUND			
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Section 2

Tentatively Identified Compounds

Soil Trench Samples

Laboratory Name PEI Associates
Case No 4501

Sample Number
EC885-0121

Organics Analysis Data Sheet
(Page 4)

Tentatively Identified Compounds

CAS Number	Compound Name	Fraction	Scan Number	Estimated Concentration (ug/l or ug/kg)
1.	UNKNOWN oxygenated	B	433	100
2.	Acid		449	50
3.	UNKNOWN		517	50
4.	oxygenated hydrocarbon		555	50
5.	"		605	30
6.	Acid		636	200
7.	UNKNOWN		656	20
8.	"		661	30
9.	"		715	20
10.	"		740	200
11.	Pinoline or isoguinoline		768	200
12.	UNKNOWN		817	100
13.	"		852	40
14.	"		875	60
15.	"		1080	30
16.	"		1113	30
17.				
18.	ketone ether isomer	V	401	2000
19.	UNKNOWN		322	10000
20.	"		293	1000
21.	Alcohol		151	2000
22.				
23.				
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Laboratory Name PEI AssociatesCase No 4501Sample Number
EC884 0036Organics Analysis Data Sheet
(Page 4)

Tentatively Identified Compounds

CAS Number	Compound Name	Fraction	Scan Number	Estimated Concentration (ug/l or ug/kg)
1.	UNKNOWN	B	450	300
2.	Silicone		828	50
3.	oxygenated hydrocarbon		605	80
4.	"		657	60
5.	"		91919	2000
6.	Acid		1210	100
7.	"		1311	100
8.	UNKNOWN		976	2000
9.	"		793	60
10.	"		757	300
11.	"		796	200
12.	"		823	800
13.	Phosphate		950	50
14.				
15.	UNKNOWN	V	320	700
16.	"		687	300
17.	"		420	100
18.	"		296	800
19.				
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EC840

Organics Analysis Data Sheet
(Page 4)

Tentatively Identified Compounds

CAS Number	Compound Name	Fraction	RT or Scan Number	Estimated Concentration ng/l or ug/kg
1.	NO VOA COMPOUNDS FOUND			
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ORGANICS ANALYSIS DATA SHEET (PAGE 4)
TENTATIVELY IDENTIFIED COMPOUNDS

SAMPLE NUMBER EC840
COMPUchem FILE GH853508A21

CAS NUMBER	COMPOUND NAME	FRACTION	SCAN NUMBER	ESTIMATED CONC. (UG/L OR UG/KG)	
123-42-2	~~2-PENTANONE, 4-HYDROXY-4-METHYL-~~ <i>Acetone Contamination</i>	GH853508	328	1600.	J
~~13189-13-4~~	~~1H-IMIDAZOLE-4-CARBOXYMIDE, N-PHENYL-~~ <i>1,2,3,4-Dioxaphenol</i>	GH853508	753	630.	J
629-74-3	~~1-HEXADECYNE~~ <i>Lab. Artifact</i>	GH853508	985	4700.	J
301-82-0	~~9-OCTADECENAMIDE, (Z)-~~ <i>Amide</i>	GH853508	1092	310.	J

38.400 40.00

SPECTROSCOPIST *[Signature]*

DATE *6/20/15*

Laboratory Name PEI Associates
Case No 4501

Sample Number U2
EC FFF

Organics Analysis Data Sheet
(Page 4)

Tentatively Identified Compounds

CAS Number	Compound Name	Fraction	Scan Number	Estimated Concentration (ug/Tot ug/kg)
1.	Organic hydrocarbon	B	548	50
2.				
3.				
4.	UNKNOWN	✓	666	600
5.				
6.				
7.				
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Laboratory Name: PEI Associates
Case No: 4501

02511

Sample Number
ECFF7

Organics Analysis Data Sheet
(Page 4)

Tentatively Identified Compounds

CAS Number	Compound Name	Fraction	Scan Number	Estimated Concentration (ug/l or ug/kg)
1.	oxygenated hydrocarbon	B	549	10
2.	unknown		1051	30
3.	"		1058	30
4.	"		1383	40
5.	"		1409	8
6.				
7.	unknown	V	668	60
8.				.
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Laboratory Name PEI Associates
Case No 4501

Sample Number
EC590-0127

Organics Analysis Data Sheet
(Page 4)

Tentatively Identified Compounds

CAS Number	Compound Name	Fraction	Scan Number	Estimated Concentration (ug/l or ug/kg)
1.	Silicate	B	527	60
2.	"		669	20
3.	Oxygenated Hydrocarbon		55-2	70
4.	"		779	20
5.	"		826	20
6.	"		860	70
7.	"		1028	20
8.	"		1035	100
9.	Phthalate		1496	60
10.	Alkane		1736	40
11.	Acid		1310	200
12.	"		1709	200
13.	Phosphate		898	80
14.	Linoleon N		920	70
15.	"		879	40
16.	"		736	100
17.	"		693	200
18.				
19.	None	✓		
20.				
21.				
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Laboratory Name PEI Associates
 Case No. 9501

Sample Number 0326
ELFF9

Organics Analysis Data Sheet
 (Page 4)

Tentatively Identified Compounds

CAS Number	Compound Name	Fraction	Scan Number	Estimated Concentration (ug/l or ug/kg)
1.	Acid	B	433	1000
2.	ESTER		497	500
3.	UNKNOWN		461	400
4.	ESTER		494	300
5.	SILICONE		530	500
6.	oxygenated hydrocarbon		63	600
7.	UNKNOWN		828	900
8.	"		987	1000
9.	"		993	500
10.	"		997	700
11.	Benzoic Acid		1195	400
12.	"		1242	1000
13.				
14.	UNKNOWN	✓	698	2000
15.	Dibenzyl ether isomer		401	1000
16.	UNKNOWN		322	5000
17.	"		295	4000
18.	Alcohol		285	2000
19.	Alcohol		151	300
20.	UNKNOWN		200	8000
21.	"		63	7000
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Laboratory Name FL. ASSESSMENT
Case No 4521

Sample Number 0541
ECF92

Organics Analysis Data Sheet
(Page 4)

Tentatively Identified Compounds

CAS Number	Compound Name	Fraction	Scan Number	Estimated Concentration (ug/l or ug/kg)
1.	Acid	B	986	60
2.	Oxygenated hydrocarbon		553	80
3.	"		780	30
4.	"		789	30
5.	"		805	30
6.	"		862	200
7.	"		920	80
8.	"		1029	30
9.	Acid		1208	40
10.	Urethane		1409	30
11.	"		1036	100
12.	"		880	60
13.	"		785	100
14.	"		677	100
15.	Phosphate		949	30
16.				
17.	Alkane	✓		
18.				
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Case No

4501

EC891

Organics Analysis Data Sheet
(Page 4)

Tentatively Identified Compounds

CAS Number	Compound Name	Fraction	Scan Number	Estimated Concentration (ug/l or ug/kg)
1.	Oxygenated hydrocarbon	B	441	200
2.	"		452	200
3.	"		493	200
4.	Alkyl Benzene		557	200
5.	"		499	100
6.	Acid		601	2000
7.	UNKNOWN		1240	200
8.	"		572	200
9.	"		649	1000
10.	"		667	200
11.	"		832	200
12.	"		901	300
13.	"		950	200
14.	"		1167	200
15.	SILICONE		669	200
16.	Biphenyls Isomer		526	200
17.				
18.	None	✓		
19.				
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EC934

GX033491A13

Organics Analysis Data Sheet
(Page 4)

Tentatively Identified Compounds

CAS Number	Compound Name	Fraction	RT or Scan Number	Estimated Concentration (ug/l or ug/kg)
1.	NO VOLATILE COMPOUNDS FOUND			
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ORGANICS ANALYSIS DATA SHEET (PAGE 4)
TENTATIVELY IDENTIFIED COMPOUNDS

SAMPLE NUMBER EC304
COMPUCHEM FILE GH853491A21

CAS NUMBER	COMPOUND NAME	FRACTION	SCAN NUMBER	ESTIMATED CONC. (UG/L OR UG/KG)
1 123-39-7	~~FORMAMIDE, N-METHYL-~~ <i>Amide</i>	GH853491	266	350. J/B
2 68-12-2	~~FORMAMIDE, N,N-DIMETHYL-~~	GH853491	274	15000. J/B
3 123-42-2	~~2-PENTANONE, 4-HYDROXY-4-METHYL-~~ <i>Acetone Contamination</i>	GH853491	325	1300. J/B
~~4 12100-13-4~~	~~THIATIZOLE 4-CARBONAMIDE, N-PHENYL-~~ <i>P.P. Di-nitrophenol</i>	~~GH853491~~	~~753~~	~~1000.~~ J
~~1/5~~ 629-74-3	~~1-HEXADECYNE~~ <i>Lab. Subject</i>	GH853491	985	8300. J

38.300 40.00

SPECTROSCOPIST *fe*

DATE *6/20/14*

ORGANICS ANALYSIS DATA SHEET (PAGE 4)
TENTATIVELY IDENTIFIED COMPOUNDS

SAMPLE NUMBER EC835
COMPUCHEM FILE GH853492A21

CAS NUMBER	COMPOUND NAME	FRACTION	SCAN NUMBER	ESTIMATED CONC. (UG/L OR UG/KG)
1 123-39-7	~~FORMAMIDE, N-METHYL-~~ <i>Amide.</i>	GH853492	267	370. JA
2 68-12-2	~~FORMAMIDE, N,N-DIMETHYL-~~ <i>"</i>	GH853492	276	9100. JA
3 123-42-2	~~2-PENTANONE, 4-HYDROXY-4-METHYL-~~ <i>Active Contamination.</i>	GH853492	327	950. JB
~~4 19185-13-4~~	~~TH-TRIDAZOLE-4-CARBOXYMIDE, N-PHENYL-~~ <i>P.P. Dg-2,4-Dinitrophenol</i>	~~GH853492~~	~~753~~	~~1000. J~~
4 18544-50-0	~~SULFUR, MOL. (58)~~ <i>Sulfur.</i>	GH853492	976	4300. J
5 629-74-3	~~1-HEXADECYNE~~ <i>Lab Artifact.</i>	GH853492	986	9500. J

39.000 40.00

SPECTROSCOPIST *HC*
DATE *6/20/15*

Sample Number
EC837

Organics Analysis Data Sheet
(Page 4)

Tentatively Identified Compounds

CAS Number	Compound Name	Fraction	RT or Scan Number	Estimated Concentration (ug/l or ug/g)
1.	NO VOA COMPOUNDS FOUND			
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ORGANICS ANALYSIS DATA SHEET (PAGE 4)
TENTATIVELY IDENTIFIED COMPOUNDS

SAMPLE NUMBER EC834
COMPUCHEM FILE CR053491C19

CAS NUMBER	COMPOUND NAME	FRACTION	SCAN NUMBER	ESTIMATED CONC. (UG/L OR UG/KG)
1 75-21-8	OXIRANE	E238	41	16. J
~~2 764-40-7~~	~~ETHANOL, 2-(ETHENYLOXY)~~ <i>instrument artifact</i>	~~E238~~	~~100~~	~~15. J~~
2 75-69-4	METHANE, TRICHLOROFLUORO <i>possible lab contaminant</i>	E238	160	9. J

1.130 50.00

SPECTROSCOPIST 211
DATE 7/9/65

Sample Number
EC 835R
EC 835RE

Organics Analysis Data Sheet
(Page 4)

Tentatively Identified Compounds

CAS Number	Compound Name	Fraction	RT or Scan Number	Estimated Concentration (ug/l or ug/g)
1.	NO VOA COMPOUNDS FOUND			
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EC848

Organics Analysis Data Sheet
(Page 4)

Tentatively Identified Compounds

CAS Number	Compound Name	Fraction	RT or Scan Number	Estimated Concentration (ug/l or ug/kg)
1.	NO VOA COMPOUNDS FOUND			
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Organics Analysis Data Sheet
(Page 4)

Tentatively Identified Compounds

CAS Number	Compound Name	Fraction	RT or Scan Number	Estimated Concentration (ug/l or ug/g)
1.	NO VOA COMPOUNDS FOUND			
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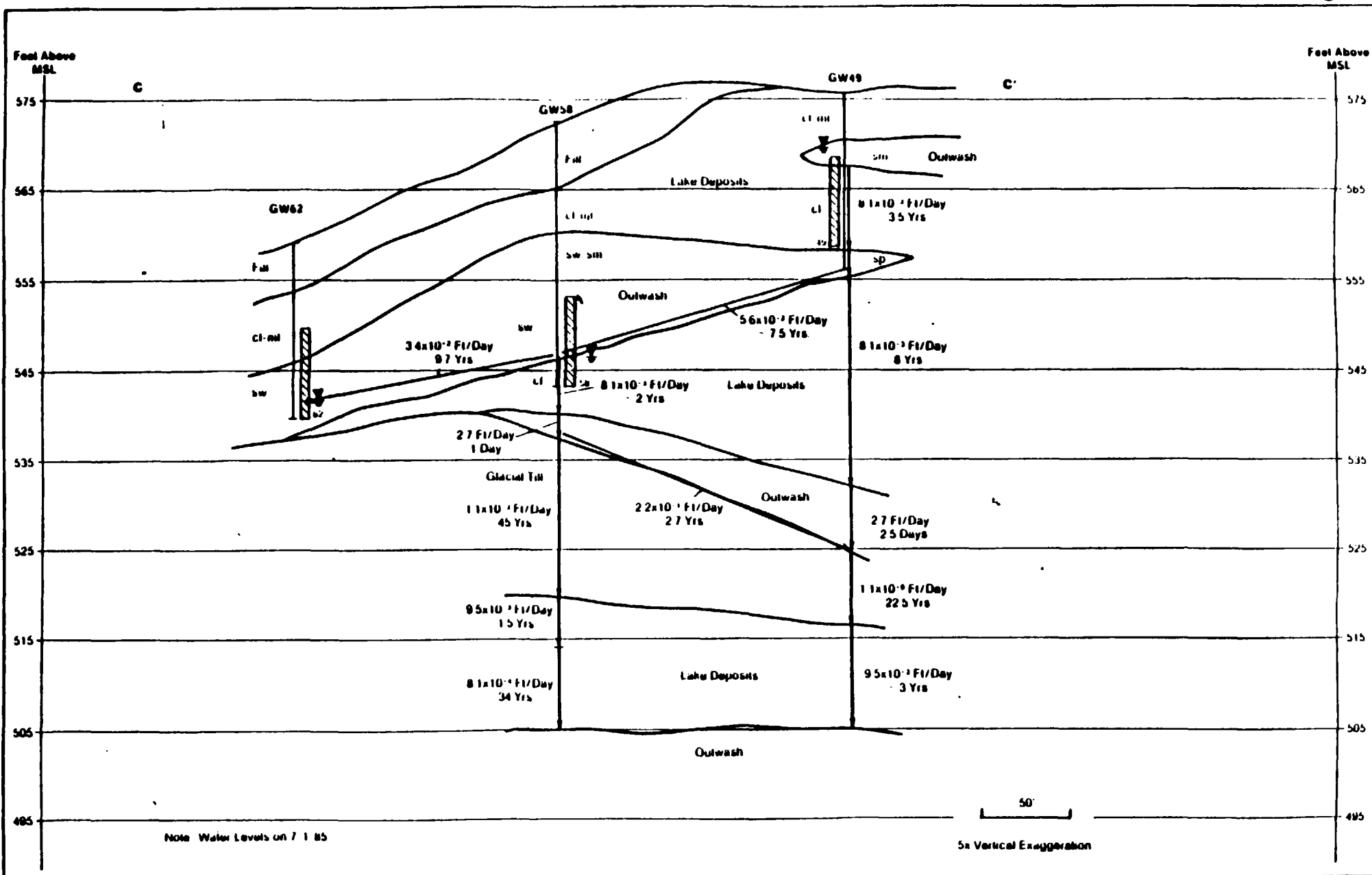


FIGURE M 10 WORST CASE VERTICAL LEAKAGE VELOCITIES AND TRAVEL TIME - C-C

FIGURE M-9 GROUNDWATER VELOCITIES AND TRAVEL TIMES UPPER AND MIDDLE PERCHED WATER SUBSYSTEMS

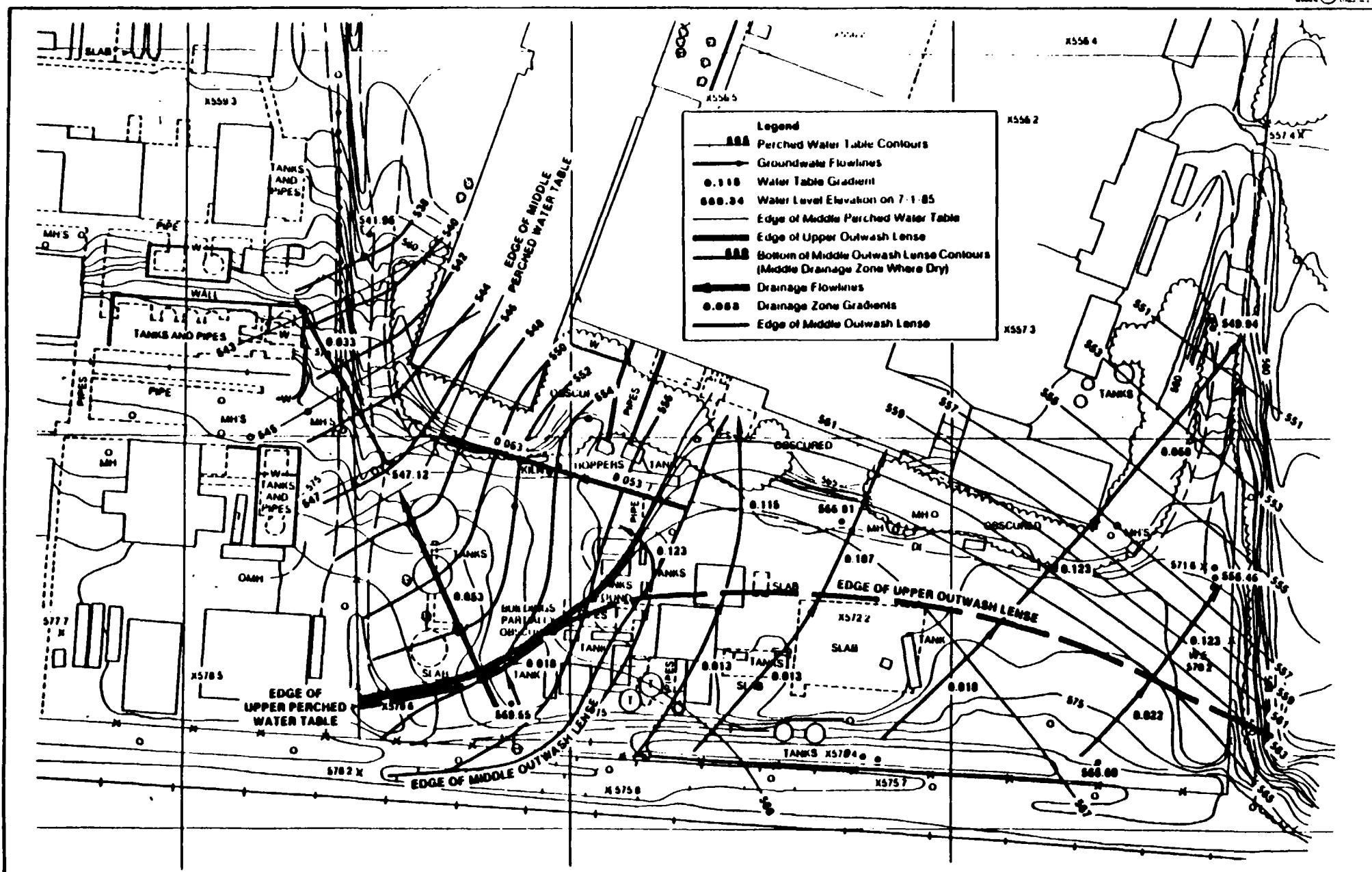


FIGURE M-8 GROUNDWATER FLOW AND GRADIENTS UPPER AND MIDDLE PERCHED WATER SUBSYSTEMS

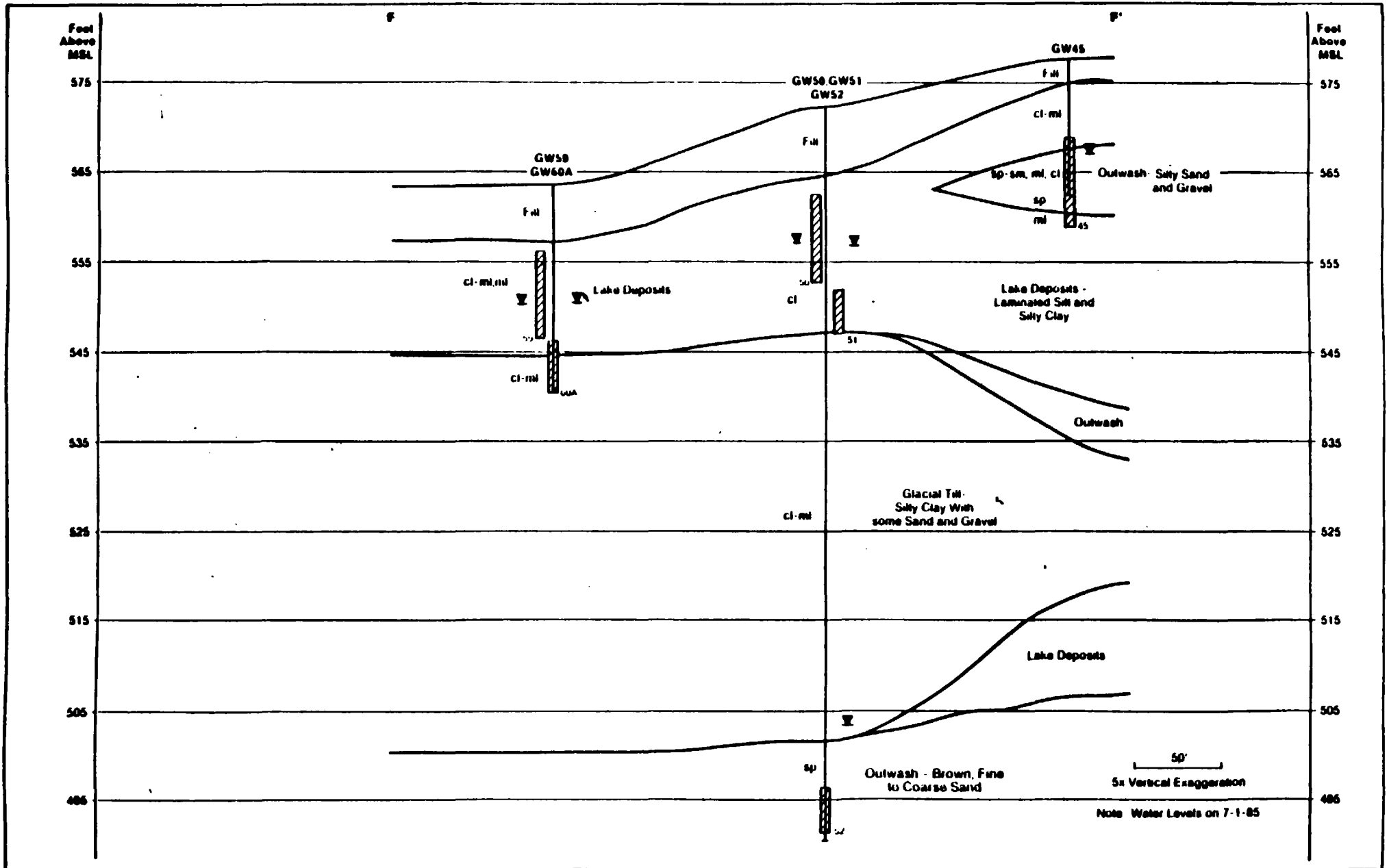
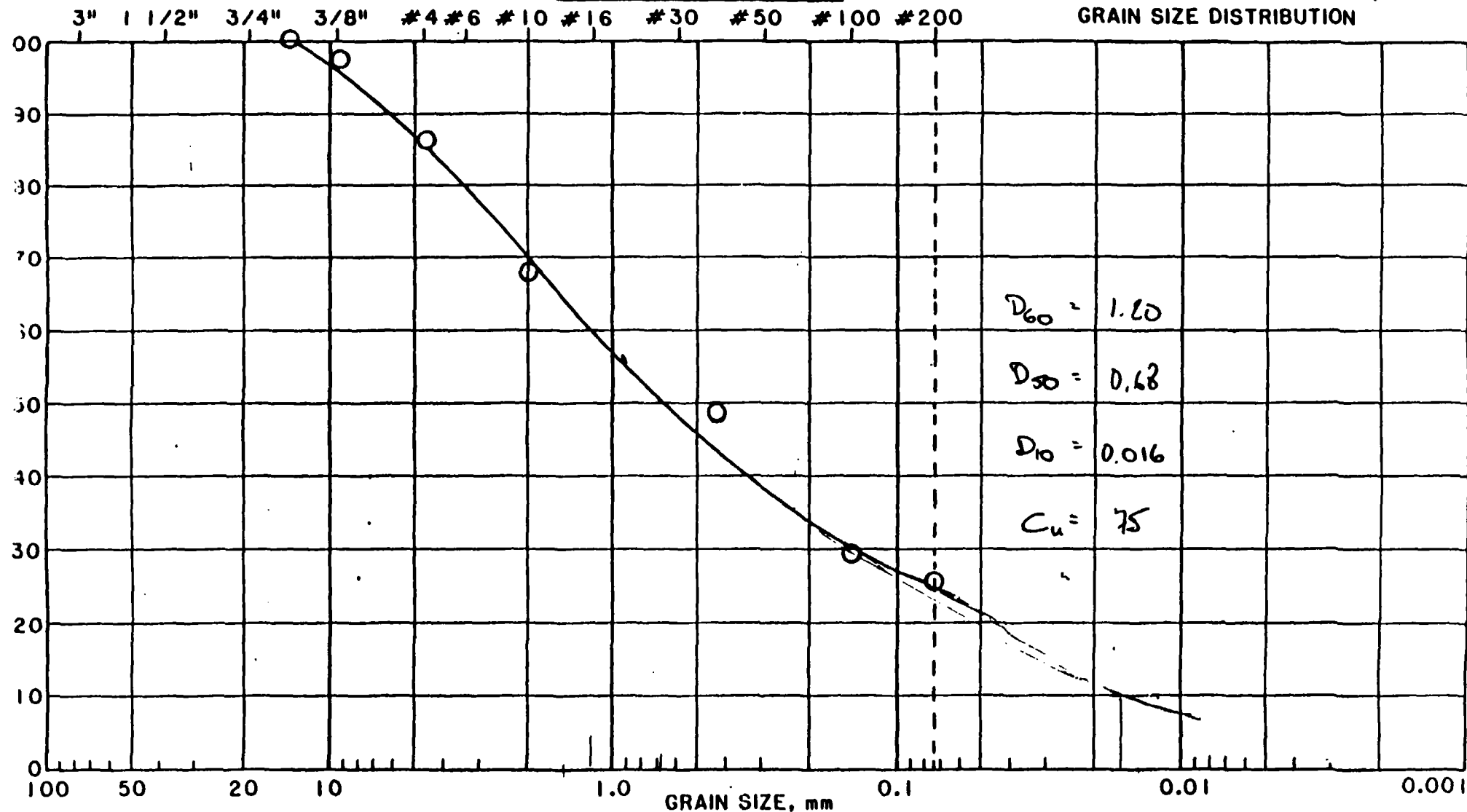


FIGURE M 7 GEOLOGIC CROSS SECTION - F-F'

U.S. STANDARD SIEVE NUMBERS

ENGINEERS INTERNATIONAL, INC.
GRAIN SIZE DISTRIBUTION



COARSE	FINE	COARSE	MEDIUM	FINE	
GRAVEL		SAND			FINES

PROJECT NAME Pristine, Ohio Superfund Site PROJECT NO. 1257

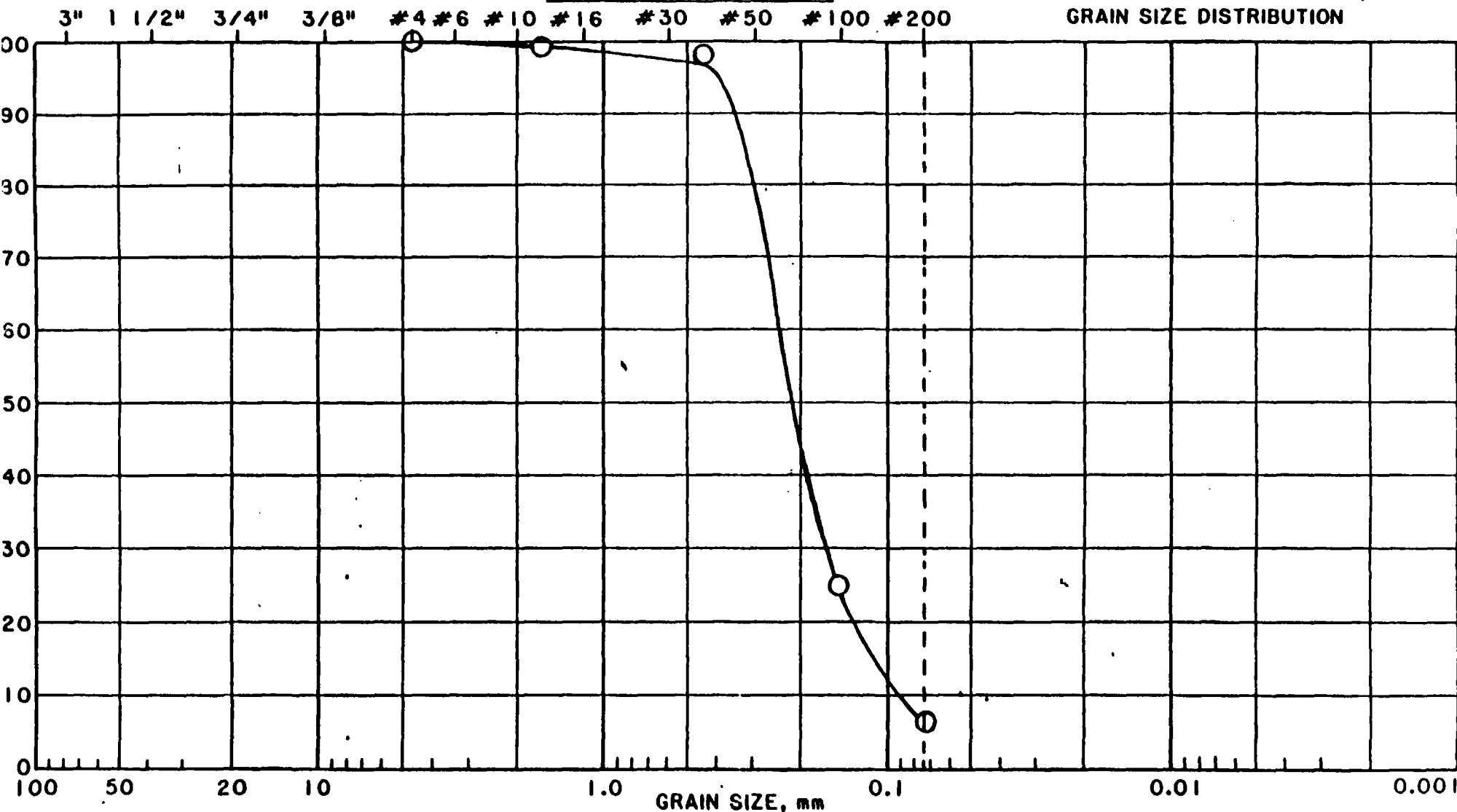
CLIENT Camp Dresser & McKee, Inc. DATE 10-13-85 BY CCK CK LH

BORING NO. _____ SAMPLE NO. PI-SL 47-10 LL _____ PL _____ PI _____

FINE TO COARSE SAND: some silt; little gravel; brown (SM)

U.S. STANDARD SIEVE NUMBERS

ENGINEERS INTERNATIONAL, INC.
GRAIN SIZE DISTRIBUTION



ORGANICS ANALYSIS DATA SHEET (PAGE 4)
TENTATIVELY IDENTIFIED COMPOUNDS

SAMPLE NUMBER EC879
COMPUCEM FILE GH853331C22

CAS NUMBER	COMPOUND NAME	FRACTION	SCAN NUMBER	ESTIMATED CONC. (UG/L OR UG/KG)
~~75-09-2~~	~~METHANE, DICHLORO-~~	~~SEMI~~	~~195~~	~~580 450. J~~
~~500-70-4~~	~~METHANE, CHLOROFLEURO-~~	~~SEMI~~	~~200~~	~~180 140. J~~
1110-04-9	[✓] BUTANOICACID, 3-OXO-, 2-PROPENYLESTER	SEMI	205	440 240. J
75-09-2	^{ALKANE} METHANE, DICHLORO-	SEMI	214	720 560. J
100-00-3	^{ALKANE} BENZENE, METHYL-	SEMI	227	750 500. J
141-79-7	^{known} 3-PENTEN-2-ONE, 4-METHYL-	SEMI	255	950 740. J
123-42-2	^{acetone can't be in} 2-PENTANONE, 4-HYDROXY-4-METHYL-	SEMI	291	660 5100. J
2175-91-9	^{known} 1,3-CYCLOPENTADIENE, 5-(1-METHYLETHYLIDENE)-	SEMI	313	440 340. J
111-46-6	^{known} ETHANOL, 2,2'-OXYBIS-	SEMI	382	610 470. J
4453-90-1	^{known} 1,4-METHANONAPHTHALENE, 1,4-DIHYDRO-	SEMI	598	220 470. J
55045-11-9	^{known} TRIDECANE, 5-PROPYL-	SEMI	766	580 450. J
544-63-8	^{known} TETRADECANOICACID	SEMI	787	260 200. J
29012-79-1	^{known} HYDROXYLAMINE, O-DECYL-	SEMI	804	650 500. J

3.5
3.708 40.00

SPECTROSCOPIST BAK
DATE 6/12/65

ORGANICS ANALYSIS DATA SHEET (PAGE 4)
TENTATIVELY IDENTIFIED COMPOUNDS

SAMPLE NUMBER EC879
COMPUCEM FILE GH853331813

CAS NUMBER	COMPOUND NAME	FRACTION	SCAN NUMBER	ESTIMATED CONC (UG/L OR UG/KG)
73-69-4	~~PERMETHYLCHLOROPHOSPHATE~~ possible lab artifact	E238	175	7. J

1.270 50.00

SPECTROSCOPIST Sub
DATE 6/11/85

EC880

Organics Analysis Data Sheet
(Page 4)

Tentatively Identified Compounds

CAS Number	Compound Name	Fraction	RT or Scan Number	Estimated Concentration (ug/l or ug/kg)
1.	NO VOA COMPOUNDS FOUND			
2.				
3.				
4.				
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ORGANICS ANALYSIS DATA SHEET (PAGE 4)
TENTATIVELY IDENTIFIED COMPOUNDS

SAMPLE NUMBER EC879
COMPUchem FILE CH853331C22

CAS NUMBER	COMPOUND NAME	FRACTION	SCAN NUMBER	ESTIMATED CONC. (UG/L OR (UG/KG)
629-74-3	<i>Lab Adicent</i> 1-HEXADECYNE	SEM11	830	900 700. J ☒
1454-85-9	<i>undec</i> 1-HEPTADECANOL	SEM11	836	980 700. J
57-10-3	<i>undec</i> HEXADECANOICACID	SEM11	864	1800-1400. J
629-74-3	<i>Lab Adicent</i> 1-HEXADECYNE	SEM11	905	1800 14000. J ☒
143-87-7	<i>undec</i> DODECANOICACID	SEM11	934	130 100. J
2642-88-0	<i>undec</i> BENZENE,1,1'-(2-CHLOROETHYLIDENE)BIS[4-CHLORO-	SEM11	988	710 550. J
929-37-3	<i>undec</i> ETHANOL,2-[2-(ETHENYLOXY)ETHOXY]-	SEM11	997	1100 820. J
50-29-3	<i>undec</i> BENZENE,1,1'-(2,2,2-TRICHLOROETHYLIDENE)BIS[4-CHLORO	SEM11	1014	1300 1000. J
112-88-9	<i>undec</i> 1-OCTADECENE	SEM11	1209	2500 1900. J

43.5
20.700 40.00

SPECTROSCOPIST *RLK*

DATE *5/1/85*

ORGANICS ANALYSIS DATA SHEET (PAGE 4)

TENTATIVELY IDENTIFIED COMPOUNDS

SAMPLE NUMBER EC873

COMPUCHEN FILE G0J53330422

CAS NUMBER	COMPOUND NAME	FRACTION	SCAN NUMBER	ESTIMATED CONC. (UG L OF SOL. EX.)	
1 3447-03-8	~~PYRROLIDINE, 2-BUTYL-1-METHYL-~~ <i>unknown</i>	SEM11	222	2400.	J ~~B~~
2 123-42-2	~~2-PENTANONE, 4-HYDROXY-4-METHYL-~~ <i>Ketone</i>	SEM11	333	5400.	J B
3 7299-91-4	~~2-BUTENOICACID, BUTYLESTER~~ <i>Ester</i>	SEM11	452	14000.	J
4 7299-91-4	~~2-BUTENOICACID, BUTYLESTER~~ <i>Ester</i>	SEM11	456	7200.	J
~~5 1121-66-0~~	~~2-CYCLOHEPTEN-1-ONE~~ <i>unknown</i> ~~is phenol~~	~~SEM11~~	~~785~~	~~3000.~~	~~J~~
~~/ 309-00-2~~	~~1,4,5,8-DIMETHANONPHTHALENE, 1,2,3,4,10,10-HEXACHLOR~~ <i>Pesticide(?)</i>	SEM11	1017	1800.	J
~~/ 629-74-3~~	~~1-HEXADECYNE~~ <i>lab artifact</i>	SEM11	1028	8000.	J
~~/ 6287-38-3~~	~~BENZALDEHYDE, 3,4-DICHLORO-~~ <i>chlorinated aldehyde</i>	SEM11	1133	1400.	J
~~/ 58163-61-4~~	~~BORITICACID, DIETHYL-, (2-ETHYL-1,3,2-DIOXAPHOSPHIN-4-Y~~ <i>unknown</i>	SEM11	1150	3000.	J
~~/ 3389-71-7~~	~~BICYCLO[2.2.1]HEPTA-2,5-DIENE, 1,2,3,4,7,7-HEXACHLOR~~ <i>Pesticide</i>	SEM11	1903	3400.	J

206.000 40.00

SPECTROSCOPIST *AH*

DATE *6-20-81*

Sample Number

EC878

Organics Analysis Data Sheet
(Page 4)

Tentatively Identified Compounds

CAS Number	Compound Name	Fraction	RT or Scan Number	Estimated Concentration (ug/l or ug/kg)
1.	NO VOA COMPOUNDS FOUND			
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ORGANICS ANALYSIS DATA SHEET (PAGE 4)
TENTATIVELY IDENTIFIED COMPOUNDS

SAMPLE NUMBER EC877
COMPUCHEN FILE GH853327C22

CAS NUMBER	COMPOUND NAME	FRACTION	SCAN NUMBER	ESTIMATED CONC. (UG/L OR UG/KG)	
13 2091-29-4	~~9-HEXADECANOIC ACID~~ <i>Calc. 100%</i>	SEM11	929	330-290.	J
14 646-30-0	~~NONADECANOIC ACID~~ <i>Calc. 100%</i>	SEM11	935	850-750.	J
15 60-57-1	~~2,7,13,6-DIETHYLANAPHTHALENE, 2,3-DIORTIRENE, 3,4,5,6,9,9-HE~~ <i>Calc. 100%</i>	SEM11	966	250-220.	J
16 6287-30-3	~~BENZALDEHYDE, 3,4-DICHLORO-~~ <i>Calc. 100%</i>	SEM11	997	170-600.	J
17851-33-5	~~1,2-BENZENEDICARBONYL CHLORIDE, BUTYL 2-ETHYL PROPYLESTER~~ <i>Calc. 100%</i>	SEM11	1007	420.	J
1 23403-41-0	~~L-THREONINE, N-(TRIFLUOROACETYL)-, BUTYLESTER~~ <i>Calc. 100%</i>	SEM11	1013	770-1900.	J
18 1006-54-8	~~PHOSPHORIC ACID, TRIETHYLESTER~~ <i>Calc. 100%</i>	SEM11	1033	850-700.	J
1 52783-43-4	~~NONADECANOL~~ <i>Calc. 100%</i>	SEM11	1040	920-010.	J
0 791-20-6	~~PHOSPHINE OXIDE, TRIPHENYL-~~ <i>Calc. 100%</i>	SEM11	1073	590-520.	J

31.0 ✓
33.600 40.00

SPECTROSCOPIST *ML*
DATE *01/2/82*

ORGANICS ANALYSIS DATA SHEET (PAGE 4)
TENTATIVELY IDENTIFIED COMPOUNDS

SAMPLE NUMBER EC877

COMPUCHEN FILE GH853327C22

CAS NUMBER	COMPOUND NAME	FRACTION	SCAN NUMBER	ESTIMATED CONC. (UG/L OR UG/KG)
10595-95-6	~~unknown~~ ethanamine, N-methyl-N-nitroso	semi 1	189	190 J B
~~75-00-2~~	~~solvent~~	~~SEMI 1~~	~~182~~	~~900-2000 J B~~
~~10500-33-6~~	~~ETANOLAMINE, N-NITROSO~~	~~SEMI 1~~	~~182~~	~~1000 J B~~
637-92-3	PROPANE, 2-ETHOXY-2-ETHYL- <i>alkane unknown</i>	SEMI 1	189	110 100. J B
23889-33-8	PTUALALDEHYDE, SEMICARBAZONE <i>color unknown</i>	SEMI 1	194	200-250. J B
100-10-1	2-PENTANONE, 4-ETHYL- <i>to h.c.</i>	SEMI 1	206	420-370. J B
100-00-3	BENZENE, ETHYL- <i>alkane toluene</i>	SEMI 1	228	400-350. J B
141-79-7	3-PENTEN-2-ONE, 4-ETHYL- <i>color unknown</i>	SEMI 1	236	670-590. J B
123-42-2	2-PENTANONE, 4-HYDROXY-4-ETHYL- <i>color, contains i.v.</i>	SEMI 1	293	5900-4000. J B
100-41-4	BENZENE, ETHYL- <i>alkane toluene 1500 ER</i>	SEMI 1	314	360-320. J B
35739-91-6	2-PROPENAL, 3-(2,2,6-TRIMETHYL-7-OXABICYCLO[4.1.0]HEP <i>color unknown</i>	SEMI 1	639	1000 800. J
57-10-3	HEXADECANOIC ACID <i>unknown</i>	SEMI 1	865	1010 800. J
629-74-3	1-HEXADECENE <i>LAB ref. c.c.</i>	SEMI 1	903	1100 9300. J
1454-85-9	1-HEPTADECANOL <i>color</i>	SEMI 1	911	720 540. J

P.O. ✓
2.600 40.00

SPECTROSCOPIST *BAL*
DATE *8/12/85*

Sample Number

EC877

Organics Analysis Data Sheet
(Page 4)

Tentatively Identified Compounds

CAS Number	Compound Name	Fraction	RT or Scan Number	Estimated Concentration (ug/l or ug/kg)
1.	NO VOA COMPOUNDS FOUND			
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3.				
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ORGANICS ANALYSIS DATA SHEET (PAGE 4)
TENTATIVELY IDENTIFIED COMPOUNDS

SAMPLE NUMBER EC876

COMPUCHEM FILE GH853137B15

CAS NUMBER

COMPOUND NAME

FRACTION

SCAN
NUMBER

ESTIMATED CONC.
(UG/L OR (UG/KG))

15261-06-0

Unknown

SEM11

1251

26000.

J

~~1,5-DIOXA-2,4,6,8-TETRASTILACYCLOOCTANE,2,2,4,4,6,6,8~~

2540.000

40.00

SPECTROSCOPIST

DATE

jk

6/20/15

ORGANICS ANALYSIS DATA SHEET (PAGE 4)
TENTATIVELY IDENTIFIED COMPOUNDS

SAMPLE NUMBER EC876
COMPUCHEN FILE GH053137B15

	CAS NUMBER	COMPOUND NAME	FRACTION	SCAN NUMBER	ESTIMATED CONC (UG/L OR (UG/KG))	
1	100-00-3	<i>Toluene</i> BENZENE, METHYL-	SEM11	257	160000.	J
2	100-06-1	<i>Hydrocarbon</i> BENZENE, BROMO-	SEM11	428	10000.	J
3	493-02-7	<i>Alkene</i> NAPHTHALENE, DECAHYDRO-, TRANS-	SEM11	528	21000.	J
4	3282-53-9	<i>Alkene</i> CYCLOHEXENE, 1-BUTYL-	SEM11	559	14000.	J
5	91-66-7	<i>Amine</i> BENZENAMINE, N,N-DIETHYL-	SEM11	635	35000.	J
6	2063-23-0	<i>Acid</i> ACETICACID, PHENOXY-, METHYLESTER	SEM11	678	32000.	J
7	2142-63-4	<i>Ketone</i> ETHANONE, 1-(3-BROMOPHENYL)-	SEM11	692	21000.	J
8	121-97-1	<i>Ketone</i> 1-PROPANONE, 1-(4-METHOXYPHENYL)-	SEM11	760	11000.	J
9	590-02-3	<i>Unknown</i> ACETICACID, CHLORO-, BUTYLESTER	SEM11	791	640000.	J
10	54052-74-3	<i>Unknown</i> BENZENE, ETHYLPHENOXY-	SEM11	832	8000.	J
1	6287-30-3	<i>Unknown isomers</i> BENZALDEHYDE, 3,4-DICHLORO-	SEM11	1122	38000.	J
2	122-59-0	<i>Unknown</i> ACETICACID, PHENOXY-	SEM11	1145	48000.	J
3	2635-75-0	<i>Unknown</i> BENZOTHTHIOPHENE-4-ACETICACID	SEM11	1189	14000.	J

2540.000 40.00

SPECTROSCOPIST *BT*
DATE *6/20/05*

ORGANICS ANALYSIS DATA SHEET (PAGE 4)
TENTATIVELY IDENTIFIED COMPOUNDS

SAMPLE NUMBER 20 EC 876
COMPUCHEN FILE GH853137A13

CAS NUMBER	COMPOUND NAME	FRACTION	SCAN NUMBER	ESTIMATED CONC. (UG/L OR UG/KG)
76-13-1	~~ETHANE, 1,1,2-TRICHLORO-1,2,2-TRIFLUORO-~~	E238	249	18. J
513-36-0	~~PROPANE, 1-CHLORO-2-METHYL-~~	E238	295	23. J
107-04-0	~~ETHANE, 1-BROMO-2-CHLORO-~~	E238	319	20. J
683-53-4	~~ETHANE, 2-BROMO-1,1-DICHLORO-~~ <i>halogenated alkane</i>	E238	420	17. J
127-10-4	~~ETHENE, TETRACHLORO-~~ <i>p.p.</i>	~~E238~~	~~466~~	~~55. J~~
100-86-1	~~BENZENE, BROMO-~~	E238	686	13. J
100-70-3	~~BENZENE, 1,3,5-TRICHLORO-~~ <i>unknown</i>	E238	704	25. J

1.270 50.00

SPECTROSCOPIST 7.4
DATE 6/17/85

laboratory Name EC 918
 Case No 4486

Sample Number

EC 918

Organics Analysis Data Sheet
 (Page 4)

Tentatively Identified Compounds

119

CAS Number	Compound Name	Fraction	Scan Number	Estimated Concentration (ug/L or ug/kg)
1	Unknown	V	39	4000
2	Dibenzofuran isomer		428	600
3	Unknown		307	30000
4				
5	Unknown	B	286	1000
6	"		344	2000
7	"		382	2000
8	"		436	3000
9	"		690	1000
10	"		838	2000
11	"		942	2000
12	"		1001	3000
13	"		1125	50
14	"		1312	30
15	"		1359	50
16	"		1699	20
17	"		1729	40
18	"		1902	20
19	"		1413	40
20	Unknown oxygenated hydrocarbon		1266	70
21	"		1186	80
22	"		1116	3000
23	"		968	4000
24				
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30				

Laboratory Name PEI Associates, Inc.
 Date No 4986

Sample Number
EC917

Organics Analysis Data Sheet
 (Page 4)

4.1

Tentatively Identified Compounds

CAS Number	Compound Name	Fraction	Scan Number	Estimated Concentration (ug/l or ug/kg)
	UNKNOWN	✓	39	0.00
2	"		317	0.00
	Aldol Condens. Prod.	B	385	0.00
5	Hexane		403	10
	Xylene		416	20
1	UNKNOWN		548	90
2	"		777	100
	"		792	50
10	"		915	400
	"		989	400
1	"		1002	30
13	UNKNOWN Oxygenated Hydrocarbon		310	90
1	"		943	30
15	"		851	150
15	UNKNOWN		491	50
7				
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3 No 7/66

EC 936

997

[illegible]

Laboratory Name PEI Associates, Inc.
 Sample No. 0486

Sample No. E 1935

Organics Analysis Data Sheet
 (Page 4)

889

Tentatively Identified Compounds

CAS Number	Compound Name	Fraction	Scan Number	Estimated Concentration (ug/l or ug/kg)
1.	No Volatiles Found	✓		
2.				
3.	Aldol Condens. Prod.	B	345	10
4.	"		355	10
5.	"		401	10
6.	UNKNOWN		717	8
7.	UNKNOWN		528	6
8.	"		900	40
9.	"		905	40
10.	"		993	30
11.	"		994	10
12.	"		1019	6
13.	"		1050	5
14.	"		1500	40
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Laboratory Name PEI Associates, Inc.
Case No C-86

Sample No. E-933

Organics Analysis Data Sheet
(Page 4)

854

Tentatively Identified Compounds

CAS Number	Compound Name	Fraction	Scan Number	Estimated Concentration: (ug/Tbr ug/kg)
1.	<i>Chloro fluoro carbene</i>	✓	56	5
2.	"		34	5
3.				
4.	Aldol Condens. Prod.	B	353	5
5.	"		385	4
6.	<i>Hexane</i>		405	5
7.	<i>Hexane</i>		418	5
8.	<i>Hexane</i>		457	5
9.	<i>Silicone</i>		2077	5
10.	"		2472	5
11.				
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Source Name PEI Associates, Inc.
Se No 5/986

Sample Number

EC932

Organics Analysis Data Sheet
(Page 4)

8.6

Tentatively Identified Compounds

AS Number	Compound Name	Fraction	Scan Number	Estimated Concentration (ug/l or ug/kg)
1	UNKNOWN	V	36	20
2	Aldol Condens. Prod..	B	380	60
4	UNKNOWN		769	200
	"		909	40
	"		939	40
7	"		978	100
	"		1052	50
J	"		1063	40
10	"		1100	60
11	"		1213	70
12	"		1422	100
13	"		1523	80
14	"		857	40
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Laboratory Name PEI Associates, Inc.
 Sample No. 4586

Sample number
EC 935

Organics Analysis Data Sheet
 (Page 4)

950

Tentatively Identified Compounds

CAS Number	Compound Name	Fraction	Scan Number	Estimated Concentration (ug/l or ug/kg)
1.	Aldol Condens. Prod.	B	947	10
2.	"		793	50
3.	xylol		543	10
4.	UNKNOWN		591	10
5.	UNKNOWN Cyclic compound		674	20
6.	"		780	10
7.	"		1275	10
8.	"		1351	20
9.	"		2130	20
10.	UNKNOWN		1606	20
11.	"		1991	8
12.	Acid		1818	8
13.	"		1811	10
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Laboratory Name PEI Associates, Inc.
Sample No. 55166

Sample Number

EC931

Organics Analysis Data Sheet
(Page 4)

Tentatively Identified Compounds

780

AS Number	Compound Name	Fraction	Scan Number	Estimated Concentration (ug/l or ug/kg)
1.	<u>UNIDENTIFIED</u>	<u>✓</u>	<u>39</u>	<u>30</u>
2.				
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atory Name PEI Associates, Inc.
2-28-6
No

Sample number
EC928

Organics Analysis Data Sheet
(Page 4)

671

Tentatively Identified Compounds

CAS Number	Compound Name	Fraction	Scan Number	Estimated Concentration, 100/1 or ug/kg
1.	UNKNOWN	✓	168	1000
2.	Aldol Condens. Prod.	B	383	70
3.	14.10		1003	70
4.	Acid		1004	70
5.	"		1241	100
6.	"		1348	30
7.	UNKNOWN		1410	100
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Dr story Name PEI Associates, Inc.
se No 79F6

Sample Number

E.C.927

Organics Analysis Data Sheet
(Page 4)

630

Tentatively Identified Compounds

IAS Number	Compound Name	Fraction	Scan Number	Estimated Concentration: (ug/l or ug/kg)
	No Volatiles Found			
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Sample Number
EC 930

757

[illegible]

Dr. Story Name PEI Associates, Inc.
se No 4986

Sample Number
EL929

Organics Analysis Data Sheet
(Page 4)

714

Tentatively Identified Compounds

CAS Number	Compound Name	Fraction	Scan Number	Estimated Concentration: (ug/L or ug/kg)
1	UNKNOWN	✓	34	30
2				
3	Aldol Condens. Prod.	B	33	100
4	Ketone		32	70
5	Alkene		31	10
6	Alcohol		30	10
7	UNKNOWN		29	10
8	Al.		1240	30
9	"		1015	100
10			1009	10
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atory Name PEI Associates, Inc.
No 4656

Sample Number
EL926

Organics Analysis Data Sheet
(Page 4)

561

Tentatively Identified Compounds

CAS Number	Compound Name	Fraction	Scan Number	Estimated Concentration: (ug/l or ug/kg)
1.	UNKNOWN	✓	35	30
2.				
3.	Aldol Condens. Prod.	B	465	50
4.	UNKNOWN		611	20
5.			800	10
6.			971	10
7.			1187	10
8.			1179	40
9.			1309	40
10.			1353	20
11.	UNKNOWN		1835	20
12.			1993	20
13.			1286	40
14.			1238	10
15.			1677	20
16.			692	10
17.			628	10
18.			589	40
19.				
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Company Name PEI Associates, Inc.
Sample No. 4986

Sample Number
EC925

Organics Analysis Data Sheet
(Page 4)

518

Tentatively Identified Compounds

AS Number	Compound Name	Fraction	Scan Number	Estimated Concentration (ug/l or ug/kg)
1	Chloroform	V	34	20
2	Fluoride	B	72.5	100
3	"	"	871	40
4	"	"	1008	200
5	"	"	112.9	70
6	"	"	1241	40
7	"	"	1346	20
8	Fluoride	"	1557	600
9	Chloroform	"	1448	30
10	"	"	1419	600
11	"	"	1336	60
12	"	"	449	20
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Laboratory Name PEI Associates, Inc.
 Sample No 01986

Sample Number

EC924

Organics Analysis Data Sheet
 (Page 4)

450

Tentatively Identified Compounds

CAS Number	Compound Name	Fraction	Scan Number	Estimated Concentration: (ug/l or ug/kg)
1	Chloroform carbon	V	50	50
2				
3	UNKNOWN	B	50	10
4	UNKNOWN compound hydrocarbon		6	10
5	"		810	10
6	"		1010	10
7	"		1075	10
8	"		1104	7
9	"		1229	20
10	"		1250	9
11	"		1279	8
12	"		1327	400
13	UNKNOWN		1630	700
14	"		1558	80
15	"		102	10
16	"		961	20
17	Acid		251	40
18				
19				
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Laboratory Name PEI Associates, Inc.

 No 4986

Sample number

EC923

Organics Analysis Data Sheet (Page 4)

382

Tentatively Identified Compounds

C S R number	Compound Name	Fraction	Scan Number	Estimated Concentration (ug/l or ug/kg)
1.	<i>Chloro-fluoro carbon</i>	<i>V</i>	<i>34</i>	<i>30</i>
2.				
3.	<i>Aldol Condens. Prod.</i>	<i>B</i>	<i>699</i>	<i>200</i>
4.	<i>UNKNOWN</i>	<i>1</i>	<i>751</i>	<i>2000</i>
5.	<i>Alcohol</i>		<i>810</i>	<i>1000</i>
6.	<i>UNKNOWN Cyclicated Hydrocarbon</i>		<i>975</i>	<i>4000</i>
7.	<i>"</i>		<i>1010</i>	<i>900</i>
8.	<i>"</i>		<i>1076</i>	<i>1000</i>
9.	<i>"</i>		<i>1102</i>	<i>1000</i>
10.	<i>"</i>		<i>1229</i>	<i>1000</i>
11.	<i>"</i>		<i>1327</i>	<i>500</i>
12.	<i>"</i>		<i>1354</i>	<i>4</i>
13.	<i>UNKNOWN</i>		<i>1632</i>	<i>30</i>
14.	<i>"</i>		<i>1089</i>	<i>500</i>
15.	<i>Alkene</i>		<i>1461</i>	<i>9</i>
16.				
17.				
18.				
19.				
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Laboratory Name _____

Use No. 4986

EC922

**Organics Analysis Data Sheet
(Page 4)**

347

Tentatively Identified Compounds

CAS Number	Compound Name	Fraction	Scan Number	Estimated Concentration: (ug/l or ug/kg)
1.	No Volatiles Found			
2.				
3.				
4.				
5.				
6.				
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Laboratory Name PEI ASSOCIATES, INC.Sample No. 4986

Sample Number

81921Organics Analysis Data Sheet
(Page 4)

Tentatively Identified Compounds

27.

CAS Number	Compound Name	Fraction	Scan Number	Estimated Concentration: (ug/L or ug/kg)
	Unknown	V	39	20000
1	"		319	2000
3				
4	Unknown or degraded	B	212	2000
5	"		279	5000
6	"		315	500
7	"		472	2000
8	"		636	900
9	"		740	200
10	"		885	400
11	Unknown		1031	2000
12	"		1000	5000
13	"		984	500
14	"		929	1000
15	"		488	500
16	"		443	600
17	"		415	900
18				
19				
20				
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29				
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Organics Analysis Data Sheet
(Page 4)

Tentatively Identified Compounds

245

CAS Number	Compound Name	Fraction	Scan Number	Estimated Concentration: (ug/l or ug/kg)
1.	<i>Unknown</i>	<i>✓</i>	<i>39</i>	<i>2000</i>
2.				
3.	<i>Aldol Condens. Prod.</i>	<i>B</i>	<i>348</i>	<i>10</i>
4.			<i>381</i>	<i>52</i>
5.	<i>Hexane</i>		<i>401</i>	<i>20</i>
6.				
7.				
8.				
9.				
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Laboratory Name PEI Associates, Inc.Case No 7986

202

Sample Number

E.C-9.19

Organics Analysis Data Sheet
(Page 4)

Tentatively Identified Compounds

CAS Number	Compound Name	Fraction	Scan Number	Estimated Concentration (ug/l or ug/kg)
1.	UNKNOWN	V	40	500
2.				
3.	Aldol Condens. Prod..	B	494	70
4.	xyloxy		544	10
5.	Acid		1513	9
6.	UNKNOWN		1318	10
7.				
8.				
9.				
10.				
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Laboratory Name PEI ASSOCIATES
Case No. 4521

Sample Number EC905-2003

Organics Analysis Data Sheet
(Page 4)

Tentatively Identified Compounds

CAS Number	Compound Name	Fraction	Scan Number	Estimated Concentration (ug/l or ug/kg)
1.	Silicic acid	B	527	60
2.	"		670	30
3.	"		804	10
4.	Acid		1209	100
5.	"		1310	100
6.	UNKNOWN		1410	20
7.	"		1514	70
8.	Silicic acid		1686	10
9.	M. 122		1921	60
10.	"		2097	10
11.	UNKNOWN		2027	10
12.	ALCOHOL		1741	60
13.	UNKNOWN		984	10
14.	"		880	20
15.	"		657	10
16.	Phosphate		997	100
17.				
18.				
19.	UNKNOWN	✓	332	30
20.				
21.				
22.				
23.				
24.				
25.				
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Laboratory Name: PEI Associates
 Case No: 450 /

Sample Number 1101
EC 904

Organics Analysis Data Sheet
 (Page 4)

Tentatively Identified Compounds

CAS Number	Compound Name	Fraction	Scan Number	Estimated Concentration (ug/l or ug/kg)
1.	ALKANE	B	710	50
2.	"		721	30
3.	"		767	50
4.	"		789	100
5.	"		F35	30
6.	"		845	100
7.	"		869	200
8.	"		904	200
9.	"		929	200
10.	"		994	40
11.	"		1054	20
12.	UNKNOWN		1512	50
13.	"		855	200
14.	"		898	60
15.	oxygenated hydrocarbon		879	200
16.	Alky Benzene		869	20
17.	UNKNOWN		F25	40
18.	"		817	20
19.				
20.	FROX 15mat	V	236	400
21.	dibenzodioxane 15mat		410	10
22.	Unknown		326	200
23.				
24.				
25.				
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11.00

Laboratory Name PEI Associates
Case No. 4501

Sample Number

EC903

Organics Analysis Data Sheet
(Page 4)

Tentatively Identified Compounds

CAS Number	Compound Name	Fraction	Scan Number	Estimated Concentration (ug/L or ug/kg)
1.	oxygenated hydrocarbon	B	555	60
2.			804	10
3.	UNKNOWN		815	5
4.				
5.	N/A	✓		
6.				
7.				
8.				
9.				
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Laboratory Name PEI ASSOCIATES
Case No. 4501

Sample Number 1111
EC902

Organics Analysis Data Sheet (Page 4)

Tentatively Identified Compounds

CAS Number	Compound Name	Fraction	Scan Number	Estimated Concentration (ug/l or ug/kg)
1.	Allyl Benzoate	B	451	20
2.	"		617	10
3.	UNKNOWN		589	30
4.	"		805	30
5.	"		864	30
6.	"		879	20
7.	"		925	30
8.	"		9519	
9.	UNKNOWN		1024	20
10.	"		1927	8
11.	"		1575	90
12.	"		1855	30
13.	"		2497	30
14.				
15.				
16.	UNKNOWN	V	730	60
17.	"		327	50
18.				
19.				
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Laboratory Name _____

Case No. 4501

EC 901

Organics Analysis Data Sheet (Page 4)

Tentatively Identified Compounds

CAS Number	Compound Name	Fraction	Scan Number	Estimated Concentration (ug/L or ug/kg)
1.	ALKANE	1.3	551	10
2.	SILICONE		586	30
3.	"		591	20
4.	UNKNOWN		635	20
5.	"		821	20
6.	"		825	20
7.	"		1108	9
8.	"		1512	200
9.	Phosphate Ester		951	100
10.	Oxygenated Aromatic		1032	20
11.	Phosphate Ester		1032	20
12.	Aromatic Acid		880	80
13.				
14.	UNKNOWN oxygenated	✓	292	20
15.	"		305	10
16.	UNKNOWN		326	100
17.	Substance 15001		406	10
18.	UNKNOWN		696	100
19.	"		734	20
20.				
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Laboratory Name PLA ASSOCIATES
Case No. 4521

Sample Number EC 900 (55)

Organics Analysis Data Sheet
(Page 4)

Tentatively Identified Compounds

CAS Number	Compound Name	Fraction	Scan Number	Estimated Concentration (ug/l or ug/kg)
1.	SILICONE	B	520	10
2.	UNKNOWN		655	4
3.	SILICONE		662	5
4.	"		796	5
5.	UNKNOWN		1218	5
6.	"		1382	5
7.				
8.	NUCLE	V		
9.				
10.				
11.				
12.				
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Laboratory Name PEI Associates
Case No 4501

Sample Number
EC899 558

Organics Analysis Data Sheet
(Page 4)

Tentatively Identified Compounds

CAS Number	Compound Name	Fraction	Scan Number	Estimated Concentration (ug/l or ug/kg)
1.	UNKNOWN	B	380	20
2.	SILICONE		521	40
3.	SILICONE		663	10
4.	ALKY (Benzene)		499	5
5.	SILICONE		797	5
6.	UNKNOWN		1642	20
7.	"		1678	10
8.	"		1157	5
9.	"		1380	10
10.				
11.	None	✓		
12.				
13.				
14.				
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Laboratory Name PEI AssociatesCase No. 4521

Sample Number

EC598

0512

Organics Analysis Data Sheet
(Page 4)

Tentatively Identified Compounds

CAS Number	Compound Name	Fraction	Scan Number	Estimated Concentration (ug/l or ug/kg)
1.	UNKNOWN	B	385	30
2.	SILICONE		627	20
3.	"		669	10
4.	"		800	5
5.	UNKNOWN		1048	10
6.	"		1054	10
7.	"		1163	5
8.	"		1382	30
9.				
10.	None	✓		
11.				
12.				
13.				
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Laboratory Name PEI Associates
Case No 4501

Sample Number ECF97 752

Organics Analysis Data Sheet
(Page 4)

Tentatively Identified Compounds

CAS Number	Compound Name	Fraction	Scan Number	Estimated Concentration (ug/l or ug/kg)
1.	UNKNOWN	✓	461	6000
2.	9		289	5000
3.				
4.				
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Laboratory Name PEI ASSOCIATES
Case No CSD 1

Sample Number 7007
EC896

Organics Analysis Data Sheet
(Page 4)

Tentatively Identified Compounds

CAS Number	Compound Name	Fraction	Scan Number	Estimated Concentration (ug/l or ug/kg)
1.	1/2 Known	✓	324	30
2.	"		235	500
3.	"		293	200
4.				
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Laboratory Name PEI Associates
Case No 9501

Sample Number 1112
ECFG

Organics Analysis Data Sheet
(Page 4)

Tentatively Identified Compounds

CAS Number	Compound Name	Fraction	Scan Number	Estimated Concentration (ug/l or ug/kg)
1.	UNKNOWN	B	387	50
2.	SILICONE		655	10
3.	UNKNOWN		1808	10
4.	"		790	20
5.	"		1418	20
6.	"		1425	30
7.	Oxygenated hydrocarbon		1444	8
8.	"		1451	20
9.	UNKNOWN		1747	20
10.	SILICONE		1917	20
11.				
12.	None	✓		
13.				
14.				
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Laboratory Name PEI Associates
Case No 4501

Sample Number ECF93

Organics Analysis Data Sheet
(Page 4)

Tentatively Identified Compounds

CAS Number	Compound Name	Fraction	Scan Number	Estimated Concentration (ug/l or ug/kg)
1.	UNKNOWN	B	452	300
2.	Silicone		531	2000
3.	UNKNOWN		551	100
4.	"		698	100
5.	Silicone		670	400
6.	UNKNOWN		686	80
7.	Silicone		803	100
8.	"		822	200
9.	"		923	90
10.	UNKNOWN		901	300
11.	"		912	200
12.	"		942	400
13.	"		1168	200
14.	"		1235	100
15.				
16.	None	✓		
17.				
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Section 3

Tentatively Identified Compounds

Soil Boring Samples

Sample Number
EC832

Organics Analysis Data Sheet
(Page 4)

Tentatively Identified Compounds

CAS Number	Compound Name	Fraction	RT or Scan Number	Estimated Concentration (ug/l or ug/g)
1.	NO VOA COMPOUNDS FOUND			
2.				
3.				
4.				
5.				
6.				
7.				
8.				
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ORGANICS ANALYSIS DATA SHEET (PAGE 4)
TENTATIVELY IDENTIFIED COMPOUNDS

SAMPLE NUMBER EC832
COMPUCHEM FILE GD853489A21

CAS NUMBER	COMPOUND NAME	FRACTION	SCAN NUMBER	ESTIMATED CONC. (UG/L OR UG/KG)	
413 38234-82-1	~~1H-1,3,2-BENZODIPHOSPHAZOLE, 2,3-DIHYDRO-2-METHYL-1,~~	GD853489	1235	940.	J
514 16639-46-6	~~4H-1-BENZOPYRAN-4-ONE, 5-HYDROXY-2-METHYL-7-(2-PROPEN~~	GD853489	1310	1700.	J
515 7097-00-9	~~OBSCURINERGAN-21-ONE, 6,7-DIHYDRO-22-ETHYL-15,16-DI~~	GD853489	1422	7400.	J

213.000 40.00

SPECTROSCOPIST JE

DATE 6/20/11

ORGANICS ANALYSIS DATA SHEET (PAGE 4)
TENTATIVELY IDENTIFIED COMPOUNDS

SAMPLE NUMBER EC832
COMPUCHEN FILE GD853489A21

CAS NUMBER	COMPOUND NAME	FRACTION	SCAN NUMBER	ESTIMATED CONC. (UG/L OR UG/KG)	
629-62-9	~~PENTADECANE~~ <i>Hydrocarbon</i>	GD853489	742	2800.	J
~~1121-66-0~~	~~2-CYCLOHEPTEN-1-ONE~~ <i>Ketone</i>	~~GD853489~~	~~754~~	~~4400.~~	~~J~~
2 629-78-7	~~HEPTADECANE~~ <i>Hydrocarbon</i>	GD853489	789	3000.	J
3 629-78-7	~~HEPTADECANE~~ "	GD853489	812	2900.	J
4 629-78-7	~~HEPTADECANE~~ "	GD853489	835	5000.	J
5 593-45-3	~~OCTADECANE~~ "	GD853489	878	2600.	J
6 629-94-7	~~HEXICOSANE~~ "	GD853489	883	2700.	J
7 18544-95-4	~~OCTADECANE, 6-METHYL-~~ "	GD853489	919	2400.	J
8 629-74-3	~~1-HEXADECYNE~~ <i>Lab. Artifact</i>	GD853489	987	12000.	J
9 26248-42-0	~~TRIDECANOL~~ <i>unknown</i>	GD853489	996	1600.	J
10 838-95-9	~~BERBERINE, N,N-DIMETHYL-4-(2-PHENYLETHENYL)-, (E)-~~ <i>Amine</i>	GD853489	1060	2100.	J
11 4329-12-0	~~BENZENE, 1-CHLORO-3-(2,2-DICHLORO-1-(4-CHLOROPHENYL)E~~ <i>Pesticide DDT</i>	GD853489	1076	900.	J
12 50-29-3	~~BENZENE, 1,1'-(2,2,2-TRICHLOROETHYLIDENE)BIS(4-CHLORO~~ <i>Pesticide DDT</i>	GD853489	1105	3500.	J

213.000 40.00

SPECTROSCOPIST *[Signature]*
DATE *4/20/11*

ORGANICS ANALYSIS DATA SHEET (PAGE 4)
TENTATIVELY IDENTIFIED COMPOUNDS

SAMPLE NUMBER EC833
COMPUchem FILE GR053490C19

CAS NUMBER	COMPOUND NAME	FRACTION	SCAN NUMBER	ESTIMATED CONC. (UG/L OR UG/KG)
~~1~~ 764-48-2	~~ETHANOL, 2 (ETHENYL OXY)-~~ instrument artifact	~~E238~~	~~113~~	~~29. J~~
1 2 4251-16-3	THIOCYANIC ACID, PROPYLESTER unknown	E238	163	9. J

1.260 50.00

SPECTROSCOPIST 2.4
DATE 2/9/85

ORGANICS ANALYSIS DATA SHEET (PAGE 4)
TENTATIVELY IDENTIFIED COMPOUNDS

SAMPLE NUMBER EC833
COMPUCHEN FILE GD853490C21

CAS NUMBER	COMPOUND NAME	FRACTION	SCAN NUMBER	ESTIMATED CONC. (UG/L OR UG/KG)
1 68-12-2	~~FORMAMIDE, N,N-DIMETHYL-~~ <i>Amide</i>	SEM11	269	65000. JB
2 107-92-6	~~BUTANOIC ACID~~ <i>Fatty Acid</i>	SEM11	300	27000. JB
3 123-42-2	~~2-PENTANONE, 4-HYDROXY-4-METHYL-~~ <i>Acetone Contamination</i>	SEM11	322	4200. JB
4 109-52-4	~~PENTANOIC ACID~~ <i>Fatty Acid</i>	SEM11	364	8700. J
5 111-76-2	~~ETHANOL, 2-BUTOXY-~~ <i>Same</i>	SEM11	376	24000. J
6 111-77-3	~~ETHANOL, 2-(2-ETHOXYETHOXY)-~~ "	SEM11	390	18000. J
7 111-90-0	~~ETHANOL, 2-(2-ETHOXYETHOXY)-~~ "	SEM11	448	3600. J
~~0 47901-32-6~~	~~DODECANE, 4,7-DIMETHYL-~~ <i>only 20 needed</i>	~~SEM11~~	~~630~~	~~1400. J~~
8 629-39-4	~~TETRADECANE~~ <i>Hydrocarbon</i>	SEM11	684	5100. J
9 31295-56-4	~~DODECANE, 2,6,11-TRIMETHYL-~~ "	SEM11	716	3900. J
1 629-62-9	~~PENTADECANE~~ "	SEM11	734	9300. J
2 629-70-7	~~HEPTADECANE~~ "	SEM11	757	2100. J
3 1560-93-6	~~PENTADECANE, 2-METHYL-~~ "	SEM11	765	4600. J

211.000 40.00

SPECTROSCOPIST *FE*

DATE *6/10/85*

ORGANICS ANALYSIS DATA SHEET (PAGE 4)
TENTATIVELY IDENTIFIED COMPOUNDS

SAMPLE NUMBER EC833
COMPUCEM FILE GD053490C21

CAS NUMBER	COMPOUND NAME	FRACTION	SCAN NUMBER	ESTIMATED CONC. (UG/L OR UG/KG)
314 629-78-7	HEPTADECANE <i>Hydrocarbon</i>	SEM11	782	14000. J
418 629-78-7	HEPTADECANE "	SEM11	805	4600. J
~~16 55045-14-2~~	~~TETRADECANE, 4-ETHYL-~~ <i>only 20 needed</i>	~~SEM11~~	~~811~~	~~2100. J~~
514 629-78-7	HEPTADECANE <i>Hydrocarbon</i>	SEM11	827	22000. J
118 629-78-7	HEPTADECANE "	SEM11	870	10000. J
714 55030-62-1	TRIDECANE, 4,8-DIMETHYL-	SEM11	875	5600. J
120 629-78-7	HEPTADECANE "	SEM11	911	9700. J
121 629-78-7	HEPTADECANE "	SEM11	950	2300. J
122 629-74-3	<i>Lab Artifact</i> T-HEXADECYNE	SEM11	977	24000. J

211.000 40.00

SPECTROSCOPIST *JK*
DATE *6/20/81*



PIEZOMETER INSTALLATION SHEET

PROJECT NAME PRISTINE, INC FIELD ENG./GEO. Ed Need DATE 7/12/85
PROJECT NO. 115 - RI 1 - SIGEO CHECKED BY _____ DATE _____
BORING NO. GW 45
PIEZOMETER NO. GW 45 DATE OF INSTALLATION 6/11-13/85

BOREHOLE DRILLING

DRILLING METHOD <u>HSA 4 1/4" I.D.</u>	TYPE OF BIT <u>—</u>
DRILLING FLUID (S) USED: <u>NONE</u>	CASING SIZE (S) USED: <u>NONE</u>
FLUID _____ FROM _____ TO _____	SIZE _____ FROM _____ TO _____
FLUID _____ FROM _____ TO _____	SIZE _____ FROM _____ TO _____

PIEZOMETER DESCRIPTION

TYPE <u>PVC</u>	RISER PIPE MATERIAL <u>PVC</u>
DIAMETER OF PERFORATED SECTION <u>2"</u>	RISER PIPE DIAMETERS:
PERFORATION TYPE:	O.D. _____ I.D. <u>2"</u>
SLOTS ☒ HOLES ☐ SCREEN ☐	LENGTH OF PIPE SECTIONS <u>10.25'</u>
AVERAGE SIZE OF PERFORATIONS <u>10 slot</u>	JOINING METHOD <u>Flush threaded</u>
TOTAL PERFORATED AREA <u>10'</u>	

PROTECTION SYSTEM

RISER PROTECTIVE PIPE LENGTH <u>4.75'</u>	OTHER PROTECTION <u>Vehicle fence</u>
PROTECTIVE PIPE O.D. <u>4"</u>	

ITEM	DISTANCE ABOVE/BELOW GROUND SURFACE (ft)		ELEVATION (ft)		
TOP OF RISER PIPE	+1.81'		578.79		
GROUND SURFACE	0.0		576.98		
BOTTOM OF PROTECTIVE PIPE	2.94		—		
BOREHOLE FILL MATERIALS:					
	GROUT/SLURRY	TOP +.5	BOTTOM 4	TOP 577.48	BOTTOM 572.9
	BENTONITE	TOP 4	BOTTOM 6	TOP 573.12	BOTTOM 570.0
	SAND	TOP 6	BOTTOM 13	TOP 570.98	BOTTOM 565.0
	CAVED SOIL	TOP 13	BOTTOM 18.5	TOP 565.92	BOTTOM 558.5
PERFORATED SECTION	TOP 8.5	BOTTOM 18.5	TOP 563.43	BOTTOM 558.48	
PIEZOMETER TIP	18.5		558.48		
BOTTOM OF BOREHOLE	18.5		558.48		
GWL AFTER INSTALLATION					

WAS THE PIEZOMETER FLUSHED AFTER INSTALLATION?

YES ☐

NO ☒

WAS A SENSITIVITY TEST PERFORMED ON THE PIEZOMETER?

YES ☐

NO ☒

REMARKS Well developed by pumping 2 gal/min



PIEZOMETER INSTALLATION SHEET

PROJECT NAME Pristine, Inc FIELD ENG./GEO. L. Weyer DATE 7/10/8
PROJECT NO. 115 - R11 - SIGEO CHECKED BY _____ DATE _____
BORING NO. GW 46
PIEZOMETER NO. GW 46 DATE OF INSTALLATION 6/18/85

BOREHOLE DRILLING

DRILLING METHOD <u>HSA</u> <u>4 1/4" I.D.</u>	TYPE OF BIT <u>—</u>
DRILLING FLUID (S) USED: <u>NONE</u>	CASING SIZE (S) USED: <u>NONE</u>
FLUID _____ FROM _____ TO _____	SIZE _____ FROM _____ TO _____
FLUID _____ FROM _____ TO _____	SIZE _____ FROM _____ TO _____

PIEZOMETER DESCRIPTION

TYPE <u>PVC</u>	RISER PIPE MATERIAL <u>PVC</u>
DIAMETER OF PERFORATED SECTION <u>2"</u>	RISER PIPE DIAMETERS:
PERFORATION TYPE:	O.D. _____ I.D. <u>2"</u>
SLOTS ☒ HOLES ☐ SCREEN ☐	LENGTH OF PIPE SECTIONS <u>11.75'</u>
AVERAGE SIZE OF PERFORATIONS <u>10 slot</u>	JOINING METHOD <u>Flush threaded</u>
TOTAL PERFORATED AREA <u>10'</u>	

PROTECTION SYSTEM

RISER PROTECTIVE PIPE LENGTH <u>4.75'</u>	OTHER PROTECTION <u>Vehicle ports</u>
PROTECTIVE PIPE O.D. <u>4"</u>	

ITEM	DISTANCE ABOVE/BELOW GROUND SURFACE (ft)		ELEVATION (ft)	
TOP OF RISER PIPE	+1.74		580.53	
GROUND SURFACE	0.0		578.79	
BOTTOM OF PROTECTIVE PIPE	3.01		—	
BOREHOLE FILL MATERIALS:	TOP	BOTTOM	TOP	BOTTOM
	GROUT/SLURRY	0 7.1	578.79	571.6
	BENTONITE	7.1 9.1	571.69	569.69
	SAND	9.1 20	569.69	558.79
GRAVEL	TOP	BOTTOM	TOP	BOTTOM
	—	—	—	—
PERFORATED SECTION	TOP	BOTTOM	TOP	BOTTOM
	10	20	568.79	553.79
PIEZOMETER TIP	20		553.79	
BOTTOM OF BOREHOLE	20		553.79	
GWL AFTER INSTALLATION				

WAS THE PIEZOMETER FLUSHED AFTER INSTALLATION?

YES ☐

NO ☒

WAS A SENSITIVITY TEST PERFORMED ON THE PIEZOMETER?

YES ☐

NO ☒

REMARKS Developed by pumping 2 gal/min



PIEZOMETER INSTALLATION SHEET

PROJECT NAME PRISTINE, INC FIELD ENG./GEO. Ed Need DATE 7/10/85
PROJECT NO. 115 - RII - 516EO CHECKED BY _____ DATE _____
BORING NO. GW47
PIEZOMETER NO. GW47 DATE OF INSTALLATION 6/17-18/85

BOREHOLE DRILLING

DRILLING METHOD <u>HSA 4 1/4" I.D.</u>	TYPE OF BIT <u>—</u>
DRILLING FLUID(S) USED: <u>NONE</u>	CASING SIZE (S) USED: <u>NONE</u>
FLUID _____ FROM _____ TO _____	SIZE _____ FROM _____ TO _____
FLUID _____ FROM _____ TO _____	SIZE _____ FROM _____ TO _____

PIEZOMETER DESCRIPTION

TYPE <u>PVC</u>	RISER PIPE MATERIAL <u>PVC</u>
DIAMETER OF PERFORATED SECTION <u>2"</u>	RISER PIPE DIAMETERS:
PERFORATION TYPE:	O.D. _____ I.D. <u>2"</u>
SLOTS ☒ HOLES ☐ SCREEN ☐	LENGTH OF PIPE SECTIONS <u>44.75'</u>
AVERAGE SIZE OF PERFORATIONS <u>10 slot</u>	JOINING METHOD <u>Flush threaded</u>
TOTAL PERFORATED AREA <u>5'</u>	

PROTECTION SYSTEM

RISER PROTECTIVE PIPE LENGTH <u>4.75'</u>	OTHER PROTECTION <u>Vehicle posts</u>
PROTECTIVE PIPE O.D. <u>4"</u>	

ITEM	DISTANCE ABOVE/BELOW GROUND SURFACE (ft)		ELEVATION (ft)	
TOP OF RISER PIPE	+1.38		580.25	
GROUND SURFACE	0.0		578.87	
BOTTOM OF PROTECTIVE PIPE	3.37		—	
BOREHOLE FILL MATERIALS:	TOP	BOTTOM	TOP	BOTTOM
	GROUT/SLURRY *	0 31.5	573.87	547.3
	BENTONITE	40 41.5	538.87	527.3
	SAND	41.5 48.5	537.37	530.3
CAVED SOIL	TOP	BOTTOM	TOP	BOTTOM
	48.5 50.5	530.37	528.37	
PERFORATED SECTION	TOP	BOTTOM	TOP	BOTTOM
	43.5 48.5	535.37	530.37	528.37
PIEZOMETER TIP	48.5		530.37	
BOTTOM OF BOREHOLE	50.5		528.37	
GWL AFTER INSTALLATION				

WAS THE PIEZOMETER FLUSHED AFTER INSTALLATION?

YES ☒

NO ☐

WAS A SENSITIVITY TEST PERFORMED ON THE PIEZOMETER?

YES ☐

NO ☒

REMARKS *Caved soil occurs also from 31.5 to 40.0'
Developed by bailing



PIEZOMETER INSTALLATION SHEET

PROJECT NAME Pristine, INC FIELD ENG./GEO. Ed Need DATE 7/10/
PROJECT NO. 115-R11-SIGEO CHECKED BY _____ DATE _____
BORING NO. GW 48
PIEZOMETER NO. P.W. 48 DATE OF INSTALLATION 6/24/85

BOREHOLE DRILLING

DRILLING METHOD <u>HSA 6 1/4" ID to 20'</u>	TYPE OF BIT <u>Flight Auger</u>
DRILLING FLUID (S) USED:	CASING SIZE (S) USED:
FLUID <u>water</u> FROM <u>63.5'</u> TO <u>68.5'</u>	SIZE <u>4"</u> FROM <u>20'</u> TO <u>63.5'</u>
FLUID _____ FROM _____ TO _____	SIZE <u>3"</u> FROM <u>63.5'</u> TO <u>87.5'</u>

PIEZOMETER DESCRIPTION

TYPE <u>PVC</u>	RISER PIPE MATERIAL <u>PVC</u>
DIAMETER OF PERFORATED SECTION <u>2"</u>	RISER PIPE DIAMETERS:
PERFORATION TYPE:	O.D. _____ I.D. <u>2"</u>
SLOTS ☒ HOLES ☐ SCREEN ☐	LENGTH OF PIPE SECTIONS <u>84.25'</u>
AVERAGE SIZE OF PERFORATIONS <u>10 slot</u>	JOINING METHOD <u>Flush threaded</u>
TOTAL PERFORATED AREA <u>5'</u>	

PROTECTION SYSTEM

RISER PROTECTIVE PIPE LENGTH <u>4.75'</u>	OTHER PROTECTION <u>Vehicle posts</u>
PROTECTIVE PIPE O.D. <u>4"</u>	

ITEM	DISTANCE ABOVE/BELOW GROUND SURFACE (ft)		ELEVATION (ft)	
TOP OF RISER PIPE	<u>+1.65</u>		<u>580.56</u>	
GROUND SURFACE	<u>0.0</u>		<u>579.21</u>	
BOTTOM OF PROTECTIVE PIPE	<u>3.10'</u>		<u>—</u>	
BOREHOLE FILL MATERIALS:	TOP <u>+5</u>	BOTTOM <u>73</u>	TOP <u>579.71</u>	BOTTOM <u>506</u>
	TOP <u>73</u>	BOTTOM <u>79</u>	TOP <u>506.21</u>	BOTTOM <u>500</u>
	TOP <u>—</u>	BOTTOM <u>—</u>	TOP <u>—</u>	BOTTOM <u>—</u>
	TOP <u>79</u>	BOTTOM <u>87.5</u>	TOP <u>500.21</u>	BOTTOM <u>491</u>
PERFORATED SECTION	TOP <u>82.5</u>	BOTTOM <u>87.5</u>	TOP <u>496.71</u>	BOTTOM <u>491</u>
PIEZOMETER TIP	<u>87.5</u>		<u>491.71</u>	
BOTTOM OF BOREHOLE	<u>87.5</u>		<u>491.71</u>	
GWL AFTER INSTALLATION				

WAS THE PIEZOMETER FLUSHED AFTER INSTALLATION?

YES ☒

NO ☐

WAS A SENSITIVITY TEST PERFORMED ON THE PIEZOMETER?

YES ☐

NO ☒

REMARKS Developed by pumping 2 gal/min
6 1/4" HSA used from 0-20'



PIEZOMETER INSTALLATION SHEET

PROJECT NAME Pristine, INC FIELD ENG./GEO. Ed Need DATE 7/10/85
PROJECT NO. 115-R11-SRGE0 CHECKED BY _____ DATE _____
BORING NO. GW49
PIEZOMETER NO. GW49 DATE OF INSTALLATION 6/19/85

BOREHOLE DRILLING

DRILLING METHOD <u>HSA 4 1/4" I.D.</u>	TYPE OF BIT <u>—</u>
DRILLING FLUID(S) USED: <u>NONE</u>	CASING SIZE (S) USED: <u>NONE</u>
FLUID _____ FROM _____ TO _____	SIZE _____ FROM _____ TO _____
FLUID _____ FROM _____ TO _____	SIZE _____ FROM _____ TO _____

PIEZOMETER DESCRIPTION

TYPE <u>PVC</u>	RISER PIPE MATERIAL <u>PVC</u>
DIAMETER OF PERFORATED SECTION <u>2"</u>	RISER PIPE DIAMETERS:
PERFORATION TYPE:	O.D. _____ I.D. <u>2"</u>
SLOTS ☒ HOLES ☐ SCREEN ☐	LENGTH OF PIPE SECTIONS <u>8.25'</u>
AVERAGE SIZE OF PERFORATIONS <u>10 slot</u>	JOINING METHOD <u>Flush Threaded</u>
TOTAL PERFORATED AREA <u>10'</u>	

PROTECTION SYSTEM

RISER PROTECTIVE PIPE LENGTH <u>4.75'</u>	OTHER PROTECTION <u>Vehicle = 225+5</u>
PROTECTIVE PIPE O.D. <u>4"</u>	

ITEM	DISTANCE ABOVE/BELOW GROUND SURFACE (ft)		ELEVATION (ft)	
TOP OF RISER PIPE	+1.80		577.05	
GROUND SURFACE	0.0		575.25	
BOTTOM OF PROTECTIVE PIPE	2.95		—	
BOREHOLE FILL MATERIALS:	TOP	BOTTOM	TOP	BOTTOM
	GROUT/SLURRY	0 2.5	575.25	572.7
	BENTONITE	2.5 5.0	572.75	570.2
	SAND	5 16.5	570.25	558.7
SAND AND BENTONITE	TOP	BOTTOM	TOP	BOTTOM
	16.5 20	558.75	555.2	
PERFORATED SECTION	TOP	BOTTOM	TOP	BOTTOM
	6.5 16.5	568.75	558.7	
PIEZOMETER TIP	16.5		558.75	
BOTTOM OF BOREHOLE	20.0		555.25	
GWL AFTER INSTALLATION	—		—	

WAS THE PIEZOMETER FLUSHED AFTER INSTALLATION?

YES ☐

NO ☒

WAS A SENSITIVITY TEST PERFORMED ON THE PIEZOMETER?

YES ☐

NO ☒

REMARKS Developed by pumping 2 gal/min



PIEZOMETER INSTALLATION SHEET

PROJECT NAME Pristine, INC FIELD ENG./GEO. Jim Burton DATE 7/12/85
PROJECT NO. 115 RT 1-5160 CHECKED BY _____ DATE _____
BORING NO. GW50
PIEZOMETER NO. GW50 DATE OF INSTALLATION 6/8/85

BOREHOLE DRILLING

DRILLING METHOD <u>HSA 4 1/4" I.D.</u>	TYPE OF BIT <u>—</u>
DRILLING FLUID (S) USED: <u>NONE</u>	CASING SIZE (S) USED: <u>NONE</u>
FLUID _____ FROM _____ TO _____	SIZE _____ FROM _____ TO _____
FLUID _____ FROM _____ TO _____	SIZE _____ FROM _____ TO _____

PIEZOMETER DESCRIPTION

TYPE <u>PVC</u>	RISER PIPE MATERIAL <u>PVC</u>
DIAMETER OF PERFORATED SECTION <u>2"</u>	RISER PIPE DIAMETERS:
PERFORATION TYPE:	O.D. _____ I.D. <u>2"</u>
SLOTS ☒ HOLES ☐ SCREEN ☐	LENGTH OF PIPE SECTIONS <u>12.0'</u>
AVERAGE SIZE OF PERFORATIONS <u>10 slot</u>	JOINING METHOD <u>Flush threaded</u>
TOTAL PERFORATED AREA <u>10'</u>	

PROTECTION SYSTEM

RISER PROTECTIVE PIPE LENGTH <u>4.75'</u>	OTHER PROTECTION <u>Vehicle posts</u>
PROTECTIVE PIPE O.D. <u>4"</u>	

ITEM	DISTANCE ABOVE / BELOW GROUND SURFACE (ft)		ELEVATION (ft)	
TOP OF RISER PIPE	+ 2.0		574.15	
GROUND SURFACE	0.0		572.15	
BOTTOM OF PROTECTIVE PIPE	2.75		—	
BOREHOLE FILL MATERIALS:	TOP	BOTTOM	TOP	BOTTOM
	GROUT / SLURRY	0 6	572.15	566.15
	BENTONITE	6 8	566.15	564.15
	SAND	8 20	564.15	552.15
GRAVEL	TOP —	BOTTOM —	TOP —	BOTTOM —
PERFORATED SECTION	TOP 10	BOTTOM 20	TOP 562.15	BOTTOM 552.15
PIEZOMETER TIP	20		552.15	
BOTTOM OF BOREHOLE	20		552.15	
GWL AFTER INSTALLATION				

WAS THE PIEZOMETER FLUSHED AFTER INSTALLATION?

YES ☐

NO ☒

WAS A SENSITIVITY TEST PERFORMED ON THE PIEZOMETER?

YES ☐

NO ☒

REMARKS Developed by pumping 2 gal/min



PIEZOMETER INSTALLATION SHEET

PROJECT NAME PRISTINE, INC FIELD ENG./GEO. Ed Need DATE 7/12/85
PROJECT NO. 115 RI1-51690 CHECKED BY _____ DATE _____
BORING NO. GW51
PIEZOMETER NO. GW51 DATE OF INSTALLATION 6/7-10/85

BOREHOLE DRILLING

DRILLING METHOD <u>HSA</u> <u>4 1/4"</u> I.D.	TYPE OF BIT _____
DRILLING FLUID (S) USED: <u>NONE</u>	CASING SIZE (S) USED: <u>NONE</u>
FLUID _____ FROM _____ TO _____	SIZE _____ FROM _____ TO _____
FLUID _____ FROM _____ TO _____	SIZE _____ FROM _____ TO _____

PIEZOMETER DESCRIPTION

TYPE <u>PVC</u>	RISER PIPE MATERIAL <u>PVC</u>
DIAMETER OF PERFORATED SECTION <u>2"</u>	RISER PIPE DIAMETERS:
PERFORATION TYPE:	O.D. _____ I.D. <u>2"</u>
SLOTS ☒ HOLES ☐ SCREEN ☐	LENGTH OF PIPE SECTIONS <u>22.25'</u>
AVERAGE SIZE OF PERFORATIONS <u>10 slot</u>	JOINING METHOD <u>Flush Threaded</u>
TOTAL PERFORATED AREA <u>5'</u>	

PROTECTION SYSTEM

RISER PROTECTIVE PIPE LENGTH <u>4.75'</u>	OTHER PROTECTION <u>Vehicle posts</u>
PROTECTIVE PIPE O.D. <u>4"</u>	

ITEM	DISTANCE ABOVE/BELOW GROUND SURFACE (ft)		ELEVATION (ft)	
TOP OF RISER PIPE	+2.15		573.79	
GROUND SURFACE	0.0		571.64	
BOTTOM OF PROTECTIVE PIPE	2.60'		—	
BOREHOLE FILL MATERIALS:	TOP	BOTTOM	TOP	BOTTOM
	GROUT/SLURRY	0 15.5	571.64	556.1
	BENTONITE	15.5 18	556.14	553.6
	SAND	18 26	553.64	545.6
GRAVEL	TOP	BOTTOM	TOP	BOTTOM
	—	—		
PERFORATED SECTION	TOP	BOTTOM	TOP	BOTTOM
	20	25	551.64	546.6
PIEZOMETER TIP	25		546.64	
BOTTOM OF BOREHOLE	26		545.64	
GWL AFTER INSTALLATION				

WAS THE PIEZOMETER FLUSHED AFTER INSTALLATION?

YES ☒

NO ☐

WAS A SENSITIVITY TEST PERFORMED ON THE PIEZOMETER?

YES ☐

NO ☒

REMARKS Developed by pumping 2 gal/min



PIEZOMETER INSTALLATION SHEET

PROJECT NAME PRISTINE, INC FIELD ENG./GEO. Ed Need DATE 7/12
PROJECT NO. 115-B11-51610 CHECKED BY _____ DATE _____
BORING NO. GW52
PIEZOMETER NO. GW52 DATE OF INSTALLATION 6/5-10/85

BOREHOLE DRILLING

DRILLING METHOD <u>HSA 6 1/4" ID to 20'</u>	TYPE OF BIT <u>Flight Auger</u>
DRILLING FLUID(S) USED: NONE	CASING SIZE(S) USED:
FLUID _____ FROM _____ TO _____	SIZE <u>4"</u> FROM <u>20'</u> TO <u>80'</u>
FLUID _____ FROM _____ TO _____	SIZE _____ FROM _____ TO _____

PIEZOMETER DESCRIPTION

TYPE <u>PVC</u>	RISER PIPE MATERIAL <u>PVC</u>
DIAMETER OF PERFORATED SECTION <u>2"</u>	RISER PIPE DIAMETERS:
PERFORATION TYPE:	O.D. _____ I.D. <u>2"</u>
SLOTS ☒ HOLES ☐ SCREEN ☐	LENGTH OF PIPE SECTIONS <u>77.75'</u>
AVERAGE SIZE OF PERFORATIONS <u>10 slot</u>	JOINING METHOD <u>Flush Threaded</u>
TOTAL PERFORATED AREA <u>5'</u>	

PROTECTION SYSTEM

RISER PROTECTIVE PIPE LENGTH <u>4.75'</u>	OTHER PROTECTION <u>Vehicle jacking</u>
PROTECTIVE PIPE O.D. <u>4"</u>	

ITEM	DISTANCE ABOVE/BELOW GROUND SURFACE (ft)		ELEVATION (ft)	
TOP OF RISER PIPE	+2.18		573.81	
GROUND SURFACE	0.0		571.63	
BOTTOM OF PROTECTIVE PIPE	2.57'		—	
BOREHOLE FILL MATERIALS:	TOP	BOTTOM	TOP	BOTTOM
	GROUT/SLURRY	0 70	571.63	501.63
	BENTONITE	70 73	501.63	498.63
	SAND	— —	—	—
CAVED SOIL	TOP	BOTTOM	TOP	BOTTOM
	73 80.5	498.63	496.13	491.13
PERFORATED SECTION	TOP	BOTTOM	TOP	BOTTOM
	75.5 80.5	496.13	491.13	490.13
PIEZOMETER TIP	80.5		491.13	
BOTTOM OF BOREHOLE	81.5		490.13	
GWL AFTER INSTALLATION				

WAS THE PIEZOMETER FLUSHED AFTER INSTALLATION? YES ☒ NO ☐
WAS A SENSITIVITY TEST PERFORMED ON THE PIEZOMETER? YES ☐ NO ☒
REMARKS Well developed by pumping 2 gal/min
6 1/4" HSA from 0-20'



PIEZOMETER INSTALLATION SHEET

PROJECT NAME PRISTINE, INC FIELD ENG./GEO. Ed Need DATE 7/12/85
PROJECT NO. 115 - RI 1 - SIGED CHECKED BY _____ DATE _____
BORING NO. GW53
PIEZOMETER NO. GW53 DATE OF INSTALLATION 6/10-11/85

BOREHOLE DRILLING

DRILLING METHOD <u>HSA 4 1/4" I.D.</u>	TYPE OF BIT _____
DRILLING FLUID(S) USED: <u>NONE</u>	CASING SIZE (S) USED: <u>NONE</u>
FLUID _____ FROM _____ TO _____	SIZE _____ FROM _____ TO _____
FLUID _____ FROM _____ TO _____	SIZE _____ FROM _____ TO _____

PIEZOMETER DESCRIPTION

TYPE <u>PVC</u>	RISER PIPE MATERIAL <u>PVC</u>
DIAMETER OF PERFORATED SECTION <u>2"</u>	RISER PIPE DIAMETERS:
PERFORATION TYPE:	O.D. _____ I.D. <u>2"</u>
SLOTS ☒ HOLES ☐ SCREEN ☐	LENGTH OF PIPE SECTIONS <u>9.75'</u>
AVERAGE SIZE OF PERFORATIONS <u>10 slot</u>	JOINING METHOD <u>Flush threaded</u>
TOTAL PERFORATED AREA <u>10'</u>	

PROTECTION SYSTEM

RISER PROTECTIVE PIPE LENGTH <u>4.75'</u>	OTHER PROTECTION <u>Veh-1- posts</u>
PROTECTIVE PIPE O.D. <u>4"</u>	

ITEM	DISTANCE ABOVE/BELOW GROUND SURFACE (ft)		ELEVATION (ft)	
TOP OF RISER PIPE	+2.13		574.15	
GROUND SURFACE	0.0		572.02	
BOTTOM OF PROTECTIVE PIPE	2.62		—	
BOREHOLE FILL MATERIALS:	TOP	BOTTOM	TOP	BOTTOM
	GROUT/SLURRY	+1.5 3.5	572.52	568.1
	BENTONITE	3.5 5.5	568.52	566.1
	SAND	5.5 18.5	566.52	553.1
GRAVEL	TOP	BOTTOM	TOP	BOTTOM
	—	—	—	—
PERFORATED SECTION	TOP	BOTTOM	TOP	BOTTOM
	7.5	17.5	564.52	554.1
PIEZOMETER TIP	17.5		554.52	
BOTTOM OF BOREHOLE	18.5		553.52	
GWL AFTER INSTALLATION				

WAS THE PIEZOMETER FLUSHED AFTER INSTALLATION?

YES ☐

NO ☒

WAS A SENSITIVITY TEST PERFORMED ON THE PIEZOMETER?

YES ☐

NO ☒

REMARKS Developed by pumping 2 gal/min



PIEZOMETER INSTALLATION SHEET

PROJECT NAME Pristine, INC. FIELD ENG./GEO. Ed Need DATE 7/12/
PROJECT NO. 115 RI 1 - SIGEO CHECKED BY _____ DATE _____
BORING NO. GW 54
PIEZOMETER NO. GW 54 DATE OF INSTALLATION 6/10-11/85

BOREHOLE DRILLING

DRILLING METHOD <u>HSA 4 1/4" IO</u>	TYPE OF BIT <u>—</u>
DRILLING FLUID (S) USED: <u>NONE</u>	CASING SIZE (S) USED: <u>NONE</u>
FLUID _____ FROM _____ TO _____	SIZE _____ FROM _____ TO _____
FLUID _____ FROM _____ TO _____	SIZE _____ FROM _____ TO _____

PIEZOMETER DESCRIPTION

TYPE <u>PVC</u>	RISER PIPE MATERIAL <u>PVC</u>
DIAMETER OF PERFORATED SECTION <u>2"</u>	RISER PIPE DIAMETERS:
PERFORATION TYPE:	O.D. _____ I.D. <u>2"</u>
SLOTS ☒ HOLES ☐ SCREEN ☐	LENGTH OF PIPE SECTIONS <u>24.50'</u>
AVERAGE SIZE OF PERFORATIONS <u>10 slot</u>	JOINING METHOD <u>Flush threaded</u>
TOTAL PERFORATED AREA <u>5'</u>	

PROTECTION SYSTEM

RISER PROTECTIVE PIPE LENGTH <u>4.75'</u>	OTHER PROTECTION <u>Vehicle posts</u>
PROTECTIVE PIPE O.D. <u>4"</u>	

ITEM	DISTANCE ABOVE/BELOW GROUND SURFACE (ft)		ELEVATION (ft)	
TOP OF RISER PIPE	+2.12		574.39	
GROUND SURFACE	0.0		572.27	
BOTTOM OF PROTECTIVE PIPE	2.63		—	
BOREHOLE FILL MATERIALS:	TOP +.5	BOTTOM 13	TOP 572.77	BOTTOM 559.
	TOP 13	BOTTOM 15	TOP 559.27	BOTTOM 557.
	TOP 15	BOTTOM 30	TOP 557.27	BOTTOM 542.
	TOP —	BOTTOM —	TOP —	BOTTOM
PERFORATED SECTION	TOP 23.5	BOTTOM 28.5	TOP 548.77	BOTTOM 543.77
PIEZOMETER TIP	28.5		543.77	
BOTTOM OF BOREHOLE	30		542.27	
GWL AFTER INSTALLATION				

WAS THE PIEZOMETER FLUSHED AFTER INSTALLATION?

YES ☐

NO ☒

WAS A SENSITIVITY TEST PERFORMED ON THE PIEZOMETER?

YES ☐

NO ☒

REMARKS _____



PIEZOMETER INSTALLATION SHEET

PROJECT NAME PRISTINE, INC. FIELD ENG./GEO. Ed Need DATE 7/12/85
PROJECT NO. 115 RI1 - SIGEO CHECKED BY _____ DATE _____
BORING NO. GW55
PIEZOMETER NO. GW55 DATE OF INSTALLATION 6/12/85

BOREHOLE DRILLING

DRILLING METHOD <u>HSA 4 1/4" I.O.</u>	TYPE OF BIT <u>—</u>
DRILLING FLUID (S) USED: <u>NONE</u>	CASING SIZE (S) USED: <u>NONE</u>
FLUID _____ FROM _____ TO _____	SIZE _____ FROM _____ TO _____
FLUID _____ FROM _____ TO _____	SIZE _____ FROM _____ TO _____

PIEZOMETER DESCRIPTION

TYPE <u>PVC</u>	RISER PIPE MATERIAL <u>PVC</u>
DIAMETER OF PERFORATED SECTION <u>2"</u>	RISER PIPE DIAMETERS:
PERFORATION TYPE:	O.D. _____ I.D. <u>2"</u>
SLOTS ☒ HOLES ☐ SCREEN ☐	LENGTH OF PIPE SECTIONS <u>20.25'</u>
AVERAGE SIZE OF PERFORATIONS <u>10 slot</u>	JOINING METHOD <u>Flush threaded</u>
TOTAL PERFORATED AREA <u>10'</u>	

PROTECTION SYSTEM

RISER PROTECTIVE PIPE LENGTH <u>4.75'</u>	OTHER PROTECTION <u>Vehicle posts</u>
PROTECTIVE PIPE O.D. <u>4"</u>	

ITEM	DISTANCE ABOVE/BELOW -GROUND SURFACE (ft)		ELEVATION (ft)		
TOP OF RISER PIPE	+ 1.72		575.57		
GROUND SURFACE	0.0		573.85		
BOTTOM OF PROTECTIVE PIPE	3.03				
BOREHOLE FILL MATERIALS:					
	GROUT/SLURRY	TOP +.5	BOTTOM 14	TOP 574.35	BOTTOM 559.8
	BENTONITE	TOP 14	BOTTOM 16	TOP 559.85	BOTTOM 557.8
	SAND	TOP 16	BOTTOM 28.5	TOP 557.85	BOTTOM 545.3
	GRAVEL	TOP —	BOTTOM —	TOP —	BOTTOM —
PERFORATED SECTION	TOP 18.5	BOTTOM 28.5	TOP 555.35	BOTTOM 545.3	
PIEZOMETER TIP	28.5		545.35		
BOTTOM OF BOREHOLE	28.5		545.35		
GWL AFTER INSTALLATION					

WAS THE PIEZOMETER FLUSHED AFTER INSTALLATION?

YES ☐

NO ☒

WAS A SENSITIVITY TEST PERFORMED ON THE PIEZOMETER?

YES ☐

NO ☒

REMARKS Well developed by bailing



PIEZOMETER INSTALLATION SHEET

PROJECT NAME PRISTINE, INC FIELD ENG./GEO. Ed Need DATE 7/1
PROJECT NO. 115 RI 1 - STGEO CHECKED BY _____ DATE _____
BORING NO. GW56
PIEZOMETER NO. GW56 DATE OF INSTALLATION 6/12/85

BOREHOLE DRILLING

DRILLING METHOD <u>HSA</u> <u>4 1/4" I.D.</u>	TYPE OF BIT _____
DRILLING FLUID (S) USED: <u>NONE</u>	CASING SIZE (S) USED: <u>NONE</u>
FLUID _____ FROM _____ TO _____	SIZE _____ FROM _____ TO _____
FLUID _____ FROM _____ TO _____	SIZE _____ FROM _____ TO _____

PIEZOMETER DESCRIPTION

TYPE <u>PVC</u>	RISER PIPE MATERIAL <u>PVC</u>
DIAMETER OF PERFORATED SECTION <u>2"</u>	RISER PIPE DIAMETERS:
PERFORATION TYPE:	O.D. _____ I.D. <u>2"</u>
SLOTS ☒ HOLES ☐ SCREEN ☐	LENGTH OF PIPE SECTIONS <u>34.75'</u>
AVERAGE SIZE OF PERFORATIONS <u>10 slot</u>	JOINING METHOD <u>Flush threaded</u>
TOTAL PERFORATED AREA <u>5'</u>	

PROTECTION SYSTEM

RISER PROTECTIVE PIPE LENGTH <u>4.75'</u>	OTHER PROTECTION <u>Vehicle posts</u>
PROTECTIVE PIPE O.D. <u>4"</u>	

ITEM	DISTANCE ABOVE/BELOW GROUND SURFACE (ft)		ELEVATION (ft)		
TOP OF RISER PIPE	+1.78		575.8		
GROUND SURFACE	0.0		574.10		
BOTTOM OF PROTECTIVE PIPE	2.97'		—		
BOREHOLE FILL MATERIALS:					
	GROUT/SLURRY	TOP +.5	BOTTOM 29	TOP 574.60	BOTTOM 54
	BENTONITE	TOP 29	BOTTOM 31	TOP 545.10	BOTTOM 5
	SAND	TOP 31	BOTTOM 38	TOP 543.10	BOTTOM 5
	GRAVEL	TOP —	BOTTOM —	TOP —	BOTTOM
PERFORATED SECTION	TOP 33	BOTTOM 37	TOP 541.10	BOTTOM 5	
PIEZOMETER TIP	38		536.10		
BOTTOM OF BOREHOLE	38		536.10		
GWL AFTER INSTALLATION					

WAS THE PIEZOMETER FLUSHED AFTER INSTALLATION?

YES ☐

NO ☒

WAS A SENSITIVITY TEST PERFORMED ON THE PIEZOMETER?

YES ☐

NO ☒

REMARKS Well developed by bailing



PIEZOMETER INSTALLATION SHEET

PROJECT NAME Pristine, INC. FIELD ENG./GEO. Ed Need DATE 7/12/85
PROJECT NO. 115-R11-SIGEO CHECKED BY _____ DATE _____
BORING NO. GW57
PIEZOMETER NO. GW57 DATE OF INSTALLATION 6/19-21/85

BOREHOLE DRILLING

DRILLING METHOD <u>HSA 6 1/4" ID, to 20'</u>	TYPE OF BIT <u>Flight Auger</u>
DRILLING FLUID(S) USED: <u>NONE</u>	CASING SIZE(S) USED:
FLUID _____ FROM _____ TO _____	SIZE <u>4"</u> FROM <u>20'</u> TO <u>80'</u>
FLUID _____ FROM _____ TO _____	SIZE _____ FROM _____ TO _____

PIEZOMETER DESCRIPTION

TYPE <u>PVC</u>	RISER PIPE MATERIAL <u>PVC</u>
DIAMETER OF PERFORATED SECTION <u>2"</u>	RISER PIPE DIAMETERS:
PERFORATION TYPE:	O.D. _____ I.D. <u>2"</u>
SLOTS ☒ HOLES ☐ SCREEN ☐	LENGTH OF PIPE SECTIONS <u>76.5'</u>
AVERAGE SIZE OF PERFORATIONS <u>10 Slot</u>	JOINING METHOD <u>Flush threaded</u>
TOTAL PERFORATED AREA <u>5'</u>	

PROTECTION SYSTEM

RISER PROTECTIVE PIPE LENGTH <u>4.75'</u>	OTHER PROTECTION <u>Vehicle posts</u>
PROTECTIVE PIPE O.D. <u>4"</u>	

ITEM	DISTANCE ABOVE/BELOW GROUND SURFACE (ft)		ELEVATION (ft)	
TOP OF RISER PIPE	+2.15		575.79	
GROUND SURFACE	0.0		573.64	
BOTTOM OF PROTECTIVE PIPE	2.60		—	
BOREHOLE FILL MATERIALS:	TOP +.5	BOTTOM 68.5	TOP 574.14	BOTTOM 505.1
	TOP 68.5	BOTTOM 71.0	TOP 505.14	BOTTOM 502.6
	TOP —	BOTTOM —	TOP —	BOTTOM —
	TOP 71.0	BOTTOM 80.0	TOP 502.64	BOTTOM 493.6
PERFORATED SECTION	TOP 74.5	BOTTOM 79.5	TOP 499.14	BOTTOM 494.1
PIEZOMETER TIP	79.5		494.14	
BOTTOM OF BOREHOLE	80.0		493.64	
GWL AFTER INSTALLATION				

WAS THE PIEZOMETER FLUSHED AFTER INSTALLATION?

YES ☒

NO ☐

WAS A SENSITIVITY TEST PERFORMED ON THE PIEZOMETER?

YES ☐

NO ☒

REMARKS 6 1/4" ID auger used from 0-20'

Well developed by pumping 2 gals/min

PIEZOMETER INSTALLATION SHEET

PROJECT NAME PRISTINE, INC FIELD ENG./GEO. Ed Need DATE 7/12/
 PROJECT NO. 115 - RI 1 - SIGFO CHECKED BY _____ DATE _____
 BORING NO. GW 58
 PIEZOMETER NO. GW 58 DATE OF INSTALLATION 6/13/85

BOREHOLE DRILLING

DRILLING METHOD <u>HSA 4 1/4" I.D.</u>	TYPE OF BIT _____
DRILLING FLUID(S) USED: <u>NONE</u>	CASING SIZE (S) USED: <u>NONE</u>
FLUID _____ FROM _____ TO _____	SIZE _____ FROM _____ TO _____
FLUID _____ FROM _____ TO _____	SIZE _____ FROM _____ TO _____

PIEZOMETER DESCRIPTION

TYPE <u>PVC</u>	RISER PIPE MATERIAL <u>PVC</u>
DIAMETER OF PERFORATED SECTION <u>2"</u>	RISER PIPE DIAMETERS:
PERFORATION TYPE:	O.D. _____ I.D. <u>2"</u>
SLOTS ☒ HOLES ☐ SCREEN ☐	LENGTH OF PIPE SECTIONS <u>22'</u>
AVERAGE SIZE OF PERFORATIONS <u>10 slot</u>	JOINING METHOD <u>Flush Threaded</u>
TOTAL PERFORATED AREA <u>10'</u>	

PROTECTION SYSTEM

RISER PROTECTIVE PIPE LENGTH <u>4.75'</u>	OTHER PROTECTION <u>Vehicle posts</u>
PROTECTIVE PIPE O.D. <u>4"</u>	

ITEM	DISTANCE ABOVE/BELOW GROUND SURFACE (ft)		ELEVATION (ft)		
TOP OF RISER PIPE	+1.39		574.78		
GROUND SURFACE	0.0		573.39		
BOTTOM OF PROTECTIVE PIPE	3.36'		—		
BOREHOLE FILL MATERIALS:					
	GROUT/SLURRY	TOP +.5	BOTTOM 17	TOP 573.89	BOTTOM 556.39
	BENTONITE	TOP 17	BOTTOM 19	TOP 556.39	BOTTOM 542.89
	SAND	TOP 19	BOTTOM 30.5	TOP 554.39	BOTTOM 542.89
	GRAVEL	TOP —	BOTTOM —	TOP —	BOTTOM —
PERFORATED SECTION	TOP 20.5	BOTTOM 30.5	TOP 552.89	BOTTOM 542.89	
PIEZOMETER TIP	30.5		542.89		
BOTTOM OF BOREHOLE	30.5		542.89		
GWL AFTER INSTALLATION					

WAS THE PIEZOMETER FLUSHED AFTER INSTALLATION?

YES ☐

NO ☒

WAS A SENSITIVITY TEST PERFORMED ON THE PIEZOMETER?

YES ☐

NO ☒

REMARKS Well developed by bailing



PIEZOMETER INSTALLATION SHEET

PROJECT NAME PI GW 59 FIELD ENG./GEO. Ed Need DATE 7/10/85
PROJECT NO. 115-R11-STGFO CHECKED BY _____ DATE _____
BORING NO. GW 59
PIEZOMETER NO. GW59 DATE OF INSTALLATION 6/21/85

BOREHOLE DRILLING

DRILLING METHOD <u>H5A</u> <u>4 1/4" I.D.</u>	TYPE OF BIT <u>—</u>
DRILLING FLUID (S) USED: <u>NONE</u>	CASING SIZE (S) USED: <u>NONE</u>
FLUID _____ FROM _____ TO _____	SIZE _____ FROM _____ TO _____
FLUID _____ FROM _____ TO _____	SIZE _____ FROM _____ TO _____

PIEZOMETER DESCRIPTION

TYPE <u>PVC</u>	RISER PIPE MATERIAL <u>PVC</u>
DIAMETER OF PERFORATED SECTION <u>2"</u>	RISER PIPE DIAMETERS:
PERFORATION TYPE:	O.D. _____ I.D. <u>2"</u>
SLOTS ☒ HOLES ☐ SCREEN ☐	LENGTH OF PIPE SECTIONS <u>9.25'</u>
AVERAGE SIZE OF PERFORATIONS <u>10 slot</u>	JOINING METHOD <u>Flush threaded</u>
TOTAL PERFORATED AREA <u>10'</u>	

PROTECTION SYSTEM

RISER PROTECTIVE PIPE LENGTH <u>4.75'</u>	OTHER PROTECTION <u>Vehicle test</u>
PROTECTIVE PIPE O.D. <u>4"</u>	

ITEM	DISTANCE ABOVE/BELOW GROUND SURFACE (ft)		ELEVATION (ft)	
TOP OF RISER PIPE	+1.73		564.53	
GROUND SURFACE	0.0		562.80	
BOTTOM OF PROTECTIVE PIPE	3.02		—	
BOREHOLE FILL MATERIALS:	TOP	BOTTOM	TOP	BOTTOM
	GROUT/SLURRY	3.75	563.30	559.1
	BENTONITE	5.75	559.05	557.0
	SAND	17.5	557.05	545.3
GRAVEL	TOP	BOTTOM	TOP	BOTTOM
	—	—	—	—
PERFORATED SECTION	TOP	BOTTOM	TOP	BOTTOM
	7.5	17.5	555.30	545.3
PIEZOMETER TIP	17.5		545.30	
BOTTOM OF BOREHOLE	17.5		545.30	
GWL AFTER INSTALLATION				

WAS THE PIEZOMETER FLUSHED AFTER INSTALLATION?

YES ☐

NO ☒

WAS A SENSITIVITY TEST PERFORMED ON THE PIEZOMETER?

YES ☐

NO ☒

REMARKS Developed by pumping 2 gal/min



PIEZOMETER INSTALLATION SHEET

PROJECT NAME Pristine, INC FIELD ENG./GEO. Ed Need DATE 7/10
PROJECT NO. 115-RT1-SIGFO CHECKED BY _____ DATE _____
BORING NO. GW 60A
PIEZOMETER NO. 60A DATE OF INSTALLATION 6/21/85

BOREHOLE DRILLING

DRILLING METHOD <u>H5A 4 1/4" I.D.</u>	TYPE OF BIT _____
DRILLING FLUID(S) USED: <u>NONE</u>	CASING SIZE(S) USED: <u>NONE</u>
FLUID _____ FROM _____ TO _____	SIZE _____ FROM _____ TO _____
FLUID _____ FROM _____ TO _____	SIZE _____ FROM _____ TO _____

PIEZOMETER DESCRIPTION

TYPE <u>PVC</u>	RISER PIPE MATERIAL <u>PVC</u>
DIAMETER OF PERFORATED SECTION <u>2"</u>	RISER PIPE DIAMETERS:
PERFORATION TYPE:	O.D. _____ I.D. <u>2"</u>
SLOTS ☒ HOLES ☐ SCREEN ☐	LENGTH OF PIPE SECTIONS <u>19'</u>
AVERAGE SIZE OF PERFORATIONS <u>10 slot</u>	JOINING METHOD <u>Flush threaded</u>
TOTAL PERFORATED AREA <u>6'</u>	

PROTECTION SYSTEM

RISER PROTECTIVE PIPE LENGTH <u>4.75'</u>	OTHER PROTECTION <u>Vehicle posts</u>
PROTECTIVE PIPE O.D. <u>4"</u>	

ITEM	DISTANCE ABOVE/BELOW GROUND SURFACE (ft)		ELEVATION (ft)	
TOP OF RISER PIPE	+1.83		564.93	
GROUND SURFACE	0.0		563.10	
BOTTOM OF PROTECTIVE PIPE	2.92		—	
BOREHOLE FILL MATERIALS:	TOP	BOTTOM	TOP	BOTTOM
	GROUT/SLURRY	+ 5 11.5	563.60	551.60
	BENTONITE	11.5 13.5	551.60	549.60
	SAND	13.5 23.25	549.60	539.85
GRAVEL	TOP —	BOTTOM —	TOP —	BOTTOM —
PERFORATED SECTION	TOP	BOTTOM	TOP	BOTTOM
	17.25	23.25	545.85	539.85
PIEZOMETER TIP	23.25		539.85	
BOTTOM OF BOREHOLE	23.25		539.85	
GWL AFTER INSTALLATION	—		—	

WAS THE PIEZOMETER FLUSHED AFTER INSTALLATION? YES ☐ NO ☒

WAS A SENSITIVITY TEST PERFORMED ON THE PIEZOMETER? YES ☐ NO ☒

REMARKS original boring abandoned, new borehole installed adja
to old.



PIEZOMETER INSTALLATION SHEET

PROJECT NAME Pristine, INC FIELD ENG./GEO. Ed Need DATE 7/10/85
PROJECT NO. 115-RT1 SIBFO CHECKED BY _____ DATE _____
BORING NO. GW61
PIEZOMETER NO. GW61 DATE OF INSTALLATION 6/21/85

BOREHOLE DRILLING

DRILLING METHOD <u>HSA 4 1/4" I.D.</u>	TYPE OF BIT _____
DRILLING FLUID (S) USED: <u>NONE</u>	CASING SIZE (S) USED: <u>NONE</u>
FLUID _____ FROM _____ TO _____	SIZE _____ FROM _____ TO _____
FLUID _____ FROM _____ TO _____	SIZE _____ FROM _____ TO _____

PIEZOMETER DESCRIPTION

TYPE <u>PVC</u>	RISER PIPE MATERIAL <u>PVC</u>
DIAMETER OF PERFORATED SECTION <u>2"</u>	RISER PIPE DIAMETERS:
PERFORATION TYPE:	O.D. _____ I.D. <u>2"</u>
SLOTS ☒ HOLES ☐ SCREEN ☐	LENGTH OF PIPE SECTIONS <u>7.25'</u>
AVERAGE SIZE OF PERFORATIONS <u>10 slot</u>	JOINING METHOD <u>Flush threaded</u>
TOTAL PERFORATED AREA <u>10'</u>	

PROTECTION SYSTEM

RISER PROTECTIVE PIPE LENGTH <u>4.75'</u>	OTHER PROTECTION <u>Vehicle posts</u>
PROTECTIVE PIPE O.D. <u>4"</u>	

ITEM	DISTANCE ABOVE / BELOW GROUND SURFACE (ft)		ELEVATION (ft)	
TOP OF RISER PIPE	+1.77		558.64	
GROUND SURFACE	0.0		556.87	
BOTTOM OF PROTECTIVE PIPE	2.98		--	
BOREHOLE FILL MATERIALS: GROUT/SLURRY BENTONITE SAND CAVED SOIL	TOP +.5	BOTTOM 2	TOP 557.37	BOTTOM 554.5
	TOP 2	BOTTOM 5	TOP 554.87	BOTTOM 551.5
	TOP 5	BOTTOM 15	TOP 551.87	BOTTOM 541.5
	TOP 15	BOTTOM 18.5	TOP 541.87	BOTTOM 538.5
PERFORATED SECTION	TOP 5.5	BOTTOM 15.5	TOP 551.37	BOTTOM 541.5
PIEZOMETER TIP	15.5		541.37	
BOTTOM OF BOREHOLE	18.5		538.37	
GWL AFTER INSTALLATION				

WAS THE PIEZOMETER FLUSHED AFTER INSTALLATION?

YES ☐

NO ☒

WAS A SENSITIVITY TEST PERFORMED ON THE PIEZOMETER?

YES ☐

NO ☒

REMARKS Well dry



PIEZOMETER INSTALLATION SHEET

PROJECT NAME Pristine, INC FIELD ENG./GEO. Ed Need DATE 7/10/85
PROJECT NO. 115-R11-SIGEO CHECKED BY _____ DATE _____
BORING NO. GW62
PIEZOMETER NO. GW62 DATE OF INSTALLATION 6/22/85

BOREHOLE DRILLING

DRILLING METHOD <u>H5A</u> <u>4 1/4" I.D.</u>	TYPE OF BIT <u>—</u>
DRILLING FLUID(S) USED: <u>NONE</u>	CASING SIZE (S) USED: <u>NONE</u>
FLUID _____ FROM _____ TO _____	SIZE _____ FROM _____ TO _____
FLUID _____ FROM _____ TO _____	SIZE _____ FROM _____ TO _____

PIEZOMETER DESCRIPTION

TYPE <u>PVC</u>	RISER PIPE MATERIAL <u>PVC</u>
DIAMETER OF PERFORATED SECTION <u>2"</u>	RISER PIPE DIAMETERS:
PERFORATION TYPE:	O.D. _____ I.D. <u>2"</u>
SLOTS ☒ HOLES ☐ SCREEN ☐	LENGTH OF PIPE SECTIONS <u>8.75'</u>
AVERAGE SIZE OF PERFORATIONS <u>10 slot</u>	JOINING METHOD <u>Flush threaded</u>
TOTAL PERFORATED AREA <u>10'</u>	

PROTECTION SYSTEM

RISER PROTECTIVE PIPE LENGTH <u>4.75'</u>	OTHER PROTECTION <u>Vehicle posts</u>
PROTECTIVE PIPE O.D. <u>4"</u>	

ITEM	DISTANCE ABOVE/BELOW GROUND SURFACE (ft)		ELEVATION (ft)	
TOP OF RISER PIPE	<u>+73</u>		<u>558.11</u>	
GROUND SURFACE	<u>0.0</u>		<u>557.38</u>	
BOTTOM OF PROTECTIVE PIPE	<u>4.02</u>		<u>—</u>	
BOREHOLE FILL MATERIALS: GROUT/SLURRY BENTONITE SAND GRAVEL	TOP	<u>+5</u>	BOTTOM	<u>1</u>
	TOP	<u>1</u>	BOTTOM	<u>3</u>
	TOP	<u>3</u>	BOTTOM	<u>18</u>
	TOP	<u>—</u>	BOTTOM	<u>—</u>
PERFORATED SECTION	TOP	<u>8</u>	BOTTOM	<u>18</u>
PIEZOMETER TIP	<u>18</u>		<u>539.38</u>	
BOTTOM OF BOREHOLE	<u>18</u>		<u>539.38</u>	
GWL AFTER INSTALLATION				

WAS THE PIEZOMETER FLUSHED AFTER INSTALLATION?

YES ☐

NO ☒

WAS A SENSITIVITY TEST PERFORMED ON THE PIEZOMETER?

YES ☐

NO ☒

REMARKS Developed by pumping 2 gal/min

Laboratory Name: CAL Labs
Case No: 4375

Sample Number
1VBK30603

Organics Analysis Data Sheet
(Page 4)

Tentatively Identified Compounds

CAS Number	Compound Name	Fraction	RT or Scan Number	Estimated Concentration (ug/l or ug/kg)
1.	No volatile compounds found			
2.				
3.				
4.				
5.				
6.				
7.				
8.				
9.				
10.				
11.				
12.				
13.				
14.				
15.				
16.				
17.				
18.				
19.				
20.				
21.				
22.				
23.				
24.				
25.				
26.				
27.				
28.				
29.				
30.				

ORGANICS ANALYSIS DATA SHEET (PAGE 4)
TENTATIVELY IDENTIFIED COMPOUNDS

SAMPLE NUMBER EC875
COMPUchem FILE GH853136A15

CAS NUMBER	COMPOUND NAME	FRACTION	SCAN NUMBER	ESTIMATED CONC. (UG/L OR UG/KG)	
1 127-18-4	~~ETHENE, TETRACHLORO-~~ <i>ALKENE</i>	SEM11	314	6700056000.	J
2 464-17-5	~~BICYCLO[2.2.1]HEPT-2-ENE, 1,7,7-TRIMETHYL-~~ <i>ALKENE</i>	SEM11	512	2600022000.	J
3 112-53-8	~~1-DODECANOL~~ <i>Alcohol</i>	SEM11	774	12000040000.	J
4 1121-66-8	~~2-CYCLOHEPTEN-1-ONE~~ <i>AL KONE</i>	SEM11	793	3600030000.	J
5 112-53-8	~~1-DODECANOL~~ <i>Alcohol</i>	SEM11	872	1700014000.	J
6 18344-37-1	~~HEPTADECANE, 2,6,10,14-TETRAMETHYL-~~ <i>ALKANE</i>	SEM11	885	1600019000.	J

2000.000 40.00
2400.000

SPECTROSCOPIST *ADL*
DATE *6/12/85*

Sample Number
EC875

Organics Analysis Data Sheet
(Page 4)

Tentatively Identified Compounds

CAS Number	Compound Name	Fraction	RT or Scan Number	Estimated Concentration (ug/l or ug/kg)
1. _____	NO VOA COMPOUNDS FOUND	_____	_____	_____
2. _____				
3. _____				
4. _____				
5. _____				
6. _____				
7. _____				
8. _____				
9. _____				
10. _____				
11. _____				
12. _____				
13. _____				
14. _____				
15. _____				
16. _____				
17. _____				
18. _____				
19. _____				
20. _____				
21. _____				
22. _____				
23. _____				
24. _____				
25. _____				
26. _____				
27. _____				
28. _____				
29. _____				
30. _____				

ORGANICS ANALYSIS DATA SHEET (PAGE 4)
TENTATIVELY IDENTIFIED COMPOUNDS

SAMPLE NUMBER EC874
COMPUCHEM FILE GH053135815

CAS NUMBER	COMPOUND NAME	FRACTION	SCAN NUMBER	ESTIMATED CONC (UG/L OR UG/KG)
~~1 19109-13-4~~	~~IN TRIAZOLE-4-CARBONYLIDE, N-PHENYL-~~ <i>Unknown</i>	~~SEM11~~	~~700~~	~~36000. J~~
~~1 10544-50-0~~	~~SULFUR, MOL. (58)~~ <i>Sulfur</i> <i>Unknown</i>	~~SEM11~~	~~1009~~	~~330000. J~~
~~1 29230-07-1~~	~~PENTANEDIOICACID, 2-TETRADECYL-, DIMETHYLESTER~~ <i>Unknown</i>	~~SEM11~~	~~1016~~	~~420000. J~~

2500.000 / 40.00 ✓

SPECTROSCOPIST BP
DATE 6/20/85

ORGANICS ANALYSIS DATA SHEET (PAGE 4)
TENTATIVELY IDENTIFIED COMPOUNDS

SAMPLE NUMBER EC874
COMPUCHEM FILE GH853135A13

CAS NUMBER	COMPOUND NAME	FRACTION	SCAN NUMBER	ESTIMATED CONC. (UG/L OR UG/KG)
75-69-4	~~PERTHANE, TRICHLOROFLUORO-~~ potential lab artifact	E238	172	8. J

1.240 50.00

SPECTROSCOPIST 714
DATE 6/12/85

ORGANICS ANALYSIS DATA SHEET (PAGE 4)
TENTATIVELY IDENTIFIED COMPOUNDS

SAMPLE NUMBER EC873
COMPUCHEM FILE GR053134C16

	CAS NUMBER	COMPOUND NAME	FRACTION	SCAN NUMBER	ESTIMATED CONC. (UG/L OR UG/KG)	
1	123-42-2	~~2-PENTANONE, 4-HYDROXY-4-METHYL-~~ <i>Acetone Contamination</i>	SEMI1	316	2700 2100.	J A
2	~~1193-20-5~~	~~CYCLOPENTANONE, OXIME~~ <i>0.3-2.4, dinitrophenol</i>	SEMI1	752	2700.	J
2 A	7614-93-9	~~BENZENE, 1,1'-(3-METHYL-1-PROPENE-1,3-DIYL)BIS-~~ <i>HydroCarbon Subst.</i>	SEMI1	1094	2500 2200.	J
4	~~17061-53-5~~	~~1,2-BENZENEDICARBOXYLICACID, BUTYL 2-METHYLPROPYLESTER~~ <i>PP</i>	SEMI1	1099	5200.	J
3 J	50-29-3	~~BENZENE, 1,1'-(2,2,2-TRICHLOROETHYLIDENE)BIS(4-CHLORO~~ <i>UNKNOWN</i>	SEMI1	1107	3600 2000.	J
4 J	791-28-6	~~PHOSPHINE OXIDE, TRIPHENYL-~~ <i>HydroCarbon Subst.</i>	SEMI1	1164	13000 10000.	J
5 J	18938-06-2	~~11H-BENZO(A)CYCLOPENTA(D)CYCLOOCTEN-11-ONE, 4-ACETYL~~ <i>UNKNOWN</i>	SEMI1	1175	8500 6900.	J
6 J	55044-87-6	~~1,2-CYCLOPENTANEDICARBOXYLICACID, 4-(1,1-DIMETHYLETHY~~ <i>UNKNOWN</i>	SEMI1	1180	6400 5000.	J
7 J	56009-20-2	~~CYCLOHEXANE, 1-(1,5-DIMETHYLHEXYL)-4-(4-METHYLPENTYL)~~ <i>UNKNOWN</i>	SEMI1	1187	5500 4300.	J
8 J	15570-10-2	~~BENZENETHIOL, 4-(1,1-DIMETHYLETHYL)-2-METHYL-~~ <i>UNKNOWN</i>	SEMI1	1196	7300 5700.	J
9 J	55044-24-1	~~PROPANETRILE, 3-[3,3-DIMETHYL-4,4-DIPHENYL-2-OXETA~~ <i>UNKNOWN</i>	SEMI1	1285	4400 3400.	J
10 J	52118-15-7	~~BENZENEETHANAMINE, N-METHYL-4-NITRO-N-(2-PHENYLETHYL)~~ <i>UNKNOWN</i>	SEMI1	1291	2600 2000.	J
11 J	6892-00-4	~~11H-BENZOCYCLOHEPTEN-7-OL, 2,3,4,4A,5,6,7,8-OCTAHYDRO-~~ <i>UNKNOWN</i>	SEMI1	1393	6000 4700.	J

399.000 40.00
434.00

SPECTROSCOPIST *BAL*
DATE *7/1/85*

Sample Number
EC873

Organics Analysis Data Sheet
(Page 4)

Tentatively Identified Compounds

CAS Number	Compound Name	Fraction	RT or Scan Number	Estimated Concentration (ug/l or ug/kg)
1.	NO VOA COMPOUNDS FOUND			
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Sample Number

EC872

Organics Analysis Data Sheet
(Page 4)

Tentatively Identified Compounds

CAS Number	Compound Name	Fraction	RT or Scan Number	Estimated Concentration (ug/l or ug/kg)
1.	NO SV COMPOUNDS FOUND			
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Organics Analysis Data Sheet
(Page 4)

Tentatively Identified Compounds

CAS Number	Compound Name	Fraction	RT or Scan Number	Estimated Concentration (ug/l or ug/kg)
1.	NO VOA COMPOUNDS FOUND			
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ORGANICS ANALYSIS DATA SHEET (PAGE 4)
TENTATIVELY IDENTIFIED COMPOUNDS

SAMPLE NUMBER MANY
COMPUCHEM FILE GRR53130A16

CAS NUMBER	COMPOUND NAME	FRACTION	SCAN NUMBER	ESTIMATED CONC. (UG/L OR MG/L)	
50-29-3	<i>Unk₂₀₀</i> BENZENE, 1,1'-(2,2,2-TRICHLOROETHYLIDENE)BIS(4-CHLORO	SEMI1	1122	1600.	J
1806-34-8	<i>F5000</i> PHOSPHORICACID, TRIOCTYLESTER	SEMI1	1145	470.	J
629-97-0	<i>Unk₂₀₀</i> DOCOSANE	SEMI1	1153	540.	J
56852-43-8	<i>Unk₂₀₀</i> BENZENEETHANOL, 2-(PHENYLMETHOXY)-	SEMI1	1216	470.	J
56852-43-8	<i>Unk₂₀₀</i> BENZENEETHANOL, 2-(PHENYLMETHOXY)-	SEMI1	1228	1000.	J
56852-43-8	<i>Unk₂₀₀</i> BENZENEETHANOL, 2-(PHENYLMETHOXY)-	SEMI1	1240	1000.	J
55859-31-9	<i>Unk₂₀₀</i> 10-UNDECENOICACID, 2-METHOXY-, METHYLESTER	SEMI1	1252	420.	J

33.900 40.00

SPECTROSCOPIST *SS*
DATE *7/1/81*

ORGANICS ANALYSIS DATA SHEET (PAGE 4)
TENTATIVELY IDENTIFIED COMPOUNDS

SAMPLE NUMBER MANY
COMPUCHEM FILE GRR53138A16

CAS NUMBER	COMPOUND NAME	FRACTION	SCAN NUMBER	ESTIMATED CONC. (UG/L OR <u>MG/L</u>)
123-42-2	<i>Alkene condensation</i> 2-PENTANONE, 4-HYDROXY-4-METHYL-	SEMI1	320	3200. J B
126-73-8	<i>Phosphoric acid ester</i> PHOSPHORICACIDTRIBUTYLESTER	SEMI1	761	660. J
1921-70-6	<i>Hydrocarbon</i> PENTADECANE, 2,6,10,14-TETRAMETHYL-	SEMI1	852	610. J
629-78-7	<i>Hydrocarbon</i> HEPTADECANE	SEMI1	894	380. J
2921-88-2	<i>unknown</i> PHOSPHOROTHIOICACID, O,O-DIETHYL-(3,5,6-TRICHLORO-2-	SEMI1	984	800. J
20498-68-4	<i>unknown</i> PHENETHYLALCOHOL, P-METHYL-.ALPHA.-PHENYL-	SEMI1	988	690. J
13475-77-9	<i>unknown</i> EICOSANE, 9-OCTYL-	SEMI1	1000	1500. J
765-27-5	<i>unknown</i> 1-EICOSYNE	SEMI1	1005	2100. J
20434-86-0	<i>unknown</i> 1,4,2,5-DIOXADIAZINE, 3,6-DIPHENYL-	SEMI1	1038	590. J
53-19-0	<i>DDT</i> BENZENE, 1-CHLORO-2-(2,2-DICHLORO-1-(4-CHLOROPHENYL)E	SEMI1	1069	510. J
838-95-9	<i>unknown</i> BENZENAMINE, N,N-DIETHYL-4-(2-PHENYLETHENYL)-, (E)-	SEMI1	1077	1400. J
53-19-0	<i>DDT</i> BENZENE, 1-CHLORO-2-(2,2-DICHLORO-1-(4-CHLOROPHENYL)E	SEMI1	1094	1900. J
6287-38-3	<i>Isomer</i> BENZALDEHYDE, 3,4-DICHLORO-	SEMI1	1103	500. J

33.900 40.00

SPECTROSCOPIST

DATE

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7/2/71

ORGANICS ANALYSIS DATA SHEET (PAGE 4)
TENTATIVELY IDENTIFIED COMPOUNDS

SAMPLE NUMBER EC870
COMPUchem FILE GRD53129C22

CAS NUMBER	COMPOUND NAME	FRACTION	SCAN NUMBER	ESTIMATED CONC. (UG/L OF ~~UG/KG~~)
2 6287-38-3	<i>nnp</i> BENZALDEHYDE, 3,4-DICHLORO-	SEM11	1146	760. J
3 58163-61-4	<i>Unknown</i> BORTICACID, DIETHYL-, (2-ETHYL-1,3,2-DIOXABORINAN-4-Y	SEM11	1162	940. J
4 791-28-6	<i>Isomer</i> PHOSPHINE OXIDE, TRIPHENYL-	SEM11	1238	3300. J
5 58439-68-4	<i>Unknown</i> CORYMAN-16-CARBOXYLICACID, 16,17-DIDEHYDRO-17-METHOXY	SEM11	1333	5600. J
6 28338-69-4	<i>Unknown</i> CHOLEST-3-ENE, (5.ALPHA.)-	SEM11	1390	15000. J
7 54515-38-9	<i>Unknown</i> CHOLEST-8(14)-ENE-7,15-DIOL, (5.ALPHA.)-	SEM11	1409	9700. J
8 7478-68-6	<i>Unknown</i> 4H-1-BENZOPYRAN-4-ONE, 3-HYDROXY-7-METHOXY-2-PHENYL-	SEM11	1432	7000. J
9 6673-69-4	<i>Unknown</i> 5.ALPHA.-ERGOST-8(14)-ENE	SEM11	1551	6100. J
10 7897-88-9	<i>Unknown</i> OBSCURINERUAN-21-ONE, 6,7-DIDEHYDRO-22-ETHYL-15,16-DI	SEM11	1600	25000. J

84.000 40.00

SPECTROSCOPIST *JS*
DATE *7/1/00*

EC871

Organics Analysis Data Sheet
(Page 4)

Tentatively Identified Compounds

CAS Number	Compound Name	Fraction	RT or Scan Number	Estimated Concentration (ug/l or ug/kg)
1.	NO VOA COMPOUNDS FOUND			
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ORGANICS ANALYSIS DATA SHEET (PAGE 4)

TENTATIVELY IDENTIFIED COMPOUNDS

SAMPLE NUMBER EC870

COMPUCHEN FILE GR053129A16

CAS NUMBER	COMPOUND NAME	FRACTION	SCAN NUMBER	ESTIMATED CONC. (UG/L OR UG/KG)	
123-42-2	<i>Acetone Contamination</i> ~~2-PENTANONE, 4-HYDROXY-4-METHYL-~~	SEM11	315	~~4200-2400~~	J
76-22-2	<i>Unknown</i> ~~BICYCLO[2.2.1]HEPTAN-2-ONE, 1,7,7-TRIMETHYL-~~	SEM11	531	~~2100-1700~~	J
629-78-7	<i>Hydrocarbon</i> ~~HEPTADECANE~~	SEM11	796	~~1120-800~~	J
629-78-7	<i>Hydrocarbon</i> ~~HEPTADECANE~~	SEM11	843	~~1900-1500~~	J
629-78-7	<i>Hydrocarbon</i> ~~HEPTADECANE~~	SEM11	887	~~1000-820~~	J
629-78-7	<i>Hydrocarbon</i> ~~HEPTADECANE~~	SEM11	892	~~920-740~~	J
629-94-7	<i>Hydrocarbon</i> ~~HEXICOSANE~~	SEM11	929	~~1100-800~~	J
57-10-3	<i>Unknown</i> ~~HEXADECANOIC ACID~~	SEM11	953	~~1100-920~~	J
2467-02-9	<i>Unknown</i> ~~PHENOL, 2,2'-METHYLENEBIS-~~	SEM11	988	~~2600-2100~~	J
3386-33-2	<i>Unknown</i> ~~OCTADECANE, 1-CHLORO-~~	SEM11	985	~~1200-970~~	J
3658-38-4	<i>Unknown</i> ~~1-NAPHTHALENEPROPANOL, .ALPHA.-ETHENYLDECAHYDRO-5-(HY~~	SEM11	991	~~1400-1100~~	J
629-74-3	<i>As identified</i> ~~1-HEXADECYNE~~	SEM11	998	~~3300-2700~~	J
80-05-7	<i>Unknown</i> ~~PHENOL, 4,4'-(1-METHYLETHYLENE)BIS-~~	SEM11	1047	~~570-460~~	J

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40.00

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Organics Analysis Data Sheet
(Page 4)

Tentatively Identified Compounds

CAS Number	Compound Name	Fraction	RT or Scan Number	Estimated Concentration (ug/l or ug/kg)
1.	NO VOA COMPOUNDS FOUND			
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ORGANICS ANALYSIS DATA SHEET (PAGE 4)

TENTATIVELY IDENTIFIED COMPOUNDS

SAMPLE NUMBER EC870

COMPUCHEM FILE GR053129C22

CAS NUMBER	COMPOUND NAME	FRACTION	SCAN NUMBER	ESTIMATED CONC. (UG/L OR UG/KG)
123-42-2	<i>Acetone Contaminant</i> 2-PENTANONE, 4-HYDROXY-4-METHYL-	SEMI1	387	3100. J B
76-22-2	<i>Unknown</i> BICYCLO[2.2.1]HEPTAN-2-ONE, 1,7,7-TRIMETHYL-	SEMI1	622	5000. J
~~17301-32-5~~	~~<i>Hydrocarbon</i> UNDECANE, 4,7-DIMETHYL-~~	~~SEMI1~~	~~807~~	~~360. J~~
10544-50-0	<i>Sulfur</i> SULFUR, MOL. (S8)	SEMI1	834	1700. J
629-78-7	<i>Hydrocarbon</i> HEPTADECANE	SEMI1	854	760. J
29812-79-1	<i>Hydrocarbon</i> HYDROXYLAMINE, O-DECYL-	SEMI1	899	1500. J
~~629-78-7~~	~~<i>Hydrocarbon</i> HEPTADECANE~~	~~SEMI1~~	~~942~~	~~750. J~~
629-78-7	<i>Hydrocarbon</i> HEPTADECANE	SEMI1	946	800. J
629-78-7	<i>Hydrocarbon</i> HEPTADECANE	SEMI1	982	1000. J
57-10-3	<i>Fatty Acid</i> HEXADECANOIC ACID	SEMI1	1005	3000. J
2091-29-4	<i>Fatty Acid</i> 9-HEXADECENOIC ACID	SEMI1	1074	4400. J
544-63-8	<i>Unknown</i> TETRADECANOIC ACID	SEMI1	1080	2300. J
4329-12-8	<i>DOT</i> BENZENE, 1-CHLORO-3-(2,2-DICHLORO-1-(4-CHLOROPHENYL)E	SEMI1	1137	2400. J

84.000 40.00

SPECTROSCOPIST *SC*DATE *7/8/85*

ORGANICS ANALYSIS DATA SHEET (PAGE 4)
TENTATIVELY IDENTIFIED COMPOUNDS

SAMPLE NUMBER EC870
COMPUCHEM FILE GR853129A16

CAS NUMBER	COMPOUND NAME	FRACTION	SCAN NUMBER	ESTIMATED CONC. (UG/L OR UG/KG)
4329-12-0	<i>POD Isomer</i> ~~BENZENE, 1-CHLORO-3-(2,2-DICHLORO-1-(4-CHLOROPHENYL)E~~	SEM11	1086	920-740 J
50-29-3	<i>Yalkon</i> ~~BENZENE, 1,1'-(2,2,2-TRICHLOROETHYLIDENE)BIS(4-CHLORO~~	SEM11	1115	1100-890 J
1086-54-0	<i>Isomer</i> ~~PHOSPHORICACID, TRIOCTYLESTER~~	SEM11	1137	470-380 J
~~80071-83-9~~	~~1-DECENE, 3,4-DIMETHYL-~~	SEM11	~~1167~~	~~3400 J~~
7 791-20-6	<i>Yalkon</i> ~~PHOSPHINEOXIDE, TRIPHENYL-~~	SEM11	1175	980-790 J
38234-82-1	<i>Yalkon</i> ~~1H-1,3,2-BENZODIPHOSPHASOLE, 2,3-DIHYDRO-2-METHYL-1,~~	SEM11	1244	1400-1100 J
~~100-85-0~~	~~PERYLENE~~	SEM11	~~1292~~	~~2700 J~~
26151-95-1	<i>Yalkon</i> ~~2H-1-BENZOPYRAN-2-ONE, 4-HYDROXY-3-(4-METHOXYPHENYL)-~~	SEM11	1312	1700-4400 J
7897-00-9	<i>Yalkon</i> ~~OSCURITERAN-21-ONE, 6,7-DIHYDRO-22-ETHYL-15,16-DI~~	SEM11	1424	8300-6700 J

12.0
13.900 40.00

SPECTROSCOPIST *SL*
DATE *7/1/1*

ORGANICS ANALYSIS DATA SHEET (PAGE 4)

TENTATIVELY IDENTIFIED COMPOUNDS

SAMPLE NUMBER EC869

COMPUCHEM FILE GR053128A16

CAS NUMBER	COMPOUND NAME	FRACTION	SCAN NUMBER	ESTIMATED CONC. (UG/L OR UG/KG)
~~629-74-3~~	~~1-HEXADECYNE~~	~~semi 1~~	~~1005~~	~~20000 J~~
55044-39-8	Unknown BENZENEPROPANOICACID, 3,4-BIS(ACETOXY)-, METHYLESTER	SEMI 1	1037	400 720. J
53-19-0	Unknown BENZENE, 1-CHLORO-2-(2,2-DICHLORO-1-(4-CHLOROPHENYL)E	SEMI 1	1068	750 610. J
10224-91-6	Unknown ETHANE, 1,1-BIS(P-ETHYLPHENYL)-	SEMI 1	1076	390 320. J
53-19-0	Unknown BENZENE, 1-CHLORO-2-(2,2-DICHLORO-1-(4-CHLOROPHENYL)E	SEMI 1	1093	3400 2900. J
6287-38-3	Unknown BENZALDEHYDE, 3,4-DICHLORO-	SEMI 1	1102	N/C 930. J
~~629-96-9~~	~~1-ETICOSANOL~~	~~SEMI 1~~	~~1115~~	~~1000. J~~
50-29-3	Unknown BENZENE, 1,1'-(2,2,2-TRICHLOROETHYLIDENE)BIS(4-CHLORO	SEMI 1	1121	2300 1900. J
~~14077-07-1~~	~~ANDROSTANE, (5-BETA, 14-BETA)-~~	~~SEMI 1~~	~~1130~~	~~300. J~~

33.900 ✓ 40.00 ✓
41.70SPECTROSCOPIST BP
DATE 1/24/05

ORGANICS ANALYSIS DATA SHEET (PAGE 4)
TENTATIVELY IDENTIFIED COMPOUNDS

SAMPLE NUMBER EC869
COMPUchem FILE GR053128A16

CAS NUMBER	COMPOUND NAME	FRACTION	SCAN NUMBER	ESTIMATED CONC. (UG/L OR (UG/KG))	
123-42-2	~~2-PENTANONE, 4-HYDROXY-4-METHYL-~~ <i>Acetone Contamination</i>	SEM11	320	14103600.	J
17301-32-5	~~UNDECANE, 4,7-DIMETHYL-~~ <i>Alkane</i>	SEM11	699	530 430.	J
629-78-7	~~HEPTADECANE~~ <i>Alkane</i>	SEM11	733	760 620.	J
629-78-7	~~HEPTADECANE~~ <i>Alkane</i>	SEM11	752	1400 1100.	J
126-73-8	~~PHOSPHORICACIDTRIBUTYLESTER~~ <i>Unknown</i>	SEM11	760	450 720.	J
10544-50-0	~~SULFUR, MOL. (S8)~~ <i>Unidentified Sulfur</i>	SEM11	774	1100 930.	J
629-78-7	~~HEPTADECANE~~ <i>Alkane</i>	SEM11	802	1800 1500.	J
629-78-7	~~HEPTADECANE~~ <i>Alkane</i>	SEM11	825	1200 990.	J
629-78-7	~~HEPTADECANE~~ <i>Alkane</i>	SEM11	849	3700 3000.	J
629-78-7	~~HEPTADECANE~~ <i>Alkane</i>	SEM11	893	1500 1200.	J
629-78-7	~~HEPTADECANE~~ <i>Alkane</i>	SEM11	898	1200 990.	J
629-78-7	~~HEPTADECANE~~ <i>Alkane</i>	SEM11	935	1200 1000.	J
629-78-7	~~HEPTADECANE~~ <i>Alkane</i>	SEM11	976	1100 920.	J

92.900 ✓ 40.00 ✓
41.70

SPECTROSCOPIST BP
DATE 7/1/05

Section 4
Tentatively Identified Compounds

Groundwater Samples

EC869

Organics Analysis Data Sheet
(Page 4)

Tentatively Identified Compounds

CAS Number	Compound Name	Fraction	RT or Scan Number	Estimated Concentration (ug/l or ug/b)
1.	NO VOA COMPOUNDS FOUND			
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ORGANICS ANALYSIS DATA SHEET (PAGE 4)
TENTATIVELY IDENTIFIED COMPOUNDS

SAMPLE NUMBER EC868
COMPUCEM FILE GR053116C16

CAS NUMBER	COMPOUND NAME	FRACTION	SCAN NUMBER	ESTIMATED CONC. (UG/L OR UG/ML)	
115-86-6	<i>u.k.m.</i> PHOSPHORICACID, TRIPHENYLESTER	SEM11	1119	<i>u.k.m.</i> 3400.	J
791-28-6	<i>u.k.m.</i> PHOSPHINEOXIDE, TRIPHENYL-	SEM11	1166	<i>u.k.m.</i> 3700.	J
38234-82-1	<i>u.k.m.</i> 1H-1,3,2-BENZODIPHOSPHASOLE, 2,3-DIHYDRO-2-METHYL-1,	SEM11	1230	<i>u.k.m.</i> 12000.	J
7614-93-9	<i>u.k.m.</i> BENZENE, 1,1'-(3-METHYL-1-PROPENE-1,3-DIYL)BIS-	SEM11	1270	<i>u.k.m.</i> 2700.	J
25247-68-1	<i>u.k.m.</i> BENZENE, ETHENYL-, DIMER	SEM11	1275	<i>u.k.m.</i> 6900.	J
29484-58-0	<i>u.k.m.</i> DICHOTYNE, 19-(BENZYLTHIO)-11-METHOXY-, ACETATE(ESTER)	SEM11	1286	<i>u.k.m.</i> 7600.	J
33498-88-3	<i>u.k.m.</i> 1-BUTANOL, 4-(BENZYLOXY)-3-[(BENZYLOXY)METHYL]-	SEM11	1292	<i>u.k.m.</i> 3000.	J
7614-93-9	<i>u.k.m.</i> BENZENE, 1,1'-(3-METHYL-1-PROPENE-1,3-DIYL)BIS-	SEM11	1333	<i>u.k.m.</i> 3300.	J
54889-88-2	<i>u.k.m.</i> OXIRANECARBOXYLICACID, 3-ETHYL-3-PHENYL-, ETHYLESTER, 1	SEM11	1398	<i>u.k.m.</i> 50000.	J

SPECTROSCOPIST *54*
DATE *7/1/75*

339.000 40.00
406.000

ORGANICS ANALYSIS DATA SHEET (PAGE 4)
TENTATIVELY IDENTIFIED COMPOUNDS

SAMPLE NUMBER EC868
COMPUCHEM FILE GR053116C16

CAS NUMBER	COMPOUND NAME	FRACTION	SCAN NUMBER	ESTIMATED CONC. (UG/L OR UG/G)
1 123-42-2	<i>Heptacontano</i> 2-PENTANONE, 4-HYDROXY-4-METHYL-	SEM11	315	3800 3200. J
~~2 20012-79-1~~	~~<i>Hydrocarbons</i> HYDROXYLAMINE, O-DECYL-~~	~~SEM11~~	~~692~~	~~1600. J~~
3 1192-28-5	<i>unknown</i> CYCLOPENTANONE, OXIME	SEM11	752	4000 3300. J
4 10544-50-0	<i>Sulfur</i> SULFUR, MOL. (58)	SEM11	765	4000 3900. J
5 62016-37-9	~~<i>Hydrocarbons</i>~~ OCTANE, 2,4,6-TRIMETHYL-	SEM11	793	3100 2200. J
6 629-78-7	<i>Hydrocarbons</i> HEPTADECANE	SEM11	842	5600 4700. J
~~7 10207-21-0~~	~~<i>Hydrocarbons</i> TRIDECANE, 6-METHYL-~~	~~SEM11~~	~~883~~	~~2400. J~~
8 629-74-3	~~<i>unknown</i>~~ <i>lab artifact</i> T-HEXADECYNE	SEM11	990	3500 2900. J
9 53-19-0	<i>ODD Isom</i> BENZENE, 1-CHLORO-2-[2,2-DICHLORO-1-(4-CHLOROPHENYL)]E	SEM11	1055	2800 2300. J
10 10224-91-6	<i>unknown</i> ETHANE, 1,1-BIS(P-ETHYLPHENYL)-	SEM11	1063	4300 3600. J
11 4329-12-8	<i>ODD Isom</i> BENZENE, 1-CHLORO-3-[2,2-DICHLORO-1-(4-CHLOROPHENYL)]E	SEM11	1079	4000 3400. J
12 17851-53-5	<i>plastic</i> 1,2-BENZENEDICARBOXYLIC ACID, BUTYL 2-METHYLPROPYLESTER	SEM11	1100	6600 5500. J
13 50-29-3	<i>ODT Isom</i> BENZENE, 1,1'-(2,2,2-TRICHLOROETHYLIDENE)BIS[4-CHLORO	SEM11	1108	17,000 14000. J

406.00
239.000 40.00

SPECTROSCOPIST *SL*
DATE *7/1/81*

Organics Analysis Data Sheet
(Page 4)

Tentatively Identified Compounds

CAS Number	Compound Name	Fraction	RT or Scan Number	Estimated Concentration (ug/l or ug/kg)
1.	NO VOA COMPOUNDS FOUND			
2.				
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Section 5
Tentatively Identified Compounds

Water Supply Samples

Tentatively Identified Compounds

CAS Number	Compound Name	Fraction	Scan Number	Estimated Concentration (ug/l or ug/g)
1.	<i>Nix</i>	<i>✓</i>		
2.				
3.	<i>Aldh. Carbox. Prod</i>	<i>B</i>	<i>371</i>	<i>13000</i>
4.	<i>Alcohol</i>		<i>585</i>	<i>20000</i>
5.	<i>unknown</i>		<i>760</i>	<i>10000</i>
6.	<i>"</i>		<i>865</i>	<i>30000</i>
7.	<i>"</i>		<i>1414</i>	<i>5000</i>
8.	<i>"</i>		<i>1741</i>	<i>9000</i>
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**Organics Analysis Data Sheet
(Page 4)**

Tentatively Identified Compounds

92()

CAS Number	Compound Name	Fraction	Scan Number	Estimated Concentration (ug/l or ug/kg)
1.	1 Vixc	✓		
2.				
3.	Mildel Cndus Prod	B	371	13000
4.	VAERON N		865	17000
5.	"		1442	25000
6.	"		1744	9000
7.				
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**Organics Analysis Data Sheet
(Page 4)**

Tentatively Identified Compounds

845

CAS Number	Compound Name	Fraction	Scan Number	Estimated Concentration (ug/l or ug/kg)
1.	<i>None</i>	✓		
2.				
3.		<i>B</i>	<i>1024</i>	<i>10000</i>
4.			<i>1055</i>	<i>10000</i>
5.			<i>1090</i>	<i>30000</i>
6.			<i>1151</i>	<i>10000</i>
7.			<i>1292</i>	<i>10000</i>
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Organics Analysis Data Sheet
(Page 4)

807

Tentatively Identified Compounds

CAS Number	Compound Name	Fraction	Scan Number	Estimated Concentration (ug/l or ug/kg)
1.	<i>None</i>	<i>V</i>		
2.				
3.	<i>ATLANE</i>	<i>B</i>	<i>1089</i>	<i>90000</i>
4.	<i>"</i>	<i>"</i>	<i>1140</i>	<i>30000</i>
5.	<i>"</i>		<i>1150</i>	<i>30000</i>
6.	<i>"</i>		<i>1200</i>	<i>40000</i>
7.	<i>UNKNOWN</i>		<i>1292</i>	<i>100000</i>
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Case No

4425

EC826

Organics Analysis Data Sheet
(Page 4)

Tentatively Identified Compounds

777

CAS Number	Compound Name	Fraction	Scan Number	Estimated Concentration (ug/l or ug/kg)
1.	N/A	V		
2.				
3.	ALKANE	B	888	8000
4.	4		1054	10000
5.	4		1085	20000
6.	4		1144	10000
7.	4		1200	20000
8.	UNKNOWN		1291	100000
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Tentatively Identified Compounds

GAS Number	Compound Name	Fraction	Scan Number	Estimated Concentration (ug/l or ug/kg)
1.	Hydrocarbon	✓	595	100
2.	Propane		606	400
3.	"		~~605~~	~~300~~ 10
4.	"		690	1000
5.	Hydrocarbon		720	5000
6.	"		745	300
7.	"		566	400
8.				
9.	Alkane	B	1150	9000
10.	Alcohol		1195	13000
11.	Alkane		1291	40000
12.	Alkane		1504	20000
13.	"		1570	10000
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Organics Analysis Data Sheet
(Page 4)

Tentatively Identified Compounds

620

CAS Number	Compound Name	Fraction	Scan Number	Estimated Concentration (ug/l or ug/kg)
1.	ALKANE	✓	424	1000
2.	Hydrocarbon		578	1000
3.	Paraffin		596	3000
4.	ALKANE		634	7000
5.	"		669	20000
6.	Hydrocarbon		732	2000
7.				
8.	ALKANE	6	889	30000
9.	"		933	20000
10.	"		958	70000
11.	"		1070	30000
12.	"		1024	100000
13.	"		1084	60000
14.	"		1112	20000
15.	"		1145	90000
16.	"		1201	70000
17.	"		1255	50000
18.	"		1316	40000
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Organics Analysis Data Sheet
(Page 4)59
EC823-19

EC823

Tentatively Identified Compounds

CAS Number	Compound Name	Fraction	Scan Number	Estimated Concentration (ug/l or ug/kg)
1.	None	✓		
2.				
3.	Aldo Probers Prod	B	253	2000
4.	Pesticide		1912	300
5.	UNKNOWN		1424	80
6.	Pesticide		1453	200
7.	UNKNOWN		1563	100
8.	"		1713	100
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Section 6
Tentatively Identified Compounds

Surface Water

Central Regional Laboratory
U. S. Environmental Protection Agency
536 South Clark Street
Chicago, Illinois 60605

(312) 353-8370

B/N/A ORGANIC ANALYSIS SHEET

Study Name: Pristine, Inc.

Study Number: SF-2704

Lab Sample I.D. No.: 85RL02815

Activity Number: C51100

TENTATIVELY IDENTIFIED COMPOUNDS

	Estimated Concentration (PPB)
1. <u>2-Cyclohexen-1-01 (28)</u>	<u>5.5</u>
2. <u>Unknown (58)</u>	<u>11</u>
3. <u>2-Bromocyclohexanol (isomer)(284)</u>	<u>1.0</u>
4. <u>2,4-dibromo-m-cresol</u>	<u>3.5</u>
5. <u>Iodo-cyclohexanol (425)</u>	<u>3.6</u>
6. _____	_____
7. _____	_____
8. _____	_____
9. _____	_____
10. _____	_____
11. _____	_____
12. _____	_____
13. _____	_____
14. _____	_____
15. _____	_____

Codes: U - Compound was analyzed for, but not detected.
The value is the minimum detection limit for
the sample analyzed.
SC - Suspected contaminant
J - Estimated value
N.A. - This compound was not analyzed for using an
external standard automatic quantification
program. However, manual peak identification
indicates that the compound is not present
above the minimum detection limit of the method.

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(312) 353-8370

B/N/A ORGANIC ANALYSIS SHEET

Study Name: Pristine, Inc.

Study Number: SF-2704

Lab Sample I.D. No.: 85RL02814

Activity Number: C51100

TENTATIVELY IDENTIFIED COMPOUNDS

	Estimated Concentration (PPB)
1. <u>2-Cyclohexen-01 (28)</u>	<u>4.9</u>
2. <u>Unknown (58)</u>	<u>13</u>
3. <u>2,4-dibromo-m-cresol</u>	<u>4.3</u>
4. <u>Iodo-cyclohexanol (425)</u>	<u>5.6</u>
5. _____	
6. _____	
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12. _____	
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Codes: U - Compound was analyzed for, but not detected.
The value is the minimum detection limit for
the sample analyzed.
SC - Suspected contaminant
J - Estimated value
N.A. - This compound was not analyzed for using an
external standard automatic quantification
program. However, manual peak identification

B/N/A ORGANIC ANALYSIS SHEET

Study Name: Pristine, Inc. Study Number: SF-2704
Lab Sample I.D. No.: 85RL02R13 Activity Number: C51100

TENTATIVELY IDENTIFIED COMPOUNDS

	Estimated Concentration (PPB)
1. <u>2-Cyclohexen-1-ol (28)</u>	<u>5.7</u>
2. <u>Unknown (58)</u>	<u>9.3</u>
3. <u>2-Bromo cyclohexanol (isomer) (284)</u>	<u>.9</u>
4. <u>2,4-dibromo-m-cresol</u>	<u>3.8</u>
5. <u>Iodo-cyclohexanol (424)</u>	<u>4.7</u>
6. _____	
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Codes: U - Compound was analyzed for, but not detected.
The value is the minimum detection limit for
the sample analyzed.
SC - Suspected contaminant
J - Estimated value
N.A. - This compound was not analyzed for using an
external standard automatic quantification
program. However, manual peak identification
indicates that the compound is not present
above the minimum detection limit of the method.

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B/N/A ORGANIC ANALYSIS SHEET

Study Name: Pristine, Inc. Study Number: SF-2704
Lab Sample I.D. No.: 85RL02X13 Activity Number: C51100

TENTATIVELY IDENTIFIED COMPOUNDS

	Estimated Concentration (PPB)
1. <u>Benzaldehyde (101)</u>	<u>3.3</u>
2. <u>Unknown (Aliphatic Ketone?) (272)</u>	<u>3.7</u>
3. _____	
4. _____	
5. _____	
6. _____	
7. _____	
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12. _____	
13. _____	
14. _____	
15. _____	

Codes: U - Compound was analyzed for, but not detected.
The value is the minimum detection limit for
the sample analyzed.
SC - Suspected contaminant
J - Estimated value
N.A. - This compound was not analyzed for using an
external standard automatic quantification

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B/N/A ORGANIC ANALYSIS SHEET

Study Name: Pristine, Inc. Study Number: SF-2704
Lab Sample I.D. No.: 85RL02D13 Activity Number: C51100

TENTATIVELY IDENTIFIED COMPOUNDS

	Estimated Concentration (PPB)
1. <u>2-Cyclohexen-1-ol (28)</u>	<u>8.6</u>
2. <u>Unknown (58)</u>	<u>17</u>
3. <u>2, 4-dibromo-m-cresol</u>	<u>4.8</u>
4. <u>Iodo-cyclohexanol (424)</u>	<u>8.0</u>
5. _____	
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Codes: U - Compound was analyzed for, but not detected.
The value is the minimum detection limit for
the sample analyzed.
SC - Suspected contaminant
J - Estimated value
N.A. - This compound was not analyzed for using an
external standard automatic quantification
program. However, manual peak identification
indicates that the compound is not present
above the minimum detection limit.

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B/N/A ORGANIC ANALYSIS SHEET

Study Name: Pristine, Inc.

Study Number: SF-2704

Lab Sample I.D. No.: 85RL02513

Activity Number: C51100

TENTATIVELY IDENTIFIED COMPOUNDS

	Estimated Concentration (PPB)
1. <u>2-Cyclohexen-1-ol (28)</u>	<u>5.4</u>
2. <u>Unknown (57)</u>	<u>12</u>
3. <u>2, 4-dibromo-m-cresol</u>	<u>4.7</u>
4. <u>Iodo-cyclohexanol (424)</u>	<u>5.2</u>
5. _____	_____
6. _____	_____
7. _____	_____
8. _____	_____
9. _____	_____
10. _____	_____
11. _____	_____
12. _____	_____
13. _____	_____
14. _____	_____
15. _____	_____

Codes: U - Compound was analyzed for, but not detected.
The value is the minimum detection limit for
the sample analyzed.
SC - Suspected contaminant
J - Estimated value
N.A. - This compound was not analyzed for using an
external standard automatic quantification
program. However, manual peak identification

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B/N/A ORGANIC ANALYSIS SHEET

Study Name: Pristine, Inc. Study Number: Sf-2704
Lab Sample I.D. No.: 85RL02812 Activity Number: C51100

TENTATIVELY IDENTIFIED COMPOUNDS

	Estimated Concentration (PPB)
1. <u>Unknown (57)</u>	<u>8.0</u>
2. <u>Unknown (114)</u>	<u>2.0</u>
3. <u>Sulfur, Molecular (58)(1285)</u>	<u>1.8</u>
4. <u>Iodo-cyclohexanol (424)</u>	<u>4.7</u>
5. _____	_____
6. _____	_____
7. _____	_____
8. _____	_____
9. _____	_____
10. _____	_____
11. _____	_____
12. _____	_____
13. _____	_____
14. _____	_____
15. _____	_____

Codes: U - Compound was analyzed for, but not detected.
The value is the minimum detection limit for
the sample analyzed.
SC - Suspected contaminant
J - Estimated value
N.A. - This compound was not analyzed for using an
external standard automatic quantification
program. However, manual peak identification
indicates that the compound is not present

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B/N/A ORGANIC ANALYSIS SHEET

Study Name: Pristine, Inc.

Study Number: SF-2704

Lab Sample I.D. No.: 85RL02811

Activity Number: C51100

TENTATIVELY IDENTIFIED COMPOUNDS

	Estimated Concentration (PPB)
1. <u>2-Cyclohexen-1-ol (28)</u>	<u>4.8</u>
2. <u>Unknown (57)</u>	<u>11</u>
3. <u>Iodo-cyclohexanol (426)</u>	<u>5.8</u>
4. _____	
5. _____	
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12. _____	
13. _____	
14. _____	
15. _____	

Codes: U - Compound was analyzed for, but not detected.
The value is the minimum detection limit for
the sample analyzed.
SC - Suspected contaminant
J - Estimated value
N.A. - This compound was not analyzed for using an
external standard automatic quantification
program. However, manual peak identification
indicates that the compound is not present
above the minimum detection limit.

B/N/A ORGANIC ANALYSIS SHEET

Study Name: Pristine, Inc. Study Number: SF-2704
Lab Sample I.D. No.: 85RL02810 Activity Number: C51100

TENTATIVELY IDENTIFIED COMPOUNDS

	Estimated Concentration (PPB)
1. <u>2-Cyclohexen-1-01 (28)</u>	<u>6.9</u>
2. <u>Unknown (57)</u>	<u>12</u>
3. <u>2.4-dibromo-m-cresol</u>	<u>0.4</u>
4. <u>Iodo-cyclohexanol (425)</u>	<u>9.5</u>
5. <u>Iodo-chlorocyclohexane (488)</u>	<u>1.2</u>
6. <u>2-bromocyclohexanol (isomer) (284)</u>	<u>1.0</u>
7. _____	
8. _____	
9. _____	
10. _____	
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15. _____	

Codes: U - Compound was analyzed for, but not detected.
The value is the minimum detection limit for
the sample analyzed.
-SC - Suspected contaminant
J - Estimated value
N.A. - This compound was not analyzed for using an
external standard automatic quantification
program. However, manual peak identification
indicates that the compound is not present
above the minimum detection limit of the method.

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B/N/A ORGANIC ANALYSIS SHEET

Study Name: Pristine, Inc.

Study Number: SF-2704

Lab Sample I.D. No.: 85RL02809

Activity Number: C51100

TENTATIVELY IDENTIFIED COMPOUNDS

	Estimated Concentration (PPB)
1. <u>2-Cyclohexen-1-01 (29)</u>	<u>6.1</u>
2. <u>Unknown (57)</u>	<u>12</u>
3. <u>2,4-Dibromo-m-cresol</u>	<u>5.3</u>
4. <u>Iodo-cyclohexanol (424)</u>	<u>13</u>
5. <u>Iodo-cyclohexane (487)</u>	<u>1.8</u>
6. _____	_____
7. _____	_____
8. _____	_____
9. _____	_____
10. _____	_____
11. _____	_____
12. _____	_____
13. _____	_____
14. _____	_____
15. _____	_____

Codes: U - Compound was analyzed for, but not detected.
The value is the minimum detection limit for
the sample analyzed.
SC - Suspected contaminant
J - Estimated value
N.A. - This compound was not analyzed for using an
external standard automatic quantification
program. However, manual peak identification
indicates that the compound is not present
above the minimum detection limit.

B/N/A ORGANIC ANALYSIS SHEET

Study Name: Pristine

Study Number: SF-2403

Lab Sample I.D. No.: 85RL01S71

Activity Number: C51100

TENTATIVELY IDENTIFIED COMPOUNDS

	Estimated Concentration (ug/l)
1. <u>Unknown (142)</u>	<u>2.2</u>
2. <u>Unknown (193)</u>	<u>2.3</u>
3. _____	
4. _____	
5. _____	
6. _____	
7. _____	
8. _____	
9. _____	
10. _____	
11. _____	
12. _____	
13. _____	
14. _____	
15. _____	

Code: U - Compound was analyzed for, but not detected.
The value is the minimum detection limit for
the sample analyzed.

SC - Suspected contaminant

J - Estimated Value

N.A. - This compound was not analyzed for using an
external standard automatic quantification
program. However, manual peak identification
indicates that the compound is not present
above the minimum detection limit of the method.

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536 SOUTH CLARK STREET
CHICAGO, ILLINOIS 60605

312/353-8370

BASE/NEUTRAL/ACIDIC ANALYSIS SHEET

Study Name Pristine Study Number SF-2390
Lab Sample I.D. No: 85RL01B24 Activity Number: C5110

	TENTATIVELY IDENTIFIED COMPOUNDS	ESTIMATED CONCENTRATION (PPB)
1.	<u>2-Cyclohexen-1-one (195)</u>	<u>2.7</u>
2.	<u>Unknown (638)</u>	<u>2.6</u>
3.	<u>Azetidine, 2-methyl- (1002)</u>	<u>4.0</u>
4.	<u>Butanoic Acid, butyl ester (1031)</u>	<u>3.6</u>
5.	<u></u>	<u></u>
6.	<u></u>	<u></u>
7.	<u></u>	<u></u>
8.	<u></u>	<u></u>
9.	<u></u>	<u></u>
10.	<u></u>	<u></u>
11.	<u></u>	<u></u>
12.	<u></u>	<u></u>
13.	<u></u>	<u></u>

CODES

- U - Compound was analyzed for, but not detected. The value is the minimum detection limit for the sample analyzed.
- SE - Suspected Contaminant
- J - Estimated Value
- N.A. - This compound was not analyzed for using an external standard automatic quantification program. However, manual peak identification indicates that the compound is not present above the minimum detection limit of the method.

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U.S. ENVIRONMENTAL PROTECTION AGENCY
536 SOUTH CLARK STREET
CHICAGO, ILLINOIS 60605

312/353-8370

BASE/NEUTRAL/ACIDIC ANALYSIS SHEET

Study Name Pristine Study Number SF-2390
Lab Sample I.D. No: 85RL01S26 Activity Number: C5110

	TENTATIVELY IDENTIFIED COMPOUNDS	ESTIMATED CONCENTRATION (PPB)
1.	<u>Unknown (144)</u>	<u>2.5</u>
2.	<u>Unknown (Aliphatic Ketone?) (167)</u>	<u>2.9</u>
3.	<u>Unknown (760)</u>	<u>2.2</u>
4.	<u></u>	<u></u>
5.	<u></u>	<u></u>
6.	<u></u>	<u></u>
7.	<u></u>	<u></u>
8.	<u></u>	<u></u>
9.	<u></u>	<u></u>
10.	<u></u>	<u></u>
11.	<u></u>	<u></u>
12.	<u></u>	<u></u>
13.	<u></u>	<u></u>

CODES

- U - Compound was analyzed for, but not detected. The value is the minimum detection limit for the sample analyzed.
- SC - Suspected Contaminant
- J - Estimated Value
- N.A. - This compound was not analyzed for using an external standard automatic quantification program. However, manual peak identification indicates that the compound is not present above the minimum detection limit of the method.

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536 SOUTH CLARK STREET
CHICAGO, ILLINOIS 60605

312/353-8370

BASE/NEUTRAL/ACIDIC ANALYSIS SHEET

Study Name Pristine Study Number SF-2390
Lab Sample I.D. No: 85RL01S25 Activity Number: C5110

	TENTATIVELY IDENTIFIED COMPOUNDS	ESTIMATED CONCENTRATION (PPB)
1.	<u>2-Cyclohexen-1-one</u>	<u>2.8</u>
2.	<u></u>	<u></u>
3.	<u></u>	<u></u>
4.	<u></u>	<u></u>
5.	<u></u>	<u></u>
6.	<u></u>	<u></u>
7.	<u></u>	<u></u>
8.	<u></u>	<u></u>
9.	<u></u>	<u></u>
10.	<u></u>	<u></u>
11.	<u></u>	<u></u>
12.	<u></u>	<u></u>
13.	<u></u>	<u></u>

CODES

- U - Compound was analyzed for, but not detected. The value is the minimum detection limit for the sample analyzed.
- SC - Suspected Contaminant
- J - Estimated Value
- N.A. - This compound was not analyzed for using an external standard automatic quantification program. However, manual peak identification indicates that the compound is not present above the minimum detection limit of the method.

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312/353-8370

BASE/NEUTRAL/ACIDIC ANALYSIS SHEET

Study Name Pristine Study Number SF-2390
Lab Sample I.D. No: 85RL01D24 Activity Number: C5110

TENTATIVELY IDENTIFIED COMPOUNDS	ESTIMATED CONCENTRATION (PPB)
1. <u>Unknown (Aliphatic Ketone?) (168)</u>	4.5
2. <u>2-Cyclohexen-1-one (195)</u>	2.5
3. _____	
4. _____	
5. _____	
6. _____	
7. _____	
8. _____	
9. _____	
10. _____	
11. _____	
12. _____	
13. _____	

CODES

- U - Compound was analyzed for, but not detected. The value is the minimum detection limit for the sample analyzed.
- SC - Suspected Contaminant
- Est - Estimated Value
- N/A. - This compound was not analyzed for using an external standard automatic quantification program. However, manual peak identification indicates that the compound is not present above the minimum detection limit of the method.

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312/353-8370

BASE/NEUTRAL/ACIDIC ANALYSIS SHEET

Study Name Pristine Study Number SF-2390
Lab Sample I.D. No: 85RL01S24 Activity Number: C5110

TENTATIVELY IDENTIFIED COMPOUNDS	ESTIMATED CONCENTRATION (PPB)
1. <u>Unknown (Aliphatic Ketone?) (168)</u>	3.5
2. <u>2-Cyclohexen-1-one (195)</u>	2.2
3. _____	
4. _____	
5. _____	
6. _____	
7. _____	
8. _____	
9. _____	
10. _____	
11. _____	
12. _____	
13. _____	

CODES

- U - Compound was analyzed for, but not detected. The value is the minimum detection limit for the sample analyzed.
- SC - Suspected Contaminant
- J - Estimated Value
- N.A. - This compound was not analyzed for using an external standard automatic quantification program. However, manual peak identification indicates that the compound is not present above the minimum detection limit of the method.

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312/353-8370

BASE/NEUTRAL/ACIDIC ANALYSIS SHEET

Study Name Pristine Study Number SF-2390
Lab Sample I.D. No: 85RL01S23 Activity Number: C5110

	TENTATIVELY IDENTIFIED COMPOUNDS	ESTIMATED CONCENTRATION (PPB)
1.	<u>Unknown (Aliphatic Ketone?) (167)</u>	<u>3.7</u>
2.	<u>2-Cyclohexen-1-one (195)</u>	<u>2.2</u>
3.	<u></u>	<u></u>
4.	<u></u>	<u></u>
5.	<u></u>	<u></u>
6.	<u></u>	<u></u>
7.	<u></u>	<u></u>
8.	<u></u>	<u></u>
9.	<u></u>	<u></u>
10.	<u></u>	<u></u>
11.	<u></u>	<u></u>
12.	<u></u>	<u></u>
13.	<u></u>	<u></u>

CODES

- U - Compound was analyzed for, but not detected. The value is the minimum detection limit for the sample analyzed.
- SC - Suspected Contaminant
- J - Estimated Value
- N.A. - This compound was not analyzed for using an external standard automatic quantification program. However, manual peak identification indicates that the compound is not present above the minimum detection limit of the method.

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BASE/NEUTRAL/ACIDIC ANALYSIS SHEET

Study Name Pristine Study Number SF-2390
Lab Sample I.D. No: 85RL01522 Activity Number: C5110

TENTATIVELY IDENTIFIED COMPOUNDS	ESTIMATED CONCENTRATION (PPB)
1. <u>Cyclopentanol, 2-methyl- (106)</u>	6.1
2. <u>Unknown (144)</u>	2.7
3. <u>Unknown (Aliphatic Ketone?) (166)</u>	3.3
4. _____	
5. _____	
6. _____	
7. _____	
8. _____	
9. _____	
10. _____	
11. _____	
12. _____	
13. _____	

CODES

- U - Compound was analyzed for, but not detected. The value is the minimum detection limit for the sample analyzed.
- SC - Suspected Contaminant
- J - Estimated Value
- N.A. - This compound was not analyzed for using an external standard automatic quantification program. However, manual peak identification indicates that the compound is not present above the minimum detection limit of the method.

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BASE/NEUTRAL/ACIDIC ANALYSIS SHEET

Study Name Pristine Study Number SF-2390
Lab Sample I.D. No: 85RL01S21 Activity Number: C5110

	TENTATIVELY IDENTIFIED COMPOUNDS	ESTIMATED CONCENTRATION (PPB)
1.	<u>2-Cyclohexen-1-one (194)</u>	<u>2.8</u>
2.	<u>Unknown (760)</u>	<u>4.7</u>
3.	<u></u>	<u></u>
4.	<u></u>	<u></u>
5.	<u></u>	<u></u>
6.	<u></u>	<u></u>
7.	<u></u>	<u></u>
8.	<u></u>	<u></u>
9.	<u></u>	<u></u>
10.	<u></u>	<u></u>
11.	<u></u>	<u></u>
12.	<u></u>	<u></u>
13.	<u></u>	<u></u>

CODES

- U - Compound was analyzed for, but not detected. The value is the minimum detection limit for the sample analyzed.
- SC - Suspected Contaminant
- J - Estimated Value
- N.A. - This compound was not analyzed for using an external standard automatic quantification program. However, manual peak identification indicates that the compound is not present above the minimum detection limit of the method.

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312/353-8370

BASE/NEUTRAL/ACIDIC ANALYSIS SHEET

Study Name Pristine Study Number SF-2390
Lab Sample I.D. No: 85RL01S19 Activity Number: C5110

TENTATIVELY IDENTIFIED COMPOUNDS	ESTIMATED CONCENTRATION (PPB)
1. <u>2-Cyclohexen-1-one (194)</u>	2.2
2. <u>Unknown (760)</u>	7.2
3. <u>Unknown (1031)</u>	2.6
4. <u>Aziridine, 1-methyl-(1147)</u>	2.2
5. _____	
6. _____	
7. _____	
8. _____	
9. _____	
10. _____	
11. _____	
12. _____	
13. _____	

CODES

- U - Compound was analyzed for, but not detected. The value is the minimum detection limit for the sample analyzed.
- SC - Suspected Contaminant
- J - Estimated Value
- N.A. - This compound was not analyzed for using an external standard automatic quantification program. However, manual peak identification indicates that the compound is not present above the minimum detection limit of the method.

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BASE/NEUTRAL/ACIDIC ANALYSIS SHEET

Study Name Pristine Study Number SF-2390
Lab Sample I.D. No: 85RL01S20 Activity Number: C5110

	TENTATIVELY IDENTIFIED COMPOUNDS	ESTIMATED CONCENTRATION (PPB)
1.	<u>Unknown (1003)</u>	<u>2.3</u>
2.	<u>Aziridine, 1-methyl (1147)</u>	<u>2.8</u>
3.	<u></u>	<u></u>
4.	<u></u>	<u></u>
5.	<u></u>	<u></u>
6.	<u></u>	<u></u>
7.	<u></u>	<u></u>
8.	<u></u>	<u></u>
9.	<u></u>	<u></u>
10.	<u></u>	<u></u>
11.	<u></u>	<u></u>
12.	<u></u>	<u></u>
13.	<u></u>	<u></u>

CODES

- U - Compound was analyzed for, but not detected. The value is the minimum detection limit for the sample analyzed.
- SC - Suspected Contaminant
- J - Estimated Value
- N.A. - This compound was not analyzed for using an external standard automatic quantification program. However, manual peak identification indicates that the compound is not present above the minimum detection limit of the method.

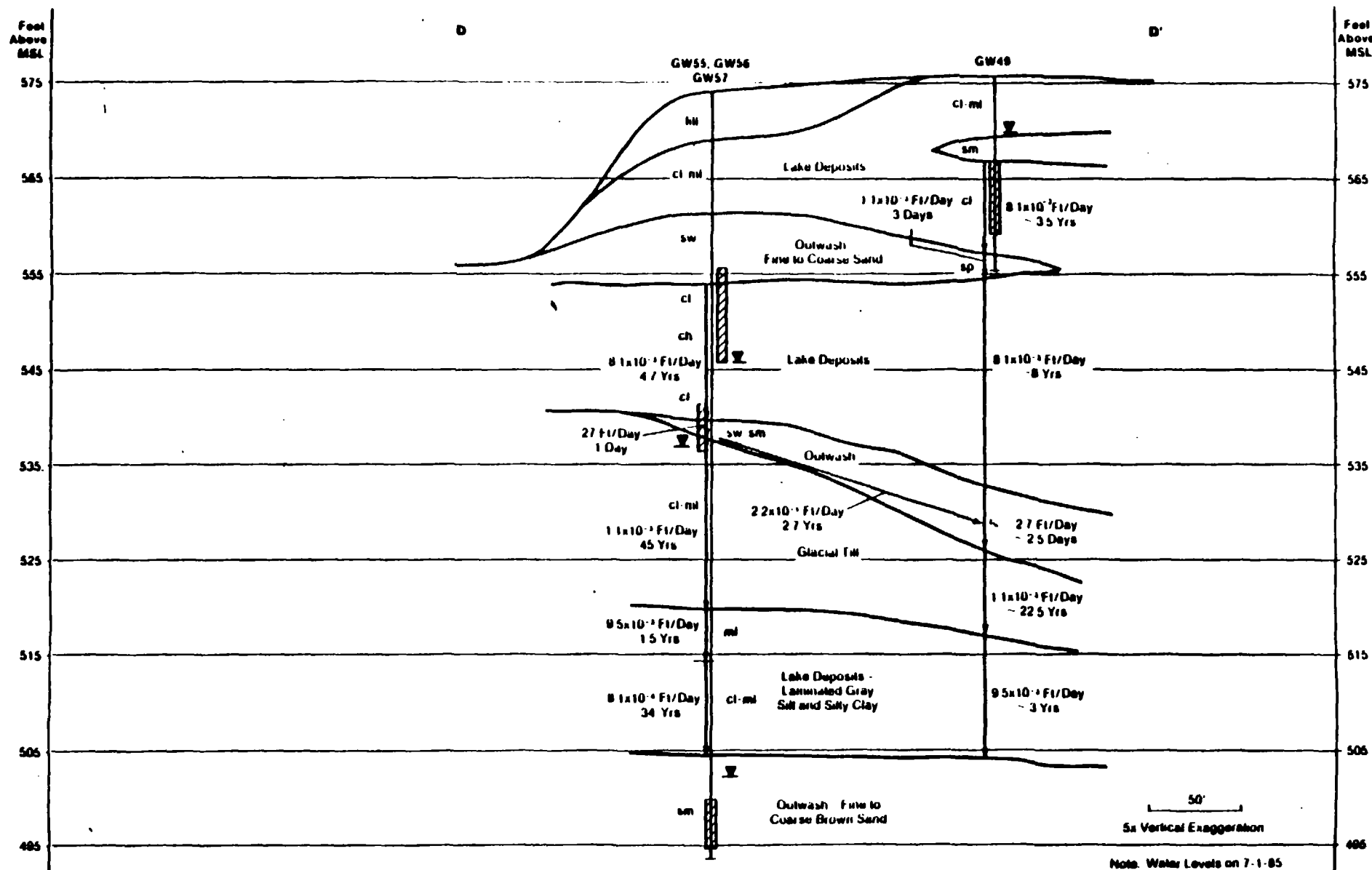


FIGURE M 11 WORST CASE VERTICAL LEAKAGE VELOCITIES AND TRAVEL TIME - D D'

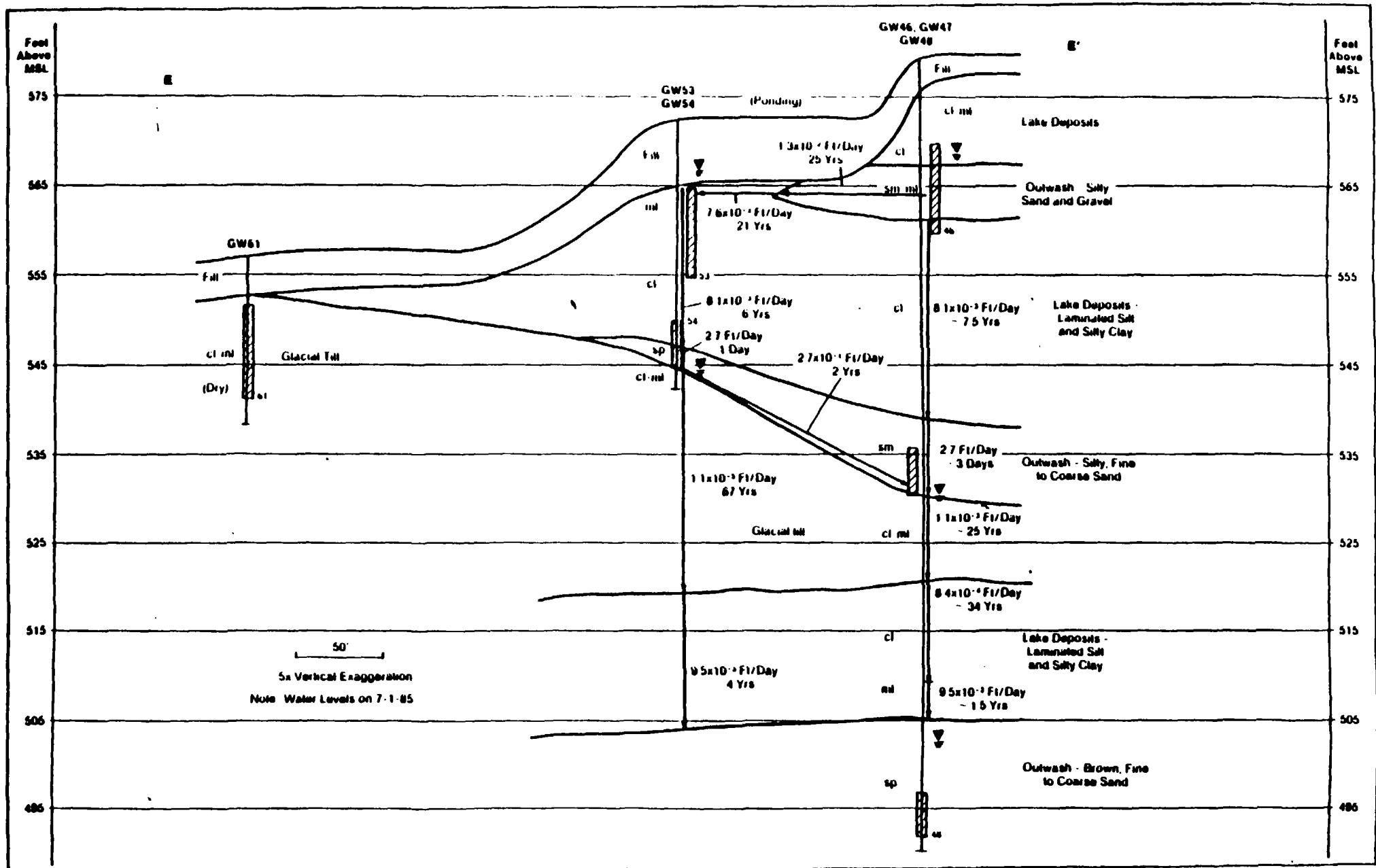


FIGURE M 12 WORST CASE VERTICAL LEAKAGE VELOCITIES AND TRAVEL TIME - E-E'

**FIGURE M 16 GROUNDWATER VELOCITIES
AND TRAVEL TIMES - LOWER
DRAINAGE ZONE SUBSYSTEM**



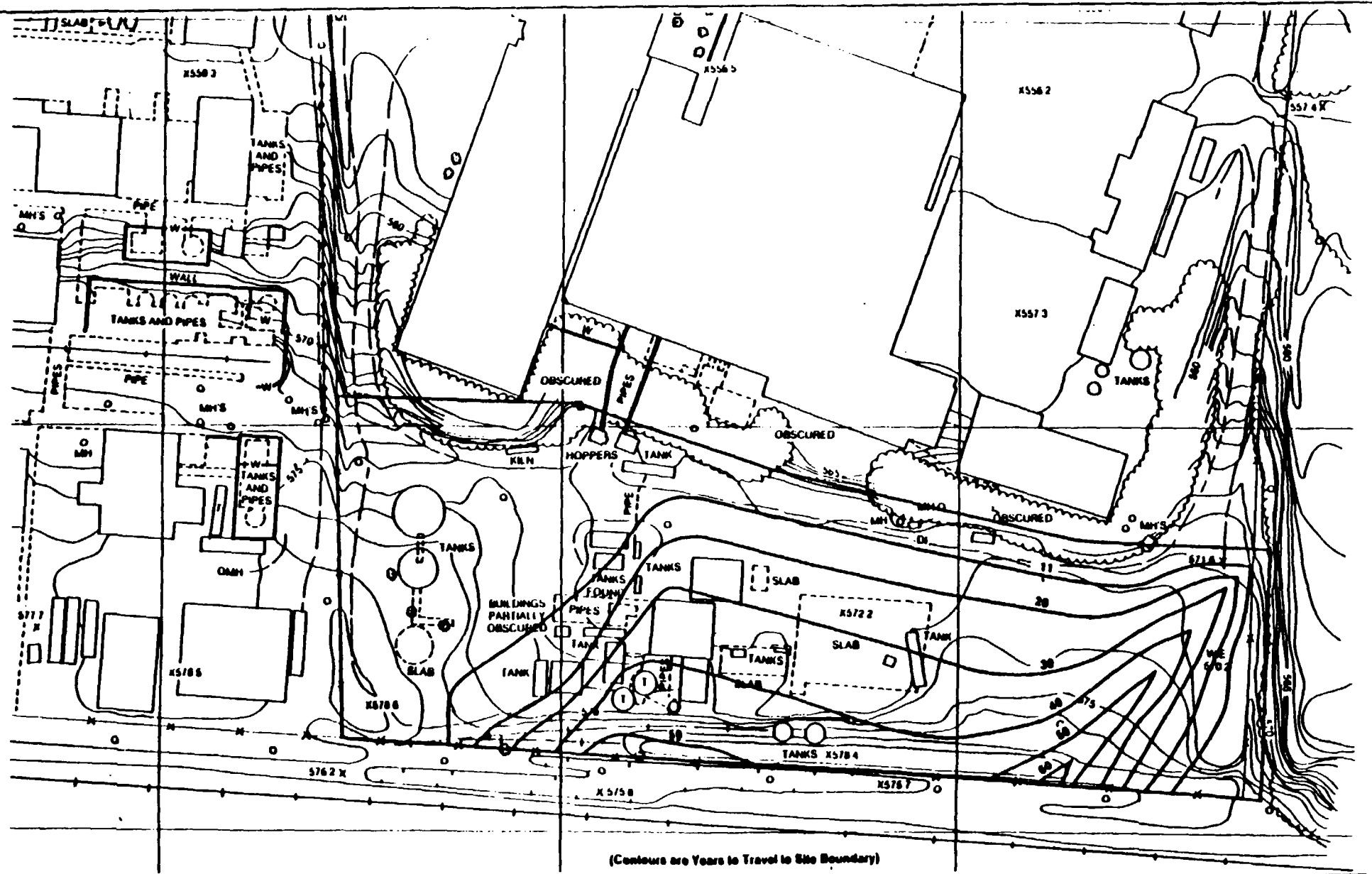


FIGURE M 17 ONSITE AREA POTENTIALLY CONTRIBUTING TO OFFSITE GROUNDWATER CONTAMINATION: UPPER AND MIDDLE PERCHED WATER SUBSYSTEMS

FIGURE M 18 OFFSITE AREA POTENTIALLY AFFECTED BY GROUNDWATER CONTAMINATION FROM PRISTINE UPPER AND MIDDLE PERCHED

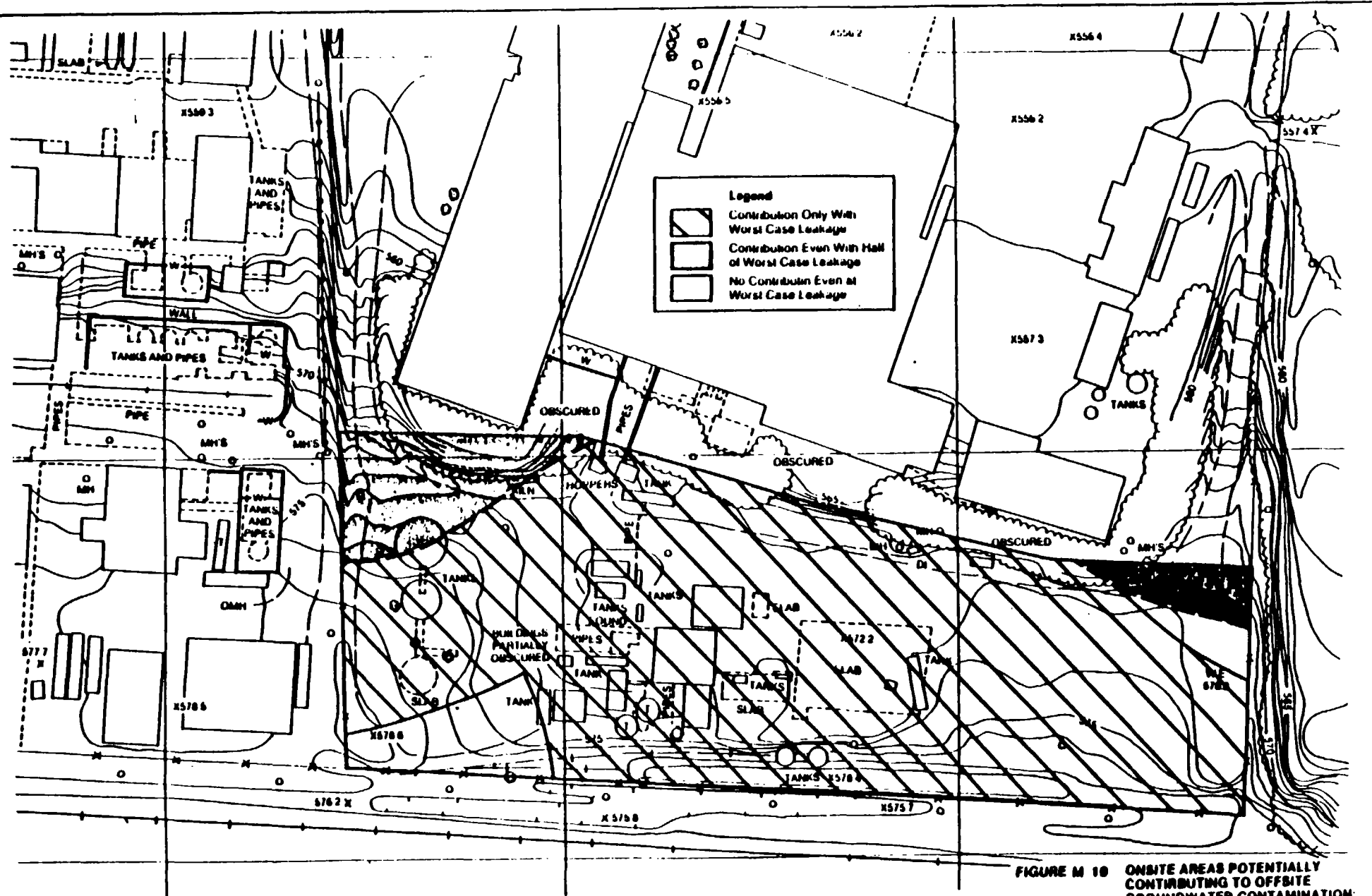
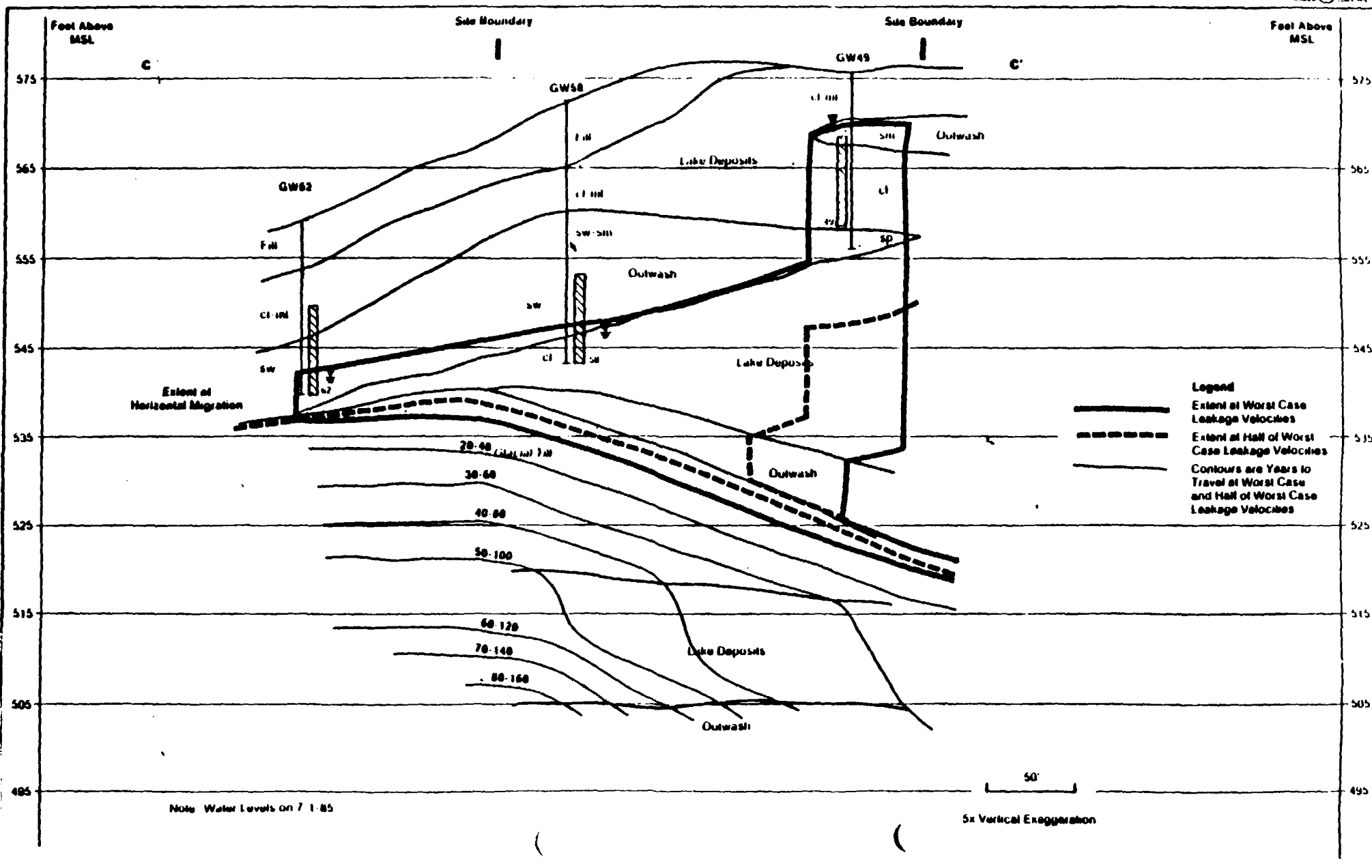


FIGURE M 10 **ON-SITE AREAS POTENTIALLY CONTRIBUTING TO OFF-SITE GROUNDWATER CONTAMINATION: LOWER DRAINAGE ZONE SUBSYSTEM WITH LEAKAGE FROM OVERLYING SUBSYSTEMS**



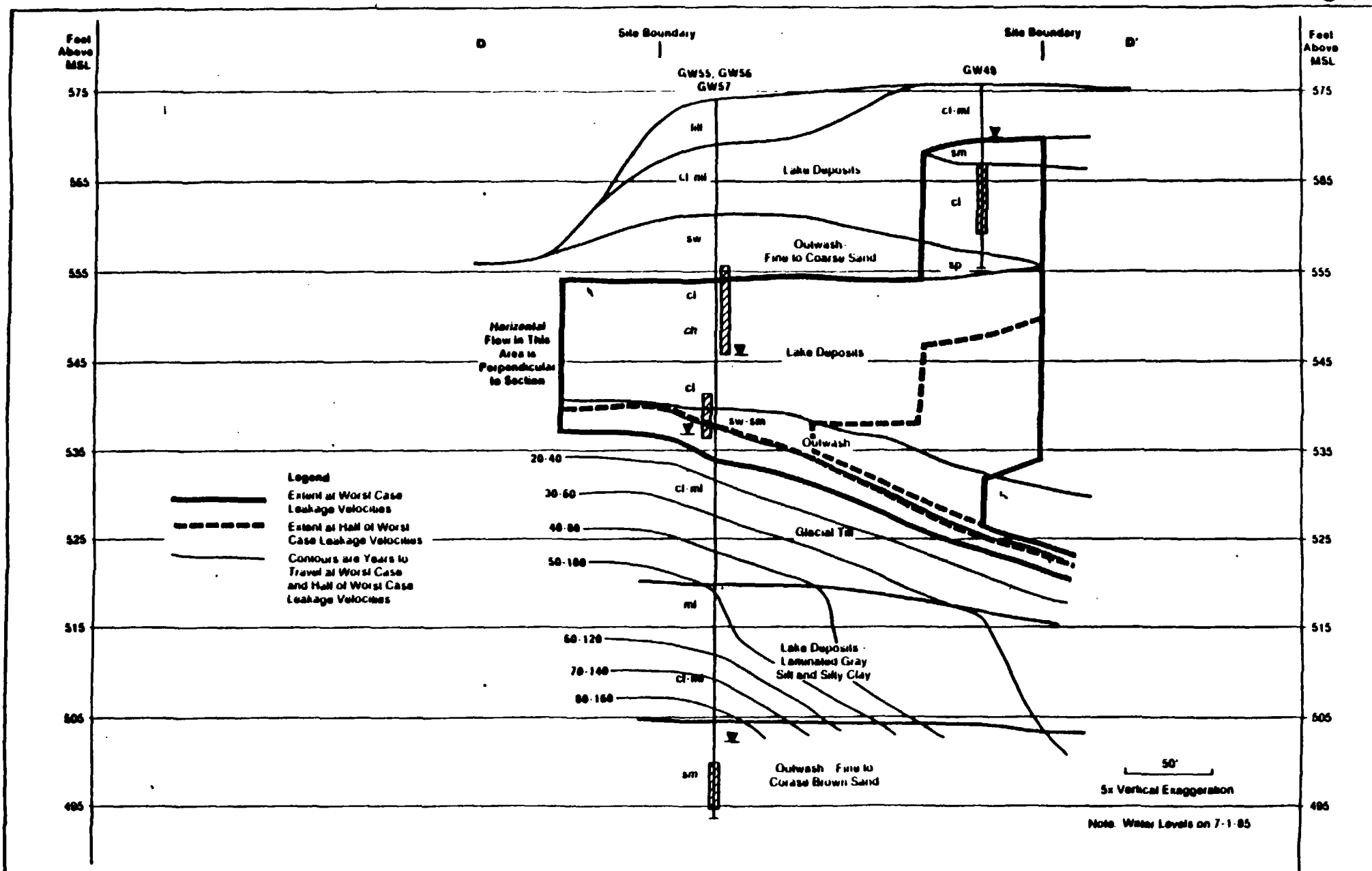


FIGURE M 21 POTENTIAL EXTENT OF CONTAMINATION - D D'

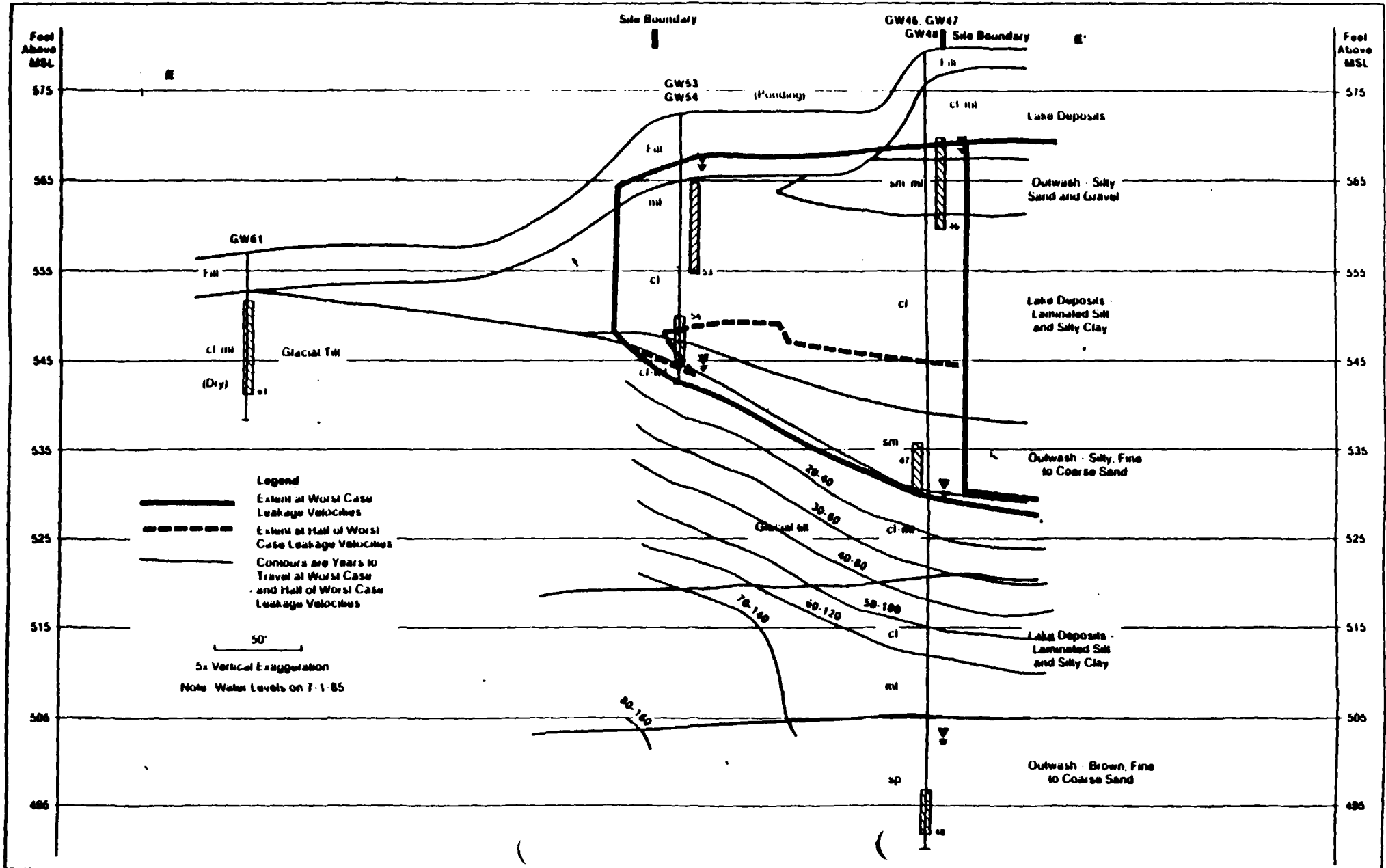


FIGURE M 22 POTENTIAL EXTENT OF

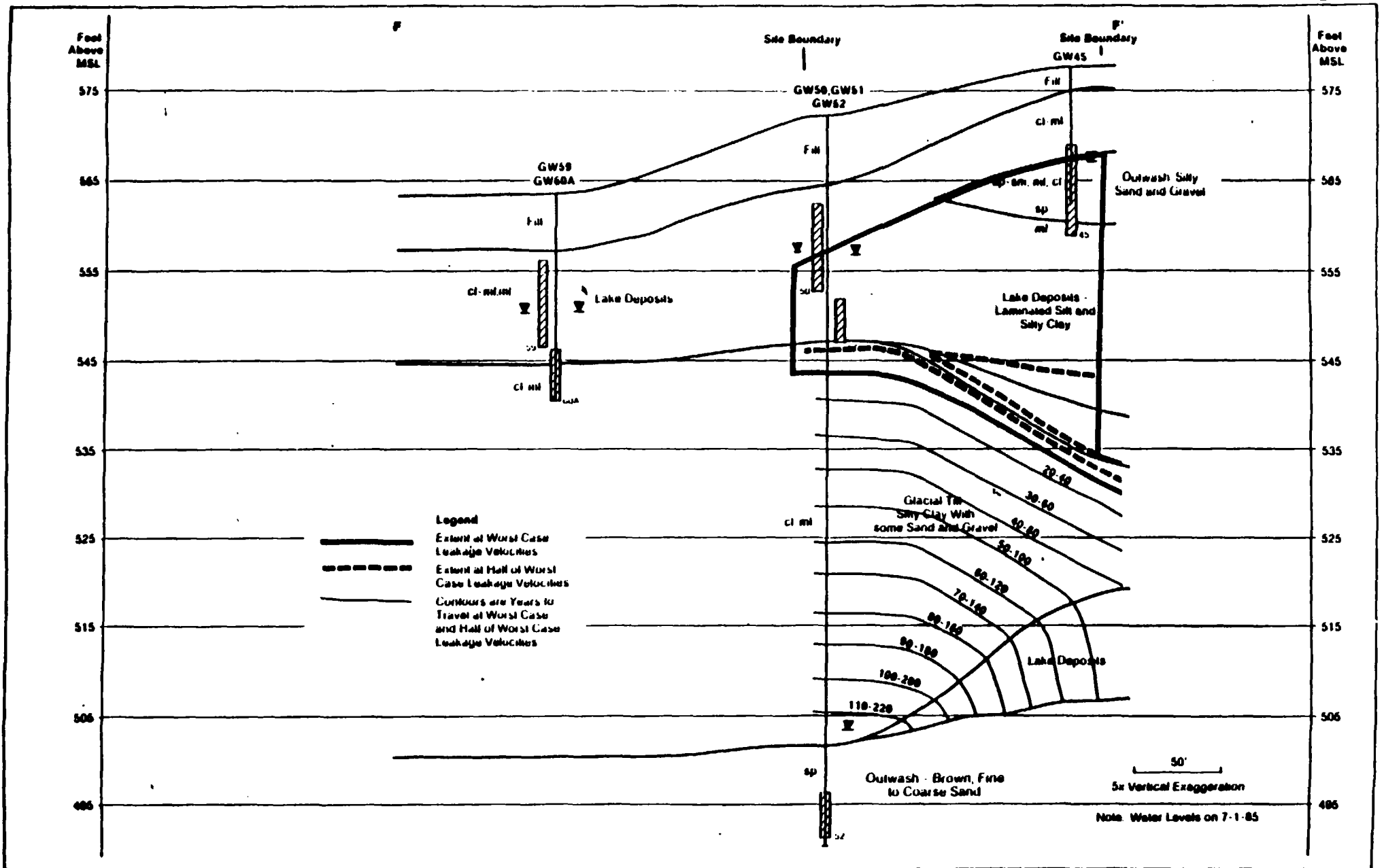


FIGURE M 23 POTENTIAL EXTENT OF CONTAMINATION - F-F

Section 7
Tentatively Identified Compounds

Sediment Samples

Organics Analysis Data Sheet
(Page 4)

Tentatively Identified Compounds 1293

CAS Number	Compound Name	Fraction	Scan Number	Estimated Concentration (ug/l or ug/kg)
1.	5-17 <i>None</i>	✓		
2.	6-3 <i>None</i>	✓		
3.	6-5 <i>None</i>	✓		
4.	6-6 <i>None</i>	✓		
5.	6-7 <i>None</i>	✓		
6.	6-7 <i>None</i>	meth		
7.				
8.	6-14 Aldh Condens Prod	B	329	2000
9.			457	200
10.	UNKNOWN		369	20000
11.			1733	400
12.	6-14 Aldh Condens Prod	B-GPL	363	900
13.	6-14 (UNKNOWN)	B-meth	1291	600
14.				
15.	6-11 Aldh Condens Prod	B-W	365	40
16.	UNKNOWN		836	60
17.	6-20- <i>None</i>	GR-W		
18.	6-20 Aldh Condens Prod	Re-W	363	20
19.	ALCAN		836	10
20.	UNKNOWN		2040	10
21.				
22.				
23.				
24.				
25.				
26.				
27.				
28.				
29.				
30.				

Organics Analysis Data Sheet
(Page 4)

531

Tentatively Identified Compounds

CAS Number	Compound Name	Fraction	Scan Number	Estimated Concentration (ug/L or ug/kg)
	None	✓		
1.				
2.	Aldol Condens Prod	B	347	70
3.	Unknown		366	20
4.	"		420	30
5.				
6.				
7.				
8.				
9.				
10.				
11.				
12.				
13.				
14.				
15.				
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26.				
27.				
28.				
29.				
30.				

Organics Analysis Data Sheet
(Page 4)

484

Tentatively Identified Compounds

CAS Number	Compound Name	Fraction	Scan Number	Estimated Concentration (ug/l or ug/kg)
1.	<i>None</i>	<i>V</i>		
2.				
3.	<i>Alid Chlorine Prod</i>	<i>B</i>	<i>510</i>	<i>40</i>
4.	<i>Oxygenated Hydrocarbon</i>		<i>347</i>	<i>60</i>
5.	<i>"</i>		<i>587</i>	<i>80</i>
6.	<i>"</i>		<i>824</i>	<i>40</i>
7.	<i>UNKNOWN</i>		<i>956</i>	<i>100</i>
8.	<i>"</i>		<i>1064</i>	<i>40</i>
9.	<i>Acid</i>		<i>1214</i>	<i>40</i>
10.	<i>UNKNOWN</i>		<i>1309</i>	<i>30</i>
11.	<i>"</i>		<i>1522</i>	<i>50</i>
12.	<i>"</i>		<i>1658</i>	<i>50</i>
13.	<i>"</i>		<i>1755</i>	<i>50</i>
14.	<i>"</i>		<i>1876</i>	<i>30</i>
15.	<i>"</i>		<i>461</i>	<i>30</i>
16.				
17.				
18.				
19.				
20.				
21.				
22.				
23.				
24.				
25.				
26.				
27.				
28.				
29.				
30.				

Case No 4425

EC 20

Organics Analysis Data Sheet (Page 4)

273

Tentatively Identified Compounds

CAS Number	Compound Name	Fraction	Scan Number	Estimated Concentration (ug/l or ug/kg)
	<i>None</i>	<i>✓</i>		
1.				
2.	<i>Ald. Under Ind</i>	<i>B</i>	<i>313</i>	<i>20</i>
3.	"		<i>348</i>	<i>50</i>
4.	<i>unknown</i>		<i>461</i>	<i>20</i>
5.	"		<i>588</i>	<i>80</i>
6.	"		<i>811</i>	<i>30</i>
7.	"		<i>957</i>	<i>100</i>
8.	"		<i>1039</i>	<i>20</i>
9.	"		<i>1524</i>	<i>60</i>
10.	"		<i>1658</i>	<i>60</i>
11.	"		<i>1755</i>	<i>50</i>
12.	"		<i>1826</i>	<i>30</i>
13.				
14.				
15.				
16.				
17.				
18.				
19.				
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Organics Analysis Data Sheet
(Page 4)

Tentatively Identified Compounds

341.

CAS Number	Compound Name	Fraction	Scan Number	Estimated Concentration (ug/l or ug/kg)
1.	<i>none</i>	<i>✓</i>		
2.				
3.	<i>Field Condens Prod</i>	<i>B</i>	<i>345</i>	<i>90</i>
4.	<i>UNKNOWN</i>		<i>421</i>	<i>200</i>
5.	<i>.</i>		<i>884</i>	<i>10</i>
6.	<i>.</i>		<i>1062</i>	<i>10</i>
7.	<i>Acid</i>		<i>1213</i>	<i>8</i>
8.	<i>UNKNOWN</i>		<i>1524</i>	<i>30</i>
9.				
10.				
11.				
12.				
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Organics Analysis Data Sheet
(Page 4)

255

Tentatively Identified Compounds

CAS Number	Compound Name	Fraction	Scan Number	Estimated Concentration (ug/l or ug/kg)
		V	146	30
	UNKNOWN		320	20
1.	UNKNOWN		1332	20
2.	~~1,4-dichlorobenzene~~			
3.				
4.	Field Cinders Prod	B	351	40
5.	oxygenated hydrocarbon		431	200
6.			511	300
7.			861	200
8.			1351	30
9.	ALKANE		1473	80
10.			1523	20
11.	UNKNOWN		1534	30
12.	ALKANE		1571	50
13.				
14.				
15.				
16.				
17.				
18.				
19.				
20.				
21.				
22.				
23.				
24.				
25.				
26.				
27.				
28.				
29.				
30.				

Organics Analysis Data Sheet
(Page 4)

Tentatively Identified Compounds

213

CAS Number	Compound Name	Fraction	Scan Number	Estimated Concentration (ug/l or ug/kg)
1.	<i>None</i>	<i>V</i>		
2.				
3.	<i>Aldol Condens Prod</i>	<i>B</i>	<i>313</i>	<i>10</i>
4.			<i>348</i>	<i>50</i>
5.	<i>Unknown</i>		<i>586</i>	<i>20</i>
6.	<i>"</i>		<i>929</i>	<i>20</i>
7.	<i>"</i>		<i>1528</i>	<i>10</i>
8.				
9.				
10.				
11.				
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13.				
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28.				
29.				
30.				

Section 8
Tentatively Identified Compounds

Stormwater Samples

Organics Analysis Data Sheet
(Page 4)

Tentatively Identified Compounds

1293

CAS Number	Compound Name	Fraction	Scan Number	Estimated Concentration (ug/l or ug/kg)
1.	5-17	None	✓	
2.	6-3	None	✓	
3.	6-5	None	✓	
4.	6-6	None	✓	
5.	6-7	None	✓	
6.	6-7	None	MEOH	
7.				
8.	6-14 Aldol Condens Prod	B	329	2000
9.			457	200
10.	UNKNOWN		369	2000
11.			1733	400
12.	6-14 Aldol Condens Prod	B-GPL	363	900
13.	6-18 UNKNOWN	B-MOT	1291	600
14.				
15.	6-11 Aldol Condens Prod	S-W	365	40
16.	UNKNOWN		436	60
17.	6-20- None	GR-W		
18.	6-20 Aldol Condens Prod	RE-W	363	20
19.	ALICANE		936	10
20.	UNKNOWN		2040	10
21.				
22.				
23.				
24.				
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29.				
30.				

APPENDIX N

Borings Logs



DRILLING LOG

WELL NUMBER: GW45 OWNER: U.S. EPA
LOCATION: East edge of ADDRESS: Pristine, INC
site, southwest
of pond
SURFACE ELEVATION: 576.98' TOTAL DEPTH: 18.5'
WATER LEVEL: _____
DRILLING COMPANY: Expl. Tech DRILLING METHOD: HSA DATE DRILLED: 6/11/85
DRILLER: S. Wonn HELPER: L. Ludwig
LOG BY: Ed Need

SKETCH MAP

NOTES:

DEPTH (FEET)	GRAPHIC LOG	SAMPLE NUMBER	SAMPLE TYPE	SAMPLE BLOWS	DESCRIPTION / SOIL CLASSIFICATION (COLOR, TEXTURE, STRUCTURES)
0					
1		1	SC	-	Dark brown and green gray CLAYEY SILT, trace to some sand and gravel. (fill) 2.5'
2		2	SC	-	Brown and gray CLAYEY SILT, trace to some sand, trace gravel, mottled orange, crudely laminated
3		3	SC	-	
4		4	SC	-	(cl-mil)
5					
6					
7		5	SC	-	Interbedded brown SAND, brown and gray SILT, and gray CLAY
8					
9					
10					
11					
12					
13		6	SC	-	(sp-sm, ml, and cl) 15.0'
14					
15					
16					
17		7	SC	-	Gray brown FINE to MEDIUM SAND (sp) 17.0'
18					
19					
20		8	SC	-	Gray SILT, laminated (ml) 18.5'
					End of boring



DRILLING LOG

WELL NUMBER: GW 46 OWNER: US EPA
LOCATION: east edge of site ADDRESS: Pristine, INC
near tanks on railroad
TOTAL DEPTH 20.0'
SURFACE ELEVATION: 578.79' WATER LEVEL: _____
DRILLING COMPANY: Bowser-Morris DRILLING METHOD: HSA DATE DRILLED: 6/18/85
DRILLER: B. Manos HELPER: G. Jennewein
LOG BY: Ed Need

SKETCH MAP

NOTES: Stratigraphy based
on samples from adjacent
boring GW-47

DEPTH (FEET)	GRAPHIC LOG	SAMPLE NUMBER	SAMPLE TYPE	SAMPLE BLOWS	DESCRIPTION / SOIL CLASSIFICATION (COLOR, TEXTURE, STRUCTURES)
0					Loose to medium dense, brown SILTY SAND, black SANDY GRAVEL, and gray CLAYEY SILT (fill) 3.0'
5					Very stiff, brown to dark gray CLAYEY SILT, trace sand and gravel, mottled gray and dark orange, sulfur chunks near top. (cl-mil)
10					Very stiff, gray SILTY CLAY, trace fine sand and silt, laminated (cl) 9.0'
15					Medium dense to dense, interbedded gray SILTY FINE SAND and SILT, with some SILTY CLAY layers near top (sm and ml) 12.0'
20					Very stiff, gray SILTY CLAY, laminated, with some SILT and CLAYEY SILT layers near top (cl) 13.0'
					20.0'



DRILLING LOG

WELL NUMBER: GW47 OWNER: U.S. EPA
LOCATION: East edge of site ADDRESS: Pristine, INC
near tanks on railroad
TOTAL DEPTH: 50.5'
SURFACE ELEVATION: 578.87' WATER LEVEL: _____
DRILLING COMPANY: Bowser-Morner DRILLING METHOD: HSA DATE DRILLED: 6/17/85
DRILLER: B. Manos HELPER: G. Jennewein
LOG BY: Ed Need

SKETCH MAP

NOTES:

DEPTH (FEET)			GRAPHIC LOG		SAMPLE NUMBER		SAMPLE TYPE		SAMPLE BLOWS		DESCRIPTION / SOIL CLASSIFICATION (COLOR, TEXTURE, STRUCTURES)	
5		1	SS	7	7	6	Loose to medium dense, brown SILTY SAND, black SANDY GRAVEL, and gray CLAYEY SILT (f, ll)					
		2	SS	5	5	4	3.0'					
		3	SS	7	9	13	Very stiff, brown to dark gray CLAYEY SILT, trace sand and gravel, mottled gray and dark orange, Sulfur chunks near top.					
		4	SS	11	11		(cl-mi)					
		5	SS	9	14	30						
		6	SS	9	14	19	9.0'					
10		7	SS	5	6	11	Very stiff, gray SILTY CLAY, trace fine sand and silt, laminated (cl)					
		8	SS	5	7	23	12.0'					
		9	SS	19	16	20	Medium dense to dense, interbedded gray SILTY FINE SAND and SILT, with some SILTY CLAY layers near top					
		10	SS	7	14	14	(sm and ml)					
15												
		11	SS	10	12	13	18.0'					
		12	SS	5	12	10	Very stiff, gray SILTY CLAY, laminated, with some SILT and CLAYEY SILT layers near top (cl)					



DRILLING LOG

WELL NUMBER: GW47 OWNER: U.S. EPA
LOCATION: East edge of site ADDRESS: Pristine, INC
near tanks on railroad
TOTAL DEPTH: 50.5'
SURFACE ELEVATION: 578.87' WATER LEVEL: _____
DRILLING COMPANY: Bowser Marnier DRILLING METHOD: HSA DATE DRILLED: 6/17/85
DRILLER: B. Manos HELPER: G. Jennewein
LOG BY: Ed Need

SKETCH MAP

NOTES:

DEPTH (FEET)	GRAPHIC LOG	SAMPLE NUMBER	SAMPLE TYPE	SAMPLE BLOWS	DESCRIPTION / SOIL CLASSIFICATION (COLOR, TEXTURE, STRUCTURES)
20					Same as above. Very stiff gray SILTY CLAY, laminated, with some SILT and CLAYEY SILT layers near top (C1)
		13	SS	7 12 13	
		14	SS	6 9 7	
25					
		15	SS	6 6 8	
		16	SS	5 6 10	
30					
		17	SS	7 6 13	
		18	SS	6 9 13	
35					
		19	SS	36 5	
40					

DRILLING LOG

WELL NUMBER: GW54 OWNER: U.S. EPA
 LOCATION: West edge of site, north central ADDRESS: Pristine, INC
 TOTAL DEPTH: 30.0'
 SURFACE ELEVATION: 572.27' WATER LEVEL: _____
 DRILLING COMPANY: Expl. Tech DRILLING METHOD: HSA DATE DRILLED: 6/10/85
 DRILLER: S. Wonn HELPER: L. Ludwig
 LOG BY: Ed Need

SKETCH MAP

NOTES:

DEPTH (FEET)	GRAPHIC LOG	SAMPLE NUMBER	SAMPLE TYPE	SAMPLE BLOWS*	DESCRIPTION / SOIL CLASSIFICATION (COLOR, TEXTURE, STRUCTURES)
40		9	SC	-	Same as above. Gray SILTY CLAY, laminated with brown silt lenses from 10-11 feet and silt partings throughout.
		10	SC	-	
25		11	SC	-	Gray SILT and FINE SAND, layered (ml and sp) 25.0
		12	SC	-	
		13	SS	8 16 21	Hard, brown to gray CLAYEY SILT, trace to some sand and gravel (cl-ml) 27.5
30					End of Boring 30.0



DRILLING LOG

WELL NUMBER: GW55 OWNER: U.S. EPA
LOCATION: West edge of ADDRESS: Pristine, INC.
Site, south central
TOTAL DEPTH: 28.5'
SURFACE ELEVATION: 573.85' WATER LEVEL: _____
DRILLING COMPANY: Expl Tech DRILLING METHOD: HSA DATE DRILLED: 6/12/85
DRILLER: S Wonn HELPER: L. Lurlwig
LOG BY: Ed Need

SKETCH MAP

NOTES:

DEPTH (FEET)	GRAPHIC LOG	SAMPLE NUMBER	SAMPLE TYPE	SAMPLE BLOWS	DESCRIPTION / SOIL CLASSIFICATION (COLOR, TEXTURE, STRUCTURES)
20		3	SC	-	Brown SILTY CLAY (cl) 22.5
25		4	SC	-	Gray CLAY to SILTY CLAY with silt partings (ch) 28.5
30		5	SC	-	End of Boring



DRILLING LOG

WELL NUMBER: GW 55 OWNER: U.S. EPA
LOCATION: West edge of ADDRESS: Pristine, INC
of site, south
central TOTAL DEPTH: 28.5'
SURFACE ELEVATION: 573.85' WATER LEVEL: _____
DRILLING COMPANY: Expl Tech DRILLING METHOD: HSA DATE DRILLED: 6/12/85
DRILLER: S. Wonn HELPER: L. Ludwig
LOG BY: Ed Need

SKETCH MAP

NOTES: Stratigraphy from
0 to 15 feet based on
samples from adjacent
boring GW 56

DEPTH (FEET)	GRAPHIC LOG	SAMPLE NUMBER	SAMPLE TYPE	SAMPLE BLOWS	DESCRIPTION / SOIL CLASSIFICATION (COLOR, TEXTURE, STRUCTURES)
0					Dark gray and orange brown SANDY SILT to CLAYEY SILT with some sand (fill)
5					5.0 Brown to olive brown CLAYEY SILT, trace to some sand and gravel, mottled orange (cl - ml)
10					12.5 Brown, FINE to COARSE SAND. (sw)
15		1	SC	-	
		2	SC	-	
					20.0



DRILLING LOG

WELL NUMBER: GW56 OWNER: U.S. EPA
LOCATION: Western edge of site, south central ADDRESS: Pristine, INC
TOTAL DEPTH: 38.0'
SURFACE ELEVATION: 574.10' WATER LEVEL: _____
DRILLING COMPANY: Expl Tech DRILLING METHOD: HSA DATE DRILLED: 6/11/85
DRILLER: S. Wann HELPER: L. Ludwig
LOG BY: Ed Need

SKETCH MAP

NOTES:

DEPTH (FEET)	GRAPHIC LOG	SAMPLE NUMBER	SAMPLE TYPE	SAMPLE BLOWS	DESCRIPTION / SOIL CLASSIFICATION (COLOR, TEXTURE, STRUCTURES)
20		9	SC	-	Brown SILTY CLAY (cl) 22.5
		10	SC	-	Gray CLAY with silt partings (ch)
25		11	SC	-	
		12	SC	-	
30		13	SS	8 8 11	Very stiff gray and brown CLAY to SILTY CLAY with silt partings (cl) 34.0
35		14	SS	8 28 27	Dense, brown SAND (sw) 36.0 Hard, brown CLAYEY SILT, some sand, trace gravel (cl-mi) 38.0
40					End of Boring

DRILLING LOG

WELL NUMBER: GW56 OWNER: U.S. EPA
 LOCATION: Western edge of site, south central ADDRESS: Pristine, INC
 TOTAL DEPTH: 38.0'
 SURFACE ELEVATION: 574.10' WATER LEVEL: _____
 DRILLING COMPANY: Expl Tech DRILLING METHOD: HSA DATE DRILLED: 6/11-12/85
 DRILLER: S Wonn HELPER: L Ludwig
 LOG BY: Ed Need

SKETCH MAP

NOTES:

DEPTH (FEET)	GRAPHIC LOG	SAMPLE NUMBER	SAMPLE TYPE	SAMPLE BLOWS	DESCRIPTION / SOIL CLASSIFICATION (COLOR, TEXTURE, STRUCTURES)
0		1	SC	-	Dark gray and orange brown SANDY SILT to CLAYEY SILT with some sand. (fill)
		2	SC	-	
5		3	SC	-	Brown to olive brown CLAYEY SILT, trace to some sand and gravel, mottled orange 5.0
		4	SC	-	
10		5	SC	-	
		6	SC	-	Brown, FINE to COARSE SAND. (cl-m) 12.5
15		7	SC	-	
		8	SC	-	
20					20.0



DRILLING LOG

WELL NUMBER: GW57
LOCATION: Western edge
of site, south central

OWNER: U.S. EPA
ADDRESS: Puristone, INC.

SURFACE ELEVATION: 573.64'

TOTAL DEPTH: 80.0'

WATER LEVEL: _____

DRILLING COMPANY: Expl Tech
DRILLER: S. Worn

DRILLING METHOD: auger
HELPER: L. Ludwig

DATE DRILLED: 6/8-19/20

LOG BY: Ed Need

SKETCH MAP

NOTES:

DEPTH (FEET)	GRAPHIC LOG	SAMPLE NUMBER	SAMPLE TYPE	SAMPLE BLOWS	DESCRIPTION / SOIL CLASSIFICATION (COLOR, TEXTURE, STRUCTURES)
20					Brown SILTY CLAY (cl)
					22.5
25					Gray CLAY with silt partings (ch)
					30.0
30					Very stiff, gray and brown CLAY to SILTY CLAY with silt partings (cl)
					34.0
35		1	SS	9 16 22	Dense, brown SILTY FINE SAND, with some medium to coarse sand. (sw-sm)
					36.0
					Hard, gray CLAYEY SILT, trace to some sand and gravel. (cl-mi)
		2	SS	5, 17, 18	



DRILLING LOG

WELL NUMBER: GW 56 OWNER: U.S. EPA
LOCATION: Western edge of site, south central ADDRESS: Pristine, INC
TOTAL DEPTH: 80.0'
SURFACE ELEVATION: 573.64 WATER LEVEL: _____
DRILLING COMPANY: Expl Tech DRILLING Casing METHOD: and auger DATE: 6/18-19/85
DRILLER: S Wann HELPER: L Ludwig
LOG BY: Ed Need

SKETCH MAP

NOTES: Stratigraphy from 0 to 34 feet based on sample from adjacent boring GW 56

DEPTH (FEET)	GRAPHIC LOG	SAMPLE NUMBER	SAMPLE TYPE	SAMPLE BLOWS	DESCRIPTION / SOIL CLASSIFICATION (COLOR, TEXTURE, STRUCTURES)
0					Dark gray and orange brown SANDY SILT to CLAYEY SILT with some sand (fill) 5.0
5					Brown to olive brown CLAYEY SILT, trace to some sand and gravel, mottled orange (cl-mi) 12.5
10					Brown, FINE to COARSE SAND (sw) 20.0
15					
20					



DRILLING LOG

WELL NUMBER: GW57 OWNER: U.S. EPA
LOCATION: Western edge of site, south central ADDRESS: Pristine, Inc.
TOTAL DEPTH: 80.0'
SURFACE ELEVATION: 573.64' WATER LEVEL: _____
DRILLING COMPANY: Expl Tech DRILLING Casing DATE
METHOD: and auger DRILLED: 6/18-19/83
DRILLER: Swann HELPER: E. Ludwig
LOG BY: Ed Need

SKETCH MAP

NOTES:

DEPTH (FEET)	GRAPHIC LOG	SAMPLE NUMBER	SAMPLE TYPE	SAMPLE BLOWS	DESCRIPTION / SOIL CLASSIFICATION (COLOR, TEXTURE, STRUCTURES)
60					Same as above. Hard, gray and orange brown CLAYEY SILT (cl-m1)
65		7	SS	17 20 24	
70		8	SS	23 41 32	Very dense, orange brown and gray FINE SAND and SILTY FINE SAND (sm)
75		9	SS	19 22 27	
80.0					



DRILLING LOG

WELL NUMBER: GW57 OWNER: U.S. EPA
LOCATION: Western edge of Site, south central ADDRESS: Pristine, INX
TOTAL DEPTH: 80.0
SURFACE ELEVATION: 573.64' WATER LEVEL: _____
DRILLING COMPANY: Exp Tech DRILLING Casing and DATE
METHOD: auger DRILLED: 6/18-19/85
DRILLER: S. Wann HELPER: L. Ludwig
LOG BY: Ed Need

SKETCH MAP

NOTES:

DEPTH (FEET)	GRAPHIC LOG	SAMPLE NUMBER	SAMPLE TYPE	SAMPLE BLOWS	DESCRIPTION / SOIL CLASSIFICATION (COLOR, TEXTURE, STRUCTURES)
10		SS			Same as above. Hard, gray CLAYEY SILT, trace to some sand and gravel
75	3	SS	17 33		
50	4	SS	14 21 31		(No recovery)
					(cl-mil)
					54.0
55	5	SS	10 20 24		Hard, gray SILT
					(ml)
					59.0
	6	SS	24 100%		Hard, gray and orange brown CLAYEY SILT (cl-mil)



DRILLING LOG

WELL NUMBER: GW58 OWNER: U.S. EPA
LOCATION Southwest corner ADDRESS: Pristine, INC
of site
TOTAL DEPTH 30.5'
SURFACE ELEVATION: 573.39' WATER LEVEL: _____
DRILLING COMPANY: Expl Tech DRILLING METHOD: HSA DATE DRILLED: 6/3/85
DRILLER: S. Wann HELPER: L. Ludwig
LOG BY: Ed Need

SKETCH MAP

NOTES:

DEPTH (FEET)	GRAPHIC LOG			DESCRIPTION / SOIL CLASSIFICATION (COLOR, TEXTURE, STRUCTURES)
	SAMPLE NUMBER	SAMPLE TYPE	SAMPLE BLOWS	
9	SC	-		FINE to COARSE SAND, layered (sw)
10	SC	-		
11	SC	-		
12	SC	-		Multi-colored CLAYEY SILT, some sand and gravel, with distorted bedding (cl-m)
27.5				
30.5				End of Boring



DRILLING LOG

WELL NUMBER: GW58 OWNER: U.S. EPA
LOCATION: Southwest corner of site ADDRESS: Pristine, INC
TOTAL DEPTH: 30.5'
SURFACE ELEVATION: 573.39' WATER LEVEL: _____
DRILLING COMPANY: Expl. Tech DRILLING METHOD: HSA DATE DRILLED: 6/13/85
DRILLER: S. Wonn HELPER: L. Ludwig
LOG BY: Ed Need

SKETCH MAP

NOTES:

DEPTH (FEET)	GRAPHIC LOG	SAMPLE NUMBER	SAMPLE TYPE	SAMPLE BLOWS	DESCRIPTION / SOIL CLASSIFICATION (COLOR, TEXTURE, STRUCTURES)
0		1	SC	-	Black to brown SANDY, CLAYEY SILT and SILTY FINE SAND, layered
		2	SC	-	
5		3	SC	-	(fill)
		4	SC	-	8.5
10		5	SC	-	Light brown CLAYEY SILT to SILTY CLAY, trace to some sand (cl-mi)
		6	SS	¹⁴ 12 8	13.5
15		7	SC	-	Medium dense GRAVELLY SAND to SILTY SAND AND GRAVEL, with ferric oxide crusts near top and irregular blocks of clay near base (sw-sm)
		8	SC	-	
20					20.0



DRILLING LOG

WELL NUMBER: GW60 OWNER: U.S. EPA
LOCATION: north access ADDRESS: Pristine, IN
road (on CDS
property) TOTAL DEPTH 23.0
SURFACE ELEVATION: — WATER LEVEL: —
DRILLING COMPANY: Bowser-Morner DRILLING METHOD: HSA DATE DRILLED: 6/20/85
DRILLER: B. Manos HELPER: G. Jennewein
LOG BY: Ed Need

SKETCH MAP

NOTES:

DEPTH (FEET)	GRAPHIC LOG	SAMPLE NUMBER	SAMPLE TYPE	SAMPLE BLOWS	DESCRIPTION / SOIL CLASSIFICATION (COLOR, TEXTURE, STRUCTURES)
0		1	SS	8 11 14	medium dense to dense, black SILTY SAND, some gravel (fill) 3.0
		2	SS	16 9 32	
		3	SS	12 9 12	Stiff to very stiff, brown CLAYEY SILT, trace sand
5		4	SS	3 3 5	(fill) 6.5
		5	SS	3 4 8	Stiff to very stiff, black, brown, orange, and gray CLAYEY SILT, SANDY SILT, and SILT, layered, with organic matter at top
		6	SS	5 7 11	
10		7	SS	6 6 9	(cl-mi and mi)
		8	SS	2 7 32	
		9	SS	4 9 13	
15		10	SS	7 9 13	
		11	SS	56 44	(No recovery) Hard, gray CLAYEY SILT, some sand and gravel (cl-mi)



DRILLING LOG

WELL NUMBER: GW59 OWNER: US. EPA
LOCATION: North access ADDRESS: Pristine, INC
road (on COS property)
TOTAL DEPTH: 17.5
SURFACE ELEVATION: 562.80' WATER LEVEL: _____
DRILLING COMPANY: Bowser-Morner DRILLING METHOD: HSA DATE DRILLED: 6/21/85
DRILLER: B. Manos HELPER: G. Jennewein
LOG BY: Ed Need

SKETCH MAP

NOTES: Stratigraphy based
on samples collected
from adjacent boring
GW60

DEPTH (FEET)	GRAPHIC LOG	SAMPLE NUMBER	SAMPLE TYPE	SAMPLE BLOWS	DESCRIPTION / SOIL CLASSIFICATION (COLOR, TEXTURE, STRUCTURES)
0					Medium dense to dense, black SILTY SAND some gravel (fill) 3.0
5					Stiff to very stiff, brown CLAYEY SILT, trace sand (fill) 6.5
10					Stiff to very stiff, black, brown, orange, and gray CLAYEY SILT, SANDY SILT, and SILT, layered, with organic matter at top (cl-mI and mI) 17.5
15					End of boring
20					



DRILLING LOG

WELL NUMBER: GW 60A OWNER: U.S. EPA
LOCATION: north access ADDRESS: Pristine, IAX
road on CUS
property TOTAL DEPTH: 23.25'
SURFACE ELEVATION: 563.10 WATER LEVEL: _____
DRILLING COMPANY: Bowser Mornie DRILLING METHOD: HSA DATE DRILLED: 6/21/85
DRILLER: B. Manos HELPER: G. Tennewien
LOG BY: Ed Need

SKETCH MAP

NOTES: Stratigraphy based
on samples collected
from adjacent boring
GW60

DEPTH (FEET)	GRAPHIC LOG	SAMPLE NUMBER	SAMPLE TYPE	SAMPLE BLOWS	DESCRIPTION / SOIL CLASSIFICATION (COLOR, TEXTURE, STRUCTURES)
0					Medium dense to dense, black SILTY SAND, some gravel (fill) 3.0
5					Stiff to very stiff, brown CLAYEY SILT, trace sand (fill) 6.5
10					Stiff to very stiff, black, brown, orange, and gray CLAYEY SILT, SANDY SILT, and SILT, layered, with organic matter at top. (cl-mI and mI) 19.0
15					Hard, gray CLAYEY SILT, some sand and gravel (cl-mI)



WELL NUMBER: GW6C OWNER: U.S. EPA
LOCATION: north of ESS ADDRESS: Pristine, INC
road (on CNS
property) TOTAL DEPTH: 23.0
SURFACE ELEVATION: — WATER LEVEL: —
DRILLING COMPANY: Bowser-McNair DRILLING METHOD: HSA DATE DRILLED: 6/20/85
DRILLER: B. Manns HELPER: G. Jennewein
LOG BY: Ed Need

NOTES:

[illegible]



DRILLING LOG

WELL NUMBER: GW 61

OWNER: US. EPA

LOCATION: Center - CDS

ADDRESS: Pristine, INC

SURFACE ELEVATION: 556.37'

TOTAL DEPTH: 18.5'

WATER LEVEL: _____

DRILLING COMPANY: Bowser-Manner

DRILLING METHOD: HSA

DATE DRILLED: 6/24/85

DRILLER: B. Manos

HELPER: G. Jennewein

LOG BY: Ed Need

SKETCH MAP

NOTES:

DEPTH (FEET)	GRAPHIC LOG	SAMPLE NUMBER	SAMPLE TYPE	SAMPLE BLOWS	DESCRIPTION / SOIL CLASSIFICATION (COLOR, TEXTURE, STRUCTURES)
		1	SS	21 27 15	Medium dense to dense, light to dark brown SILTY SAND
		2	SS	15 8 9	(sm)
		3	SS	4 6 5	4.5
5		4	SS	3 5 4	Very stiff to hard, light to dark brown and gray CLAYEY SILT, trace sand, mottled at 10 feet.
		5	SS	12 13 12	(cl-m-l)
		6	SS	9 9 11	
10		7	SS	5 10 17	
		8	SS	15 21 32	
15		9	SS	37 53 102	
		10	SS	100 15	18.5
					End of boring



DRILLING LOG

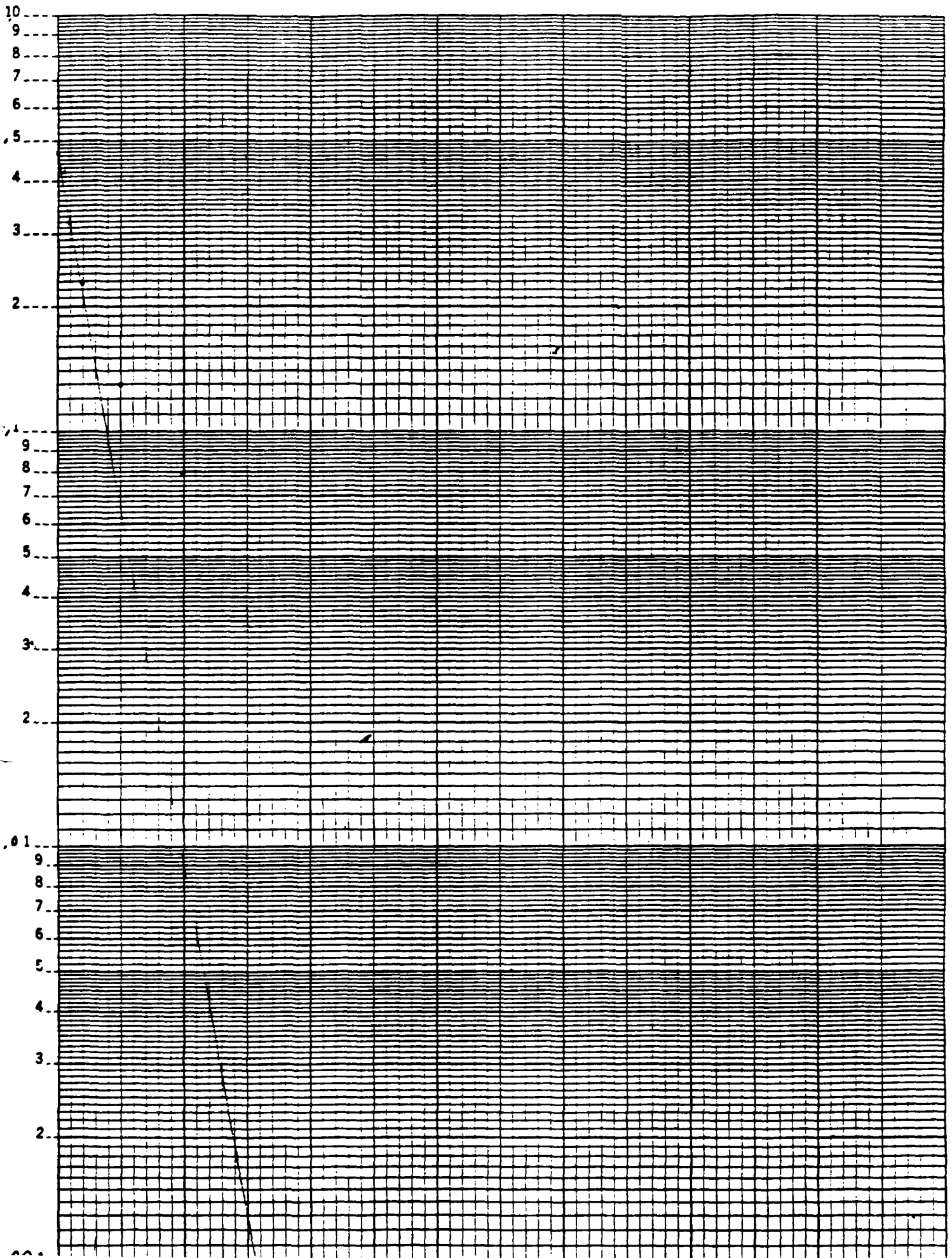
WELL NUMBER: GW60A OWNER: U.S. EPA
LOCATION: north access ADDRESS: Pristine, INC
road on CD5
property TOTAL DEPTH: 23.25'
SURFACE ELEVATION: 563.10 WATER LEVEL: _____
DRILLING COMPANY: Bausier Burner DRILLING METHOD: HSA DATE DRILLED: 6/21/85
DRILLER: B. Manos HELPER: G. Tennewein
LOG BY: Ed Need

SKETCH MAP

NOTES:

DEPTH (FEET)	GRAPHIC LOG	SAMPLE NUMBER	SAMPLE TYPE	SAMPLE BLOWS	DESCRIPTION / SOIL CLASSIFICATION (COLOR, TEXTURE, STRUCTURES)
20					Same as above. Hard, gray CLAYEY SILT, some sand and gravel (cl-mi) 23.25
25					End of Boring

GW 45



5490

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DRILLING LOG

WELL NUMBER: GW102 OWNER: U.S. EPA
LOCATION: South access road (on CDS property) ADDRESS: Pristine, INC
TOTAL DEPTH: 18'
SURFACE ELEVATION: 557.38' WATER LEVEL: _____
DRILLING COMPANY: Bowser Mamer DRILLING METHOD: HSA DATE DRILLED: 6/22/85
DRILLER: B. Manos HELPER: G. Jennewein
LOG BY: Ed Need

SKETCH MAP

NOTES:

DEPTH (FEET)	GRAPHIC LOG	SAMPLE NUMBER	SAMPLE TYPE	SAMPLE BLOWS	DESCRIPTION / SOIL CLASSIFICATION (COLOR, TEXTURE, STRUCTURES)
0		1	SS	13 9	Medium stiff to stiff brown to gray CLAYEY SILT (Fill)
		2	SS	3 2	3.0
		3	SS	3 2 7	Loose, black SAND (Fill) 4.0
5		4	SS	6 6 8	Medium stiff to stiff brown to orange brown CLAYEY SILT
		5	SS	7 2 4	(cl-mil)
		6	SS	4 4 6	
10		7	SS	8 4 15	
		8	SS	15 31 47	Very dense, well graded SAND (sw) 12.0
		9	SS	31 22 40	18.0
					End of Boring



DRILLING LOG

WELL NUMBER: GW52 OWNER: ILS. EPA
LOCATION: Northwest ADDRESS: Pristine, INC
corner of site
TOTAL DEPTH: 81.5'
SURFACE ELEVATION: 571.63' WATER LEVEL: _____
DRILLING COMPANY: Expl. Tech DRILLING METHOD: Casing and Auger DATE DRILLED: 6/3-5/85
DRILLER: S. Worri HELPER: L. Ludwig
LOG BY: Ed Need

SKETCH MAP

NOTES:

DEPTH (FEET)	GRAPHIC LOG			SAMPLE NUMBER	SAMPLE TYPE	SAMPLE BLOWS	DESCRIPTION / SOIL CLASSIFICATION (COLOR, TEXTURE, STRUCTURES)
5		1	SS	2		6	Medium stiff to stiff, orange, green gray, and black CLAYEY SILT, trace sand, trace gravel, mottled orange in places. (fill)
		2	SS	2		7	
		3	SS	3		3	
		4	SS	2		2	
		5	SS	0		1	
10		6	SS	0		0	Soft to medium stiff, gray SANDY, CLAYEY SILT, trace gravel, to CLAYEY SILT, trace to some sand, trace gravel, with lenses of SILTY CLAY and FINE SAND (cl - ml)
		7	SS	1		2	
		8	SS	1		1	
		9	SS	3		3	
		10	SS	1		2	
15		11	SS	1		2	Soft to very stiff dark to orange brown and gray CLAYEY SILT to SILTY CLAY (cl)
		12	SS	9		11	

DRILLING LOG

WELL NUMBER: GW52 OWNER: U.S. EPA
 LOCATION: Northwest ADDRESS: Pristine, INC
corner of site
 TOTAL DEPTH: 81.5'
 SURFACE ELEVATION: 571.63' WATER LEVEL: _____
 DRILLING COMPANY: Expl Tech DRILLING METHOD: Casing and auger DATE: 6/3-5/85
 DRILLER: S. Wonn HELPER: Ludwig
 LOG BY: Ed Need

NOTES:

DEPTH (FEET)	GRAPHIC LOG	SAMPLE NUMBER	SAMPLE TYPE	SAMPLE BLOWS	DESCRIPTION / SOIL CLASSIFICATION (COLOR, TEXTURE, STRUCTURES)
20		13	SS	4 4	Same as above. Soft to very stiff dark to orange brown and gray CLAYEY SILT to SILTY CLAY
					(cl)
		14	SS	2 1 2	
25					25.0
		15	SS	12 18 19	Hard, gray CLAYEY SILT, trace to some sand, trace gravel with thin, SILTY FINE SAND lenses at 46.5 ft.
					(cl-m)
		16	SS	10 18 32	
30					
		17	SS	39 24 30	
		18	SS	24 42 61	
35					
		19	ST	NA	
		20	SS	29 47 68	
40					



DRILLING LOG

WELL NUMBER: GW 52 OWNER: U.S. EPA
LOCATION: Northwest ADDRESS: Pristine, INC
corner of site
TOTAL DEPTH: 81.5'
SURFACE ELEVATION: 571.63' WATER LEVEL: _____
DRILLING COMPANY: Expl Tech DRILLING METHOD: Casing DATE: 6/3-5/85
DRILLER: S Wenn HELPER: L Ludwig
LOG BY: Ed Need

SKETCH MAP

NOTES:

DEPTH (FEET)	GRAPHIC LOG			DESCRIPTION / SOIL CLASSIFICATION (COLOR, TEXTURE, STRUCTURES)
	SAMPLE NUMBER	SAMPLE TYPE	SAMPLE BLOWS	
4	21	SS	11 19 41	Same as above. Hard, gray CLAYEY SILT, trace to some sand, trace gravel, with thin SILTY FINE SAND lenses at 46.5 feet. (cl-m/)
45	22	SS	10 19 24	
50	23	SS	16 21 26	
55	24	SS	19 40 53	



DRILLING LOG

WELL NUMBER: GW 52 OWNER: U.S. EPA
LOCATION: Northwest ADDRESS: Pristine, INC.
corner of site
TOTAL DEPTH: 81.5'
SURFACE ELEVATION: 571.63' WATER LEVEL: _____
DRILLING COMPANY: Expt Tech DRILLING METHOD: Casing DATE: 6/3-5/85
DRILLER: Swonn HELPER: L. Ludwig
LOG BY: Ed Need

SKETCH MAP

NOTES:

DEPTH (FEET)	GRAPHIC LOG	SAMPLE NUMBER	SAMPLE TYPE	SAMPLE BLOWS	DESCRIPTION / SOIL CLASSIFICATION (COLOR, TEXTURE, STRUCTURES)
60		25	SS	19 32	Same as above. Hard, gray CLAYEY SILT, trace to some sand, trace gravel, with thin SILTY FINE SAND lenses at 46.5 feet. (cl-m1)
65					
70		26	SS	8 13 14	Medium dense to dense, red brown COARSE SAND (sp)
75					
80					

NOTES:

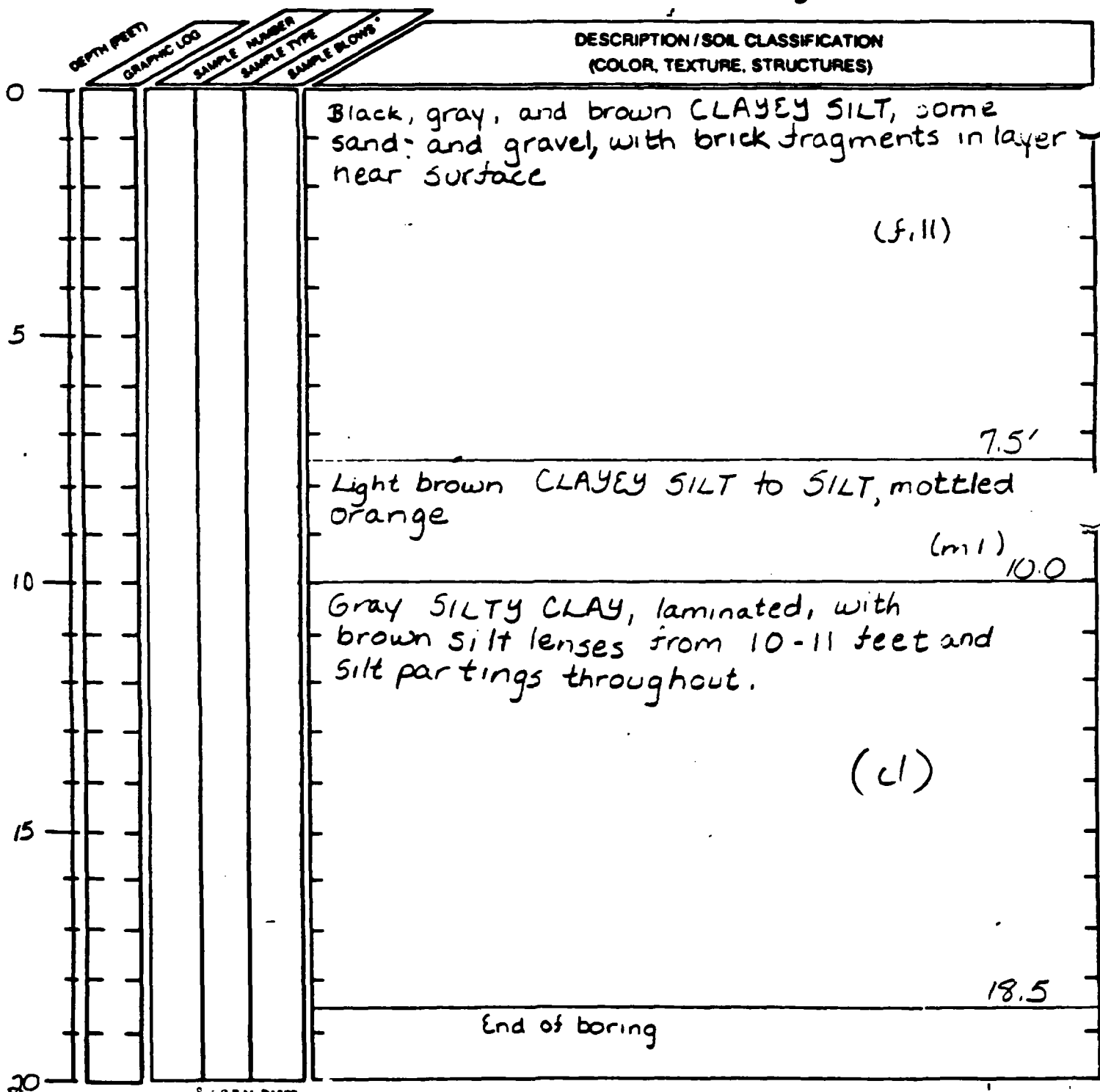


SKETCH MAP

DRILLING LOG

WELL NUMBER: GW53 OWNER: US EPA
LOCATION: West edge of site, north central ADDRESS: Pristine, INC
TOTAL DEPTH 18.5'
SURFACE ELEVATION: 572.02' WATER LEVEL: _____
DRILLING COMPANY: Expl Tech DRILLING METHOD: HSA DATE DRILLED: 6/10/85
DRILLER: S Wain HELPER: L Ludwig
LOG BY: Ed Need

NOTES: Split-corer pushed from 8.5 to 18.5'; no recovery. Stratigraphy based on adjacent boring GW54.



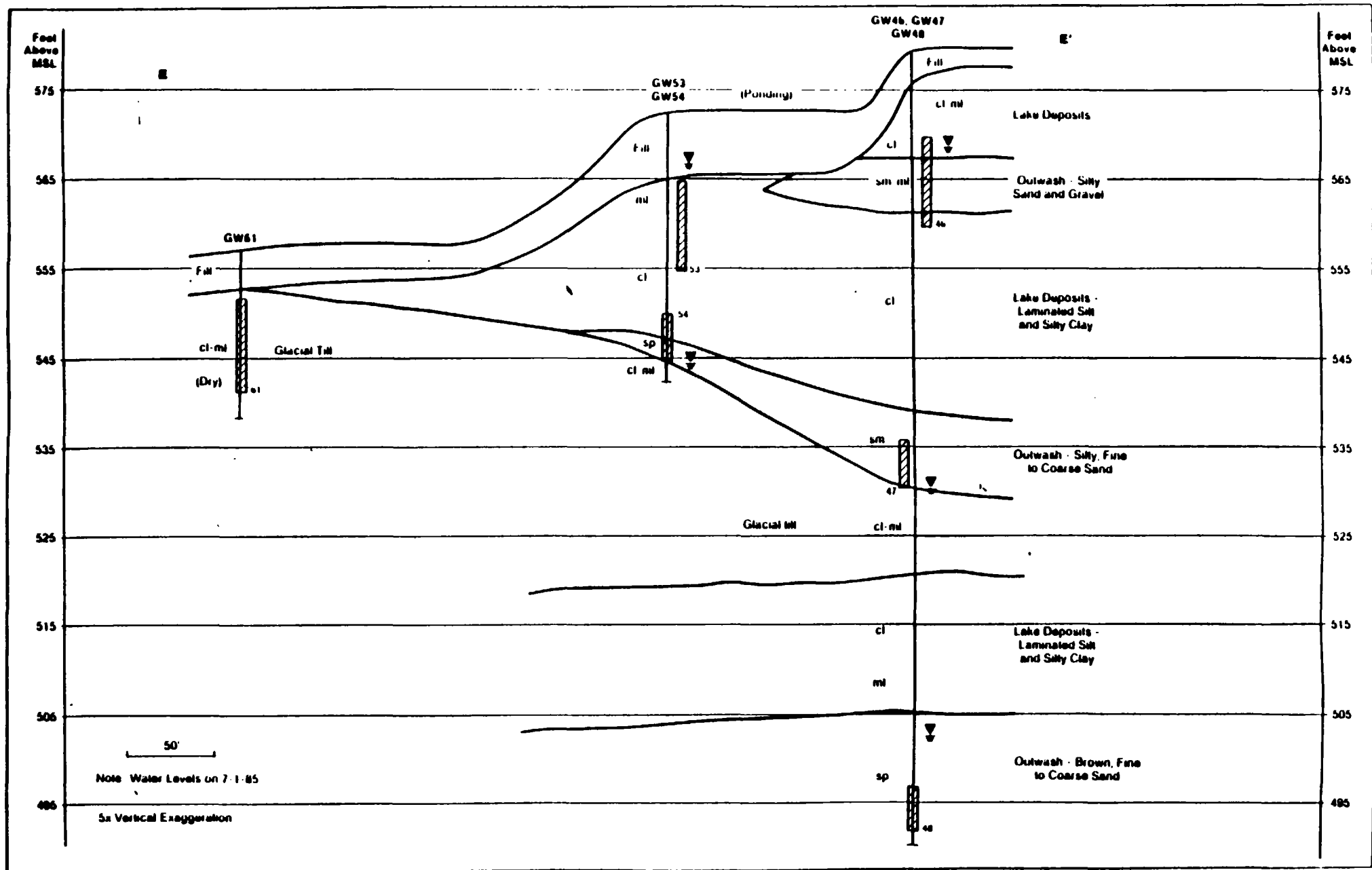


FIGURE M 8 GEOLOGIC CROSS-SECTION - E-E'

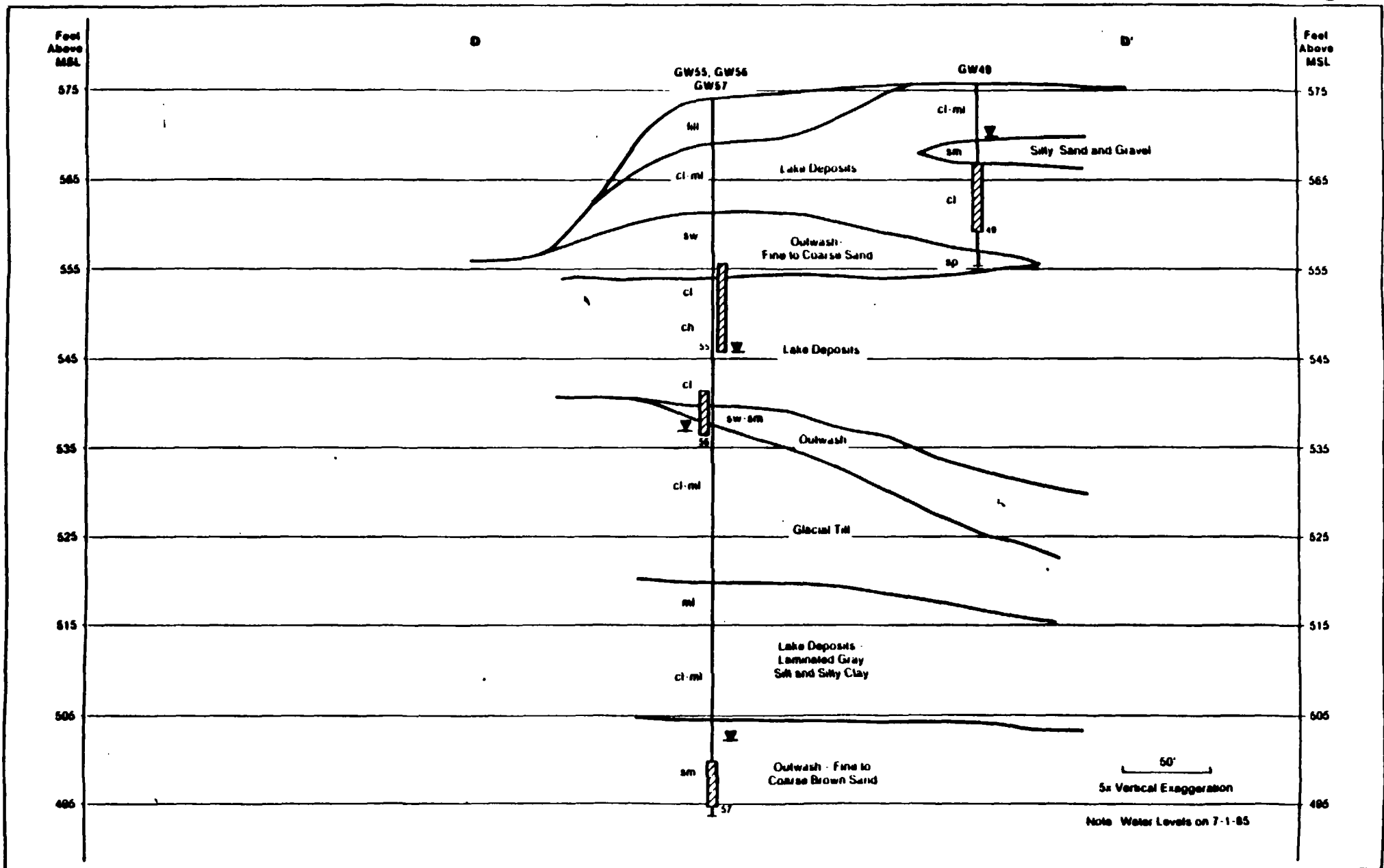


FIGURE M 5 GEOLOGIC CROSS SECTION - D-D'

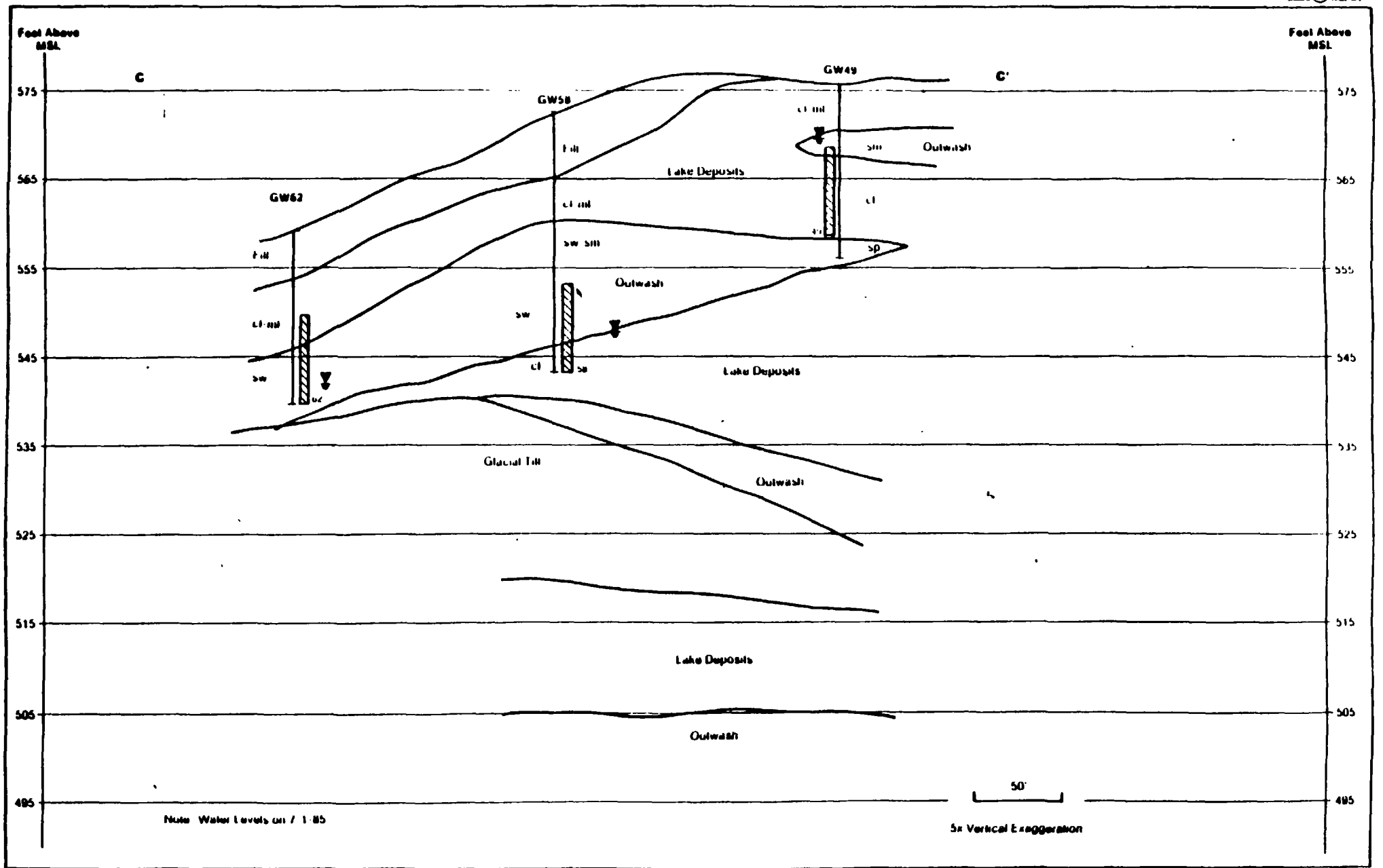


FIGURE M 4 GEOLOGIC CROSS SECTION - C C'

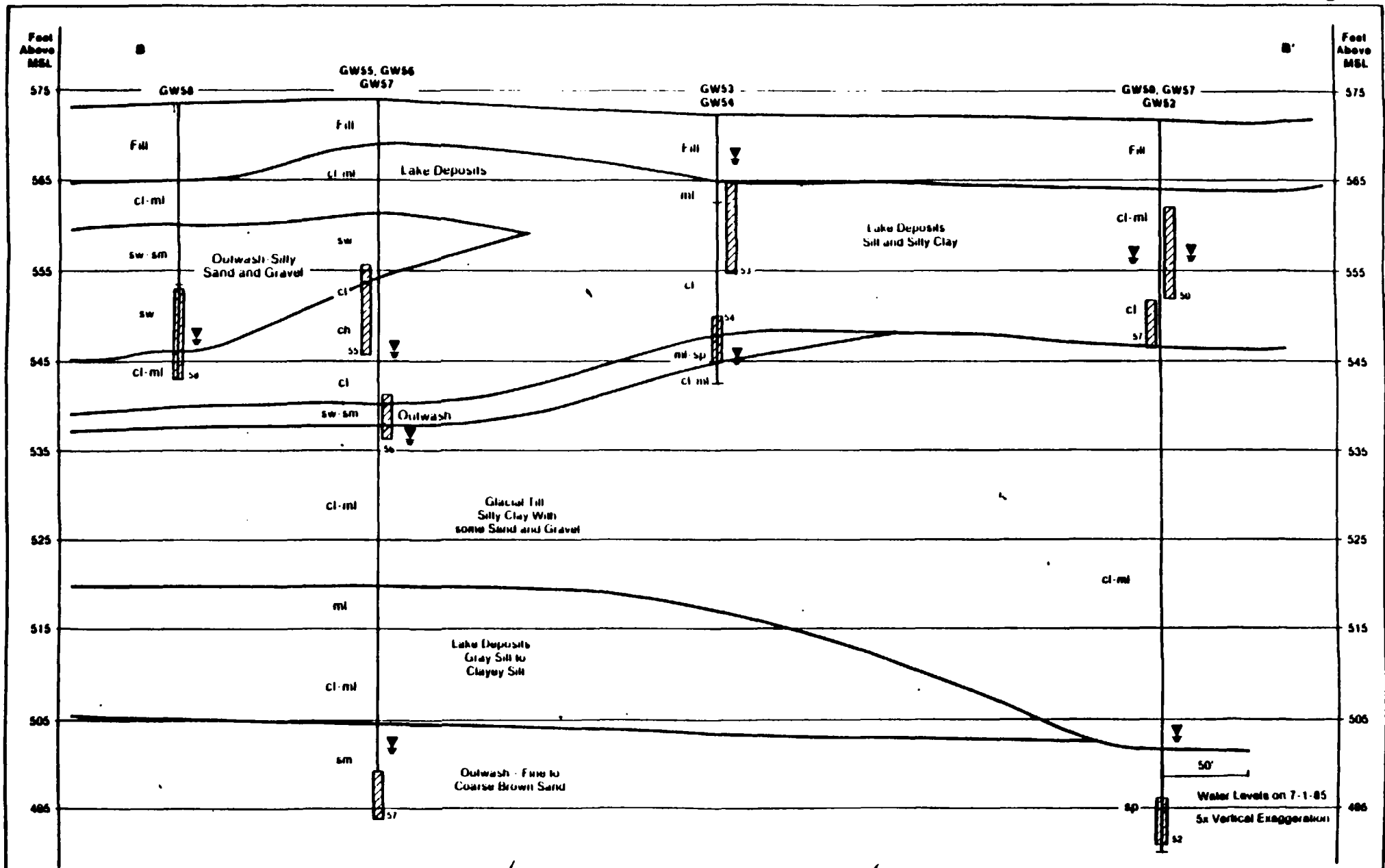


FIGURE M 3 GEOLOGIC CROSS SECTION - B-B

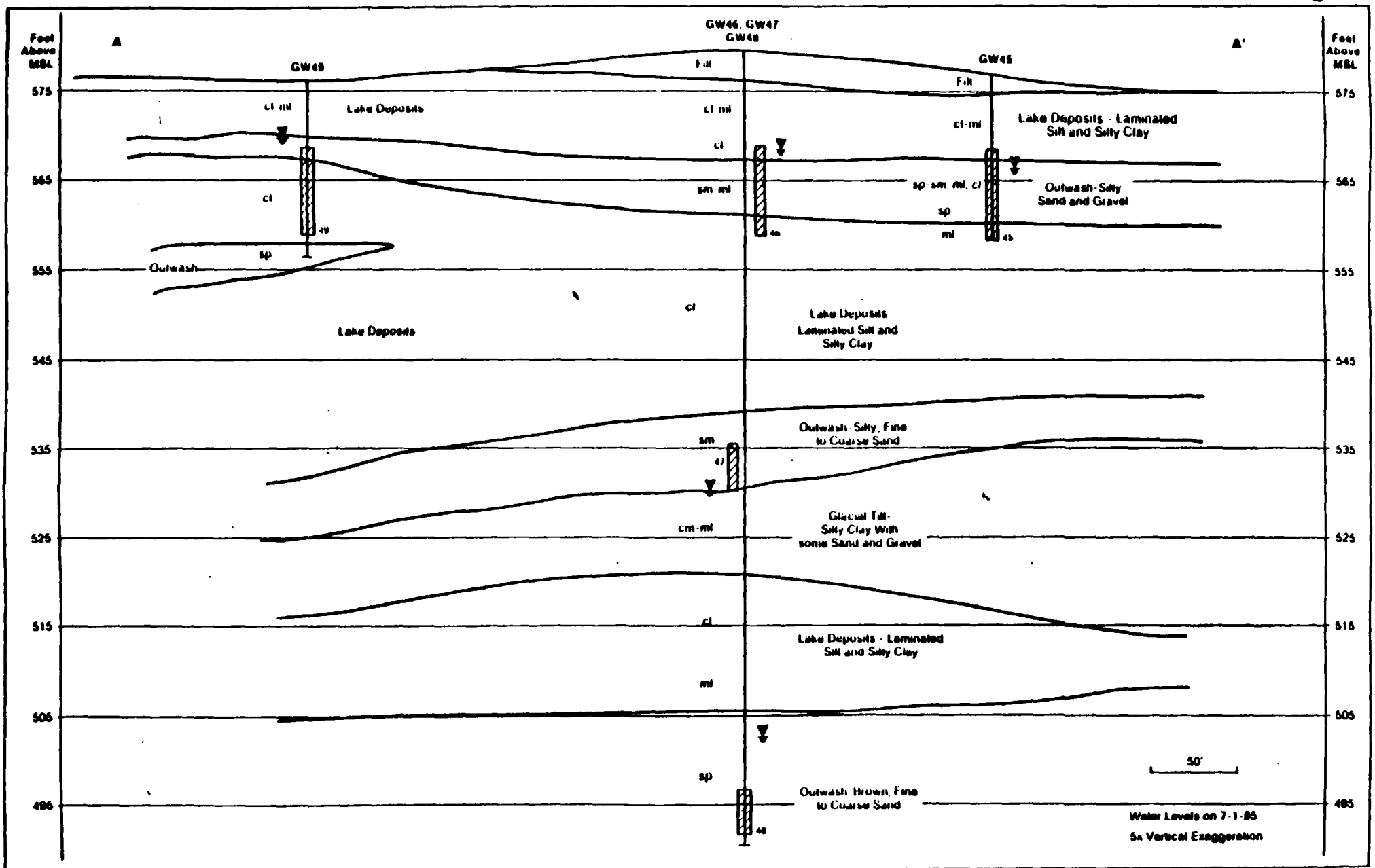


FIGURE M 2 GEOLOGIC CROSS-SECTION - A-A'

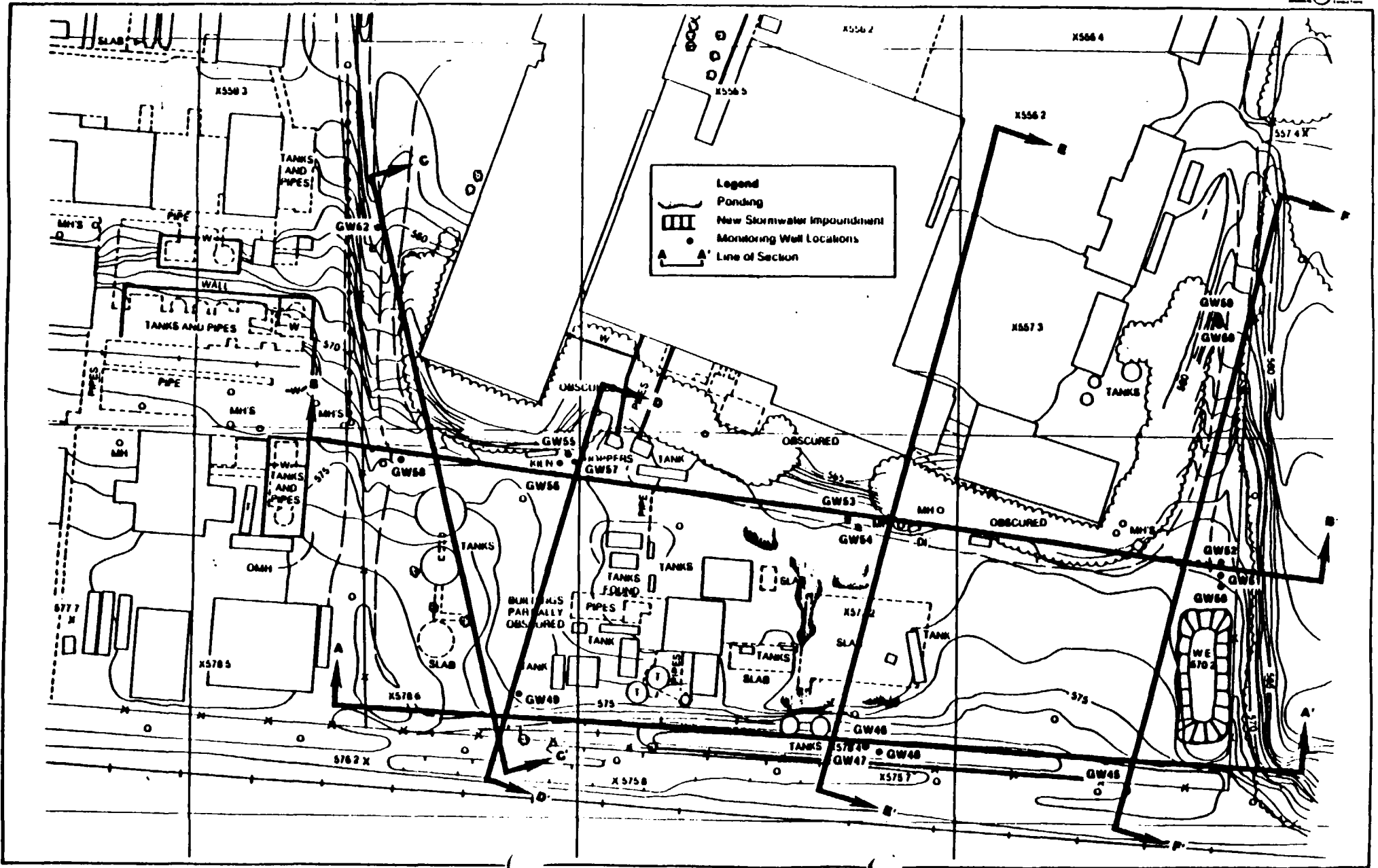


FIGURE M 1 MONITORING WELL AND SECTION LOCATIONS

LIST OF FIGURES (Continued)

- M-20 Potential Extent of Contamination, Section C-C'
- M-21 Potential Extent of Contamination, Section D-D'
- M-22 Potential Extent of Contamination, Section E-E'
- M-23 Potential Extent of Contamination, Section F-F'

LIST OF FIGURES

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- M-2 Geologic Cross Section A-A'
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- M-4 Geologic Cross Section C-C'
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- M-6 Geologic Cross Section E-E'
- M-7 Geologic Cross Section F-F'
- M-8 Groundwater Flow and Gradients: Upper and Middle Perched Water Subsystems
- M-9 Groundwater Velocities and Travel Times: Upper and Middle Perched Water Subsystems
- M-10 Worst Case Vertical Leakage Velocities and Travel Times Section C-C'
- M-11 Worst Case Vertical Leakage Velocities and Travel Times Section D-D'
- M-12 Worst Case Vertical Leakage Velocities and Travel Times Section E-E'
- M-13 Worst Case Vertical Leakage Velocities and Travel Times Section F-F'
- M-14 Groundwater Flow and Gradients: Lower Drainage Zone Subsystem
- M-15 Groundwater Velocities and Travel Times: Lower Drainage Zone Subsystem
- M-16 Groundwater Flow: Lower Aquifer System
- M-17 On-site Area Potentially Contributing to Off Site Groundwater Contamination: Upper and Middle Perched Water Subsystems
- M-18 Off Site Area Potentially Affected by Groundwater Contamination from Pristine, Inc.: Upper and Middle Perched Water Subsystems
- M-19 On-site Area Potentially Contributing to Off Site Groundwater Contamination: Lower Drainage Zone with Leakage from Overlying Subsystems

APPENDIX M
Hydrogeologic Figures

BY CCM DATE 2/1/85 DIV ETSD S Characteristics of Soil Units
CHKD BY _____ DATE _____ DEPT Geosci W
PROJECT Pristine, Inc. - Hydrogeologic Characteristics of Soil Units
SUBJECT Porosity Data

<u>Soil Unit</u>	<u>Porosity</u>
Lake/Outwash Sequence	
Lake sediment	35
Upper outwash	40
Middle outwash	35
Lower outwash	40
TM	25
Lower Lake Sediment	
Silt	30
Clay	35
Lower Outwash Deposit (Deep Outwash)	35

BY ECM DATE 12/1/85 DIV GEOTD SHI TABLE L-6 OF 2
 CHKD BY DATE DEPT GEOSC/ W Hydrogeologic
 PROJECT PRISTINE, Inc. Hydrogeologic Characteristics of Soil Units
 SUBJECT SUMMARY OF PERMEABILITY DATA

<u>SOIL UNIT</u>	<u>PERMEABILITY</u>
<u>Lake/Ontonagon Sequence</u>	
Lake sediment	7.5×10^{-6} cm/sec horizontal (BD) 1×10^{-6} cm/sec vertical (E)
Upper outwash	1.4×10^{-4} cm/sec (BD) ✓
Middle outwash	1.3×10^{-4} cm/sec (BD)
Lower outwash	3.8×10^{-4} cm/sec (BD)
<u>TM</u>	1×10^{-7} cm/sec (E)
<u>Lower Lake Sediments</u>	
Silt	5×10^{-6} cm/sec horizontal (E) 1×10^{-6} cm/sec vertical (E)
Clay	5×10^{-7} cm/sec horizontal (E) 1×10^{-7} cm/sec vertical (E)
Lower Outwash Deposit (Deep Outwash)	3.0×10^{-4} cm/sec (BD)

Note: BD = Baidson necessary data
 E = Estimated data

Geotechnical Testing Program

CLIENT/SUBJECT PRISTINE, Inc.

TASK DESCRIPTION GEOTECHNICAL INDEX TESTING PROGRAM TASK NO. _____

PREPARED BY CAH DEPT 1520 DATE 8-13-85

MATH CHECK BY _____ DEPT _____ DATE _____

METHOD REV. BY _____ DEPT _____ DATE _____

APPROVED BY _____
 DEPT _____ DATE _____

SAMPLE NUMBER	SAMPLE DEPTH	TESTING ATTERBURG LIMITS		SIEVE	SIEVE NO. HYDROMETER	SOIL UNIT
PI-SL45-04	9	✓			✓	UPPER LAKE
PI-SL45-07	16 1/2			✓		UPPER DRAINAGE
PI-SL47-10/11	15/17 1/2			✓		UPPER DRAINAGE
PI-SL47-15	27 1/2	✓			✓	UPPER LAKE
PI-SL47-20	45			✓		LOWER DRAINAGE
PI-SL48-03	55	✓			✓	TILL
PI-SL48-04	60	✓				LOWER LAKE
PI-SL52-7	31 1/2	✓			✓	TILL
PI-SL52-26	71 1/2			✓		DEEP DRAINAGE
PI-SL54-07	16 1/2	✓				UPPER LAKE
PI-SL56-05	11 1/2	✓			✓	UPPER LAKE
PI-SL57-01	35 1/2			✓		LOWER DRAINAGE
PI-SL57-02/03	40 1/2/45 1/2	✓			✓	TILL
PI-SL57-05	55 1/2	- ✓				LOWER LAKE
PI-SL58-0	24			✓		UPPER DRAINAGE

TABLE L-4

Baildown Test Data for Determining Hydraulic Conductivity

Well No.	H (feet)	r (feet)	H/r	ln H/r	B (feet)	L (feet)	L/r	A	B	C	(H-B)/r	ln(H-B)/r	ln(B/r)	r	slope (/sec)	K (cm/sec)	Soil Unit
45	8.00	0.16	50.00	3.91	8.00	8.00	50.00			7.60	0.00		3.00	0.11	0.00313	3.35E-04	Upper outwash loose
46	9.17	0.16	57.31	4.04	9.17	9.17	57.31			7.90	0.00		3.10	0.11	0.00331	2.07E-05	Upper outwash loose
48	12.64	0.00	150.00	5.04	20.20	5.00	67.50	3.00	1.75		95.50	4.56	2.50	0.00	0.00059	2.07E-05	Water supply aquifer
49	8.02	0.16	50.13	3.91	8.02	8.02	50.13			7.60	0.00		3.00	0.11	0.00031	5.76E-05	Upper outwash loose
52	12.70	0.00	150.75	5.07	20.40	5.00	67.50	3.00	1.75		96.75	4.57	2.50	0.00	0.01620	7.91E-04	Water supply aquifer
53	12.52	0.16	70.75	4.36	12.52	10.00	67.50			3.00	0.00		3.33	0.00	0.00023	7.47E-06	Upper lake sediment
56	1.56	0.16	9.75	2.20	1.56	1.56	9.75			1.00	0.00		1.71	0.11	0.00100	3.00E-04	Lower outwash loose
57	8.00	0.00	100.00	4.61	11.00	5.00	67.50	3.00	1.75		37.50	3.62	2.50	0.00	0.00129	6.30E-05	Water supply aquifer
58	2.45	0.16	15.31	2.73	2.45	2.45	15.31			1.50	0.00		2.00	0.11	0.00007	1.31E-04	Middle outwash loose

SUBJECT Water Level/Elevation Data BY CCM DATE 12/1/85
Pacific, Inc. SHEET NO. 1
Measuring Wells PROJECT NO. 115 RD. SHEL

TABLE L-3

Water Level Measurement Data

WELL NUMBER	TOTAL DEPTH	CASING ELEV	6-25-85		7-1-85		9-24-85	
			DEPTH	ELEV	DEPTH	ELEV	DEPTH	ELEV
GW45	21.09	577.79	11.03	567.76	12.15	566.60	12.57	566.28
GW46	22.95	580.53	11.81	568.72	12.15	568.34	13.21	567.32
GW47	57.66	580.25	45.04	531.21	50.34	529.91	50.30	529.55
GW48	91.76	580.86	-	-	72.17	502.69	77.31	503.55
GW49	19.48	577.05	7.44	569.61	7.50	569.55	10.93	566.12
GW50	22.63	574.15	18.24	555.91	17.69	556.46	19.77	554.38
GW51	28.21	573.79	17.94	555.85	17.43	556.36	20.17	553.62
GW52	85.31	573.81	71.00	502.81	70.82	502.99	70.40	503.41
GW53	21.28	574.15	7.34	566.81	7.24	566.91	7.99	566.16
GW54	30.62	574.39	30.15	544.14	30.53	543.86	(30.62)	(543.77)
GW55	30.82	575.57	28.67	546.88	30.80	544.77	30.35	545.22
GW56	40.22	575.88	39.44	536.44	39.24	536.64	38.60	537.28
GW57	82.21	575.79	73.84	501.95	73.77	502.00	72.82	502.97
GW58	33.68	574.78	27.59	547.19	27.66	547.12	30.98	544.70
GW59	19.60	564.53	13.83	550.70	14.57	549.94	15.40	548.73
GW60A	25.30	564.93	14.31	550.62	14.85	550.08	16.31	548.62
GW61	17.98	558.64	(17.98)	(541.26)	(17.98)	(541.26)	16.71	541.83
GW62	19.17	558.11	15.62	542.49	16.15	541.96	15.56	542.55



TABLE L-2

Well Development Data

CLIENT/SUBJECT PRISTINE, Inc

TASK DESCRIPTION Well Development Data

TASK NO. _____

PREPARED BY COZ DEPT 1530 DATE 2/2/85

MATH CHECK BY _____ DEPT _____ DATE _____

METHOD REV. BY _____ DEPT _____ DATE _____

APPROVED BY _____

DEPT _____ DATE _____

Well No	DATE (1985)	WATER DEPTH	WATER HEIGHT	Well Vol. (GALLONS)	AMOUNT (GALLONS)	REMOVED (VOLUMES)
GW 45	6/24	11.62	9.47	1.52	14.5	9.5
GW 46	6/24-25	12.12	10.83	1.73	15.0	8.7
GW 47	6/24-25	45.74	5.92	0.95	4.5	4.7
GW 48	6/26-27	78.16	13.60	2.18	17.0	7.8
GW 49	6/24-25	7.61	11.87	1.90	18.0	9.5
GW 50	6/23	18.11	4.52	0.72	6.5	9.0
GW 51	6/23	18.00	10.21	1.63	15.0	9.2
GW 52	6/25	71.27	14.04	2.25	21.0	9.3
GW 53	6/24	7.33	13.75	2.23	15.0	6.7
GW 54	6/25	—	(DEV)	—	—	—
GW 55	6/25	28.69	2.01	0.32	2.0	6.3
GW 56	6/25	39.44	0.78	0.13	0.5	3.8
GW 57	6/25	73.84	8.97	1.34	14.0	10.4
GW 58	6/24-25	27.53	6.15	0.98	9.0	9.2
GW 59	6/24-25	13.93	5.67	0.91	8.5	9.3
GW 60A	6/24-25	14.62	10.68	1.71	16.0	9.4
GW 61	6/24	—	(DEV)	—	—	—
GW 62	6/24-25	15.86	3.31	0.53	4.0	7.5

TABLE L-1

Demographic and Income Forecast Report
Reading, Ohio

	1980 CENSUS	1985 UPDATE	1990 FORECAST	1985-1990 CHANGE	ANNUAL GROWTH
POPULATION	70770	66863	62842	-4021	-1.2%
HOUSEHOLDS	26403	25296	24015	-1281	-1.0%
FAMILIES	19161	18121	16841	-1280	-1.5%
AVG HH SIZE	2.63	2.59	2.56	-0.03	-0.2%
AVG FAM SIZE	3.20	3.16	3.12	-0.03	-0.2%
TOT INC (MIL\$)	624.7	829.1	873.0	43.8	1.0%
PER CAPITA INC \$	8828	\$ 12400	\$ 13892	\$ 1492	2.3%
AVG FAM INC \$	27573	\$ 37951	\$ 41973	\$ 4022	2.0%
MEDIAN FAM INC \$	24049	\$ 34515	\$ 38906	\$ 4390	2.4%
AVG HH INC \$	23652	\$ 32778	\$ 36351	\$ 3573	2.1%
MEDIAN HH INC \$	19698	\$ 28610	\$ 32077	\$ 3467	2.3%

	1980 CENSUS	%	1985 UPDATE	%	1990 FORECAST	%
HOUSEHOLD INCOME						
\$ 0- 9999	6063	23.0	3802	15.0	3181	13.2
\$ 10000-14999	3616	13.7	2347	9.3	1906	7.9
\$ 15000-24999	6762	25.6	4957	19.6	4112	17.1
\$ 25000-34999	4885	18.5	4270	16.9	3969	16.5
\$ 35000-49999	2963	11.2	4999	19.8	4673	19.5
\$ 50000-74999	1313	5.0	3001	11.9	3467	14.4
\$ 75000 UP	801	3.0	1919	7.6	2708	11.3

AGE DISTRIBUTION

0- 4	4419	6.2	4689	7.0	4481	7.1
5-11	6596	9.3	5620	8.4	5841	9.3
12-16	6001	8.5	4736	7.1	3806	6.1
17-21	6009	8.5	5298	7.9	4155	6.6
22-29	9213	13.0	8947	13.4	8042	12.8
30-44	12191	17.2	12729	19.0	13328	21.2
45-54	8723	12.3	7216	10.8	6214	9.9
55-64	8380	11.8	7684	11.5	6793	10.8
65+	9239	13.1	9944	14.9	10183	16.2

AVERAGE AGE

36.6

37.9

38.4

MEDIAN AGE

33.4

34.9

35.7

RACE DISTRIBUTION

WHITE	58507	82.7	54666	81.8	50740	80.7
BLACK	11664	16.5	11588	17.3	11483	18.3
OTHER	599	0.8	609	0.9	619	1.0

REMARKS

450 0.6

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- L-1 Demographic and Income Forecast Report
- L-2 Well Development Data
- L-3 Water Level Measurement Data
- L-4 Baildown Test Data for Determining Hydraulic Conductivity
- L-5 Geotechnical Testing Program
- L-6 Hydrogeologic Characteristics of Soil Units

APPENDIX L
Hydrogeologic Tables

Organics Analysis Data Sheet
(Page 4)

ECF2F

885

Tentatively Identified Compounds

CAS Number	Compound Name	Fraction	Scan Number	Estimated Concentration (ug/l or ug/kg)
1.	None	✓		
2.				
3.	Aldi Cadus Prod	B	373	10000
4.	UNKNOWN		1028	200
5.	"		1343	300
6.	"		1441	6000
7.	"		1741	3000
8.				
9.				
10.				
11.				
12.				
13.				
14.				
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29.				
30.				

**Organics Analysis Data Sheet
(Page 4)**

Tentatively Identified Compounds

189

CAS Number	Compound Name	Fraction	Scan Number	Estimated Concentration (ug/l or ug/kg)
1.	<i>None</i>	<i>✓</i>		
2.				
3.	<i>Aldo Chlorine Prod</i>	<i>B</i>	<i>307</i>	<i>30</i>
4.	<i>UNKNOWN</i>		<i>921</i>	<i>20</i>
5.	<i>"</i>		<i>1915</i>	<i>8</i>
6.				
7.				
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30.				

Tentatively Identified Compounds

1293

CAS Number	Compound Name	Fraction	Scan Number	Estimated Concentration ($\mu\text{g/l}$ or $\mu\text{g/kg}$)
1.	5-17 None	V		
2.	6-3 None	V		
3.	6-5 None	V		
4.	6-6 None	V		
5.	6-7 None	V		
6.	6-7 None	meth		
7.				
8.	6-14 Aldh Condens Prod	B	329	2000
9.			457	2
10.	UNKNOWN		369	20
11.			1233	40
12.	6-14 Aldh Condens Prod	B-GPL	363	900
13.	6-14 UNKNOWN	B-meth	1291	600
14.				
15.	6-14 Aldh Condens Prod	S-W	365	40
16.	UNKNOWN		836	60
17.	6-20- None	GR-W		
18.	6-20 Aldh Condens Prod	Re-W	363	20
19.	ALKANE		936	10
20.	UNKNOWN		2090	10
21.				
22.				
23.				
24.				
25.				
26.				
27.				
28.				
29.				
30.				

**Organics Analysis Data Sheet
(Page 4)**

159

Tentatively Identified Compounds

CAS Number	Compound Name	Fraction	Scan Number	Estimated Concentration (ug/l or ug/kg)
1.	<i>None</i>	✓		
2.				
3.	<i>Alkyl Chloride Prod</i>	<i>8</i>	<i>387</i>	<i>30</i>
4.	<i>"</i>		<i>419</i>	<i>10</i>
5.				
6.				
7.				
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28.				
29.				
30.				

Tentatively Identified Compounds

CAS Number	Compound Name	Fraction	Scan Number	Estimated Concentration (ug/l or ug/kg)
1.	<i>N/A</i>	<i>V</i>		
2.				
3.	<i>Alld Cedar Prod</i>	<i>B</i>	<i>347</i>	<i>30</i>
4.	<i>V.K. Kase</i>		<i>420</i>	<i>10</i>
5.	<i>4</i>		<i>638</i>	<i>30</i>
6.	<i>9</i>		<i>1061</i>	<i>8</i>
7.				
8.				
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**Organics Analysis Data Sheet
(Page 4)**

Tentatively Identified Compounds

75

CAS Number	Compound Name	Fraction	Scan Number	Estimated Concentration (ug/l or ug/kg)
1.	<i>None</i>	<i>✓</i>		
2.				
3.	<i>Alcyl Cyclic Prod</i>	<i>B</i>	<i>351</i>	<i>30</i>
4.	<i>VARIOUS</i>		<i>639</i>	<i>20</i>
5.	<i>"</i>		<i>1062</i>	<i>10</i>
6.				
7.				
8.				
9.				
10.				
11.				
12.				
13.				
14.				
15.				
16.				
17.				
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24.				
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26.				
27.				
28.				
29.				
30.				

Laboratory Name _____
Case No. 4425

Sample Number
ECF12

Organics Analysis Data Sheet
(Page 4)

35

Tentatively Identified Compounds

CAS Number	Compound Name	Fraction	Scan Number	Estimated Concentration (ug/l or ug/kg)
1.	<i>None</i>	<i>V</i>		
2.				
3.	<i>Acid Chloride Prod</i>	<i>B</i>	<i>349</i>	<i>30</i>
4.	<i>Unknown</i>		<i>885</i>	<i>8</i>
5.				
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28.				
29.				
30.				

APPENDIX R
INDICATOR CHEMICAL SELECTION

Camp Dresser & McKee, Inc.
Annandale, VA 22003
18 October, 1985
Page Two

All test data for the Atterberg Limits Determinations are presented on Summary Table 1. Each grain size distribution curve has been plotted on individual data sheets which are attached for your review.

We appreciate the opportunity to work with Camp Dresser & McKee and Weston. If you have any questions regarding the results, please feel free to contact us.

Sincerely,

ENGINEERS INTERNATIONAL, INC.

A handwritten signature in dark ink, appearing to read 'DPR' or similar, written in a cursive style.

Dhiraj Pal
Prin. Environmental Scientist

DP/cb

Attachments

cc: Mr. Edward Need



OCT 21 1985

98 East Naperville Road
Westmont, IL 60559-1595

ENGINEERS INTERNATIONAL, INC.

Telephone: 312/963-3460
Facsimile: 312/968-6884
Telex: 280102 ICO OAKR
Cable: ENGINT

18 October, 1985
Ref. No. 1257

Camp Dresser & McKee, Inc.
7630 Little River Turnpike
Suite 500
Annandale, VA 22003

Attention: Mr. Jonathan G. Curtis

Reference: Geotechnical Index Testing for the Pristine, Ohio
Superfund Site Subcontract Agreement PKGA-115-01

Gentlemen:

In accordance with the sample testing plan provided by Mr. Edward Need of Roy F. Weston, Inc., we are pleased to enclose the laboratory test results of samples from the Pristine Ohio Superfund Site.

The testing program consisted of the following laboratory tests:

- Ten (10) Atterberg Limits Determinations on samples PI-SL 45-04, PI-SL 47-15, PI-SL 48-03, PI-SL 48-04, PI-SL 52-17, PI-SL 54-07, PI-SL 56-05, PI-SL 57-02, and PI-SL 57-05 (Table 1)
- Seven (7) Mechanical Grain Size Analyses performed on samples PI-SL 45-07, PI-SL 47-10, PI-SL 47-20, PI-SL 52-26, PI-SL 57-01, and PI-SL 58-10
- Seven (7) Combined Sieve and Hydrometer Analyses performed on PI-SL 45-04, PI-SL 47-15, PI-SL 48-03, PI-SL 52-17, PI-SL 56-05, PI-SL 57-02.

In conformance with your request, one sample in each test group was selected for duplicate analysis as a quality assurance check. The duplicate analyses were performed on the following samples:

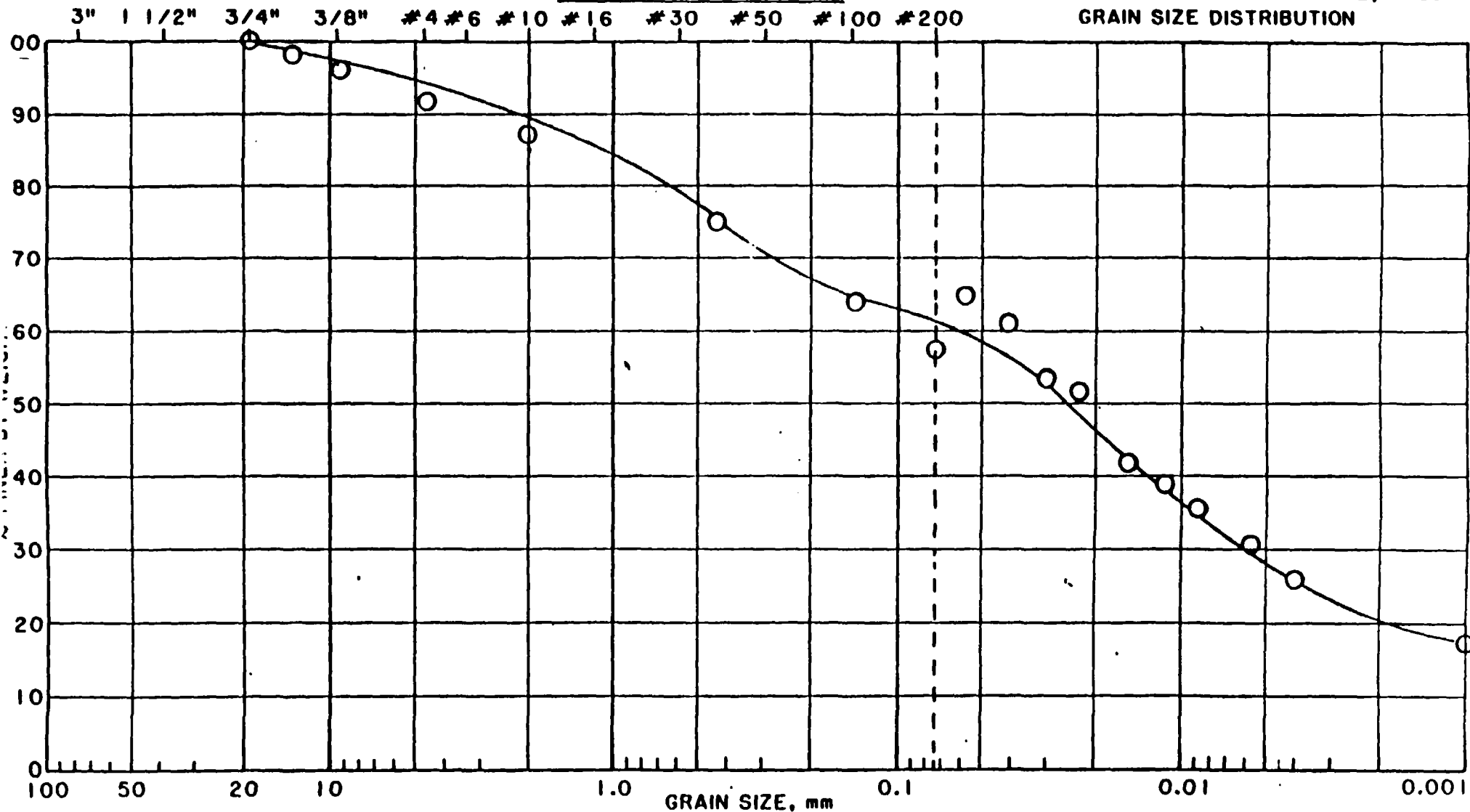
Atterberg Limits:	Sample No. PI-SL 45-04
Mechanical Grain Size Anal.:	Sample No. PI-SL 45-07
Combined Sieve and Hydrometer Analysis:	Sample No. PI-SL 47-15

APPENDIX O

Well Installation Data Sheets

U.S. STANDARD SIEVE NUMBERS

ENGINEERS INTERNATIONAL, INC.
GRAIN SIZE DISTRIBUTION



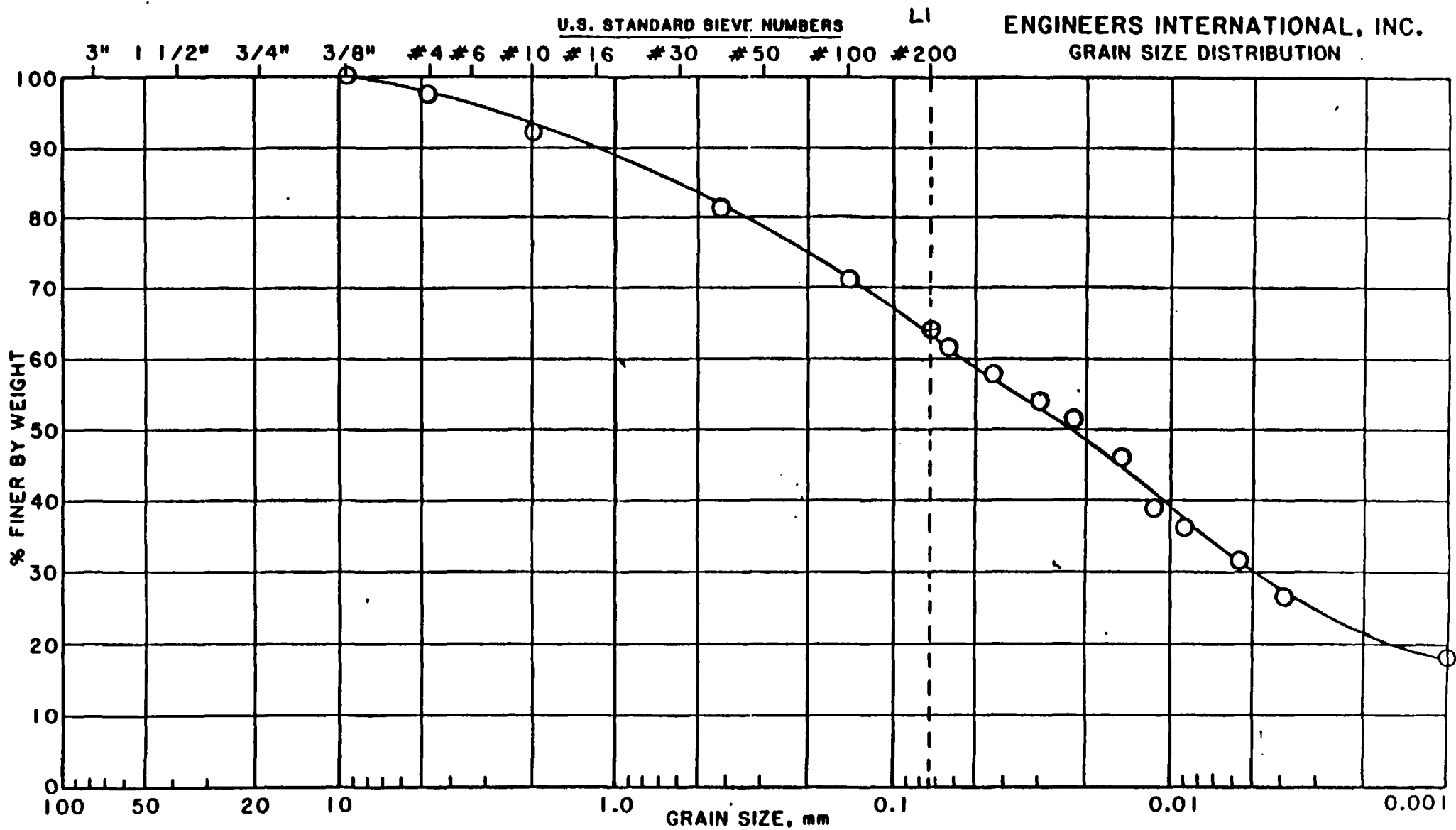
COARSE	FINE	COARSE	MEDIUM	FINE	
GRAVEL		SAND			FINES

PROJECT NAME Pristine, Ohio Superfund Site PROJECT NO. 1257

CLIENT Camp Dresser & McKee Inc. DATE 10-15-85 BY CGK CK LH

BORING NO. - SAMPLE NO. PI-SI. 57-02 LL 23 PL 10 PI 13

DESCRIPTION SANDY CLAY: some fine to coarse sand; trace gravel; brownish/gray (CL)

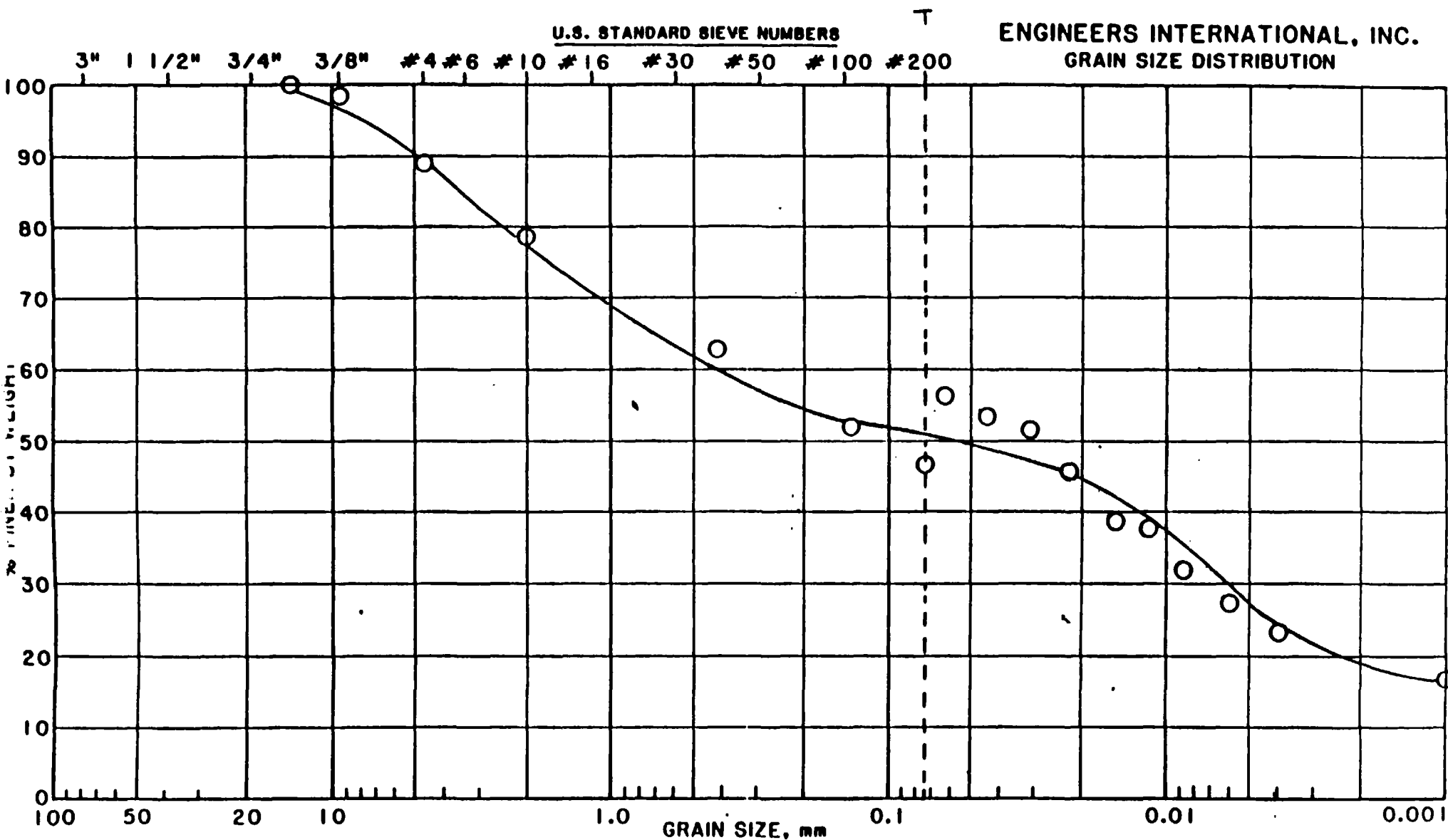


COARSE	FINE	COARSE	MEDIUM	FINE	
GRAVEL		SAND			FINES

PROJECT NAME Pristine, Ohio Superfund Site PROJECT NO. 1257

CLIENT Camp Dresser & McKee, Inc. DATE 10-15-85 BY CGK CK LH

BORING NO. - SAMPLE NO. PI-SI. 56-05 10-11/2 11 31 17 14



COARSE	FINE	COARSE	MEDIUM	FINE	
GRAVEL		SAND			FINES

PROJECT NAME Pristine, Ohio Superfund Site PROJECT NO. 1257

CLIENT Camp Dresser & McKee, Inc. DATE 10-15-85 BY CGK CK LH

BORING NO. - SAMPLE J. PI-SL 52-17 LL (PL 14 PI 7

SAMPLE DESCRIPTION SANDY CLAY: some fine to coarse sand; trace gravel; gray (CL-MI.)



DRILLING LOG

WELL NUMBER: GW47 OWNER: U.S. EPA
LOCATION east edge of site ADDRESS: Pristine, INC
near tanks on rail road

TOTAL DEPTH 50.5'
SURFACE ELEVATION: 578.87' WATER LEVEL: _____

DRILLING COMPANY: Bowser Moring DRILLING METHOD: HSA DATE DRILLED: 6/17/85
DRILLER: B. Manos HELPER: G. Jennewein

LOG BY: Ed Need

SKETCH MAP

NOTES:

DEPTH (FEET)	GRAPHIC LOG	SAMPLE NUMBER	SAMPLE TYPE	SAMPLE BLOWS*	DESCRIPTION / SOIL CLASSIFICATION (COLOR, TEXTURE, STRUCTURES)
40		19	SS	-	Very dense, orange FINE SAND, some silt (3m)
45		20	SS	100 73/3	
50		21	SS	20 35 75	Hard, gray CLAYEY SILT, trace to some sand and gravel (cl-m) 50.5'
55					End of boring



DRILLING LOG

WELL NUMBER: GW 48 OWNER: U.S. EPA
LOCATION: East edge of site ADDRESS: Pristine, INC
near tank on railroad
TOTAL DEPTH: 89.0'
SURFACE ELEVATION: 579.21' WATER LEVEL: _____
DRILLING COMPANY: Expl. Tech DRILLING METHOD: Casing and Auger DATE: 6/21-24/95
DRILLER: S. Worin HELPER: L. Ludwig
LOG BY: Ed Need

SKETCH MAP

NOTES: Stratigraphy from
0-48.5' based on samples
from adjacent boring
GW 47

DEPTH (FEET)	GRAPHIC LOG	SAMPLE NUMBER	SAMPLE TYPE	SAMPLE BLOWS*	DESCRIPTION / SOIL CLASSIFICATION (COLOR, TEXTURE, STRUCTURES)
0					Loose to medium dense, brown SILTY SAND, black SANDY GRAVEL, and gray CLAYEY SILT (J, II) 3.0'
5					Very stiff, brown to dark gray CLAYEY SILT, trace sand and gravel, mottled gray and dark orange, sulfur chunks near top. (cl-mil) 9.0'
10					Very stiff, gray SILTY CLAY, trace fine sand and silt, laminated (cl) 12.0'
15					Medium dense to dense, interbedded gray SILTY FINE SAND and SILT, with some SILTY CLAY layers near top (sm and ml) 18.0
20					Very stiff gray SILTY CLAY, laminated, with some SILT and CLAYEY SILT layers near top (cl)



DRILLING LOG

WELL NUMBER: GW48 OWNER: US EPA
LOCATION: East edge of site ADDRESS: Pristine, INC
near tank on railroad

TOTAL DEPTH: 89.0'
SURFACE ELEVATION: 579.21' WATER LEVEL: _____

DRILLING COMPANY: Expl. Tech DRILLING Casing METHOD: and auger DATE: 6/21/85
DRILLER: S. Wonn HELPER: L. Ludwig

LOG BY: Ed Need

SKETCH MAP

NOTES:

DEPTH (FEET)	GRAPHIC LOG	SAMPLE NUMBER	SAMPLE TYPE	SAMPLE BLOWS	DESCRIPTION / SOIL CLASSIFICATION (COLOR, TEXTURE, STRUCTURES)
40					Very dense, orange FINE SAND, some silt (sm)
45					
50		2 55	21 26		Hard, gray CLAYEY SILT, trace to some sand and gravel
55		3 55	19 36 49		(cl-mi)
60		4 55	13 16 17		Hard, gray SILTY CLAY to CLAYEY SILT. (cl)



DRILLING LOG

SKETCH MAP

WELL NUMBER: GW48 OWNER: US EPA
LOCATION: east edge of site ADDRESS: Pristine, INC
near tank on railroad
TOTAL DEPTH: 89.0'
SURFACE ELEVATION: 579.21 WATER LEVEL: _____
DRILLING COMPANY: Expl Tech DRILLING CASING and DATE
METHOD: auger DRILLED: 6/21-24/85
DRILLER: S. Wynn HELPER: L. Ludwig
LOG BY: Ed Need

NOTES:

DEPTH (FEET)	GRAPHIC LOG	SAMPLE NUMBER	SAMPLE TYPE	SAMPLE BLOWS	DESCRIPTION / SOIL CLASSIFICATION (COLOR, TEXTURE, STRUCTURES)
60					Same as above. Hard, gray SILTY CLAY to CLAYEY SILT
65		5	SS	69, 20 26 39	(No recovery) (cl) 69.5'
70		6	SS	20 26 39	Very dense, gray SILT (ml) 73.5'
75		7	SS	25 39 42	Dense to very dense, brown to gray FINE SAND (sp)
		8	SS	14 19 27	



DRILLING LOG

SKETCH MAP

WELL NUMBER: GW 48 OWNER: US EPA
LOCATION: east edge of site ADDRESS: Pristine, INC
near tank on railroad
TOTAL DEPTH: 89.0'
SURFACE ELEVATION: 579.21' WATER LEVEL: _____
DRILLING COMPANY: Expl. Tech DRILLING METHOD: Casing and DATE: 6/21/85
DRILLER: S. Wann HELPER: L. Ludwig
LOG BY: Ed Need

NOTES:

DEPTH (FEET)	GRAPHIC LOG	SAMPLE NUMBER	SAMPLE TYPE	SAMPLE BLOWS	DESCRIPTION / SOIL CLASSIFICATION (COLOR, TEXTURE, STRUCTURES)
80					Same as above. Dense to very dense, brown to gray FINE SAND
					(sp)
85					
		9	SS	—	(No recovery)
					89.0'
90					End of boring



DRILLING LOG

WELL NUMBER: GW50 OWNER: U.S. EPA
LOCATION: Northwest ADDRESS: Pristine, INC.
corner of site
TOTAL DEPTH: 20.0'
SURFACE ELEVATION: 572.15' WATER LEVEL: _____
DRILLING COMPANY: Expl Tech DRILLING METHOD: HSA DATE DRILLED: 6/8/85
DRILLER: S. Wann HELPER: L. Ludwig
LOG BY: Ed Need

SKETCH MAP

NOTES: Stratigraphy from
0-8 ft based on samples
from adjacent boring
GW51.

DEPTH (FEET)	GRAPHIC LOG			DESCRIPTION / SOIL CLASSIFICATION (COLOR, TEXTURE, STRUCTURES)
	SAMPLE NUMBER	SAMPLE TYPE	SAMPLE BLOWS	
0				Orange brown and green gray to gray CLAYEY SILT and CLAYEY SAND (fill)
5				8.0'
	1	SC	-	Black CLAYEY SILT, trace sand (cl-mi) 9.5'
10	2	SC	-	Green brown and orange gray SANDY CLAYEY SILT, trace gravel (cl-mi)
				14.0'
	3	SC	-	Gray and brown CLAYEY SILT to SILTY CLAY, some orange mottles. (cl-mi)
15				20.0'
20	4	SC	-	



DRILLING LOG

WELL NUMBER: GW 49 OWNER: US EPA
LOCATION: East edge of site, northeast of trench ADDRESS: Pristine, INC.
TOTAL DEPTH: 200'
SURFACE ELEVATION: 575.25' WATER LEVEL: _____
DRILLING COMPANY: Bowser-Damer DRILLING METHOD: HSA DATE DRILLED: 6/19/85
DRILLER: B. Manos HELPER: G. Jennewein
LOG BY: Ed Need

SKETCH MAP

NOTES:

DEPTH (FEET)	GRAPHIC LOG	SAMPLE NUMBER	SAMPLE TYPE	SAMPLE BLOWS	DESCRIPTION / SOIL CLASSIFICATION (COLOR, TEXTURE, STRUCTURES)
0					Medium to very stiff, orange-brown, black, and bluegreen CLAYEY SILT, interlayered.
		1 SS	4	4	(cl-mi)
				2	
		2 SS	4	7	
				11	
5					
		3 SS	5	11	6.5'
				8	Medium dense, orange-brown SILTY SAND (sm)
					8.5'
		4 SS	7	9	Very stiff, gray SILTY CLAY to CLAYEY SILT, laminated, with some lenses of SILTY SAND
				10	
10					
		5 SS	12	12	(cl)
				14	
		6 SS	9	12	
				13	
15					
		7 SS	4	10	
				13	
					18.5'
		8 SS	17	36	Very dense, brown FINE SAND (sp)
				57	200'
20					



DRILLING LOG

WELL NUMBER: GW 51 OWNER: U.S. EPA
LOCATION: Northwest ADDRESS: Pristine, INC
corner of site
TOTAL DEPTH: 26.0'
SURFACE ELEVATION: 571.64' WATER LEVEL: _____
DRILLING COMPANY: Expl. Tech DRILLING METHOD: HSA DATE DRILLED: 6/17/85
DRILLER: J. Woon HELPER: L. Ludwig
LOG BY: Ed Need

SKETCH MAP

NOTES:

DEPTH (FEET)	GRAPHIC LOG			DESCRIPTION / SOIL CLASSIFICATION (COLOR, TEXTURE, STRUCTURES)
	SAMPLE NUMBER	SAMPLE TYPE	SAMPLE BLOWS	
5	9	SC	-	Same as above Gray and brown CLAYEY SILT and SILTY CLAY, with orange mottles in places. (cl-mi)
	10	SC	-	
25	11	SC	-	Blue gray CLAYEY SILT, trace to some sand, trace gravel (cl-mi) 25.0 26.0
				End of Boring
30				



DRILLING LOG

WELL NUMBER: GW51 OWNER: U.S. EPA
LOCATION: Northwest ADDRESS: Pristine, INC
corner of site
TOTAL DEPTH: 26.0'
SURFACE ELEVATION: 571.64' WATER LEVEL: _____
DRILLING COMPANY: Expl. Tech. DRILLING METHOD: H.S.A DATE DRILLED: 6/7/85
DRILLER: S. Wonn HELPER: L. Ludwig
LOG BY: Ed Need

SKETCH MAP

NOTES:

DEPTH (FEET)	GRAPHIC LOG	SAMPLE NUMBER	SAMPLE TYPE	SAMPLE BLOWS	DESCRIPTION / SOIL CLASSIFICATION (COLOR, TEXTURE, STRUCTURES)
0		1	SC	-	Black, orange-brown, green gray, and gray CLAYEY SILT, some sand, to CLAYEY SAND, some silt.
		2	SC	-	(fill)
5		3	SC	-	
		4	SC	-	
10		5	SC	-	10.0' Black, SANDY, CLAYEY SILT, with root traces (cl-mi)
		6	SC	-	12.5' Brown, orange, and gray CLAYEY SILT, some sand (cl-mi)
15		7	SC	-	16.0' Gray and brown CLAYEY SILT and SILTY CLAY, with orange mottles in places
		8	SC	-	(cl-mi)
20					

Laboratory Name PEI Associates
Case No 9501

Sample Number
E0886 U231

Organics Analysis Data Sheet
(Page 4)

Tentatively Identified Compounds

CAS Number	Compound Name	Fraction	Scan Number	Estimated Concentration (ug/L or ug/kg)
1.	UNKNOWN	✓	600	200
2.				
3.				
4.				
5.				
6.				
7.				
8.				
9.				
10.				
11.				
12.				
13.				
14.				
15.				
16.				
17.				
18.				
19.				
20.				
21.				
22.				
23.				
24.				
25.				
26.				
27.				
28.				
29.				
30.				

ORGANICS ANALYSIS DATA SHEET (PAGE 4)
TENTATIVELY IDENTIFIED COMPOUNDS

SAMPLE NUMBER EC883
COMPUCHEM FILE GH853335A22

CAS NUMBER	COMPOUND NAME	FRACTION	SCAN NUMBER	ESTIMATED CONC (UG/L OR UG/KG)
4 55162-61-3	~~TETRACONTANE, 3,5,24-TRIMETHYL-~~ <i>ALKAN</i>	SEM11	1287	<i>530-440.</i> J
5 638-82-4	~~OCTACOSANE~~ <i>ALKAN</i>	SEM11	1347	<i>730-610.</i> J
5 28294-76-2	~~1,2-OCTADECANEDIOL~~ <i>unkn</i>	SEM11	1368	<i>670-560.</i> J

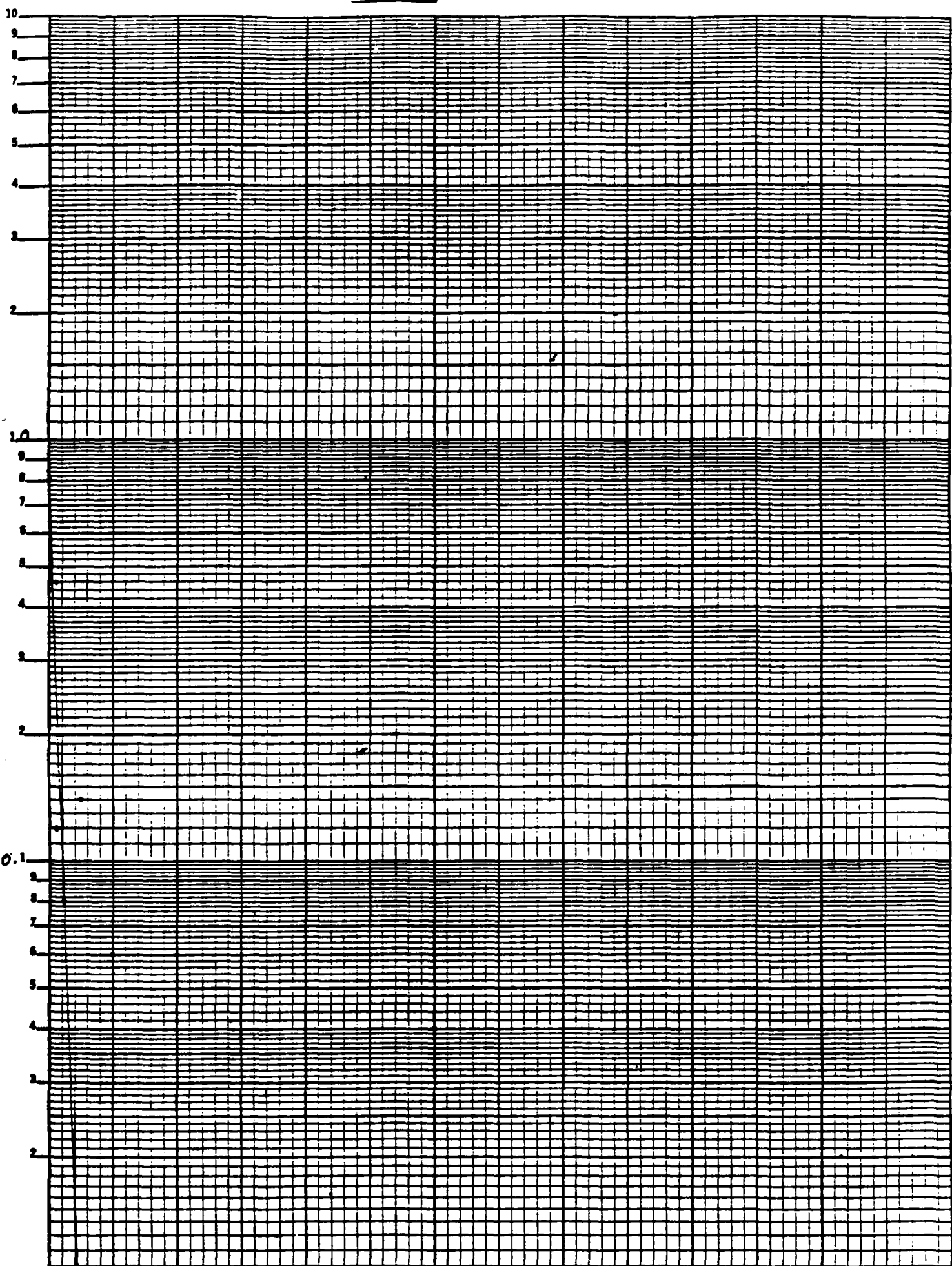
400
~~33.100~~ 40.00

SPECTROSCOPIST *ML*
DATE *5/12/95*

GW 52

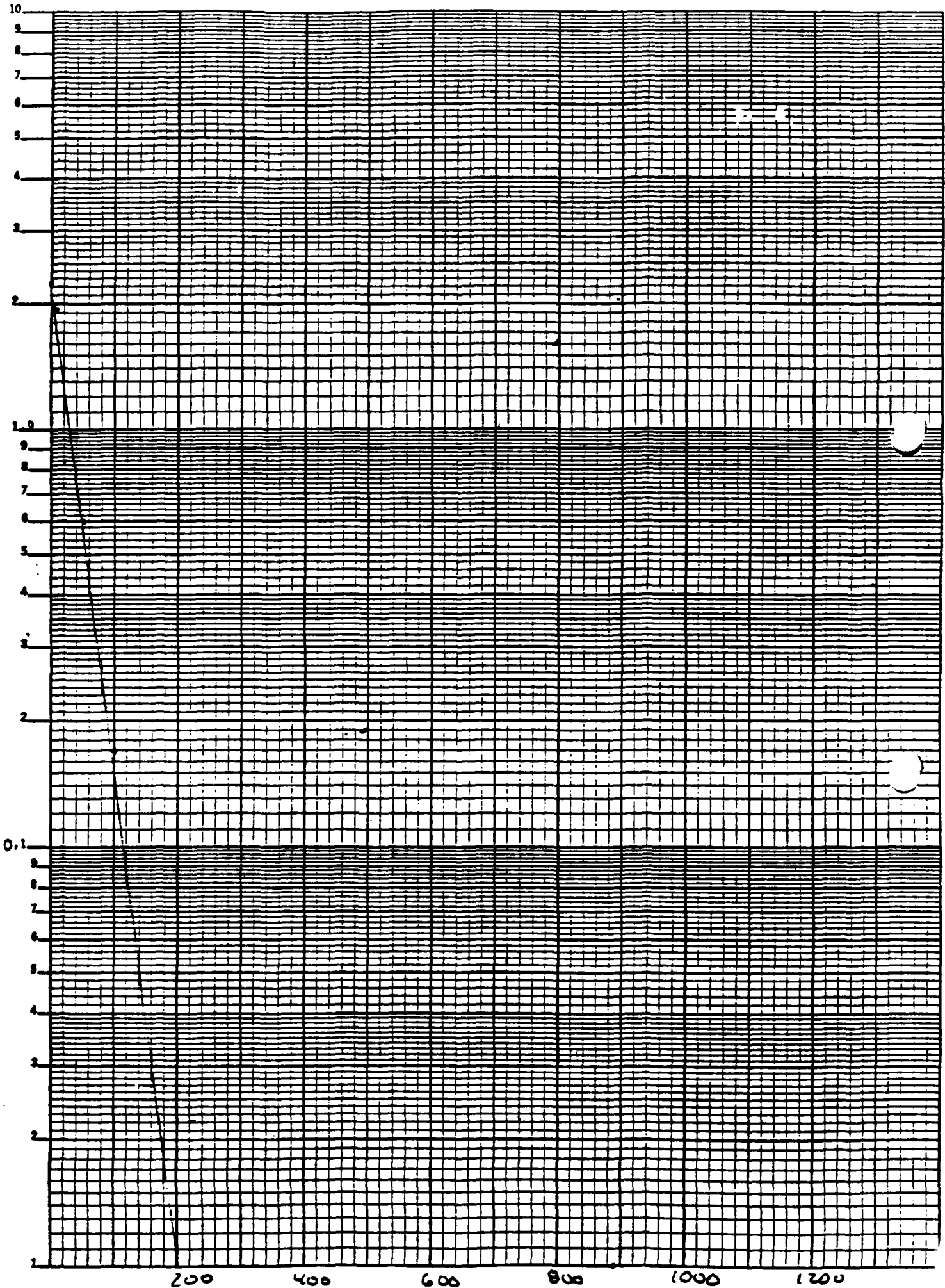
Per

K-E SEMI-LOGARITHMIC 46 5490
3 CYCLES X 70 DIVISIONS
NEUPPEL & ESSER CO. U.S.A.



6W51

BE...GARI...C...3490
S...X 76...ONE
REUFFEL & ESSER CO.



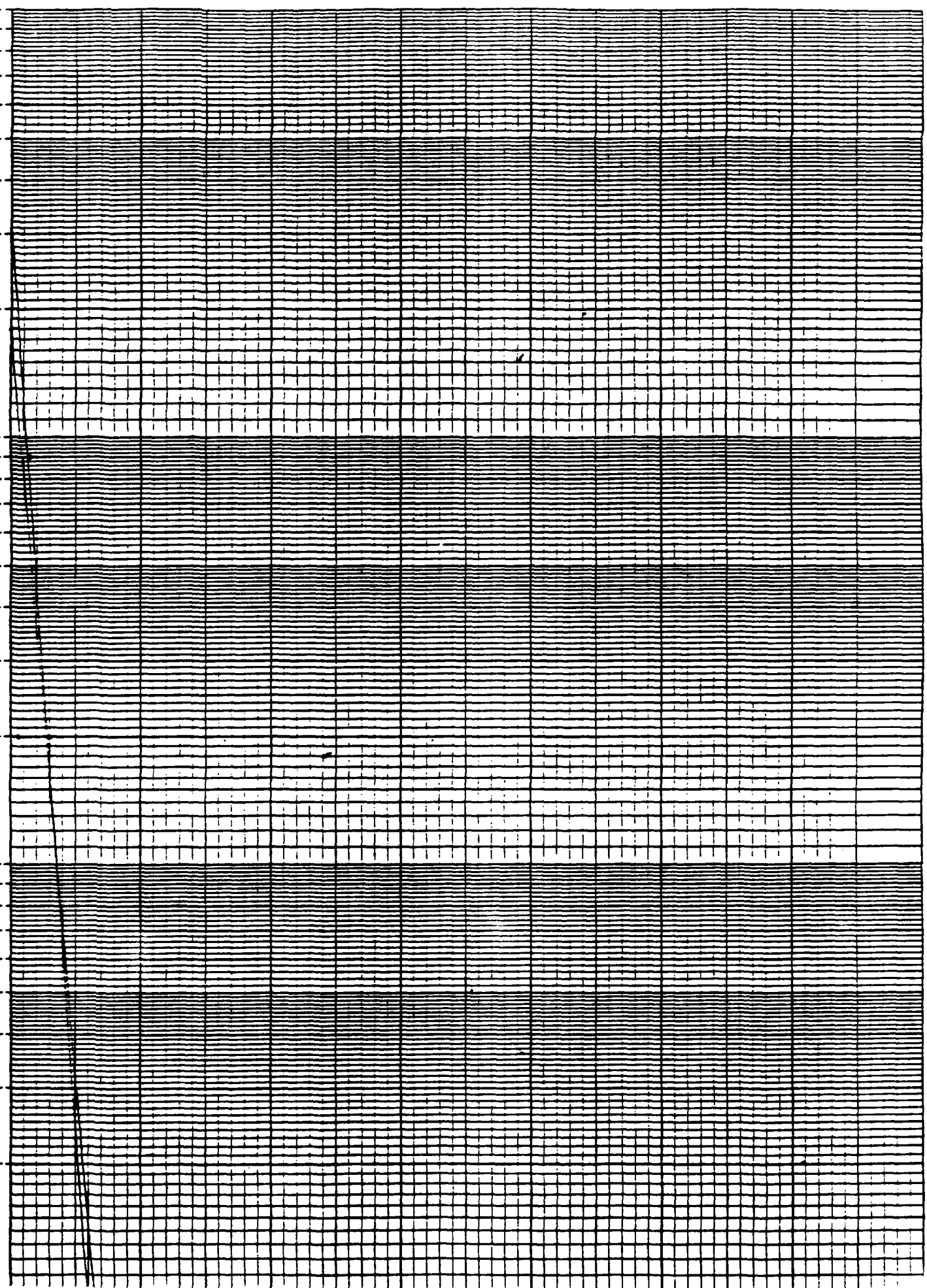
6WSU

5 5490

K-E SEMI-LOGARITHMIC • 3 CYCLES X 70 DIVISIONS
KEUFFEL & ESSER CO. MADE IN U.S.A.

0.01

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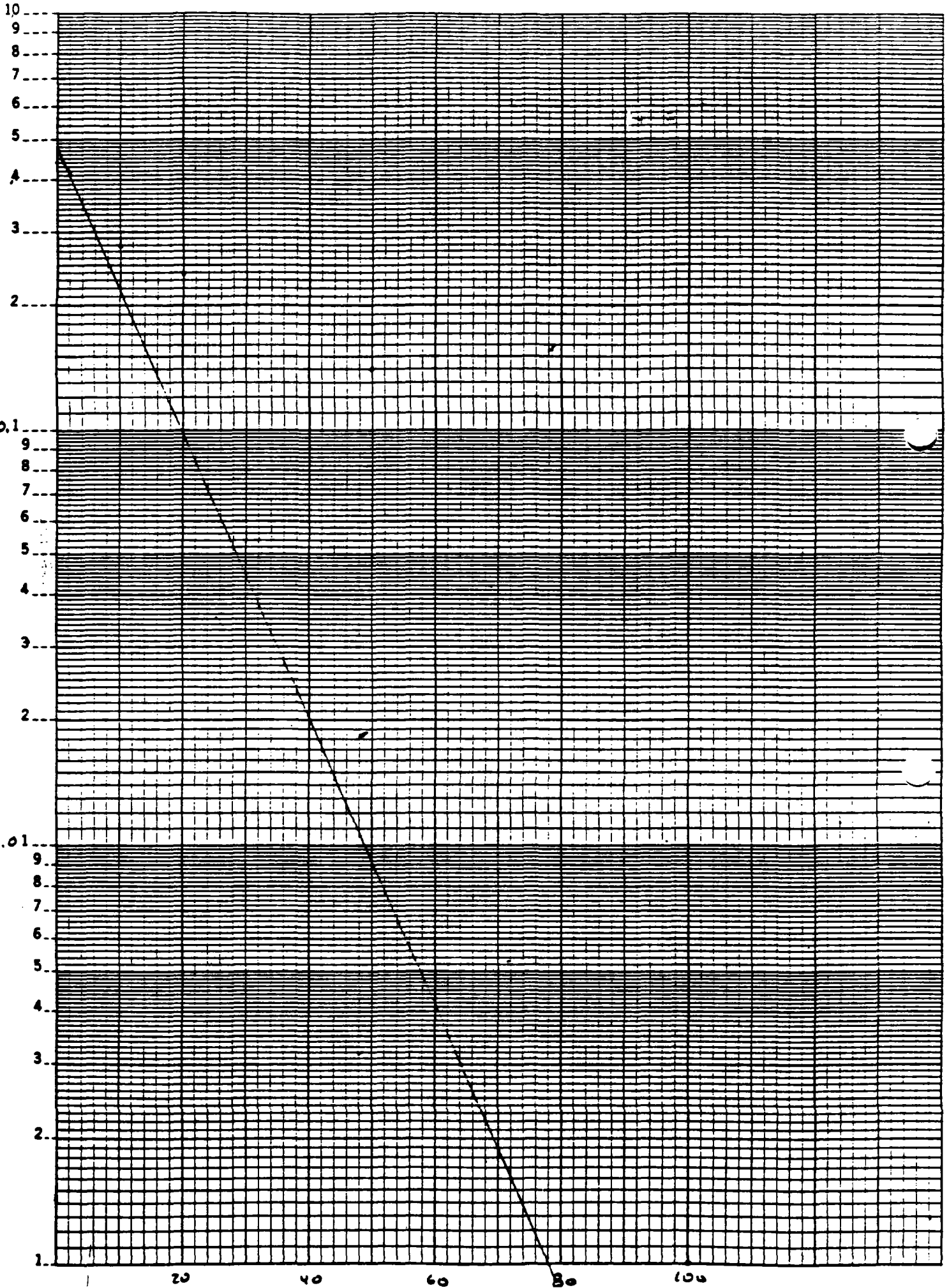


GW 49

46 5490

SEMI-LOGARITHMIC 3 CYCLES A 70 DIAMETER
KEUFFEL & ESSER CO. MADE IN USA

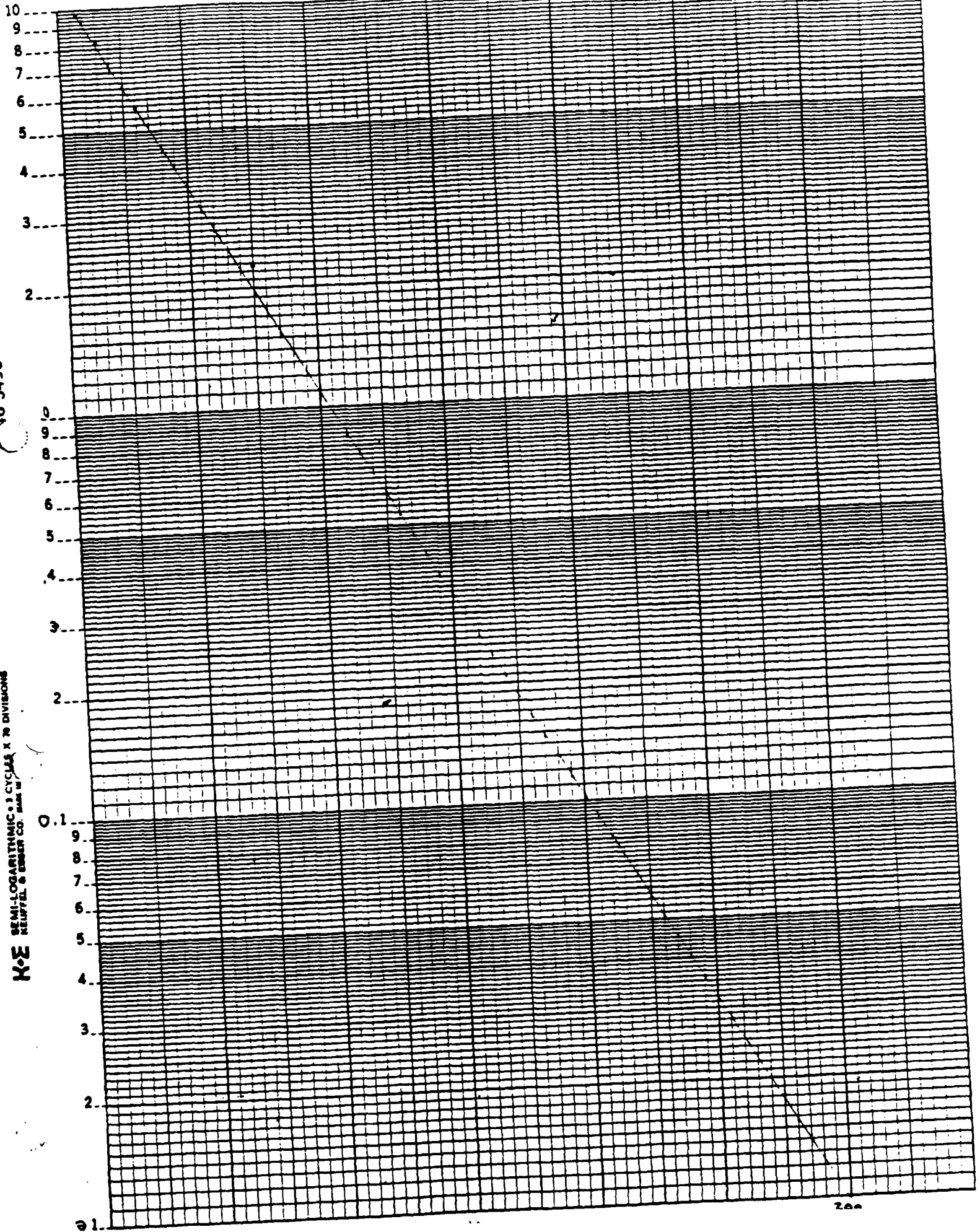
NO 2



GW 48

46 5490

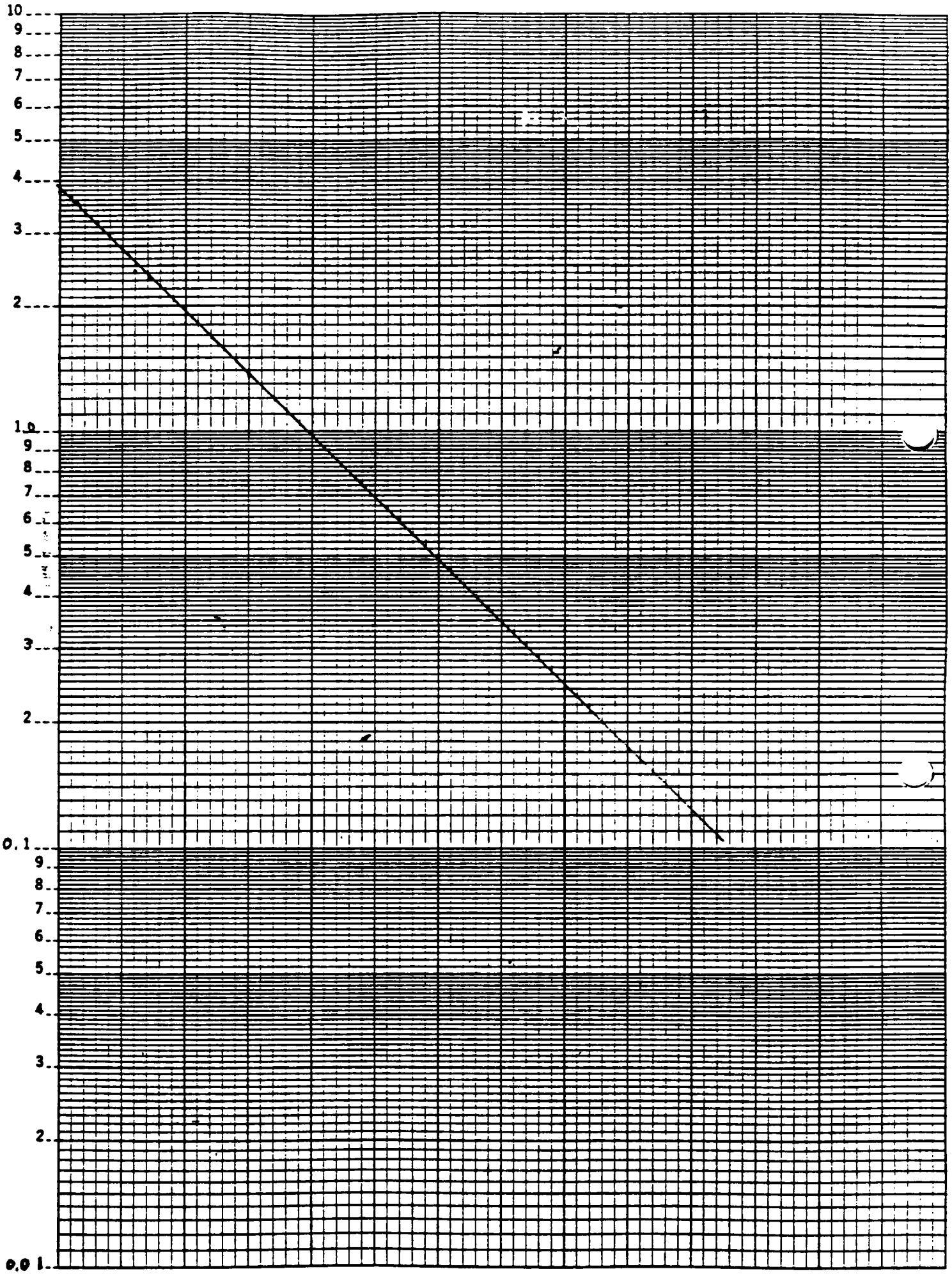
K-E SEMI-LOGARITHMIC - 11 CYCLES X 70 DIVISIONS
KEUFFEL & ESSER CO. MADE IN U.S.A.



GW 46

46 5490

SEM-ARBITRARY 1/3 CYCLES PER DIVISION
K2E KEUTZEL & EBER CO. MADE IN U.S.A.



APPENDIX P
Baildown Testing Data

TABLE R-7

PRISTINE INC., SITE SURFACE WATER

CHEMICAL (CAS NO.)	NUMBER DETECTED	REPRES. (UG/L)	TOXICITY FACTOR (WTC) (LITER/MG)	SCORE	RANK
RANKING BASED ON CARCINOGENIC EFFECTS					
Arsenic(7440-38-2)	3	1.80E+01	3.71E+00	6.68E-02	1
1,1-Dichloroethylene(75-35-4)	2	3.10E+00	1.31E-01	4.06E-04	2
Chloroform(67-66-3)	1	3.72E+00	5.71E-02	2.12E-04	3
alpha-Hexachlorocyclohexane (HCCH) (319-84-6)	1	3.33E-02	6.03E+00	2.01E-04	4
1,1,2,2-Tetrachlorethane(79-34-5)	1	3.91E+00	4.86E-02	1.90E-04	5
1,2-Dichloroethane(107-06-2)	3	2.60E+01	6.57E-03	1.71E-04	6
1,1,2-Trichloroethane(79-00-5)	1	4.07E+00	8.57E-03	3.49E-05	7
Tetrachloroethylene(127-18-4)	2	4.65E+00	5.14E-03	2.39E-05	8
Benzene(71-43-2)	2	2.92E+00	7.43E-03	2.17E-05	9
4,4'-DDT(50-29-3)	2	1.15E-01	1.60E-01	1.84E-05	10
Trichloroethylene(79-01-6)	2	3.39E+00	5.14E-03	1.74E-05	11
4,4'-DDE(72-55-9)	3	8.98E-02	1.09E-01	9.79E-06	12
4,4'-DDD(72-54-8)	4	1.09E-01	2.86E-03	3.12E-07	13

RANKING BASED ON NONCARCINOGENIC EFFECTS

Selenium(7782-49-2)	5	9.69E+00	1.05E+02	1.02E+00	1
Arsenic(7440-38-2)	3	1.80E+01	1.80E+01	3.24E-01	2
Fluoride(50-00-0)	4	2.17E+02	1.25E+00	2.71E-01	3
Nickel(7440-02-2)	6	6.13E+01	4.26E+00	2.61E-01	4
Barium(7440-39-3)	4	9.76E+01	4.08E+00	2.35E-01	5
Copper(7440-50-8)	6	1.06E+02	7.14E-01	7.57E-02	6
Lead(7439-92-1)	6	5.44E+01	8.93E-01	4.86E-02	7
Cadmium(7740-39-3)	4	1.01E+01	4.45E+00	4.49E-02	8
2-Methylphenol(95-48-7)	2	7.22E+00	5.97E+00	4.31E-02	9
4-Methylphenol(106-44-5)	2	6.73E+00	5.97E+00	4.02E-02	10
Vanadium(7440-62-2)	6	6.15E+01	1.43E-01	8.79E-03	11
Mercury(7439-97-6)	6	2.84E-01	1.84E+01	5.23E-03	12
Carbon disulfide(75-15-2)	4	9.32E+00	4.24E-01	3.95E-03	13
Trichloroethylene(79-01-6)	3	3.39E+00	1.05E+00	3.56E-03	14
1,1,2,2-Tetrachlorethane(79-34-5)	1	3.91E+00	4.55E-01	1.78E-03	15
1,1-Dichloroethylene(75-35-4)	2	3.10E+00	3.71E-01	1.15E-03	16
Phenols(108-95-2)	3	9.83E+00	1.00E-01	9.83E-04	17
1,2-Dichloropropane(78-87-5)	1	5.45E+00	1.00E-01	5.45E-04	18
trans-1,2-Dichloroethylene(156-60-5)	4	9.76E+00	5.29E-02	5.16E-04	19
1,2-Dichloroethane(107-06-2)	3	2.60E+01	1.76E-02	4.58E-04	20
Benzene(71-43-2)	2	2.92E+00	1.17E-01	3.42E-04	21
1,2-Dichlorobenzene(95-50-1)	1	5.80E+00	5.19E-02	3.01E-04	22
Di-n-Butyl-Phthalate(84-74-2)	1	4.45E+00	3.81E-02	1.70E-04	23
1,1-Dichloroethane(75-34-3)	2	4.86E+00	2.58E-02	1.25E-04	24
Tetrachloroethylene(127-18-4)	2	4.65E+00	9.62E-03	4.47E-05	25
Dichloromethane(75-09-2)	7	3.71E+01	9.20E-04	3.41E-05	26
Toluene(108-88-3)	4	2.85E+00	5.20E-03	1.48E-05	27
1,1,1-Trichloroethane(71-55-6)	3	9.96E+00	7.33E-04	7.30E-06	28

NOT LISTED IN THE P.H.E. MANUAL

Acetone(67-64-1)	5	9.74E+00			
Aluminium(7429-90-5)	6	4.11E+03			
Aniline(62-53-3)	2	4.95E+00			
Antimony(7440-36-0)	2	8.23E+01			
Benzoic acid(65-85-0)	3	2.28E+01			
Beryllium(7440-41-7)	3	6.30E+00			
Bis(2-ethylhexyl)phthalate(117-81-7)	7	3.71E+01			
Butyl benzyl phthalate(85-68-7)	4	4.54E+00			
4-Chloro-3-methylphenol(59-50-7)	1	5.74E+00			
Chromium(67-66-3)	5	1.22E+02			
Cobalt(7440-48-4)	5	3.50E+01			
Cyanide(HCN=74-90-8)	3	8.64E+00			
Nitrobenzene(98-95-3)	1	5.45E+00			
Pentachlorophenol(87-86-5)	1	2.29E+01			
Styrene	2	2.48E+00			
Total xylenes	3	3.07E+00			
Vinyl acetate(108-05-4)	1	7.53E+00			

TABLE R-6

PRISTINE INC., SITE WATER SUPPLY ROUND 1

CHEMICAL (CAS NO.)	FREQUENCY		REPRES. (UG/LITER)	TOXICITY FACTOR (WTC)		SCORE	RANK
	HITS	#		(LITER/MG)			
RANKING BASED ON CARCINOGENIC EFFECTS							
Arsenic(7440-38-2)	10	10	2.59E+01	3.71E+00	9.61E-02	1	
Benzene(71-43-2)	1	10	2.81E+00	7.43E-03	2.09E-05	2	
RANKING BASED ON NONCARCINOGENIC EFFECTS -							
Cadmium(7740-39-3)	2	10	1.69E+00	4.45E+00	7.52E-03	1	
Barium(7440-39-3)	10	10	1.46E+02	4.08E+00	5.96E-01	2	
Arsenic(7440-38-2)	10	10	2.59E+01	1.80E+01	4.66E-01	3	
Silver(7440-22-4)	2	10	2.08E+01	2.00E+01	4.16E-01	4	
Nickel(7440-02-2)	6	10	1.80E+01	4.26E+00	7.67E-02	5	
Copper(7440-50-8)	3	10	1.17E+01	7.14E-01	8.35E-03	6	
Vanadium(7440-62-2)	1	10	3.21E+01	1.43E-01	4.59E-03	7	
Lead(7439-92-1)	2	10	2.33E+00	8.93E-01	2.08E-03	8	
Mercury(7439-97-6)	1	10	5.36E-02	1.84E+01	9.86E-04	9	
Benzene(71-43-2)	1	10	2.81E+00	1.17E-01	3.29E-04	10	
Dichloromethane(75-09-2)	3	10	5.32E+00	9.20E-04	4.89E-06	11	
trans-1,2-Dichloroethylene(156-60-5)	3	10	2.81E+00	5.29E-02	1.49E-04	12	
1,1-Dichloroethane(75-34-3)	3	10	1.90E+00	2.58E-02	4.90E-05	13	
Fluoride(50-00-0)	10	10	1.76E+02	1.25E+00	2.20E-01	14	
NOT LISTED IN THE P.H.E. MANUAL							
Acetone(67-64-1)	2	10	8.91E+00				
Aluminium(7429-90-5)	1	10	1.23E+02				
Chloroethane(75-00-3)	1	10	5.08E+00				
Chromium(67-66-3)	3	10	6.79E+00				
Cobalt(7440-48-4)	1	10	3.22E+01				
Manganese(7439-96-5)	10	10	4.55E+02				
Tin(7440-31-5)	1	10	9.27E+01				

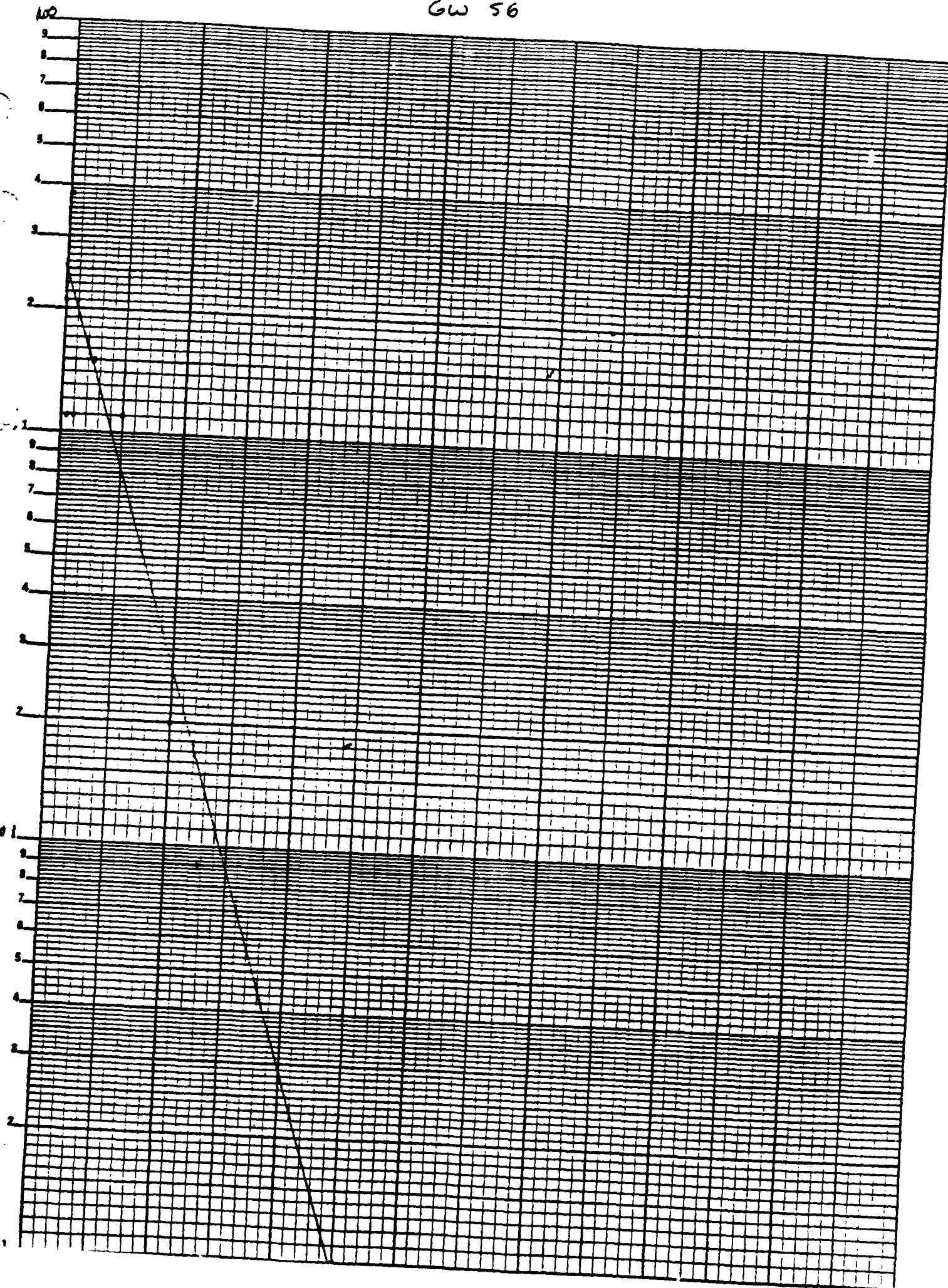
PRISTINE INC. SITE WATER SUPPLY ROUND 2

CHEMICAL (CAS NO.)	FREQUENCY		REPRES. (UG/LITER)	TOXICITY FACTOR (WTC)		SCORE	RANK
	HITS	#		(LITER/MG)			
RANKING BASED ON CARCINOGENIC EFFECTS							
Arsenic(7440-38-2)	8	8	1.89E+00	3.71E+00	7.01E-03	1	
Chloroform(67-66-3)	1	8	3.94E+00	5.71E-02	2.25E-04	2	
Benzene(71-43-2)	1	8	2.90E+00	7.43E-03	2.15E-05	3	
1,2-Dichloroethane(107-06-2)	2	8	2.83E+00	6.57E-03	1.86E-05	4	
Trichloroethylene(79-01-6)	2	8	2.14E+00	5.14E-03	1.10E-05	5	
RANKING BASED ON NONCARCINOGENIC EFFECTS							
Barium(7440-39-3)	8	8	1.60E+02	4.08E+00	6.53E-01	1	
Nickel(7440-02-2)	1	8	1.42E+01	4.26E+00	6.05E-02	2	
Arsenic(7440-38-2)	8	8	1.89E+00	1.80E+01	3.40E-02	3	
Cadmium(7740-39-3)	1	8	2.16E+00	4.45E+00	9.70E-03	4	
Copper(7440-50-8)	3	8	7.14E+00	7.14E-01	5.10E-03	5	
trans-1,2-Dichloroethylene(156-60-5)	6	8	7.21E+00	5.29E-02	3.81E-04	6	
Benzene(71-43-2)	1	8	2.90E+00	1.17E-01	3.39E-04	7	
1,1-Dichloroethane(75-34-3)	1	8	2.52E+00	2.58E-02	6.50E-05	8	
1,2-Dichloroethane(107-06-2)	2	8	2.83E+00	1.76E-02	4.98E-05	9	
Toluene(108-88-3)	1	8	2.63E+00	9.20E-03	1.37E-05	10	
Trichloroethylene(79-01-6)	2	8	2.14E+00	5.14E-03	1.10E-05	11	
Dichloromethane(75-09-2)	3	8	2.52E+00	9.20E-04	2.32E-06	12	
NOT LISTED IN THE P.H.E. MANUAL							
Chloroethane(75-00-3)	1	8	5.02E+00				
Chromium(67-66-3)	1	8	1.36E+01				
Manganese(7439-96-5)	8	8	5.78E+02				
	1	8	1.83E+00				

GW 56

K&E SEMI-LOGARITHMIC 40,5490
5 CYCLES X 70 DIVISIONS
KEUFFEL & ESSER CO. U.S.A.

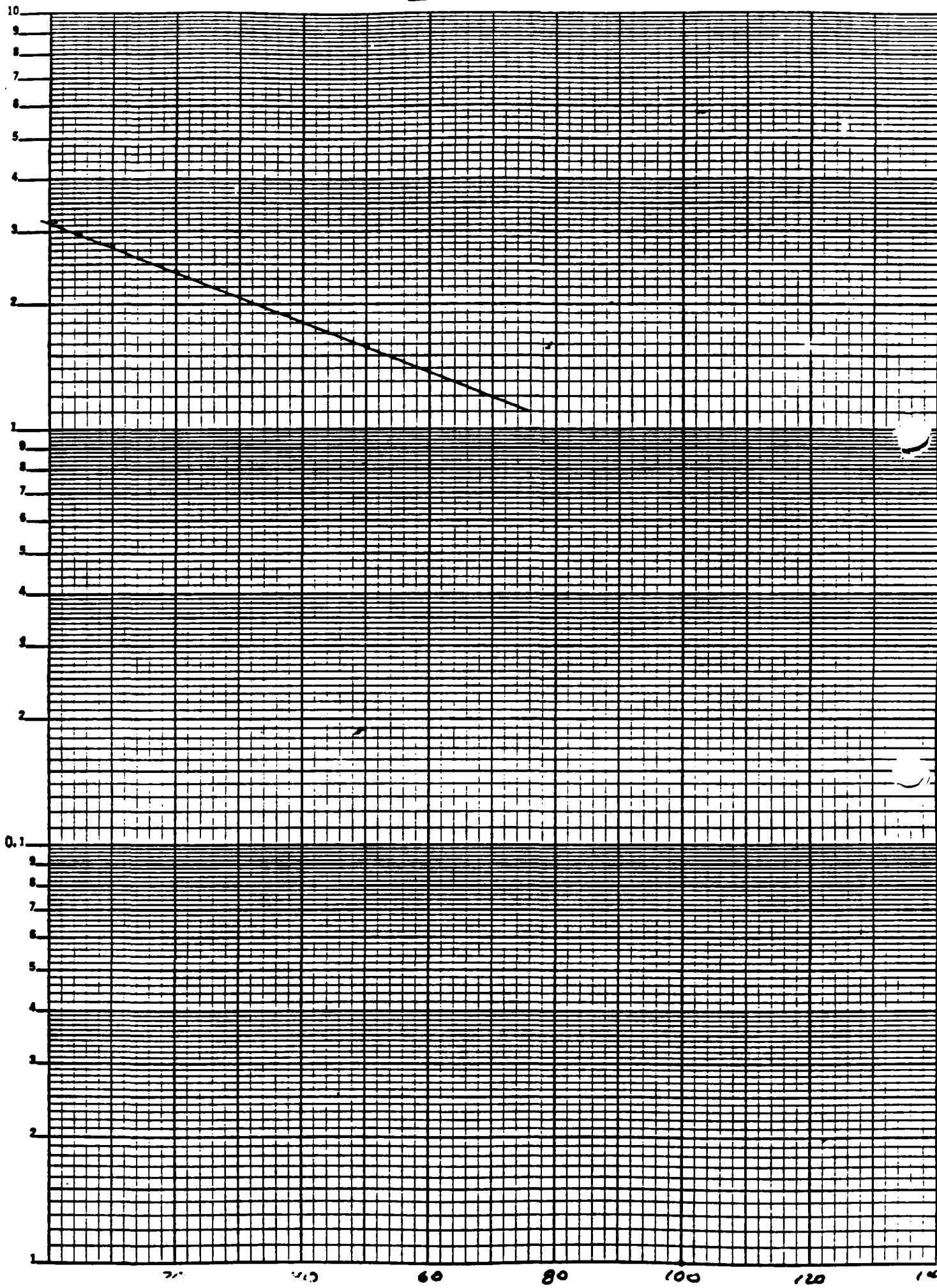
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GWS3

E 81 XGAR C 540X
3 CIRCLES X 70 DIVISIONS MADE IN U.S.A.
KEUFFEL & ESSER CO.

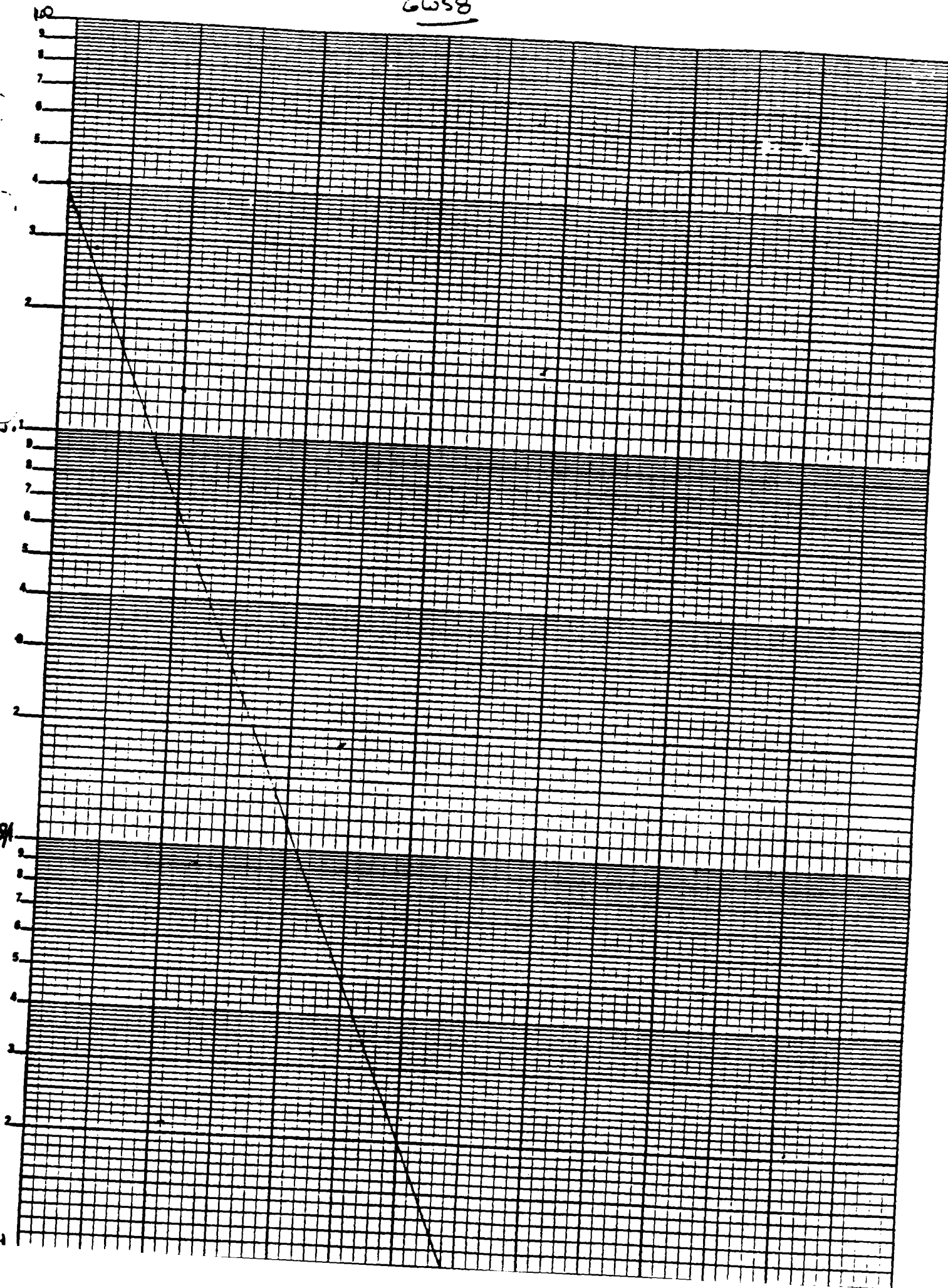
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6WS8

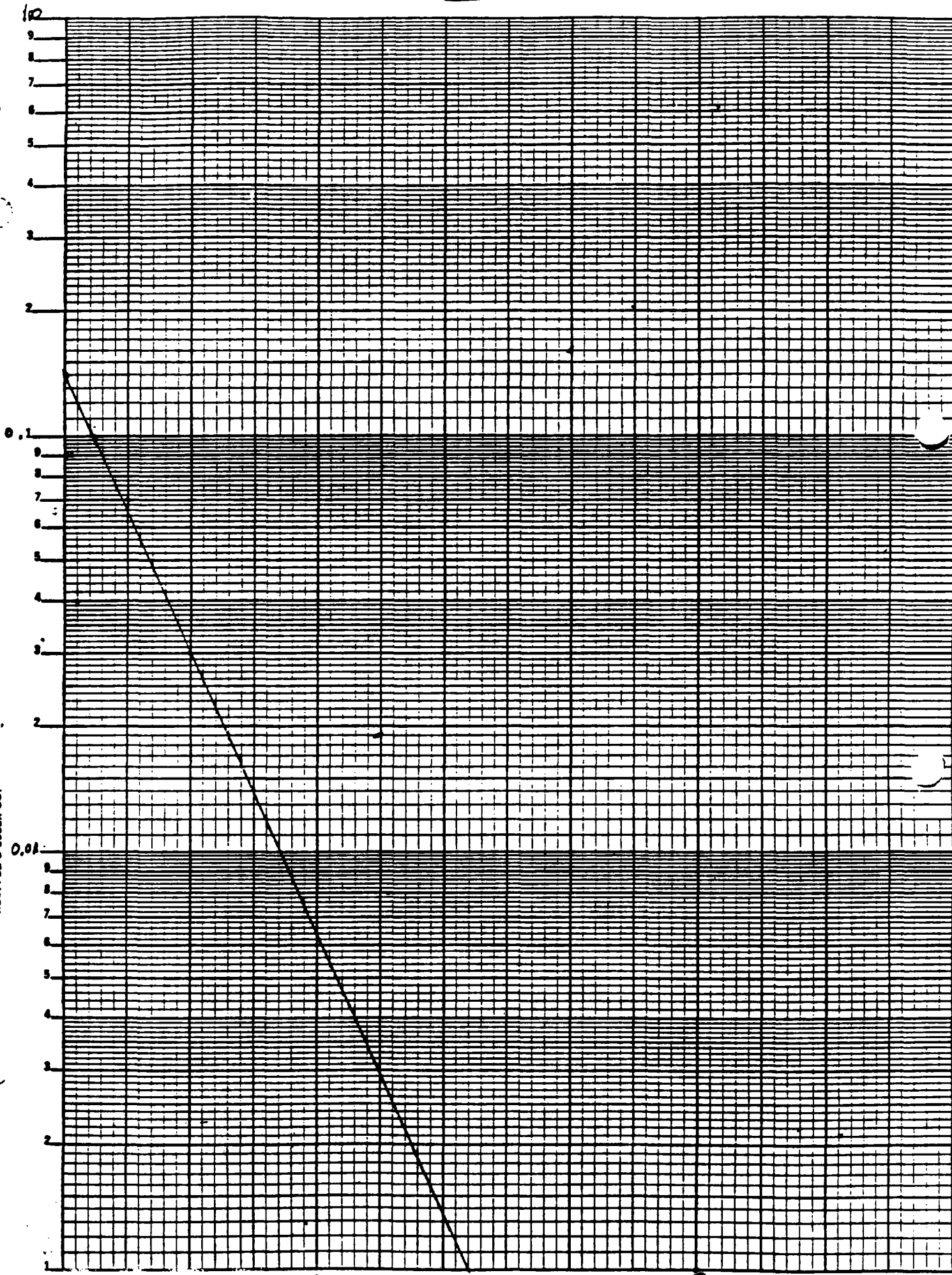
K&E SEMI-LOGARITHMIC 49,5480
3 CYCLES X 76 DIVISIONS "A"
REUFFEL, ESSER CO.

Part



GW 57

SE GAR C 349C
3 1/2" x 70 DIVISIONS MADE IN U.S.A.
NEUFFEL & ESSER CO.



GW 60

100

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100

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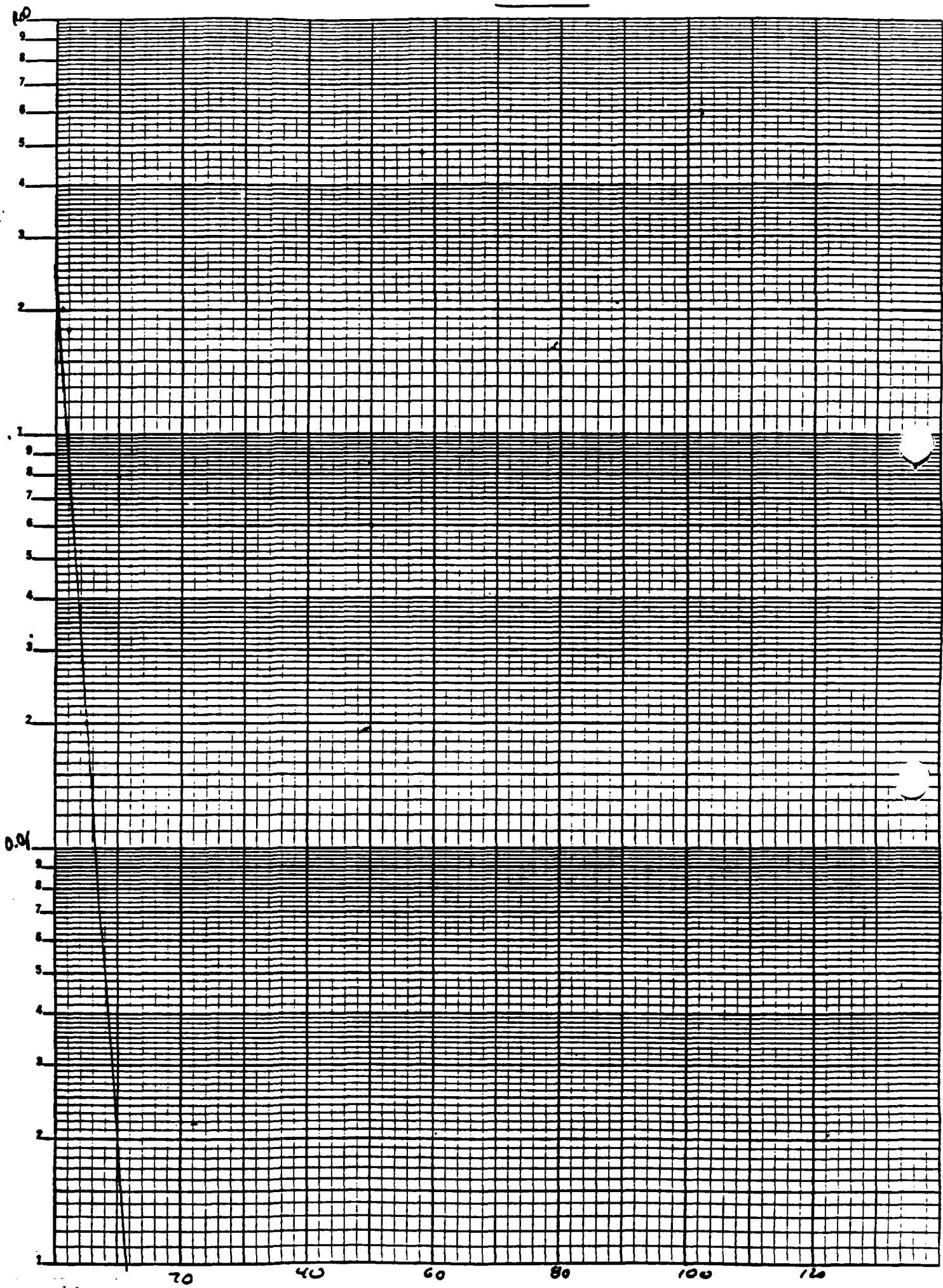
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K&E SEMI-LOGARITHMIC 46 5490
5 CYCLES X 70 DIVISIONS
MADE IN U.S.A.
KEUFFEL & ESSER CO.

GW 59

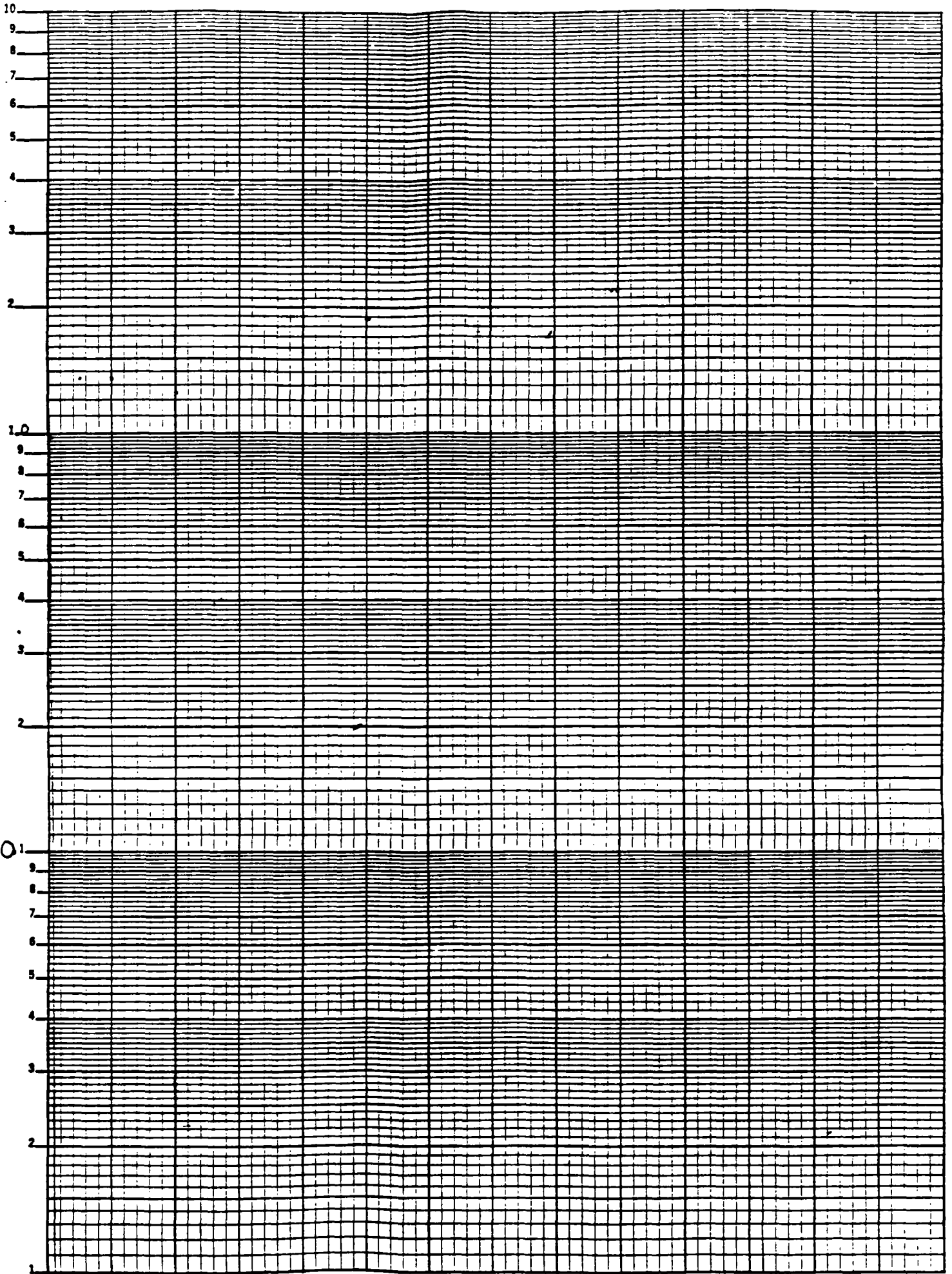
24-

SE GARI C 349C
3 x 3 Celled 170 DIVISIONS mm in U.S.A.
KEUFFEL & ESSER CO.



GW 62

SEE
11 4- 3 CYCLES X 70 DIVISIONS
490
U.S.A.
KEUPPEL & ESSER CO.



APPENDIX Q

Geotechnical Index Testing Data

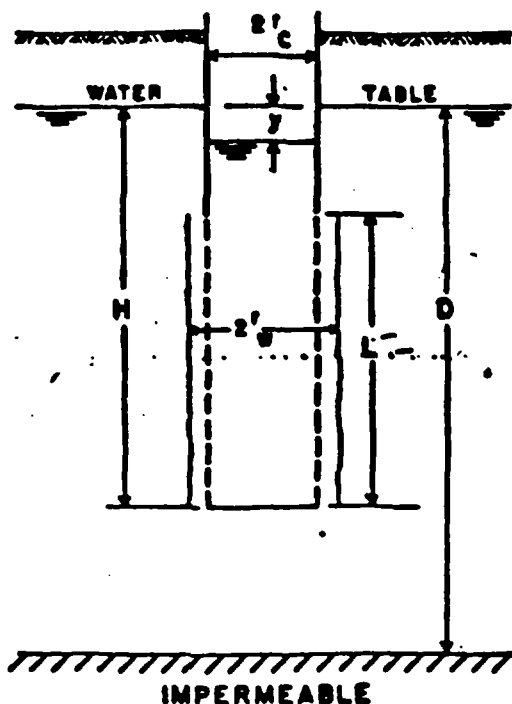


Fig. 1. Geometry and symbols of a partially penetrating, partially perforated well in unconfined aquifer with gravel pack or developed zone around perforated section.

from well center to original aquifer (well radius or radius of casing plus thickness of gravel envelope or developed zone).

The terms L , y , R_e , and r_o are all expressed in units of length. The effective radius R_e is the equivalent radial distance over which the head loss y is dissipated in the flow system. The value of R_e depends on the geometry of the flow system, and it was determined for different values of H , L , D , and r_o (Figure 1) with a resistance network analog, as will be discussed in the next section. Equation (1) is based on the assumptions that (1) drawdown of the water table around the well is negligible, (2) flow above the water table (in the capillary fringe) can be ignored, (3) head losses as water enters the well (well losses) are negligible, and (4) the aquifer is homogeneous and isotropic. These are the usual assumptions in the development of equations for pumped hole techniques [Bouwer and Jackson, 1974, and references therein].

The value of r_o in (1) represents the radial distance between the undisturbed aquifer and the well center. Thus r_o should include gravel envelopes or 'developed' zones if they are much more permeable than the aquifer itself (Figure 1).

The rate of rise, dy/dt , of the water level in the well after suddenly removing a slug of water can be related to the inflow Q by the equation

$$dy/dt = -Q/\pi r_w^2 \quad (2)$$

where πr_w^2 is the cross-sectional area of the well where the water level is rising. The minus sign in (2) is introduced because y decreases as t increases.

The term r_w is the inside radius of the casing if the water level is above the perforated or otherwise open portion of the well. If the water level is rising in the perforated section of the well, allowance should be made for the porosity outside the well casing if the hydraulic conductivity of the gravel envelope or

surrounded by a 10-cm permeable gravel envelope with a porosity of 30%, r_w should be taken as $[20^2 + 0.30(30^2 - 20^2)]^{1/2} = 23.5$ cm to obtain the cross-sectional area of the well that relates Q to dy/dt . The value of r_o for this well section is 30 cm.

Combining (1) and (2) yields

$$\frac{1}{y} dy = -\frac{2KL}{r_w^2 \ln(R_e/r_o)} dt \quad (3)$$

which can be integrated to

$$\ln y = -\frac{2KLt}{r_w^2 \ln(R_e/r_o)} + \text{constant} \quad (4)$$

Applying this equation between limits y_o at $t = 0$ and y_t at t and solving for K yield

$$K = \frac{r_w^2 \ln(R_e/r_o)}{2L} \left(\frac{1}{t} \ln \frac{y_o}{y_t} \right) \quad (5)$$

This equation enables K to be calculated from the rise of the water level in the well after suddenly removing a slug of water from the well. Since K , r_w , r_o , R_e , and L in (5) are constants, $(1/t) \ln y_o/y_t$ must also be constant. Thus field data should yield a straight line when they are plotted as $\ln y_t$ versus t . The term $(1/t) \ln y_o/y_t$ in (5) is then obtained from the best-fitting straight line in a plot of $\ln y$ versus t (see the example). The value of $\ln R_e/r_o$ is dependent on H , D , L , and r_o and can be evaluated from the analog results presented in the next section. The transmissibility T of the aquifer is calculated by multiplying (5) by the thickness D of the aquifer or

$$T = \frac{Dr_w^2 \ln(R_e/r_o)}{2L} \frac{1}{t} \ln \frac{y_o}{y_t} \quad (6)$$

This equation is based on the assumption that the aquifer is uniform with depth.

Equations (5) and (6) are dimensionally correct. Thus K and T are expressed in the same units as the length and time parameters in the equations.

EVALUATION OF R_e

Values of R_e , expressed as $\ln R_e/r_o$, were determined with an electrical resistance network analog for different values of r_o , L , H , and D (Figure 1), using the same assumptions as those for (1). An axisymmetric sector of 1 rad was simulated by a network of electrical resistors. The vertical distance between the nodes was constant, but the radial distance between nodes increased with increasing distance from the center line (Figure 2). This yielded a network with the highest node density near the well, where the head loss was greatest, and a decreasing node density toward the outer reaches of the system. For a more detailed discussion of graded networks for representing axisymmetric flow systems, see Liebmann [1950] and Bouwer [1960].

The radial extent of the medium represented on the analog was more than 60,000 times the largest r_o value used in the analyses. Thus the radial extent of the analog system was essentially infinite, as evidenced by the fact that a reduction in radial extent by several nodes did not have a measurable effect on the observed value of R_e .

The value of R_e for an infinitely deep aquifer ($D = \infty$) was determined by simulation on an impermeable and then on a

A Slug Test for Determining Hydraulic Conductivity of Unconfined Aquifers With Completely or Partially Penetrating Wells

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A procedure is presented for calculating the hydraulic conductivity of an aquifer near a well from the rate of rise of the water level in the well after a certain volume of water is suddenly removed. The calculation is based on the Thiem equation of steady state flow to a well. The effective radius R_e , over which the head difference between the equilibrium water table in the aquifer and the water level in the well is dissipated was evaluated with a resistance network analog for a wide range of system geometries. An empirical equation relating R_e to the geometry of the well and aquifer was derived. The technique is applicable to completely or partially penetrating wells in unconfined aquifers. It can also be used for confined aquifers that receive water from the upper confining layer. The method's results are compatible with those obtained by other techniques for overlapping geometries.

With the slug test the hydraulic conductivity or transmissibility of an aquifer is determined from the rate of rise of the water level in a well after a certain volume or 'slug' of water is suddenly removed from the well. The slug test is simpler and quicker than the Theis pumping test because observation wells and pumping the well are not needed. With the slug test the portion of the aquifer 'sampled' for hydraulic conductivity is smaller than that for the pumping test even though with the latter, most of the head loss also occurs within a relatively small distance of the pumped well and the resulting transmissibility primarily reflects the aquifer conditions near the pumped well.

Essentially instantaneous lowering of the water level in a well can be achieved by quickly removing water with a bailer or by partially or completely submerging an object in the water, letting the water level reach equilibrium, and then quickly removing the object. If the aquifer is very permeable, the water level in the well may rise very rapidly. Such rapid rises can be measured with sensitive pressure transducers and fast-response strip chart recorders or x-y plotters. Also it may be possible to isolate portions of the perforated or screened section of the well with special packers for the slug test. This not only reduces the inflow and hence the rate of rise of the water level in the well, but it also makes it possible to determine the vertical distribution of the hydraulic conductivity. Special packer techniques may have to be developed to obtain a good seal, especially for rough casings or perforations. Effective sealing may be achieved with relatively long sections of inflatable stoppers or tubing. The use of long sections of these materials would also reduce leakage flow from the rest of the well to the isolated section between packers. This flow can occur through gravel envelopes or other permeable zones surrounding the casing. Sections of inflatable tubing may have to be long enough to block off the entire part of the well not used for the slug test. High inflation pressures should be used to minimize volume changes in the tubing due to changing water pressures in the isolated section when the head is lowered.

So far, solutions for the slug test have been developed only for completely penetrating wells in confined aquifers. Cooper *et al.* [1967] derived an equation for the rise or fall of the water level in a well after sudden lowering or raising, respectively. Their equation was based on nonsteady flow to a pumped,

completely penetrating well, and the solution was expressed a series of 'type curves' against which observed rates of water level rises were matched. Values for the transmissibility and storage coefficient were then evaluated from the curve parameter and horizontal-scale position of the type curve showing the best fit with the experimental data. Skibitzke [1958] developed an equation for calculating transmissibility from the recovery of the water level in a well that was repeatedly bailed. The technique is limited to wells in confined aquifers with sufficiently shallow water levels to permit short time intervals between bailing cycles [Lohman, 1972].

To use the slug test for partially penetrating or partially perforated wells in confined or unconfined aquifers, some solutions developed for the auger hole and piezometer techniques to measure soil hydraulic conductivity [Bouwer and Jackson, 1974] may be employed. However, the geometry of most groundwater wells is outside the range in geometry covered by the existing equations or tables for the auger hole or piezometer methods. For this reason, theory and equations are presented in this paper for slug tests on partially or completely penetrating wells in unconfined aquifers for a wide range of geometry conditions. The wells may be partially or completely perforated, screened, or otherwise open along their periphery. While the solutions are developed for unconfined aquifers, they may also be used for slug tests on wells in confined aquifers if water enters the aquifer from the upper confining layer through compression or leakage.

THEORY

Geometry and symbols of a well in an unconfined aquifer are shown in Figure 1. For the slug test the water level in the well is suddenly lowered, and the rate of rise of the water level is measured. The flow into the well at a particular value of y can be calculated by modifying the Thiem equation to

$$Q = 2\pi KL \frac{y}{\ln(R_e/r_w)} \quad (1)$$

where Q is the flow into the well (length³/time), K is the hydraulic conductivity of the aquifer (length/time), L is the height of the portion of well through which water enters (height of screen or perforated zone or of uncased portion of well), y is the vertical distance between water level in well and equilibrium water table in aquifer, R_e is the effective radius

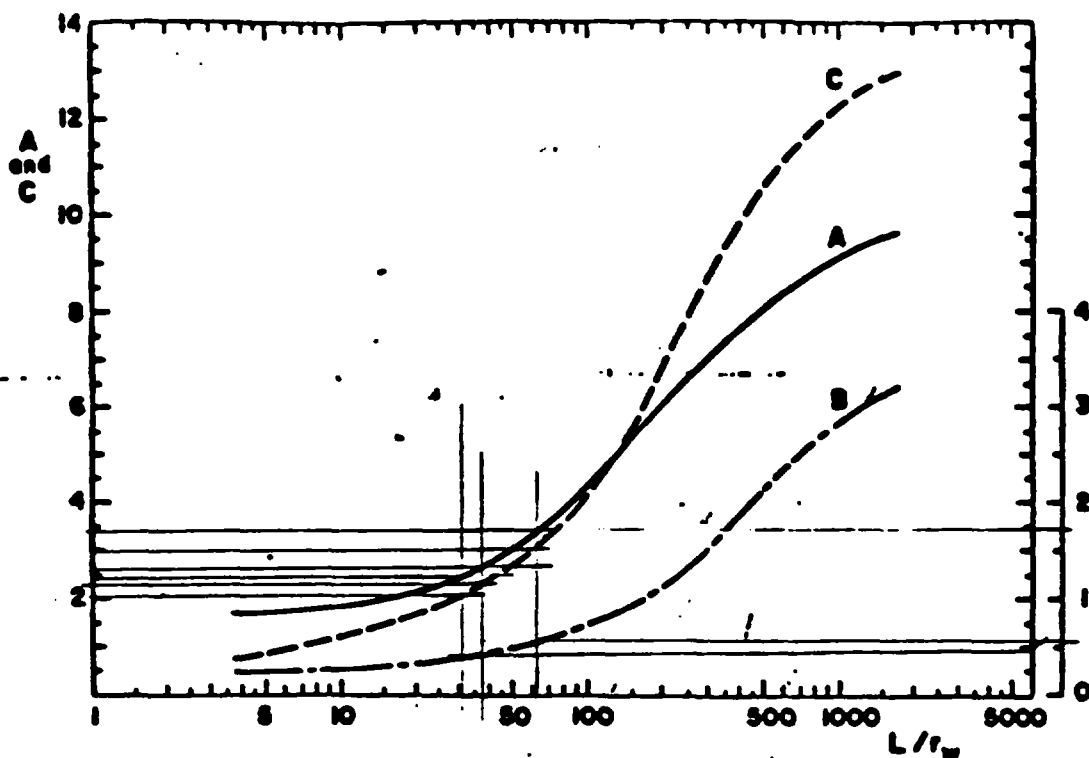


Fig. 3. Curves relating coefficients A , B , and C to L/r_w .

85% equipotential when R_e is laterally extended from the center of the open portion of the well. Thus most of the head loss in the flow system occurs in a cylinder with radius R_e , which is indicative of the horizontal extent of the portion of the aquifer sampled for K or T . The vertical extent is somewhat greater than L , as indicated by, for example, the 80% equipotential in Figure 2.

To estimate the rate of rise of the water level in a well after it suddenly lowered, (5) can be written as

$$t = \frac{r_w^2}{2KL} \ln \frac{R_e}{r_w} \ln \frac{y_0}{y_1} \quad (10)$$

By taking $y_1 = 0.9y_0$, (10) reduces to

$$t_{90\%} = 0.0527 \frac{r_w^2}{KL} \ln \frac{R_e}{r_w} \quad (11)$$

where $t_{90\%}$ is the time that it takes for the water level to rise 90% of the distance to the equilibrium level. By assuming a permeable aquifer with $K = 30$ m/day, a well with $r_w = 0.2$ m and $L = 10$ m, and $\ln(R_e/r_w) = 3$, (11) yields $t_{90\%} = 1.82$ s. Thus if y_0 is taken as 30 cm, it takes 1.8 s for the water level to rise 27 cm, another 1.8 s for the next 2.7 cm (90% of the remaining 3 cm), and another 1.8 s for the next 0.27 cm, or a total of 5.4 s for a rise of 29.97 cm. Measurement of this fast rise requires a sensitive and accurate transducer and a fast-response recorder. The rate of rise can be reduced by allowing groundwater to enter through only a portion of the open section of the well, as can be accomplished with packers.

For a moderately permeable aquifer with, for example, $K = 1$ m/day, a well with $r_w = 0.1$ m and $L = 20$ m, and $\ln(R_e/r_w) = 5$, (11) yields $t = 11.4$ s. In this case, it would take the water level 22.8 s to rise from 30 cm to 0.3 cm below static level.

EXAMPLE

A slug test was performed on a cased well in the alluvial

rapid infiltration basins for groundwater recharge with sewage effluent [Bouwer, 1970]. The static water table was at a depth of 3 m, $D = 80$ m, $H = 5.5$ m, $L = 4.56$ m, $r_e = 0.076$ m, and r_w was taken as 0.12 m to allow for development of the aquifer around the perforated portion of the casing. A Statham PM131TC pressure transducer was suspended about 1 m below the static water level in the well (when trade names and company names are included, they are for the convenience of the reader and do not imply preferential endorsement of a particular product or company over others by the U.S. Department of Agriculture). A solid cylinder with a volume equivalent to a 0.32-m change in water level in the well was also placed below the water level. When the water level had returned to equilibrium, the cylinder was quickly removed. The transducer output, recorded on a Sargent millivolt recorder, yielded the y - t relationship shown in Figure 4 with y plotted on a logarithmic scale. The straight-line portion is the valid part of the readings. The actual y_0 value of 0.29 m indicated by the straight line is close to the theoretical value of 0.32 m calculated from the displacement of the submerged cylinder.

Extending the straight line in Figure 4 shows that for the arbitrarily selected t value of 20 s, $y = 0.0025$ m. Thus $(1/t) \ln y_0/y_1 = 0.238$ s⁻¹. The value of $L/r_w = 38$, for which Figure 3 yields $A = 2.6$ and $B = 0.42$. Substituting these values into (8) and using the maximum value of 6 for $\ln[(D-H)/r_w]$ (since $\ln[(D-H)/r_w]$ for the well exceeds 6) yield $\ln(R_e/r_w) = 2.37$. Equation (5) then gives $K = 0.00036$ m/s = 31 m/day. This value agrees with K values of 10 and 53 m/day obtained previously with the tube method on two nearby observation wells [Bouwer, 1970]. These K values were essentially point measurements on the aquifer immediately around the well bottoms, which were at depths of 9.1 and 6.1 m, respectively.

COMPARISONS

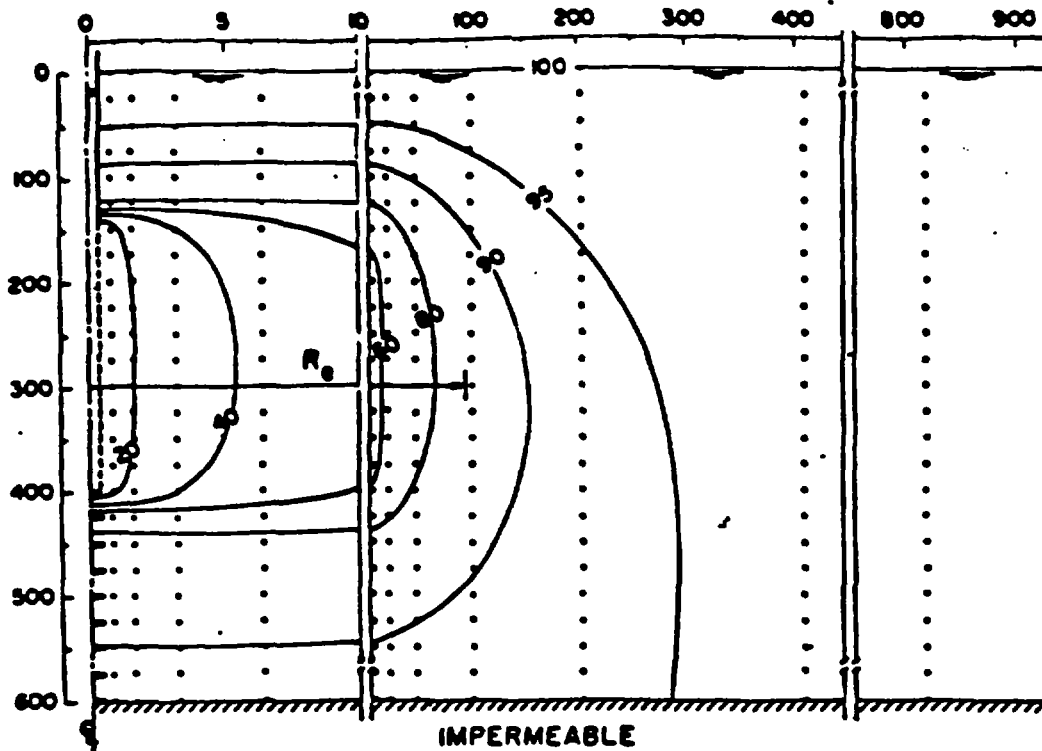


Fig. 2. Node arrangement (dots) for resistance network analog and potential distribution (indicated as percentages on equipotentials) for system with $L/r_w = 625$, $H/r_w = 1000$, and $D/r_w = 1500$. The numbers on the left and at the top of the figure are arbitrary length units (note breaks in horizontal scale).

less than the flow when the layer is taken as being infinitely permeable. The average of the two flows can then be taken as a good estimate of the flow that would occur if the aquifer were represented on the analog as being uniform to infinite depth [Bowler, 1967]. This average flow was used to calculate R_s for $D = \infty$.

The analog analyses were performed by simulating a system with certain values of r_w , H , and D . The electrical current entering the 'well' was then measured for different values of L , ranging from near H to near 0. This was repeated for other values of r_w , H , and D . The condition where $L = H$ could not be simulated on the analog because it would mean a short between the water table as the source and the well as the sink. The electrical current flow in the analog was converted to volume per day, and $\ln R_s/r_w$ was evaluated with (1) for each combination of r_w , H , L , and D used in the analog.

For a given geometry described by r_w , H , and D , the current flow Q_i into the simulated well varied essentially linearly with L and could be described by the equation

$$Q_i = mL + n \quad (7)$$

Because of the linearity between Q_i and L the results of the analysts could be extrapolated to the condition $L = H$. The values of m in (7) appeared to vary inversely with $\ln H/r_w$. The values of n varied approximately linearly with $\ln [(D - H)/r_w]$, the slope A and intercept B in these relations being a function of L/r_w . This enabled the derivation of the following empirical equation relating $\ln R_s/r_w$ to the geometry of the system:

$$\ln \frac{R_s}{r_w} = \left[\frac{1.1}{\ln (H/r_w)} + \frac{A + B \ln [(D - H)/r_w]}{L/r_w} \right]^{-1} \quad (8)$$

results indicated that the effective upper limit of $\ln [(D - H)/r_w]$ is 6. Thus if D is considered infinity or $(D - H)/r_w$ is so large that $\ln [(D - H)/r_w]$ is greater than 6, a value of 6 should still be used for the term $\ln [(D - H)/r_w]$ in (8).

If $D = H$, the term $\ln [(D - H)/r_w]$ in (8) cannot be used. The analog results indicated that for this condition, which is the case of a fully penetrating well, (8) should be modified to

$$\ln R_s/r_w = \left(\frac{1.1}{\ln (H/r_w)} + \frac{C}{L/r_w} \right)^{-1} \quad (9)$$

where C is a dimensionless parameter that is a function of L/r_w as shown in Figure 3.

Equations (8) and (9) yield values of $\ln R_s/r_w$ that are within 10% of the actual value as evaluated by analog if $L > 0.4H$ and within 25% if $L \ll H$ (for example, $L = 0.1H$).

The analog analyses were performed for wells that were closed at the bottom. Occasionally, however, wells with open bottoms were also simulated. The flow through the bottom appeared to be negligible for all values of r_w and L used in the analyses. If L is not much greater than r_w (for example, $L/r_w \ll 4$), the system geometry approaches that of a piezometer cavity [Bowler and Jackson, 1974], in which case the bottom flow can be significant. Equations (8) and (9) can also be used to evaluate $\ln R_s/r_w$ if a portion of the perforated or otherwise open part of the well is isolated with packers for the slug test.

Equipotentials for the flow system around a partially penetrating, partially perforated well in an unconfined aquifer after lowering the water level in the well are shown in Figure 2. The numbers along the symmetry axis and the water table represent arbitrary length units. The numbers on the equipotentials indicate the potential as a percentage of the total head difference between the water table (100%) and the open portion of the well (0%) shown as a dashed line.

This equation A and B are dimensionless coefficients that

with $r_e = r_w = 0.076$ m and $L = 98$ m. The resulting value of T was 45.8 m³/day. Values of D and H for this well were not given. However, since the well was 122 m deep and completely penetrating (at least theoretically), D and H must have been between 98 and 122 m. Assuming that both D and H were 100 m, (6) yields $T = 62.8$ m³/day, which is compatible with T obtained by Cooper et al.

CONCLUSIONS

The hydraulic conductivity of an aquifer near a well can be calculated from the rise of the water level in the well after a slug of water is suddenly removed. The calculation is based on the Thiem equation, using an effective radius R_e for the distance over which the head difference between the equilibrium water table in the aquifer and the water level in the well is dissipated. Values of R_e were evaluated by electrical resistance network analog. An empirical equation was then developed to relate R_e to the geometry of the system. This equation is accurate to within 10-25%, depending on how much of the well below the water table is perforated or otherwise open. The technique is applicable to partially or completely penetrating wells in unconfined aquifers. It can also be used to estimate the hydraulic conductivity of confined aquifers that receive water from the upper confining layer through recharge or compression.

The vertical distance between the rising water level in the well and the equilibrium water table in the aquifer must yield a straight line when it is plotted on a logarithmic scale against time. This can be used to check the validity of field measurements and to obtain the best-fitting line for calculating the hydraulic conductivity. Permeable aquifers produce rapidly rising water levels that can be measured with fast-response pressure transducers and strip chart recorders or x-y plotters. The portion of the aquifer sampled for hydraulic conductivity with the slug test is approximately a cylinder with radius R_e and a height somewhat larger than the perforated or otherwise open section of the well.

Hydraulic conductivity values obtained with the proposed slug test are compatible with those yielded by the auger hole and piezometer techniques where the geometries of the systems overlap, and by a slug test for completely penetrating wells in confined aquifers.

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piezometer method at the lower values of L/r_w . With the piezometer method a cavity is dug out in the soil below a piezometer tube. The water level in the tube is abruptly lowered, and K of the soil around the cavity is calculated from the rate of rise of the water level in the tube [Bower and Jackson, 1974]. The equation for K is

$$K = \frac{y_0^2}{A_T t} \ln \frac{y_0}{y_1} \quad (12)$$

where A_T is a geometry factor with dimension of length. Values of A_T were evaluated with an electrolytic tank analog by Youngs [1968], whose results were expressed in tabular form as A_T/r_w for different values of L/r_w (ranging between 0 and 8), $(D - H)/r_w$, and $(D - H)/r_w$.

Taking a hypothetical case where $L/r_w = 8$, $H/r_w = 12$, and $D/r_w = 16$, K calculated with (5) is 18% below K calculated with (12). This is more than the 10% error normally expected with (8) and (9) for the L/H value of 0.67 in this case. The larger discrepancy may be due to the difference in methodology, or to the fact that the L/r_w value is close to the lower limit of the range covered on the resistance network analog.

An approximate equation for calculating K with the piezometer method was presented by Hvorslev [1951]. The equation, which is based on the assumptions of an ellipsoidal cavity well screen and infinite vertical extent (upward and downward) of the flow system, contains a term $[1 + (L/2r_w)^2]^{1/2}$. For most well-slug-test geometries, $L/2r_w$ will be sufficiently large to permit replacement of this term by $L/2r_w$. In that case, however, Hvorslev's equation for Q yields $R_s = L$, which is not true. In reality, R_s is considerably less than L . For example, if $L = 40$ m, $r_w = 0.4$ m, $H = 80$ m, and $D = \infty$, (8) shows that $R_s = 11.9$ m, which is much less than the value of 40 m indicated by Hvorslev's equation. However, since the calculation of K is based on $\ln(R_s/r_w)$ as shown by (5), the error in K is less than the error in R_s (i.e., 36 and 236%, respectively, in this case).

If, for the above example, the top of the well screen or cavity had been taken at the same level as the water table ($H = 40$ m), R_s would have been 8.6 m and Hvorslev's equation would have yielded a K value that is 50% higher than K given by (5). The larger error is probably due to Hvorslev's assumption of infinite vertical (upward) extent of the flow system, which is not met when the cavity is immediately below the water table. Using Hvorslev's equation for cavities immediately below a confining layer would increase the error to 73%, but this, of course, is due to the fact that a water table is not a solid boundary. Hvorslev's equation for the confining layer case can be shown to yield $R_s = 2L$.

Auger hole method. The analog analyses for (8) and (9) and Figure 3 were performed for $L < H$, because short circuiting between the water table and the well prevented simulation of the case where $L = H$. If the analog results are extrapolated to $L = H$, however, the geometry of the system in Figure 1 becomes similar to that of the auger hole technique, for which a number of equations and graphs have been developed to calculate K from the rise of the water level in the well [Bower and Jackson, 1974]. Boast and Kirkham [1971], for example, developed the equation

$$K = C_{BK} \frac{\Delta y}{\Delta t} \quad (13)$$

where C_{BK} was determined mathematically and expressed in tabular form for various values of L/r_w , $(D - H)/r_w$, and y_0/H . Since the rate of rise of the water level in the hole after

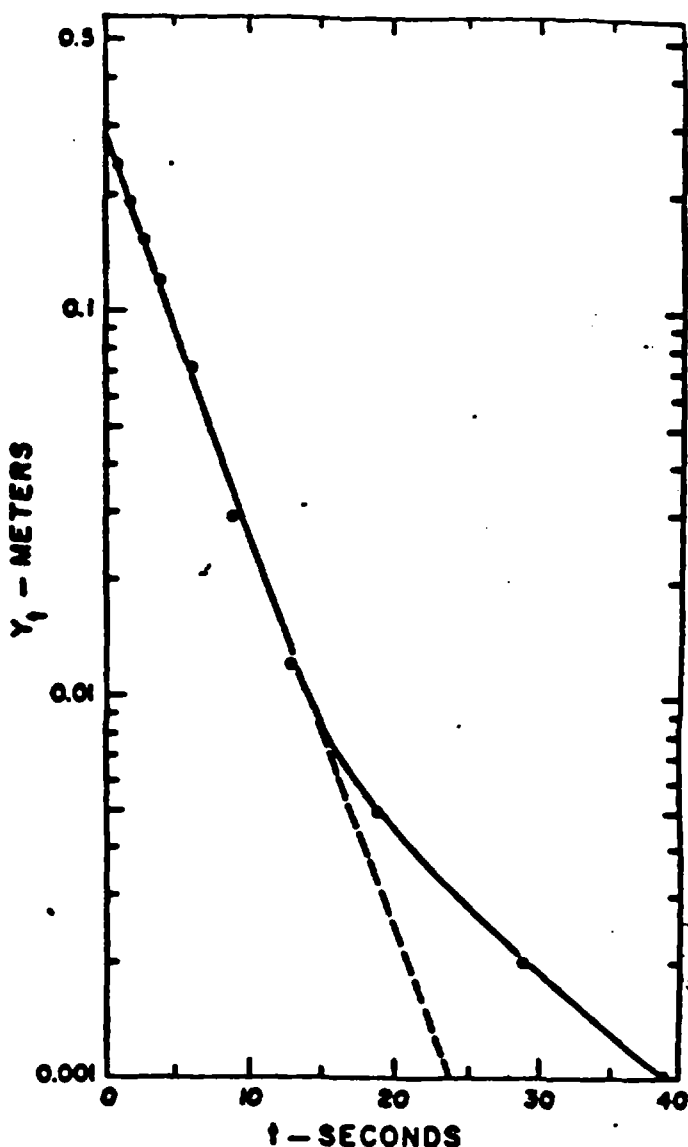


Fig. 4. Plot of y versus t for slug test on east well.

the removal of a slug of water decreases with decreasing y , $\Delta y/\Delta t$ is not a constant and the value of K obtained with this procedure depends on the magnitude of Δy used in the field measurements. The general rule is that Δy should be relatively small.

Taking a hypothetical case where $y_0 = 2.5$ m, $y_1 = 2.4$ m, $\Delta t = 10$ s, $L = H = 5$ m, $D = 6$ m, and $r_w = 0.1$ m, (5) yields a K value that is 36% lower than K calculated with (13). However, if y_1 is taken as 0.5 m, which should give $\Delta t = 394$ s according to the theory that $(1/t) \ln y_0/y_1$ is constant, the K value yielded by (5) is 26% higher than K obtained with (13). If y_1 is taken as 0.9 m, (5) and (13) give identical results.

Slug test on wells in confined aquifers. The confined aquifer for which the slug test by Cooper et al. [1967] was developed is an aquifer with an internal water source, for example, recharge through aquitards or compression of confining layers or other material. This situation is similar to that of the unconfined aquifer presented in this paper because the water table is considered horizontal, like the upper boundary of a confined aquifer, and the water table is a plane source. Thus K or T calculated with (5) or (6) should be of the same order as K calculated with the procedure of Cooper et al. [1967], which involves plotting the rise of the water level in the well and finding the best fit on a family of type curves. Cooper et al. [1967] presented an example of the calculation of T for a well

TABLE R-8

PRISTINE INC., SITE SEDIMENT

CHEMICAL (CAS NO.)	NUMBER DETECTED	REPRES. (UG/KG)	TOXICITY FACTOR (STC) (KG/MG)	SCORE	RANK
RANKING BASED ON CARCINOGENIC EFFECTS					
Benzo(a)anthracene(56-55-3)	3	2.09E+02	3.00E-05	6.27E-06	1
Dieldrin(60-57-1)	5	1.88E+01	1.86E-04	3.50E-06	2
4,4'-DDE(72-55-9)	8	4.37E+02	5.43E-06	2.37E-06	3
Chrysene(218-01-9)	3	2.31E+02	7.14E-06	1.65E-06	4
Aldrin(309-00-2)	4	1.57E+01	9.00E-05	1.41E-06	5
gamma-(HCCH) Lindane (58-19-9)	1	5.96E+00	2.43E-06	1.45E-08	6
Tetrachloroethylene(127-18-4)	9	2.87E+01	2.57E-07	7.38E-09	7
Arsenic(7440-38-2)	9	2.39E-02	1.86E-04	4.45E-09	8
1,2-Dichloroethane(107-06-2)	2	1.06E+01	3.29E-07	3.49E-09	9
Trichloroethylene(79-01-6)	4	9.42E+00	2.57E-07	2.42E-09	10
Benzene(71-43-2)	1	2.96E+00	3.71E-07	1.10E-09	11
4,4'-DDT(50-29-3)	7	3.03E-02	8.00E-06	2.42E-10	12
4,4'-DDD(72-54-8)	9	9.90E-02	1.43E-07	1.42E-11	13

RANKING BASED ON NONCARCINOGENIC EFFECTS

Phenols(108-95-2)	3	3.22E+02	5.02E-06	1.62E-06	1
Di-n-Butyl-Phthalate(84-74-2)	4	4.05E+02	1.90E-06	7.70E-07	2
Trichloroethylene(79-01-6)	4	9.42E+00	5.26E-05	4.95E-07	3
Nickel(7440-02-2)	9	3.51E-01	2.13E-04	7.48E-08	4
Barium(7440-39-3)	9	1.63E-01	2.04E-04	3.33E-08	5
1,2-Dichloropropane(78-87-5)	2	5.56E+00	5.00E-06	2.78E-08	6
Arsenic(7440-38-2)	9	2.39E-02	9.00E-04	2.15E-08	7
Benzene(71-43-2)	1	2.96E+00	5.86E-06	1.73E-08	8
Lead(7439-92-1)	9	3.60E-01	4.46E-05	1.61E-08	9
Tetrachloroethylene(127-18-4)	9	2.87E+01	4.81E-07	1.38E-08	10
trans-1,2-Dichloroethylene(156-60-5)	1	3.71E+00	2.65E-06	9.83E-09	11
1,2-Dichloroethane(107-06-2)	2	1.06E+01	8.80E-07	9.33E-09	12
Silver(7440-22-4)	9	9.30E-03	1.00E-03	9.30E-09	13
Dichloromethane(75-09-2)	9	1.58E+02	4.60E-08	7.27E-09	14
1,1-Dichloroethane(75-34-3)	1	3.70E+00	1.29E-06	4.77E-09	15
Toluene(108-88-3)	5	1.72E+01	2.60E-07	4.47E-09	16
Ethylbenzene(100-41-4)	2	7.42E+00	5.52E-07	4.10E-09	17
Copper(7440-50-8)	9	9.59E-02	3.57E-05	3.42E-09	18
Mercury(7439-97-6)	9	3.60E-03	9.21E-04	3.32E-09	19
Cadmium(7740-39-3)	7	5.32E-03	2.23E-04	1.19E-09	20
1,1,1-Trichloroethane(71-55-6)	3	5.87E+00	3.67E-08	2.15E-10	21
Vanadium(7440-62-2)	9	3.00E-02	7.14E-06	2.14E-10	22
Zinc(7440-66-6)	9	3.36E-02	5.33E-06	1.79E-10	23

NOT LISTED IN THE P.H.E. MANUAL

Acetone(67-64-1)	1	5.56E+00			
Aluminium(7429-90-5)	9	3.67E+00			
Antimony(7440-36-0)	3	1.38E-02			
Benzo(k)fluoranthene(207-08-9)	1	1.87E+02			
Beryllium(7440-41-7)	8	5.37E-01			
Bis(2-ethylhexyl)phthalate(117-81-7)	8	9.31E+03			
Butyl benzyl phthalate(85-68-7)	5	5.88E+02			
Chromium(67-66-3)	9	2.01E-01			
Cobalt(7440-48-4)	9	1.23E-02			
Cyanide(HCN-74-90-8)	8	2.24E-03			
Fluoranthene(206-44-0)	3	3.07E+02			
2-Hexanone(591-78-6)	1	8.66E+00			
Manganese(7439-96-5)	9	4.16E-01			
4-Methyl-2-pentanone(108-10-1)	1	8.34E+00			
Phenanthrene(85-01-8)	3	2.25E+02			
Pyrene(129-00-0)	3	2.65E+02			
Tin(7440-31-5)	5	7.60E-07			
Total xylenes	2	9.88E+00			
n-Nitrosodiphenylamine(86-30-6)	1	1.70E+02			

TOTAL NUMBER OF SAMPLES=9

TABLE R-9

PRISTINE INC., SITE STORM WATER

CHEMICAL (CAS NO.)	NUMBER DETECTED	REPRES. (UG/LITER)	TOXICITY FACTOR (WTC (LITER/MG)	SCORE	RANK
RANKING BASED ON CARCINOGENIC EFFECTS					
Zinc(7440-66-6)	4	7.21E+02	1.06E+00	7.64E-01	1
Arsenic(7440-38-2)	4	1.61E+01	3.71E+00	5.97E-02	2
Dieldrin(60-57-1)	4	1.69E-01	3.71E+00	6.27E-04	3
4,4'-DDT(50-29-3)	4	4.76E-01	1.60E-01	7.62E-05	4
4,4'-DDE(72-55-9)	1	5.20E-02	1.09E-01	5.67E-06	5
gamma-(HCH) Lindane (58-19-9)	4	8.92E-02	4.86E-02	4.34E-06	6
4,4'-DDD(72-54-8)	4	9.90E-02	2.86E-03	2.83E-07	7
RANKING BASED ON NONCARCINOGENIC EFFECTS					
Fluoride(50-00-0)	4	1.44E+03	1.25E+00	1.80E+00	1
Barium(7440-39-3)	4	9.16E+01	4.08E+00	3.74E-01	2
Arsenic(7440-38-2)	4	1.61E+01	1.80E+01	2.90E-01	3
Nickel(7440-02-2)	4	5.43E+01	4.26E+00	2.31E-01	4
Lead(7439-92-1)	4	1.82E+02	8.93E-01	1.63E-01	5
Silver(7440-22-4)	2	4.42E+00	2.00E+01	8.84E-02	6
Cadmium(7740-39-3)	1	1.39E+01	4.45E+00	6.19E-02	7
Mercury(7439-97-6)	3	8.27E-01	1.84E+01	1.52E-02	8
Copper(7440-50-8)	4	1.35E+01	7.14E-01	9.64E-03	9
Vanadium(7440-62-2)	4	2.51E+01	5.20E-03	1.31E-04	10
Dichloromethane(75-09-2)	4	3.62E+00	9.20E-04	3.33E-06	11
NOT LISTED-IN THE P.H.E. MANUAL					
Acetone(67-64-1)	2	1.39E+01			
Aluminium(7429-90-5)	4	1.67E+04			
Antimony(7440-36-0)	1	2.26E+01			
Benzoic acid(65-85-0)	4	1.46E+01			
Beryllium(7440-41-7)	4	1.48E+00			
Bis(2-ethyhexyl)phthalate(117-81-7)	3	8.39E+00			
Butyl benzyl phthalate(85-68-7)	2	3.80E+00			
2-Chloroethyl vinyl ether(110-75-8)	3	8.41E+00			
Chromium(67-66-3)	4	8.61E+01			
Cobalt(7440-48-4)	4	2.14E+01			
Cyanide(HCN=74-90-8)	1	6.89E+00			
Endrin(72-20-8)	2	8.10E-02			
Isophorone(78-59-1)	1	4.40E+00			
Manganese(7439-96-5)	4	1.73E+03			
n-Nitrosodiphenylamine(86-30-6)	2	3.72E+00			
Pentachlorophenol(87-86-5)	1	2.52E+00			
Styrene	1	2.24E+00			
Tin(7440-31-5)	2	2.23E+01			
Total xylenes	3	2.43E+00			

TOTAL NUMBER OF SAMPLES=4

TABLE R-5

PRISTINE INC., SITE GROUNDWATER ROUND 2

CHEMICAL (CAS NO.)	FREQUENCY		REPRES. (UG/LITER)	TOXICITY FACTOR (MTC (LITER/MG)		SCORE	RANK
	HITS	#					
RANKING BASED ON CARCINOGENIC EFFECTS							
Arsenic(7440-38-2)	2	18	5.90E+00	3.71E+00	2.19E-02	1	
Tetrachloroethylene(127-18-4)	3	17	3.46E+00	5.14E+00	1.78E-02	2	
1,2-Dichloroethane(107-06-2)	16	17	3.13E+02	6.57E-03	2.06E-03	3	
Chloroform(67-66-3)	8	16	3.02E+01	5.71E-02	1.72E-03	4	
Vinyl chloride(75-01-4)	6	17	1.24E+01	4.57E-03	5.67E-05	5	
Aldrin(309-00-2)	1	17	2.69E-02	1.80E+00	4.73E-05	6	
1,1,2-Trichloroethylene(79-00-5)	1	17	3.70E+00	8.57E-03	3.17E-05	7	
Trichloroethylene(79-01-6)	3	17	4.72E+00	5.14E-03	2.43E-05	8	
beta-Hexachlorocyclohexane(HCCN)(319-85-7)	2	17	3.19E-02	4.86E-02	1.55E-06	9	
gamma-(HCCN) Lindane(58-19-9)	1	17	2.70E-02	4.86E-02	1.31E-06	10	
4,4'-DDD(82-54-8)	1	17	5.31E-02	2.86E-03	1.52E-07	11	
NONCARCINOGENS							
Fluoride(50-00-0)	13	13	2.34E+03	1.25E+00	2.93E+00	1	
Barium(7440-39-3)	18	18	8.67E+01	4.08E+00	3.54E-01	2	
Nickel(7440-02-2)	12	18	5.11E+01	4.26E+00	2.18E-01	3	
Arsenic(7440-38-2)	2	18	5.90E+00	1.80E+01	1.06E-01	4	
2-Methylphenol(95-48-7)	1	15	5.82E+00	5.97E+00	3.47E-02	5	
4-Methylphenol(106-44-5)	2	15	5.81E+00	5.97E+00	3.47E-02	6	
Cadmium(7740-39-3)	11	18	4.90E+00	4.45E+00	2.18E-02	7	
Lead(7439-92-1)	9	18	2.37E+01	8.93E-01	2.12E-02	8	
Zinc(7440-66-6)	17	18	7.56E+01	1.07E-01	8.09E-03	9	
Vanadium(7440-62-2)	18	18	4.24E+01	1.43E-01	6.06E-03	10	
1,2-Dichloroethane(107-06-2)	16	16	3.13E+02	1.76E-02	5.51E-03	11	
Trichloroethylene(79-01-6)	3	17	4.72E+00	1.05E+00	4.96E-03	12	
1,2-Dichloropropane(78-87-5)	6	17	2.69E+01	1.00E-01	2.69E-03	13	
Benzene(71-43-2)	7	17	2.11E+01	1.17E-01	2.47E-03	14	
Mercury(7439-97-6)	18	18	1.00E-01	1.84E+01	1.84E-03	15	
Carbon disulfide(75-15-0)	1	17	3.39E+00	4.24E-01	1.44E-03	16	
Copper(7440-50-8)	13	18	1.93E+00	7.14E-01	1.38E-03	17	
Vinyl chloride(75-01-4)	6	17	1.24E+01	8.77E-02	1.09E-03	18	
Phenols(108-95-2)	1	15	7.87E+00	1.00E-01	7.87E-04	19	
1,2-Dichlorobenzene(95-50-1)	4	15	1.49E+01	5.19E-02	7.73E-04	20	
Dichloromethane(75-09-2)	17	17	6.49E+02	9.20E-04	5.97E-04	21	
Chlorobenzene(108-90-7)	1	17	3.33E+00	1.43E-01	4.76E-04	22	
trans-Dichloroethylene(156-60-5)	5	17	7.71E+00	5.29E-02	4.08E-04	23	
1,4-Dichlorobenzene(106-46-7)	1	15	5.43E+00	5.19E-02	2.82E-04	24	
1,1-Dichloroethane(75-34-3)	4	17	8.59E+00	2.58E-02	2.22E-04	25	
Di-n-butyl phthalate(84-74-2)	2	15	4.70E+00	3.81E-02	1.79E-04	26	
Toluene(108-88-3)	7	17	3.23E+01	5.20E-03	1.68E-04	27	
Ethylbenzene(100-41-4)	1	17	3.82E+00	1.10E-02	4.20E-05	28	
Tetrachloroethylene(127-18-4)	3	17	3.46E+00	9.62E-03	3.33E-05	29	
1,1,1-Trichloroethane(71-55-6)	4	17	5.25E+00	7.33E-04	3.85E-06	30	
Diethyl phthalate(88-6-2)	4	15	4.70E+00	2.67E-04	1.25E-06	31	
NOT LISTED IN THE P.N.E.							
Acetone(67-64-1)	16	17	8.91E+03				
Aluminium(7429-90-5)	18	18	1.68E+03				
Antimony(7440-36-0)	6	18	3.65E+01				
Benzoic acid(65-85-0)	2	15	2.34E+01				
Beryllium(7440-41-7)	6	18	2.97E+00				
Bis(2-ethyhexyl)phthalate(117-81-7)	12	15	1.98E+01				
Butyl benzyl phthalate(85-68-7)	3	15	4.82E+00				
Chloroethane(75-00-3)	3	17	1.13E+01				
Chromium(67-66-3)	2	18	6.40E+00				
Cobalt(7440-48-4)	16	18	3.43E+01				
Cyanide(HCN=74-90-8)			5.00E+00				
delta-HCCN(319-86-8)	1	17	2.84E-02				
2-Hexanone(591-78-6)	4	17	1.53E+01				
Manganese(7439-96-5)	18	18	8.60E+03				
n-Nitrosodiphenylamine(86-30-6)	3	15	5.00E+00				
Pentachlorophenol(87-86-5)	2	15	2.34E+01				
Total xylenes	7	17	1.91E+01				

TABLE R-4
PRISTINE INC., SITE
GROUNDWATER-ROUND 1

CHEMICAL (CAS NO.)	FREQUENCY		REPRES. (MG/LITER)	TOXICITY FACTOR (WTC) (LITER/MG)	SCORE	RANK
	HITS	#				
POTENTIAL CARCINOGENS						
Arsenic (7440-35-2)	8	20	1.53E+01	3.71E+00	5.68E+01	1
Tetrachloroethylene (127-18-4)	8	18	9.93E+00	5.14E+00	5.10E+01	2
Chloroform (67-66-3)	10	18	2.27E+01	5.71E-02	1.30E+00	3
1,1-Dichloroethylene (75-35-4)	5	18	5.41E+00	1.31E-01	7.09E-01	4
1,2-Dichloroethane (107-06-2)	14	18	8.85E+01	6.57E-03	5.81E-01	5
Benzene (71-43-2)	9	18	2.10E+01	7.43E-03	1.56E-01	6
1,1,2,2-Tetrachloroethane (79-34-5)	2	18	2.94E+00	4.86E-02	1.43E-01	7
1,1,2-Trichloroethane (79-00-5)	6	18	1.55E+01	8.57E-03	1.33E-01	8
Vinyl chloride (75-01-4)	8	18	1.60E+01	4.57E-03	7.31E-02	9
Hexachloroethane (67-72-1)	2	16	7.23E+00	7.71E-03	5.57E-02	10
Trichloroethylene (79-01-6)	7	18	5.81E+00	5.14E-03	2.99E-02	11

NONCARCINOGENS

Fluoride(50-00-0)	18	18	6.42E-01	1.25E+00	8.03E-01	1
Barium(7440-39-3)	20	20	1.01E-01	4.08E+00	4.12E-01	2
Arsenic(7440-30-2)	8	20	1.53E-02	1.80E+01	2.75E-01	3
Nickel(7440-02-2)	16	20	4.85E-02	4.26E+00	2.07E-01	4
Silver(7440-22-4)	5	20	7.10E-03	2.00E+01	1.42E-01	5
Cadmium(7740-29-3)	5	20	4.40E-03	4.45E+00	1.96E-02	6
Copper(7440-50-8)	18	20	1.47E-02	7.14E-01	1.05E-02	7
Lead(7439-92-1)	6	20	7.18E-03	8.93E-01	6.41E-03	8
Trichloroethylene(79-01-6)	7	18	5.81E-03	1.05E+00	6.10E-03	9
Zinc(7440-66-6)	19	20	5.63E-02	1.07E-01	6.02E-03	10
Vanadium(7440-62-2)	7	20	2.78E-02	1.43E-01	3.98E-03	11
2,6-Dinitrotoluene(606-20-2)	1	16	5.71E-03	6.02E-01	3.44E-03	12
Benzene(71-43-2)	9	18	2.10E-02	1.17E-01	2.46E-03	13
Mercury(7439-97-6)	3	20	1.10E-04	1.84E+01	2.02E-03	14
1,1-Dichloroethylene(75-35-4)	5	18	5.41E-03	3.71E-01	2.01E-03	15
1,2-Dichloroethane(107-06-2)	14	18	8.85E-02	1.76E-02	1.56E-03	16
Vinyl chloride(75-01-4)	8	18	1.60E-02	8.77E-02	1.40E-03	17
Carbon disulfide(75-15-0)	1	18	3.16E-03	4.24E-01	1.34E-03	18
Chlorobenzene(108-90-7)	5	18	7.47E-03	1.43E-01	1.07E-03	19
1,2-Dichlorobenzene(95-50-1)	5	16	1.35E-02	5.19E-02	7.01E-04	20
trans-1,2-Dichloroethylene(156-60-5)	9	18	9.71E-03	5.29E-02	5.14E-04	21
1,1-Dichloroethane(75-34-3)	10	18	1.81E-02	2.58E-02	4.67E-04	22
1,2-Dichloropropane(78-87-5)	1	18	3.36E-03	1.00E-01	3.36E-04	23
1,4-Dichlorobenzene(106-46-7)	2	16	5.27E-03	5.19E-02	2.74E-04	24
Dichloromethane(75-09-2)	18	18	2.76E-01	9.20E-04	2.54E-04	25
Toluene(108-28-3)	10	18	4.54E-02	5.20E-03	2.36E-04	26
Ethylbenzene(100-41-4)	6	18	1.09E-02	1.10E-02	1.20E-04	27
Tetrachloroethylene(127-18-4)	8	18	9.93E-03	9.62E-03	9.55E-05	28
2-Butanone(78-93-3)	3	18	1.19E-02	7.75E-03	9.22E-05	29
Hexachloroethane(67-72-1)	2	16	7.23E-03	6.62E-03	4.79E-05	30
1,1,1-Trichloroethane(71-55-6)	6	18	1.17E-02	7.33E-04	8.58E-06	31

NOT LISTED IN THE P.H.E.

Acetone(67-64-1)	18	18	2.21E+00			
Aluminium(7429-90-5)	11	20	6.13E-01			
Antimony(7440-36-0)	4	20	3.47E-02			
Beryllium(7440-41-7)	9	20	2.07E-03			
Bis(2-ethylhexyl)phthalate(117-81-7)	10	16	7.05E-03			
Butyl benzyl phthalate(85-68-7)	1	16	4.97E-03			
Chloroethane(75-00-3)	2	18	8.62E-03			
Chromium(67-66-3)	11	20	9.41E-03			
Cobalt(7440-48-4)	17	20	4.30E-02			
Cyanide(HCN=74-90-8)	4	18	6.48E-03			
2,4-Dimethylphenol(105-67-9)	1	16	6.73E-03			
2-Hexanone(591-78-6)	2	18	8.53E-03			
Dimethyl phthalate(131-11-3)	1	16	5.68E-03			
Isophorone(78-59-1)	2	16	6.42E-03			
Manganese(7439-96-5)	20	20	7.93E-04			
4-Methyl-2-pentanone(108-10-1)	4	18	1.65E-02			
Nitrobenzene(98-55-3)	2	16	8.59E-03			
Thallium(7440-22-0)	1	20	5.26E-03			

TABLE R-3 (continued)

NOT LISTED IN THE P.H.E. MANUAL

Acetone(67-64-1)	32	7.61E-02
Aluminium(7429-90-5)	39	8.52E+03
Benzo(h)fluoranthene(207-08-9)	1	1.68E-01
Benzoic acid(65-25-0)	2	3.53E-01
Beryllium(7440-41-7)	38	5.76E-01
Bis(2-chloroethoxy)methane(111-91-1)	3	1.79E-01
Bis(2-ethylhexyl)phthalate(117-81-7)	28	5.20E-01
Butyl benzyl phthalate(85-68-7)	16	1.96E-01
Chromium(67-66-3)	39	2.60E+01
Cobalt(7440-48-4)	36	1.02E+01
Cyanide(HCN)(74-90-8)	4	6.01E-01
2,4-Dimethylphenol(105-67-9)	1	1.65E-01
Diethyl phthalate(131-11-3)	1	1.71E-01
Fluoranthene(206-44-0)	2	1.64E-01
Manganese(7439-96-5)	39	4.60E+02
2-Methylnaphthalene(91-57-6)	2	1.50E-01
4-Methyl-2-pentanone(108-10-1)	3	6.00E-03
Naphthalene(91-20-3)	4	1.66E-01
Nitrobenzene(98-95-3)	2	1.81E-01
n-Nitrosodiphenylamine(26-30-6)	2	1.75E-01
Phenanthrene(85-01-8)	4	1.68E-01
Pyrene(129-00-0)	3	1.74E-01
Styrene	1	2.52E-03
Tin(7440-31-5)	3	5.49E+00
Total Xylenes	18	1.06E-02

TABLE R-3
PRISTINE INC., SITE
SOIL BORINGS

CHEMICAL (CAS NO.)	NUMBER DETECTED	REPRES. (MG/LITER)	TOXICITY FACTOR (STC) (KG/MG)	REPRES. X STC SCORE	RANK
RANKING BASED ON CARCINOGENIC EFFECTS					
Arsenic(7440-38-2)	39	1.42E+01	1.86E-04	2.64E-06	1
Benzo(b)fluoranthene(205-99-2)	1	1.68E-01	2.14E-04	3.60E-08	2
Benzo(c)anthracene(56-55-3)	1	1.65E-01	3.00E-05	4.95E-09	3
Dieldrin(60-57-1)	5	9.96E-03	1.86E-04	1.85E-09	4
Chrysene(218-01-9)	1	1.66E-01	7.14E-06	1.19E-09	5
Aldrin(300-00-2)	7	5.87E-03	9.00E-05	5.28E-10	6
Heptachlor(76-44-8)	1	4.42E-03	5.14E-05	2.27E-10	7
4,4'-DDT(50-29-3)	13	2.06E-02	8.00E-06	1.65E-10	8
1,1-Dichloroethene(75-35-4)	6	3.53E-03	6.57E-06	2.32E-11	9
2,4,6-Trichlorophenol(88-06-2)	1	1.76E-01	1.14E-07	2.01E-11	10
Chloroform(67-66-3)	13	4.77E-03	2.86E-06	1.36E-11	11
gamma-(HCH) Lindane (58-19-9)	2	4.41E-03	2.43E-06	1.07E-11	12
1,1,2,2-Tetrachloroethane(79-34-5)	1	2.71E-03	2.43E-06	6.59E-12	1
4,4'-DDT(72-55-9)	10	1.08E-03	5.43E-06	5.86E-12	1
1,2-Dichloroethane(107-06-2)	17	1.23E-02	3.29E-07	4.05E-12	15
Benzene(71-43-2)	10	5.88E-03	3.71E-07	2.18E-12	16
Tetrachloroethene(127-18-4)	12	6.14E-03	2.57E-07	1.58E-12	17
Trichloroethene(79-01-6)	11	5.34E-03	2.57E-07	1.37E-12	18
1,1,2-Trichloroethane(79-00-5)	2	2.84E-03	4.29E-07	1.22E-12	19
4,4'-DDD(72-54-8)	11	1.19E-03	1.43E-07	1.70E-13	20
RANKING BASED ON NONCARCINOGENIC EFFECTS					
Fluoride(50-00-0)	39	1.94E+05	6.24E-05	1.21E-02	1
Barium(7440-39-3)	39	6.46E+01	2.04E-04	1.32E-05	2
Arsenic(7440-38-2)	39	1.42E+01	9.00E-04	1.26E-05	3
Nickel(7440-02-2)	38	2.28E+01	2.13E-04	4.86E-06	4
Silver(7440-22-4)	29	2.04E+00	1.00E-03	2.04E-06	5
Copper(7440-50-8)	39	3.31E+01	3.57E-05	1.18E-06	6
Lead(7439-92-1)	39	2.59E+01	4.46E-05	1.16E-06	7
Cadmium(7740-39-3)	20	2.17E+00	2.23E-04	4.84E-07	8
Zinc(7440-66-6)	38	8.92E+01	5.33E-06	4.75E-07	9
4,6-Dinitro-2-methylphenol(534-52-1)	2	8.82E-01	3.37E-04	2.97E-07	1
Vanadium(7440-62-2)	39	3.21E+01	7.14E-06	2.29E-07	1
Mercury(7439-97-6)	9	7.37E-02	9.21E-04	6.79E-08	1
4-Methylphenol(106-44-5)	5	1.74E-01	2.99E-04	5.20E-08	13
2-Methylphenol(95-46-7)	3	1.67E-01	2.99E-04	4.99E-08	14
Phenols(106-95-2)	13	3.50E-01	5.02E-06	1.76E-09	15
1,2,4-Trichlorobenzene(120-82-1)	1	1.62E-01	1.07E-05	1.73E-09	16
1,2-Dichlorobenzene(95-50-1)	5	2.13E-01	2.60E-06	5.54E-10	17
Di-n-Butylphthalate(84-74-2)	14	2.71E-01	1.90E-06	5.15E-10	18
Trichloroethene(79-01-6)	11	5.34E-03	5.26E-05	2.81E-10	19
1,1-Dichloroethene(75-35-4)	6	3.53E-03	1.86E-05	6.57E-11	20
1,1,2,2-Tetrachloroethane(79-34-5)	1	2.71E-03	2.27E-05	6.15E-11	21
Carbon disulfide(75-15-0)	1	2.75E-03	2.12E-05	5.63E-11	22
Benzene(71-43-2)	10	5.88E-03	5.85E-06	3.44E-11	23
Chlorobenzene(108-90-7)	5	3.97E-03	7.14E-06	2.83E-11	24
1,2-Dichloroethane(107-06-2)	17	1.23E-02	8.80E-07	1.08E-11	25
trans-1,2-Dichloroethene(156-60-5)	4	3.36E-03	2.65E-06	8.90E-12	26
2-Butanone(78-93-3)	11	1.45E-02	3.87E-07	5.61E-12	27
Toluene(108-88-3)	22	1.81E-02	2.60E-07	4.71E-12	28
1,1-Dichloroethane(75-34-3)	2	2.73E-03	1.29E-06	3.52E-12	29
Tetrachloroethene(127-18-4)	12	6.14E-03	4.81E-07	2.95E-12	30
Ethylbenzene(100-41-4)	12	4.71E-03	5.52E-07	2.60E-12	31
Diethyl phthalate(88-6-2)	5	1.84E-01	1.34E-08	2.47E-12	32
Dichloromethane(75-09-2)	38	4.85E-02	4.60E-08	2.23E-12	33
1,1,1-Trichloroethane(71-55-6)	6	3.86E-03	3.67E-08	1.42E-13	34

TABLE R-2
PRISTINE INC., SITE
SOIL TRENCHES

CHEMICAL (CAS NO.)	NUMBER DETECTED	REPRES. (UG/KG)	TOXICITY FACTOR (STC) (KG/MG)	SCORE	RANK
RANKING BASED ON CARCINOGENIC EFFECTS					
Arsenic(7440-38-2)	5	1.00E+04	1.86E-04	1.86E-03	1
Benzo(a)pyrene(50-32-6)	2	1.63E+02	7.14E-04	1.16E-04	2
Benzo(b)fluoranthene(205-99-2)	2	2.02E+02	2.14E-04	4.32E-05	3
Benzo(a)anthracene(56-55-3)	2	1.44E+02	3.00E-05	4.32E-06	4
Chrysene(218-01-9)	2	1.66E+02	7.14E-06	1.19E-06	5
Chloroform(67-66-3)	6	1.06E+02	2.86E-06	3.03E-07	6
1,2-Dichloroethane(107-06-2)	5	4.32E+02	3.29E-07	1.42E-07	7
Benzene(71-43-2)	5	4.79E+01	3.71E-07	1.78E-08	8
1,1,2-Trichloroethane(79-00-5)	5	2.35E+01	4.29E-07	1.01E-08	9

RANKING BASED ON NONCARCINOGEN EFFECTS					
Barium(7440-39-3)	6	7.04E+04	2.04E-04	1.44E-02	1
Arsenic(7440-38-2)	5	1.00E+04	9.00E-04	9.00E-03	2
Nickel(7440-02-2)	4	2.09E+04	2.13E-04	4.45E-03	3
Silver(7440-22-4)	3	3.49E+03	1.00E-03	3.49E-03	4
Lead(7439-92-1)	6	2.33E+04	4.46E-05	1.04E-03	5
Copper(7440-50-8)	6	2.05E+04	3.57E-05	7.32E-04	6
Benzo(a)pyrene(50-32-6)	2	1.63E+02	1.33E-03	2.17E-04	7
Zinc(7440-66-6)	6	3.97E+04	5.33E-06	2.12E-04	8
Vanadium(7440-62-2)	6	1.68E+04	7.14E-06	1.20E-04	9
2-Methylphenol(95-48-7)	2	1.86E+02	2.99E-04	5.56E-05	10
Phenols(108-95-2)	6	1.68E+03	5.02E-06	8.43E-06	11
1,2-Dichlorobenzene(95-50-1)	6	4.47E+02	2.60E-06	1.16E-06	12
1,2-Dichloroethane(107-06-2)	5	4.32E+02	8.80E-07	3.80E-07	13
1,4-Dichlorobenzene(106-46-7)	2	1.42E+02	2.60E-06	3.69E-07	14
Benzene(71-43-2)	5	4.79E+01	5.85E-06	2.80E-07	15
Di-n-Butyl-Phthalate(84-74-2)	3	1.19E+02	1.90E-06	2.26E-07	16
Toluene(108-88-3)	6	6.78E+02	2.60E-07	1.76E-07	17
2-Butanone(78-93-3)	5	3.27E+02	3.87E-07	1.27E-07	18
Mercury(7439-97-6)	2	1.15E-01	9.21E-04	1.06E-07	19
Chlorobenzene(108-90-7)	4	1.11E+01	7.14E-06	7.93E-08	20
Carbon disulfide(75-15-0)	1	2.58E+00	2.12E-05	5.47E-08	21
Dichloromethane(75-09-2)	6	5.32E+02	4.60E-08	2.45E-08	22
Ethylbenzene(100-41-4)	3	7.23E+00	5.52E-07	3.99E-09	23
1,1,1-Trichloroethane(71-55-6)	1	4.91E+00	3.67E-08	1.80E-10	24

NOT LISTED IN THE P.H.E. MANUAL

Acetone(67-64-1)	6	4.83E+03			
Aluminium(7429-90-5)	6	5.45E+06			
Benzo(g,h,i)perylene(191-24-2)	2	1.43E+02			
Benzo(k)fluoranthene(207-08-9)	2	2.02E+02			
Benzoic acid(65-85-0)	2	8.68E+02			
Beryllium(7440-41-7)	4	8.15E-02			
Bis(2-ethylhexyl)phthalate(117-81-7)	6	8.16E+02			
Butyl benzyl phthalate(85-68-7)	6	1.78E+02			
Chromium(67-66-3)	6	1.31E+04			
Cobalt(7440-48-4)	4	1.27E+04			
Fluoranthene(206-44-0)	2	1.71E+02			
Indeno(1,2,3-cd)pyrene(193-39-5)	1	1.56E+02			
Manganese(7439-96-5)	6	2.14E+04			
4-Methyl-2-pentanone(108-10-1)	1	8.11E+00			
Naphthalene(91-20-3)	1	1.48E+02			
Phenanthrene(85-01-8)	2	1.18E+02			
Pyrene(129-00-0)	2	1.60E+02			
Tin(7440-31-5)	2	1.75E+04			

TOTAL NUMBER OF SAMPLES=6

TABLE R-1
PRISTINE, INC., SITE
SOIL AREAS

CHEMICAL (CAS NO.)	TOXICITY FACTOR (STC) (KG/HG)	FREQUENCY HITS	REPRES. (HG/KG)	SCORE	RANK
POTENTIAL CARCINOGENS					
Arsenic(7440-39-2)	1.86E-04	16 16	1.23E+01	2.29E-03	1
Benzo(a)pyrene(50-32-8)	7.14E-04	2 116	1.93E-01	1.38E-04	2
Benzo(b)fluoranthene(205-99-2)	2.14E-04	3 16	2.21E-01	4.73E-05	3
Chrysene(213-01-9)	1.86E-04	11 16	8.79E-02	1.63E-05	4
Chrysene(213-01-9)	7.14E-06	2 116	1.95E+00	1.39E-05	5
Chloroform(57-74-9)	1.19E-04	4 16	7.47E-02	8.89E-06	6
Benzo(a)anthracene(56-55-3)	3.00E-05	3 16	2.05E-01	6.15E-06	7
Total PCBs	5.29E-05	2 16	8.40E-02	4.44E-06	8
Aluminum(309-00-2)	9.00E-05	9 16	4.51E-02	4.06E-06	9
4,4'-DDT(50-29-3)	8.00E-06	12 16	2.67E-01	2.14E-06	10
Heptachlor(76-44-8)	5.14E-05	2 16	5.58E-03	2.87E-07	11
4,4'-DDD(72-55-9)	5.43E-06	7 16	4.78E-02	2.60E-07	12
gamma-(HCH) Lindane (58-19-9)	2.43E-06	1 16	4.84E-03	1.18E-08	13
4,4'-DDD(72-54-8)	1.43E-07	7 16	5.95E-02	8.51E-09	14
Tetrachloroethylene(127-18-4)	2.57E-07	1 7	2.72E-03	6.99E-10	15
NONCARCINOGENS					
Fluoride(50-00-0)	6.24E-05	16 16	2.10E+02	1.31E-02	1
Arsenic(7440-39-2)	9.00E-04	16 16	1.23E+01	1.11E-02	2
Lead(7439-92-1)	4.46E-05	16 16	1.90E+02	8.47E-03	3
Nickel(7440-02-2)	2.13E-04	16 16	2.30E+01	4.90E-03	4
Barium(7440-39-3)	2.04E-04	16 16	1.59E+01	3.24E-03	5
Silver(7440-22-4)	1.00E-03	12 16	2.94E+00	2.94E-03	6
Copper(7440-50-8)	3.57E-05	16 16	6.33E+01	2.26E-03	7
Zinc(7440-66-6)	5.33E-06	16 16	1.76E+02	9.38E-04	8
Cadmium(7740-35-3)	2.23E-04	13 16	4.13E+00	9.21E-04	9
Mercury(7439-97-6)	9.21E-04	13 16	5.38E-01	4.95E-04	10
Benzo(a)pyrene(50-32-8)	1.33E-03	2 116	1.93E-01	2.57E-04	11
Vanadium(7440-62-2)	7.14E-06	16 16	3.23E+01	2.31E-04	12
Phenols(100-95-2)	5.02E-06	1 16	1.76E-01	8.84E-07	13
1,2-Dichlorobenzene(95-50-1)	2.60E-06	1 16	2.39E-01	6.21E-07	14
Tetrachloroethylene(127-18-4)	4.81E-07	1 7	2.72E-03	1.31E-09	15
Dichloromethane(75-09-2)	4.60E-08	7 7	8.94E-03	4.11E-10	16
NOT LISTED IN THE P.H.E.					
Acetone(67-64-1)		5 7	1.10E-02		
Aluminum(7429-90-5)		16 16	6.97E-03		
Benzo(g,h,i)perylene(191-24-2)		1 116	1.76E-01		
Benzo(k)fluoranthene(207-08-9)		3 16	2.21E-01		
Erythrium(7440-41-7)		15 16	5.95E-01		
Bis(2-ethylhexyl)phthalate(117-81-7)		16 16	5.02E+00		
Butyl Benzyl phthalate(95-68-7)		5 16	2.80E-01		
Chromium(67-66-3)		16 16	6.49E+01		
Cobalt(7440-48-4)		16 16	8.93E+00		
Cyanide(HCN=74-90-6)		10 16	2.10E+00		
Di-n-octyl-phthalate(117-84-0)		1 16	1.77E-01		
Fluoranthene(206-44-0)		3 16	2.10E-01		
Indeno(1,2,3-cd)pyrene(193-39-5)		1 16	1.76E-01		
Manganese(7439-96-5)		16 16	3.69E+02		
2-Methylnaphthalene(91-57-6)		1 16	1.68E-01		
Phenanthrene(85-01-8)		2 16	1.85E-01		
Pyrene(129-00-0)		3 16	2.10E-01		
Tin(7440-31-5)		6 16	8.67E+00		

APPENDIX S
TOXICITY PROFILES

POLYCYCLIC AROMATIC HYDROCARBONS

Evaluation of Health Effects

The polycyclic aromatic hydrocarbons (PAHs) are a class of compounds consisting of substituted and unsubstituted polycyclic aromatic rings formed by the incomplete combustion of organic materials. Their chemical, physical, and biological properties vary with their size and shape. Compounds of this class were the first to be recognized as inducing cancer in humans, as documented by the London surgeon, Sir Percival Pott, who concluded that the high incidence of epithelioma of the scrotum among chimney sweeps was due to the soot to which they were exposed daily from an early age (Coombs 1980). Subsequent epidemiological and experimental studies have shown a number of PAHs to be carcinogens; the model compound of this class and the one studied most extensively in experimental systems is benzo(a)pyrene (BaP) (USEPA 1984a,b).

PAHs are present in foodstuffs, water, and air. Workers exposed to these compounds are primarily exposed by the cutaneous or inhalation routes; while the general population is exposed through ingestion, although tobacco smoking can also contribute greatly to exposure (USEPA 1980,1984a).

PAHs are highly lipid soluble, and they are readily absorbed through the epithelial membranes of the gut (including the nonglandular stomach of rodents), lungs, and skin. They are rapidly and extensively metabolized in vivo and therefore do

not bioaccumulate in the fatty tissues of humans or other animals (USEPA 1980,1984a).

PAHs are metabolized in vivo by the cytochrome P-450 dependent microsomal, mixed-function oxidase enzyme system, which is involved in the metabolism of endogenous substrates (e.g., steroids) and the detoxification of many xenobiotics. In the case of BaP and other carcinogenic PAHs, this system metabolizes the compounds to reactive electrophiles capable of binding covalently to DNA (USEPA 1980;1984a,b).

While the primary health effect of this class of compounds is carcinogenicity in humans and other species, toxic changes have been reported in the hematopoietic and lymphoid systems, skin, and liver. In the hematopoietic and lymphoid systems of experimental animals, chemically induced cytotoxicity results in anemia, suppression of cellular and humoral immunity, and hemolymphatic changes in the lymph nodes of rats. Direct application of BaP (1% solution in benzene) to human skin has resulted in the formation of regressive verrucae (warts), which are considered to be a preneoplastic lesion. Workers exposed to PAH-containing materials have exhibited chronic dermatitis, hyperkeratopses, and other skin disorders. Application of carcinogenic PAHs to mouse skin reportedly causes destruction of sebaceous glands, hyperplasia, hyperkeratosis, and ulceration (USEPA 1980;1984a,b). Swine consuming soil contaminated with fragmented "clay pigeons" (which are constructed of an amalgam held together by pitch derived from coal tar) develop severe

centrilobular hepatocellular necrosis with pooling of blood in the center of the liver lobule, icterus, and anemia (Jones and Hunt 1983).

The potential for PAHs to induce cancer dominates the consideration of health hazards resulting from exposure, because there often are no overt signs of toxicity until the dose is high enough to produce a high tumor incidence. The attached table contains IARC's classification of some PAHs according to their carcinogenicity (IARC 1983).

Carcinogenic PAHs have induced neoplasms in rats, mice, hamsters, and nonrodent species following oral, inhalation, or cutaneous exposure. For example, inhalation or intratracheal installation of BaP in Syrian hamsters has resulted in tumors in the upper and lower respiratory tract and upper gastrointestinal tract; inhalation by mice and rats of coal tar aerosols (a mixture of PAHs and other chemicals) has resulted in lung tumors. Topical administration to mice of many individual PAHs has resulted in skin cancer; PAHs also act as initiators in the mouse two-stage skin carcinogenesis system. Oral administration of BaP to mice has resulted in epithelial tumors of the forestomach as well as tumors in other organ systems (USEPA 1980;1984a,b,c).

Most epidemiological evidence of PAH carcinogenicity in humans involves cutaneous and/or inhalation exposure of industrial workers to PAH-containing material (coal gas, tars, soot, and coke oven emissions). However, there is no evidence that

individual PAHs present in these materials are responsible for the cancers observed (primarily lung and skin) (USEPA 1980, 1984a).

Most PAHs have shown positive results in at least one or more in vitro genotoxic screening tests. They are not potent teratogens or reproductive toxins (USEPA 1980, 1984a).

Criteria and Standards

There are no values for acceptable subchronic or chronic intake for PAHs as a class. For carcinogenic PAHs as a class, the ambient water quality criterion of 28 ng/liter associated with a lifetime cancer risk of 10^{-5} is based on an oral chronic study of BaP in mice and the conservative assumption that all PAHs are equal in potency to BaP (USEPA 1984a).

USEPA has not established an ambient water quality criterion for noncarcinogenic PAHs as a class. The ambient water quality criterion for fluoranthene of 42 µg/liter was based on extrapolation from a chronic skin painting study in mice; the ambient water quality criterion for acenaphthene of 0.2 mg/liter was based on its organoleptic properties (USEPA 1980).

Unit carcinogenic risks for oral and inhalation exposure to PAHs were based on chronic studies of BaP in mice and Syrian hamsters, respectively. The oral cancer potency factor based on the incidence of epithelial tumors of the forestomach was $11.53 \text{ (mg/kg/day)}^{-1}$, and the criterion associated with a human lifetime carcinogenic risk of 10^{-5} was $6.07 \times 10^{-5} \text{ mg/day}$.

The inhalation cancer potency factors for generic PAHs and BaP were both calculated from the same animal study. They were based on the respiratory tumor response of male hamsters and the linearized multistage model adopted by USEPA. However, the values are different depending on the document cited: A CAG unit risk factor of $6.11 \text{ (mg/kg/day)}^{-1}$ was reported in the the benzo(a)pyrene health effects assessment document (USEPA 1984b), while a value of $4.2775 \text{ (mg/kg/day)}^{-1}$ was cited in the health effects assessment document on PAHs (USEPA 1984a).

The CAG unit risk (inhalation) for coal tar was based on epidemiological studies in roofers and coke oven workers (USEPA 1984c).

Polycyclic aromatic hydrocarbon criteria

USEPA classification	Group B2 (for BaP)
Ambient water quality criterion-- concentration associated with lifetime human cancer risk of 10^{-5} (PAHs and BaP)	28 ng/liter
CAG unit risk (oral) (PAHs and BaP)	$11.53 \text{ (mg/kg/day)}^{-1}$
CAG unit risk (inhalation)*	
PAHs	$4.2775 \text{ (mg/kg/day)}^{-1}$
BaP	$6.11 \text{ (mg/kg/day)}^{-1}$
Coal tar	
CAG unit risk (inhalation)	$3.2 \text{ (mg/kg/day)}^{-1}$
USEPA classification	Group B1
Noncarcinogenic PAHs--ambient water quality criteria	
Fluoranthene	42 µg/liter
Acenaphthene (based on its organoleptic properties)	0.2 mg/liter

*Discrepancy in unit risk figures between USEPA 1984a and USEPA 1984b; risk calculated from same animal study.

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BENZENE

Evaluation of Health Effects

Acute exposure to high concentrations of benzene causes depression of the central nervous system, which may result in cardiac arrest. Benzene is readily absorbed into the body via ingestion and inhalation. Dermal absorption is somewhat slower. It is stored in the bone marrow, liver, and body fat. Elimination is by exhalation of unchanged benzene through the lungs or by metabolism in the liver to urinary metabolites (USEPA 1984a).

Benzene is a known hematological poison and chronic human exposure can cause a continuum of changes in the circulatory formed blood elements and bone marrow precursors (USEPA 1984a). Leukopenia, thrombocytopenia, anemia, or combinations of these may occur. At early stages of such blood dyscrasias, these effects appear to be reversible. Exposure for longer periods of time may lead to pancytopenia, which results from bone marrow toxicity and is considered to be an irreversible stage of the disease (IARC 1982).

Benzene has not been found to be a point mutagen in bacterial systems. However, there is a clear correlation between exposure to benzene and the appearance of chromosomal aberrations in the bone marrow and peripheral lymphocytes of individuals exposed to high levels of benzene (more than 100 ppm). Such levels of exposure usually lead to clinical symptoms of benzene-

induced blood dyscrasias which may persist for many years after exposure. The results are not so clear with lower levels (less than 100 ppm). Although aberrations have been reported following chronic exposures to as little as 10 ppm, this has not been a consistent finding (IARC 1982).

Many case studies have described a causal relationship between exposure to benzene by inhalation (either alone or in combination with other chemicals) and leukemia in humans. Most cases were acute myelogenous leukemia, although some were monocytic, erythroblastic or lymphocytic. A series of epidemiological studies, both cohort and case-control, showed statistically significant associations between leukemia and occupational exposure to benzene. These results were replicated in a number of countries and different industries (IARC 1982).

Immune system depression by benzene is well known. Depression of serum antibodies (IgB and IgA) in benzene workers and inhibition of B- and T-lymphocytes in vitro has been demonstrated. These observations, taken together with the well-known leukopenic activity may explain why benzene-exposed individuals readily succumb to infection and the terminal event in severe benzene toxicity is often acute, overwhelming infection (IARC 1982).

Current Criteria and Standards

Benzene has been classified by IARC (1982) in Group 1, human carcinogen and by USEPA (1984a) in Group A, human carcinogen.

The USEPA Carcinogen Assessment Group (CAG) has calculated inhalation and oral carcinogenic potency factors. Both were derived from human epidemiology studies (Infante et al. 1977, Ott et al. 1978, Aksoy et al. 1974 as cited in USEPA 1984b) with exposure being primarily by inhalation. The inhalation carcinogenic potency is $2.6 \times 10^{-2} \text{ (mg/kg/day)}^{-1}$ and the oral carcinogenic potency is $5.2 \times 10^{-2} \text{ (mg/kg/day)}^{-1}$.

Other Criteria

USEPA (1985) has proposed a drinking water MCL of 5 µg/liter. Although it was stated several times that the exposure information available from the epidemiological studies on benzene were not adequate to establish a quantitative dose-response relationship, USEPA (1980) based its ambient water quality criterion for benzene on three of these studies with exposure being primarily by inhalation: Aksoy (1977 in IARC 1982) on Turkish shoemakers, Ott et al. (1978) on chemical workers, and Infante et al. (1977a) on rubber workers. A relative risks model was used to derive from these data an estimate of cancer potency of 0.024 ppm^{-1} for continuous inhalation of benzene by humans. The equivalency $1 \text{ ppm} = 3.25 \text{ mg/m}^3$ and the assumption that absorption would be the same by the oral and inhalation routes permitted the estimation of a water concentration for benzene associated with a lifetime risk of cancer of 10^{-6} to be 0.66 µg/liter. The CAG (USEPA 1980) carcinogenic potency for benzene was $0.053 \text{ (mg/kg/day)}^{-1}$ for a 70-kg person. Without consumption of fish from contaminated water, the concentration

of benzene in drinking water associated with a lifetime cancer risk of 10^{-6} would be 0.68 $\mu\text{g/liter}$.

The USEPA Office of Drinking Water developed a 10-day health advisory (HA) of 233 $\mu\text{g/liter}$. The HA was based on an inhalation study, in which 103 mg/m^3 caused depressed white blood cell counts within two weeks. A dose of 96 mg/m^3 had no effect after 2 weeks (Deichman et al. 1963 as cited in USEPA 1984a). Health advisories for longer exposure periods were not developed because of the potent carcinogenic response of benzene (USEPA 1984a).

Summary of Benzene Criteria

USEPA Health Effects Assessment

Oral carcinogenic potency (q_1^*)	$5.2 \times 10^{-2} \text{ (mg/kg/day)}^{-1}$ [A]
Inhalation carcinogenic potency (q_1^*)	$2.6 \times 10^{-2} \text{ (mg/kg/day)}^{-1}$ [A]
Proposed MCL	5 $\mu\text{g/liter}$
Office of Drinking Water Ten-day HA	233 $\mu\text{g/liter}$

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CADMIUM

Evaluation of Health Effects

Cadmium is an element of the transitional metal series that occurs widely in nature, usually in lead or zinc ores. Elemental cadmium is insoluble in water, while many cadmium salts are quite soluble (USEPA 1985a,b).

Following oral exposure, cadmium salts are not readily absorbed from the gastrointestinal tract of humans and experimental animals. However, cadmium salts are relatively rapidly absorbed via the inhalation. Dermal absorption is negligible (USEPA 1985a,b).

Cadmium is not metabolized in vivo, but its absorption and distribution are influenced by the low-molecular-weight protein, metallothionein, which may play a role in chelating the cadmium ion. Absorbed cadmium is distributed to tissues throughout the body, with bioaccumulation occurring in the liver and kidney. Because cadmium is excreted slowly, it steadily accumulates in these organs throughout a person's lifetime.

The general human population is exposed to cadmium in drinking water and food; cigarette smoke also contains high levels of cadmium. Additional inhalation exposure occurs in industrial settings (USEPA 1985a,b).

Treatment of laboratory animals with injectable cadmium resulted in injection-site sarcomas and testicular tumors of

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the Leydig cells. Oral administration of cadmium salts did not induce cancer in rodents.

In a bioassay, male Wistar rats were exposed to cadmium chloride aerosols for 23 hours/day at concentrations of 12.5, 25, and 50 $\mu\text{g}/\text{m}^3$ for 18 months. Takenaka et al. (1983) found a highly significant dose-response relationship in the incidence of lung carcinomas in the controls and the three treatment groups: 0/38, 6/39, 20/38, and 25/35, respectively. This represents a very marked response that has implications for risk assessments of airborne cadmium.

Epidemiological studies have shown respiratory cancer and nonmalignant pulmonary diseases to be associated with inhalation of cadmium in humans (Thun et al. 1985 as cited in USEPA 1985b). Renal tubular dysfunction, of which the first sign is proteinuria, occurs after oral or inhalation exposure to lower levels of cadmium and may be the primary defect responsible for the bone damage seen in Itai-Itai disease. Chronic exposure to cadmium is also suspected of producing hypertension, anemia, sensory loss (particularly smell), endocrine alterations, and immunosuppression in humans (USEPA 1980).

The evidence on the mutagenicity of cadmium has been equivocal in a number of prokaryotic and eukaryotic systems. Cadmium induces chromosomal aberrations in some in vivo mammalian test systems; cadmium is theorized to have a spindle-poisoning effect similar to colchicine (USEPA 1985b). Cadmium is a well-documented animal teratogen (USEPA 1980).

Criteria and Standards

The USEPA national interim primary drinking water standard (MCL) for cadmium and the ambient water quality criterion for the protection of human health are both 10 µg/liter (40 CFR 141.11; USEPA 1980,1985a). USEPA (1980) established the ambient water quality criterion for cadmium on the basis of the "generally accepted" estimate of 200 µg/g wet weight of cadmium in the renal cortex as the critical concentration for renal toxicity. Friberg et al. (1974) estimated that daily ingestion of 250-350 µg cadmium over 50 years would result in such renal concentrations. The amount of cadmium that drinking water would contribute to this concentration under various exposure scenarios was found to be small (0.53%-7.6%) compared to other sources of exposure (occupational, food, smoking, and ambient air). It was therefore determined that the existing drinking water standard for cadmium of 10 µg/liter was adequate to protect against health effects from ingestion of cadmium, and it was adopted as the ambient water quality criterion. The lifetime health advisory for oral exposure to cadmium is 5 µg/liter (USEPA 1985c). Cadmium is considered to be noncarcinogenic when ingested.

CAG calculated a unit risk of cancer of $1.8 \times 10^{-3} (\mu\text{g}/\text{m}^3)^{-1}$ for inhalation exposure to cadmium, based on an epidemiological study of workers by Thun et al. (1985 as cited in USEPA 1985b). The association between inhalation exposure to cadmium and lung cancer is supported further by an animal study. Based

DIELDRIN

Qualitative Description of Health Effects

Dieldrin is acutely toxic in humans and experimental animals, primarily exerting effects on the central nervous system. Chronic effects include liver toxicity and central nervous system abnormalities. Dieldrin is toxic to the reproductive system and is teratogenic. Reproductive effects include decreased fertility, increased fetal death, and effects on gestation. Teratogenic effects include cleft palate, webbed feet, and skeletal anomalies (USEPA 1980).

Dieldrin is carcinogenic in experimental animals, causing increases in a variety of tumors in rats at low but not at high doses, and producing a higher incidence of liver tumors in mice. The reason for the reversed dose-response relationship observed is not clear. Dieldrin does not appear to be mutagenic based on results of tests in a number of systems (USEPA 1980).

Current Criterion

According to USEPA's proposed Guidelines for Carcinogenic Risk Assessment, the evidence for carcinogenicity of dieldrin is sufficient in experimental animals and inadequate in humans. Applying USEPA's criteria, the most appropriate overall weight-of-evidence classification for this compound is in Group B2, meaning it is a probable human carcinogen.

The ambient water quality criterion (AWQC) for dieldrin was based on the results of a lifetime feeding study in mice

on Takenada et al.'s (1983) rat inhalation bioassay, CAG calculated a unit risk for inhalation exposure of $9.2 \times 10^{-2} (\mu\text{g}/\text{m}^3)^{-1}$.

Cadmium Criteria

USEPA Classification	Group B1 (inhalation) Group D (oral)
Ambient water quality criterion	10 $\mu\text{g}/\text{liter}$
MCL	10 $\mu\text{g}/\text{liter}$
ADI (oral)	0.035 mg/day
Lifetime health advisory	5 $\mu\text{g}/\text{liter}$
CAG unit risk (inhalation)	
Based on epidemiological studies	$1.8 \times 10^{-3} (\mu\text{g}/\text{m}^3)^{-1}$
Based on rat inhalation bioassay	$9.2 \times 10^{-2} (\mu\text{g}/\text{m}^3)^{-1}$

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(Walker et al. 1972, as cited in USEPA 1980). Groups of male and female mice received 0.1, 1.0, or 10 mg/kg dieldrin in their food. Although a control group also was maintained, it was determined that the diet for this group was contaminated with 0.01 mg/kg dieldrin along with low concentrations of other pesticides. Nevertheless, an increased number of liver tumors was observed at all the treatment levels. The linearized multi-stage model was fitted to the incidence for hepatocellular carcinoma among female CF1 mice (39/297, 24/90, 32/87, and 136/148 for the control, 0.1-, 1.0-, and 10-mg/kg groups, respectively).

Based on these data, a carcinogenic potency (q_1^*) of $30.4 \text{ (mg/kg/day)}^{-1}$ was calculated. This value has not been revised since publication of the AWQC for dieldrin (USEPA 1985). The resulting ambient water concentration estimated to keep the lifetime excess cancer risk below 10^{-6} was 0.071 ng/liter, assuming ingestion of contaminated water and aquatic organisms. Without consumption of aquatic organisms, a lifetime cancer risk of 10^{-6} would be associated with ingestion of water containing 1.2 ng/liter dieldrin (USEPA 1980).

Summary of Criteria

USEPA Carcinogen Assessment Group	
Oral carcinogenic potency (q_1^*)	$30.4 \text{ (mg/kg/day)}^{-1}$ [B2]
AWQC (concentration associated with a 10^{-6} lifetime cancer risk)	
Ingestion of water and aquatic organisms	0.071 ng/liter
Ingestion of water	1.2 ng/liter

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TETRACHLOROETHYLENE

Qualitative Description of Health Effects

Information on the toxicity of tetrachloroethylene has been reviewed by USEPA (1980). In a carcinogenicity study in which B6C3F1 mice were given tetrachloroethylene in corn oil by gavage, a high incidence of liver tumors was seen in treated animals of both sexes (NCI 1977). There is limited evidence to suggest that tetrachloroethylene is mutagenic in plate tests in Salmonella typhimurium TA100. Also, a host-mediated assay in mice gave a significant increase in the number of revertants of S. typhimurium TA1950, TA1951, and TA1952. These effects, however, were not dose-related (Cerna and Kypenova 1977).

The offspring of female rats and mice exposed to tetrachloroethylene at $2,000 \text{ mg/m}^3$ for 7 hours daily on days 6-15 of gestation showed toxic effects, including a decrease in fetal body weight in mice and a small but significant increase in fetal resorptions in rats. Mice also exhibited teratogenic effects, including subcutaneous edema and delayed ossification of skull bones and sternebrae (Schwetz et al. 1975).

Kidney and liver damage has been seen following exposure to tetrachloroethylene. Rats exposed to $1,540 \text{ mg/m}^3$ of tetrachloroethylene for 8 hours a day, 5 days a week, over a period of 7 months, suffered congestion and swelling in the kidney (Carpenter 1937 in USEPA 1980). A high incidence of toxic

CARCINOGENICITY OF PAHs

Chemicals for which there is sufficient evidence that they are carcinogenic in animals:

Benzo(a)anthracene	7H-Dibenzo(c,g)carbazole
Benzo(b)fluoranthene	Dibenzo(a,e)pyrene
Benzo(j)fluoranthene	Dibenzo(a,h)pyrene
Benzo(k)fluoranthene	Dibenzo(a,i)pyrene
Benzo(a)pyrene	Dibenzo(a,l)pyrene
Dibenzo(a,h)acridine	Indeno(1,2,3-c,d)pyrene
Dibenzo(a,j)acridine	5-Methylchrysene
Dibenzo(a,h)anthracene	

Chemicals for which there is limited evidence that they are carcinogenic in animals:

Anthranthrene	Dibenzo(a,c)anthracene
Benzo(c)acridine	Dibenzo(a,j)anthracene
Carbazole	Dibenzo(a,e)fluoranthene
Chrysene	2-, 3-, 4-, and 6-Methylchrysene
Cyclopenta(c,d)pyrene	2- and 3-Methylfluoranthene

Chemicals for which the evidence is inadequate to assess their carcinogenicity:

Benzo(a)acridine	Coronene
Benzo(g,h,i)fluoranthene	1,4-Dimethylphenanthrene
Benzo(a)fluorene	Fluorene
Benzo(b)fluorene	1-Methylchrysene
Benzo(c)fluorene	1-Methylphenanthrene
Benzo(g,h,i)perylene	Perylene
Benzo(c)phenanthrene	Phenanthrene
Benzo(e)pyrene	Triphenylene

Chemicals for which the available data provide no evidence that they are carcinogenic:

Anthracene	Pyrene
Fluoranthene	

SOURCE: IARC 1983

PHENOL

Evaluation of Health Effects

Phenol is a high volume industrial chemical that is widely used as an intermediate in the manufacture of other chemicals and is a by-product of combustion and some industrial processes. It is also produced by biological processes, e.g., microbial metabolism in the gut and metabolism of certain drugs in vivo (USEPA 1980). It is a component of several over-the-counter medicines for both topical and oral administration.

Phenol is readily absorbed through the gut, by inhalation, and percutaneously. Following absorption, the compound is rapidly distributed systemically. The majority of phenol and its metabolites is excreted rapidly in the urine (USEPA 1980).

Signs of acute phenol toxicity in humans and experimental animals are central nervous system depression, collapse, coma, cardiac arrest, and death. Acutely toxic doses can also cause extensive necrosis at the site of exposure (eyes, skin, oropharynx) (USEPA 1980).

In a subchronic oral (gavage) study in rats (Dow 1976 as cited in USEPA 1980), 0.1 g/kg induced "slight liver changes and slight to moderate kidney damage" in animals. However, lack of study details (numbers of animals, incidence figures, specific lesions) in the 1980 USEPA document make these results unreliable for interpreting the toxic changes. Subchronic inhalation studies conducted by Deichmann et al. (as cited

in USEPA 1980) in guinea pigs, rabbits, and rats were inadequately designed (no control groups). Therefore, caution should be used in interpreting the pulmonary, myocardial, renal, and hepatic damage as compound induced. The results of other subchronic inhalation studies are difficult to interpret based on the information in secondary sources (USEPA 1980,1984).

The National Cancer Institute (NCI 1980) conducted a subchronic (90-day) study and a carcinogenesis bioassay of phenol administered in drinking water to F344/N rats and B6C3F₁ mice. In the subchronic study, doses of 100, 300, 1,000, 2,000, and 10,000 ppm of phenol were not associated with mortality or histological changes; rats and mice of both sexes receiving 10,000 ppm consumed less water than animals in the control or other treatment groups and their body weights decreased. In the 105-week carcinogenesis bioassay, no treatment-related mortality, tumors, or nonneoplastic lesions were reported in rats or mice ingesting water containing 2,500 or 5,000 ppm of phenol. A dose-related depression in mean body weight, which was related to decreased water consumption, occurred in both species of rodents.

Phenol exhibited tumor-promoting activity in the mouse skin painting system following initiation with 9,10-dimethyl-1,2-benzanthracene (DMBA) or benzo(a)pyrene (BaP), and it exhibited cutaneous carcinogenic activity in a sensitive mouse strain when applied at concentrations that produced repeated skin damage (USEPA 1980).

There are no data in the literature on the carcinogenicity of inhaled phenol in experimental animals or humans. The compound is mutagenic in several systems, but not in others (NCI 1980). There are no data on its teratogenicity (USEPA 1984).

Criteria and Standards

An interim ADI of 0.1 mg/kg/day for ingestion of phenol was based on the Dow (1976 as cited in USEPA 1980) subchronic rat study. The ambient water quality criterion of 3.5 mg/liter/day for drinking water was extrapolated from this study. The AWQC based on organoleptic properties was established at 0.3 mg/liter. An inhalation ACI of 1.4 mg/person/day was based on a 1944 inhalation study in guinea pigs, rabbits, and rats that had no control groups.

Phenol Criteria

USEPA classification	Group D
Ambient water quality criterion	3.5 mg/liter
Ambient water quality criterion- (organoleptic threshold)	0.3 mg/liter
Interim ADI	0.1/mg/kg/day
Inhalation ACI*	1.4 mg/person/day
*Based on inadequate animal study	,

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LEAD

Evaluation of Health Effects

Lead has diverse biological effects in humans and animals. Its effects are seen at the subcellular level of structures and processes as well as at the overall level of general functioning of the body. Considerable data exists on the effects of lead exposure in humans, but the effects are generally related to blood lead levels rather than estimates of exposure.

Absorption of lead from the gastrointestinal tract is estimated at 10-15%. For adult humans, the deposition rate of particulate airborne lead is 30-50%, and essentially all of the lead deposited is absorbed. Respiratory uptake by children appears to be greater on a body weight basis. More than 99% of blood lead in humans is associated with the erythrocytes, but it is the very small fraction of lead transported in plasma and extracellular fluid that provides lead to the various body organs. Lead is stored in the body in bone, kidney, and liver, where it may remain for long periods of time. Lead is primarily excreted by the kidneys into the urine, and lesser amounts are eliminated by biliary excretion (USEPA 1984a).

A major problem associated with lead exposure is the ubiquitous nature of the compound. Unlike most other contaminants where exposure may be related to a specific route or situation, substantial background lead exposure occurs, primarily through

U.S. ENVIRONMENTAL PROTECTION AGENCY (USEPA). 1985c. National primary drinking water regulations; fluoride. Proposed rule. Fed. Reg. 50:47156-47171

food. This background exposure must be considered when additional significant exposure routes are identified.

The major toxic effects caused by exposure to lead are alterations in the hematopoietic and nervous systems. Anemia caused by lead exposure has the following pathogenesis. Heme synthesis is inhibited by the effects of lead on a number of steps in the biosynthetic pathway. Specifically, lead stimulates delta-aminolevulinic acid synthetase (ALA-S) and therefore increases the production of delta-aminolevulinic acid dehydrase (ALA-D) and therefore decreases the production of porphobilinogen from ALA; and finally, lead inhibits the incorporation of iron into protoporphyrin to form heme. No threshold has been identified for this effect on heme production. Decreased heme production results in decreased hemoglobin production and anemia. Decreased heme production can also have deleterious effects on other heme-containing proteins, such as cytochrome p-450, which detoxifies certain chemicals in the body. Impaired heme synthesis has been reported in adults at levels of less than 30 µg/dl lead in the blood (USEPA 1984a).

Two types of neurotoxic effects are associated with exposure to lead. Levels of lead in the blood (PbB) of over 80 µg/dl in children and over 100 µg/dl in sensitive adults can cause severe, irreversible brain damage; encephalopathy; and possibly death. Persons with these high levels may be asymptomatic or show only slight signs of intoxication, but rapid deterioration can occur. In children, permanent learning disabilities

are seen at these levels, even if there are no overt signs of lead poisoning (USEPA 1984a).

Although exposure to high levels of lead has very severe neurological effects, exposure of children and pregnant women to low levels of lead may also cause significant neurotoxicity (USEPA 1984c). Children and fetuses with PbB levels of 30 $\mu\text{g}/\text{dl}$ and lower may suffer significant neurobehavioral deficits. This would be manifested in a slight, but potentially very important, decrease in learning ability for an affected child. This type of effect is extremely important toxicologically because there may not be an actual threshold dose below which there are no effects. The permanent impairment of learning ability that is associated with such low level exposure may be impossible to detect clinically. Lead has been found to be teratogenic in a number of animal studies and to cause an increased incidence of stillbirths and miscarriages in women occupationally exposed to air containing 75 $\mu\text{g}/\text{m}^3$ lead, which corresponds to an approximate dose of 0.025 mg/kg/day (USEPA 1984a).

Other adverse effects are associated with exposure to low levels of lead. Slow nerve conduction in peripheral nerves has been seen in adults at 30-40 $\mu\text{g}/\text{dl}$ PbB; altered testicular function was observed in men with PbB levels as low as 40-50 $\mu\text{g}/\text{dl}$; and renal dysfunction has been associated with PbB levels as low as 40 $\mu\text{g}/\text{dl}$ (USEPA 1984a).

Criteria and Standards

The interim maximum contaminant level (MCL) for drinking water and the ambient water quality criterion are both 50 µg/liter (USEPA 1980, CFR 1984). In deriving the ambient water quality criterion, USEPA determined that consumption of water contaminated with 50 µg/liter would increase PbB levels to around 15 µg/dl in children. If the populations average were 15 µg/dl, the Centers for Disease Control (CDC) calculated that 99% of all children would have a PbB level of less than 30 µg/dl. This was based on a CDC definition of "lead toxicity" in a child as a PbB level greater than or equal to 30 µg/dl and an erythrocyte protoporphyrin (EP) level greater than or equal to 50 µg/dl. Based on this calculation, USEPA determined that the present drinking water standard was acceptable as an upper limit. However, based primarily on the new information suggesting that neurological impairment may occur in children at PbB levels of less than 30 µg/dl, CDC has revised its criteria for lead toxicity to PbB levels greater than or equal to 25 µg/dl and EP levels greater than and equal to 35 µg/dl.

A drinking water recommended maximum contaminant level (RMCL) of 20 µg/liter has been proposed. The proposed RMCL is based upon the health effects of lead in infants as a sensitive subpopulation (USEPA 1985a).

The USEPA Office of Drinking Water issued a draft health advisory of 20 µg/day for all extended periods of exposure (USEPA 1984b). Blood levels above 15-20 µg/dl were identified

as the level of concern, and fetuses and infants under 2 years of age are the sensitive subpopulation. In order to protect the fetus, it was considered advisable to limit the blood lead level in women of child-bearing age to between 15 and 20 $\mu\text{g}/\text{dl}$ since studies indicate that the ratio of fetal/maternal blood lead values is close to 1:1 (Huermont et al. 1978 as cited in USEPA 1984b). An absorption constant of 0.16 was identified as the ratio of blood lead in infants to lead intake in the diet (Ryu et al. 1983 as cited in USEPA 1984b)

The Clean Air Act National Ambient Air Quality Standard for Lead is $1.5 \mu\text{g}/\text{m}^3$. This standard is currently being evaluated for revision (USEPA 1985b).

Acceptable intakes for chronic or subchronic periods of exposure were not calculated for either inhalation or oral ingestion in the Health Effects Assessment Document (USEPA 1984c), because the general population is already accruing unavoidable background exposures through food, water and dust. Any significant increase above background exposure would represent a cause for concern.

At present, human health criteria for lead in soil have not been established in the United States. The United Kingdom Directorate of the Environment has developed a tentative guideline of 550 ppm for lead in soil in residential areas (Smith 1981). Vernon Houk of the Centers for Disease Control has been quoted as indicating that levels of lead in soil of

300-400 ppm are acceptable based on studies of childhood lead poisoning (Mielke et al. 1984).

Lead Criteria

Interim MCL	50 µg/liter
Proposed RMCL	20 µg/liter
Draft HA	20 µg/liter
NAAQS	1.5 µg/m ³

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FLUORIDE

Evaluation of Health Effects

The fluoride ion (F^-) is ubiquitous in nature, occurring in igneous and sedimentary rock, soil, surface water, groundwater, sea water, foodstuffs, and air. It is present in combined mineral forms and in salts. In the western and southwestern United States, fluoride concentrations are associated with major fluorite mineral deposits (USEPA 1985a,b). Sources of environmental pollution are industrial waste waters, solid wastes, fluoride-containing fertilizers, and atmospheric emissions, primarily by the steel, aluminum, and phosphate industries (Rose and Marier 1977). Most atmospheric fluorides are washed out by rainfall (USEPA 1985b).

Humans are exposed to fluorides primarily through drinking water to which it has intentionally been added to control dental caries. Fluoride concentrations in foodstuffs are usually low (less than 0.5 ppm) except in fish, other seafood, and tea; air exposure of the general population is negligible (USEPA 1985a,b). Livestock are exposed to fluorides either through drinking water or polluted pasture or forage (Jones and Hunt 1983).

The pharmacokinetics of fluoride are similar in humans, rodents, and ruminants (cattle and sheep). The majority of ingested soluble fluoride is absorbed through the gut into the vascular system, where the ion is distributed throughout

the body in the plasma. Fluoride is retained in the body in bones and teeth, where it interacts in the bony matrix by replacing hydroxy or bicarbonate anions in hydroxyapatite (the inorganic component of bone) to form fluorohydroxyapatite. Cancellous bones have a higher fluoride content than compact bones; in compact bones, the fluoride content is higher at the metaphysis (near the joint) than the diaphysis (shaft of the bone) (Rose and Marier 1977). In teeth, fluoride is deposited only when teeth are being formed (USEPA 1985b). Bioaccumulation in aquatic animals occurs primarily in the skeleton, gills, and exoskeleton (for invertebrates).

Any fluoride that is not retained in bone and teeth is excreted through the kidney by glomerular filtration. Thus, individuals with impaired renal function or diabetes insipidus may be at increased risk from the effects of fluoride. Perspiration in humans may be another important route of excretion under certain conditions (USEPA 1985b).

Chronic fluoride toxicity in humans and cattle primarily involves bones and teeth. In the skeletal system, mild skeletal fluorosis consists of osteosclerosis, which is an increased density of bone, which can be detected radiographically. Crippling skeletal fluorosis affects all bones but particularly cancellous bones. Lesions consist of thickening of bones, exostoses, periosteal proliferation, and calcification of ligaments particularly of the neck and vertebral column (Jones and Hunt 1983; USEPA 1985a,b).

Fluoride affects ameloblasts in the epithelial enamel organ during tooth formation, although the lesions in teeth are permanent. Mild dental fluorosis consists of white opaque areas covering at least 50% of the tooth surface. In moderate dental fluorosis, a greater proportion of the tooth surface is involved, and it may be stained brown. Severe dental fluorosis consists of pitting of enamel, a corroded-like appearance of teeth, and widespread brown to black staining (Jones and Hunt 1983; USEPA 1985a,b).

Fluoride has not been shown to be mutagenic, teratogenic, or carcinogenic in experimental systems or in humans (USEPA 1985b).

The beneficial effects of fluorides in humans are reduction in dental caries and stimulation of substituted bone growth in patients with osteoporosis. At therapeutic levels (0.7-2.0 mg/liter), fluorides may also have beneficial effects on the cardiovascular system by decreasing aortic calcification and on the auditory system by stabilizing patients with active otospongiosis (USEPA 1985b).

Criteria and Standards

Fluoride levels in drinking water of 1 mg/liter are effective in preventing dental caries. Between 1-2 mg/liter, mild dental fluorosis may occur, while moderate to severe dental fluorosis can occur at concentrations above 2 mg/liter. Skeletal fluorosis does not occur in humans consuming drinking water with fluoride concentrations as high as 4 mg/liter. At higher

concentrations, a small percentage of individuals may have asymptomatic osteosclerosis; individuals chronically consuming water with fluoride concentrations of 10 mg/liter to 40 mg/liter are at risk of developing crippling skeletal fluorosis (USEPA 1985a).

USEPA, considering crippling skeletal fluorosis an adverse health effect, has proposed a drinking water RMCL and MCL of 4 mg/liter (USEPA 1985a, c). In addition, based on the cosmetic and psychosocial effects of dental fluorosis, USEPA has recommended a secondary RMCL (SMCL) of 2 mg/liter.

Fluoride Criteria

Current MCL	1.4-2.4 mg/liter (dependent on annual average air temperatures)
Proposed RMCL	4 mg/liter
Proposed MCL	4 mg/liter
Secondary MCL	2 mg/liter

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