



April 23, 1999

Mr. Jerry McCrory
McCrory Real Estate
417 4th Street
Marysville, CA 95901

Post-it® Fax Note 7671

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SUSAN **HUGO**

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Subject: **Underground Storage Tank Closure Report**
 Duncan and Son Petroleum
 29303 Pacific Street, Hayward, California
 Apex Project No. DUN01.001

Dear Mr. McCrory:

Apex Envirotech, Inc. (Apex), is pleased to provide McCrory Real Estate (McCrory) this report documenting the results of soil and groundwater sampling conducted during the removal of nine underground storage tanks (USTs) and associated product piping at the above referenced property (Figures 1 and 2). The purpose of the investigation was to characterize the site's shallow subsurface exposed during the removal of the USTs, and to perform regulatory sampling for the site.

This report is based, in part, on information obtained by Apex from McCrory, and is subject to modification as newly acquired information may warrant.

SITE DESCRIPTION AND BACKGROUND

The Duncan and Son Petroleum, Inc. (DSP) site located at 29303 Pacific Street in Hayward, California is currently a non-operating (closed) gasoline and diesel fuel dispensing facility.

In 1986, Aqua Science Engineers, Inc. (ASE), of San Ramon, California, installed eight groundwater monitoring wells to investigate and evaluate the extent of petroleum hydrocarbon impact to groundwater beneath the site.

Sampling of the wells in July of 1986 showed three wells containing free-product (MW-A, MW-B, and MW-C). The other five monitoring wells (MW-V, MW-W, MW-X, MW-Y, and MW-Z) had varying levels of TPH as gasoline and diesel, and the fractions benzene, toluene, ethylbenzene, and total xylenes (BTEX).

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In July of 1987, a free-product recovery system was installed at the site by ASE to reduce the levels of free-product floating on the groundwater in monitoring wells MW-A, MW-B, and MW-C. The free product recovery system only ran for a short period of time.

In September of 1992, ASE Conducted groundwater sampling of the eight monitoring wells on site and the overspill collection tank, as requested by the City of Hayward Fire Department. Results of these analyses can be found in ASE's *Groundwater Monitoring Well Sampling*, dated September 18, 1992.

No additional monitoring or remediation work had occurred at the site between September 1992 and October 1998.

In May 1998, Apex was contracted by Mr. Jerry McCrory, property manager for the site owner, Ms. Dorothy Duncan, to bring the site in compliance with all operating permits and environmental issues. Apex completed quarterly monitoring of the eight groundwater monitoring wells located at the site on October 15, 1998.

In a letter dated December 15, 1998, Apex requested that a temporary closure be granted for the site due to "the unavailability of properly licensed and skilled subcontractors to complete 1998 upgrade work before the December 22nd deadline". This temporary closure was granted by the City of Hayward Fire Department, which allowed for a 90 day grace period, in which time Apex was able to subcontract and schedule the UST removals with Robinson Enterprises (Robinson), of Grass valley, California.

Prior to December 22, 1998, all known existing USTs at the site were triple rinsed and "tagged out" by Delta Oil Fields Services, of Woodland, California, in compliance with the City of Hayward Fire Department, Hazardous Materials Division temporary closure guidelines and regulations.

RESULTS OF UST AND PRODUCT PIPING REMOVAL

On March 22, 1999, Robinson began excavating the USTs and removing the loading racks, product piping, and dispensers. On March 23, 1999, during UST excavation activities, two additional "ghost" tanks were uncovered at the site. Prior to UST removal activities, all nine USTs were triple-rinsed with hot water and industrial grade detergent by Robinson, and a lower explosive limit (LEL) meter was used to collect oxygen and explosive gas levels inside the USTs. Approximately 150 cubic yards of backfill material was excavated to facilitate the removal of the USTs and associated product piping. Mr. Steven Buscovich of City of Hayward Fire Department, Hazardous Materials Division, witnessed the removal of the nine USTs on March 25, 1999. The USTs were hauled by Trident Trucking, of Hayward, California to ECI of Richmond, California for proper disposal and recycling. The USTs and product piping appeared to be in good condition with no evidence of holes, pitting or corrosion.

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SOIL AND GROUNDWATER SAMPLE COLLECTION AND ANALYSES

On March 25, 1999, under the direction and supervision of Mr. Steven Buscovich of City of Hayward Fire Department, Hazardous Materials Division, Apex personnel collected three 4:1 composite soil samples (SP-(1,2,3,4), SP-(5,6,7,8), and SP-(9,10,11,12)) from the 150 cubic yard soil stockpile and two groundwater samples from the groundwater in the tank basin. On March 26, 1999, under the direction and supervision of Mr. Miles Perez of City of Hayward Fire Department, Hazardous Materials Division, Apex personnel collected 11 soil samples (SS-1@14' through SS-3@14', SS-4@10' through SS-6@10', and SS-7@14' through SS-11@14') from the bottom of UST basin and five soil samples (SW-1@12' through SW-3@12', SW-4@8', and SW-5@12') from the UST basin sidewalls (Figure 3). All soil samples were collected in accordance with Apex's Standard Operating Procedures (SOP) included as Appendix A.

All samples were submitted, under chain-of-custody, to California Laboratory Services (CLS), of Rancho Cordova, California, a state-certified analytical laboratory. Both of the groundwater samples (W-1 and W-2) were analyzed for: total petroleum hydrocarbons, as gasoline (TPHg), and as diesel (TPHd) by modified EPA Method 8015; benzene, toluene, ethylbenzene, and total xylenes (BTEX) and methyl t-butyl ether (MTBE) by EPA Method 8020; chromium, cadmium, nickel, lead, and zinc (collectively the CAM-5 Metals) by EPA Method 6010; and halogenated volatile organic compounds (HVOCs) by EPA Method 601. All soil stockpile samples (SP-(1,2,3,4), SP-(5,6,7,8), and SP-(9,10,11,12)) were analyzed for: TPHg and TPHd by modified EPA Method 8015; BTEX and MTBE by EPA Method 8020; and total lead by EPA Method 6010. All soil samples collected in association with the UST basin (SS-1@14' through SS-3@14', SS-4@10' through SS-6@10', and SS-7@14' through SS-11@14', SW-1@12' through SW-3@12', SW-4@8', and SW-5@12') were analyzed for: TPHg and TPHd by modified EPA Method 8015; BTEX and MTBE by EPA Method 8020; total oil and grease (TOG) by EPA Method 5520; HVOCs by EPA Method 8010; polychlorinated biphenyls (PCBs) by EPA Method 8080; and semi volatile organic compounds (SVOCs) by EPA Method 8270 (the SVOCs include PNAs, pentachlorophenol (PCP), and creosotes). Analytical parameters were those required by Mr. Buscovich and Mr. Perez of the Hayward Fire Department.

Groundwater sample analytical results are summarized in Table 1. Soil sample analytical results are summarized in Table 2. The laboratory results report and chain-of-custody form are included in Appendix B.

SWEEPS forms for the two "ghost" USTs are included as Appendix C.

RECOMMENDATIONS

Apex recommends backfilling the UST excavation basin with "pea" gravel. Due to the evident petroleum hydrocarbon impact to soil and groundwater, Apex recommends that eight to ten Geoprobe be placed for soil and groundwater screening purposes so that the vertical and horizontal extent of the petroleum hydrocarbon plume may be defined (Figure 4). Once the extent of the plume is defined, Apex will recommend the installation of four to six additional groundwater monitoring wells and

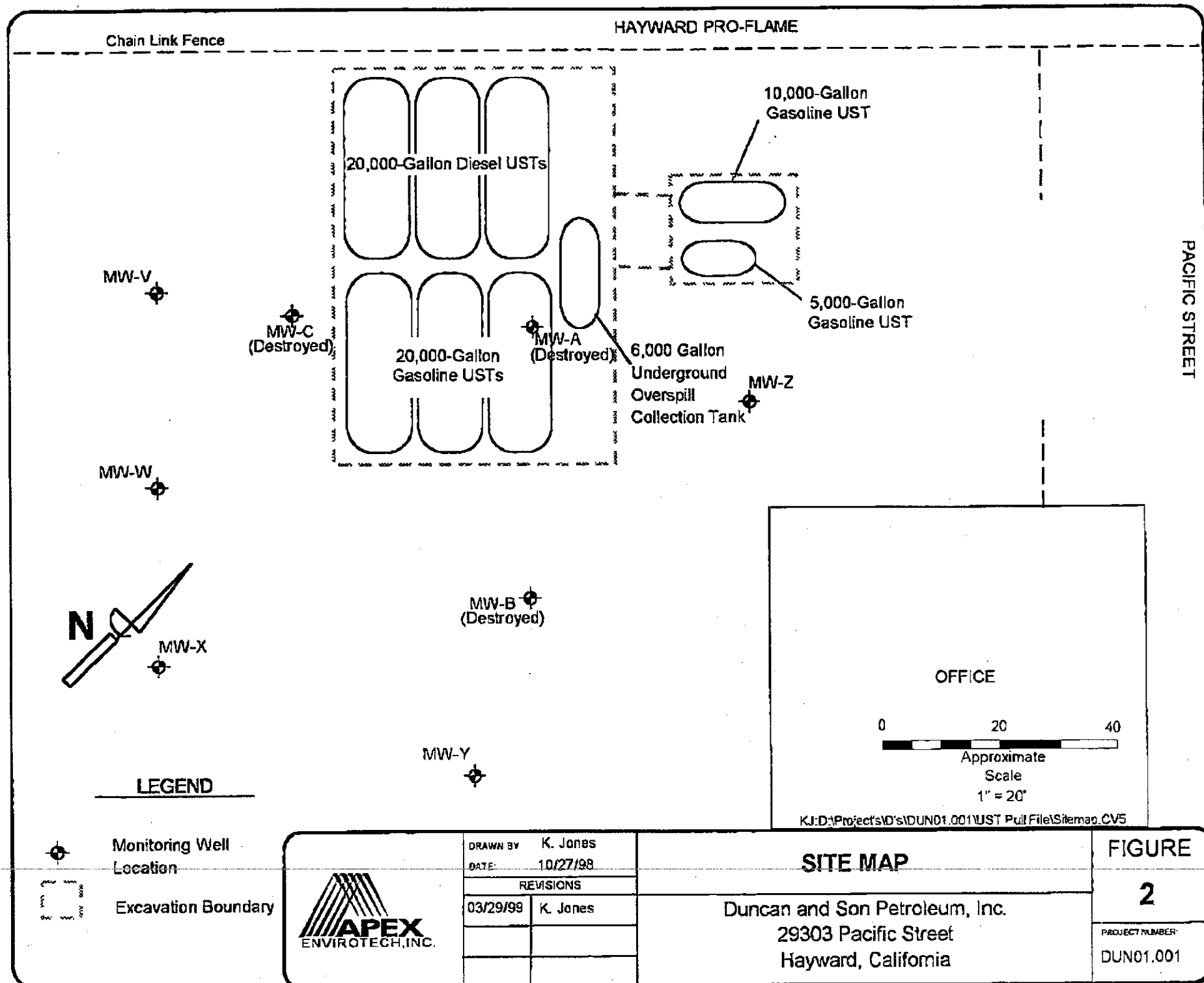
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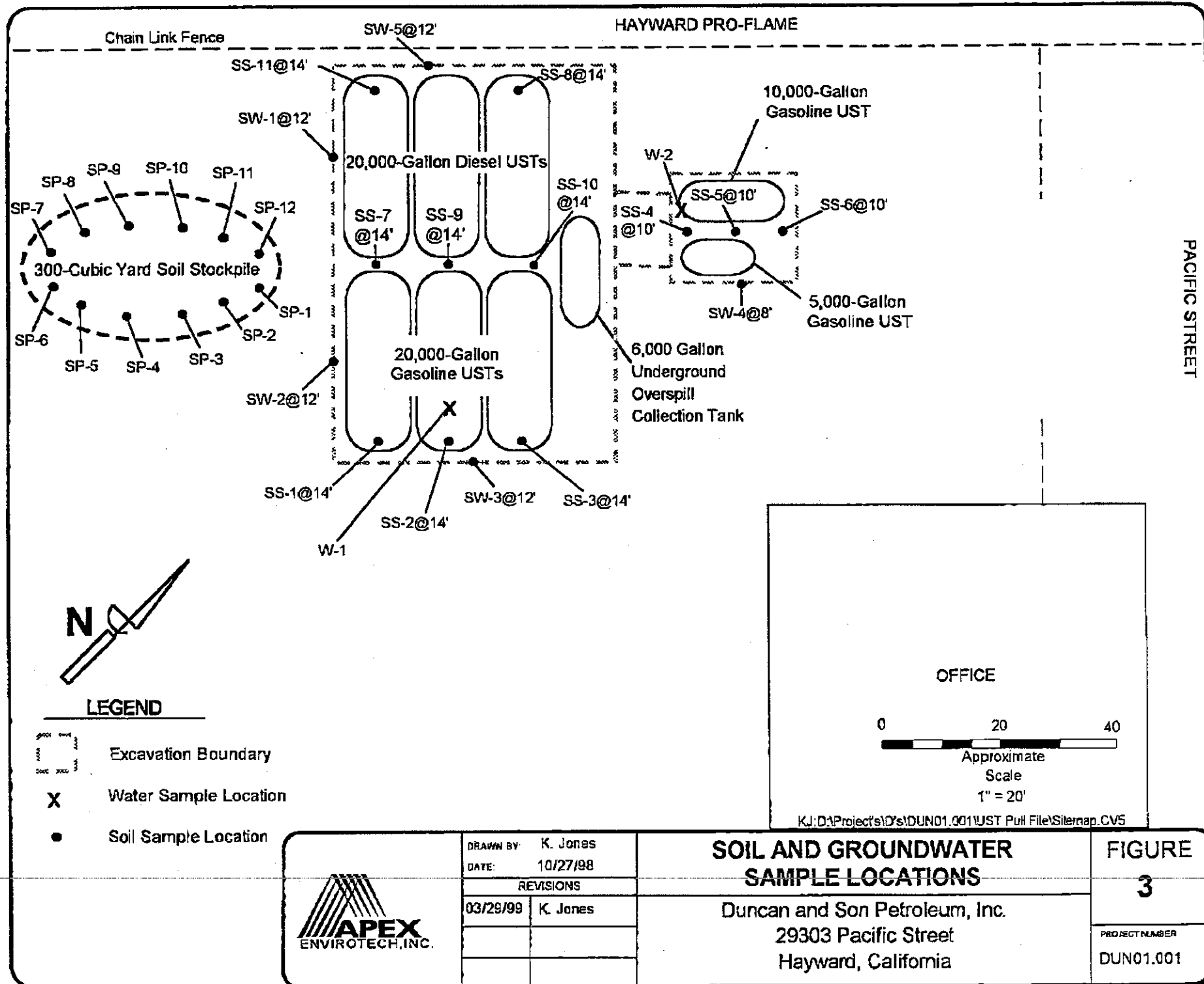
quarterly monitoring of these wells.

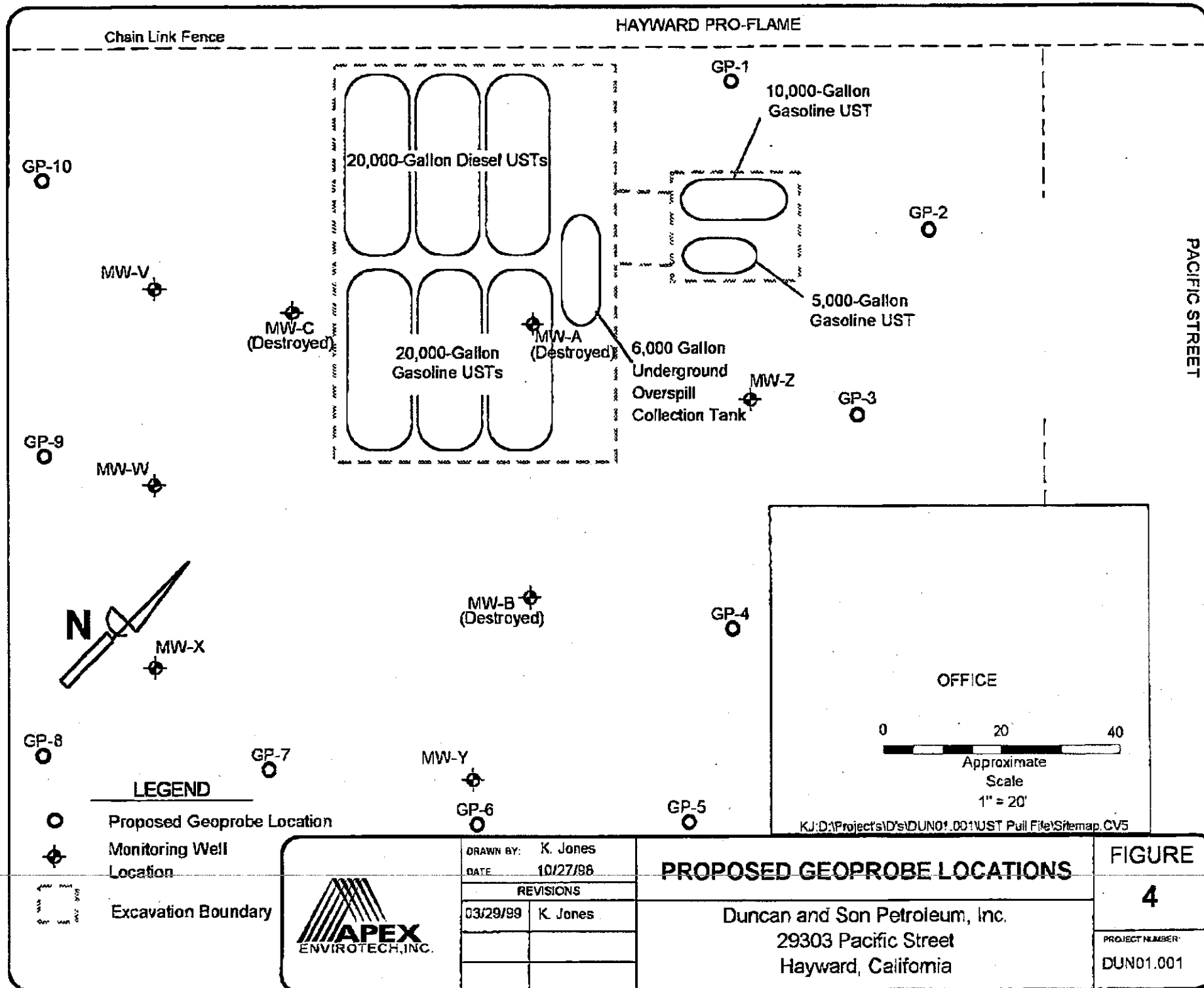
REPORT DISTRIBUTION

A copy of this report in its final form was submitted to:

Mr. Steve Buscovich
City of Hayward Fire Department
Hazardous Materials Division
777 B Street
Hayward, CA 94541-5007







DRAWN BY: K. Jones

DATE: 10/27/98

REVISIONS

03/29/99 K. Jones

TABLES

TABLE 1

GROUNDWATER SAMPLING ANALYTICAL RESULTS
Duncan and Son Petroleum
 29303 Pacific Avenue, Hayward, California

Sample ID	Date	TPH as		Benzene (ug/L)	Toluene (ug/L)	Ethyl-benzene (ug/L)	Total Xylenes (ug/L)	MTBE (ug/L)	HVOC's (ug/L)	CAM 5 Metals by EPA Method 200.7				
		Gasoline (ug/L)	Diesel (mg/L)							Cadmium (mg/L)	Chromium (mg/L)	Nickel (mg/L)	Lead (mg/L)	Zinc (mg/L)
W-1	3/25/99	8,500	1,800	250	520	<25	220	10,000	cis-1,2-Dichloroethene = 1.5 <0.50*	<0.010	<0.050	<0.10	<0.10	<0.050
W-2	3/25/99	6,000	26	1,400	28	460	13	51	<0.50*	<0.010	<0.050	<0.10	<0.10	<0.050

NOTES:

- < Less than indicated laboratory detection limit.
- * Applies to all constituents analyzed unless otherwise noted.

TABLE 2

SOIL SAMPLING ANALYTICAL RESULTS
Duncan and Son Petroleum
 29303 Pacific Avenue, Hayward, California

Sample ID	Depth (Feet)	Date	TPH as		Benzene (mg/kg)	Toluene (mg/kg)	Ethyl benzene (mg/kg)	Total Xylenes (mg/kg)	MTBE (mg/kg)	Total Oil and Grease (mg/kg)
			Gasoline (mg/kg)	Diesel (mg/kg)						
SS-1@14'	14	3/26/99	<1.0	35	<0.0050	<0.0050	<0.0050	<0.010	2.1	<50
SS-2@14'	14	3/26/99	<1.0	5.1	<0.0050	<0.0050	<0.0050	<0.010	0.85	<50
SS-3@14'	14	3/26/99	1.3	11	<0.0050	<0.0050	<0.0050	<0.010	1.1	<50
SS-4@10'	10	3/26/99	<1.0	1.7	<0.0050	<0.0050	<0.0050	<0.010	<0.025	<50
SS-5@10'	10	3/26/99	<1.0	3.7	<0.0050	<0.0050	<0.0050	<0.010	<0.025	<50
SS-6@10'	10	3/26/99	<1.0	<1.0	<0.0050	<0.0050	<0.0050	<0.010	<0.025	<50
SS-7@14'	14	3/26/99	<1.0	<1.0	<0.0050	<0.0050	<0.0050	<0.010	<0.025	<50
SS-8@14'	14	3/26/99	<1.0	<1.0	<0.0050	<0.0050	<0.0050	<0.010	<0.025	<50
SS-9@14'	14	3/26/99	<1.0	<1.0	<0.0050	<0.0050	<0.0050	<0.010	<0.025	<50
SS-10@14'	14	3/26/99	<1.0	1.8	<0.0050	<0.0050	<0.0050	<0.010	<0.025	<50
SS-11@14'	14	3/26/99	<1.0	<1.0	<0.0050	<0.0050	<0.0050	<0.010	<0.025	<50
SW-1@12'	12	3/26/99	38	3,000	<0.050	0.058	0.073	0.29	<0.25	2,900
SW-2@12'	12	3/26/99	44	3,400	0.058	<0.050	<0.050	0.24	<0.25	1,500
SW-3@12'	12	3/26/99	69	2,600	<0.10	<0.10	0.18	0.53	3.7	3,600
SW-4@8'	8	3/26/99	340	630	5.7	0.69	18	3.5	<2.5	510
SW-5@12'	12	3/26/99	<1.0	<1.0	<0.0050	<0.0050	<0.0050	<0.010	<0.025	<50
SP-(1,2,3,4)	Stockpile	3/25/99	33	3,200	0.046	0.028	0.30	0.23	<0.13	...
SP-(5,6,7,8)	Stockpile	3/25/99	45	7,500	<0.050	<0.050	<0.050	0.26	<0.25	...
SP-(9,10,11,12)	Stockpile	3/25/99	38	1,300	0.15	0.062	1.0	0.77	<0.25	...

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TABLE 2 (Continued)

SOIL SAMPLING ANALYTICAL RESULTS
Duncan and Son Petroleum
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Sample ID	HVOC's (ug/kg)	PCBs (ug/kg)	PCP (ug/kg)	PNAs (ug/kg)	Creosotes (ug/kg)	CAM 5 Metals by EPA Method 6010				
						Cadmium (mg/kg)	Chromium (mg/kg)	Nickel (mg/kg)	Lead (mg/kg)	Zinc (mg/kg)
SS-1@14'	<5.0*	<20*	<830	<330*	<330*	<1.0	33	32	<10	36
SS-2@14'	<5.0*	<20*	<830	<330*	<330*	<1.0	33	35	<10	40
SS-3@14'	<5.0*	<20*	<830	<330*	<330*	<1.0	34	33	<10	41
SS-4@10'	<5.0*	<20*	<830	<330*	<330*	<1.0	33	29	<10	36
SS-5@10'	<5.0*	<20*	<830	<330*	<330*	<1.0	29	26	<10	30
SS-6@10'	<5.0*	<20*	<830	<330*	<330*	<1.0	35	35	<10	42
SS-7@14'	Methylene chloride = 5.8 <5.0*	<20*	<830	<330*	<330*	<1.0	29	33	<10	38
SS-8@14'	<5.0*	<20*	<830	<330*	<330*	<1.0	34	33	<10	37
SS-9@14'	<5.0*	<20*	<830	<330*	<330*	<1.0	35	34	<10	39
SS-10@14'	Methylene chloride = 7.7 <5.0*	<20*	<830	<330*	<330*	<1.0	30	29	<10	33
SS-11@14'	<5.0*	<20*	<830	<330*	<330*	<1.0	29	33	<10	47
SW-1@12'	<5.0*	<20*	<8300 [AI]	Phenanthrene = 8,100 <3300* [AI]	<3300* [AI]	<1.0	32	41	<10	46

TABLE 2 (Continued)

SOIL SAMPLING ANALYTICAL RESULTS
Duncan and Son Petroleum
 29303 Pacific Avenue, Hayward, California

Sample ID	HVOC's (ug/kg)	PCBs (ug/kg)	PCP (ug/kg)	PNAs (ug/kg)	Creosotes (ug/kg)	CAM 5 Metals by EPA Method 6010				
						Cadmium (mg/kg)	Chromium (mg/kg)	Nickel (mg/kg)	Lead (mg/kg)	Zinc (mg/kg)
SW-2@12'	<5.0*	<20*	<8300 [AI]	Phenanthrene = 5,000 Naphthalene = 5,200 <3300* [AI]	<3300* [AI]	<1.0	40	43	11	51
SW-3@12'	<5.0*	<20*	<8300 [AI]	Phenanthrene = 3,500 <3300* [AI]	<3300* [AI]	<1.0	17	26	<10	31
SW-4@8'	<5.0*	<20*	<8300 [AI]	Naphthalene = 8,900 <3300* [AI]	<3300* [AI]	<1.0	37	34	12	38
SW-5@12'	<5.0*	<20*	<830	<330*	<330*	<1.0	47	44	11	56
SP-(1,2,3,4)	---	---	---	---	---	---	---	---	17	---
SP-(5,6,7,8)	---	---	---	---	---	---	---	---	11	---
SP-(9,10,11,12)	---	---	---	---	---	---	---	---	16	---

NOTES:

- < Less than indicated laboratory detection limit.
- * Indicative of all constituents analyzed unless otherwise noted.
- Not analyzed
- [AI] All report limits have been elevated due to matrix interference.