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REPORTS

DATE:

9/28/2000

LARSON & ASSOCIATES, INC.
Environmental Consultants

September 28, 2000

Via Facsimile: (505) 393-0720

Mr. William C. Olson
New Mexico Oil Conservation Division
2040 South Pacheco
Santa Fe, New Mexico 87505

Re: Preliminary Report and Request to Close Excavation, Texaco Exploration and Production Inc., J.R. Phillips Tank Battery No. 2, SE/4, NW/4, Section 6, Township 20 South, Range 37 East, Lea County, New Mexico

Dear Mr. Olson:

Texaco Exploration and Production Inc. (Texaco) has retained LARSON & Associates, Inc. (LA) to prepare a preliminary report and request for approval to close an excavation at the above-captioned location (Site). The Site is a former oilfield tank battery location once operated by Texaco, and located in the southeast quarter (SE/4) of the northwest quarter (NW/4) of Section 6, Township 20 South, Range 37 East, Lea County, New Mexico.

In December 1999, Texaco initiated reclamation activities at the Site, which included excavating and hauling total petroleum hydrocarbon (TPH) affected soil to its centralized facility (landfarm), located northwest of Jal, New Mexico. The excavated area consists of a main excavation, and a small satellite excavation located southeast of the main excavation. The main excavation extends to approximately 25 to 30 feet below ground surface (BGS). The satellite excavation is approximately 12 to 15 feet deep. A test trench was excavated in the bottom and near the northwest corner of the main excavation to evaluate residual hydrocarbon and chloride concentrations in soil, and observe depth-to-groundwater. Groundwater was observed at approximately 10 feet below the excavation, or 35 to 40 feet BGS.

LA personnel collected composite soil samples from the test trench on August 17, 2000. A composite sample was collected from each wall of the trench, and consisted of three to four grab samples. The samples were transferred under chain-of-custody control to Trace Analysis, Inc., and analyzed for chloride and TPH. The East Wall sample was analyzed for benzene, toluene, ethylbenzene and xylene (collectively referred to as BTEX), in addition to chloride and BTEX, since the field reading using a photoionization detector (PID) reading exceeded 100 parts per million (ppm). The analyses are summarized in Table 1, and reported TPH readings from 54 milligrams per kilogram (mg/kg) in the South Wall sample, to 113 mg/kg in the East Wall sample. Xylene was the only volatile organic parameter detected, and was reported at 0.057 mg/kg. The concentration of chloride in the samples ranged from 26 mg/kg (South Wall) to 220 mg/kg (East wall).

On September 15, 2000, LA personnel collected composite soil samples from the walls and bottom of the main excavation, and the satellite excavation. Two to four composite samples, consisting of five grab samples each, were collected from each wall. Five composite samples,

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consisting of five grab samples each, were collected from the bottom of the main excavation. Two composite samples (SP-1 and SP-2) were collected from the north and south sides of the wedge-shape satellite excavation. The samples were submitted under chain-of-custody control to Trace Analysis, Inc, and analyzed for TPH. Samples from the west wall (W-1) and bottom of the main excavation (B-3, B-4 and B-5) were analyzed for BTEX, since PID readings exceeded 100 ppm. The analyses are summarized in Table 1.

Referring to Table 1, TPH readings from all samples, except W-2 and B-5, were below 1000 mg/kg. Samples W-2 (collected from the central area of the west wall) and B-5 (collected from a bench near the southwest corner of the excavation) reported TPH concentrations of 1292 mg/kg and 2342 mg/kg, respectively. Sample B-5 was collected from a bench elevated about 6 to 8 feet above the bottom of the excavation. Benzene was not reported above the test method detection limit in any sample. The highest total BTEX concentration was reported from sample B-5 (4.28 mg/kg), and was below the NMOCD remediation level of 50 mg/kg. The chloride concentrations reported in the test trench samples were below 250 mg/kg, which the NMOCD has used as a general cleanup level for soil.

Based on these results, Texaco requests permission to fill the excavation with clean soil. A clay cover, approximately 2 feet thick, will be placed over the clean fill and compacted to 95% proctor density to reduce infiltration of precipitation. The clay cap will be covered with approximately 1-foot of clean soil and seeded to grass. Texaco is committed to presenting the results of the investigation in a comprehensive report to the NMOCD, including analyses of groundwater samples from monitoring and water wells. The report will be compiled following receipt of the final laboratory reports. Your expeditious approval to fill the excavation is requested. Please call Mr. Rodney Bailey at (915) 688-2971 or my self at (915) 687-0901 if you have questions.

Sincerely,
LARSON & Associates, Inc.

Mark J. Larson, CPG, CGWP
President

cc: Rodney Bailey

Encl.

10/6/00
verbal approval to Mark Larson on condition that Texaco remove remainder of visually contaminated soil.
Wll Olson

Tables

Table 1: Summary of BTEX and TPH Analysis of Soil Samples
Texaco Exploration and Production, Inc.
J.R. Phillips Tank Battery No. 2
SE/4, NW/4, Section 6, Township 20 South, Range 37 East
Lea County, New Mexico

Sample Number	Sample Date	Chloride (mg/kg)	GRO (mg/kg)	DRO (mg/kg)	TPH (mg/kg)	Benzene (mg/kg)	Toluene (mg/kg)	Ethylbenzene (mg/kg)	Xylene (mg/kg)	Total BTEX (mg/kg)
Area: Main Excavation										
N-1	15-Sept-00	P	<5	95	95	--	--	--	--	--
N-2	15-Sept-00	P	<5	178	178	--	--	--	--	--
S-1	15-Sept-00	P	<5	55	<55	--	--	--	--	--
S-2	15-Sept-00	P	<5	63	63	--	--	--	--	--
E-1	15-Sept-00	P	<5	89	89	--	--	--	--	--
E-2	15-Sept-00	P	<5	128	128	--	--	--	--	--
W-1	15-Sept-00	P	<5	89	89	<0.05	<0.05	<0.05	<0.05	<0.2
W-2	15-Sept-00	P	665	627	1292	P	P	P	P	P
W-3	15-Sept-00	P	630	313	943	P	P	P	P	P
W-4	15-Sept-00	P	<5	<50	<55	--	--	--	--	--
B-1	15-Sept-00	P	<5	268	268	--	--	--	--	--
B-2	15-Sept-00	P	366	136	502	--	--	--	--	--
B-3	15-Sept-00	P	<5	269	269	<0.05	<0.05	<0.05	0.867	0.867
B-4	15-Sept-00	P	<5	487	487	<0.05	<0.05	<0.05	1.12	1.12
B-5	15-Sept-00	P	502	1840	2342	<0.1	<0.1	1.04	3.24	4.28
Area: Satellite Excavation (Southeat of Main Excavation)										
SP-1	15-Sept-00	P	<5	162	162	--	--	--	--	--
SP-2	15-Sept-00	P	<5	53	53	--	--	--	--	--

Notes: Analyses performed by Trace Analysis, Inc., Lubbock, Texas.
1. mg/kg: Concentration in milligrams per kilogram
2. <: Analyte not detected at test method detection limit.
3. - - : No data available
4. P: Analyses Pending

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J.R. Phillips Tank Battery No. 2
SE/4, NW/4, Section 6, Township 20 South, Range 37 East
Lea County, New Mexico

Sample Number	Sample Date	Chloride (mg/kg)	GRO (mg/kg)	DRO (mg/kg)	TPH (mg/kg)	Benzene (mg/kg)	Toluene (mg/kg)	Ethylbenzene (mg/kg)	Xylene (mg/kg)	Total BTEX (mg/kg)
Area: Test Trench (Near Northwest Corner of Main Excavation)										
N. Wall	17-Aug-00	38	<5	85	85	--	--	--	--	--
S. Wall	17-Aug-00	26	<5	54	54	--	--	--	--	--
E. Wall	17-Aug-00	220	<5	113	113	<0.05	<0.05	<0.05	0.057	0.057
W. Wall	17-Aug-00	60	<5	93	93	--	--	--	--	--

Notes: Analyses performed by Trace Analysis, Inc., Lubbock, Texas.
1. mg/kg: Concentration in milligrams per kilogram
2. <: Analyte not detected at test method detection limit.
3. - - : No data available