GW-022

Remediation Report

DATE:
2010

Larson & Associates, Inc.
Environmental Consultants

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February 26, 2010

VIA EMAIL: Leonard.Lowe@state.nm.us

Mr. Leonard Lowe
Environmental Engineer
New Mexico Oil Conservation Division
1220 South St. Francis Drive
Santa Fe, New Mexico 87505

RE: Investigation and Remediation Report
Frontier Field Services LLC, Empire Abo Gas Plant (GW-022)
Eddy County, New Mexico

Dear Mr. Lowe:

This letter is submitted to the New Mexico Oil Conservation Division (OCD) on behalf of Frontier Field Services, LLC (Frontier) by Larson & Associates, Inc. (LAI), its consultant, for transmitting results of investigations and remediation performed at the Empire Abo Gas Plant (Facility). The investigations and remediation were performed as a result of an inspection by the OCD on April 22, 2009. The Facility is located in Unit I (NE/4, SE/4), Section 3, Township 18 South, Range 27 East, in Eddy County, New Mexico. The geodectic position is north 32° 46' 37.4" and west 104° 15' 32.7". Figure 1 presents a location and topographic map. Figure 2 presents a Facility drawing.

Background

On April 22, 2009, OCD environmental staff from Santa Fe, New Mexico conducted a Facility inspection and records review that included the current discharge permit (GW-022). Based on the inspection, OCD required Frontier to investigate and remediate, if necessary, the following areas:

- Wastewater Tank (Area 1)
- Amine Sump (Area 2)
- Flare Sump (Area 3)
- Slop Oil Tanks (Area 4)
- Evaporation Pond (Area 5)
- Cooling Tower (Area 6)

The following is a summary of the investigations, findings and remediation.

Wastewater Tank

The waste water tank (Area 1) is located north of the evaporation pond near the northwest corner of the Facility. The OCD witnessed white residue on the ground and requested Frontier to investigate its source and collect samples to determine potential impacts to soil. Figure 2 presents a Facility drawing showing the location of the waste water tank.

Investigation:
On April 29, 2009, LAI personnel used a Terraprobe® direct-push soil sampler to collect soil samples at three (3) locations (SB-1, SB-2 and SB-3) north, east and south of the tank, respectively. A background sample was also collected north of the Facility. The samples were collected at ground surface, 1.5 and 3 feet below ground surface (bgs) and placed in laboratory containers that were labeled, chilled in an ice chest, shipped under chain of custody control to DHL Laboratories, located in Round Rock, Texas. The laboratory analyzed the surface samples for metals (arsenic, barium, cadmium, chromium, lead, mercury, and selenium, silver) by SW-846 methods 6020 and 7470A and chloride by method E300.

Metals concentrations in surface samples from SB-1, SB-2 and SB-3 were within the tolerance of the background sample and below the New Mexico Environment Department (NMED) Hazardous Waste Bureau Industrial/Occupational Soil Screening Levels (SSL). Chloride ranged from 429 milligrams per kilogram (mg/Kg) in sample SB-1 to 3,530 mg/Kg in sample SB-2. The OCD has not established a cleanup standard for chloride but additional samples were collected to define the vertical extent.

On May 28, 2009, LAI, with assistance from Watson Construction Company Inc. (Watson), used a backhoe to collect additional samples at locations SB-1 (SS-8), SB-2 (SS-6) and SB-3 (SS-7) to assess the vertical extent of chloride. The samples were collected at approximately 3 to 4 feet bgs and reported chloride concentrations of 149 mg/Kg (SS-6), 5670 mg/Kg (SS-7) and 977 mg/Kg (SS-8).

On June 25, 2009, LAI, with assistance from Watson, collected samples at approximately 6, 7 and 8 feet bgs at location SB-3/SS-7 (SS-1). The chloride concentrations were 266 mg/Kg (6 feet bgs), less than 7.02 mg/Kg (7 feet bgs) and 321 mg/Kg (8 feet bgs). Table 1 presents a summary of the laboratory results. Appendix A presents the laboratory reports.

Remediation:
The area around the wastewater tank is bermed to prevent offsite migration, therefore, natural attenuation is proposed for the chloride at location SB-3.

Conclusion:
The laboratory results confirm no impacts to soil from metal. The laboratory results further confirm that chloride is present in near-surface soil south of the waste water tank (SB-3) but decreases to regulatory accepted levels at about 4 feet bgs.

Amine Sump
The amine sump (Area 2) is located south of the evaporation pond near the northwest quadrant of the Facility and receives liquid wastes that has trace amounts of amine, slop oil and produced water. The waste is removed from the sump via vacuum truck and hauled to disposal. The sump is constructed of steel that is set inside concrete secondary containment. OCD personnel observed oil stained soil near the sump and requested Frontier to investigate. Figure 2 presents a Facility drawing showing the location of the amine sump.

Investigation:
On April 29, 2009, LAI personnel used a Terraprobe® direct-push soil sampler to collect soil samples at a location (SB-4) near the southeast corner of the sump. Samples were collected at ground surface, 1.5 and 3 feet bgs and placed in laboratory containers that were labeled, chilled in an ice chest, shipped under chain of custody control to DHL Laboratories. The laboratory analyzed the samples for total petroleum hydrocarbons (TPH) by SW-846 method 8015 for gasoline and diesel range organics (GRO and DRO) and chloride by method E300.

TPH concentrations were 49.0 mg/Kg (surface), 561 mg/Kg (1.5 feet), 497 mg/Kg 3 feet) and are below the OCD recommended remediation action level (RRAL) of 1,000 mg/Kg. Chloride concentrations were 74.2 mg/Kg and 65.5 mg/Kg, respectively, and below the OCD reporting level of 250 mg/Kg. Table 2 presents a summary of the laboratory results. Appendix A presents the laboratory reports.

Remediation:
None

Conclusion:
The laboratory results confirm surface impacts caused by spills, with TPH below the regulatory threshold (1,000 mg/Kg) and concentrations decreasing with depth.

Flare Sump
The flare sump (Area 3) is located southeast of the engine building and north of the flare in the south-central area of the Facility. The sump receives a mixture of liquid waste that includes hydrocarbons and produced water from plant processes. The waste is removed from the sump by vacuum truck and hauled to disposal. The sump is constructed of steel that is set inside concrete secondary containment. The OCD observed hydrocarbon stained soil around the sump and requested Frontier to investigate and remediate. Figure 2 presents a Facility drawing showing the location of the flare sump.

Investigation:
On April 29 and 30, 2009, LAI personnel used a Terraprobe® direct-push soil sampler to collect soil samples at four (4) locations (SB-5, SB-6, SB-7 and SB-8) west, south, east and north of the sump, respectively. Samples were collected at ground surface, 1.5 and 3 feet bgs and placed in laboratory containers that were labeled, chilled in an ice chest, shipped under chain of custody control to DHL Laboratories. The laboratory analyzed the samples for benzene, toluene, ethylbenzene, xylenes (BTEX) by SW-846 method 8021B, TPH by SW-846 method 8015 for GRO and DRO and chloride by method E300.

Benzene exceeded the OCD recommended remediation action level (RRAL) of 10 mg/Kg in SB-7 surface (17.8 mg/Kg) 1.5 feet (96.2 mg/Kg) and 3 feet (1680 mg/Kg). BTEX exceeded the RRAL (50 mg/Kg) in SB-6 surface (59.9 mg/Kg) and SB-7 surface (278.1 mg/Kg), 1.5 feet (906.2 mg/Kg) and 3 feet (2969 mg/Kg). TPH exceeded the RRAL in SB-5 1.5 feet (4963 mg/Kg), SB-6 surface (2036.3 mg/Kg), SB-7 surface (2835 mg/Kg), 1.5 feet (12709 mg/Kg) and 3 feet (42,477 mg/Kg). TPH was below the RRAL in SB-8 samples. Chloride was reported at concentrations between 24.5 mg/Kg (SB-6, 1.5 feet) and 124 mg/Kg (SB-8, 0

foot). Table 2 presents a summary of the laboratory results. Appendix A presents the laboratory reports.

Remediation:
On May 26, 2009, Watson, under direct supervision from LAI, began excavating hydrocarbon contaminated soil from around the sump. Approximately 260 cubic yards of soil was excavated and disposed at Jay-Dan Landfarm LLC, located near Lovington, New Mexico (NM-01-0045). On May 28, 2009, LAI personnel collected three (3) 5-part composite samples (SS-1, SS-2 and SS-3) from the bottom of the excavation, at approximately three (3) feet bgs. The samples were analyzed for BTEX, TPH and chloride using methods previously described. Benzene was not reported above the method detection limits. BTEX and TPH were below the regulatory limits of 50 mg/Kg and 1,000 mg/Kg, respectively. On June 26, 2009, following removal of soil from the sides and bottom, LAI collected five (5) discreet soil samples from the bottom (SS-1B) and sides (SS-2E, SS-3W, SS-4N and SS-5S) of the excavation. The samples were analyzed for BTEX (except SS-2E), TPH and chloride by methods previously described. Benzene, BTEX and TPH concentrations were below the RRAL. Chloride ranged from 12.5 mg/Kg (SS-3W) to 95.9 mg/Kg (SS-4N). Figure 3 presents a drawing of the flare sump excavation and sample locations. Table 2 presents the analytical data summary. Appendix A presents the laboratory reports.

Conclusion:
During a meeting with OCD on August 11, 2009, verbal permission was granted to Frontier to fill the excavation. Between December 3 and 10, 2009, Watson hauled the contaminated soil to Jay-Dan Landfarm LLC, located near Lovington, New Mexico, and filled the excavation with clean soil.

Slop Oil Tanks
The slop (waste) oil tanks (Area 4) are situated inside unlined earthen containment near the north-central area of the Facility. The slop oil tanks receive waste oil from the compressor engine pit drains that is disposed weekly at an OCD approved facility. The OCD observed hydrocarbon stained soil around the tanks and requested Frontier to investigate and remediate. Mr. David Harris, Plant Manager, informed the OCD of Frontier's plan to move the slop oil tanks to a lined containment near the southeast corner of the Facility. Figure 2 presents a Facility drawing showing the location of the slop oil tanks.

Investigation:
On April 30, 2009, LAI personnel used a Terraprobe® direct-push soil sampler to collect soil samples at five (5) locations (SB-9, SB-10, SB-11, SB-12 and SB-13) within the containment area. Samples were collected at locations SB-9 and SB-10 from ground surface and 1.5 feet bgs and from ground surface only at locations SB-11, SB-12 and SB-13. The samples were placed in laboratory containers that were labeled, chilled in an ice chest, shipped under chain of custody control to DHL Laboratories. The laboratory analyzed the samples for BTEX by SW-846 method 8021B, TPH by SW-846 method 8015 for GRO and DRO and chloride by method E300.

Benzene was below the RRAL (10 mg/Kg) in all samples. BTEX was above the RRAL (50 mg/Kg) in samples SB-9, 1.5 feet (207.49 mg/Kg), SB-10, 1.5 feet (284.71 mg/Kg) and SB-12 (117.7 mg/Kg). TPH was above the RRAL (1,000 mg/Kg) in all samples except SB-13 (240 mg/Kg). Chloride ranged from 24.5

mg/Kg (SB-6, 1.5 feet) to 124 mg/Kg (SB-8, 0 foot). Table 2 presents a summary of the laboratory results. Appendix A presents the laboratory reports.

Remediation:
None

Conclusion:
The vertical extent of BTEX and TPH was not determined during the investigation. Frontier will submit an investigation and remediation plan for the slop oil tanks.

Evaporation Pond
The evaporation pond (Area 5) is located near the northwest area of the Facility and receives blow down from the cooling tower and boilers and reverse osmosis (RO) system. Liquid from the evaporation pond is disposed offsite in a Class II injection well owned by BP. The OCD observed liquid in the evaporation pond leak detection system concluding that the pond liner has been compromised. The OCD requested Frontier to collect liquid samples from the evaporation pond for waste characterization and submit a closure plan. Figure 2 presents a Facility drawing showing the location for the evaporation pond.

Investigation:
On April 30, 2009, LAI personnel collected samples from the north and south end of the evaporation pond. The samples were collected in laboratory containers that were labeled, chilled in an ice chest, shipped under chain of custody control to DHL Laboratories. The laboratory analyzed the samples for BTEX by SW-846 method 8021B, filtered metals (arsenic, barium, cadmium, chromium, lead, mercury, selenium, silver) by SW-846 methods 6020 and 7470A and general water quality parameters including chloride, sulfate, pH and total dissolved solids (TDS).

BTEX was not present in the samples. Arsenic, barium, lead and selenium were reported at concentrations below the New Mexico Water Quality Control Commission (WQCC) human health standards for drinking water. Chloride (3510 mg/L and 1590 mg/L) and TDS (7500 mg/L and 5210 mg/L) exceeded the WQCC domestic water quality standards of 250 and 1000 milligrams per liter (mg/L), respectively. Sulfate (1290 mg/L) was reported in the south sample above the WQCC limit (600 mg/L) for domestic water quality. Table 3 presents a summary of the BTEX, metals and general water quality analysis for the evaporation pond samples. Appendix A presents the laboratory reports.

Remediation:
None

Conclusion:
The OCD concluded that the pond liner has been compromised due to the presence of liquid in the leak detection system. Frontier will submit a closure plan in accordance with 19.15.17 NMAC.

Cooling Tower
The cooling tower (Area 6) is located near the north-central area of the Facility and is used to cool water for various plant processes. Figure 2 presents a Facility drawing showing the cooling tower location.

Investigation:
The OCD requested Frontier to provide an analysis of water from the cooling tower. On May 28, 2009, LAI, at the request of Frontier, collected a water sample at the outlet of the cooling tower. The sample was collected in laboratory containers that were labeled, chilled in an ice chest, shipped under chain of custody control to DHL Laboratories. The laboratory analyzed the samples for BTEX by SW-846 method 8021B, filtered metals (arsenic, barium, cadmium, chromium, lead, mercury, selenium, silver) by SW-846 methods 6020 and 7470A and general water quality parameters including chloride, sulfate, pH and total dissolved solids (TDS).

Benzene was reported in the cooling tower sample (0.00128 mg/L) but below the WQCC human health standard of 0.01 mg/L. Toluene, ethylbenzene and xylene were not present. Arsenic, barium, and selenium were reported above the method detection limits but below the WQCC human health standards of 0.1, 1.0 and 0.05 mg/L, respectively. Chloride (355 mg/L) and TDS (1810 mg/L) exceeded the WQCC limits of 250 and 1000 milligrams per liter (mg/L), respectively, for domestic water quality. Sulfate (727 mg/L) exceeded the WQCC limit of 600 mg/L for domestic water quality. Table 3 presents a summary of the BTEX, metals and general water quality analysis for the cooling tower. Appendix A presents the laboratory reports.

Remediation:
None

Conclusion:
No volatile organic or metal constituents were reported in the cooling tower sample that could be of environmental concern. Frontier will address soil cleanup, if required, when the cooling tower is dismantled at the time of Facility closure.

Engine 9 Jacket Water Tank
The engine 9 jacket water tank (Area 7) is located east of the number 9 engine building near the south side of the Facility. On April 22, 2009, OCD observed water seeping from beneath the tank that suggested the tank was leaking. Figure 2 presents a Facility drawing showing the location for the jacket water tank.

Remediation:
None

Conclusion:
The leaking tank has been replaced by a new tank and an impervious liner was placed inside the containment.

If you have any questions or require additional information, please call Dave Harris at 575.677.2161 or myself at 432.687.0901 to discuss.

Sincerely,

LARSON & ASSOCIATES, INC.

Mark J. Larson, P.G., C.P.G., C.G.W.P.
Sr. Project Manager/President
mark@laenvironmental.com

Enclosure

Cc: David Harris/Frontier
Sherry Bonham/OCD District 2

Table 1

Waste Water Tank Metals Data Summary

Frontier Field Services, LLC, Empire Abo Plant (GW-022)

Unit I (NE/SE), Section 3, Township 18 South, Range 27 East

Eddy County, New Mexico

Sample(Depth)	Date	Arsenic	Barium	Cadmium	Chromium	Lead	Mercury	Selenium	Silver	pH
SB-1 (0 - 6")	04/29/2009	9.64	236	0.262	29.8	6.15	0.0703	1.270	<0.121	6.88
SB-2 (0 - 6")	04/29/2009	5.64	225	0.306	20.8	9.33	0.117	1.40	<0.122	7.64
SB-3 (0 - 6")	04/29/2009	6.94	249	0.335	20.7	8.16	0.0543	1.59	<0.110	7.57
Background (0 - 6")	04/29/2009	3.67	157	0.261	12.5	6.8	<0.0184	1.75	<0.112	7.53

Notes

Metals except mercury analyzed via EPA SW Method 6020.

Mercury analyzed via EPA SW Method 7470A.

All values reported in Milligrams per Kilogram - dry (mg/kg, parts per million), except pH (standard units).

Table 2
BTEX, TPH and Chloride Soil Data Summary
Frontier Field Services, LLC, Empire Abo Gas Plant (GW-022)
Unit I (NE/SE), Section 3, Township 18 South, Range 27 East
Eddy County, New Mexico

Sample (Depth)	Date	Benzene	BTEX	GRO C6-C12	DRO C12-C28	TPH C6-C28	Chlorides
NMOCD RRAL:		10	50			1,000	
Waste Water Tank							
SB-1 (0 - 6")	04/29/2009	--	--	--	--	--	429
SB-2 (0 - 6")	04/29/2009	--	--	--	--	--	3530
SB-3 (0 - 6")	04/29/2009	--	--	--	--	--	2480
SS-6 (3 - 4')	05/28/2009	--	--	--	--	--	149
SS-7 (3 - 4')	05/28/2009	--	--	--	--	--	5670
SS-8 (3 - 4')	05/28/2009	--	--	--	--	--	977
SS-1 (6')	06/26/2009	--	--	--	--	--	266
SS-1 (7')	06/26/2009	--	--	--	--	--	<7.02
SS-1 (8')	06/26/2009	--	--	--	--	--	321
Amine Sump							
SB-4 (0 - 6")	04/29/2009	--	--	<0.0643	49.0	49.0	--
SB-4 (1.5 - 2')	04/29/2009	--	--	<0.0744	561	561	74.2
SB-4 (3 - 3.5')	04/29/2009	--	--	<0.0673	497	497	65.5
Flare Sump							
SB-5 (0 - 6")	04/29/2009	<0.00331	0.2455	90.4	12.7	103.1	7.21
SB-5 (1.5 - 2')	04/29/2009	<0.00379	44.69	4620	343	4,963	150
SB-5 (3 - 3.5')	04/29/2009	--	--	1.76	88.8	90.56	160
SB-6 (0 - 6")	04/29/2009	<0.00325	59.9	1980	56.3	2036.3	62.5
SB-6 (1.5 - 2')	04/29/2009	<0.0345	31.93	618	37.2	655.2	24.5
SB-6 (3 - 3.5')	04/29/2009	0.0513	0.869	7.61	67.9	75.51	46.2
SB-7 (0 - 6")	04/29/2009	17.8	278.1	2700	135	2835	38.1
SB-7 (1.5 - 2')	04/29/2009	96.2	906.2	12600	109	12709	27.0
SB-7 (3 - 3.5')	04/29/2009	1680	2969	41900	577	42,477	27.0
SB-8 (0 - 6")	04/29/2009	--	--	<0.0609	6.33	6.33	124
SB-8 (1.5 - 2')	04/29/2009	<0.00352	<0.02113	<0.0717	5.01	5.01	42.9
SB-8 (3 - 3.5')	04/29/2009	<0.00339	0.00567	0.503	5.44	5.943	35.1
Excavation Samples (Flare Sump)							
SS-1 (3')	5/28/2009	<0.00299	0.04871	11.1	136	147.1	104
SS-2 (3')	5/28/2009	<0.00309	1.1914	12.1	236	248.1	53.3
SS-3 (3')	5/28/2009	<0.00306	2.609	21.8	200	221.8	88.9
SS-1B (8')	06/26/2009	0.0448	6.2248	8.24	545	553.24	65.3
SS-2E (East Wall)	06/26/2009	--	--	1.04	274	275.04	50.4
SS-3 W (West Wall)	06/26/2009	0.0753	14.6453	144	670	814	12.5
SS-4N (North Wall)	06/26/2009	<0.00311	0.0292	0.112	279	279.112	95.9
SS-5S (South Wall)	06/26/2009	--	--	<0.0622	105	105	38.5
Soil Pile Samples (Flare Sump)							
SS-4	5/28/2009	--	--	0.449	1390	1390.449	35.8
SS-5	5/28/2009	--	--	0.857	401	401.857	328
Excavation Spoil Pile	08/12/2009	--	--	<16.2	409	409	75.9

Table 2
BTEX, TPH and Chloride Soil Data Summary
Frontier Field Services, LLC, Empire Abo Gas Plant (GW-022)
Unit I (NE/SE), Section 3, Township 18 South, Range 27 East
Eddy County, New Mexico

Sample (Depth)	Date	Benzene	BTEX	GRO C6-C12	DRO C12-C28	TPH C6-C28	Chlorides
NMOCD RRAL:		10	50			1,000	
Slop Oil Tank							
SB-9 (0 - 6")	04/30/2009	<0.00332	1.939	539	2690	3229	57.6
SB-9 (1.5 - 2')	04/30/2009	3.49	207.49	3,390	2320	5710	67.9
SB-10 (0 - 6")	04/30/2009	<0.00333	1.393	407	4,050	4457	754
SB-10 (1.5 - 2')	04/30/2009	2.41	284.71	3,850	9,410	13,260	325
SB-11 (0 - 6")	04/30/2009	<0.00337	1.374	342	4,300	4642	18.4
SB-12 (0 - 6")	04/30/2009	2.40	117.7	1,390	3580	4970	15.1
SB-13 (0 - 6")	04/30/2009	<0.00363	<0.02163	<0.0678	240	240	68.9
Soil Pile Samples (Southeast Storage Area)							
Pile #1	06/26/2009	--	--	<0.0579	1490	1490	1320
Pile #2	06/26/2009	--	--	<0.0631	4540	4540	156

Notes

BTEX analyzed via EPA SW Method 8021B.

Total Petroleum Hydrocarbons analyzed via EPA SW Method 8015 Mod.

Chlorides analyzed via EPA Method 300.

All values reported in Milligrams per Kilogram - dry (mg/kg, parts per million).

Table 3
Evaporation Pond and Cooling Tower Analytical Data Summary
Frontier Field Services LLC, Empire Abo Gas Plant (GW-022)
Unit I (NE/SE), Section 3, Township 18 South, Range 27 East
Eddy County, New Mexico

Analyte	Unit	WQCC Limit	Evaporation Pond (N) 04/30/2009	Evaporation Pond (S) 04/30/2009	Cooling Tower 05/28/2009
Benzene	mg/L	0.01	<0.008	<0.008	0.00128
Toluene	mg/L	0.75	<0.002	<0.002	<0.002
Ethylbenzene	mg/L	0.75	<0.002	<0.002	<0.002
Xylene	mg/L	0.62	<0.003	<0.003	<0.003
Arsenic	mg/L	0.1	0.0202	0.0477	0.0238
Barium	mg/L	1.0	0.675	0.273	0.308
Cadmium	mg/L	0.01	<0.0003	<0.0003	<0.0003
Chromium	mg/L	0.05	<0.002	<0.002	<0.002
Lead	mg/L	0.05	0.000528	<0.0003	<0.0003
Mercury	mg/L	0.002	<0.00008	<0.00008	<0.00008
Selenium	mg/L	0.05	0.00552	0.00493	0.00467
Silver	mg/L	0.05	<0.001	<0.001	<0.001
Chloride	mg/L	250	3510	1590	355
Sulfate	mg/L	600	505	1290	727
pH	S.U.		7.3	7.93	7.26
TDS	mg/L	1000	7500	5210	1810

Notes

Metals except mercury analyzed via EPA SW Method 6020.

Mercury analyzed via EPA SW Method 7470A.

Chlorides and sulfates analyzed via EPA Method 300.

All values reported in milligrams per liter (mg/l, parts per million), except pH (standard units).

JWW

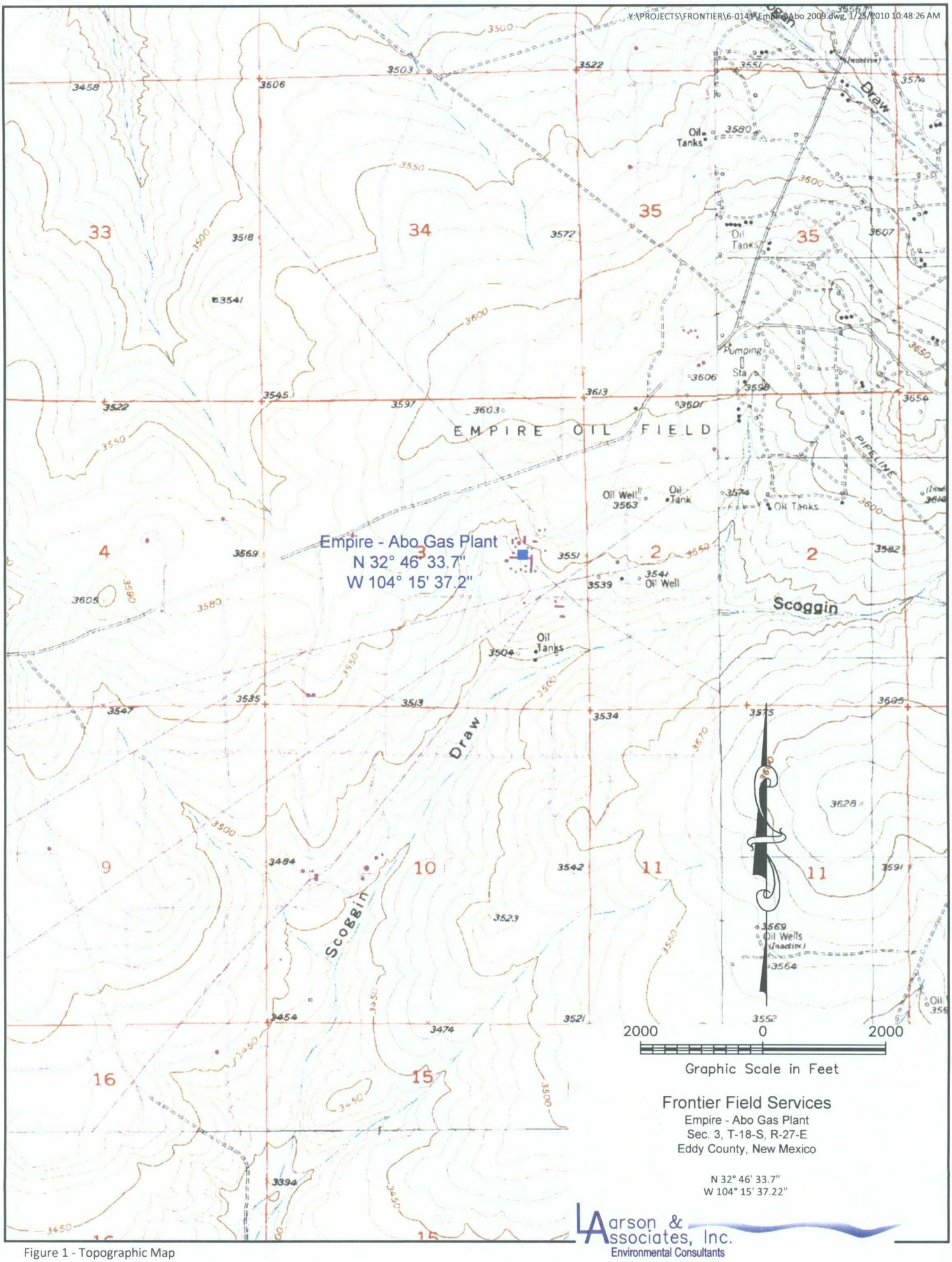

Figure 1 - Topographic Map

JWW

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LEGEND

- MW-01 - Plugged And Abandoned Monitoring Well Location
- MW-03 - Monitoring Well Location
- P-01 - Piezometer (Fluid Level) Location
- EB-03 - Monitoring Well Location
- * - Water Level Corrected For Hydrocarbon Product In Well Using 0.70 Specific Gravity
- ** - Hydrocarbon Emulsion Present In Well

Investigation Areas

1. - Waste Water Tank
2. - Amine Sump
3. - Flare Sump
4. - Slop Oil Tanks
5. - Evaporation Pond
6. - Cooling Towers
7. - Engine 9 Jacket Water Tank

- Fence
- Draw
- Roads
- Property Line

300 0 300

Graphic Scale in Feet

FRONTIER FIELD SERVICES, LLC

EMPIRE - ABO GAS PLANT
SECTION 3, T-18-S, R-27-E
EDDY COUNTY, NEW MEXICO

Larson & Associates, Inc.
Environmental Consultants

Figure 2 - Facility Drawing

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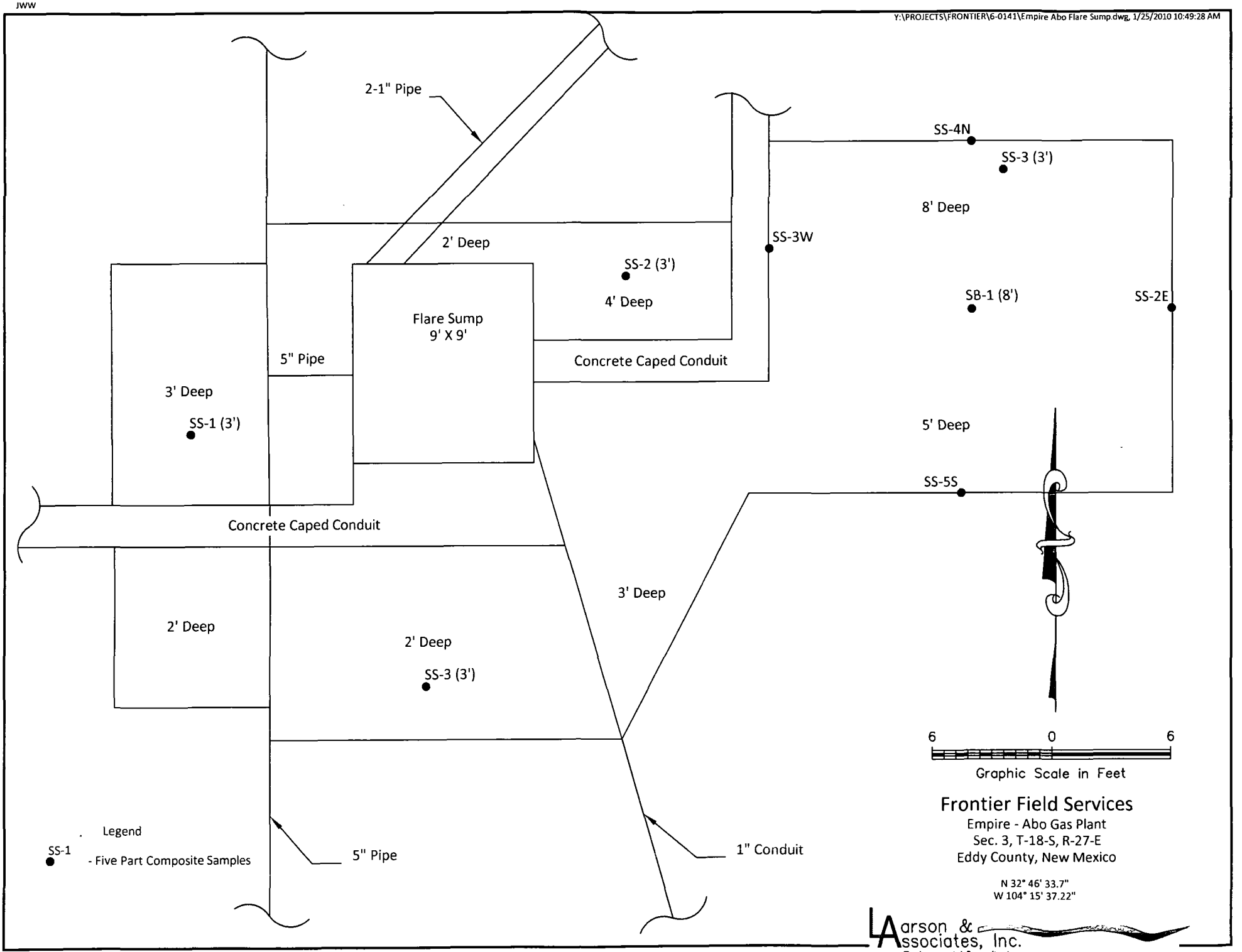

Figure 3 - Flare Sump Excavation Drawing