ExxonMobil Production Company PO Box 4358 Houston, Texas 77210-4358

DEC - 4 2008 OCD-ARTESIA

### UPS Overnight Mail 1Z V7F 007 01 9862 7553

ExconMobil Production

May 5, 2008

C-141 Form Avalon Delaware Unit Eddy County, New Mexico

State of New Mexico Oil Conservation Division District 2 1301 W. Grand Avenue Artesia, New Mexico 88210

Gentlemen:

Please find enclosed the C-141 form for a spill at our Avalon Delaware Unit. The spill of 56 barrels of hydrocarbon occurred on May 26, 2008. It is our understanding that the submission of the attached form and the lab analysis fulfills ExxonMobil's responsibility and that no further action is required.

If you have any questions or need additional information, please contact me at (281) 654-1133.

Sincerely, R. Collier

Toni L. Collier

TLC Attachments

CC: State of New Mexico (Certified Mail 91 7108 2133 3933 0568 7513)
Oil Conservation Division
1220 South St. Francis Drive
Santa Fe, New Mexico 87505

<u>nstrict I</u> 625 N. French Dr , Hobbs, NM 88240	State	of New Mexico	1			Form C-14
<u>nstrict II</u> 301 W. Grand Avenue, Artesia, NM 88210	Energy Minera	ils and Natural Res	ources		2000	Revised October 10, 200
<u>nstrict III</u> 000 Rio Brazos Road. Aztec, NM 87410	Oil Con	servation Division	n U	IEC - 4	2000	Submit 2 Copies to appropriat District Office in accordanc
<u>District IV</u> 220 S. E. Francis Dr. Santa Fe. NM 87505	1220 So	uth St. Francis Di	r. 0(	CD-AR	TES	with Rule 116 on back
220 S. St. Flancis DI, Sana Pe, NW 87505	Santa	Fe, NM 87505				
R	elease Notificati	on and Corre	ctive A	ction		
N 3280820033340	<u>,</u>	OPERATOR	<u> </u>		] Initia	ll Report 🛛 🛛 Final Repo
Name of Company ExxonMobil	7673	Contact Toni Co	$\frac{\text{llier}}{81.654.11}$	122		
Facility Name Avalon Delaware Unit	77210 30-016-74524	Facility Type Flo	wline	133		
Surface Owner PLM	Mineral Own	PIM		T	Longo N	
	Willeral Own				Lease N	
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Source of Release 2 7/8" flowline		Date and Hour of	Coccurrence	ce E	Date and I	Hour of Discovery
		5/26/08		5	/26/08	8:30AM
Was Immediate Notice Given?	🗌 No 🔲 Not Requir	ed Mike Bratcher	n?			
By Whom? Shelby Pennington		Deterred				<b>*</b>
		Date and Hour				
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01 December 2008

Sherry Bonham Environmental Engineer New Mexico Oil Conservation Division 1301 West Grand Artesia, New Mexico 88210

RE: Final Closure Report Exxon Mobil –Avalon (Delaware)TB Transfer Line UL-C (NE ¼ of the NW ¼) of Section 31, T 20 S, R 28 E Longitude: 32° 32' 5.22"; Latitude: 104° 13' 18.92" Eddy County, New Mexico NMOCD Ref. 2RP-201; EPI Ref. #190033

Dear Sherry Bonham:

On May 26, 2008 at an unknown time approximately 56-barrels of produced water were released from a tank battery flow line (2 7/8" dia.) when a leak developed due to internal corrosion. Zero (0) barrels of produced water were recovered. Fluids released impacted approximately 4,770 ft<sup>2</sup> of the surrounding terrain (reference *Figure #3*). NMOCD (M. Bratcher-Artesia) was notified of the release on May 26, 2008 at 8:30 am. This letter report documents results of remediation activities and provides a Final Closure Report.

### Site Background

The Site is located in UL-C (NE  $\frac{1}{4}$  of the NW  $\frac{1}{4}$ ) of Section 31, T 20 S, R 28 E at an approximate elevation of 3,280 feet above mean sea level (amsl). The property is owned by the Department of the Interior and managed by the Bureau of Land Management (BLM). A search for water wells was completed utilizing the <u>New Mexico Office of the State Engineers</u> website and a database maintained by the United States Geological Survey (USGS). No wells (domestic, agriculture or public) or bodies of surface water exist within a 1,000 feet radius of the Site (reference *Figure 2*). Groundwater data indicates the average water depth is approximately 50 feet below ground surface (bgs). Based on available information, it was projected distance between impacted soil and groundwater is approximately 42 vertical feet. Utilizing this information, New Mexico Oil Conservation Division (NMOCD) Remedial Goals for this Site were determined as follows:

Parameter	Remedial Goal
Benzene	10 parts per million
BTEX	50 parts per million
ТРН	100 parts per million

\*Chloride residuals may not be capable of impacting local groundwater above NMWQCC Standards of 250 mg/L

#### **Preliminary Field Work**

On May 26, 2008 EPI reacted to an Emergency Response and started preventative remediation activities on the release area. During the period of May 26-29, 2008 soil contaminated with produced water was blended with clean soil to solidify the material. Excavated material was placed on a plastic liner to prevent contamination of surrounding area. Approximately 120-cubic yards of impacted material were transported to Sundance Services, Inc., for disposal. EPI also performed site assessment, GPS survey and photographed the site on May 26, 2008. On May 27, 2008 three (3) soil samples were collected, field tested and remitted to an independent laboratory for analysis of chloride concentrations. Due to the release being produced water, no analyses were conducted for BTEX or TPH concentrations. Fourteen (14) soil samples were collected on May 28, 2008 and field tested for chlorides. A LaMotte Chloride Test Kit (Titration Method) was used for analyses of chloride concentrations. EPI and Straub Corporation mobilized at the Site on July 23, 2008 to direct the locale and depth of four (4) soil borings (i.e., SB-1, SB-2, SB-3 and SB-4; reference *Figure 4*). Soil samples collected at three (3), five (5) and ten (10) feet bgs were field tested and submitted to an independent laboratory for analyses of chloride concentrations (reference *Table 2*).

Soil samples designated for laboratory analyses were immediately placed in laboratory provided containers, appropriately labeled, placed in ice and transported to either XENCO (ELT) Laboratory, Odessa, Texas or Cardinal Laboratory, Hobbs, New Mexico for quantification of chloride concentrations.

### Analytical Data

Field analysis of soil samples collected on May 27 and May 28, 2008 indicated chloride concentrations increased from north (pooling area) to south (release area). Except for two (2) locations (NSBTM-1 and NSBTM-2A) chloride concentrations were above NMOCD Remedial Threshold goals of 250 mg/Kg. As this phase of the project was for emergency response, soil samples were field tested to quantify areas of high chloride concentrations and remove the bulk of surficial contamination to prevent runoff (reference *Table 3*).

Field analysis of soil boring soil samples collected on July 23, 2008 indicated chloride concentrations decreased with depth. Laboratory analytical results indicated chloride concentrations ranged from 2,510 mg/kg (SB-1 @ 3-ft bgs) to 16.1 mg/Kg (SB-2 @ 5-ft bgs) confirming the values of field analyses results. Soil boring soil samples demonstrated the bulk of chloride concentrations reside in the zone from original ground surface to  $\pm$ five (5) feet below ground surface (bgs).

### **Site Remedial Activities**

On October 27, 2008 EPI mobilized on site to commence remediation activities of the release area. From October 27 through November 11, 2008, EPI excavated approximately 1,968 cubic yards of impacted soil. Impacted material was transported to Sundance Services, Inc., for disposal. As noted in *Figure 5*, two (2) separate excavations were undertaken on the north and south sectors of the original release area. Depth of excavations ranged from three (3) to eight (8) feet below ground surface (bgs). During remedial activities, soil samples were collected from bottom and sidewalls of the excavation with transportation to XENON (ELT) Laboratory in Odessa, Texas for analyses of chloride concentrations. A review of Table 3, *Summary of Soil* 

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Sample Field Analyses and Laboratory Analytical Results, indicates soil impacted with chloride concentrations above NMOCD Remedial Threshold goals of 250 mg/Kg were completely removed from sidewalls and bottom of the excavation. With this knowledge, EPI began backfill activities commencing on November 12, 2008 and ending November 17, 2008. During this interim, approximately 714 cubic yards of caliche and 1,740 cubic yards of top soil were transported from an independent source for use as backfill material. Caliche was placed from bottom of excavation to within three (3) feet of original ground surface. Remainder of the excavation was backfilled with clean top soil. Disturbed areas were contoured to allow natural drainage and blend into surrounding topography.

EPI recommends seeding the disturbed areas in late spring of 2009 when ground and weather conditions are more conducive to grass survival. Disturbed areas will be harrowed and disked then seeded with a blend approved by the BLM.

Based on the above described remediation activities, EPI request acceptance of the project and issuance of a letter of approval by the NMOCD requiring no additional remedial action by ExxonMobil Corporation save for grass seeding.

Should you have any technical questions or concerns, please contact me at (575) 394-3481 (office), (575) 441-7802 (mobile) or via email at <u>dduncan@envplus.net</u>. Official communications should be directed to Mr. Shelby Pennington at (432) 266-1454 (mobile), (432) 596-4211 ext. 14 (office) or via email at <u>shelby.g.pennington@exxonmobil.com</u> with correspondence addressed to:

Mr. Shelby Pennington Sr. Operations Compliance Technician ExxonMobil Corporation 6810 NW 8000 Andrews, Texas 78714

Sincerely,

ENVIRONMENTAL PLUS, INC.

David P. Duncan Civil Engineer

 Cc: Shelby Pennington, Sr. Operations Compliance Technician, ExxonMobil Corporation Cody Miller, General Manager, EPI Roger Boone, Operations Superintendent, EPI Paul Evans, Environmental Protection Specialist, BLM

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Encl: Figure 1 – Area Map

Figure 2 – Site Location Map

Figure 3 – Site Map

Figure 4 – Soil Boring Location Map

Figure 5 – Excavation Map

Table 1 – Well Data

- Table 2 Summary of Soil Boring Soil Sample Field Analysis and Laboratory Analytical Results
- Table 3 Summary of Excavation Soil Sample Field Analysis and Laboratory Analytical Results

Attachment I – Site Photographs

Attachment II - Laboratory Analytical Results and Chain-of-Custody Form

Attachment III – Soil Boring Logs

Attachment IV - Copy of Initial NMOCD Form C-141

Final NMOCD Form C-141

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# **FIGURES**

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### Well Data

### ExxonMobil - Avalon TB Transfer Line (NMOCD Ref. 2RP-201; EPI Ref # 190033)

• Well Number	Diversion <sup>A</sup>	Owner	Use	Twsp	Rng	Sec q q q	Latitude	Longitude	- Date Measured	Surface Elevation <sup>B</sup>	Depth to Water (ft bgs)
CP 00851	3	EXXON CORPORATION	SAN	20S	28Ē	31 214	N32° 32' 3.69".	W104° 12' 51.09"	14-Sep-95	3,236	115
C 01923	3	MWJ PRODUCING COMPANY	PRO	20S	27E	36 4 2	N32° 31' 40.75"	W104° 13' 41.97"	03-Sep-80	3,275	
USGS #1				21S	27E	4 1 3 2			14-Dec-76	3,192	22.04
C《01333 禁论》	AT 37.22	HUMBLE OIL	ÉPRO 🕻	21S 🖄	27E	05 4 1 1	N32° 30' 29.60"	W104°12'39.00"	11-May-66	: 5,333	350
C 03163	續時3週間說	DAVID MARLEY	STK	<b>港21S</b> 意	27E	06 213	N32° 30' 48.43"	W104°13'40.73	10-Mar-05	3,199	175
C. 02699	0	BONNEVILLE FUELS	PRO	21S	26E	01 411	N32º 30' 29.41"	W104° 14' 42.02"	19-May-00	°≪3,179 : .	89
USGS #2	的性性能能	HERE FOR DECKTOR		21S	27E	5 433	的影響的影響	ある 御いまたののない いちかい	01-Dec-55	3,285	206.13
USGS #3	TENERICE	TRADUCE REAL PROPERTY OF THE PROPERTY OF	and the second	21S	35, <b>27E</b> €₽	5 4 1 4	·····································	· · · · · · · · · · · · · · · · · · ·	14-Jan-86%	3,299	196
USGS #4	建设的风险风暴		派学校	21S	27E 🔅	6141	のである。	El El Pada de Carto	24-Jan-57	3,186	36.57

\* = Data obtained from the New Mexico Office of the State Engineer Website [http://waters.ose state.nm.us/7001/iWATERS/wr\_RegisServlet] and the USGS website [http://waterdata.usgs.gov/nwis].

Shaded areas indicate well locations not shown on Figure 2

 $^{A}$  = in acre feet per annum

<sup>B</sup> = Elevation interpolated from USGS topographical map based on referenced location.

SAN = 72-12-1 Santary in Conjunction with a Commercial Use

PRO = 72-12-1 Prospecting or development of natural resource

STK = 72-12-1 Livestock watering

quarters are 1=NW, 2=NE, 3=SW, 4=SE; quarters are biggest to smallest

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### Summary of Soil Boring Soil Sample Field Analyses and Laboratory Analytical Results

Exxon Mobil - Avalon Tank Battery Transfer Line (EPI Ref. #190033)	
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Sample ID	Depth (feet)	Soil Status	Sample Date	PID Reading (ppm)	Field Chloride (mg/Kg)	Benzene (mg/Kg)	Toluene (mg/Kg)	Ethylbenzene (mg/Kg)	Total Xylenes (mg/Kg)	Total BTEX (mg/Kg)	Carbon Ranges C6-C12 (mg/Kg)	Carbon Ranges C12-C28 (mg/Kg)	Carbon Ranges C28-C35 (mg/Kg)	TPH (mg/Kg)	Chloride (mg/Kg)
	3	In Situ	23-Jul-08		2,200										2,510
SB-1	5	In Situ	23-Jul-08		240										63.8
	10	In Situ	23-Jul-08		160							·			24
582	3	In Situ	23-Jul-08		120										40.9
56-2	5	In Situ	23-Jul-08		120										16.1
	3	In Situ	23-Jul-08		1,200			'							535
SB-3	5	In Situ	23-Jul-08		240										93.6
	10	In Situ	23-Jul-08		240										17.5
SB-4	3	In Situ	23-Jul-08		240										110
	5.	In Situ	23-Jul-08		180										36.7
N	MOCD Rem	edial Thresh	olds	100		10				50				100	250

Bold values exceed NMOCD remedial threshold goals

J = Analyte detected, but below the reporting limit, therefore, result is an estimated concentration

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- - = Not Analyzed

### Summary of Excavation Soil Sample Field Analyses and Laboratory Analytical Results

Sample ID	Depth (feet)	Soil Status	Sample Date	· PID Reading (ppm)	Field Chloride (mg/Kg)	Benzene (mg/Kg)	Toluene (mg/Kg)	Ethylbenzene (mg/Kg)	Total Xylenes (mg/Kg)	Total BTEX (mg/Kg)	GRÓ C6-C12 (mg/Kg)	DRO C12 C28 (mg/Kg)	TPH (mg/Kg)	Chloride (mg/Kg)
			·		·	EMER	GENCY RE	SPONSE				· · · · · · · · · · · · · · · · · · ·		
BG-1	0.5	In situ	05/27/08		80									<16
NSBTM-1	2	In situ	05/27/08	•	240									32
NSBTM-2	2	Excavated	05/27/08		1,840	244							··· - · ·	
NSBTM-2A	4	In situ	05/27/08		240		、							32
NSBTM-3	0.5	Excavated	05/28/08		4,000+		.2							.·
NSBTM-3A	1.5'	Ín situ	05/28/08		4,000+			· · -						
NSBTM-4	0.5	Excavated	05/28/08		4,000+-	2 7 - 2 7 1 1 - 2 - 2 - 2 - 2 - 2 - 2 - 2 - 2 - 2 -						· · · ·	·	
NSBTM-4A	1.5	In situ	05/28/08		4,000+									
NSBTM-5	0.5	Excavated	05/28/08	記念語	4,000+									
NSBTM-5A	1.5	In situ	05/28/08		4,000+			<sup>.</sup>						
NSBTM-6	0.5	Excavated	05/28/08		4,000+	1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1					مر المراجع الم مراجع المراجع ال	1	pr 1	. <u> </u>
NSBTM-6A	1.5	In situ	05/28/08		4,000+									
NSBTM-7	0.5	Excavated	05/28/08		4,000+		میں ایک <u>م</u> ر ایک م مرکز کر مرکز میں ا						2 <del>-</del> -	
NSBTM-7A	1.5	In situ	05/28/08	·	4,000+									
NSBTM-8	0.5	Excavated	05/28/08		4,000+									
						REM	IEDIATION	PHASE				,,		
NSBTM-9	0.5	In situ	05/28/08		4,000+									
NSBTM-10	0.5	In situ	05/28/08		4,000+	·								
BH-1	8	In situ	10/28/08		320									

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### Summary of Excavation Soil Sample Field Analyses and Laboratory Analytical Results

Sample ID	Depth (feet)	Soil Status	Sample Date	PID Reading (ppm)	Field Chloride (mg/Kg)	Benzene (mg/Kg)	Toluene (mg/Kg)	Ethylbenzene (mg/Kg)	Total Xylenes (mg/Kg)	Total BTEX (mg/Kg)	GRO C6-C12 (mg/Kg)	DRO C12 C28 (mg/Kg)	TPH (mg/Kg)	Chloride (mg/Kg)
BH-1A	8	In situ	11/06/08		160									ND
BH-2	7	In situ	10/28/08		400	••								
BH-2A	7	In situ	11/06/08		160									ND
BH-3	6	Excavated	10/28/08		320									
BH-3A	6	Excavated	11/06/08		300									844
BH-3B	8	In situ	11/10/08		80									ND
BH-4	6	In situ	10/28/08		400									
BH-4A	6	In situ	11/06/08		240									ND
BH-5	6	In situ	10/28/08	<sup>-</sup>	320									
BH-5A	6	In situ	11/06/08		160									77.5
SW-1	4	Excavated	10/28/08		2,160									
SW-1A	4	In situ	10/30/08		240									
SW-1B	4	In situ	11/06/08		160									ND
<b>SW-2</b>	4	In situ	10/28/08		9,040									
SW-2A	4	In situ	10/30/08		240									
SW-2B	4	In situ	11/06/08		160									ND
SW-3	3	Excavated	10/28/08		1,840									
SW-3A	3	In situ	10/30/08		240									
SW-3B	3	In situ	11/06/08		160									ND
SW-4	3	In situ	10/28/08		240									

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### Summary of Excavation Soil Sample Field Analyses and Laboratory Analytical Results

\*

Sample ID	Depth (feet)	Soil Status	Sample Date	PID Reading (ppm)	Field Chloride (mg/Kg)	Benzene (mg/Kg)	Toluene (mg/Kg)	Ethylbenzene (mg/Kg)	Total Xylenes (mg/Kg)	Total BTEX (mg/Kg)	GRO C6-C12 (mg/Kg)	DRO C12- C28 (mg/Kg)	TPH (mg/Kg)	Chloride (mg/Kg)
SW-4A	3	In situ	11/06/08		160									ND
SW-5	3	In situ	10/28/08		240								- 1	
SW-5A	3	In situ	11/03/08	-	240		·							111
SW-6	3	Excavated	10/28/08		2,160			22- 12 - 12 - 1				}, <u>, , , , ,</u> , , ,		
SW-6A	3	In situ	10/30/08		320									
SW-6B~	3	In situ	11/06/08		160									ND
SW-7	्र 3	Excavated	10/28/08		4,800									
SW-7A	3	Excavated	10/30/08		4,240									
SW-7B	3	In situ	11/03/08		160									
SW-7C	. 3	In situ	11/06/08		160									ND
SW-8	3	In situ	10/28/08		320									
SW-8A	3	In situ	11/06/08		160				·					ND
SW-9	3	Excavated	10/28/08		3,840									
SW-9A	3	In situ	10/30/08		320									
SW-9B	3	In situ	11/06/08		240									128
SW-10	<b>. 4</b> .	Excavated	10/28/08	1	6,320									
SW-10A	4	In situ	10/30/08		320								~ -	
SW-10B	4	In situ	11/06/08		160									ND
SW-11	4	In situ	10/28/08		320									
SW-11A	4	In situ	11/06/08		240									ND

### Summary of Excavation Soil Sample Field Analyses and Laboratory Analytical Results

Sample ID	Depth (feet)	Soil Status	Sample Date	PID Reading (ppm)	Field Chloride (mg/Kg)	Benzene (mg/Kg)	Toluene (mg/Kg)	Ethylbenzene (mg/Kg)	Total Xylenes (mg/Kg)	Total BTEX (mg/Kg)	GRO C6-C12 (mg/Kg)	DRO C12 C28 (mg/Kg)	TPH (mg/Kg)	Chloride (mg/Kg)
SW-12	4	Excavated	10/28/08	1	4,320					1 200 m 2 21				•
SW-12A	4	Excavated	10/30/08		400				a and for the second se		مې کې <i>د د د د د د د د د د د د د د د د د د د</i>			· · ·
SW-12B	4	Excavated	11/03/08		2,640							447. (1. 2.8 7 (1. <del>1.</del> 1. 1.		· · · ·
SW-12C.	4	In situ	11/03/08		360									
SW-12D	4	In situ	11/06/08		280									209
BH-6	6	In situ	10/29/08	·	400									
BH-6A	6	In situ	11/06/08		240									ND
BH-7	6	In situ	10/29/08		240			`						2
BH-7A	6	In situ	11/06/08		160					*				ND
BH-8	6	In situ	10/29/08		240								<u>-</u>	
BH-8A	6	In situ	11/06/08		240									166
SW-13	3	In situ	10/29/08		320				-,-				·	
SW-13A	3	In situ	11/06/08		240	:-								ND
SW-14	3	In situ	10/29/08		240									
SW-14A	3	In situ	11/06/08		160									69.3
SW-15	3 <b>3</b>	Excavated	10/29/08		800			· · · · · · · · · · · · · · · · · · ·	· · · · · · ·			1.3.4.7. <b></b>		• <u></u>
SW-15A	3	Excavated	10/31/08		6,800				20				· · · ·	
SW-15B	3	In situ	11/03/08		160									
SW-15C	3	In situ	11/06/08		160									ND
SW-16	3	In situ	10/29/08		4,240			÷ -						

### Summary of Excavation Soil Sample Field Analyses and Laboratory Analytical Results

### Exxon Mobil - Avalon Tank Battery Transfer Line (NMOCD Ref. 2RP-201; EPI Ref. #190033)

Sample ID	<sup>·</sup> Depth (feet)	Soil Status	Sample Date	PID Reading (ppm)	Field Chloride (mg/Kg)	Benzene (mg/Kg)	Toluene (mg/Kg)	Ethylbenzene (mg/Kg)	Total Xylenes (mg/Kg)	Total BTEX (mg/Kg)	GRO C6-C12 (mg/Kg)	DRO C12 C28 (mg/Kg)	TPH (mg/Kg)	Chloride (mg/Kg)
SW-16A	3	In situ	11/06/08		240			•-	·					150
SW-17	3	Excavated	10/29/08		1,360									
SW-17A	3	In situ	10/31/08		160									
SW-17B	3	In situ	11/06/08		80									ND
SW-18	3	Excavated	10/29/08		1,920						مې د مېرو نو د کې د مې ور مې ور کې د مې ور مې ور مې ور مې ور کې د مې ور مې ور مې ور مې ور مې ور مې ور کې د مې ور مې ور مې ور مې ور مې ور مې ور مې			л <sup>7</sup> т. - уч. — т. — т. - , - , - , - , - , - , - , - , - , - ,
SW-18A	3	Excavated	10/31/08		4,640									
SW-18B	3	In situ	11/03/08		160									·
SW-18C	3	In situ	11/06/08		160	'								ND
SW-19	3	Excavated	10/29/08		1,120									
SW-19A	3	Excavated	10/31/08		5,600									
SW-19B	3	In situ	11/03/08		240									
SW-19C	3	In situ	11/06/08	÷-	240									ND
SW-20	3	Excavated	10/29/08		5,120									
SW-20A	3	Excavated	10/31/08		9,280					and store and				21 - 2017 - 2017 - 2017 - 2017 21 - 2017 - 2017 - 2017 21 - 2017 - 2017 - 2017 21 - 2017 - 2017 - 2017 2017 - 2017 - 2017 - 2017
SW-20B	3	In situ	11/03/08		160									
SW-20C	3	In situ .	11/06/08		160									ND
1	NMOCD Rei	nedial Thresholds		100		10				50			100	250

.

Bold values exceed NMOCD remedial threshold goals

Nomenclature: SP= Sample Point; T = Trench; SW = Sidewall; BTM = Bottom Hole; N = North, S = South, W = West and E = East; BG = Background Sample

--= Not Analyzed

# **ATTACHMENT I**

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**PHOTOGRAPHS** 

# J. .

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Photograph #1 – Lease Sign



Photograph #2 - View across excavation



Photograph #3 – View across excavation



Photograph #4 – View across excavation



Photograph #6 - Remediated area

ATTACHMENT II LABORATORY ANALYTICAL DATA AND CHAIN-OF-CUSTODY FORM (not included in draft copy)

# **Analytical Report 316993**

for

### **Environmental Plus, Incorporated**

**Project Manager: David P. Duncan** 

Avalon CTB Transfer Line 190033

10-NOV-08





E84880

### 12600 West I-20 East Odessa, Texas 79765

Texas certification numbers: Houston, TX T104704215 - Odessa/Midland, TX T104704215-08-TX

Florida certification numbers: Houston, TX E871002 - Miami, FL E86678 - Tampa, FL E86675 Norcross(Atlanta), GA E87429

> South Carolina certification numbers: Norcross(Atlanta), GA 98015

North Carolina certification numbers: Norcross(Atlanta), GA 483

Houston - Dallas - San Antonio - Austin - Tampa - Miami - Latin America Midland - Corpus Christi - Atlanta

Page 1 of 16



10-NOV-08



Project Manager: **David P. Duncan Environmental Plus, Incorporated** P.O. Box 1558 Eunice, NM 88231

Reference: XENCO Report No: **316993** Avalon CTB Transfer Line Project Address: UL-C, Sec. 31, T20S, R28E

### David P. Duncan:

We are reporting to you the results of the analyses performed on the samples received under the project name referenced above and identified with the XENCO Report Number 316993. All results being reported under this Report Number apply to the samples analyzed and properly identified with a Laboratory ID number. Subcontracted analyses are identified in this report with either the NELAC certification number of the subcontract lab in the analyst ID field, or the complete subcontracted report attached to this report.

Unless otherwise noted in a Case Narrative, all data reported in this Analytical Report are in compliance with NELAC standards. Estimation of data uncertainty for this report is found in the quality control section of this report unless otherwise noted. Should insufficient sample be provided to the laboratory to meet the method and NELAC Matrix Duplicate and Matrix Spike requirements, then the data will be analyzed, evaluated and reported using all other available quality control measures.

The validity and integrity of this report will remain intact as long as it is accompanied by this letter and reproduced in full, unless written approval is granted by XENCO Laboratories. This report will be filed for at least 5 years in our archives after which time it will be destroyed without further notice, unless otherwise arranged with you. The samples received, and described as recorded in Report No. 316993 will be filed for 60 days, and after that time they will be properly disposed without further notice, unless otherwise arranged with you. We reserve the right to return to you any unused samples, extracts or solutions related to them if we consider so necessary (e.g., samples identified as hazardous waste, sample sizes exceeding analytical standard practices, controlled substances under regulated protocols, etc).

We thank you for selecting XENCO Laboratories to serve your analytical needs. If you have any questions concerning this report, please feel free to contact us at any time.

Respectfully,

Brent Barron, II Odessa Laboratory Manager

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# Sample Cross Reference 316993

### Environmental Plus, Incorporated, Eunice, NM

Avalon CTB Transfer Line

Sample Id	Matrix	<b>Date Collected</b>	Sample Depth	Lab Sample Id
SW-1B (4')	S	Nov-06-08 12:04		316993-001
SW-2B (4')	S	Nov-06-08 12:07		316993-002
SW-3B (3')	S	Nov-06-08 12:10		316993-003
SW-4A (3')	S	Nov-06-08 12:15		316993-004
SW-5A (3')	S	Nov-06-08 12:18		316993-005
SW-6B (3')	S	Nov-06-08 12:23	· .	316993-006
SW-7C (3')	S	Nov-06-08 12:27		316993-007
SW-8A (3')	S	Nov-06-08 12:31		316993-008
SW-9B (3')	, S	Nov-06-08 12:33		316993-009
SW-10B (4')	S	Nov-06-08 12:37		316993-010
SW-11A (4')	S	Nov-06-08 12:42		316993-011
SW-12D (4')	S	Nov-06-08 12:48		316993-012
BH-1A (8')	S	Nov-06-08 12:51		316993-013
BH-2A (7')	S	Nov-06-08 12:55		316993-014
BH-3A (6')	S	Nov-06-08 13:01		316993-015
BH-4A (6')	S	Nov-06-08 13:03		316993-016
BH-5A (6')	S	Nov-06-08 13:07		316993-017
BH-6A (6')	S	Nov-06-08 13:09	-	316993-018
BH-7A (6')	S	Nov-06-08 13:14		316993-019
BH-8A (6')	S	Nov-06-08 13:16		316993-020
SW-13A (3')	S	Nov-06-08 13:21		316993-021
SW-14A (3')	S	Nov-06-08 13:23		316993-022
SW-15C (3')	S	Nov-06-08 13:29		316993-023
SW-16A (3')	S	Nov-06-08 13:34		316993-024
SW-17B (3')	· S	Nov-06-08 13:40	,	316993-025
SW-18C (3')	S	Nov-06-08 13:44		316993-026
SW-19C (3')	S	Nov-06-08 13:47		316993-027
SW-20C (3')	S	Nov-06-08 13:49		316993-028



Environmental Plus, Incorporated, Eunice, NM



Date Received in Lab: Fri Nov-07-08 12:45 pm

Project Name: Avalon CTB Transfer Line

Project Id: 190033 Contact: David P. Duncan Project Location: UL-C, Sec 31, T20S, R28E

roject Location: UL-C. Sec 31, T20S, R28E								Report	Date:	10-NOV-08			
								Project Mai	ager:	Brent Barron,	II		
	Lab Id:	316993-0	01	316993-0	02	316993-0	003	316993-0	04	316993-0	05	316993-0	006
Analysis Degranted	Field Id:	SW-1B (•	4')	SW-2B (	4')	SW-3B (	3')	SW-4A (	3')	SW-5A (	3')	SW-6B (	(3')
Anaiysis Kequesieu	Depth:		ļ							1	1		
	Matrix:	SOIL	1	SOIL		SOIL		SOIL		SOIL	1	SOIL	
	Sampled:	Nov-06-08	12 04	Nov-06-08	12.07	Nov-06-08	12 10	Nov-06-08	12 15	Nov-06-08	2 18	Nov-06-08	12.23
Inorganic Anions by EPA 300	Extracted:												
	Analyzed:	Nov-07-08	13 28	Nov-07-08	13.28	Nov-07-08	13:28	Nov-07-08	13 28	Nov-07-08	13 28	Nov-07-08	13.28
	Units/RL:	mg/kg	RL	mg/kg	RL	mg/kg	RL	mg/kg	RL	mg/kg	RL	mg/kg	RL
Chloride		ND	517	ND	50.7	ND	514	ND	45.5	111	50 5	ND	50 5
Percent Moisture	Extracted:												
	Analyzed:	Nov-07-08	15.00	Nov-07-08	15.00	Nov-07-08	15.00	Nov-07-08	15 00	Nov-07-08	15.00	Nov-07-08	15 00
	Units/RL:	%	RL	%	RL	%	RL	%	RL	%	RL	%	RL
Percent Moisture		3.33		1.39		2 73		-9.87		0.928		0 956	

This analytical report, and the entire data package it represents, has been made for your exclusive and confidential use The interpretations and results expressed throughout this analytical report represent the best judgment of XENCO Laboratories XENCO Laboratories assumes no responsibility and makes no warranty to the end use of the data hereby presented Our liability is limited to the amount involved for this work order unless otherwise agreed to in writing

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Brent Barron

Odessa Laboratory Director



Environmental Plus, Incorporated, Eunice, NM



Project Name: Avalon CTB Transfer Line

Project Id: 190033 Contact: David P. Duncan Project Location: UL-C, Sec. 31, T20S, R28E

Date Received in Lab: Fri Nov-07-08 12:45 pm

roject Location: UL-C. Sec. 31, T20S, R28E								Report	Date:	10-NOV-08			
								Project Mar	ager:	Brent Barron,	11		
	Lab Id:	316993-0	07	316993-0	08	316993-0	09	316993-0	10	316993-0	11	316993-0	12
Analysis Paguastad	Field Id:	SW-7C (	3') <mark> </mark>	SW-8A (	3')	SW-9B (	3')	SW-10B (	(4')	SW-11A (	4')	SW-12D	(4')
Anuiysis Kequesieu	Depth:				1			1			:		
	Matrix:	SOIL	ĺ	SOIL		SOIL		SOIL		SOIL		SOIL	
	Sampled:	Nov-06-08	12:27	Nov-06-08	12 31	Nov-06-08	12.33	Nov-06-08	12 37	Nov-06-08 1	2.42	Nov-06-08	12 48
Inorganic Anions by EPA 300	Extracted:									1			
inorganie innons sy zriteess	Analyzed:	Nov-07-08	13:28	Nov-07-08	13 28	Nov-07-08	13:28	Nov-07-08	21:41	Nov-07-08 2	21 41	Nov-07-08	21 41
· ·	Units/RL:	mg/kg	RL	mg/kg	RL	mg/kg	RL	mg/kg	RL	mg/kg	RL	mg/kg	RL.
Chloride		ND	50 2	ND	204	128	108	ND	50 9	ND	51.0	209	52.0
Percent Moisture	Extracted:							1					
	Analyzed:	Nov-07-08	15:00	Nov-07-08	15 00	Nov-07-08	15 00	Nov-07-08	15 00	Nov-07-08	15:00	Nov-07-08	15 00
	Units/RL:	%	RL	%	RL	%	RL	%	RL	%	RL	%	RL
Percent Moisture		0 416		1 83		7		1 77		2		3.91	

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Odessa Laboratory Director



Environmental Plus, Incorporated, Eunice, NM



Date Received in Lab: Fri Nov-07-08 12:45 pm

Project Name: Avalon CTB Transfer Line

Project Id: 190033 Contact: David P. Duncan Project Location: UL-C, Sec. 31, T20S, R281

roject Location: UL-C. Sec. 31. T20S. R28E								Report	Date:	10-NOV-08	,		
· · · · · · · · · · · · · · · · · · ·								Project Mar	ager:	Brent Barron,	I	_	
	Lab Id:	316993-0	13	316993-0	14	316993-0	15	316993-0	16	316993-0	17	316993-0	18
Amahusia Paguastad	Field Id:	BH-1A (	8')	BH-2A (	7')	BH-3A (	6')	BH-4A (	6')	BH-5A (6	in	BH-6A (6	6')
Anuiysis Kequesieu	Depth:										ł		
	Matrix:	SOIL		SOIL		SOIL		SOIL		SOIL		SOIL	
	Sampled:	Nov-06-08	12.51	Nov-06-08	12:55	Nov-06-08	13.01	Nov-06-08	13 03	Nov-06-08	3 07	Nov-06-08	13 09
Inorganic Anions by EPA 300	Extracted:												
g	Analyzed:	Nov-07-08	21:41	Nov-07-08	21.41	Nov-07-08	21.41	Nov-07-08	21 41	Nov-07-08 2	141	Nov-07-08	21 41
	Units/RL:	mg/kg	RL	mg/kg	RL	mg/kg	RL	mg/kg	RL	mg/kg	RL	mg/kg	RL.
Chloride		ND	52.4	ND	517	844	103	ND	51.1	77 5	53 9	ND	50.7
Percent Moisture	Extracted:												
	Analyzed:	Nov-07-08	15.00	Nov-07-08	15 00	Nov-07-08	15 00	Nov-07-08	15.00	Nov-07-08	5:00	Nov-07-08	17.00
	Units/RL:	%	RL	• %	RL	%	RL	%	RL	%	RL	%	RL
Percent Moisture		4.53		3 33		2.57		2 22 .		7 29		1.41	

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Brent Barron

Odessa Laboratory Director



Environmental Plus, Incorporated, Eunice, NM



Project Name: Avalon CTB Transfer Line

Project Id: 190033 Contact: David P. Duncan Project Location: UL-C, Sec. 31, T20S, R28E

Date Received in Lab: Fri Nov-07-08 12:45 pm

roject Location: UL-C. Sec. 31, T20S, R28E								Report	Date:	10-NOV-08			
								<b>Project Mar</b>	nager:	Brent Barron,	II		
	Lab Id:	316993-0	19	316993-0	20	316993-0	21	316993-0	22	316993-0	23	316993-0	024
Analysis Descreted	Field Id:	BH-7A (6	5')	BH-8A (6	6')	SW-13A (	(3')	SW-14A	(3')	. SW-15C (	3')	SW-16A	(3')
Analysis Requested	Depth:		ł								l		
	Matrix:	SOIL		SOIL		SOIL		SOIL		SOIL	1	SOIL	
	Sampled:	Nov-06-08	13 14	Nov-06-08	13.16	Nov-06-08 1	13:21	Nov-06-08	13:23	Nov-06-08 1	3 29	Nov-06-08	13.34
Inorganic Anions by EPA 300	Extracted:				i					1			
	Analyzed:	Nov-07-08	21:41	Nov-07-08	21.41	Nov-07-08 2	21.41	Nov-07-08	21.41	Nov-07-08	21.41	Nov-07-08	21 41
	Units/RL:	mg/kg	RL	mg/kg	RL	mg/kg	RL.	mg/kg	RL	mg/kg	RL	mg/kg	RL
Chlonde		ND	52.9	166	516	ND	512	69.3	50.3	ND	51.2	150	52 5
Percent Moisture	Extracted:								-				
	Analyzed:	Nov-07-08	17 00	Nov-07-08	17:00	· Nov-07-08	17:00	Nov-07-08	17 00	Nov-07-08	17 00	Nov-07-08	17.00
	Units/RL:	%	RL.	% .	RL	%	RL	%	RL	%	RL	%	RL
Percent Moisture		5.5		3.07		2.29		0 675		2.25		4 81	

This analytical report, and the entire data package it represents, has been made for your exclusive and confidential use The interpretations and results expressed throughout this analytical report represent the best judgment of XENCO Laboratories XENCO Laboratories assumes no responsibility and makes no warranty to the end use of the data hereby presented Our hability is limited to the amount invoiced for this work order unless otherwise agreed to in writing

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Brent Barron

Odessa Laboratory Director



Environmental Plus, Incorporated, Eunice, NM



Project Name: Avalon CTB Transfer Line

Project Id: 190033 Contact: David P. Duncan Project Location: UL-C, Sec. 31, T20S, R288

Date Received in Lab: Fri Nov-07-08 12:45 pm

roject Location: UL-C. Sec. 31, T20S, R28E								Report	Date:	10-NOV-08	
								Project Ma	ager:	Brent Barron, II	
	Lab Id:	316993-0	25	316993-0	26	316993-02	27	316993-0	28		
Analysis Paguastad	Field Id:	SW-17B (	3')	SW-18C (	(3')	SW-19C (	3')	SW-20C	(3')	•	
Anuiysis Kequesieu	Depth:		ļ								
	Matrix:	SOIL	-	SOIL	ļ	SOIL		SOIL			1
1	Sampled:	Nov-06-08	3.40	Nov-06-08	13.44	Nov-06-08 1	3 47	Nov-06-08	13.49		
Inorganic Anions by EPA 300	Extracted:		1							1	
g	Analyzed:	Nov-07-08	2141	Nov-07-08	21.41	Nov-07-08 2	21.41	Nov-07-08	21.41		
	Units/RL:	mg/kg	RL	mg/kg	RL	mg/kg	RL	mg/kg	RL	1	
Chlonde		ND	51 2	ND	507	ND	50.7	ND	51 6		
Percent Moisture	Extracted:				1						
	Analyzed:	Nov-07-08	17 00	Nov-07-08	17 00	Nov-07-08 1	l7·00	Nov-07-08	17 00		
	Units/RL:	%	RL.	%	RL	%	RL	%	RL		Į
Percent Moisture		2 38		1 36		1 46		3 02			

This analytical report, and the entire data package it represents, has been made for your exclusive and confidential use The interpretations and results expressed throughout this analytical report represent the best judgment of XENCO Laboratories XENCO Laboratories assumes no responsibility and makes uo warranty to the end use of the data hereby presented Our liability is limited to the amount invoced for this work order unless otherwise agreed to in writing

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Brent Barron

Odessa Laboratory Director



- X In our quality control review of the data a QC deficiency was observed and flagged as noted. MS/MSD recoveries were found to be outside of the laboratory control limits due to possible matrix /chemical interference, or a concentration of target analyte high enough to effect the recovery of the spike concentration. This condition could also effect the relative percent difference in the MS/MSD.
- **B** A target analyte or common laboratory contaminant was identified in the method blank. Its presence indicates possible field or laboratory contamination.
- **D** The sample(s) were diluted due to targets detected over the highest point of the calibration curve, or due to matrix interference. Dilution factors are included in the final results. The result is from a diluted sample.
- E The data exceeds the upper calibration limit; therefore, the concentration is reported as estimated.
- F RPD exceeded lab control limits.
- J The target analyte was positively identified below the MQL(PQL) and above the SQL(MDL).
- U Analyte was not detected.
- L The LCS data for this analytical batch was reported below the laboratory control limits for this analyte. The department supervisor and QA Director reviewed data. The samples were either reanalyzed or flagged as estimated concentrations.
- **H** The LCS data for this analytical batch was reported above the laboratory control limits. Supporting QC Data were reviewed by the Department Supervisor and QA Director. Data were determined to be valid for reporting.

**K** Sample analyzed outside of recommended hold time.

\* Outside XENCO'S scope of NELAC Accreditation

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9701 Harry Hines Blvd, Dallas, TX 75220	(214) 902 0300	(214) 351-9139
5332 Blackberry Drive, Suite 104, San Antonio, TX 78238	(210) 509-3334	(210) 509-3335
2505 N. Falkenburg Rd., Tampa, FL 33619	(813) 620-2000	(813) 620-2033
5757 NW 158th St, Miami Lakes, FL 33014	(305) 823-8500	(305) 823-8555
6017 Financial Dr., Norcross, GA 30071	(770) 449-8800	(770) 449-5477





### Project Name: Avalon CTB Transfer Line

Work Order #: 316993			Pi	roject ID:			190033
Lab Batch #: 739592	Sa	ample: 739592-	-1-BKS	Matr	ix: Solid		
Date Analyzed: 11/07/2008	Date Pre	pared: 11/07/2	008	Analy	st: LATC	OR	
Reporting Units: mg/kg	Ba	atch #: 1	BLANK /	BLANK SPI	KE REC	COVERY	STUDY
Inorganic Anions by EPA 300		Blank Result [A]	Spike Added [B]	Blank Spike Result	Blank Spike %R	Control Limits %R	Flags
Analytes				[C]	[D]		
Chloride		ND	10.0	9.87	99	75-125	
Lab Batch #: 739596	Sa	.mple: 739596-	1-BKS	Matri	ix: Solid		
Date Analyzed: 11/07/2008	Date Pre	pared: 11/07/20	008	Analy	st: LATC	OR	
Reporting Units: mg/kg	Ba	atch #: 1	BLANK /	BLANK SPI	KE REC	COVERY S	STUDY
Inorganic Anions by EPA 300		Blank Result	Spike Added (B)	Blank Spike Result	Blank Spike %P	Control Limits %P	Flags
Analytes	l l	[r]	[11]	[C]	[D]	70K	
Chloride		ND	10.0	9.03	90	75-125	

Blank Spike Recovery [D] = 100\*[C]/[B] All results are based on MDL and validated for QC purposes.



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# Form 3 - MS Recoveries



# Project Name: Avalon CTB Transfer Line

Work Order #: 316993						
Lab Batch #: 739592			Pr	oject ID:	190033	
Date Analyzed: 11/07/2008 Date	te Prepared:	11/07/2008		Analyst:	LATCOR	
QC- Sample ID: 316868-001 S	Batch #:	1		Matrix:	Soil	
Reporting Units: mg/kg	MAT	RIX / MA	TRIX SPIKE	RECO	VERY STU	DY
Inorganic Anions by EPA 300	Parent Sample Result	Spike Added	Spiked Sample Result [C]	%R [D]	Control Limits %R	Flag
Analytes	[A]	[B]				
Chloride	19200	12000	35900	139	75-125	x
Lab Batch #: 739596						
Date Analyzed: 11/07/2008 Dat	e Prepared:	11/07/2008		Analyst:	LATCOR	
QC- Sample ID: 316993-010 S	Batch #:	1		Matrix:	Soil	
Reporting Units: mg/kg	MAT	RIX / MA'	<b>FRIX SPIKE</b>	RECOV	ERY STU	DY
Inorganic Anions by EPA 300	Parent Sample Result [A]	Spike Added [B]	Spiked Sample Result [C]	%R [D]	Control Limits %R	Flag
Chloride	ND	102	124	122	75-125	

Matrix Spike Percent Recovery  $[D] = 100^{*}(C-A)/B$ Relative Percent Difference  $[E] = 200^{*}(C-A)/(C+B)$ All Results are based on MDL and Validated for QC Purposes

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### Project Name: Avalon CTB Transfer Line

Work Order #: 316993

Lab Batch #: 739592				Project	ID: 190033	
Date Analyzed: 11/07/2008	Date Pr	epared: 11/	07/2008	Anal	yst: LATCO	R
QC- Sample ID: 316868-001 D	1	Batch #:	1	Mat	rix: Soil	
Reporting Units: mg/kg		SAMPLE	/ SAMPLE	DUPLIC	CATE REC	OVERY
Inorganic Anions by EPA 300		Parent Sample Result [A]	e Sample Duplicate Result	RPD	Control Limits %RPD	Flag
Analyte						
Chlonde		19200	18600	3	20	<u> </u>
Lab Batch #: 739596						
Date Analyzed: 11/07/2008	Date Pr	epared: 11/	07/2008	Analy	yst: LATCO	R
QC- Sample ID: 316993-010 D	E	Batch #:	1	Mati	rix: Soil	
Reporting Units: mg/kg		SAMPLE	/ SAMPLE	DUPLIC	CATE REC	OVERY
Inorganic Anions by EPA 300	,	Parent Sámple Result [A]	Sample Duplicate Result IBI	RPD	Control Limits %RPD	Flag
Analyte						ļ
Chloride		ND	ND	NC	20	<u> </u>
Lab Batch #: 739587						
Date Analyzed: 11/07/2008	Date Pro	epared: 11/(	07/2008	Analy	st: BEV	
QC- Sample ID: 316614-003 D	B	atch #:		Matr	ix: Soil	
Reporting Units: %		SAMPLE	/ SAMPLE	DUPLIC	ATE REC	OVERY
• Percent Moisture Analyte		Parent Sample Result [A]	Sample Duplicate Result [B]	RPD	Control Limits %RPD	Flag
Percent Moisture		11.0	9.85	11	20	
Lab Batch #: 739588				·····		
Date Analyzed: 11/07/2008	Date Pre	<b>pared:</b> 11/0	7/2008	Analy	st: LATCO	ર
QC- Sample ID: 316993-018 D	В	atch #: l		Matr	ix: Soil	
Reporting Units: %		SAMPLE	SAMPLE	DUPLIC	ATE REC	OVERY
Percent Moisture		Parent Sample Result [A]	Sample Duplicate Result [B]	RPD	Control Limits %RPD	Flag
Analyte			1.57			
rercent Moisture		1.41	• 1.57	11	20	

Spike Relative Difference RPD 200 \* | (B-A)/(B+A) | All Results are based on MDL and validated for QC purposes.

Page 1 of 3

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LABJ.D. 310993	SAMPLE I.D.	(G)RAB OR (C)OMF	# CONTAINERS	GROUND WATER	WASTEWATER	SOIL	CRUDE OIL	SLUDGE	OTHER:	ACID/BASE	ICE/COOL	OTHER	DATE	TIME	BTEX 8021B	TPH 8015M	CHLORIDES (CI)	SULFATES (SQ4 <sup>=</sup> )	Н	TCLP	OTHER >>>	РАН			
1	SW-18 (4')	G	1	1		X				1	X	<b></b>	06-Nov-08	12:04	-	F	x	Ê							
3	SW-2B (4')	G	1	Γ		X				Г	TX		06-Nov-08	12:07			X	-							<b>[</b>
3	SW-3B (3')	G	1			х				Γ	X		06-Nov-08	12:10			X		Γ						
	SW-4A (3')	G	1	Γ		х				Γ	X		06-Nov-08	12:15		Γ	X								
-	SW-5A (3')	G	1			Х					X		06-Nov-08	12:18		Γ	X		Γ						
6	SW-6B (3')	G	1			X					X		06-Nov-08	12:23			X								
7	SW-7C (3')	G	1			X					X		06-Nov-08	12:27			X		Γ.						
8	SW-8A (3')	G	1			Х					X		06-Nov-08	12:31			X			Ĺ.,					Γ_
9	SW-9B (3')	G	1			X					X		06-Nov-08	12:33			X		Γ.						
li li	SW-10B (4')	G	1			X					X		06-Nov-08	12:37			X		Γ.						
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3/6913			(G)RA	# CO	GROL	WAST	SOIL	CRUD	SLUD	отне	ACID/	ICEVO	OTHE	DATE	TIME	BTEX	TPH 8	CHLO	SULF	H	TCLP	OTHE	PAH		ĺ	
11	SW-11A (4')		G	1			X					X		06-Nov-08	12:42	Γ		X			· · ·					
12	SW-12D (4')		G	1			X					X		06-Nov-08	12:48	Γ		X								
۲	BH-1A (8')	-	G	1			X					Х		06-Nov-08	12:51	Γ		X			$\square$			П		
, 14	BH-2A (7')		G	1			X					X		06-Nov-08	12:55	Г		X						$\square$		
15	BH-3A (6')		G	1			X					X		06-Nav-08	13:01	1		Х								
16	BH-4A (6')		G	1			X					X		06-Nov-08	13:03			X								
	BH-5A (6')		G	1			X					X		06-Nov-08	13:07			X								
18	BH-6A (6')		G	1			X					X		06-Nov-08	13:09			х						П		
19	BH-7A (6')		G	1			X					X		06-Nov-08	13:14			х						$\square$		
20	BH-8A (6')		G	1			X					X		06-Nov-08	13:16			X			$\square$					
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Page 3 of 3

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LAB 1.D.	SAMPLE I.	D.	(G)RAB OR (C)OMF	# CONTAINERS	GROUND WATER	WASTEWATER	SOIL	CRUDE OIL	SLUDGE	OTHER:	ACID/BASE	ICE/COOL	OTHER	DATE	TIME	BTEX 8021B	TPH 8015M	CHLORIDES (CI')	SULFATES (SO4')	Hq	TCLP	OTHER >>>	РАН			
21	SW-13A (3')		G	1			x	-			1	t x	r	06-Nov-08	13:21			x							1	
22	SW-14A (3')		G	1			x	<b></b>		T		x	<b>F</b>	06-Nov-08	13:23	t	1-	x							1-	<u> </u>
23	SW-15C (3')		G	1			X	-	t-			X	<b>—</b>	06-Nov-08	13:29	t	t	1x					_			t
24	SW-16A (3')		G	1			x	<b>—</b>	t		t –	X		06-Nov-08	13:34			Īx		<u> </u>						t-
25	SW-17B (3')		G	1	<b>—</b>		X			$\square$		X		05-Nov-08	13:40		1-	Ťχ							1-	
26	SW-18C (3')		G	1		_	x			$\vdash$		x		06-Nov-08	13:44	1-	t	X								t
27	SW-19C (3')		G	1			x			-	1-	x	<u> </u>	06-Nov-08	13:47		-	X	-						t-	$\vdash$
28	SW-20C (3')		G	1		-	x				-	x		06-Nov-08	13:49			x							<u>†</u>	
29									1									1		$\square$		-				
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### Environmental Lab of Texas

Variance/ Corrective Action Report- Sample Log-In

Client	EPI	
Date/ Time	11703	12 45
Lab ID #	3164	113
Initials	17	L

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#### Sample Receipt Checklist

				Client Init
#1	Temperature of container/ cooler?	Ves	No	9.5 °C
#2	Shipping container in good condition?	Tes	No	
#3	Custody Seals intact on shipping container/ cooler?	Yes	No	Not Present
#4	Custody Seals intact on sample bottles/ container?	Yes	No	Not Present
#5	Chain of Custody present?	Yes	No	
#6	Sample instructions complete of Chain of Custody?	Yes	No	
#7	Chain of Custody signed when relinguished/ received?	Tes	No	
#8	Chain of Custody agrees with sample label(s)?	(es)	No	D written on Cont / Lid
#9	Container label(s) legible and intact?	<yës< td=""><td>No</td><td>Not Applicable</td></yës<>	No	Not Applicable
#10	Sample matrix/ properties agree with Chain of Custody?	Yes	Na	1
<b>#1</b> 1	Containers supplied by ELOT?	Yes	No	1
#12	Samples in proper container/ bottle?	Yes	No	See Below
#13	Samples properly preserved?	Yes	No	See Below
#14	Sample bottles intact?	Yes	No	
#15	Preservations documented on Chain of Custody?	Yes	No	
#16	Containers documented on Chain of Custody?	/Yes	No	T
#17	Sufficient sample amount for indicated test(s)?	Yes	No	See Below
#18	All samples received within sufficient hold time?	Yes	No	See Below
#19	Subcontract of sample(s)?	Yes	No	Not Applicable
#20	VOC samples have zero headspace?	Yes	No	Not Applicable

#### Variance Documentation

Contacted by Contact Date/ Time Regarding Corrective Action Taken. 

Check all that Apply

See attached e-mail/ fax

Client understands and would like to proceed with analysis Cooling process had begun shortly after sampling event

# Analytical Report 317560

for

### **Environmental Plus, Incorporated**

Project Manager: David P. Duncan

Avalon TB Transfer Line 190033

17-NOV-08





Texas certification numbers: Houston, TX T104704215-08B - Odessa/Midland, TX T104704400-08

Florida certification numbers: Houston, TX E871002 - Miami, FL E86678 - Tampa, FL E86675 Norcross(Atlanta), GA E87429

> South Carolina certification numbers: Norcross(Atlanta), GA 98015

North Carolina certification numbers: Norcross(Atlanta), GA 483

Houston - Dallas - San Antonio - Tampa - Miami - Latin America Midland - Corpus Christi - Atlanta



17-NOV-08



Project Manager: **David P. Duncan Environmental Plus, Incorporated** P.O. Box 1558 Eunice, NM 88231

Reference: XENCO Report No: **317560** Avalon TB Transfer Line Project Address: UL-C, Sec. 31, T20S, R28E

#### David P. Duncan:

We are reporting to you the results of the analyses performed on the samples received under the project name referenced above and identified with the XENCO Report Number 317560. All results being reported under this Report Number apply to the samples analyzed and properly identified with a Laboratory ID number. Subcontracted analyses are identified in this report with either the NELAC certification number of the subcontract lab in the analyst ID field, or the complete subcontracted report attached to this report.

Unless otherwise noted in a Case Narrative, all data reported in this Analytical Report are in compliance with NELAC standards. Estimation of data uncertainty for this report is found in the quality control section of this report unless otherwise noted. Should insufficient sample be provided to the laboratory to meet the method and NELAC Matrix Duplicate and Matrix Spike requirements, then the data will be analyzed, evaluated and reported using all other available quality control measures.

The validity and integrity of this report will remain intact as long as it is accompanied by this letter and reproduced in full, unless written approval is granted by XENCO Laboratories. This report will be filed for at least 5 years in our archives after which time it will be destroyed without further notice, unless otherwise arranged with you. The samples received, and described as recorded in Report No. 317560 will be filed for 60 days, and after that time they will be properly disposed without further notice, unless otherwise arranged with you. We reserve the right to return to you any unused samples, extracts or solutions related to them if we consider so necessary (e.g., samples identified as hazardous waste, sample sizes exceeding analytical standard practices, controlled substances under regulated protocols, etc).

We thank you for selecting XENCO Laboratories to serve your analytical needs. If you have any questions concerning this report, please feel free to contact us at any time.

Respectfully,

Brent Barron, II Odessa Laboratory Manager

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# Sample Cross Reference 317560



### Environmental Plus, Incorporated, Eunice, NM

Avalon TB Transfer Line

Sample Id	Matrix	Date Collected	Sample Depth	Lab Sample Id
BH-3B (8')	S '	Nov-10-08 09:00		317560-001



Environmental Plus, Incorporated, Eunice, NM



Project Name: Avalon TB Transfer Line

Project Id: 190033 Contact: David P. Duncan Project Location: UL-C, Sec. 31, T20S, R28E

Date Received in Lab: Thu Nov-13-08 10:46 am

Report Date: 17-NOV-08 Project Manager: Brent Barron, II

				i roject manager.	Biene Barlon, m
	Lab Id:	317560-001			
Analysis Degrasted	Field Id:	BH-3B (8')			
Anulysis Requested	Depth:				
	Matrix:	SOIL			
	Sampled:	Nov-10-08 09 00		ļ	
Inorganic Anions by EPA 300	Extracted:				
	Analyzed:	Nov-14-08 05 45			
	Units/RL:	mg/kg Rl			
Chloride		ND 52	7		
Percent Moisture	Extracted:				
	Analyzed:	Nov-13-08 17.00			
	Units/RL:	% R		1	
Percent Moisture		5 17			

This analytical report, and the entire data package it represents, has been made for your exclusive and confidential use The interpretations and results expressed throughout this analytical report represent the best judgment of XENCO Laboratones XENCO Laboratones assumes no responsibility and makes no warranty to the end use of the data hereby presented Our hability is limited to the amount involved for this work order unless otherwise agreed to in writing

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Brent Barron

Odessa Laboratory Director





- X In our quality control review of the data a QC deficiency was observed and flagged as noted. MS/MSD recoveries were found to be outside of the laboratory control limits due to possible matrix /chemical interference, or a concentration of target analyte high enough to effect the recovery of the spike concentration. This condition could also effect the relative percent difference in the MS/MSD.
- **B** A target analyte or common laboratory contaminant was identified in the method blank. Its presence indicates possible field or laboratory contamination.
- **D** The sample(s) were diluted due to targets detected over the highest point of the calibration curve, or due to matrix interference. Dilution factors are included in the final results. The result is from a diluted sample.
- **E** The data exceeds the upper calibration limit; therefore, the concentration is reported as estimated.
- **F** RPD exceeded lab control limits.
- J The target analyte was positively identified below the MQL and above the SQL.
- U Analyte was not detected.
- L The LCS data for this analytical batch was reported below the laboratory control limits for this analyte. The department supervisor and QA Director reviewed data. The samples were either reanalyzed or flagged as estimated concentrations.
- **H** The LCS data for this analytical batch was reported above the laboratory control limits. Supporting QC Data were reviewed by the Department Supervisor and QA Director. Data were determined to be valid for reporting.
- K Sample analyzed outside of recommended hold time.

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	Phone	Fax
4143 Greenbriar Dr, Stafford, Tx 77477	(281) 240-4200	(281) 240-4280
9701 Harry Hines Blvd , Dallas, TX 75220	(214) 902 0300	(214) 351-9139
5332 Blackberry Drive, San Antonio TX 78238	(210) 509-3334	(210) 509-3335
2505 North Falkenburg Rd, Tampa, FL 33619	(813) 620-2000	(813) 620-2033
5757 NW 158th St, Miami Lakes, FL 33014	(305) 823-8500	(305) 823-8555
12600 West I-20 East, Odessa, TX 79765	(432) 563-1800	(432) 563-1713
842 Cantwell Lane, Corpus Christi, TX 78408	(361) 884-0371	(361) 884-9116





### Project Name: Avalon TB Transfer Line

<b>Work Order #:</b> 317560			190033							
Lab Batch #: 740182	Sample: 740182-	Sample: 740182-1-BKS Matrix: Solid								
<b>Date Analyzed:</b> 11/14/2008	Date Prepared: 11/14/20	008	Analy	Analyst: LATCOR						
Reporting Units: mg/kg	Batch #: 1	BLANK /	BLANK /BLANK SPIKE RECOVERY							
Inorganic Anions by EPA 300	Blank Result	Spike Added	Blank Spike	Blank Spike	Control Limits	Flags				
Analytes	[A]	<b>[B]</b>	Result [C]	%R [D]	%R	U U				
Chloride	ND	10 0	9.84	98	75-125					

Blank Spike Recovery [D] = 100\*[C]/[B]All results are based on MDL and validated for QC purposes.



Chloride

### Form 3 - MS Recoveries



.

### Project Name: Avalon TB Transfer Line

Work Order #: 317560 Lab Batch #: 740182 Date Analyzed: 11/14/2008 QC- Sample ID: 317452-041 S Reporting Units: mg/kg

h #: 740182			Pr	oject ID:	190033	
ed: 11/14/2008	Date Prepared:	11/14/2008		Analyst:	LATCOR	a
ID: 317452-041 S	Batch #:	1		Matrix:	Soil	
its: mg/kg	MAT	'RIX / MA'	<b>FRIX SPIKE</b>	RECOV	ERY STU	DY
Inorganic Anions by EPA 300	Parent Sample Result	Spike	Spiked Sample Result	%R	Control Limits	Flag
Analytes	[A]	Addea [B]	[C]	נטן	%K	
	ND	103	116	113	75-125	

Matrix Spike Percent Recovery  $[D] = 100^{*}(C-A)/B$ Relative Percent Difference  $[E] = 200^{*}(C-A)/(C+B)$ All Results are based on MDL and Validated for QC Purposes





### Project Name: Avalon TB Transfer Line

Work Order #: 317560

Lab Batch #: 740182			Project I	<b>D:</b> 190033	
Date Analyzed: 11/14/2008	Date Prepared: 11/1	4/2008	Analy	st: LATCO	ર
QC- Sample ID: 317452-041 D	Batch #:	l	Matr	ix: Soil	
Reporting Units: mg/kg	SAMPLE	/ SAMPLE	DUPLIC	ATE REC	OVERY
Inorganic Anions by EPA 300	Parent Sample Result [A]	Sample Duplicate Result	RPD	Control Limits %RPD	Flag
Analyte		[ <b>B</b> ]			
Chloride	ND	ND	NC	20	

Spike Relative Difference RPD 200 \* | (B-A)/(B+A) | All Results are based on MDL and validated for QC purposes.

Page 1 of 1

Environme 2100 Avenue O, Euni (575) 394-3481 EAX	ntal Plus, Inc.	₽.0	). Ø	ox '	1554	3, E	unic	ce, I	NM I	882:	31						<u>C</u>	ha	in c	<u>of (</u> AB:	<u>Jus</u> Xen	ncc	<u>dy (</u> ) (E)	<i>Εοι</i> ιτι	m
Company Name	Environmental Plus	. In				-					8	111	0			_	A	IAI	YS	SF	EQ	ŨES	T		-
EPI Project Manager	David P. Duncan					_			-													Ċ.			
Mailino Address	P.O. BOX 1558											л.									(		1		
City, State, Zip Eunice New Mexico 88231												Щ													
EPI Phone#/Fax#	575-394-3481 / 575-	394-	260	1						i	Ξſ'	Ep.	F												
Client Company	ExxonMobil				-							m	~												
Facility Name	Avalon TB Transfer	Lin	e									ulli,													
Location	UL-C. Sec. 31, T205	. R2	8E						۸	H.n.	<b>D</b>		Duncan			ŀ									
Project Reference	190033				-				~	P	0	Roy	1558												
EPI Sampler Name	Kirt Tyree			_						Fur	uce	NA	4 88231		1										1
		T	Γ-	<u> </u>		MA	TRIX	_	-	PR	ESE	RV.	SAMPLI	NG	1	1					{				
LAB 1.D. 317540	SAMPLE I.D.	(G)RAB OR (C)OMP.	# CONTAINERS	GROUND WATER	WASTEWATER	SOIL	CRUDE OIL	SLUDGE	отнея:	ACID/BASE	ICE/COOL	OTHER	ØATE	TIME	BTEX 8021B -	TPH B015M	CHLORIDES (CI')	SULFATES (SO,7)	PH	TCLP	OTHER >>>	РАН			
1 BH-3	39 (8')	G	1			X					X		10-Nov-08	9:00		T_	X					<b></b>		<b></b>	
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Delivered by	Delivered by Sample Coci & Infact Yns No						Ch	ecked	By		4	υ 'C	- willabe	1 3 - 20	<u>.</u> 1	: ^	( č.	1¢1	ine	r		462	9 li	<u>در ا</u>	

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Page 9 of 10

#### Environmental Lab of Texas Variance/ Corrective Action Report- Sample Log-In

K

Client	191	
Date/ Time	11308	<u>IC 4</u>
Lab ID #	517560	
Initials	<u> </u>	

#### Sample Receipt Checklist

				c	lient Initials
#1	Temperature of container/ cooler?	Ves.	No	4 C °C	
#2	Shipping container in good condition?	Yes	No		
#3	Custody Seals intact on shipping container/ cooler?	Yes	No	< Not Present	
#4	Custody Seals intact on sample bottles/ container?	Yes	No	Not Present	
#5	Chain of Custody present?	Yes	No		
#6	Sample instructions complete of Chain of Custody?	468	No		
#7	Chain of Custody signed when relinquished/ received?	(es	No		
#8	Chain of Custody agrees with sample label(s)?	Yes	No	ID written on Cont / Lid	
#9	Container label(s) legible and intact?	Yes	No	Not Applicable	
#10	Sample matrix properties agree with Chain of Custody?	Ves	No		
#11	Containers supplied by ELOT?	Yes	No		,
#12	Samples in proper container/ bottle?	Yes	No	See Below	
#13	Samples properly preserved?	(Les	No	See Below	
#14	Sample bottles intact?	Yes	No		
#15	Preservations documented on Chain of Custody?	Ves:	No		
#16	Containers documented on Chain of Custody?	Yes	No		
#17	Sufficient sample amount for indicated test(s)?	Yes	No	See Below	
#18	All samples received within sufficient hold time?	Yes	No	See Below	
#19	Subcontract of sample(s)?	Yes	No	Not Applicable	
#20	VOC samples have zero headspace?	Yes	No	(Not Applicable	

#### Variance Documentation

Date/ Time

Contact

Regarding

Corrective Action Taken.

Check all that Apply

#### See attached e-mail/ fax

Contacted by

Client understands and would like to proceed with analysis Cooling process had begun shortly after sampling event

# **ATTACHMENT III SOIL BORING LOGS**

*-				L	_og	Of Test	t Borings (NUTE - Page 1 of 1)
<u> </u>		- 11				Pro lec	t Number: 190033
	L_	ENVIRO	INMENTAL	<sup>D</sup> LUS, IN	NC.	Project	t Name ExxanMobil-Avaion Tank Battery Line Transfer
		CC REMED	INSULTING A	ND JCTION		Location	n: UL-C. Section 31. Township 20 South, Range 28 East
1	ļ	EUNI 51	[CE, NEW ME 05-394-3481	XICO	ŀ	Borino N	Number: SB-1 Surface Elevation: 2.200-feat and
		2	à n	anv			Start Date: 7-23-08 Time: 0830 brs
me	ype	hes	atur ding	orld J/Kg	S.C.S	eet	Completion Date: 7-23-08 Time: 0848 hrs
-	St-	en e	Ne Re R	And P	3S	ЦЩ,	Description
						-	
0830				2 200			2' SAND Tan - Sino
							3 SAND, Tan - Fine
0841				240		5	5' SAND, Tan - fine
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0848				160			10' SAND Ton - fine
						+	End of Soll Boring at 10' bgs
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Date	Water	Level M	e Casino	s (feet) Cave-In	l I Vo	ter Dril	Illing Method: Auger Trailer
		Dept	h Depth	Depth -	Le	vel Bac	ckfill Method: Bentonite
_		-			1	- Flei	ld Reoresentative: KM

					L	_og	Of Tes	t Borings (NOTE - Page 1 of 1)
							Projec	t Number: 190033
				TAL F	LUS, I	NC.	Projec	t Name: ExxonMobil-Avalon Tank Battery Line Transfer
		REMEI FUN	DIAL C	UNSTRU			Locatio	uL-C, Section 31, Township 20 South, Range 28 East
1 11		5	505-39	4-3481			Boring N	Number: SB-2 Surface Elevation: 3,280-feet amsl
	e e	ery s)	ar	Jgs (	ide sis (g)	50	£₽	Start Date: 7-23-08 Time: 0925 hrs
Ξщe	Samp Typ		olsti	PII PII PI	hlar ng/k	C'S'D	Dep <sup>1</sup> (fee	Completion Date: 7-23-08 Time: 0945 hrs
		<u> </u>	ž	ΩŽ	- <b>⊅</b> C			Description
							$\vdash$	
0925					120			3' SAND/Caliche, Tan - fine
0945					120		5	5' SAND/Collebo Ton - Sho
					10			End of Soil Boring at 5' bas
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<u> </u>	Voter		Mensur	emente	(feet)	)		
Date	Time	Samp		asing	Cave-In Denth	Wa	ter Dri	Illing Methodi Auger Trailer
		-		-	-		- Ba	ckfill Methodu Bentonite
							Fle	ld Representative: KM

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					L	.og l	Df Te	est l	lorings			(NEITE - Page 1 of	1)
			·····			<u> </u>	Prol	lect	lumberi	190033	3		
				AL F	LUS, I	vс.	Proj	ect	lame: Ex	conMobil	-Avalon 1	Tank Battery Line Tr	ansfer
	F	REME: FUN	DIAL CE	L CONSTRUCTION			Loca	tlon	UL-C,	Section	31, Towns	hlp 20 South, Range 2	8 East
					Boring Number: SB-3 Surface Elevation: 3,280-feet amsl								
Q	e e	very es)	a n	ngs Ungs	)lde /sis Kg)	<u>sis</u>	<u>ج</u>	3	S	tart Da	te1 <u>7-23-</u>	08 Time: 1000 hrs	5
Ē	Sam	Cincho Cincho	Voist	Read PL	Chlor Analy (mg/	U.S.U Syml	Dep		C	ompletio	n Date:	7-23-08 Time: 1030	hrs
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1000			+		1,200			-	$\backslash$		3' SAND.	Ton - fine	
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Date	Vater Time	Level   Samp	Measuri Die Ca	ements Ising	s (feet) Cave-In	Wa-	ter	Drillin	) Method	Auger	Trailer		
		Dep <sup>-</sup>	th De	pth -	Depth -	Le	vel	Backf	ll Method	lı Ber	ntonite		
-	-			-		-	I	Fleld	Represen	tative	КМ		

Enviremental       PLUS, INC, CDUSTING NND REMEDIAL CONSTRUCTION SUBJ 297-3481       Project Number 190033         Project Number State       Project Number State       Project Number State         Subj 297-3481       Subj 298 (State State)       Subj 208 (State State)         Subj 297-3481       Subj 298 (State State)       Subj 208 (State State)         Subj 297-3481       Subj 298 (State State)       Subj 298 (State State)         Subj 298 (State State)       Subj 298 (State State)       State State State)       There 1100 hrs         Subj 298 (State State)       State State State)       State State State)       There 1105 hrs         1100       284 (State)       State State)       State State State)       There 1105 hrs         1100       284 (State)       State State)       State State)       There 1105 hrs         1100       284 (State)       State)       State)       State)       State)         1100       284 (State)       State)       State)       State)       State)       State)         1100       284 (State)       State)       State)       State)       State)       State)       State)       State)         1100       284 (State)       State)       State)       State)       State)       State)       State)       Stat						L	_09	Of Te	st Borings (NDTE - Page 1 of 1)
Environmental Plus, Inc. CONSULTING AND Reveload Construction ELMICE, New Mexicit.       Project Name: ExxonMobil-Avaion Tank Battery Line Transfer Construction Sist-394-3481         2			·	. <u> </u>				Proje	rct Number: 190033
Predictive line, has more than the prediction of the			Еилі		NTAL F	LUS, I	NC,	Proje	ect Name: ExxonMobil-Avalon Tank Battery Line Transfer
Image: Sec: 394-3481       Boring Number       SB-4       Surface Elevation 3,280-feet ans         Image: Sec: 394-3481       Boring Number       SB-4       Surface Elevation 3,280-feet ans         Image: Sec: 394-3481       Image: Sec: 394-3481       Start Date: 7-23-08       Time: 1100 hrs         Image: Sec: 394-3481       Image: Sec: 394-3481       Start Date: 7-23-08       Time: 1105 hrs         Image: Sec: 394-3481       Image: Sec: 394-3481       Image: Sec: 394-3481       Image: Sec: 394-3481         Image: Sec: 394-3481       Image: Sec: 394-3481       Image: Sec: 394-3481       Image: Sec: 394-3481         Image: Sec: 394-3481       Image: Sec: 394-3481       Image: Sec: 394-3481       Image: Sec: 394-3481         Image: Sec: 394-3481       Image: Sec: 394-3481       Image: Sec: 394-3481       Image: Sec: 394-3481         Image: Sec: 394-3481       Image: Sec: 394-3481       Image: Sec: 394-3481       Image: Sec: 394-3481         Image: Sec: 394-3481       Image: Sec: 394-3481       Image: Sec: 394-3481       Image: Sec: 394-3481         Image: Sec: 394-3481       Image: Sec: 394-3481       Image: Sec: 394-3481       Image: Sec: 394-3481         Image: Sec: 394-3481       Image: Sec: 394-3481       Image: Sec: 394-3481       Image: Sec: 394-3481         Image: Sec: 394-3481       Image: 394-3481       Image: Sec: 394-3481			REM		LING A	UN JCTION		Locat	Ion: UL-C, Section 31, Township 20 South, Range 28 East
ge         ge<				505-3	94-3481			Boring	Number: SB-4 Surface Elevation: 3,280-feet amsl
Production         Date		<u>_</u>	ery s)	ې د	soc	asi (b	50	£⊋	Start Date: 7-23-08 Time: 1100 hrs
Image: Control of the state of the stat	Time	Type	2 U U U U U V U	olstu		hlori Ng/K	U'S'I	Dept	Completion Date: 7-23-08 Time: 1135 hrs
1100       240         1135       180         5       5' SAND, Tan - Fine         10       -         -       -			<u> 22</u>	Σ	<u> </u>	ບ <b>∢</b> ⊽			Description
1100         240         3' SAND, Tan - fine           1135         180         5         5' SAND, Tan - fine           1135         180         -         -           1135         180         -         -           1135         180         -         -           1135         180         -         -           1137         180         -         -           1137         180         -         -           1137         -         -         -           1137         -         -         -           1137         -         -         -           110         -         -         -           110         -         -         -           110         -         -         -           110         -         -         -           110         -         -         -           110         -         -         -           110         -         -         -           111         -         -         -           1110         -         -         -           1110         -         <									
1100       240       3' SAND, Tan - fine         1135       180       5' SAND, Tan - fine         1135       180       5' SAND, Tan - fine         1135       180       5' SAND, Tan - fine         1136       180       5' SAND, Tan - fine         1137       180       10         1138       180       10         1139       180       10         1131       180       10         1131       180       10         1131       180       10         1131       180       10         1131       180       10         1131       180       10         1131       10       10         1131       10       10         1131       10       10         1131       10       10         1131       10       10         1131       10       10         1131       10       10         1131       10       10         1131       10       10         1131       10       10         1131       10       10         1131       10       10<									
1135       180       5       5' SAND, Tan - Fine         End of Soil Boring at 5' bgs	1100					240			3' SAND, Tan - fine
End of Soll Boring at 5' bgs	1135	· · · ·				180		+	5 SAND Tan - fine
									End of Soil Boring at 5' bgs
Vater Level Measurements (feet)									
Vater Level Measurements (Feet)       Date       Date       Date       Drilling Method: Auger Trailer         Date       The       Sample       Casing       Cave-in       Vater Level         Pate       The       Sample       Casing       Cave-in       Vater         Path       The       Depth       Depth       Depth       Depth         Path       The       The       The       The       The         Path       The       The       The       The       The         Path       The       The       The       The       The         Path       The       The       The       The       The       The       The         Path       The       The       The       The       The       The       The         Path       The       The       The       The       The       The       The         Path       The <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td><u> </u></td> <td>  _ </td>								<u> </u>	_
Vater Level Measurements (Feet) Date Time Sample Cosing Caue-in Depth De								1	o
Vater Level Measurements (feet) Date Time Sample Casing Cove-In Vater Depth Depth Depth Depth Level Field Representativer KM									
Water Level Measurements (feet)       Drilling Method: Auger Trailer         Date       Time       Sample         Casing       Casing       Casing         Date       Time       Sample         Casing       Casing       Casing         Date       Time       Sample         Casing       Casing       Casing         Date       Time       Sample         Date       Time       Sample         Depth       Depth       Level         Backfill Method:       Bentonite         -       -       -         -       -       -         -       -       -         -       -       -         -       -       -         -       -       -         -       -       -         -       -       -         -       -       -         -       -       -         -       -       -         -       -       -         -       -       -         -       -       -         -       -       -         -       -									
Vater Level Measurements (Feet)     Drilling Method: Auger Trailer       Date     Time       Sample     Casing       Casing     Cave-in       Vater Level Measurements (Feet)     Drilling Method: Auger Trailer								-	_
Water Level Measurements (Feet)     Date     Time     Sample     Cave-in     Water       Date     Time     Sample     Cave-in     Water     Drilling Methodi     Auger Trailer				,				1	5
Water Level Measurements (feet)     Date     Time     Sample     Casing     Case-in     Date       Date     Time     Sample     Casing     Cave-in     Water       Date     Time     Sample     Casing     Cave-in       Date     Time     Sample     Casing     Cave-in       Date     Time     Sample     Casing     Cave-in       Field Representative     KM								E	_
Water Level Measurements (feet)     Drilling Method: Auger Trailer       Date     Time     Sample     Casing       Date     Time     Sample     Casing       Depth     Depth     Depth     Depth       Field Representative:     KM									
Vater Level Measurements (feet) Uater Time Sample Casing Cave-in Water Date Time Sample Casing Cave-in Water								-	_
Water Level Measurements (feet)     Date     Time     Sample     Casing     Cave-n     Water									
Water Level Measurements (feet)     Date     Time     Sample     Casing     Cave-in     Water       Date     Time     Sample     Casing     Cave-in     Water       -     -     -     -       -     -     -     -       -     -     -     -       -     -     -     -       -     -     -     -       -     -     -     -       -     -     -     -       -     -     -     -       -     -     -     -       -     -     -     -       -     -     -     -       -     -     -     -       -     -     -     -       -     -     -     -       -     -     -     -       -     -     -     -									
Water Level Measurements (feet)     Drilling Method: Auger Trailer       Date     Time     Sample       Casing     Cave-in       Depth     Depth       Level     Backfill Method:       Backfill Method:     Bentonite       Field Representative:     KM	} .								
Water Level Measurements (feet)     Drilling Method: Auger Trailer       Date     Time       Sample     Casing       Depth     Depth       Level     Backfill Method: Bentonite       Field Representative:     KM	{							<u> </u>	_
Water Level Measurements (feet)								25	5
Water Level Measurements (feet)     Date     Time     Sample     Casing     Cave-in     Water       Date     Time     Sample     Casing     Cave-in     Water       -     -     -     -     -       -     -     -     -     -       -     -     -     -     -       -     -     -     -     -       -     -     -     -     -       -     -     -     -     -       -     -     -     -     -       -     -     -     -     -       -     -     -     -     -       -     -     -     -     -       -     -     -     -     -       -     -     -     -     -       -     -     -     -     -       -     -     -     -     -									
Water Level Measurements (feet)								<u> </u>	·
Water Level Measurements (feet)     Date     Dilling Method: Auger Traller       Date     Time     Sample     Casing       Depth     Depth     Depth     Level       Backfill Method:     Bentonite       -     -     -       -     -     -       -     -     -       -     -     -       -     -     -       -     -     -       -     -     -       -     -     -       -     -     -       -     -     -       -     -     -       -     -     -								-	
Water Level Measurements (feet)         Date       Time       Sample       Casing       Cave-in       Water            Drilling       Method:       Auger Trailer             Backfill       Method:       Bentonite              Field       Representative:       KM								30	
water Level Measurements (feet)         Date       Time       Sample       Casing       Cave-in       Water            Depth       Depth       Depth       Level             Backfill Method:       Bentonite             Field Representative:       KM								<u> </u>	
Jeptn     Jeptn     Jeptn     Level       -     -     -     -       -     -     -     -       -     -     -     -       -     -     -     -       -     -     -     -       -     -     -     -       -     -     -     -       -     -     -     -       -     -     -     -       -     -     -     -       -     -     -     -       -     -     -     -       -     -     -     -       -     -     -     -	Date	Water Time	r Level ?   Sar	Measu Iple (	Casing	s (feet) Cave-In	, I Va	ter	rilling Method: Auger Traller
Fleid Representative KM			Det	- 170	рертh _	Jepth 			ackfill Method: Bentonite
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