

REMEDIATION PROPOSAL

AVALON DELAWARE UNIT WELL #238

EPI REF: #190037
NMOCD: 2RP#

UL-K (NE¼ OF THE SW¼) OF SECTION 30, T20S, R38E

~7.5 MILE NORTH OF CARLSBAD

28E

EDDY COUNTY, NEW MEXICO

LATITUDE: N 32° 32' 42.21"

LONGITUDE: W 103° 13' 15.65"

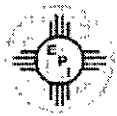
JANUARY 2010

PREPARED BY:

ENVIRONMENTAL PLUS, INC.
P.O. BOX 1558
2100 WEST AVENUE O
EUNICE, NEW MEXICO 88231

PREPARED FOR:

ExxonMobil



ENVIRONMENTAL PLUS, INC.
CONSULTING AND REMEDIAL CONSULTATION

06 January 2010

Mr. Mike Bratcher
Environmental Engineer
New Mexico Oil Conservation Division
1301 West Grand
Artesia, New Mexico 88210

RE: Remediation Proposal
Exxon Mobil –Avalon Delaware Unit Well #238
UL-K (NE ¼ of the SW ¼) of Section 30, T 20 S, R 28 E
Latitude: 32° 32' 41.21"; Longitude: 104° 13' 15.65"
Eddy County, New Mexico
EPI Ref. #190037

Dear Mr. Bratcher:

On July 28, 2009 at 12:30 p.m. approximately 83-barrels of produced water were released from a fiberglass injection flow line (3" dia.) when a leak developed. Approximately eighty-three (83) barrels of produced water were released with zero (0) barrels of fluid recovered. Fluids released impacted approximately 7,300 ft² of the surrounding terrain (reference *Figure #3*). NMOCD (M. Bratcher-Artesia) was notified of the release on July 28, 2009 at 4:15 p.m. This letter report documents results of delineation activities and provides a *Remediation Proposal*.

Site Background

The Site is located in UL-K (NE ¼ of the SW ¼) of Section 30, T 20 S, R 28 E at an approximate elevation of 3,299 feet above mean sea level (amsl). The property is owned by the State of New Mexico and managed by the New Mexico State Land Office (NMSLO). A search for water wells was completed utilizing the New Mexico Office of the State Engineers 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*). However, groundwater data taken from CP-00851 (SAN – Exxon Corporation) located within a one-mile radius indicates water depth approximately 115 feet below ground surface (bgs) elevation of 3,235-feet amsl. Allowing groundwater gradient to follow surface contour, it is projected distance between impacted soil and groundwater is approximately 65 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
TPH	100 parts per million

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

Field Work

On July 28, 2009 EPI reacted to an Emergency Response and started preventative remediation activities on the release area. Initially EPI performed site assessment, GPS Survey and photographed the release area. During the period of July 28-29, 2009, the fiberglass injection line was located and exposed to allow roust-a-bout crews to replace it. Contaminated soil surrounding the injection line was excavated and stockpiled on plastic liners to prevent contamination of surrounding area. From July 30 – August 03, 2009 approximately 920-cubic yards of impacted material were transported to Sundance Services, Inc., (Permit No. NM-01-0003) for disposal. Remainder of contaminated material was stockpiled on the plastic liners

On July 30, 2009 eight (8) soil samples were collected from sidewalls and five (5) from bottom of excavation (Ref. *Figure #3*). Soil samples were tested in the field for chloride concentrations. As the nature of the release being produced water, no analyses were conducted for BTEX or TPH concentrations. On July 31, 2009 a test trench was excavated to a depth of twenty (20)-feet bgs. Soil samples were collected at two (2) feet intervals and field tested for chloride concentrations (Ref. *Table #2*). Due to chloride concentrations being greater than NMOCD Remedial Threshold Goals (NMOCD Goals) of 250 mg/Kg, no soil samples were submitted to an independent laboratory for analyses. A LaMotte Chloride Test Kit (Titration Method) was used for field analyses of chloride concentrations.

EPI and Straub Corporation mobilized at the Site on August 13, 2009 to direct the location and advancement of three (3) soil borings (i.e., BG-1, SB-1 and SB-2; reference *Figure 4* for location) with BG-1 serving as background comparison for chloride concentrations. A predetermined depth of seventy (70) vertical feet was established to prevent intrusion into groundwater. Soil samples were collected at varying intervals dependent upon chloride concentrations derived from field analyses (Ref. *Table #3* for interval ranges and chloride concentrations).

Soil samples designated for laboratory analyses were immediately placed in laboratory provided containers, appropriately labeled, placed in ice and transported to Cardinal Laboratory, Hobbs, New Mexico for quantification of chloride concentrations under Chain-of-Custody protocol.

Analytical Data

Field and laboratory analyses of soil samples collected from BG-1 indicated chloride concentrations below NMOCD Goals existed from ground elevation to seventy (70) feet bgs. Similarly tested soil samples for SB-1 indicated chloride concentrations from ground surface to approximately fifty (50) feet bgs exceeded NMOCD Goals. Analytical results for SB-2 indicated chloride concentrations above NMOCD Goals from ground surface to approximately twenty (20) feet bgs. While chloride concentrations for SB-2 exceeded NMOCD Goals below this depth, they can be considered as manageable with no severe threat to contamination of groundwater (Ref. *Table #3*). While no field or laboratory analytical data exist below twenty (20) feet bgs for the test trench excavated on July 31, 2009, it is assumed to show the same characteristics as SB-1.

In reviewing analytical data from *Tables #2* and *#3*, impacted material surrounds the point of release and extends in a southerly direction following natural lay of the ground. The impacted area terminates at the southerly tip of Excavation #2 between BH-3 and BH-2 as indicated by soil samples collected and field tested on sidewalls and bottom of excavation (Ref. *Table #2* and



Figure #3). Similarly, soil samples collected and field tested from sidewalls in Excavation #1 indicate lateral extents of impacted material have nearly been achieved except in the area surrounding SW-8.

Site Remedial Proposal

The horizontal and vertical limits of impacted material are confined to a relatively small area. Geological information derived from well log bores indicate a dense layer of caliche combined with clay undermines the impacted area. With groundwater depth predicted at 115 vertical feet bgs, chances of groundwater contamination are remote. In view of these arguments, EPI proposes excavating the impacted area a maximum depth of ten (10) feet bgs to remove bulk of chloride concentrations. Sidewalls will be excavated to whatever width is required to achieve MNOCD Goals of 500 mg/Kg. Once accomplished, the bottom of the excavation will be backfilled with caliche to within five (5) feet of original ground surface. A minimum two (2) feet thick layer of clean top soil or cushion sand will be placed over the caliche backfill. Install a forty (40) mil thick layer polyethylene liner over the cushion material extending a minimum of two and one-half (2.5) vertical feet up sidewalls. Backfill remainder of the excavation with clean top soil free of deleterious material, rocks and clumps. This will allow a three (3) feet thick layer of top soil to establish vegetative root growth.

After backfill operations are complete, the entire disturbed area will be returned to natural surface gradient with contours to prevent wind/water erosion. The entire disturbed area will be seeded with a grass mixture as determined by the NMSLO. However, EPI recommends seeding activities occur in late spring of 2010 when ground and weather conditions are conducive to vegetative growth.

Upon approval of the *Remediation Proposal*, EPI will initiate remedial phase of the project. At conclusion of the project, a *Site Closure Report* will be submitted to appropriate NMOCD, ExxonMobil Corporation and NMSLO personnel.

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

Mr. Shelby G. Pennington
Senior Operations Compliance Technician
ExxonMobil Corporation
6810 NW 8000
Andrews, Texas 79714



Sincerely,

ENVIRONMENTAL PLUS, INC.

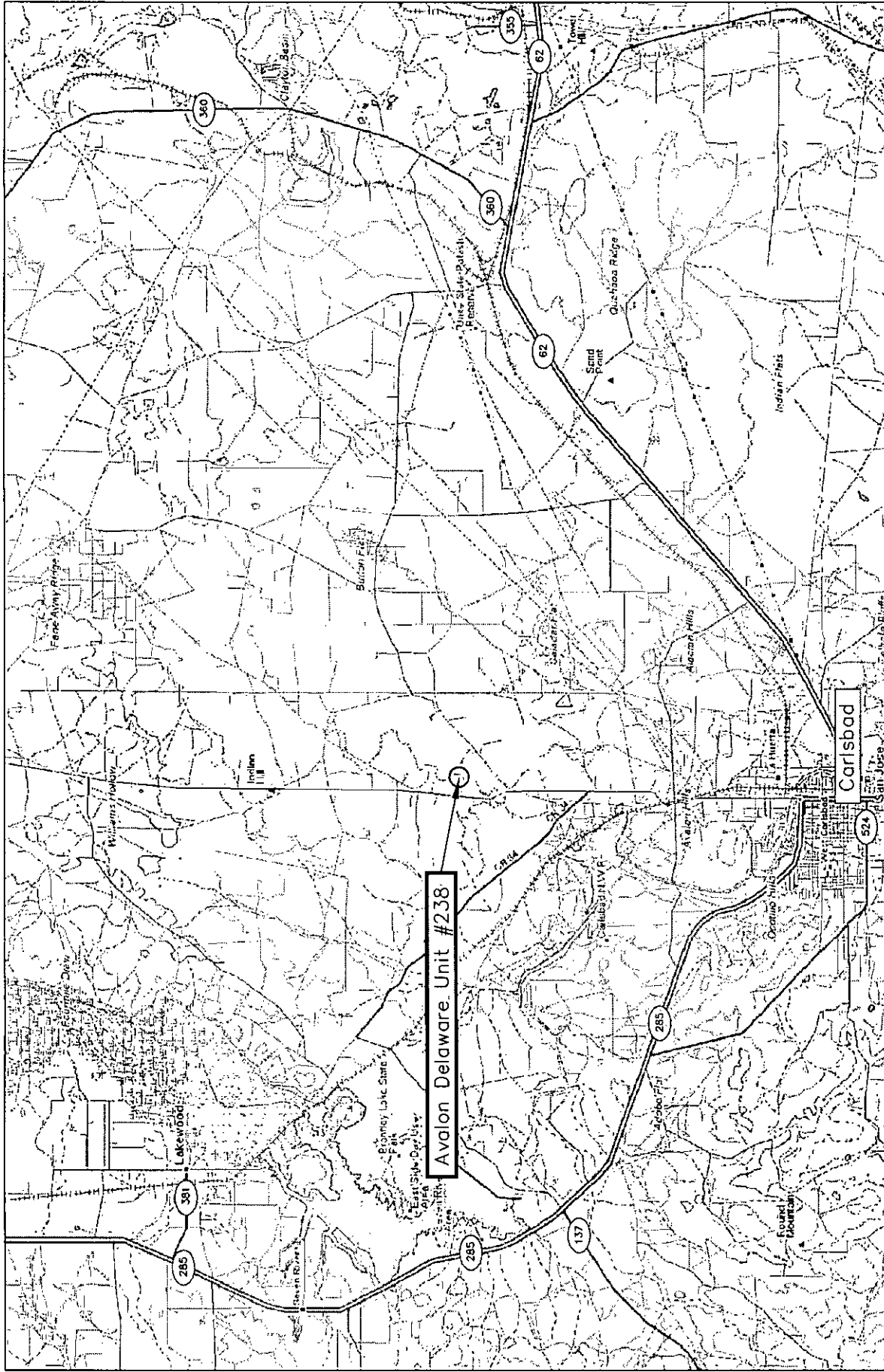
David P. Duncan
Civil Engineer

Cc: Shelby Pennington, Sr. Operations Compliance Technician, ExxonMobil Corporation
Cody Miller, General Manager, EPI
Roger Boone, Operations Superintendent, EPI
Myra Harrison, District Resources Manager, NMSLO

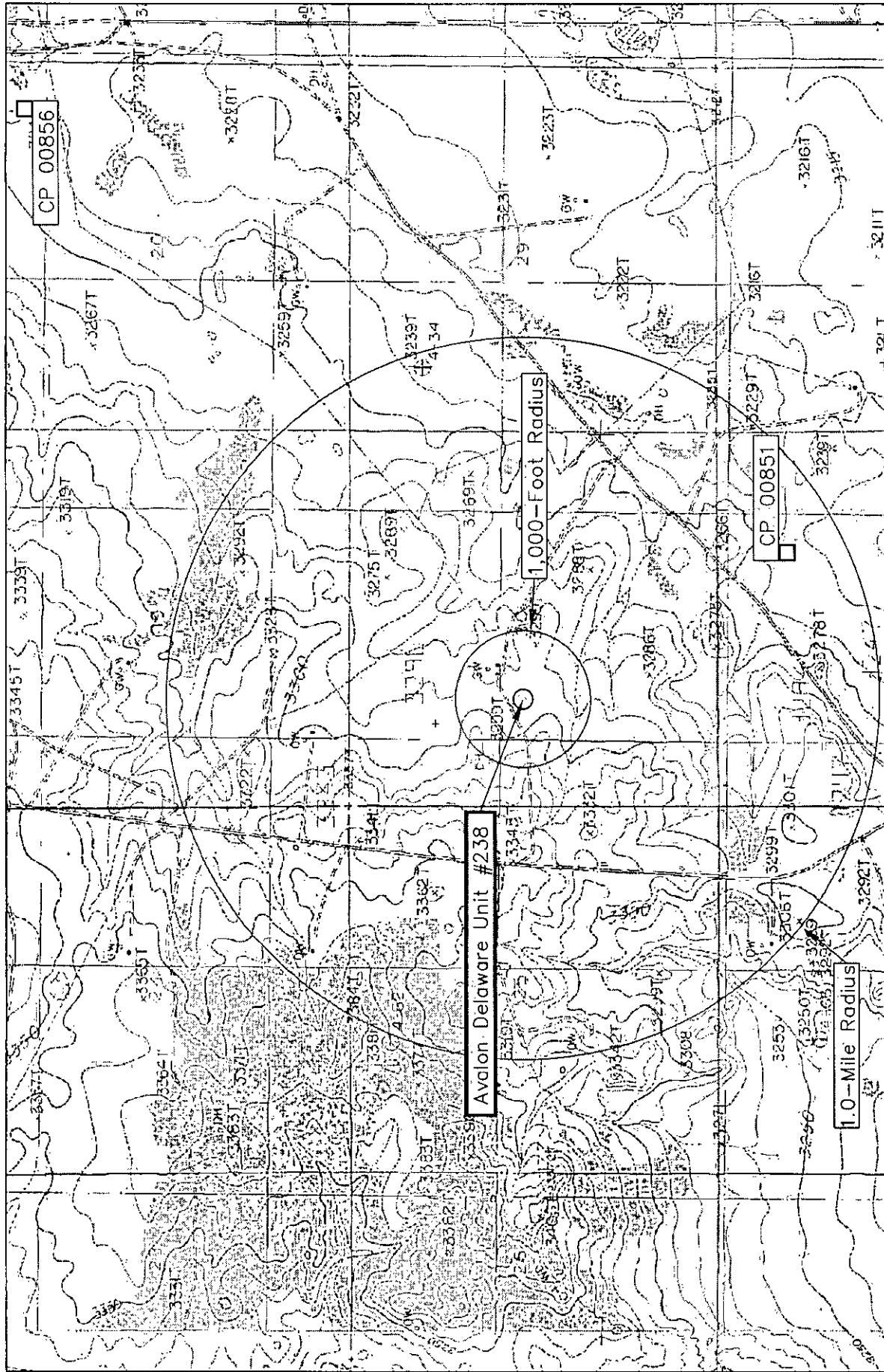
Enclosures:

Figure 1 – Area Map
Figure 2 – Site Location Map
Figure 3 – Site Map with Soil Sample Locations
Figure 4 – Soil Boring Location 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

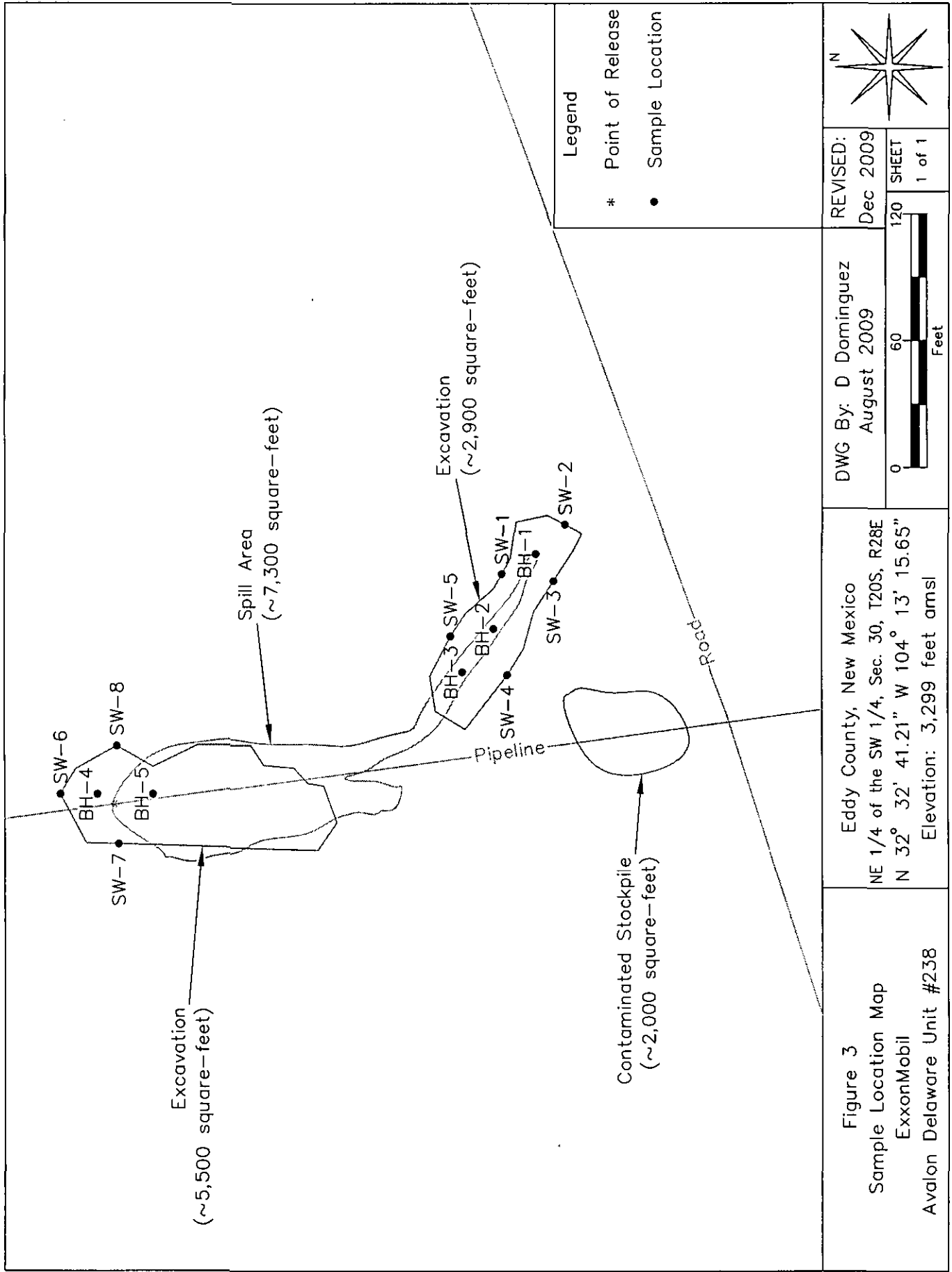
FIGURES

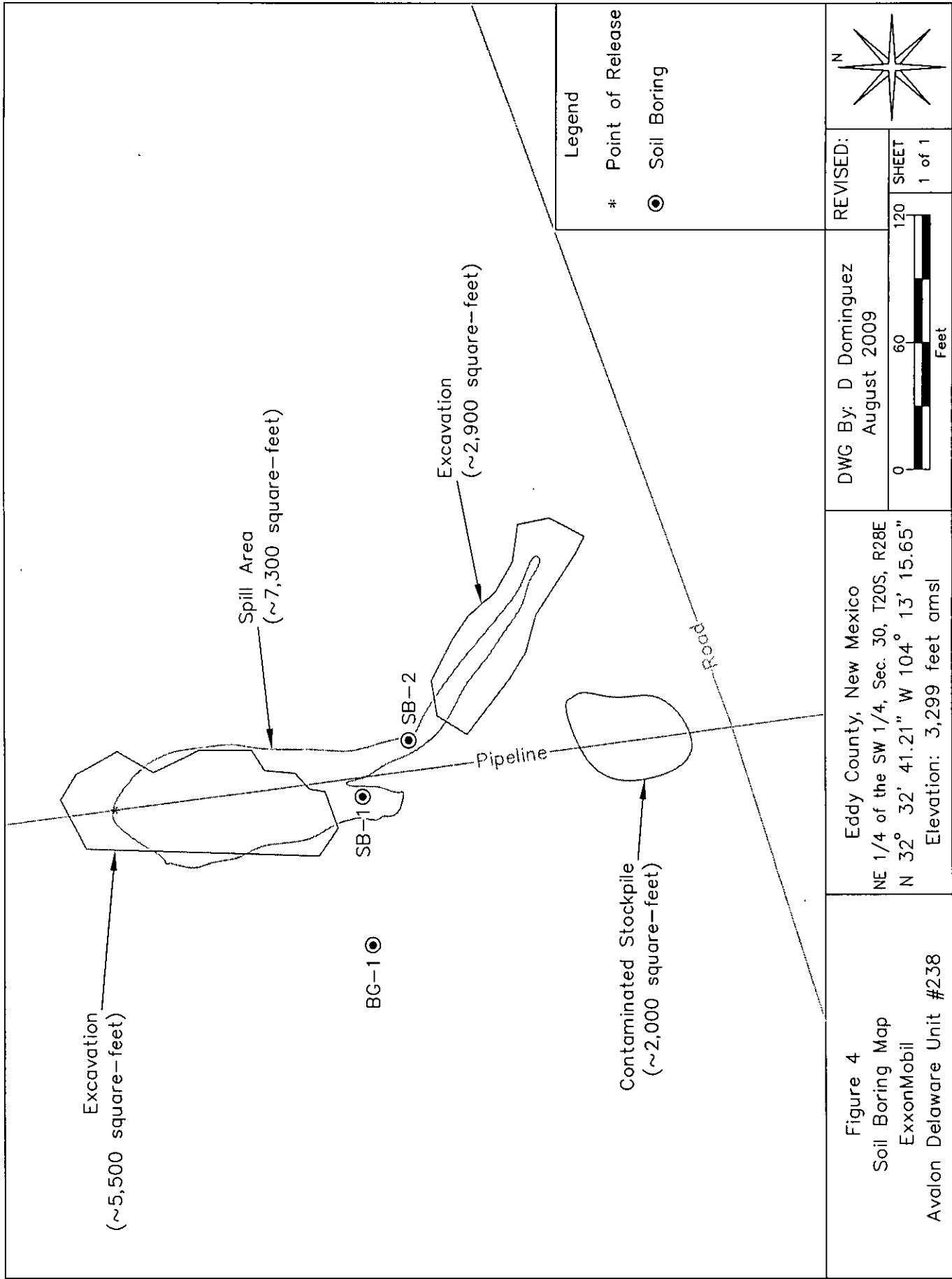


<p>Figure 1 Area Map ExxonMobil Avalon Delaware Unit #238</p>	<p>Eddy County, New Mexico NE 1/4 of the SW 1/4, Sec. 30, T20S, R28E N 32° 32' 41.21" W 104° 13' 15.65" Elevation: 3,299 feet amsl</p>	<p>DWG By: D Dominguez August 2009</p>	<div data-bbox="1404 151 1497 315"> </div> <div data-bbox="1404 315 1497 441"> <p>REVISID: SHEET 1 of 1</p> </div> <div data-bbox="1404 441 1497 661"> <p>Miles</p> </div>
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<p>Figure 2 Site Location Map ExxonMobil Avalon Delaware Unit #238</p>	<p>Eddy County, New Mexico NE 1/4 of the SW 1/4, Sec. 30, T20S, R28E N 32° 32' 41.21" W 104° 13' 15.65" Elevation: 3,299 feet amsl</p>	<p>DWG By: D Dominguez August 2009</p> <p>REVISED:</p> <p>0 2,000 4,000 SHEET 1 of 1</p> <p>Feet</p>
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TABLES

TABLE 1

WELL INFORMATION REPORT *

ExxonMobil - Avalon Delaware Unit #238 (Ref #190037)

Well Number	Diversion ^A	Owner	Use	Twsp	Rng	Sec q q q	Latitude	Longitude	Date Measured	Surface Elevation ^B	Depth to Water (ft bgs)
CP 00851	3	EXXON CORPORATION	SAN	20S	28E	31-21-4	N32° 32' 3.69"	W104° 12' 51.09"	14-Sep-95	3,235	115
CP 00856	0	INTERCOAST OIL & GAS	PRO	20S	28E	20-2-2	N32° 33' 51.94"	W104° 11' 36.90"		3,240	
CP-02065	3	EXXON-CORPORATION	PRO	20S	28E	31-4-4	N32° 31' 27.76"	W104° 12' 39.03"		3,215	
CP-00746 EXP	0	BRUCE RIGGS	STK	20S	28E	32-4-3 1-	N32° 31' 31' 13"	W104° 11' 56.26"		3,199	
CP-01923	3	MWJ PRODUCING COMPANY	PRO	20S	27E	36-4-2	N32° 31' 40.75"	W104° 13' 41.97"	03-Sep-80	3,280	

* = Data obtained from the New Mexico Office of the State Engineer Website (http://waters.ose.state.nm.us:7001/WATERS/wr_RegisServlet) and USGS Database.^A = in acre feet per annum^B = Interpolated from USGS Topographical Map

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

STK = 72-12-1 Livestock watering

SAN = 72-12-1 Sanitary in conjunction with a commercial use

(quarters are 1=NW, 2=NE, 3=SW, 4=SE)

(quarters are biggest to smallest - X Y are in Feet - UTM are in Meters)

Shaded area indicates wells not shown on Figure 2

TABLE 2
Summary Excavation Soil Sample Field Analyses and Laboratory Analytical Results
Exxon Mobil - Avalon Delaware Unit #238

NMOCED Ref. : EPI Ref. #190M37
UL-K (NE1/4 of the SW1/4) of Section 30, T20S, R28E; Eddy County, New Mexico

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-Cl2 (mg/Kg)	Carbon Ranges >Cl2-C38 (mg/Kg)	Carbon Ranges >C28-C35 (mg/Kg)	Total TPH C6-C35 (mg/Kg)	Chloride (mg/Kg)
SW-1	2.5	In situ	30-Jul-09	--	400	--	--	--	--	--	--	--	--	--	--
SW-2	2.5	In situ	30-Jul-09	--	240	--	--	--	--	--	--	--	--	--	--
SW-3	2.5	In situ	30-Jul-09	--	240	--	--	--	--	--	--	--	--	--	--
SW-4	3	In situ	30-Jul-09	--	240	--	--	--	--	--	--	--	--	--	--
SW-5	3	In situ	30-Jul-09	--	240	--	--	--	--	--	--	--	--	--	--
SW-6	3	In situ	30-Jul-09	--	800	--	--	--	--	--	--	--	--	--	--
SW-7	3	In situ	30-Jul-09	--	400	--	--	--	--	--	--	--	--	--	--
SW-8	3	In situ	30-Jul-09	--	>4,000	--	--	--	--	--	--	--	--	--	--
BH-1	5	In situ	30-Jul-09	--	400	--	--	--	--	--	--	--	--	--	--
BH-2	5	In situ	30-Jul-09	--	240	--	--	--	--	--	--	--	--	--	--
BH-3	6	In situ	30-Jul-09	--	9,840	--	--	--	--	--	--	--	--	--	--
BH-4	3	In situ	30-Jul-09	--	10,240	--	--	--	--	--	--	--	--	--	--
BH-5	6	Excavated	30-Jul-09	--	>4,000	--	--	--	--	--	--	--	--	--	--
BH-5a	6	Excavated	31-Jul-09	--	>4,000	--	--	--	--	--	--	--	--	--	--
BH-5b	6	Excavated	31-Jul-09	--	>4,000	--	--	--	--	--	--	--	--	--	--
BH-5c	12	Excavated	31-Jul-09	--	>4,000	--	--	--	--	--	--	--	--	--	--
BH-5d	14	Excavated	31-Jul-09	--	>4,000	--	--	--	--	--	--	--	--	--	--
BH-5e	16	Excavated	31-Jul-09	--	>4,000	--	--	--	--	--	--	--	--	--	--
BH-5f	18	Excavated	31-Jul-09	--	>4,000	--	--	--	--	--	--	--	--	--	--
BH-5g	20	In situ	31-Jul-09	--	11,560	--	--	--	--	--	--	--	--	--	--
NMOCED Remedial Thresholds															500

PID values exceed NMOCED remedial threshold goals

-- = Not Analyzed

Soil Sample Nameplate: BH = Bottom Hole, SW = Shallow Hole, E = East, W = West, N = North and S = South; SP = Sample Point

Summary Soil Boring Field Analyses and Laboratory Analytical Results

NMOC D Ref.: EPI Ref. #190037

UL-K (NE1/4 of the SW1/4) of Section 30. T20S. R28E; Eddy County, New Mexico

[illegible]

TABLE 2

Summary Soil Boring Field Analyses and Laboratory Analytical Results

Exxon Mobil - Avalon Delaware Unit #238

NMOCD Ref. ; EPI Ref. #190037

UL-K (NE1/4 of the SW1/4) of Section 30, T20S, R28E; Eddy County, New Mexico

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-C-35 (mg/Kg)	Total TPH C6-C35 (mg/Kg)	Chloride (mg/Kg)
B1#2 - 5	25	In situ	13-Aug-09	--	560	--	--	--	--	--	--	--	--	--	656
B1#2 - 6	30	In situ	13-Aug-09	--	400	--	--	--	--	--	--	--	--	--	448
B1#2 - 7	35	In situ	13-Aug-09	--	640	--	--	--	--	--	--	--	--	--	416
B1#2 - 8	40	In situ	13-Aug-09	--	400	--	--	--	--	--	--	--	--	--	112
B1#2 - 9	45	In situ	13-Aug-09	--	320	--	--	--	--	--	--	--	--	--	128
NMOCD Remedial Thresholds				100		10				50				1,000	500

Bold values exceed NMOCD remedial threshold goals

* * * Solids would not settle out due to clay particulate matter

-- = Not Analyzed

Soil Sample Nomenclature: BH = Boring Hole; BG = Background Boring Hole; S = Surface

ATTACHMENTS

ATTACHMENT I
PHOTOGRAPHS



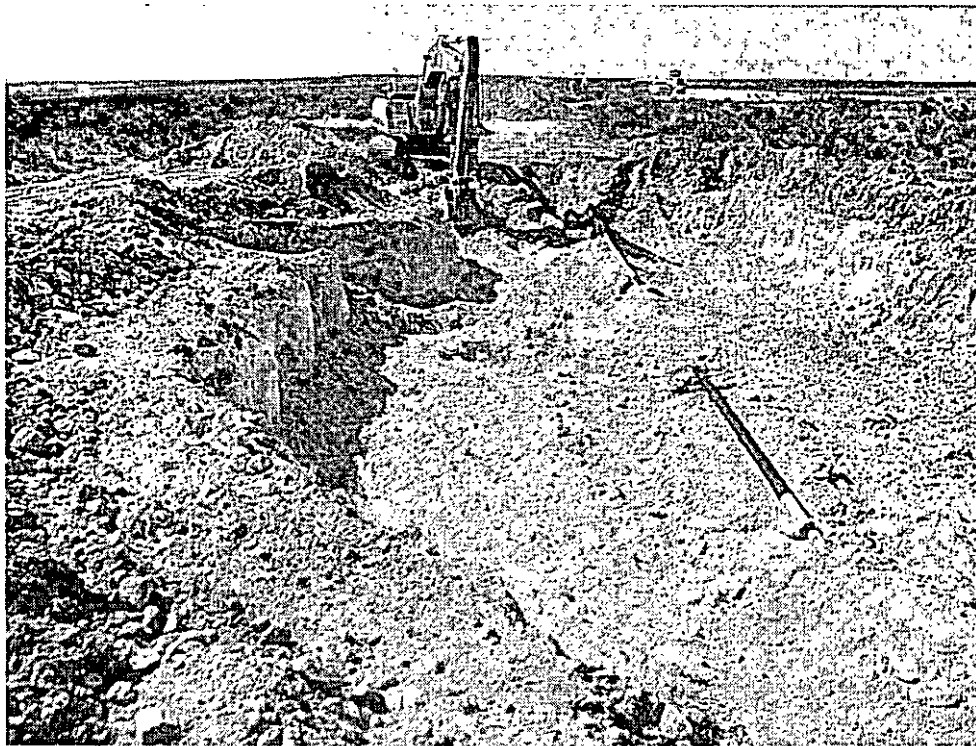
Photograph No. 1 – Lease sign



Photograph No. 2 – Looking south at release area



Photograph No. 3 – Looking at 3" FG Injection Line near Point of Release



Photograph No. 4 – Looking south at excavation and 3" dia. FG Injection Line

ATTACHMENT II
**LABORATORY ANALYTICAL RESULTS AND CHAIN-
OF CUSTODY FORMS**



ARDINAL LABORATORIES

PHONE (575) 393-2326 • 101 E. MARLAND • HOBBS, NM 88240

August 18, 2009

David P. Duncan
Environmental Plus, Inc.
P.O. Box 1558
Eunice, NM 88231

Re: ExxonMobil (190037)

Enclosed are the results of analyses for sample number H17993, received by the laboratory on 08/14/09 at 10:20 am.

Cardinal Laboratories is accredited through Texas NELAP for:

Method SW-846 8021	Benzene, Toluene, Ethyl Benzene, and Total Xylenes
Method SW-846 8260	Benzene, Toluene, Ethyl Benzene, and Total Xylenes
Method TX 1005	Total Petroleum Hydrocarbons

Certificate number T104704398-08-TX. Accreditation applies to solid and chemical materials and non-potable water matrices.

Cardinal Laboratories is accredited through the State of Colorado Department of Public Health and Environment for:

Method EPA 552.2	Haloacetic Acids (HAA-5)
Method EPA 524.2	Total Trihalomethanes (TTHM)
Method EPA 524.2	Regulated VOCs (V2, V3)

Accreditation applies to public drinking water matrices.

Total Number of Pages of Report: 4 (includes Chain of Custody)

Sincerely,

Celey D. Keene
Laboratory Director



PHONE (575) 393-2326 • 101 E. MARLAND • HOBBS, NM 88240

ANALYTICAL RESULTS FOR
ENVIRONMENTAL PLUS, INC.
ATTN: DAVID P. DUNCAN
P.O. BOX 1558
EUNICE, NM 88231
FAX TO: (575) 394-2601

Receiving Date: 08/14/09
Reporting Date: 08/18/09
Project Owner: EXXONMOBIL (190037)
Project Name: AVALON DELEWARE UNIT #238
Project Location: UL-K, SEC. 30, T20S, R28E

Analysis Date: 08/17/09
Sampling Date: 08/13/09
Sample Type: SOIL
Sample Condition: COOL & INTACT @ 6°C
Sample Received By: AB
Analyzed By: AB

LAB NUMBER	SAMPLE ID	Cl ⁻ (mg/kg)
H17993-1	BG-3 (20')	32
H17993-2	BG-5 (40')	16
H17993-3	BH#1-1 (5')	32,800
H17993-4	BH#1-6 (30')	6,800
H17993-5	BH#1-7 (40')	3,360
H17993-6	BH#1-8 (50')	656
H17993-7	BH#1-9 (60')	200
H17993-8	BH#2-1 (5')	11,700
H17993-9	BH#2-3 (15')	8,000
H17993-10	BH#2-4 (20')	608
H17993-11	BH#2-5 (25')	656
H17993-12	BH#2-6 (30')	448
H17993-13	BH#2-7 (35')	416
H17993-14	BH#2-8 (40')	112
H17993-15	BH#2-9 (45')	128
Quality Control		500
True Value QC		500
% Recovery		100
Relative Percent Difference		< 0.1

METHOD: Standard Methods 4500-ClB

Note: Analyses performed on 1:4 w:v aqueous extracts.

Chemist

Date

H17993EPI

PLEASE NOTE: Liability and Damages. Cardinal's liability and client's exclusive remedy for any claim arising, whether based in contract or tort, shall be limited to the amount paid by client for analyses. All claims, including those for negligence and any other cause whatsoever shall be deemed waived unless made in writing and received by Cardinal within thirty (30) days after completion of the applicable service. In no event shall Cardinal be liable for incidental or consequential damages, including, without limitation, business interruptions, loss of use, or loss of profits incurred by client, its subsidiaries, affiliates or successors arising out of or related to the performance of services hereunder by Cardinal, regardless of whether such claim is based upon any of the above-stated reasons or otherwise. Results relate only to the samples identified above. This report shall not be reproduced except in full with written approval of Cardinal Laboratories.

Environmental Plus, Inc.

2100 Avenue O, Eunice, NM 88231
 (575) 394-3481 FAX: (575) 394-2601

P.O. Box 1558, Eunice, NM 88231

Chain of Custody Form

LAB: Cardinal

Company Name Environmental Plus, Inc.		Bill To		ANALYSIS REQUEST									
EPI Project Manager David P. Duncan		Attn: David P. Duncan											
Mailing Address P.O. BOX 1558		P.O. Box 1558											
City, State, Zip Eunice New Mexico 88231		Eunice, NM 88231											
EPI Phone#/Fax# 575-394-3481 / 575-394-2601													
Client Company ExxonMobil													
Facility Name Avalon Deleware Unit #238													
Location UL-K, Sec. 30, T20S, R28E													
Project Reference 190037													
EPI Sampler Name Kirt Tyree													

LAB I.D.	SAMPLE I.D.	(G)RAB OR (C)OMP.	MATRIX					PRESERV.			SAMPLING		TIME	BTEX 8021B	TPH 8015M	CHLORIDES (Cl)	SULFATES (SO ₄)	PH	TCLP	OTHER **	PAH	
			GROUND WATER	WASTEWATER	SOIL	CRUDE OIL	SLUDGE	OTHER:	ACID/BASE	ICE/COOL	OTHER	DATE										
11799.3 - 1	BG-3 (20')	G 1			X						X					X						
- 2	BG-5 (40')	G 1			X						X					X						
- 3	BH#1-1 (5')	G 1			X						X					X						
- 4	BH#1-6 (30')	G 1			X						X					X						
- 5	BH#1-7 (40')	G 1			X						X					X						
- 6	BH#1-8 (50')	G 1			X						X					X						
- 7	BH#1-9 (60')	G 1			X						X					X						
- 8	BH#2-1 (5')	G 1			X						X					X						
- 9	BH#2-3 (15')	G 1			X						X					X						
- 10	BH#2-4 (20')	G 1			X						X					X						

Sampled Relinquished by: <i>Kirt Tyree</i>	8/14/2009 Time 0700	Received By: <i>Kirt Tyree</i>	E-mail results to: dduncan@envplus.net
	8/14/2009 Time 10:20	Received By: (lab staff) <i>CPB</i>	
Relinquished by: <i>Kirt Tyree</i>			
Delivered by: <i>Kirt Tyree</i>			
#26 6°C	Sample Cool & Intact Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>	Checked By: <i>CPB</i>	

Environmental Plus, Inc.

2100 Avenue O, Eunice, NM 88231
(575) 394-3481 FAX: (575) 394-2601

P.O. Box 1558, Eunice, NM 88231

Chain of Custody Form

LAB: Cardinal

Company Name Environmental Plus, Inc.		Bill To		Analysis Request											
EPI Project Manager David P. Duncan		Attn: David P. Duncan													
Mailing Address P.O. BOX 1558		P.O. Box 1558													
City, State, Zip Eunice New Mexico 88231		Eunice, NM 88231													
EPI Phone#/Fax# 575-394-3481 / 575-394-2601															
Client Company ExxonMobil															
Facility Name Avalon Delaware Unit #238															
Location UL-K, Sec. 30, T20S, R28E															
Project Reference 190037															
EPI Sampler Name Kirt Tyree															

LAB I.D.	SAMPLE I.D.	MATRIX						PRESERV.			SAMPLING		ANALYSIS REQUEST									
		GROUND WATER	WASTEWATER	SOIL	CRUDE OIL	SLUDGE	OTHER:	ACID/BASE	ICE/COOL	OTHER	DATE	TIME	BTEX 8021B	TPH 8015M	CHLORIDES (Cl)	SULFATES (SO ₄)	PH	TCLP	OTHER >>>	PAH		
11993-11	BH#2-5 (25')			X								X										
11993-12	BH#2-6 (30')			X								X										
11993-13	BH#2-7 (35')			X								X										
11993-14	BH#2-8 (40')			X								X										
11993-15	BH#2-9 (45')			X								X										
16																						
17																						
18																						
19																						
20																						

Sample Relinquished: <i>Kirt Tyree</i>	Received By: <i>Roger Boone</i>	8/14/2009 Time 0700
	Received By: (lab staff) <i>Roger Boone</i>	8/14/2009 Time 10:20
Relinquished by: <i>Roger Boone</i>	Sample Cool & Intact Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>	Checked By: <i>Roger Boone</i>
Delivered by: <i>Roger Boone</i>	\$2600	

E-mail results to: dduncan@envplus.net

**ATTACHMENT III
SOIL BORING LOGS**



WELL RECORD & LOG

OFFICE OF THE STATE ENGINEER

www.ose.state.nm.us

1. GENERAL AND WELL LOCATION	POD NUMBER (WELL NUMBER) AVALON DELAWARE UNIT #238 SB-1				OSE FILE NUMBER(S)			
	WELL OWNER NAME(S) MOBIL/EXXON				PHONE (OPTIONAL)			
	WELL OWNER MAILING ADDRESS				CITY MIDLAND		STATE TX	
	WELL LOCATION (FROM GPS)		DEGREES 32	MINUTES 32	SECONDS 40.00 N	* ACCURACY REQUIRED. ONE TENTH OF A SECOND * DATUM REQUIRED. WGS 84		
LONGITUDE 104		13		16.00 W				
DESCRIPTION RELATING WELL LOCATION TO STREET ADDRESS AND COMMON LANDMARKS FROM HOBBS GO W ON 62/180, TURN R ON THE CALRLSBAD RELIEF RD & TURN R ON LAKE AVALON RD.								
2. OPTIONAL	(2.5 ACRE) <input checked="" type="checkbox"/>	(10 ACRE) <input type="checkbox"/>	(40 ACRE) <input type="checkbox"/>	(160 ACRE) <input type="checkbox"/>	SECTION	TOWNSHIP <input type="checkbox"/> NORTH <input type="checkbox"/> SOUTH	RANGE <input type="checkbox"/> EAST <input type="checkbox"/> WEST	
	SUBDIVISION NAME				LOT NUMBER	BLOCK NUMBER	UNIT/TRACT	
	HYDROGRAPHIC SURVEY				MAP NUMBER		TRACT NUMBER	
3. DRILLING INFORMATION	LICENSE NUMBER WD1478		NAME OF LICENSED DRILLER EDWARD BRYAN			NAME OF WELL DRILLING COMPANY STRAUB CORPORATION		
	DRILLING STARTED 8-13-09		DRILLING ENDED 8-13-09		DEPTH OF COMPLETED WELL (FT) 0	BORE HOLE DEPTH (FT) 70'	DEPTH WATER FIRST ENCOUNTERED (FT) N/A	
	COMPLETED WELL IS		<input type="checkbox"/> ARTESIAN <input checked="" type="checkbox"/> DRY HOLE <input type="checkbox"/> SHALLOW (UNCONFINED)				STATIC WATER LEVEL IN COMPLETED WELL (FT) N/A	
	DRILLING FLUID		<input checked="" type="checkbox"/> AIR <input type="checkbox"/> MUD <input type="checkbox"/> ADDITIVES - SPECIFY:					
	DRILLING METHOD		<input checked="" type="checkbox"/> ROTARY <input type="checkbox"/> HAMMER <input type="checkbox"/> CABLE TOOL <input type="checkbox"/> OTHER - SPECIFY					
	DEPTH (FT)		BORE HOLE DIA. (IN)	CASING MATERIAL	CONNECTION TYPE (CASING)	INSIDE DIA. CASING (IN)	CASING WALL THICKNESS (IN)	SLOT SIZE (IN)
	FROM	TO						
	0		70	5	N/A	N/A	N/A	N/A
4. WATER BEARING STRATA	DEPTH (FT)		THICKNESS (FT)	FORMATION DESCRIPTION OF PRINCIPAL WATER-BEARING STRATA (INCLUDE WATER-BEARING CAVITIES OR FRACTURE ZONES)				YIELD (GPM)
	FROM	TO						
METHOD USED TO ESTIMATE YIELD OF WATER-BEARING STRATA						TOTAL ESTIMATED WELL YIELD (GPM)		

FOR OSE INTERNAL USE

WELL RECORD & LOG (Version 6/9/08)

FILE NUMBER	POD NUMBER	TRN NUMBER
LOCATION	PAGE 1 OF 2	

PAGE 2 OF 2



WELL RECORD & LOG

OFFICE OF THE STATE ENGINEER

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1. GENERAL AND WELL LOCATION	POD NUMBER (WELL NUMBER) AVALON DELAWARE UNIT #238 SB-2				OSE FILE NUMBER(S)			
	WELL OWNER NAME(S) MOBIL/EXXON				PHONE (OPTIONAL)			
	WELL OWNER MAILING ADDRESS				CITY MIDLAND		STATE TX	ZIP
	WELL LOCATION (FROM GPS)	DEGREES LATITUDE 32	MINUTES 32	SECONDS 40.00 N	* ACCURACY REQUIRED, ONE TENTH OF A SECOND * DATUM REQUIRED, WGS 84			
DESCRIPTION RELATING WELL LOCATION TO STREET ADDRESS AND COMMON LANDMARKS FROM HOBBS GO W ON 62/180, TURN R ON THE CALRLSBAD RELIEF RD & TURN R ON LAKE AVALON RD.								
2. OPTIONAL	(2.5 ACRE) 1/4	(10 ACRE) 1/4	(40 ACRE) 1/4	(160 ACRE) 1/4	SECTION	TOWNSHIP <input type="checkbox"/> NORTH <input type="checkbox"/> SOUTH	RANGE <input type="checkbox"/> EAST <input type="checkbox"/> WEST	
	SUBDIVISION NAME				LOT NUMBER	BLOCK NUMBER	UNIT/TRACT	
	HYDROGRAPHIC SURVEY					MAP NUMBER	TRACT NUMBER	
3. DRILLING INFORMATION	LICENSE NUMBER WD1478		NAME OF LICENSED DRILLER EDWARD BRYAN			NAME OF WELL DRILLING COMPANY STRAUB CORPORATION		
	DRILLING STARTED 8-13-09		DRILLING ENDED 8-13-09		DEPTH OF COMPLETED WELL (FT) 0	BORE HOLE DEPTH (FT) 60'	DEPTH WATER FIRST ENCOUNTERED (FT) N/A	
	COMPLETED WELL IS: <input type="checkbox"/> ARTESIAN <input checked="" type="checkbox"/> DRY HOLE <input type="checkbox"/> SHALLOW (UNCONFINED)					STATIC WATER LEVEL IN COMPLETED WELL (FT) N/A		
	DRILLING FLUID: <input checked="" type="checkbox"/> AIR <input type="checkbox"/> MUD <input type="checkbox"/> ADDITIVES - SPECIFY.							
	DRILLING METHOD: <input checked="" type="checkbox"/> ROTARY <input type="checkbox"/> HAMMER <input type="checkbox"/> CABLE TOOL <input type="checkbox"/> OTHER - SPECIFY.							
	DEPTH (FT) FROM TO		BORE HOLE DIA. (IN)	CASING MATERIAL	CONNECTION TYPE (CASING)	INSIDE DIA. CASING (IN)	CASING WALL THICKNESS (IN)	SLOT SIZE (IN)
	0 60		5	N/A	N/A	N/A	N/A	N/A
4. WATER BEARING STRATA	DEPTH (FT) FROM TO		THICKNESS (FT)	FORMATION DESCRIPTION OF PRINCIPAL WATER-BEARING STRATA (INCLUDE WATER-BEARING CAVITIES OR FRACTURE ZONES)				YIELD (GPM)
METHOD USED TO ESTIMATE YIELD OF WATER-BEARING STRATA						TOTAL ESTIMATED WELL YIELD (GPM)		

FOR OSE INTERNAL USE

WELL RECORD & LOG (Version 6/9/08)

FILE NUMBER	POD NUMBER	TRN NUMBER
LOCATION	PAGE 1 OF 2	

5. SEAL AND PUMP	TYPE OF PUMP: <input type="checkbox"/> SUBMERSIBLE <input type="checkbox"/> JET <input type="checkbox"/> NO PUMP - WELL NOT EQUIPPED <input type="checkbox"/> TURBINE <input type="checkbox"/> CYLINDER <input type="checkbox"/> OTHER - SPECIFY:						
	ANNULAR SEAL AND GRAVEL PACK	DEPTH (FT)		BORE HOLE DIA. (IN)	MATERIAL TYPE AND SIZE	AMOUNT (CUBIC FT)	METHOD OF PLACEMENT
		FROM	TO				
		0	2				
		2	60				

6. GEOLOGIC LOG OF WELL	DEPTH (FT)		THICKNESS (FT)	COLOR AND TYPE OF MATERIAL ENCOUNTERED (INCLUDE WATER-BEARING CAVITIES OR FRACTURE ZONES)	WATER BEARING?	
	FROM	TO				
	0	3	3	BROWN FINE SAND - CALICHE	<input type="checkbox"/> YES <input checked="" type="checkbox"/> NO	
	3	20	17	TAN FINE SAND - W/CLAY	<input type="checkbox"/> YES <input checked="" type="checkbox"/> NO	
	20	52	32	TAN FINE SAND - SANDSTONE	<input type="checkbox"/> YES <input checked="" type="checkbox"/> NO	
	52	60	8	TAN FINE SAND	<input type="checkbox"/> YES <input checked="" type="checkbox"/> NO	
	TD	60			<input type="checkbox"/> YES <input type="checkbox"/> NO	
					<input type="checkbox"/> YES <input type="checkbox"/> NO	
					<input type="checkbox"/> YES <input type="checkbox"/> NO	
					<input type="checkbox"/> YES <input type="checkbox"/> NO	
					<input type="checkbox"/> YES <input type="checkbox"/> NO	
					<input type="checkbox"/> YES <input type="checkbox"/> NO	
					<input type="checkbox"/> YES <input type="checkbox"/> NO	
					<input type="checkbox"/> YES <input type="checkbox"/> NO	
					<input type="checkbox"/> YES <input type="checkbox"/> NO	
					<input type="checkbox"/> YES <input type="checkbox"/> NO	
	ATTACH ADDITIONAL PAGES AS NEEDED TO FULLY DESCRIBE THE GEOLOGIC LOG OF THE WELL.					

7. TEST & ADDITIONAL INFO	WELL TEST	METHOD: <input type="checkbox"/> BAILER <input type="checkbox"/> PUMP <input type="checkbox"/> AIR LIFT <input type="checkbox"/> OTHER - SPECIFY:	
		TEST RESULTS - ATTACH A COPY OF DATA COLLECTED DURING WELL TESTING, INCLUDING START TIME, END TIME, AND A TABLE SHOWING DISCHARGE AND DRAWDOWN OVER THE TESTING PERIOD.	
	ADDITIONAL STATEMENTS OR EXPLANATIONS SOIL BORING ONLY- SOIL BORING WAS PLUGGED AND ABANDONED UPON COMPLETION OF SAMPLING		

8. SIGNATURE	THE UNDERSIGNED HEREBY CERTIFIES THAT, TO THE BEST OF HIS OR HER KNOWLEDGE AND BELIEF, THE FOREGOING IS A TRUE AND CORRECT RECORD OF THE ABOVE DESCRIBED HOLE AND THAT HE OR SHE WILL FILE THIS WELL RECORD WITH THE STATE ENGINEER AND THE PERMIT HOLDER WITHIN 20 DAYS AFTER COMPLETION OF WELL DRILLING.	
	 SIGNATURE OF DRILLER	8/20/09 DATE

FOR OSE INTERNAL USE

WELL RECORD & LOG (Version 6/9/08)

FILE NUMBER	POD NUMBER	TRN NUMBER	
LOCATION			PAGE 2 OF 2



WELL RECORD & LOG

OFFICE OF THE STATE ENGINEER

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1. GENERAL AND WELL LOCATION	POD NUMBER (WELL NUMBER) AVALON DELAWARE UNIT #238 SB-3				OSE FILE NUMBER(S)			
	WELL OWNER NAME(S) MOBIL/EXXON				PHONE (OPTIONAL)			
	WELL OWNER MAILING ADDRESS				CITY MIDLAND		STATE TX	ZIP
	WELL LOCATION (FROM GPS)	DEGREES LATITUDE 32	MINUTES 32	SECONDS 40.00 N	* ACCURACY REQUIRED: ONE TENTH OF A SECOND * DATUM REQUIRED: WGS 84			
DESCRIPTION RELATING WELL LOCATION TO STREET ADDRESS AND COMMON LANDMARKS FROM HOBBS GO W ON 62/180, TURN R ON THE CALRLSBAD RELIEF RD & TURN R ON LAKE AVALON RD.								
2. OPTIONAL	(2.5 ACRE) 1/4	(10 ACRE) 1/4	(40 ACRE) 1/4	(160 ACRE) 1/4	SECTION	TOWNSHIP <input type="checkbox"/> NORTH <input type="checkbox"/> SOUTH	RANGE <input type="checkbox"/> EAST <input type="checkbox"/> WEST	
	SUBDIVISION NAME				LOT NUMBER	BLOCK NUMBER	UNIT/TRACT	
	HYDROGRAPHIC SURVEY				MAP NUMBER		TRACT NUMBER	
3. DRILLING INFORMATION	LICENSE NUMBER WD1478		NAME OF LICENSED DRILLER EDWARD BRYAN			NAME OF WELL DRILLING COMPANY STRAUB CORPORATION		
	DRILLING STARTED 8-13-09		DRILLING ENDED 8-13-09		DEPTH OF COMPLETED WELL (FT) 0	BORE HOLE DEPTH (FT) 45	DEPTH WATER FIRST ENCOUNTERED (FT) N/A	
	COMPLETED WELL IS: <input type="checkbox"/> ARTESIAN <input checked="" type="checkbox"/> DRY HOLE <input type="checkbox"/> SHALLOW (UNCONFINED)					STATIC WATER LEVEL IN COMPLETED WELL (FT) N/A		
	DRILLING FLUID: <input checked="" type="checkbox"/> AIR <input type="checkbox"/> MUD <input type="checkbox"/> ADDITIVES - SPECIFY:							
	DRILLING METHOD: <input checked="" type="checkbox"/> ROTARY <input type="checkbox"/> HAMMER <input type="checkbox"/> CABLE TOOL <input type="checkbox"/> OTHER - SPECIFY:							
	DEPTH (FT)		BORE HOLE DIA. (IN)	CASING MATERIAL	CONNECTION TYPE (CASING)	INSIDE DIA. CASING (IN)	CASING WALL THICKNESS (IN)	SLOT SIZE (IN)
	FROM	TO						
	0 45		5	N/A	N/A	N/A	N/A	N/A
4. WATER BEARING STRATA	DEPTH (FT)		THICKNESS (FT)	FORMATION DESCRIPTION OF PRINCIPAL WATER-BEARING STRATA (INCLUDE WATER-BEARING CAVITIES OR FRACTURE ZONES)				YIELD (GPM)
	FROM	TO						
METHOD USED TO ESTIMATE YIELD OF WATER-BEARING STRATA						TOTAL ESTIMATED WELL YIELD (GPM)		

FOR OSE INTERNAL USE

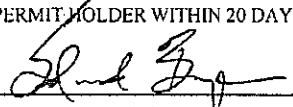
WELL RECORD & LOG (Version 6/9/08)

FILE NUMBER	POD NUMBER	TRN NUMBER
LOCATION	PAGE 1 OF 2	

5. SEAL AND PUMP	TYPE OF PUMP: <input type="checkbox"/> SUBMERSIBLE <input type="checkbox"/> JET <input type="checkbox"/> NO PUMP - WELL NOT EQUIPPED <input type="checkbox"/> TURBINE <input type="checkbox"/> CYLINDER <input type="checkbox"/> OTHER - SPECIFY:						
	ANNULAR SEAL AND GRAVEL PACK	DEPTH (FT)		BORE HOLE DIA. (IN)	MATERIAL TYPE AND SIZE	AMOUNT (CUBIC FT)	METHOD OF PLACEMENT
		FROM	TO				
		0	2				
		2	45				

6. GEOLOGIC LOG OF WELL	DEPTH (FT)		THICKNESS (FT)	COLOR AND TYPE OF MATERIAL ENCOUNTERED (INCLUDE WATER-BEARING CAVITIES OR FRACTURE ZONES)	WATER BEARING?	
	FROM	TO				
	0	3	3	BROWN FINE SAND - CALICHE	<input type="checkbox"/> YES <input checked="" type="checkbox"/> NO	
	3	13	10	TAN FINE SAND - W/CLAY	<input type="checkbox"/> YES <input checked="" type="checkbox"/> NO	
	13	22	9	TAN FINE SAND - SANDSTONE	<input type="checkbox"/> YES <input checked="" type="checkbox"/> NO	
	22	45	23	TAN FINE SAND - SANDSTONE- CALICHE	<input type="checkbox"/> YES <input checked="" type="checkbox"/> NO	
	TD	45			<input type="checkbox"/> YES <input type="checkbox"/> NO	
					<input type="checkbox"/> YES <input type="checkbox"/> NO	
					<input type="checkbox"/> YES <input type="checkbox"/> NO	
					<input type="checkbox"/> YES <input type="checkbox"/> NO	
					<input type="checkbox"/> YES <input type="checkbox"/> NO	
					<input type="checkbox"/> YES <input type="checkbox"/> NO	
					<input type="checkbox"/> YES <input type="checkbox"/> NO	
					<input type="checkbox"/> YES <input type="checkbox"/> NO	
					<input type="checkbox"/> YES <input type="checkbox"/> NO	
	ATTACH ADDITIONAL PAGES AS NEEDED TO FULLY DESCRIBE THE GEOLOGIC LOG OF THE WELL					

7. TEST & ADDITIONAL INFO	WELL TEST	METHOD: <input type="checkbox"/> BAILER <input type="checkbox"/> PUMP <input type="checkbox"/> AIR LIFT <input type="checkbox"/> OTHER - SPECIFY:
		TEST RESULTS - ATTACH A COPY OF DATA COLLECTED DURING WELL TESTING, INCLUDING START TIME, END TIME, AND A TABLE SHOWING DISCHARGE AND DRAWDOWN OVER THE TESTING PERIOD.
	ADDITIONAL STATEMENTS OR EXPLANATIONS: SOIL BORING ONLY- SOIL BORING WAS PLUGGED AND ABANDONED UPON COMPLETION OF SAMPLING	

8. SIGNATURE	THE UNDERSIGNED HEREBY CERTIFIES THAT, TO THE BEST OF HIS OR HER KNOWLEDGE AND BELIEF, THE FOREGOING IS A TRUE AND CORRECT RECORD OF THE ABOVE DESCRIBED HOLE AND THAT HE OR SHE WILL FILE THIS WELL RECORD WITH THE STATE ENGINEER AND THE PERMIT HOLDER WITHIN 20 DAYS AFTER COMPLETION OF WELL DRILLING:	
	 _____ SIGNATURE OF DRILLER	8/20/09 _____ DATE

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WELL RECORD & LOG (Version 6/9/08)

FILE NUMBER

POD NUMBER

TRN NUMBER

LOCATION

PAGE 2 OF 2

ATTACHMENT IV
COPY OF NMOCD FORM C-141

District I
1625 N. French Dr., Hobbs, NM 88240
District II
1301 W. Grand Avenue, Artesia, NM 88210
District III
1000 Rio Brazos Road, Aztec, NM 87410
District IV
1220 S. St. Francis Dr., Santa Fe, NM 87505

State of New Mexico
Energy Minerals and Natural Resources

Oil Conservation Division
1220 South St. Francis Dr.
Santa Fe, NM 87505

Form C-141
Revised October 10, 2003

Submit 2 Copies to appropriate
District Office in accordance
with Rule 116 on back
side of form

Release Notification and Corrective Action

OPERATOR

☒ Initial Report ☐ Final Report

Name of Company ExxonMobil	Contact Toni Collier	
Address P.O. Box 4358, Houston, TX 77210	Telephone No. 281-654-1133	
Facility Name Avalon Delaware Unit #238	Facility Type Injection line	
Surface Owner State Of New Mexico	Mineral Owner	Lease No. API#3001528659

LOCATION OF RELEASE

Unit Letter K	Section 30	Township 20S	Range 28E	Feet from the 2301	South Line	Feet from the 1485	West Line	County Eddy
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Latitude 32 32.64 Longitude 104 13.243

NATURE OF RELEASE

Type of Release :Produced Water	Volume of Release 83 bbls of produced water	Volume 0 bbls
Source of Release 3" Fiberglass injection line	Date and Hour of Occurrence	Date and Hour of Discovery 7/28/09 12:00 pm
Was Immediate Notice Given? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> Not Required	If YES, To Whom? NMOCD Artesia Office Answering Machine-Mike Bratcher	
By Whom? Shelby Pennington	Date and Hour 7/28/09 4:15	
Was a Watercourse Reached? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	If YES, Volume Impacting the Watercourse.	

If a Watercourse was Impacted, Describe Fully.* No watercourse in area

Describe Cause of Problem and Remedial Action Taken.*


3" Fiberglass line developed leak. Leak was isolated and repaired. Emergency crew was sent to site to begin remediation

Describe Area Affected and Cleanup Action Taken.*

Area covered approx. 7,000 square foot. Emergency crew was sent to site to begin excavation of highly saturated soil. Site will be delineated and a remediation plan will be submitted for approval to the NMOCD Artesia office.

I hereby certify that the information given above is true and complete to the best of my knowledge and understand that pursuant to NMOCD rules and regulations all operators are required to report and/or file certain release notifications and perform corrective actions for releases which may endanger public health or the environment. The acceptance of a C-141 report by the NMOCD marked as "Final Report" does not relieve the operator of liability should their operations have failed to adequately investigate and remediate contamination that pose a threat to ground water, surface water, human health or the environment. In addition, NMOCD acceptance of a C-141 report does not relieve the operator of responsibility for compliance with any other federal, state, or local laws and/or regulations.

OIL CONSERVATION DIVISION

Signature: 	Approved by District Supervisor:	
Printed Name: Kevin M. Dillow	Approval Date:	Expiration Date:
Title: Compliance Supervisor	Conditions of Approval:	Attached <input type="checkbox"/>
E-mail Address: Kevin.m.dillow@exxonmobil.com		
Date: Phone: 281-654-1557		

* Attach Additional Sheets If Necessary