



September 14, 2006

Mr. Larry Johnson  
Oil Conservation Division  
1625 N. French Dr.  
Hobbs, NM 88240

RE: EE Extension Line Failure (Sand Dunes Booster Discharge)  
Lea County, New Mexico  
Date of Incident: August 1, 2006  
1RP# 1015



Dear Mr. Johnson;

On August 1, 2006, at 12:00 noon, the Sand Dunes Booster discharge line failed. The line is a 10 inch steel line with a normal operating pressure of 500 psig. Investigation of the failure revealed the presence of a subsurface flange. The turbidity created by the flange caused the line to eventually develop a hole adjacent to the flange causing the line to fail. Duke Energy Field Services, LP made the initial verbal notification to the New Mexico Oil Conservation Division on August 2, 2006 at 9:15 am. The initial C-141 was submitted as required on August 16, 2006.

#### BACKGROUND

Duke Energy Field Services, LP immediately shut in the discharge line in preparation for repair. In order to affect repairs to the discharge line, it was necessary to blowdown 9 miles of the 10 inch pipe from 500 psig to 0 psig. This resulted in a gas release of 1.036 Mmscf of natural gas (submitted in initial C-141). The flange was removed and the pipe was repaired by welding a new section of pipe. Following completion of the activities, the discharge line was placed back into service. The normal volume of gas from Sand Dunes Booster is 14.5 Mmscf per day of sweet raw field gas.

Investigation of the point of release location indicated that some liquids also impacted soils from the event. DEFS contacted Highlander Environmental from Midland, Texas to conduct sampling of the site in order to ascertain the extent of the release. However, due to the circumstances of the service of the pipe, delineation activities were limited and the use of heavy equipment was prohibited. The circumstances limiting the investigation are as follows:

- 1) The line is a high pressure discharge line from Sand Dunes Booster with a normal operating pressure of 500 psig.
- 2) DEFS policies prohibits work within a 2 foot proximity of high pressure pipe for safety reasons.
- 3) The EE Extension line is located at a depth below surface of 4 feet.
- 4) The initial excavation for repairs is a depth of 7 feet below surface.
- 5) The distance between block valves that must be closed and depressurized to affect the location is 9 miles of the 10 inch pipe.

Based on the above circumstances, Highlander Environmental was directed by DEFS to collect samples



from below the point of release using a hand-auger. No heavy equipment could be operated in proximity to the line.

Highlander Environmental collected two soil samples, one from directly below the point of release at 0 – 1' beneath the initial excavation bottom, and a second from 1 – 1.5' beneath the bottom of the initial excavation. Auger refusal was encountered at 1.5 feet below the bottom. The samples were placed in laboratory prepared sample bottles, cooled to 4° Celsius, and delivered to Environmental Labs of Texas, Odessa, Texas for analysis. The samples were analyzed for Total Petroleum Hydrocarbons (TPH) by EPA method 8015M, Benzene, Total BTEX, and Chlorides. The results of the analytical are contained in Table 1. The laboratory analysis and chain-of-custody are attached.

Table 1  
Sample Date August 10, 2006  
Depth of Initial Excavation 7 Feet

Sample ID	TPH (ppm)	Benzene (ppm)	Toluene (ppm)	Ethylbenzene (ppm)	Xylene (ppm)	Total BTEX	Chloride (ppm)
AH-1 (0-1')	2,270	10.2	75.6	34.9	142.7	263.4	25.0
AH-1 (1-1.5')	4,740	23.8	157	66.9	276.0	523.7	43.4

**RECOMMENDED REMEDIAL ACTION LEVELS**

According to the State of New Mexico Guidelines for Remediation of Leaks, Spills and Releases, the Recommended Remedial Action Levels (RRAL), based on a depth to water greater than 100 feet below ground surface, are 5,000 ppm Total Petroleum Hydrocarbon (TPH), 50 ppm Total BTEX, and 10 ppm Benzene. The closest water well data available from a water well located approximately 4 miles east of the site identifies a depth to ground water of 400 feet below ground surface (well number C02216). A copy of the New Mexico Office of the State Engineer web data is attached.

1. Groundwater	2. Wellhead Protection Area	3. Distance to Surface Water
Depth to GW < 50 feet: 20 points	If < 1,000 feet from water source, or < 200 feet from private domestic water source: 20 points	< 200 horizontal feet: 0 points
Depth to GW 50 – 99 feet: 10 points		200 – 1,000 horizontal feet: 10 points
Depth to GW > 100 feet: 0 points	If > 1,000 feet from water source, or > 200 feet from private domestic water source: 0 points	> 1,000 horizontal feet: 0 points
Site Rank (1 + 2 + 3) = 0 points		
Remedial Goals Based on Site Ranking		
> 20 Points	10 points	0 points
Benzene < 10 ppm	Benzene < 10 ppm	Benzene < 10 ppm
Total BTEX < 50 ppm	Total BTEX < 50 ppm	Total BTEX < 50 ppm
TPH < 100 ppm	TPH < 1,000 ppm	TPH < 5,000 ppm



CONCLUSIONS

From the laboratory data, DEFS is satisfied that TPH levels meet the RRALs identified above. DEFS is also satisfied that chlorides are not a concern for impact to groundwater. DEFS however notes that the Benzene levels and Total BTEX levels exceed the RRALs identified in the State of New Mexico guidance document.

While DEFS understands that the levels of Benzene and Total BTEX are above the RRALs, DEFS believes that the contamination poses no threat to groundwater, surface water, human health or the environment at the location. The depth to groundwater at the location is a minimum of 400 feet below ground surface and no surface waters are in close proximity to the site.

Since the discharge line is a safety concern, the operation of heavy equipment at the point of release is prohibited unless the line is depressurized to 50 psig. In order to depressurize the line, DEFS would need to shutdown Sand Dunes Booster and again blowdown 9 miles of 10 inch pipeline to an acceptable pressure. DEFS believes that due to the high safety concerns and the low threat to groundwater, a greater impact to the environment would occur by depressurize the discharge line in order to perform further delineation activities. Based on the existing levels of contamination, the depth of the groundwater at the site, and the high safety concerns, DEFS requests approval to leave the remaining contamination in place. It is understood that approval from the NMOCD to leave the contamination in place does not relieve DEFS of any liability. If this proposal is acceptable, please respond by signing and dating in the space provided below and returning to Lynn Ward, Duke Energy Field Services, LP, 10 Desta Dr., Suite 400W, Midland, TX 79705.

If there are any questions, comments, or concerns about the above information, please contact me at 432/620-4207 or email [lcward@duke-energy.com](mailto:lcward@duke-energy.com).

Sincerely,  
Duke Energy Field Services, LP

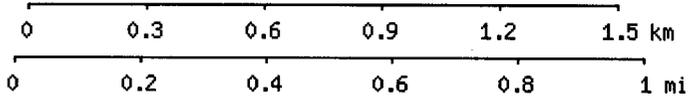
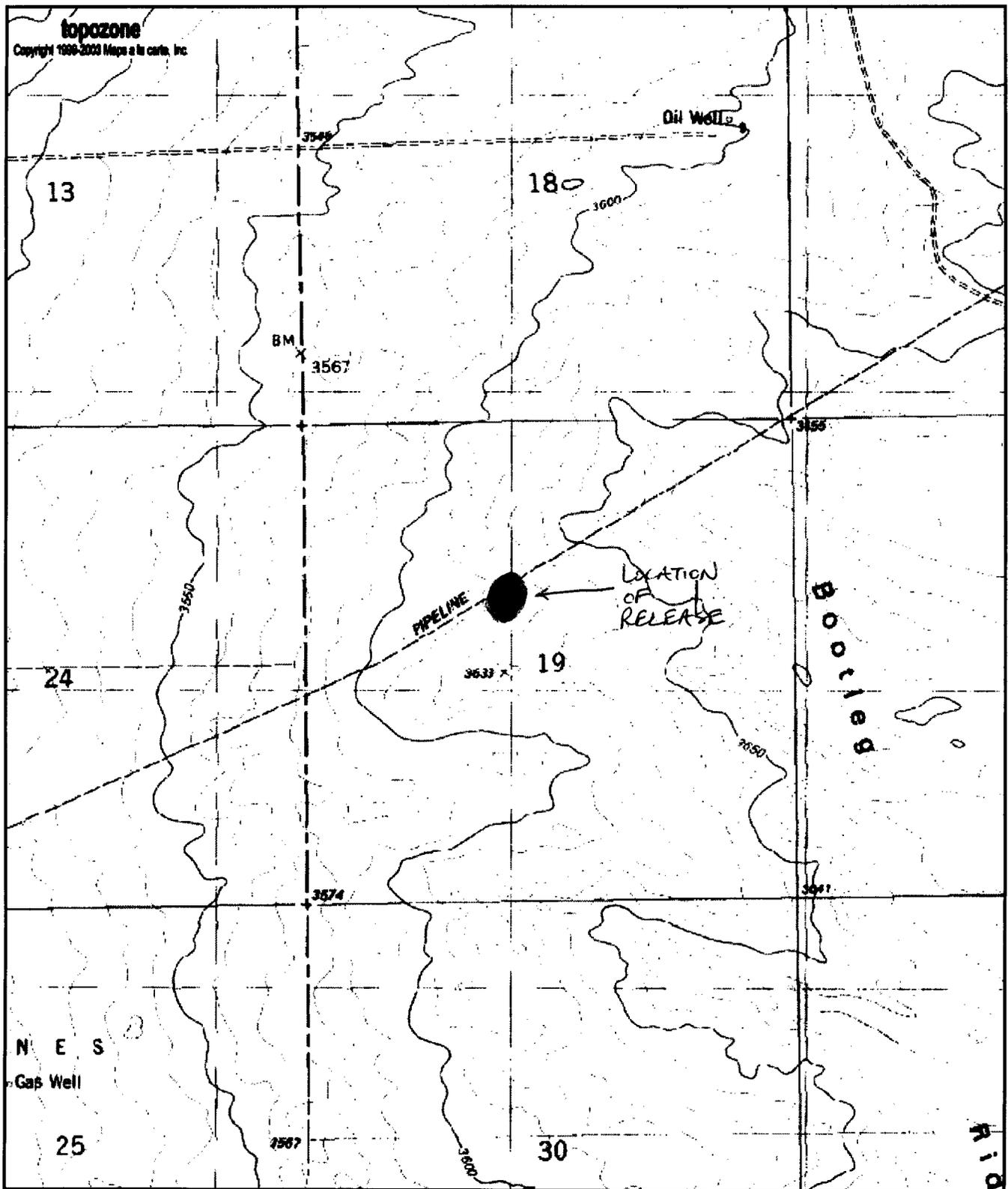
Lynn Ward  
Sr. Environmental Specialist  
Southern Division  
Western Region

Cc: Kenneth Winn, Eunice Field Supervisor  
Liz Klein, Corporate File 2.1.1.1  
Regional File 2.1.1.1

NMOCD Approval: \_\_\_\_\_  
(signature) (title)

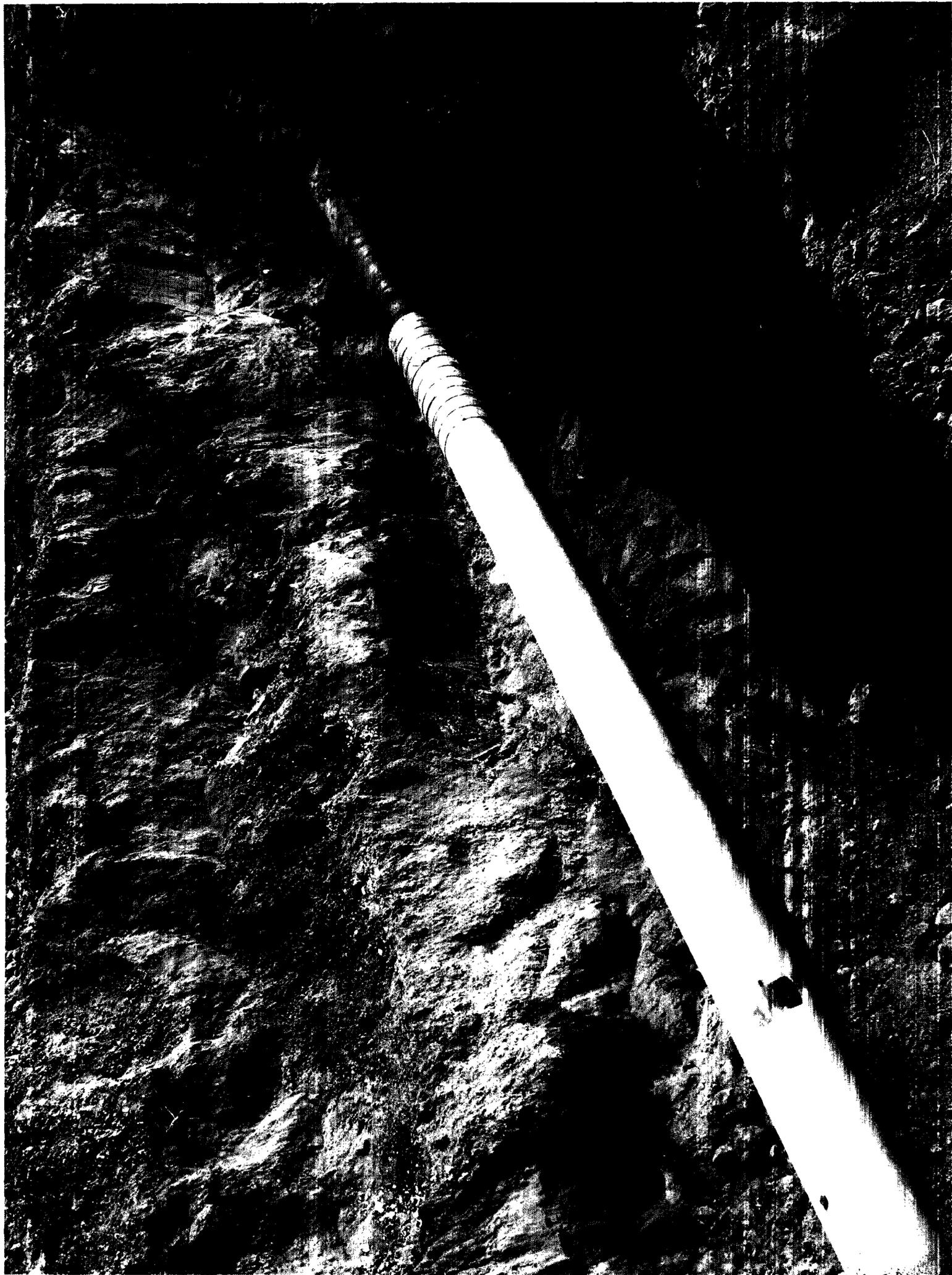
Printed Name: \_\_\_\_\_

Date: \_\_\_\_\_



32.2918°N, 103.7155°W (NAD83/WGS84)  
**USGS Bootleg Ridge (NM) Quadrangle**  
 Projection is UTM Zone 13 NAD83 Datum

\*M  
  
 M=8.636  
 G=0.686



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

IRP # - 1015

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 Duke Energy Field Services, LP	Contact Kenneth Winn/Lynn Ward
Address 10 Desta Dr., Suite 400-W	Telephone No. 432/620-4207
Facility Name EE Line	Facility Type Booster Discharge Line

Surface Owner	Mineral Owner	Lease No.
---------------	---------------	-----------

**LOCATION OF RELEASE**

Unit Letter F	Section 19	Township 23S	Range 32E	Feet from the	North/South Line	Feet from the	East/West Line	County Eddy
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Latitude 32.29184 Longitude -103.71554

**NATURE OF RELEASE**

Type of Release Natural Gas/Natural Gas Liquids	Volume of Release 1.036 Mmscf of natural gas 3 bbls Natural gas liquids	Volume Recovered None
Source of Release Gas discharge line from booster station	Date and Hour of Occurrence 8/1/06 @ 12:00 noon	Date and Hour of Discovery 8/1/06 @ 12:00 noon
Was Immediate Notice Given? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> Not Required	If YES, To Whom? Larry Johnson, OCD, Hobbs, NM	
By Whom? Lynn Ward, Duke Energy Field Services, LP	Date and Hour 8/2/06 @ 9:15 am	
Was a Watercourse Reached? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	If YES, Volume Impacting the Watercourse. NA	

If a Watercourse was Impacted, Describe Fully.\*  
Not Applicable

Describe Cause of Problem and Remedial Action Taken.\*

The EE Line is the discharge line from Duke Energy Field Services, LP (DEFS) Sand Dunes Booster which extends from Sand Dunes Booster to DEFS owned Eunice Gas Plant. The leak was called into the DEFS operations on 8/1/06. DEFS responded to the notification immediately, shutting in the line and depressurizing. The reportable quantity for Natural Gas was exceeded from the pipeline depressurization activities therefore, appropriate notifications were made. The cause of the problem is a hole had developed next to a below ground flange in the pipeline. The hole then caused failure of the flange gasket as gases escaped. The EE Line is a 10 inch diameter, high pressure (500 psig) steel line. The leak size was 1 inch by 0.25 inches. The estimated volume of the release from the depressurization activities was 1.036 Mmscf. The natural gas was sweet gas.

DEFS shutin the line, depressurized, removed the flange and replaced the pipe with a solid welded pipe section following appropriate engineering standards.

Describe Area Affected and Cleanup Action Taken.\*

DEFS Environmental personnel visited the location on 8/4/06. The excavated soils to reach the point of release was approx. 20' x 10' x 8' deep. No visual evidence of hydrocarbon staining was visible however, odor of the stockpiled soils indicated hydrocarbon impacted soils. DEFS contacted Highlander Environmental out of Midland, TX to delineate and recommend a course of action for clean up of all impacted soils.

Depth to groundwater data from the NM Office of the State Engineers indicates a depth to groundwater at the site of 400 feet below ground surface. While not a reportable natural gas liquids release, DEFS will perform remediation activities to meet the RRALs determined by the OCD of 5,000 ppm TPH, 10 ppm Benzene, and 50 ppm total BTEX.

Highlander Environmental performed sampling of the soils beneath the point of release on 8/10/06. TPH data met the RRALs while Benzene and Total BTEX exceeded the RRALs. Based on the depth to groundwater, proximity to surface waters and water wells, DEFS believes that there is no threat to groundwater, surface water, human health or the environment at the location and requests to leave the remaining contamination in place. Further delineation activities are limited due to the safety concerns (high pressure discharge line) which would require depressurizing the line. Please refer to the attached letter report for more detailed information.

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.

Signature: <i>Lynn Ward</i>		<u>OIL CONSERVATION DIVISION</u>	
Printed Name: <i>Lynn Ward</i>		Approved by District Supervisor: <i>ENCENGE</i> <i>[Signature]</i>	
Title: <i>SR. ENV. SPECIALIST</i>		Approval Date: <i>6.4.07</i>	Expiration Date: <i>—</i>
E-mail Address: <i>lcward@duke-energy.com</i>		Conditions of Approval: <i>—</i>	
Date: <i>9/14/06</i>	Phone: <i>432/620-4207</i>	Attached <input type="checkbox"/>	

\* Attach Additional Sheets If Necessary

**RISK BASED!**

District I  
1625 N. French Dr., Hobbs, NM 88240  
District II  
1301 W. Grand Avenue, Artesia, NM 88210  
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IRP-1015

Form C-141  
Revised October 10, 2003

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F	19	23S	32E					Eddy

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Closure proposal will be prepared and submitted for OCD approval.

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Signature: <i>Lynn Ward</i>	OIL CONSERVATION DIVISION
-----------------------------	---------------------------

Printed Name: <i>LYNN WAED</i>	Approved by District Supervisor:	
Title: <i>Sr. Env. Sp.</i>	Approval Date:	Expiration Date:
E-mail Address: <i>lcward@duke-energy.com</i>	Conditions of Approval:	Attached <input type="checkbox"/>
Date: <i>8/16/06</i> Phone: <i>432/620-4207</i>		

Attach Additional Sheets If Necessary

*cc: Kenneth Wins  
Liz Klein*

**New Mexico Office of the State Engineer  
POD Reports and Downloads**

Township:  Range:  Sections:

NAD27 X:  Y:  Zone:  Search Radius:

County:  Basin:  Number:  Suffix:

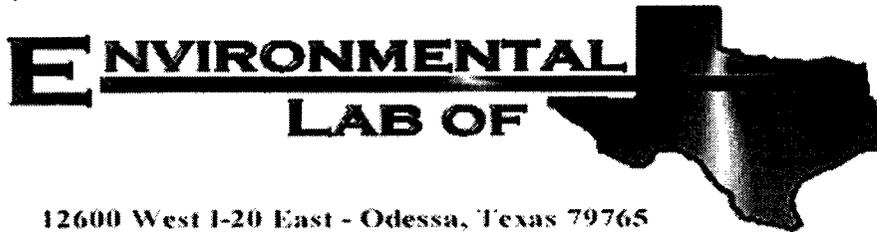
Owner Name: (First)  (Last)   Non-Domestic  Domestic  
 All

WATER COLUMN REPORT 08/16/2006

(quarters are 1=NW 2=NE 3=SW 4=SE)  
(quarters are biggest to smallest)

POD Number	Tws	Rng	Sec	q	q	q	Zone	X	Y	Depth Well	Depth Water	Water Column
C 02349	23S	32E	03	3	2					525		
C 02520	23S	32E	15	4	1					950		
C 02779	23S	32E	20	4	3	3				1317		
C 02778	23S	32E	20	4	4	3				1398		
C 02695	23S	32E	20	4	4	4				1538		
C 02216	23S	32E	21	4	2	2				585	400	18
C 02337	23S	32E	35	1	4					540		

Record Count: 7



## Analytical Report

**Prepared for:**

Ike Tavarez

Highlander Environmental Corp.

1910 N. Big Spring St.

Midland, TX 79705

*GW > 100' bgs  
Cl - good  
TPH < 5,000  
\* Benzene > 10 ppm  
\* Total BTEX > 50 ppm*

Project: Duke/ EE Extention

Project Number: 2708

Location: Lea Co., NM

Lab Order Number: 6H15002

Report Date: 08/18/06

*Leave in place?  
Add microbiology + wtr?*

Highlander Environmental Corp.  
1910 N. Big Spring St.  
Midland TX, 79705

Project: Duke/ EE Extention  
Project Number: 2708  
Project Manager: Ike Tavarez

Fax: (432) 682-3946

ANALYTICAL REPORT FOR SAMPLES

Sample ID	Laboratory ID	Matrix	Date Sampled	Date Received
AH-1 0-1' - bottom of excavation	6H15002-01	Soil	08/10/06 00:00	08-14-2006 17:25
AH-1 <sup>1-1.5'</sup>	6H15002-02	Soil	08/10/06 00:00	08-14-2006 17:25

7' deep line 4' deep

Highlander Environmental Corp.  
1910 N. Big Spring St.  
Midland TX, 79705

Project: Duke/ EE Extention  
Project Number: 2708  
Project Manager: Ike Tavarez

Fax: (432) 682-3946

**Organics by GC**  
**Environmental Lab of Texas**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
<b>AH-1 0-1' (6H15002-01) Soil</b>									
Benzene	10.2	1.00	mg/kg dry	1000	EH61514	08/15/06	08/16/06	EPA 8021B	
Toluene	75.6	1.00	"	"	"	"	"	"	
Ethylbenzene	34.9	1.00	"	"	"	"	"	"	
Xylene (p/m)	101	1.00	"	"	"	"	"	"	
Xylene (o)	41.7	1.00	"	"	"	"	"	"	
Surrogate: a,a,a-Trifluorotoluene	263.4	173 %	80-120	"	"	"	"	"	S-04
Surrogate: 4-Bromofluorobenzene		112 %	80-120	"	"	"	"	"	
Carbon Ranges C6-C12	2190	10.0	mg/kg dry	1	EH61508	08/15/06	08/15/06	EPA 8015M	
Carbon Ranges C12-C28	84.9	10.0	"	"	"	"	"	"	
Carbon Ranges C28-C35	ND	10.0	"	"	"	"	"	"	
Total Hydrocarbons	2270	10.0	"	"	"	"	"	"	
Surrogate: 1-Chlorooctane		113 %	70-130	"	"	"	"	"	
Surrogate: 1-Chlorooctadecane		94.8 %	70-130	"	"	"	"	"	
<i>1-1.5' Soil</i>									
<b>AH-1 1-3' (6H15002-02) Soil</b>									
Benzene	23.8	1.00	mg/kg dry	1000	EH61514	08/15/06	08/16/06	EPA 8021B	
Toluene	157	1.00	"	"	"	"	"	"	
Ethylbenzene	66.9	1.00	"	"	"	"	"	"	
Xylene (p/m)	211	1.00	"	"	"	"	"	"	
Xylene (o)	65.0	1.00	"	"	"	"	"	"	
Surrogate: a,a,a-Trifluorotoluene	523.7	212 %	80-120	"	"	"	"	"	S-04
Surrogate: 4-Bromofluorobenzene		136 %	80-120	"	"	"	"	"	S-04
Carbon Ranges C6-C12	4620	10.0	mg/kg dry	1	EH61508	08/15/06	08/15/06	EPA 8015M	
Carbon Ranges C12-C28	116	10.0	"	"	"	"	"	"	
Carbon Ranges C28-C35	ND	10.0	"	"	"	"	"	"	
Total Hydrocarbons	4740	10.0	"	"	"	"	"	"	
Surrogate: 1-Chlorooctane		125 %	70-130	"	"	"	"	"	
Surrogate: 1-Chlorooctadecane		96.0 %	70-130	"	"	"	"	"	

Highlander Environmental Corp.  
1910 N. Big Spring St.  
Midland TX, 79705

Project: Duke/ EE Extention  
Project Number: 2708  
Project Manager: Ike Tavarez

Fax: (432) 682-3946

**General Chemistry Parameters by EPA / Standard Methods**  
**Environmental Lab of Texas**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
<b>AH-1 0-1' (6H15002-01) Soil</b>									
Chloride	25.0	5.00	mg/kg	10	EH61511	08/15/06	08/15/06	EPA 300.0	
% Moisture	11.0	0.1	%	1	EH61601	08/15/06	08/16/06	% calculation	
<b>AH-1 1-5' (6H15002-02) Soil</b>									
Chloride	43.4	5.00	mg/kg	10	EH61511	08/15/06	08/15/06	EPA 300.0	
% Moisture	12.9	0.1	%	1	EH61601	08/15/06	08/16/06	% calculation	

Highlander Environmental Corp.  
 1910 N. Big Spring St.  
 Midland TX, 79705

Project: Duke/ EE Extention  
 Project Number: 2708  
 Project Manager: Ike Tavarez

Fax: (432) 682-3946

**Organics by GC - Quality Control**  
**Environmental Lab of Texas**

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
<b>Batch EH61508 - EPA 5030C (GC)</b>										
<b>Blank (EH61508-BLK1)</b> <span style="float:right">Prepared &amp; Analyzed: 08/15/06</span>										
Carbon Ranges C6-C12	ND	10.0	mg/kg wet							
Carbon Ranges C12-C28	ND	10.0	"							
Carbon Ranges C28-C35	ND	10.0	"							
Total Hydrocarbons	ND	10.0	"							
Surrogate: 1-Chlorooctane	50.5		mg/kg	50.0		101	70-130			
Surrogate: 1-Chlorooctadecane	48.3		"	50.0		96.6	70-130			
<b>LCS (EH61508-BS1)</b> <span style="float:right">Prepared &amp; Analyzed: 08/15/06</span>										
Carbon Ranges C6-C12	470	10.0	mg/kg wet	500		94.0	75-125			
Carbon Ranges C12-C28	481	10.0	"	500		96.2	75-125			
Carbon Ranges C28-C35	ND	10.0	"	0.00			75-125			
Total Hydrocarbons	951	10.0	"	1000		95.1	75-125			
Surrogate: 1-Chlorooctane	54.0		mg/kg	50.0		108	70-130			
Surrogate: 1-Chlorooctadecane	46.8		"	50.0		93.6	70-130			
<b>Calibration Check (EH61508-CCV1)</b> <span style="float:right">Prepared: 08/15/06 Analyzed: 08/16/06</span>										
Carbon Ranges C6-C12	236		mg/kg	250		94.4	80-120			
Carbon Ranges C12-C28	273		"	250		109	80-120			
Total Hydrocarbons	509		"	500		102	80-120			
Surrogate: 1-Chlorooctane	63.4		"	50.0		127	70-130			
Surrogate: 1-Chlorooctadecane	56.9		"	50.0		114	70-130			
<b>Matrix Spike (EH61508-MS1)</b> <span style="float:right">Source: 6H15006-03 Prepared: 08/15/06 Analyzed: 08/16/06</span>										
Carbon Ranges C6-C12	559	10.0	mg/kg dry	603	ND	92.7	75-125			
Carbon Ranges C12-C28	572	10.0	"	603	ND	94.9	75-125			
Carbon Ranges C28-C35	ND	10.0	"	0.00	ND		75-125			
Total Hydrocarbons	1130	10.0	"	1210	ND	93.4	75-125			
Surrogate: 1-Chlorooctane	56.0		mg/kg	50.0		112	70-130			
Surrogate: 1-Chlorooctadecane	48.3		"	50.0		96.6	70-130			

Highlander Environmental Corp.  
1910 N. Big Spring St.  
Midland TX, 79705

Project: Duke/ EE Extention  
Project Number: 2708  
Project Manager: Ike Tavarez

Fax: (432) 682-3946

**Organics by GC - Quality Control**  
**Environmental Lab of Texas**

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
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**Batch EH61508 - EPA 5030C (GC)**

<b>Matrix Spike Dup (EH61508-MSD1)</b>	<b>Source: 6H15006-03</b>			<b>Prepared: 08/15/06</b>		<b>Analyzed: 08/16/06</b>				
Carbon Ranges C6-C12	578	10.0	mg/kg dry	603	ND	95.9	75-125	3.34	20	
Carbon Ranges C12-C28	589	10.0	"	603	ND	97.7	75-125	2.93	20	
Carbon Ranges C28-C35	ND	10.0	"	0.00	ND		75-125		20	
Total Hydrocarbons	1170	10.0	"	1210	ND	96.7	75-125	3.48	20	
Surrogate: 1-Chlorooctane	58.1		mg/kg	50.0		116	70-130			
Surrogate: 1-Chlorooctadecane	49.2		"	50.0		98.4	70-130			

**Batch EH61514 - EPA 5030C (GC)**

<b>Blank (EH61514-BLK1)</b>	<b>Prepared: 08/15/06 Analyzed: 08/16/06</b>									
Benzene	ND	0.0250	mg/kg wet							
Toluene	ND	0.0250	"							
Ethylbenzene	ND	0.0250	"							
Xylene (p/m)	ND	0.0250	"							
Xylene (o)	ND	0.0250	"							
Surrogate: a,a,a-Trifluorotoluene	38.1		ug/kg	40.0		95.2	80-120			
Surrogate: 4-Bromofluorobenzene	41.0		"	40.0		102	80-120			

**LCS (EH61514-BS1)**

	<b>Prepared &amp; Analyzed: 08/15/06</b>									
Benzene	1.21	0.0250	mg/kg wet	1.25		96.8	80-120			
Toluene	1.38	0.0250	"	1.25		110	80-120			
Ethylbenzene	1.22	0.0250	"	1.25		97.6	80-120			
Xylene (p/m)	2.97	0.0250	"	2.50		119	80-120			
Xylene (o)	1.38	0.0250	"	1.25		110	80-120			
Surrogate: a,a,a-Trifluorotoluene	39.6		ug/kg	40.0		99.0	80-120			
Surrogate: 4-Bromofluorobenzene	47.8		"	40.0		120	80-120			

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**Organics by GC - Quality Control**  
**Environmental Lab of Texas**

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
<b>Batch EH61514 - EPA 5030C (GC)</b>										
<b>Calibration Check (EH61514-CCV1)</b>				Prepared: 08/15/06 Analyzed: 08/17/06						
Benzene	47.2		ug/kg	50.0		94.4	80-120			
Toluene	51.8		"	50.0		104	80-120			
Ethylbenzene	55.0		"	50.0		110	80-120			
Xylene (p/m)	112		"	100		112	80-120			
Xylene (o)	55.2		"	50.0		110	80-120			
Surrogate: a,a,a-Trifluorotoluene	45.7		"	40.0		114	80-120			
Surrogate: 4-Bromofluorobenzene	44.5		"	40.0		111	80-120			
<b>Matrix Spike (EH61514-MS1)</b>				Source: 6H15008-01		Prepared: 08/15/06 Analyzed: 08/17/06				
Benzene	1.33	0.0250	mg/kg dry	1.35	ND	98.5	80-120			
Toluene	1.54	0.0250	"	1.35	ND	114	80-120			
Ethylbenzene	1.30	0.0250	"	1.35	ND	96.3	80-120			
Xylene (p/m)	3.19	0.0250	"	2.71	ND	118	80-120			
Xylene (o)	1.45	0.0250	"	1.35	ND	107	80-120			
Surrogate: a,a,a-Trifluorotoluene	84.1		ug/kg	80.0		105	80-120			
Surrogate: 4-Bromofluorobenzene	84.0		"	80.0		105	80-120			
<b>Matrix Spike Dup (EH61514-MSD1)</b>				Source: 6H15008-01		Prepared: 08/15/06 Analyzed: 08/17/06				
Benzene	1.28	0.0250	mg/kg dry	1.35	ND	94.8	80-120	3.83	20	
Toluene	1.56	0.0250	"	1.35	ND	116	80-120	1.74	20	
Ethylbenzene	1.53	0.0250	"	1.35	ND	113	80-120	16.0	20	
Xylene (p/m)	3.24	0.0250	"	2.71	ND	120	80-120	1.68	20	
Xylene (o)	1.58	0.0250	"	1.35	ND	117	80-120	8.93	20	
Surrogate: a,a,a-Trifluorotoluene	44.4		ug/kg	40.0		111	80-120			
Surrogate: 4-Bromofluorobenzene	47.6		"	40.0		119	80-120			

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**General Chemistry Parameters by EPA / Standard Methods - Quality Control**  
**Environmental Lab of Texas**

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
<b>Batch EH61511 - Water Extraction</b>										
<b>Blank (EH61511-BLK1)</b>				Prepared & Analyzed: 08/15/06						
Chloride	ND	0.500	mg/kg							
<b>LCS (EH61511-BS1)</b>				Prepared & Analyzed: 08/15/06						
Chloride	9.79	0.500	mg/kg	10.0		97.9	80-120			
<b>Calibration Check (EH61511-CCV1)</b>				Prepared & Analyzed: 08/15/06						
Chloride	9.49		mg/L	10.0		94.9	80-120			
<b>Duplicate (EH61511-DUP1)</b>				Source: 6H15002-02		Prepared & Analyzed: 08/15/06				
Chloride	42.2	5.00	mg/kg		43.4			2.80	20	
<b>Duplicate (EH61511-DUP2)</b>				Source: 6H15010-01		Prepared & Analyzed: 08/15/06				
Chloride	647	10.0	mg/kg		642			0.776	20	
<b>Matrix Spike (EH61511-MS1)</b>				Source: 6H15002-02		Prepared & Analyzed: 08/15/06				
Chloride	149	5.00	mg/kg	100	43.4	106	80-120			
<b>Matrix Spike (EH61511-MS2)</b>				Source: 6H15010-01		Prepared & Analyzed: 08/15/06				
Chloride	900	10.0	mg/kg	200	642	129	80-120			S-07
<b>Batch EH61601 - General Preparation (Prep)</b>										
<b>Blank (EH61601-BLK1)</b>				Prepared: 08/15/06 Analyzed: 08/16/06						
% Solids	100		%							
<b>Duplicate (EH61601-DUP1)</b>				Source: 6H15002-01		Prepared: 08/15/06 Analyzed: 08/16/06				
% Solids	90.3		%		89.0			1.45	20	



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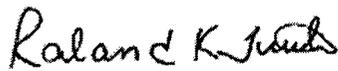
Project: Duke/ EE Extention  
Project Number: 2708  
Project Manager: Ike Tavarez

Fax: (432) 682-3946

### Notes and Definitions

S-07 Recovery outside Laboratory historical or method prescribed limits.  
S-04 The surrogate recovery for this sample is outside of established control limits due to a sample matrix effect.  
DET Analyte DETECTED  
ND Analyte NOT DETECTED at or above the reporting limit  
NR Not Reported  
dry Sample results reported on a dry weight basis  
RPD Relative Percent Difference  
LCS Laboratory Control Spike  
MS Matrix Spike  
Dup Duplicate

Report Approved By:



Date: 8/18/2006

Raland K. Tuttle, Lab Manager  
Celey D. Keene, Lab Director, Org. Tech Director  
Peggy Allen, QA Officer

Jeanne Mc Murrey, Inorg. Tech Director  
LaTasha Cornish, Chemist  
Sandra Sanchez, Lab Tech.

This material is intended only for the use of the individual (s) or entity to whom it is addressed, and may contain information that is privileged and confidential.

If you have received this material in error, please notify us immediately at 432-563-1800.



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

Client: Highlander  
 Date/ Time: 8/15/06 17:25  
 Lab ID #: 6H15002  
 Initials: OK

**Sample Receipt Checklist**

Client Initials

	Yes	No		
#1 Temperature of container/ cooler?			3.5 °C	
#2 Shipping container in good condition?	Yes	No		
#3 Custody Seals intact on shipping container/ cooler?	Yes	No	<del>Not Present</del>	
#4 Custody Seals intact on sample bottles/ container?	Yes	No	<del>Not Present</del>	
#5 Chain of Custody present?	Yes	No		
#6 Sample instructions complete of Chain of Custody?	Yes	No		
#7 Chain of Custody signed when relinquished/ received?	Yes	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?	Yes	No		
#11 Containers supplied by ELOT?	Yes	No		
#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		
#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 VOC samples have zero headspace?	Yes	No	Not Applicable	

**Variance Documentation**

Contact: \_\_\_\_\_ Contacted by: \_\_\_\_\_ 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