



# Emergency Response and Training Solutions



August 28, 2015

EMNRD Oil Conservation  
District 1  
1625 N. French Drive  
Hobbs, NM 88240

**RE: Corrective Action Final Report**

Responsible Party Information: Key Energy  
6 Desta Dr  
Midland TX 79705  
  
Telephone: 432- 571-7536

Incident Description: Diesel Fuel Release  
Incident Time/Date: 05:40 MST July 31, 2015

Incident Street Address: Coyote Rd and Hwy 176  
Eunice, NM  
Lea County

Property Owner Information: NM DOT  
Property Owner Address:

Regulatory Report #'s Dispatcher Gloria acknowledged receipt.  
ERTS Project # 07312015EUNM26344

Dear Ms. Jones:

The following serves as the final report detailing the emergency response and corrective actions taken in response to the incident that occurred on July 31, 2015 at the above referenced location.

**Incident Background:**

On July 31, 2015 Key Energy reported that a tanker transporting oil well product ion water was involved in a single vehicle accident resulting in a roll over and release of approximately 50 bbls to the roadside shoulder and adjacent ditch line. See site maps (Appendix 1)

**Emergency Response:**

On July 31, 2015 Desiree Crenshaw retained ERTS to manage and oversee environmental operations for the incident. ERTS dispatched EnviroSure out of Midland, TX to the site to perform emergency and remediation operations.

**Regulatory Notifications:**

ERTS  
6001 Cochran Rd. Suite 300 • Solon, Ohio 44139 • USA  
phone number: 440.349.2700| fax number: 440.349.6713  
ertsonline.com



## **Emergency Response and Training Solutions**

Pursuant to New Mexico regulations title 18, Chapter 2 Section 18.2.3.17 ERTS notified the NM Environmental Department of the release on July 31, 2015 and Dispatcher Gloria acknowledged receipt of the report. See State initial report and C-141 form (Appendix 2)

### **Corrective Action:**

On July 31, 2015 EnviroSure personnel arrived onsite to contain and secure the site until utility locates and permits could be obtained. The size of the impacted area was confirmed to 500' by up to 3' wide at depths ranging from 6" to 10". It was also confirmed that there were no storm drains or surface water impacted. On August 1, 2015 EnviroSure returned to the site and excavated all impacted soils, confirmation samples were collected at 75' intervals throughout the excavation area. The site was backfilled and restored to pre-incident conditions. The confirmation samples indicate that all the material was recovered. There was one sample that did show results for hydrocarbons C12-C35, due to the location and depth to ground water these results do not seem to pose any risk to the environment. See analytical results (Appendix 3). Please see photos of the site (Appendix 4)

### **Waste Disposal:**

One 20 yd roll off of contaminated soil is staged at the EnviroSure facility in Midland Texas and is pending transportation and disposal.

### **Conclusions and Recommendations:**

No evidence was found that suggests any environmental impact remains on the site following corrective action. ERTS recommends that the incident be closed.

ERTS and Key Energy appreciate your assistance in this matter. If you have any questions regarding this project, please do not hesitate to contact me at (440) 543-2400 Extension (306).

Respectfully,

**Emergency Response & Training Solutions**

George Sabo  
Operations Manager

ERTS

6001 Cochran Rd. Suite 300 • Solon, Ohio 44139 • USA  
phone number: 440.349.2700 | fax number: 440.349.6713  
ertsonline.com



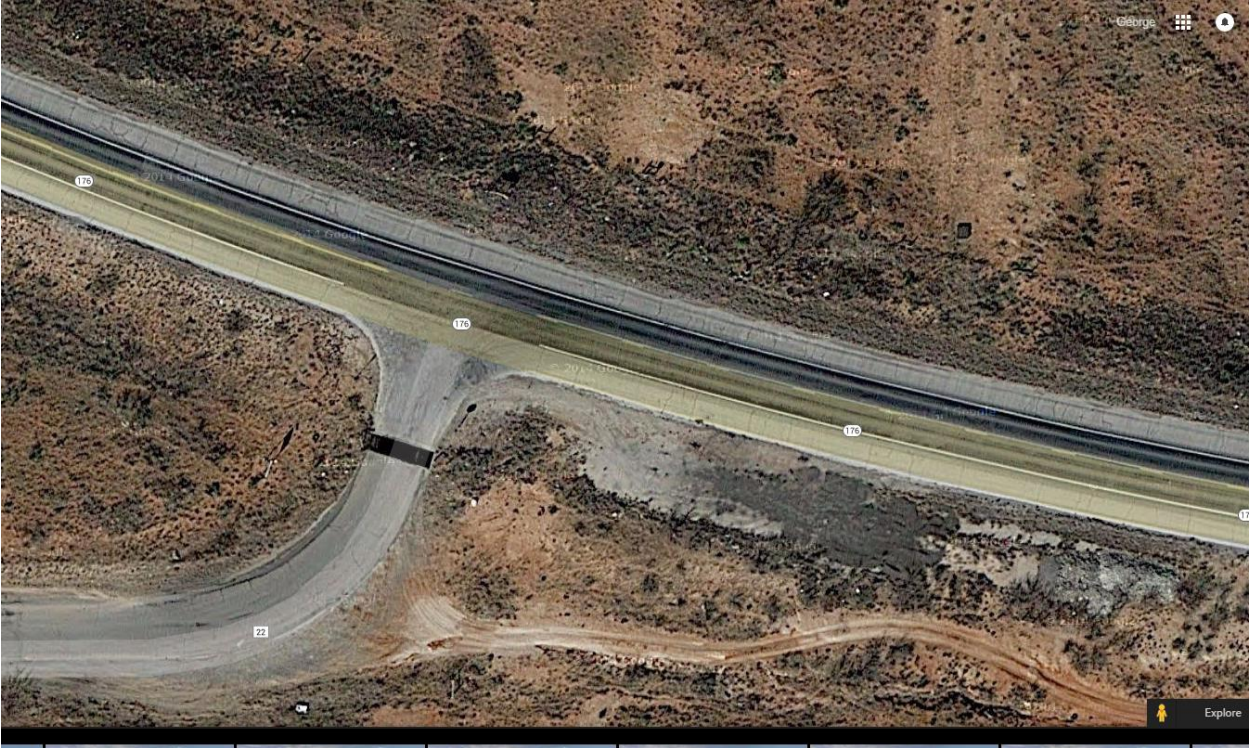
# **Emergency Response and Training Solutions**



Appendix 1  
Site map

ERTS

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[ertsonline.com](http://ertsonline.com)







# **Emergency Response and Training Solutions**



Appendix 2

State initial report

ERTS

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phone number: 440.349.2700| fax number: 440.349.6713  
[ertsonline.com](http://ertsonline.com)



Spill Report Form

NMED Incident# \_\_\_\_\_ District Code \_\_\_\_\_ Country: \_\_\_\_\_

\*Received by: \_\_\_\_\_ \*Date received: \_\_\_\_\_ Time: \_\_\_\_\_

Date spill occurred 7/31/2015 Time: 4:40

\*Date spill discovered 7/31/2015 Time: 4:40

Date spill stopped 7/31/2015 Time: 4:40

Caller Name: George Sabo Title: Operations Manager

Address: 6001 Cochran Rd City: Solon

Telephone No. 440-349-2700 x306 State: OH Zip Code 44139

\*Spiller (RP) Key Energy

Address: 6 Desta Dr City: Midland

Telephone No. 432-571-7536 State: TX Zip Code 79705

\*Spill Location Coyote Rd & Hwy 176 Eunice, NM Lee County  
(such as highway, street names, etc.)

Source/Cause: Single Vehicle Roll over

Materials spilled: Produced water Amount: 2100 gal

2) \_\_\_\_\_ Amount: \_\_\_\_\_

Weather Conditions: \_\_\_\_\_ Injuries: \_\_\_\_\_

Environmental Damage: \_\_\_\_\_

Mitigate Actions: Free Liquid Vacuumed up

Nearest waterbody affected: \_\_\_\_\_

Depth to Groundwater: \_\_\_\_\_



More Info Menu

**1) NMED contacts**

Offices contacted: SWQB \_\_\_\_\_ GWB \_\_\_\_\_ USTB \_\_\_\_\_ SWB \_\_\_\_\_

District/Field Office: \_\_\_\_\_

NPDES Permits # \_\_\_\_\_ Groundwater Permit # \_\_\_\_\_

**2) Other contacts (other agencies)**

U.S. Fish & Wildlife \_\_\_\_\_ NM Game & Fish \_\_\_\_\_ USEPA \_\_\_\_\_

Epidemiology \_\_\_\_\_ Downstream Users \_\_\_\_\_

Other: \_\_\_\_\_  
(Fire Department, Police, City Officials, Indian Pueblos, etc.)

Other \_\_\_\_\_

**3) Communication & Correspondence** \_\_\_\_\_

**4) HWB detail ...(nothing in there)**

**5) SWQB 1-203 Detail**

Agency Jurisdiction \_\_\_\_\_  
(Private, Municipality, Doe, DOD, Parks, etc...has a lookup)

Latitude \_\_\_\_\_ Longitude \_\_\_\_\_

And/or

Township, Range, Section \_\_\_\_\_  
(Very important for future GIS use)

Cleanup started: Yes ☐ No ☐ Date: \_\_\_\_\_ Time: \_\_\_\_\_

Cleanup completed: Yes ☐ No ☐ Date: \_\_\_\_\_ Time: \_\_\_\_\_

Comments: \_\_\_\_\_

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

**RECEIVED**

By OCD District 1 at 12:06 pm, Sep 04, 2015

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	Key Energy	Contact Daniel Gibson
Address 6 Desta Dr		Telephone No.432-571-7536
Facility Name		Facility Type
Surface Owner	Mineral Owner	Lease No.

### LOCATION OF RELEASE

Unit Letter	Section	Township	Range	Feet from the	North/South Line	Feet from the	East/West Line	County Lea
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Latitude 32.442761 Longitude -103.196648

### NATURE OF RELEASE

Type of Release Oil produced water	Volume of Release 50 BBLS	Volume Recovered 50 BBLS
Source of Release Tanker truck roll over	Date and Hour of Occurrence 7/31/2015 0540 am	Date and Hour of Discovery 7/31/2015 0940
Was Immediate Notice Given? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> Not Required	If YES, To Whom? New Mexico Env. Protection	
By Whom? George Sabo	Date and Hour 7/31/2015 0955	
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.\*

**APPROVED**

By OCD District 1 at 12:06 pm, Sep 04, 2015


Describe Cause of Problem and Remedial Action Taken.\*

The release was caused when a tanker carrying produced water overturned releasing the material onto the roadway and shoulder. The release impacted an area approximately 500' x 3'. A environmental contractor was dispatched and secured the site until locates could be performed for remediation

Describe Area Affected and Cleanup Action Taken.\*

The area impacted was a road shoulder and what appears to be a access road. The area was mostly gravel and overgrown with weeds. There did not appear to be any inhabited homes or buildings. Any visibly impacted areas where excavated to a depth of 6-10" then back filled. Samples were collected every 75' the length of the impacted area.

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:	<b>OIL CONSERVATION DIVISION</b>		
Printed Name: George Sabo	Approved by District Supervisor: 		
Title: Operations Manager	Approval Date: 09/04/2015	Expiration Date: ///	
E-mail Address: gsabo@ertsonline.com	Conditions of Approval: ///		Attached <input type="checkbox"/>
Date: 8/28/2015 Phone: 440-349-2700 x306			1RP 3843

\* Attach Additional Sheets If Necessary

pJXK1524743409

nJXK1524743275



# **Emergency Response and Training Solutions**



## Appendix 3

### Analytical Results

ERTS

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phone number: 440.349.2700 | fax number: 440.349.6713  
[ertsonline.com](http://ertsonline.com)



**PERMIAN BASIN  
ENVIRONMENTAL LAB, LP  
10014 SCR 1213  
Midland, TX 79706**



# Analytical Report

**Prepared for:**

Antonio Rodriguez  
Envirosure Resources  
1300 West County Road 114 Suite B  
Midland, TX 79706

Project: Key Energy  
Project Number: 300-15-0128  
Location: Hwy 176W Eunice, NM  
Lab Order Number: 5H18008



**NELAP/TCEQ # T104704156-13-3**

Report Date: 08/21/15

Envirosure Resources  
1300 West County Road 114 Suite B  
Midland TX, 79706

Project: Key Energy  
Project Number: 300-15-0128  
Project Manager: Antonio Rodriguez

Fax: 8775222105X705

### ANALYTICAL REPORT FOR SAMPLES

Sample ID	Laboratory ID	Matrix	Date Sampled	Date Received
A-1 Key 0-6"	5H18008-01	Soil	08/18/15 11:40	08-18-2015 16:00
B-2 Key 0-6"	5H18008-02	Soil	08/18/15 11:50	08-18-2015 16:00
C-3 Key 0-6"	5H18008-03	Soil	08/18/15 11:57	08-18-2015 16:00
D-4 Key 0-6"	5H18008-04	Soil	08/18/15 12:03	08-18-2015 16:00
E-5 Key 0-6"	5H18008-05	Soil	08/18/15 12:15	08-18-2015 16:00
F-6 Key 0-6"	5H18008-06	Soil	08/18/15 00:00	08-18-2015 16:00
Background1 0-6"	5H18008-07	Soil	08/18/15 12:00	08-18-2015 16:00
Background2 0-6"	5H18008-08	Soil	08/18/15 00:00	08-18-2015 16:00

**A-1 Key 0-6"**  
**5H18008-01 (Soil)**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
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**Permian Basin Environmental Lab, L.P.**

**Organics by GC**

Benzene	ND	0.00103	mg/kg dry	1	P5H2109	08/21/15	08/21/15	EPA 8021B	
Toluene	ND	0.00206	mg/kg dry	1	P5H2109	08/21/15	08/21/15	EPA 8021B	
Ethylbenzene	ND	0.00103	mg/kg dry	1	P5H2109	08/21/15	08/21/15	EPA 8021B	
Xylene (p/m)	ND	0.00206	mg/kg dry	1	P5H2109	08/21/15	08/21/15	EPA 8021B	
Xylene (o)	ND	0.00103	mg/kg dry	1	P5H2109	08/21/15	08/21/15	EPA 8021B	
Surrogate: 4-Bromofluorobenzene		115 %	75-125		P5H2109	08/21/15	08/21/15	EPA 8021B	
Surrogate: 1,4-Difluorobenzene		120 %	75-125		P5H2109	08/21/15	08/21/15	EPA 8021B	

**General Chemistry Parameters by EPA / Standard Methods**

Chloride	3.47	1.03	mg/kg dry	1	P5H2005	08/19/15	08/19/15	EPA 300.0	
% Moisture	3.0	0.1	%	1	P5H2001	08/20/15	08/20/15	% calculation	

**Total Petroleum Hydrocarbons C6-C35 by EPA Method 8015M**

C6-C12	ND	25.8	mg/kg dry	1	P5H2002	08/19/15	08/19/15	TPH 8015M	
>C12-C28	114	25.8	mg/kg dry	1	P5H2002	08/19/15	08/19/15	TPH 8015M	
>C28-C35	41.7	25.8	mg/kg dry	1	P5H2002	08/19/15	08/19/15	TPH 8015M	
Surrogate: 1-Chlorooctane		96.6 %	70-130		P5H2002	08/19/15	08/19/15	TPH 8015M	
Surrogate: o-Terphenyl		119 %	70-130		P5H2002	08/19/15	08/19/15	TPH 8015M	
Total Petroleum Hydrocarbon C6-C35	155	25.8	mg/kg dry	1	[CALC]	08/19/15	08/19/15	calc	

Envirosure Resources  
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Midland TX, 79706

Project: Key Energy  
Project Number: 300-15-0128  
Project Manager: Antonio Rodriguez

Fax: 8775222105X705

**B-2 Key 0-6"**  
**5H18008-02 (Soil)**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
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**Permian Basin Environmental Lab, L.P.**

**Organics by GC**

Benzene	ND	0.00101	mg/kg dry	1	P5H2109	08/21/15	08/21/15	EPA 8021B
Toluene	ND	0.00202	mg/kg dry	1	P5H2109	08/21/15	08/21/15	EPA 8021B
Ethylbenzene	ND	0.00101	mg/kg dry	1	P5H2109	08/21/15	08/21/15	EPA 8021B
Xylene (p/m)	ND	0.00202	mg/kg dry	1	P5H2109	08/21/15	08/21/15	EPA 8021B
Xylene (o)	ND	0.00101	mg/kg dry	1	P5H2109	08/21/15	08/21/15	EPA 8021B
Surrogate: 1,4-Difluorobenzene		120 %	75-125		P5H2109	08/21/15	08/21/15	EPA 8021B
Surrogate: 4-Bromofluorobenzene		116 %	75-125		P5H2109	08/21/15	08/21/15	EPA 8021B

**General Chemistry Parameters by EPA / Standard Methods**

Chloride	33.1	1.01	mg/kg dry	1	P5H2005	08/19/15	08/19/15	EPA 300.0
% Moisture	1.0	0.1	%	1	P5H2001	08/20/15	08/20/15	% calculation

**Total Petroleum Hydrocarbons C6-C35 by EPA Method 8015M**

C6-C12	ND	25.3	mg/kg dry	1	P5H2002	08/19/15	08/19/15	TPH 8015M
>C12-C28	44.6	25.3	mg/kg dry	1	P5H2002	08/19/15	08/19/15	TPH 8015M
>C28-C35	ND	25.3	mg/kg dry	1	P5H2002	08/19/15	08/19/15	TPH 8015M
Surrogate: 1-Chlorooctane		96.0 %	70-130		P5H2002	08/19/15	08/19/15	TPH 8015M
Surrogate: o-Terphenyl		118 %	70-130		P5H2002	08/19/15	08/19/15	TPH 8015M
Total Petroleum Hydrocarbon C6-C35	44.6	25.3	mg/kg dry	1	[CALC]	08/19/15	08/19/15	calc

Envirosure Resources  
1300 West County Road 114 Suite B  
Midland TX, 79706

Project: Key Energy  
Project Number: 300-15-0128  
Project Manager: Antonio Rodriguez

Fax: 8775222105X705

**C-3 Key 0-6"**  
**5H18008-03 (Soil)**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
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**Permian Basin Environmental Lab, L.P.**

**Organics by GC**

Benzene	ND	0.00100	mg/kg dry	1	P5H2109	08/21/15	08/21/15	EPA 8021B	
Toluene	ND	0.00200	mg/kg dry	1	P5H2109	08/21/15	08/21/15	EPA 8021B	
Ethylbenzene	ND	0.00100	mg/kg dry	1	P5H2109	08/21/15	08/21/15	EPA 8021B	
Xylene (p/m)	ND	0.00200	mg/kg dry	1	P5H2109	08/21/15	08/21/15	EPA 8021B	
Xylene (o)	ND	0.00100	mg/kg dry	1	P5H2109	08/21/15	08/21/15	EPA 8021B	
Surrogate: 4-Bromofluorobenzene		118 %	75-125		P5H2109	08/21/15	08/21/15	EPA 8021B	
Surrogate: 1,4-Difluorobenzene		121 %	75-125		P5H2109	08/21/15	08/21/15	EPA 8021B	

**General Chemistry Parameters by EPA / Standard Methods**

Chloride	38.8	1.00	mg/kg dry	1	P5H2005	08/19/15	08/19/15	EPA 300.0	
% Moisture	ND	0.1	%	1	P5H2001	08/20/15	08/20/15	% calculation	

**Total Petroleum Hydrocarbons C6-C35 by EPA Method 8015M**

C6-C12	ND	25.0	mg/kg dry	1	P5H2002	08/19/15	08/19/15	TPH 8015M	
>C12-C28	ND	25.0	mg/kg dry	1	P5H2002	08/19/15	08/19/15	TPH 8015M	
>C28-C35	ND	25.0	mg/kg dry	1	P5H2002	08/19/15	08/19/15	TPH 8015M	
Surrogate: 1-Chlorooctane		98.1 %	70-130		P5H2002	08/19/15	08/19/15	TPH 8015M	
Surrogate: o-Terphenyl		120 %	70-130		P5H2002	08/19/15	08/19/15	TPH 8015M	
Total Petroleum Hydrocarbon C6-C35	ND	25.0	mg/kg dry	1	[CALC]	08/19/15	08/19/15	calc	



Envirosure Resources  
1300 West County Road 114 Suite B  
Midland TX, 79706

Project: Key Energy  
Project Number: 300-15-0128  
Project Manager: Antonio Rodriguez

Fax: 8775222105X705

**D-4 Key 0-6"**  
**5H18008-04 (Soil)**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
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**Permian Basin Environmental Lab, L.P.**

**Organics by GC**

Benzene	ND	0.00102	mg/kg dry	1	P5H2109	08/21/15	08/21/15	EPA 8021B
Toluene	ND	0.00204	mg/kg dry	1	P5H2109	08/21/15	08/21/15	EPA 8021B
Ethylbenzene	ND	0.00102	mg/kg dry	1	P5H2109	08/21/15	08/21/15	EPA 8021B
Xylene (p/m)	ND	0.00204	mg/kg dry	1	P5H2109	08/21/15	08/21/15	EPA 8021B
Xylene (o)	ND	0.00102	mg/kg dry	1	P5H2109	08/21/15	08/21/15	EPA 8021B
Surrogate: 1,4-Difluorobenzene		120 %	75-125		P5H2109	08/21/15	08/21/15	EPA 8021B
Surrogate: 4-Bromofluorobenzene		115 %	75-125		P5H2109	08/21/15	08/21/15	EPA 8021B

**General Chemistry Parameters by EPA / Standard Methods**

Chloride	19.4	1.02	mg/kg dry	1	P5H2005	08/19/15	08/19/15	EPA 300.0
% Moisture	2.0	0.1	%	1	P5H2001	08/20/15	08/20/15	% calculation

**Total Petroleum Hydrocarbons C6-C35 by EPA Method 8015M**

C6-C12	ND	25.5	mg/kg dry	1	P5H2002	08/19/15	08/19/15	TPH 8015M
>C12-C28	ND	25.5	mg/kg dry	1	P5H2002	08/19/15	08/19/15	TPH 8015M
>C28-C35	ND	25.5	mg/kg dry	1	P5H2002	08/19/15	08/19/15	TPH 8015M
Surrogate: 1-Chlorooctane		96.2 %	70-130		P5H2002	08/19/15	08/19/15	TPH 8015M
Surrogate: o-Terphenyl		117 %	70-130		P5H2002	08/19/15	08/19/15	TPH 8015M
Total Petroleum Hydrocarbon C6-C35	ND	25.5	mg/kg dry	1	[CALC]	08/19/15	08/19/15	calc

Envirosure Resources  
1300 West County Road 114 Suite B  
Midland TX, 79706

Project: Key Energy  
Project Number: 300-15-0128  
Project Manager: Antonio Rodriguez

Fax: 8775222105X705

**E-5 Key 0-6"**  
**5H18008-05 (Soil)**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
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**Permian Basin Environmental Lab, L.P.**

**Organics by GC**

Benzene	ND	0.00102	mg/kg dry	1	P5H2109	08/21/15	08/21/15	EPA 8021B	
Toluene	ND	0.00204	mg/kg dry	1	P5H2109	08/21/15	08/21/15	EPA 8021B	
Ethylbenzene	ND	0.00102	mg/kg dry	1	P5H2109	08/21/15	08/21/15	EPA 8021B	
Xylene (p/m)	ND	0.00204	mg/kg dry	1	P5H2109	08/21/15	08/21/15	EPA 8021B	
Xylene (o)	ND	0.00102	mg/kg dry	1	P5H2109	08/21/15	08/21/15	EPA 8021B	
Surrogate: 4-Bromofluorobenzene		117 %	75-125		P5H2109	08/21/15	08/21/15	EPA 8021B	
Surrogate: 1,4-Difluorobenzene		112 %	75-125		P5H2109	08/21/15	08/21/15	EPA 8021B	

**General Chemistry Parameters by EPA / Standard Methods**

Chloride	6.72	1.02	mg/kg dry	1	P5H2005	08/19/15	08/19/15	EPA 300.0	
% Moisture	2.0	0.1	%	1	P5H2001	08/20/15	08/20/15	% calculation	

**Total Petroleum Hydrocarbons C6-C35 by EPA Method 8015M**

C6-C12	ND	25.5	mg/kg dry	1	P5H2002	08/19/15	08/19/15	TPH 8015M	
>C12-C28	ND	25.5	mg/kg dry	1	P5H2002	08/19/15	08/19/15	TPH 8015M	
>C28-C35	ND	25.5	mg/kg dry	1	P5H2002	08/19/15	08/19/15	TPH 8015M	
Surrogate: 1-Chlorooctane		96.5 %	70-130		P5H2002	08/19/15	08/19/15	TPH 8015M	
Surrogate: o-Terphenyl		120 %	70-130		P5H2002	08/19/15	08/19/15	TPH 8015M	
Total Petroleum Hydrocarbon C6-C35	ND	25.5	mg/kg dry	1	[CALC]	08/19/15	08/19/15	calc	

Envirosure Resources  
1300 West County Road 114 Suite B  
Midland TX, 79706

Project: Key Energy  
Project Number: 300-15-0128  
Project Manager: Antonio Rodriguez

Fax: 8775222105X705

**F-6 Key 0-6"**  
**5H18008-06 (Soil)**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
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**Permian Basin Environmental Lab, L.P.**

**Organics by GC**

Benzene	ND	0.00101	mg/kg dry	1	P5H2109	08/21/15	08/21/15	EPA 8021B	
Toluene	ND	0.00202	mg/kg dry	1	P5H2109	08/21/15	08/21/15	EPA 8021B	
Ethylbenzene	ND	0.00101	mg/kg dry	1	P5H2109	08/21/15	08/21/15	EPA 8021B	
Xylene (p/m)	ND	0.00202	mg/kg dry	1	P5H2109	08/21/15	08/21/15	EPA 8021B	
Xylene (o)	ND	0.00101	mg/kg dry	1	P5H2109	08/21/15	08/21/15	EPA 8021B	
Surrogate: 4-Bromofluorobenzene		117 %	75-125		P5H2109	08/21/15	08/21/15	EPA 8021B	
Surrogate: 1,4-Difluorobenzene		116 %	75-125		P5H2109	08/21/15	08/21/15	EPA 8021B	

**General Chemistry Parameters by EPA / Standard Methods**

Chloride	10.8	1.01	mg/kg dry	1	P5H2005	08/19/15	08/19/15	EPA 300.0	
% Moisture	1.0	0.1	%	1	P5H2001	08/20/15	08/20/15	% calculation	

**Total Petroleum Hydrocarbons C6-C35 by EPA Method 8015M**

C6-C12	ND	25.3	mg/kg dry	1	P5H2002	08/19/15	08/19/15	TPH 8015M	
>C12-C28	ND	25.3	mg/kg dry	1	P5H2002	08/19/15	08/19/15	TPH 8015M	
>C28-C35	ND	25.3	mg/kg dry	1	P5H2002	08/19/15	08/19/15	TPH 8015M	
Surrogate: 1-Chlorooctane		98.4 %	70-130		P5H2002	08/19/15	08/19/15	TPH 8015M	
Surrogate: o-Terphenyl		121 %	70-130		P5H2002	08/19/15	08/19/15	TPH 8015M	
Total Petroleum Hydrocarbon C6-C35	ND	25.3	mg/kg dry	1	[CALC]	08/19/15	08/19/15	calc	

Envirosure Resources  
1300 West County Road 114 Suite B  
Midland TX, 79706

Project: Key Energy  
Project Number: 300-15-0128  
Project Manager: Antonio Rodriguez

Fax: 8775222105X705

**Background1 0-6"**  
**5H18008-07 (Soil)**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
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**Permian Basin Environmental Lab, L.P.**

**Organics by GC**

Benzene	ND	0.00101	mg/kg dry	1	P5H2109	08/21/15	08/21/15	EPA 8021B	
Toluene	ND	0.00202	mg/kg dry	1	P5H2109	08/21/15	08/21/15	EPA 8021B	
Ethylbenzene	ND	0.00101	mg/kg dry	1	P5H2109	08/21/15	08/21/15	EPA 8021B	
Xylene (p/m)	ND	0.00202	mg/kg dry	1	P5H2109	08/21/15	08/21/15	EPA 8021B	
Xylene (o)	ND	0.00101	mg/kg dry	1	P5H2109	08/21/15	08/21/15	EPA 8021B	
Surrogate: 4-Bromofluorobenzene		125 %	75-125		P5H2109	08/21/15	08/21/15	EPA 8021B	
Surrogate: 1,4-Difluorobenzene		110 %	75-125		P5H2109	08/21/15	08/21/15	EPA 8021B	

**General Chemistry Parameters by EPA / Standard Methods**

Chloride	5.82	1.01	mg/kg dry	1	P5H2005	08/19/15	08/19/15	EPA 300.0	
% Moisture	1.0	0.1	%	1	P5H2001	08/20/15	08/20/15	% calculation	

**Total Petroleum Hydrocarbons C6-C35 by EPA Method 8015M**

C6-C12	ND	25.3	mg/kg dry	1	P5H2002	08/19/15	08/19/15	TPH 8015M	
>C12-C28	ND	25.3	mg/kg dry	1	P5H2002	08/19/15	08/19/15	TPH 8015M	
>C28-C35	ND	25.3	mg/kg dry	1	P5H2002	08/19/15	08/19/15	TPH 8015M	
Surrogate: 1-Chlorooctane		98.2 %	70-130		P5H2002	08/19/15	08/19/15	TPH 8015M	
Surrogate: o-Terphenyl		119 %	70-130		P5H2002	08/19/15	08/19/15	TPH 8015M	
Total Petroleum Hydrocarbon C6-C35	ND	25.3	mg/kg dry	1	[CALC]	08/19/15	08/19/15	calc	

Envirosure Resources  
1300 West County Road 114 Suite B  
Midland TX, 79706

Project: Key Energy  
Project Number: 300-15-0128  
Project Manager: Antonio Rodriguez

Fax: 8775222105X705

**Background2 0-6"**  
**5H18008-08 (Soil)**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
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**Permian Basin Environmental Lab, L.P.**

**Organics by GC**

Benzene	ND	0.00100	mg/kg dry	1	P5H2109	08/21/15	08/21/15	EPA 8021B
Toluene	ND	0.00200	mg/kg dry	1	P5H2109	08/21/15	08/21/15	EPA 8021B
Ethylbenzene	ND	0.00100	mg/kg dry	1	P5H2109	08/21/15	08/21/15	EPA 8021B
Xylene (p/m)	ND	0.00200	mg/kg dry	1	P5H2109	08/21/15	08/21/15	EPA 8021B
Xylene (o)	ND	0.00100	mg/kg dry	1	P5H2109	08/21/15	08/21/15	EPA 8021B
Surrogate: 4-Bromofluorobenzene		125 %	75-125		P5H2109	08/21/15	08/21/15	EPA 8021B
Surrogate: 1,4-Difluorobenzene		110 %	75-125		P5H2109	08/21/15	08/21/15	EPA 8021B

**General Chemistry Parameters by EPA / Standard Methods**

Chloride	ND	1.00	mg/kg dry	1	P5H2005	08/19/15	08/19/15	EPA 300.0
% Moisture	ND	0.1	%	1	P5H2001	08/20/15	08/20/15	% calculation

**Total Petroleum Hydrocarbons C6-C35 by EPA Method 8015M**

C6-C12	ND	25.0	mg/kg dry	1	P5H2002	08/19/15	08/19/15	TPH 8015M
>C12-C28	ND	25.0	mg/kg dry	1	P5H2002	08/19/15	08/19/15	TPH 8015M
>C28-C35	ND	25.0	mg/kg dry	1	P5H2002	08/19/15	08/19/15	TPH 8015M
Surrogate: 1-Chlorooctane		96.5 %	70-130		P5H2002	08/19/15	08/19/15	TPH 8015M
Surrogate: o-Terphenyl		117 %	70-130		P5H2002	08/19/15	08/19/15	TPH 8015M
Total Petroleum Hydrocarbon C6-C35	ND	25.0	mg/kg dry	1	[CALC]	08/19/15	08/19/15	calc



Envirosure Resources  
1300 West County Road 114 Suite B  
Midland TX, 79706

Project: Key Energy  
Project Number: 300-15-0128  
Project Manager: Antonio Rodriguez

Fax: 8775222105X705

**Organics by GC - Quality Control**  
**Permian Basin Environmental Lab, L.P.**

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
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**Batch P5H2109 - General Preparation (GC)**

**Blank (P5H2109-BLK1)**

Prepared & Analyzed: 08/21/15

Benzene	ND	0.00100	mg/kg wet							
Toluene	ND	0.00200	"							
Ethylbenzene	ND	0.00100	"							
Xylene (p/m)	ND	0.00200	"							
Xylene (o)	ND	0.00100	"							
Surrogate: 1,4-Difluorobenzene	0.0616		"	0.0500		123	75-125			
Surrogate: 4-Bromofluorobenzene	0.0576		"	0.0500		115	75-125			

**LCS (P5H2109-BS1)**

Prepared & Analyzed: 08/21/15

Benzene	0.0823	0.00100	mg/kg wet	0.100		82.3	70-130			
Toluene	0.0986	0.00200	"	0.100		98.6	70-130			
Ethylbenzene	0.113	0.00100	"	0.100		113	70-130			
Xylene (p/m)	0.215	0.00200	"	0.200		108	70-130			
Xylene (o)	0.108	0.00100	"	0.100		108	70-130			
Surrogate: 4-Bromofluorobenzene	0.0662		"	0.0500		132	75-125			S-GC
Surrogate: 1,4-Difluorobenzene	0.0606		"	0.0500		121	75-125			

**LCS Dup (P5H2109-BSD1)**

Prepared & Analyzed: 08/21/15

Benzene	0.0811	0.00100	mg/kg wet	0.100		81.1	70-130	1.41	20	
Toluene	0.0974	0.00200	"	0.100		97.4	70-130	1.20	20	
Ethylbenzene	0.109	0.00100	"	0.100		109	70-130	3.38	20	
Xylene (p/m)	0.207	0.00200	"	0.200		103	70-130	4.09	20	
Xylene (o)	0.104	0.00100	"	0.100		104	70-130	3.95	20	
Surrogate: 1,4-Difluorobenzene	0.0622		"	0.0500		124	75-125			
Surrogate: 4-Bromofluorobenzene	0.0654		"	0.0500		131	75-125			S-GC

Envirosure Resources  
1300 West County Road 114 Suite B  
Midland TX, 79706

Project: Key Energy  
Project Number: 300-15-0128  
Project Manager: Antonio Rodriguez

Fax: 8775222105X705

**General Chemistry Parameters by EPA / Standard Methods - Quality Control**  
**Permian Basin Environmental Lab, L.P.**

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
<b>Batch P5H2001 - % Solids</b>										
<b>Blank (P5H2001-BLK1)</b>	Prepared & Analyzed: 08/20/15									
% Moisture	ND	0.1	%							
<b>Duplicate (P5H2001-DUP1)</b>	<b>Source: 5H19001-02</b>		Prepared & Analyzed: 08/20/15							
% Moisture	6.0	0.1	%		6.0			0.00	20	
<b>Duplicate (P5H2001-DUP2)</b>	<b>Source: 5H19006-03</b>		Prepared & Analyzed: 08/20/15							
% Moisture	10.0	0.1	%		11.0			9.52	20	
<b>Duplicate (P5H2001-DUP3)</b>	<b>Source: 5H19006-05</b>		Prepared & Analyzed: 08/20/15							
% Moisture	13.0	0.1	%		13.0			0.00	20	
<b>Batch P5H2005 - *** DEFAULT PREP ***</b>										
<b>Blank (P5H2005-BLK1)</b>	Prepared & Analyzed: 08/19/15									
Chloride	ND	1.00	mg/kg wet							
<b>LCS (P5H2005-BS1)</b>	Prepared & Analyzed: 08/19/15									
Chloride	108	1.00	mg/kg wet	100		108	80-120			
<b>LCS Dup (P5H2005-BSD1)</b>	Prepared & Analyzed: 08/19/15									
Chloride	103	1.00	mg/kg wet	100		103	80-120	4.91	20	
<b>Duplicate (P5H2005-DUP1)</b>	<b>Source: 5H14014-02</b>		Prepared & Analyzed: 08/19/15							
Chloride	17.7	1.05	mg/kg dry		20.7			15.2	20	
<b>Duplicate (P5H2005-DUP2)</b>	<b>Source: 5H18008-04</b>		Prepared & Analyzed: 08/20/15							
Chloride	24.5	1.02	mg/kg dry		19.4			23.3	20	R3

Envirosure Resources  
1300 West County Road 114 Suite B  
Midland TX, 79706

Project: Key Energy  
Project Number: 300-15-0128  
Project Manager: Antonio Rodriguez

Fax: 8775222105X705

**General Chemistry Parameters by EPA / Standard Methods - Quality Control**  
**Permian Basin Environmental Lab, L.P.**

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
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**Batch P5H2005 - \*\*\* DEFAULT PREP \*\*\***

**Matrix Spike (P5H2005-MS1)**

**Source: 5H14014-02**

Prepared & Analyzed: 08/19/15

Chloride	105	1.05	mg/kg dry	105	20.7	80.4	80-120
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Envirosure Resources  
1300 West County Road 114 Suite B  
Midland TX, 79706

Project: Key Energy  
Project Number: 300-15-0128  
Project Manager: Antonio Rodriguez

Fax: 8775222105X705

**Total Petroleum Hydrocarbons C6-C35 by EPA Method 8015M - Quality Control**  
**Permian Basin Environmental Lab, L.P.**

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
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**Batch P5H2002 - TX 1005**

**Blank (P5H2002-BLK1)**

Prepared & Analyzed: 08/19/15

C6-C12	ND	25.0	mg/kg wet							
>C12-C28	ND	25.0	"							
>C28-C35	ND	25.0	"							
Surrogate: 1-Chlorooctane	99.7		"	100		99.7	70-130			
Surrogate: o-Terphenyl	60.5		"	50.0		121	70-130			

**LCS (P5H2002-BS1)**

Prepared & Analyzed: 08/19/15

C6-C12	854	25.0	mg/kg wet	1000		85.4	75-125			
>C12-C28	1010	25.0	"	1000		101	75-125			
Surrogate: 1-Chlorooctane	121		"	100		121	70-130			
Surrogate: o-Terphenyl	54.6		"	50.0		109	70-130			

**LCS Dup (P5H2002-BSD1)**

Prepared & Analyzed: 08/19/15

C6-C12	869	25.0	mg/kg wet	1000		86.9	75-125	1.74	20	
>C12-C28	1010	25.0	"	1000		101	75-125	0.0844	20	
Surrogate: 1-Chlorooctane	122		"	100		122	70-130			
Surrogate: o-Terphenyl	55.8		"	50.0		112	70-130			

**Duplicate (P5H2002-DUP1)**

Source: 5H18007-03

Prepared & Analyzed: 08/19/15

C6-C12	228	126	mg/kg dry		176			25.6	20	R3
>C12-C28	9730	126	"		10500			7.50	20	
Surrogate: 1-Chlorooctane	97.9		"	101		96.9	70-130			
Surrogate: o-Terphenyl	56.2		"	50.5		111	70-130			

### Notes and Definitions

S-GC	Surrogate recovery outside of control limits. The data was accepted based on valid recovery of the remaining surrogate.
R3	The RPD exceeded the acceptance limit due to sample matrix effects.
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: 8/21/2015

Brent Barron, Laboratory Director/Technical Director

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 432-686-7235.



## CHAIN OF CUSTODY RECORD AND ANALYSIS REQUEST

Permian Basin Environmental Lab, LP  
10014 S. County Road 1213  
Midland, Texas 79706

Phone: 432-686-7235

Project Manager:

Antonio Treder

Project Name:

Key Energy

Company Name

Envirosure Resources

Project #:

300-15-0128

Company Address:

1300 WCR 114 Ste B

Project Loc:

Hwy 174 W Eunice NM

City/State/Zip:

Midland TX 79706

PO #:

15-0128

Telephone No:

281-796-6881

Fax No:

877-522-2105

Report Format:

☒ Standard

☐ TRRP

☐ NPDES

Sampler Signature:

CR

e-mail:

antonioreder@esr247.com

(Lab use only)

ORDER #

6148008

LAB # (lab use only)

FIELD CODE

Beginning Depth

Ending Depth

Date Sampled

Time Sampled

Field Filtered

Total #. of Containers

Ice

HNO<sub>3</sub>

HCl

H<sub>2</sub>SO<sub>4</sub>

NaOH

Na<sub>2</sub>S<sub>2</sub>O<sub>8</sub>

None

Other (Specify)

DW=Drinking Water SL=Sludge

GW = Groundwater S=Soil/Solid

NP=Non-Potable Specify Other

TPH: 418.1 8015M 8015B

TPH: TX 1005 TX 1006

Cations (Ca, Mg, Na, K)

Anions (Cl, SO<sub>4</sub>, Alkalinity)

SAR / ESP / CEC

Metals: As Ag Ba Cd Cr Pb Hg Se

Volatiles

Semivolatiles

BTEX (60210/5030 or BTEX 8260)

RCI

N.O.R.M.

RUSH TAT (Pre-Schedule) 24, 48, 72 hrs

Standard TAT

Special Instructions:

Relinquished by:

Date

Time

Received by:

Date

Time

Relinquished by:

Date

Time

Received by:

Date

Time

Relinquished by:

Date

Time

Received by:

Date

Time

Laboratory Comments:

Sample Containers:

VOCs Free of Headspace

Check for leaks (seals on containers)

Check for leaks (seals on containers)

Sample Hand Delivered

by Sampler/Client Rep

by Courier UPS DHL FedEx Long Star

Temperature Upon Receipt

Adjusted



# INVOICE

**Invoice To:**

Antonio Rodriguez  
Envirosure Resources  
1300 West County Road 114 Suite B  
Midland, TX 79706

**Invoice Number**

5080160-EnviroSure

**Remit To:**

Accounts Receivable  
Permian Basin Environmental Lab, L.P.  
10014 SCR 1213  
Midland, TX 79706

**PO Number**

12-0128

**Received**

08/18/15

**Project**

Key Energy

**Customer**

Antonio Rodriguez  
Envirosure Resources

**Terms**

NET 30

**Project Number**

300-15-0128

**Project Manager**

Brent Barron

**Work Order(s)**

5H18008

Quantity	Analysis/Description	Matrix	Unit Cost	Extended Cost
<b>Permian Basin Environmental Lab, L.P.</b>				
8	TPH8015 Total Calc [5 day]	Soil	\$45.00	\$360.00
8	Solids, Dry Weight [3 day]	Soil	\$5.00	\$40.00
8	Chloride-300.0 [5 day]	Soil	\$20.00	\$160.00
8	8021B BTEX [3 day]	Soil	\$40.00	\$320.00

**Invoice Total: \$880.00**

## CHAIN OF CUSTODY RECORD AND ANALYSIS REQUEST

Permian Basin Environmental Lab, LP  
10014 S. County Road 1213  
Midland, Texas 79706

Phone: 432-686-7235

Project Manager:

Antonio Treder

Project Name:

Key Energy

Company Name

Envirosure Resources

Project #:

300-15-0128

Company Address:

1300 WCR 114 Ste B

Project Loc:

Hay 174w Eniue NM

City/State/Zip:

Midland TX 79706

PO #:

15-0128

Telephone No:

281-796-6881

Fax No:

877-522-2105

Report Format:

☒ Standard

☐ TRRP

☐ NPDES

Sampler Signature:

CR

e-mail:

antonioreder@esr247.com

(Lab Use Only)

ORDER #

6148008

LAB # (lab use only)

FIELD CODE

Beginning Depth

Ending Depth

Date Sampled

Time Sampled

Field Filtered

Total #. of Containers

Ice

HNO<sub>3</sub>

HCl

H<sub>2</sub>SO<sub>4</sub>

NaOH

Na<sub>2</sub>S<sub>2</sub>O<sub>8</sub>

None

Other (Specify)

DW=Drinking Water SL=Sludge

GW = Groundwater S=Soil/Solid

NP=Non-Potable Specify Other

TPH: 418.1 8015M 8015B

TPH: TX 1005 TX 1006

Cations (Ca, Mg, Na, K)

Anions (Cl, SO<sub>4</sub>, Alkalinity)

SAR / ESP / CEC

Metals: As Ag Ba Cd Cr Pb Hg Se

Volatiles

Semivolatiles

BTEX (60210/5030 or BTEX 8260)

RCI

N.O.R.M.

RUSH TAT (Pre-Schedule) 24, 48, 72 hrs

Standard TAT

Special Instructions:

Relinquished by:

Date

Time

Received by:

Date

Time

Relinquished by:

Date

Time

Received by:

Date

Time

Relinquished by:

Date

Time

Received by:

Date

Time

Laboratory Comments:

Sample Containers:

VOCs Free of Headspace

Check for leaks (seals on containers)

Check for leaks (seals on containers)

Sample Hand Delivered

by Sampler/Client Rep

by Courier UPS DHL FedEx Long Star

Temperature Upon Receipt

Adjusted



# **Emergency Response and Training Solutions**



## Appendix 4

### Photos

ERTS

6001 Cochran Rd. Suite 300 • Solon, Ohio 44139 • USA  
phone number: 440.349.2700| fax number: 440.349.6713  
[ertsonline.com](http://ertsonline.com)





















ERTS 26344

Eunice NM

Part 1



Part 2



7/31/15  
ERTS Proj#26344  
Eunice NM  
Process Water

533+ Feet  
3-5 feet at widest point







7/31/15  
ERTS Proj#26344  
Eunice NM  
Process Water



7/31/15  
ERTS Proj#26344  
Eunice NM  
Process Water





7/31/15  
ERTS Proj#26344  
Eunice NM  
Process Water





**7/31/15**  
**ERTS Proj#26344**  
**Eunice NM**  
**Process Water**



