

1R - 0334

REPORTS

DATE:

1/2005 Sampling



1R334

DUKE ENERGY FIELD SERVICES
370 17th Street
Suite 2500
Denver, CO 80202
303 595 3331

January 24 2005

Mr. Jack Ford, C.P.G.
New Mexico Oil Conservation Division
1220 S. St. Francis Dr.
Santa Fe, NM 87505

**RE: NMG MW5 Sampling and Proposal for Additional Activities at the NMG-148C Release Site (Case #1R334)
Lea County New Mexico
Unit N, Section 16, Township 19 South, Range 37 East**

Dear Mr. Ford:

Duke Energy Field Services, LP (DEFS) is pleased to submit for your review, one copy of the NMG MW5 sampling results and a proposal for additional site activities at the NMG-148C release site which is located in Lea County, New Mexico.

The need for additional activities is based on the analytical results of the recent groundwater sampling results of the newly installed NMG MW5. Upon your approval, DEFS will move forward with the additional activities.

If you have any questions regarding this report, please call me at 303-605-1718.

Sincerely

Duke Energy Field Services, LP

Stephen Weathers, PG
Sr. Environmental Specialist

Enclosure

cc: Larry Johnson, OCD Hobbs District Office
Lynn Ward, DEFS Midland Office
Environmental Files

1R334

January 21, 2005

Mr. Stephen Weathers
Duke Energy Field Services, LP
370 17th Street, Suite 2500
Denver, CO 80202

Re: Results of NMG-MW5 Sampling and Proposal for Additional Activities at the
NMG-148C Release Site (CASE #1R334) in Lea County New Mexico
Unit N, Section 16, Township 19 South Range 37 East

Dear Mr. Weathers:

This letter summarizes the sampling results and for recently-installed NMG-MW-5 and proposes additional investigative activities at the NMG-148C study area that is located on New Mexico State land. The purpose of the additional activities is to delineate the hydrocarbon plume that was detected in December 2004. The description of the field program follows a section containing background information.

BACKGROUND INFORMATION

Previous monitoring of wells NMG-MW2 through NMG MW4, shown on Figure 1, had established that no hydrocarbon plume was present south of the release point. Duke Energy Field Services, LP (DEFS) had previously committed to installing a final well southeast of the release area in the perceived down-gradient direction for groundwater. This commitment was reiterated by the New Mexico Oil Conservation Division (OCD) in a letter to DEFS dated October 28, 2004. DEFS commission installation of the new well following the refilling of the excavation and the receipt of samples that verified that the treated soils were below the mandated standards.

Well NMG-MW5 was installed on December 16, 2004 to a total depth of 35 feet at the location shown on Figure 1. The well was screened from 20 to 35 feet below ground surface (bgs) and completed as a permanent monitoring well. The well was developed and sampled on December 17, 2004. The sample was submitted to Environmental Labs of Texas (ELT) using standard chain of custody procedures for analysis for benzene, toluene, ethylbenzene and xylenes (BTEX). The sample results were received on December 22, 2004. These attached results, included in Table 1, indicated that the benzene concentration exceeded the human health standard for the New Mexico Water Quality Control Commission (NNWQCC). Toluene, ethylbenzene and xylenes were present at concentrations that were below their respective NMWQCC standards.

NMG-MW5 was resampled on December 29, 2004 to verify the initial BTEX concentrations and to analyze for polynuclear aromatic hydrocarbons (PAHs) as required in the October 28, 2004 OCD letter. Copies of laboratory reports for both the December 17, 2004 and December 29, 2004 sampling events are attached.

The BTEX results, from the December 29, 2004 episode, also summarized in Table 1, verified the initial data. Naphthalene was the only PAH detected; however, its concentration of 0.00029 mg/l was three orders of magnitude below NWQCC standard of 0.03 (Table 1).

DEFS reviewed the data and directed American Environmental Consulting, LLC (AEC) to prepare this workplan for the further investigation of the groundwater conditions. This workplan includes three activities: 1) installation and sampling of additional monitoring wells; 2) Completion of first quarter 2005 monitoring on the existing wells; and 3) surveying locations of the new wells. Each activity is described below.

INSTALLATION OF MONITORING WELLS

Four additional monitoring wells will be installed at locations that are cross-gradient and down-gradient from well NMG-MW5. The locations for these four wells are shown on Figure 1. The locations were selected based upon the following rationale:

- NMG-MW6 will be located east of NMG-MW5 in the surface drainage to bound the eastern edge of the hydrocarbon plume. Note that the western edge is already bounded by well NMG-MW2.
- NMG-MW7 will be located in the same drainage just south of the access road to assess plume attenuation and/or dispersion.
- NMG-MW8 will be located just south of the access road approximated midway between the release point (excavation) and the property boundary to assess attenuation/biodegradation along the centerline of the plume.
- NMG-MW9 will be located in the drainage at the property boundary. This location was selected for two reasons. First, it aligns with NMG-MW5 and the release point so it should be near the centerline of the plume. Second, this location is considered to have a high probability of encountering affected groundwater because it typically migrates toward the surface drainages and then flows beneath them.

The monitoring wells will be installed using air-rotary or auger drilling techniques. Each well will be installed to approximately 15 feet below groundwater rather than the usual 10 feet to ensure a sufficient long-term saturated thickness. Recent rains have raised the water table elevation by 4 to 8 feet in this area, and it is unknown how long it will take for the water-table elevations to recede to their historic levels.

The cuttings from each well will be inspected during drilling and logged for lithology, moisture content and the presence of indicators of hydrocarbon impacts. Samples will be screened with a photoionization detector (PID) at regular intervals and at any interval that appears to have hydrocarbon impacts.

A 20-foot section of screen will be installed to ensure that the open area of the well intercepts the water table. Artificially-graded sand will be placed to the approximately 1-to-2 feet above the top of the screen. Hydrated bentonite chips will then be placed from the top of the sand to approximately 2 feet bgs. Finally, an above-ground surface protector with a cement apron around it will be installed.

Each well will be allowed to sit a minimum of 12 hours before development. The wells will then be developed by pumping them with a 12-volt submersible pump until a minimum of ten casing volumes of water have been removed. The wells will then be purged for an additional three casing volumes. The field parameters of temperature, conductivity and dissolved oxygen will be measured after each of the three casing volumes to verify stabilization. The wells will then be analyzed for the parameter set included in Table 2. The rationale for this suite is discussed below in the section on quarterly monitoring.

QUARTERLY GROUNDWATER MONITORING

The first quarter 2005 groundwater monitoring episode will be completed in conjunction with the well installation program above. The four existing wells plus the four new wells will be purged and sampled using the protocol that was used in the past. The actual samples from all wells will be collected using a disposable bailer. Care will be taken to ensure that the samples are not aerated before they are measured or containerized. A field duplicate and a matrix spike duplicate (for BTEX) will also be collected.

The samples will be analyzed for the field and laboratory parameters listed in Table 2. The results of the analyses will be used to delineate the distribution of the hydrocarbon constituents and evaluate natural bioremediation to assess if monitored natural attenuation is a viable remediation alternative at this site.

ADDITIONAL SURVEYING ACTIVITIES

The locations and elevations of NMG-MW5 and the four new wells will be established by a licensed surveyor. The latitudes and longitudes of the three existing wells, the approximate location of the original release, the approximate excavation boundaries and the southern property boundary will also be measured.

Mr. Stephen Weathers
January 21, 2005
Page 4

The surveyor will provide a stamped plat map that will show the above features. The map provides validation of all points that will be used in project AutoCad and/or GIS graphics.

DELIVERABLE AND SCHEDULE

The deliverable for these activities will include the following components:

- A description of the field activities completed;
- Presentation of the data generated (including all historic data);
- Discussion of the quality assurance data;
- Interpretations and Conclusions on the distribution of hydrocarbons and the effectiveness of natural bioremediation; and
- Either a proposal for future activities or a conceptual corrective action program if the hydrocarbon plume has been adequately delineated.

Attachments with the lithologic boring logs (including NMG-MW5), the field purging data, the chains of custody and the laboratory reports will be included.

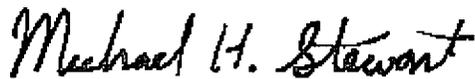
The project duration is estimated as follows.

- Day 1: Authorization to proceed issued by OCD
- Weeks 1 to 3: Contractor scheduling.
- Weeks 4 and 5: Completion of field activities.
- Weeks 5 through 8: Completion and validation of laboratory samples.
- Weeks 7 through 12: Preparation of report and submittal to OCD.

The above dates are estimates that are based upon previous experience. Additional time may be necessary based upon contractor constraints, weather delays, unanticipated field conditions, etc.

Thank you for allowing AEC to complete this workplan. Do not hesitate to contact me if you have any questions or comments on it.

Respectfully Submitted,
AMERICAN ENVIRONMENTAL CONSULTING, LLC



Michael H. Stewart, P.E., C.P.G.
Principal Engineer

TABLES

Table 1 – Summary of Organic Data from The NMG-148C Study Area Wells

Well	Sampling Date	Benzene	Toluene	Ethylbenzene	Total Xylenes	Naphthalene
NMWQCC Standards		0.01	0.75	0.75	0.62	0.03
NMG MW-5	12/17/04	2.82	0.00594	0.00331J	0.0583	NS
NMG MW-5	12/29/04	3.72	0.00123 J	0.00441 J	0.0508	0.00029

Notes: NMWQCC New Mexico Water Quality Control Commission Human Health Standards
 J: Detected but below the Reporting Limit; therefore, result is an estimated concentration.
 * Other constituents that were analyzed for but not detected include:

<u>Constituent</u>	<u>Reporting Limit (mg/l)</u>
• Acenaphthylene	<0.000116
• Acenaphthene	<0.000116
• Fluorene	<0.000116
• Phenanthrene	<0.000116
• Anthracene	<0.000116
• Fluoranthene	<0.000116
• Pyrene	<0.000116
• Benzo (a) anthracene	<0.00000302
• Chrysene	<0.000116
• Indeno (1,2,3-cd) pyrene	<0.0000302
• Benzo (b) fluoranthene	<0.0000302
• Benzo (k) fluoranthene	<0.000116
• Benzo (a) pyrene	<0.000000465
• Dibenzo (a,h) anthracene	<0.000000465

Table 2 - Proposed Analytical Suite for the First Quarter 2005 NMG-148C Monitoring Episode

Hydrocarbon Plume Indicator Parameters

- Benzene
- Toluene
- Ethylbenzene
- Xylenes
- Total Petroleum Hydrocarbons as Gasoline
- Total Petroleum Hydrocarbons as Diesel

Biodegradation Indicator Parameters

- Dissolved Oxygen: By meter in field
- Redox Potential: By meter in field
- Ferrous (II) Iron: HACH method #8146 in field or equivalent laboratory method
- Sulfate: HACH method #8051 in field or equivalent laboratory method
- Samples will also be submitted for laboratory analysis of nitrate and methane.

FIGURES



Notes:

1. Well NMG-MW-1 was destroyed during the excavation activities.
2. Wells NMG-MW2 through NMG-MW-5 are existing wells.
3. Wells NMG-MW6 through NMG-MW-9 are proposed, and the locations may be moved based upon site constraints.
4. Dark gray areas are surface drainage features.

Figure 1 – Existing and Proposed Monitoring Wells
NMG-148C

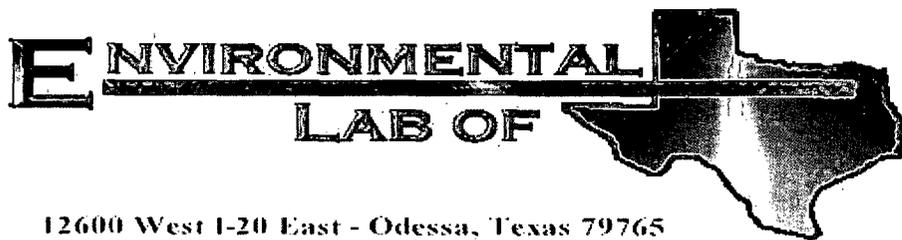


DRAWN BY: MHS

REVISED:

DATE: 1/05

LABORATORY ANALYTICAL RESULTS



12600 West I-20 East - Odessa, Texas 79765

Analytical Report

Prepared for:

Michael Stewart

REMEDIACON

P.O. Box 302

Evergreen, CO 80437

Project: DEFS-NMG-148C (4 in. Line)

Project Number: None Given

Location: Lea County, New Mexico

Lab Order Number: 4L20006

Report Date: 12/22/04

REMEDIACON
P.O. Box 302
Evergreen CO, 80437

Project: DEFS-NMG-148C (4 in. Line)
Project Number: None Given
Project Manager: Michael Stewart

Fax: 720-528-8132
Reported:
12/22/04 13:14

ANALYTICAL REPORT FOR SAMPLES

Sample ID	Laboratory ID	Matrix	Date Sampled	Date Received
MW-5 (0412171500)	4L20006-01	Water	12/17/04 15:00	12/20/04 11:00

REMEDIACON
P.O. Box 302
Evergreen CO, 80437

Project: DEFS-NMG-148C (4 in. Line)
Project Number: None Given
Project Manager: Michael Stewart

Fax: 720-528-8132
Reported:
12/22/04 13:14

Organics by GC
Environmental Lab of Texas

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
MW-5 (0412171500) (4L20006-01) Water									
Benzene	2.82	0.00500	mg/L	5	EL42211	12/21/04	12/21/04	EPA 8021B	
Toluene	0.00594	0.00500	"	"	"	"	"	"	
Ethylbenzene	J [0.00331]	0.00500	"	"	"	"	"	"	J
Xylene (p/m)	0.0512	0.00500	"	"	"	"	"	"	
Xylene (o)	0.00714	0.00500	"	"	"	"	"	"	
<i>Surrogate: a,a,a-Trifluorotoluene</i>		112 %	80-120	"	"	"	"	"	
<i>Surrogate: 4-Bromofluorobenzene</i>		81.0 %	80-120	"	"	"	"	"	

REMEDIACON
P.O. Box 302
Evergreen CO, 80437

Project: DEFS-NMG-148C (4 in. Line)
Project Number: None Given
Project Manager: Michael Stewart

Fax: 720-528-8132
Reported:
12/22/04 13:14

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
---------	--------	-----------------	-------	-------------	---------------	------	-------------	-----	-----------	-------

Batch EL42211 - EPA 5030C (GC)

Blank (EL42211-BLK1)

Prepared & Analyzed: 12/21/04

Benzene	ND	0.00100	mg/L							
Toluene	ND	0.00100	"							
Ethylbenzene	ND	0.00100	"							
Xylene (p/m)	ND	0.00100	"							
Xylene (o)	ND	0.00100	"							
Surrogate: a,a,a-Trifluorotoluene	20.1		ug/l	20.0		100	80-120			
Surrogate: 4-Bromofluorobenzene	17.7		"	20.0		88.5	80-120			

LCS (EL42211-BS1)

Prepared & Analyzed: 12/21/04

Benzene	102		ug/l	100		102	80-120			
Toluene	103		"	100		103	80-120			
Ethylbenzene	101		"	100		101	80-120			
Xylene (p/m)	204		"	200		102	80-120			
Xylene (o)	106		"	100		106	80-120			
Surrogate: a,a,a-Trifluorotoluene	19.6		"	20.0		98.0	80-120			
Surrogate: 4-Bromofluorobenzene	21.3		"	20.0		106	80-120			

LCS Dup (EL42211-BSD1)

Prepared & Analyzed: 12/21/04

Benzene	101		ug/l	100		101	80-120	0.985	20	
Toluene	100		"	100		100	80-120	2.96	20	
Ethylbenzene	99.3		"	100		99.3	80-120	1.70	20	
Xylene (p/m)	202		"	200		101	80-120	0.985	20	
Xylene (o)	99.1		"	100		99.1	80-120	6.73	20	
Surrogate: a,a,a-Trifluorotoluene	19.9		"	20.0		99.5	80-120			
Surrogate: 4-Bromofluorobenzene	19.6		"	20.0		98.0	80-120			

Calibration Check (EL42211-CCV1)

Prepared & Analyzed: 12/21/04

Benzene	114		ug/l	100		114	80-120			
Toluene	102		"	100		102	80-120			
Ethylbenzene	99.2		"	100		99.2	80-120			
Xylene (p/m)	199		"	200		99.5	80-120			
Xylene (o)	98.1		"	100		98.1	80-120			
Surrogate: a,a,a-Trifluorotoluene	18.3		"	20.0		91.5	80-120			
Surrogate: 4-Bromofluorobenzene	16.4		"	20.0		82.0	80-120			

Environmental Lab of Texas

The results in this report apply to the samples analyzed in accordance with the samples received in the laboratory. This analytical report must be reproduced in its entirety, with written approval of Environmental Lab of Texas.

REMEDIACON

P.O. Box 302

Evergreen CO, 80437

Project: DEFS-NMG-148C (4 in. Line)

Project Number: None Given

Project Manager: Michael Stewart

Fax: 720-528-8132

Reported:

12/22/04 13:14

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
---------	--------	-----------------	-------	-------------	---------------	------	-------------	-----	-----------	-------

Batch EL42211 - EPA 5030C (GC)

Matrix Spike (EL42211-MS1)

Source: 4L21001-01

Prepared & Analyzed: 12/21/04

Benzene	104		ug/l	100	0.866	103	80-120			
Toluene	107		"	100	ND	107	80-120			
Ethylbenzene	105		"	100	ND	105	80-120			
Xylene (p/m)	211		"	200	ND	106	80-120			
Xylene (o)	107		"	100	ND	107	80-120			
Surrogate: <i>a,a,a</i> -Trifluorotoluene	21.9		"	20.0		110	80-120			
Surrogate: 4-Bromofluorobenzene	22.0		"	20.0		110	80-120			

REMEDIACON
P.O. Box 302
Evergreen CO, 80437

Project: DEFS-NMG-148C (4 in. Line)
Project Number: None Given
Project Manager: Michael Stewart

Fax: 720-528-8132

Reported:
12/22/04 13:14

Notes and Definitions

J Detected but below the Reporting Limit; therefore, result is an estimated concentration (CLP J-Flag).
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:

Roland K Tuttle

Date:

12/22/2004

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

Jeanne Mc Murrey, Inorg. Tech Director
James L. Hawkins, Chemist/Geologist
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: Remediation

Date/Time: 12-20-04 @ 1100

Order #: 4L 20006

Initials: JMM

Sample Receipt Checklist

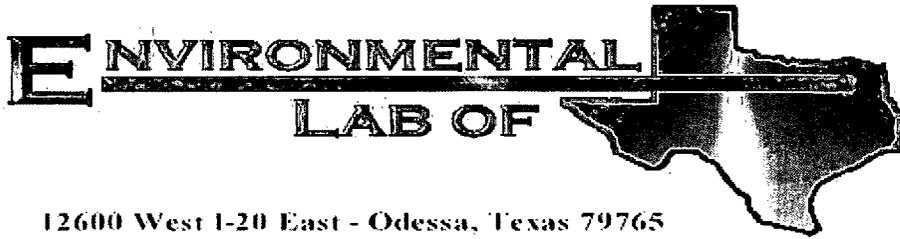
Temperature of container/cooler?	<input checked="" type="checkbox"/> Yes	No	0.5	C
Shipping container/cooler in good condition?	<input checked="" type="checkbox"/> Yes	No		
Custody Seals intact on shipping container/cooler?	Yes	No	Not present	
Custody Seals intact on sample bottles?	Yes	No	Not present	
Chain of custody present?	<input checked="" type="checkbox"/> Yes	No		
Sample Instructions complete on Chain of Custody?	<input checked="" type="checkbox"/> Yes	No		
Chain of Custody signed when relinquished and received?	<input checked="" type="checkbox"/> Yes	No		
Chain of custody agrees with sample label(s)	<input checked="" type="checkbox"/> Yes	No		
Container labels legible and intact?	<input checked="" type="checkbox"/> Yes	No		
Sample Matrix and properties same as on chain of custody?	<input checked="" type="checkbox"/> Yes	No		
Samples in proper container/bottle?	<input checked="" type="checkbox"/> Yes	No		
Samples properly preserved?	<input checked="" type="checkbox"/> Yes	No		
Sample bottles intact?	<input checked="" type="checkbox"/> Yes	No		
Preservations documented on Chain of Custody?	<input checked="" type="checkbox"/> Yes	No		
Containers documented on Chain of Custody?	<input checked="" type="checkbox"/> Yes	No		
Sufficient sample amount for indicated test?	<input checked="" type="checkbox"/> Yes	No		
All samples received within sufficient hold time?	<input checked="" type="checkbox"/> Yes	No		
VOC samples have zero headspace?	<input checked="" type="checkbox"/> Yes	No	Not Applicable	

Other observations:

Variance Documentation:

Contact Person: - _____ Date/Time: _____ Contacted by: _____
Regarding: _____

Corrective Action Taken:



12600 West I-20 East - Odessa, Texas 79765

Analytical Report

Prepared for:

Michael Stewart

REMEDIACON

P.O. Box 302

Evergreen, CO 80437

Project: Duke Energy Field Services

Project Number: None Given

Location: NMG 148C (4 inch Line)

Lab Order Number: 4L29005

Report Date: 01/05/05

REMEDIACON
P.O. Box 302
Evergreen CO, 80437

Project: Duke Energy Field Services
Project Number: None Given
Project Manager: Michael Stewart

Fax: 720-528-8132
Reported:
01/05/05 17:17

ANALYTICAL REPORT FOR SAMPLES

Sample ID	Laboratory ID	Matrix	Date Sampled	Date Received
MW-5 (0412291055)	4L29005-01	Water	12/29/04 10:55	12/29/04 14:25
Trip Blank	4L29005-02	Water	12/29/04 10:55	12/29/04 14:25

REMEDIACON
P.O. Box 302
Evergreen CO, 80437

Project: Duke Energy Field Services
Project Number: None Given
Project Manager: Michael Stewart

Fax: 720-528-8132
Reported:
01/05/05 17:17

Organics by GC
Environmental Lab of Texas

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
MW-5 (0412291055) (4L29005-01) Water									
Benzene	3.72	0.00500	mg/L	5	EL43006	12/29/04	12/30/04	EPA 8021B	
Toluene	J [0.00123]	0.00500	"	"	"	"	"	"	J
Ethylbenzene	J [0.00441]	0.00500	"	"	"	"	"	"	J
Xylene (p/m)	0.0482	0.00500	"	"	"	"	"	"	
Xylene (o)	J [0.00258]	0.00500	"	"	"	"	"	"	J
Surrogate: <i>a,a,a</i> -Trifluorotoluene		165 %	80-120	"	"	"	"	"	S-04
Surrogate: 4-Bromofluorobenzene		110 %	80-120	"	"	"	"	"	
Trip Blank (4L29005-02) Water									
Benzene	ND	0.00100	mg/L	1	EL43006	12/29/04	12/30/04	EPA 8021B	
Toluene	ND	0.00100	"	"	"	"	"	"	
Ethylbenzene	ND	0.00100	"	"	"	"	"	"	
Xylene (p/m)	ND	0.00100	"	"	"	"	"	"	
Xylene (o)	ND	0.00100	"	"	"	"	"	"	
Surrogate: <i>a,a,a</i> -Trifluorotoluene		97.6 %	80-120	"	"	"	"	"	
Surrogate: 4-Bromofluorobenzene		100 %	80-120	"	"	"	"	"	

REMEDIACON
P.O. Box 302
Evergreen CO, 80437

Project: Duke Energy Field Services
Project Number: None Given
Project Manager: Michael Stewart

Fax: 720-528-8132
Reported:
01/05/05 17:17

PAH compounds by Semivolatile GCMS
Environmental Lab of Texas

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
MW-5 (0412291055) (4L29005-01) Water									
Naphthalene	0.290	0.116	ug/l	0.93	EA50507	12/30/04	01/03/05	8270C	
Acenaphthylene	ND	0.116	"	"	"	"	"	"	
Acenaphthene	ND	0.116	"	"	"	"	"	"	
Fluorene	ND	0.116	"	"	"	"	"	"	
Phenanthrene	ND	0.116	"	"	"	"	"	"	
Anthracene	ND	0.116	"	"	"	"	"	"	
Fluoranthene	ND	0.116	"	"	"	"	"	"	
Pyrene	ND	0.116	"	"	"	"	"	"	
Benzo (a) anthracene	ND	0.0302	"	"	"	"	"	"	
Chrysene	ND	0.116	"	"	"	"	"	"	
Indeno (1,2,3-cd) pyrene	ND	0.0302	"	"	"	"	"	"	
Benzo (b) fluoranthene	ND	0.0302	"	"	"	"	"	"	
Benzo (k) fluoranthene	ND	0.116	"	"	"	"	"	"	
Benzo (a) pyrene	ND	0.00465	"	"	"	"	"	"	
Dibenzo (a,h) anthracene	ND	0.00465	"	"	"	"	"	"	
Benzo (g,h,i) perylene	ND	0.116	"	"	"	"	"	"	
Surrogate: Nitrobenzene-d5		85.6 %		35-114	"	"	"	"	
Surrogate: 2-Fluorobiphenyl		81.0 %		43-116	"	"	"	"	
Surrogate: p-Terphenyl-d14		75.4 %		33-141	"	"	"	"	

REMEDIACON
P.O. Box 302
Evergreen CO, 80437

Project: Duke Energy Field Services
Project Number: None Given
Project Manager: Michael Stewart

Fax: 720-528-8132

Reported:
01/05/05 17:17

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
---------	--------	-----------------	-------	-------------	---------------	------	-------------	-----	-----------	-------

Batch EL43006 - EPA 5030C (GC)

Blank (EL43006-BLK1)

Prepared & Analyzed: 12/29/04

Benzene	ND	0.00100	mg/L							
Toluene	ND	0.00100	"							
Ethylbenzene	ND	0.00100	"							
Xylene (p/m)	ND	0.00100	"							
Xylene (o)	ND	0.00100	"							
Surrogate: a,a,a-Trifluorotoluene	100		ug/l	100		100	80-120			
Surrogate: 4-Bromofluorobenzene	91.9		"	100		91.9	80-120			

LCS (EL43006-BS1)

Prepared & Analyzed: 12/29/04

Benzene	86.8		ug/l	100		86.8	80-120			
Toluene	85.1		"	100		85.1	80-120			
Ethylbenzene	86.6		"	100		86.6	80-120			
Xylene (p/m)	191		"	200		95.5	80-120			
Xylene (o)	92.9		"	100		92.9	80-120			
Surrogate: a,a,a-Trifluorotoluene	117		"	100		117	80-120			
Surrogate: 4-Bromofluorobenzene	95.1		"	100		95.1	80-120			

Calibration Check (EL43006-CCV1)

Prepared & Analyzed: 12/29/04

Benzene	89.5		ug/l	100		89.5	80-120			
Toluene	89.6		"	100		89.6	80-120			
Ethylbenzene	91.8		"	100		91.8	80-120			
Xylene (p/m)	201		"	200		100	80-120			
Xylene (o)	99.5		"	100		99.5	80-120			
Surrogate: a,a,a-Trifluorotoluene	115		"	100		115	80-120			
Surrogate: 4-Bromofluorobenzene	95.0		"	100		95.0	80-120			

Matrix Spike (EL43006-MS1)

Source: 4L22001-05

Prepared & Analyzed: 12/29/04

Benzene	90.0		ug/l	100	ND	90.0	80-120			
Toluene	91.6		"	100	ND	91.6	80-120			
Ethylbenzene	91.4		"	100	ND	91.4	80-120			
Xylene (p/m)	201		"	200	ND	100	80-120			
Xylene (o)	95.8		"	100	ND	95.8	80-120			
Surrogate: a,a,a-Trifluorotoluene	118		"	100		118	80-120			
Surrogate: 4-Bromofluorobenzene	102		"	100		102	80-120			

REMEDIACON
P.O. Box 302
Evergreen CO, 80437

Project: Duke Energy Field Services
Project Number: None Given
Project Manager: Michael Stewart

Fax: 720-528-8132
Reported:
01/05/05 17:17

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
---------	--------	-----------------	-------	-------------	---------------	------	-------------	-----	-----------	-------

Batch EL43006 - EPA 5030C (GC)

Matrix Spike Dup (EL43006-MSD1)

Source: 4L22001-05

Prepared & Analyzed: 12/29/04

Benzene	93.0		ug/l	100	ND	93.0	80-120	3.28	20	
Toluene	94.6		"	100	ND	94.6	80-120	3.22	20	
Ethylbenzene	92.4		"	100	ND	92.4	80-120	1.09	20	
Xylene (p/m)	201		"	200	ND	100	80-120	0.00	20	
Xylene (o)	95.6		"	100	ND	95.6	80-120	0.209	20	
<i>Surrogate: a,a,a-Trifluorotoluene</i>	<i>118</i>		<i>"</i>	<i>100</i>		<i>118</i>	<i>80-120</i>			
<i>Surrogate: 4-Bromofluorobenzene</i>	<i>102</i>		<i>"</i>	<i>100</i>		<i>102</i>	<i>80-120</i>			

REMEDIACON
P.O. Box 302
Evergreen CO, 80437

Project: Duke Energy Field Services
Project Number: None Given
Project Manager: Michael Stewart

Fax: 720-528-8132
Reported:
01/05/05 17:17

PAH compounds by Semivolatile GCMS - Quality Control
Environmental Lab of Texas

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
---------	--------	-----------------	-------	-------------	---------------	------	-------------	-----	-----------	-------

Batch EA50507 - EPA 3510C

Blank (EA50507-BLK1)

Prepared: 12/30/04 Analyzed: 01/05/05

Naphthalene	ND	0.125	ug/l							
Acenaphthylene	ND	0.125	"							
Acenaphthene	ND	0.125	"							
Fluorene	ND	0.125	"							
Phenanthrene	ND	0.125	"							
Anthracene	ND	0.125	"							
Fluoranthene	ND	0.125	"							
Pyrene	ND	0.125	"							
Benzo (a) anthracene	ND	0.0325	"							
Chrysene	ND	0.125	"							
Indeno (1,2,3-cd) pyrene	ND	0.0325	"							
Benzo (b) fluoranthene	ND	0.0325	"							
Benzo (k) fluoranthene	ND	0.125	"							
Benzo (a) pyrene	ND	0.00500	"							
Dibenzo (a,h) anthracene	ND	0.00500	"							
Benzo (g,h,i) perylene	ND	0.125	"							
<i>Surrogate: Nitrobenzene-d5</i>	59.9		"	80.0		74.9	35-114			
<i>Surrogate: 2-Fluorobiphenyl</i>	50.8		"	80.0		63.5	43-116			
<i>Surrogate: p-Terphenyl-d14</i>	45.0		"	80.0		56.2	33-141			

LCS (EA50507-BS1)

Prepared: 12/30/04 Analyzed: 01/03/05

Naphthalene	54.5		ug/l	100		54.5	21-133			
Acenaphthylene	53.9		"	100		53.9	33-145			
Acenaphthene	55.0		"	100		55.0	47-145			
Fluorene	58.4		"	100		58.4	59-121			QS-1
Phenanthrene	62.4		"	100		62.4	54-120			
Anthracene	60.9		"	100		60.9	27-133			
Fluoranthene	69.2		"	100		69.2	26-137			
Pyrene	54.9		"	100		54.9	52-115			
Benzo (a) anthracene	61.8		"	100		61.8	33-143			
Chrysene	65.1		"	100		65.1	17-168			
Indeno (1,2,3-cd) pyrene	64.0		"	100		64.0	5-171			
Benzo (b) fluoranthene	52.2		"	100		52.2	24-159			
Benzo (k) fluoranthene	57.7		"	100		57.7	11-162			
Benzo (a) pyrene	58.1		"	100		58.1	17-163			
Dibenzo (a,h) anthracene	55.6		"	100		55.6	5-227			
Benzo (g,h,i) perylene	49.6		"	100		49.6	5-219			
<i>Surrogate: Nitrobenzene-d5</i>	56.0		"	80.0		70.0	35-114			
<i>Surrogate: 2-Fluorobiphenyl</i>	48.6		"	80.0		60.8	43-116			
<i>Surrogate: p-Terphenyl-d14</i>	52.6		"	80.0		65.8	33-141			

Environmental Lab of Texas

The results in this report apply to the samples analyzed in accordance with the samples received in the laboratory. This analytical report must be reproduced in its entirety, with written approval of Environmental Lab of Texas.

REMEDIACON
P.O. Box 302
Evergreen CO, 80437

Project: Duke Energy Field Services
Project Number: None Given
Project Manager: Michael Stewart

Fax: 720-528-8132

Reported:
01/05/05 17:17

PAH compounds by Semivolatile GCMS - Quality Control
Environmental Lab of Texas

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
---------	--------	-----------------	-------	-------------	---------------	------	-------------	-----	-----------	-------

Batch EA50507 - EPA 3510C

LCS Dup (EA50507-BSD1)

Prepared: 12/30/04 Analyzed: 01/03/05

Naphthalene	54.6		ug/l	100		54.6	21-133	0.183	30.1	
Acenaphthylene	54.6		"	100		54.6	33-145	1.29	40.2	
Acenaphthene	54.3		"	100		54.3	47-145	1.28	27.6	
Fluorene	58.3		"	100		58.3	59-121	0.171	20.7	QS-1
Phenanthrene	63.7		"	100		63.7	54-120	2.06	20.6	
Anthracene	61.3		"	100		61.3	27-133	0.655	32	
Fluoranthene	69.5		"	100		69.5	26-137	0.433	32.8	
Pyrene	55.3		"	100		55.3	52-115	0.726	25.2	
Benzo (a) anthracene	61.4		"	100		61.4	33-143	0.649	27.6	
Chrysene	65.5		"	100		65.5	17-168	0.613	48.3	
Indeno (1,2,3-cd) pyrene	61.3		"	100		61.3	5-171	4.31	44.6	
Benzo (b) fluoranthene	51.2		"	100		51.2	24-159	1.93	38.8	
Benzo (k) fluoranthene	59.8		"	100		59.8	11-162	3.57	32.3	
Benzo (a) pyrene	58.3		"	100		58.3	17-163	0.344	39	
Dibenzo (a,h) anthracene	54.9		"	100		54.9	5-227	1.27	70	
Benzo (g,h,i) perylene	48.2		"	100		48.2	5-219	2.86	58.9	
Surrogate: Nitrobenzene-d5	55.1		"	80.0		68.9	35-114			
Surrogate: 2-Fluorobiphenyl	48.7		"	80.0		60.9	43-116			
Surrogate: p-Terphenyl-d14	53.0		"	80.0		66.2	33-141			

Calibration Check (EA50507-CCV1)

Prepared: 12/30/04 Analyzed: 01/03/05

Acenaphthene	51.4		ug/l	50.0		103	70-130			
Fluoranthene	46.6		"	50.0		93.2	70-130			
Benzo (a) pyrene	54.9		"	50.0		110	70-130			

REMEDIACON
P.O. Box 302
Evergreen CO, 80437

Project: Duke Energy Field Services
Project Number: None Given
Project Manager: Michael Stewart

Fax: 720-528-8132
Reported:
01/05/05 17:17

Notes and Definitions

S-04 The surrogate recovery for this sample is outside of established control limits due to a sample matrix effect.

QS-1 The spike recovery value is outside Laboratory historical or method prescribed QC limits.

J Detected but below the Reporting Limit; therefore, result is an estimated concentration (CLP J-Flag).

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: _____

Raland K Tuttle

Date: 1/5/2005

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

Jeanne Mc Murrey, Inorg. Tech Director
James L. Hawkins, Chemist/Geologist
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

The results in this report apply to the samples analyzed in accordance with the samples received in the laboratory. This analytical report must be reproduced in its entirety, with written approval of Environmental Lab of Texas.

Page 8 of 8

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

Client: Remediation

Date/Time: 12-29-04 @ 1425

Order #: 4L29005

Initials: Jm

Sample Receipt Checklist

Temperature of container/cooler?	<input checked="" type="radio"/> Yes	<input type="radio"/> No	-1/5	C
Shipping container/cooler in good condition?	<input checked="" type="radio"/> Yes	<input type="radio"/> No		
Custody Seals intact on shipping container/cooler?	<input type="radio"/> Yes	<input type="radio"/> No	Not present	
Custody Seals intact on sample bottles?	<input type="radio"/> Yes	<input type="radio"/> No	Not present	
Chain of custody present?	<input checked="" type="radio"/> Yes	<input type="radio"/> No		
Sample Instructions complete on Chain of Custody?	<input checked="" type="radio"/> Yes	<input type="radio"/> No		
Chain of Custody signed when relinquished and received?	<input checked="" type="radio"/> Yes	<input type="radio"/> No		
Chain of custody agrees with sample label(s)	<input checked="" type="radio"/> Yes	<input type="radio"/> No		
Container labels legible and intact?	<input checked="" type="radio"/> Yes	<input type="radio"/> No		
Sample Matrix and properties same as on chain of custody?	<input checked="" type="radio"/> Yes	<input type="radio"/> No		
Samples in proper container/bottle?	<input checked="" type="radio"/> Yes	<input type="radio"/> No		
Samples properly preserved?	<input checked="" type="radio"/> Yes	<input type="radio"/> No		
Sample bottles intact?	<input checked="" type="radio"/> Yes	<input type="radio"/> No		
Preservations documented on Chain of Custody?	<input checked="" type="radio"/> Yes	<input type="radio"/> No		
Containers documented on Chain of Custody?	<input checked="" type="radio"/> Yes	<input type="radio"/> No		
Sufficient sample amount for indicated test?	<input checked="" type="radio"/> Yes	<input type="radio"/> No		
All samples received within sufficient hold time?	<input checked="" type="radio"/> Yes	<input type="radio"/> No		
VOC samples have zero headspace?	<input checked="" type="radio"/> Yes	<input type="radio"/> No		Not Applicable

Other observations:

Variance Documentation:

Contact Person: - _____ Date/Time: _____ Contacted by: _____
Regarding: _____

Corrective Action Taken:
