

AP - 011

STAGE 1 & 2 REPORTS

DATE:

Feb. 12, 2004

-----Original Message-----

From: Cindy Crain [mailto:cindy@laenvironmental.com]

Sent: Monday, February 21, 2005 3:20 PM

To: Price, Wayne

Cc: Cal Wrangham

Subject: FW: Dynegy Bertha Barber Site

Dear Wayne,

On February 12, 2004, Larson & Associates submitted a Subsurface Investigation Report on behalf of Dynegy Midstream Services, for a Pipeline Segment Near Bertha Barber Tank Battery (N/2, SW/4, Sec. 5, T20S, R37E, Lea Co., NM) to Mr. William C. Olson.

The report detailed the installation of two monitoring wells (MW-17 and MW-18) and the results of groundwater monitoring at the two wells. The conclusion of the report was that Dynegy "believes they have no further obligation at the Site."

On October 8, 2004, prior to Mr. Olson leaving his position at the NMOCD, I contacted him via telephone regarding the Bertha Barber facility. Mr. Olson said that he had reviewed the report and saw no concern for Dynegy. He stated that the problem looked like it belonged to Marathon. Since Dynegy had not asked for anything in the Subsurface Investigation Report, he just filed the report away.

Later that same day, I sent Mr. Olson the following email, requesting approval to plug and abandon the two monitoring wells. However, Mr. Olson had already left the office, and a response was never received regarding the request. Would you have the time to review the above referenced Report and respond to the request of Dynegy to plug and abandon monitoring wells MW-17 and MW-18.

If you have any questions or need additional information, please don't hesitate to give me a call.

Thank you,

Cindy Crain, PG

-----Original Message-----

From: Cindy Crain [mailto:cindy@laenvironmental.com]

Sent: Friday, October 08, 2004 1:38 PM

To: Bill Olson

Cc: Cal Wrangham; Dave Harris

Subject: Dynegy Bertha Barber Site

Bill,

Per our conversation moments ago regarding the Bertha Barber Tank Battery (N/2, SW/4, Section 5, T20S, R37E, Lea County, NM), Dynegy requests your approval to plug and abandon the two monitoring wells (MW-17 and MW-18) at the site.

Thank you for your time Bill, and good luck to you again at your new position.

Cindy Crain, PG

Project Manager

February 12, 2004

Mr. William C. Olson
New Mexico Oil Conservation Division
Environmental Bureau
1220 South St. Francis Drive
Santa Fe, New Mexico

Re: Subsurface Investigation Report, Dynegy Midstream Services, L.P., Pipeline Segment Near Bertha Barber Tank Battery, N/2, SW/4, Section 5, Township 20 South, Range 37 East, Lea County, New Mexico

Dear Mr. Olson:

Dynegy Midstream Services, L.P. (Dynegy) has retained Larson and Associates, Inc. (LA) to investigate a potential release of natural gas liquids (NGL) from a segment of pipeline owned by Dynegy, and located northwest of the former Bertha Barber Tank Battery (Site) operated by Marathon Oil Company (MOC). MOC notified the New Mexico Oil Conservation Division (NMOCD) that phase-separated hydrocarbons (PSH) resembling NGL was present in a monitoring well located near Dynegy's pipeline. On May 23, 2000, the NMOCD requested Dynegy to submit information related to pipeline leaks, spills, repairs and remediation actions it had for the site. On June 9, 2000, Dynegy submitted the requested documentation, and indicated that there was no evidence of hydrocarbon impacts along the pipeline right-of-way. Dynegy noted that field personnel had identified and repaired a leak along a section of steel line approximately ¼-mile west-northwest of the Site. Dynegy representatives met with the NMOCD in May 2003, and committed to submitting a work plan to investigate its pipeline for a potential release that could have attributed to the impact. The work plan was submitted to the NMOCD on June 27, 2003, and was approved on September 10, 2003. This report details the results of the subsurface investigation. Figure 1 presents a Site location and topographic map. Figure 2 presents a detailed Site drawing.

Current Investigation

On December 16 and 17, 2003, LA personnel supervised the installation of two (2) monitoring wells (MW-17 and MW-18) at the Site. Scarborough Drilling, Inc. drilled the borings using an air rotary drilling rig. Soil samples were collected during monitoring well drilling, at ground surface and approximately every ten (10) feet below ground surface (bgs) to a depth of approximately forty (40) feet bgs, using a split-spoon sampling device. The split-spoon sampler was thoroughly washed between sampling events, and the drilling rig and associated equipment (i.e., bit, rods, etc.) were washed between locations using a high-pressure hot water washer. Drill cuttings were placed on the ground adjacent to the monitoring wells.

The soil samples were placed in clean glass sample jars, labeled, chilled in an ice chest, and delivered under chain-of-custody control to Environmental Lab of Texas I, Ltd., located in Odessa, Texas. Soil samples were analyzed for total petroleum hydrocarbons (TPH) by EPA method SW-846-8015, including gasoline range (GRO) and diesel range organics (DRO), and for BTEX (sum of benzene, toluene, ethylbenzene and xylene) by EPA method SW-846-8021B. A duplicate of each sample was also placed in a clean glass sample jar for headspace analysis. The headspace jars were filled approximately $\frac{3}{4}$ full, and a layer of aluminum foil was placed over the opening of the jar before replacing the cap. The headspace samples were allowed to reach ambient temperature before a RAE Instruments, Model 2000 photoionization detector (PID) was used to measure the concentration of organic vapors in the headspace of the sample jars. The PID probe was inserted into the headspace of the sample jars (through the aluminum foil), and the concentration of organic vapors was displayed by the instrument in parts per million (ppm). The PID readings and laboratory analysis of BTEX and TPH are presented in Table 1. Appendix A presents the laboratory reports.

Table 1:
Summary of TPH Analysis of Soil Samples from Monitoring Wells
Dynegy Midstream Services, L. P., Pipeline Spill Site
Marathon Bertha Barber Tank Battery (AP-11)
Monument, New Mexico

No SOIL CONTAMINATION

Monitoring Well	Sample Date	Sample Depth (feet BGS)	PID (ppm)	Benzene mg/kg	Total BTEX mg/kg	GRO (C6-C12) mg/kg	DRO (>C12-C35) mg/kg	TPH (C6-C35) mg/kg
MW-17	12/16/03	0-2	10.7	<0.025	<0.125	<10.0	<10.0	<20.0
	12/16/03	10-12	13.4	<0.025	<0.125	<10.0	<10.0	<20.0
	12/16/03	20-22	14.2	<0.025	<0.125	<10.0	<10.0	<20.0
	12/16/03	30-32	87.6	<0.025	<0.125	<10.0	<10.0	<20.0
	12/16/03	40-42	16	<0.025	<0.125	<10.0	<10.0	<20.0
MW-18	12/17/03	0-2	15	<0.025	<0.125	<10.0	<10.0	<20.0
	12/17/03	10-12	15.7	<0.025	<0.125	<10.0	<10.0	<20.0
	12/17/03	20-22	31.6	<0.025	<0.125	<10.0	<10.0	<20.0
	12/17/03	30-32	91.5	<0.025	<0.125	<10.0	<10.0	<20.0
	12/17/03	40-42	98.2	<0.025	<0.125	<10.0	<10.0	<20.0

The monitoring wells were constructed with threaded 2-inch schedule 40 PVC well screen and riser. The well screen, approximately 20 feet in length, was installed across the water table interface. Graded silica sand was placed around the well screen to approximately three (3) feet above the screen. Approximately three (3) feet of bentonite chips was placed above the sand, and hydrated with potable water. The remainder of the

annulus was filled with cement and bentonite grout to about one (1) foot bgs. Each well is secured with a locking above-grade cover, anchored in a concrete pad measuring approximately 3 x 3 feet. An electric submersible pump was used to develop the wells until groundwater was visibly clear of sediment. A professional land surveyor (Piper Surveying Company), registered in the State of New Mexico, surveyed the new wells for top-of-casing and ground elevation. Table 2, below, presents a summary of monitoring well drilling and completion details, and depth-to-groundwater measurements, as recorded on December 23, 2003 and January 5, 2004. Figure 2 shows the monitoring well locations. Appendix B presents the monitoring well completion records. Appendix C presents photographs.

Table 2: Summary of Monitoring Well Drilling and Completion Details
Dynegy Midstream Services, L. P., Pipeline Spill Site
Marathon Bertha Barber Tank Battery (AP-11)
Monument, New Mexico

Monitor Well	Installation Date	Drilled Depth (feet bgs)	Well Depth (Feet TOC)	Ground Elevation (feet AMSL)	Top of Casing Elevation (feet AMSL)	Screen Interval (feet bgs)	Depth to Groundwater (12/23/03)	Depth to Groundwater (1/5/04)
MW-17	12/16/2003	40	3519.75	3557.48	3559.75	20.0 - 40.0	36.87	36.93
MW-18	12/17/2003	42	3519.42	3558.98	3561.42	22.0 - 42.0	38.66	38.72

Following purging the monitoring wells of three casing volumes of water, groundwater samples were collected from MW-17 and MW-18 on December 23, 2003, using dedicated disposable bailers. Groundwater samples were placed in laboratory prepared containers, labeled, chilled in an ice chest and delivered under chain-of-custody control to ELOT, where they were analyzed for BTEX by EPA method SW-846-8021B. Table 3, below presents a summary of the BTEX analysis of groundwater samples. Appendix A presents laboratory reports.

Table 3: Summary of BTEX Analysis of Groundwater Samples from Monitoring Wells
Dynegy Midstream Services, L. P., Pipeline Spill Site
Marathon Bertha Barber Tank Battery (AP-11)
Monument, New Mexico

Well Number	Sample Date	Benzene mg/L	Toluene mg/L	Ethylbenzene mg/L	Xylene mg/L	Total BTEX mg/L
NMWQCC Standard		0.01	0.75	0.75	0.62	
MW-17	12/23/03	0.002	<0.001	<0.001	0.001	0.003
MW-18	12/23/03	0.012	0.010	0.001	0.019	0.042

Mr. William C. Olson
February 12, 2004
Page 4

Investigation Results

Referring to Table 1, all soil samples collected from installation of monitoring wells showed no concentrations of TPH and BTEX above the test method detection limit.

Referring to Table 2, the elevation of the groundwater surface ranged from 3522.88 feet above mean sea level (AMSL) at well MW-17 (up gradient) to 3522.76 feet AMSL at well MW-18 (down gradient), on December 23, 2003, and from 3522.82 feet AMSL at well MW-17 (up gradient) to 3522.70 feet AMSL at well MW-18 (down gradient) on January 5, 2004. The groundwater surface elevations indicate a groundwater flow from northwest to southeast, as is consistent with previous MOC reports.

Referring to Table 3, concentrations of toluene, ethylbenzene and xylene in wells MW-17 and MW-18 were below the New Mexico Water Quality Control Commission (NMWQCC) standards. The concentration of benzene in well MW-17 was below the NMWQCC standard of 0.01 milligrams per liter (mg/L). The concentration of benzene in well MW-18 (0.012 mg/L) exceeded the NMWQCC standard by 0.002 mg/L. Phase separated hydrocarbons (PSH) were not detected in either well, MW-17 or MW-18.

Conclusions

Dynegy concludes that the data obtained from the subsurface soil investigation, does not provide any indication that PSH found in MOC's well MW-10 originated from the leak of the Dynegy pipeline. Dynegy believes they have no further obligation at the Site.

Please call Mr. Cal Wrangham at (432) 688-0542 or myself at (432) 687-0901 if you have questions. We may also be reached by email at cal.wrangham@dynegy.com or cindy@laenvironmental.com.

Sincerely,
Larson & Associates, Inc.



Cindy K. Crain, CPG

Encl.

cc: Cal Wrangham
James Lingnau
Chris Williams – NMOCD District I

FIGURES




R-36-E R-37-E

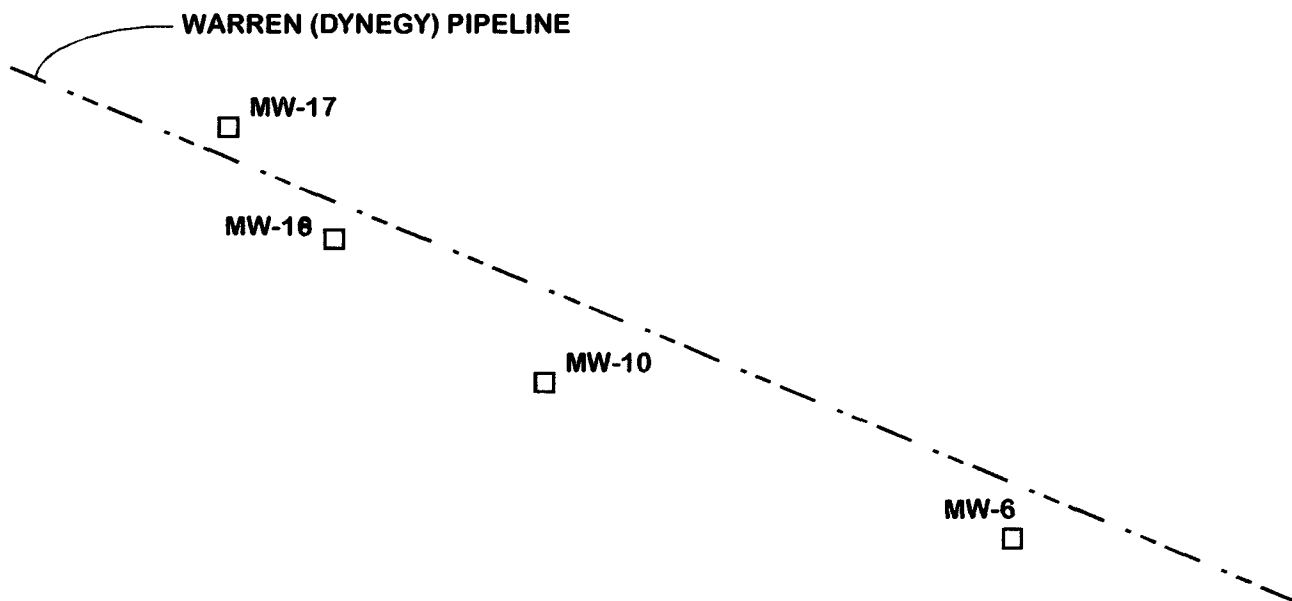
TAKEN FROM U.S.G.S.
MONUMENT SOUTH, N. MEX. 1985
7.5' QUADRANGLES



SCALE: 1"=2000'

DATE:
8/21/03
NAME:
FILE:
0-0100-21

FIGURE #1	
LEA COUNTY, NEW MEXICO	
DYNEGY MIDSTREAM SERVICES, L.P.	
BERTHA BARBER TANK BATTERY SITE	
N/2, SW/4, SECTION 5, T-20-S, R-37-E	
TOPOGRAPHIC MAP	
	



LEGEND

MW-10
☐ MONITORING WELL LOCATION

DATE:
 1/22/04

NAME:

FILE:

FIGURE #2	
LEA COUNTY, NEW MEXICO	
DYNEGY MIDSTREAM SERVICES, L.P.	
BERTHA BARBER TANK BATTERY SITE	
SECTION 5, T-20-S, R-37-E	
SITE DRAWING	
 Larson & Associates, Inc. Environmental Consultants	

APPENDIX A

**LABORATORY REPORTS AND CHAIN OF CUSTODY
DOCUMENTATION**

ANALYTICAL REPORT

Prepared for:

CINDY CRAIN
LARSON AND ASSOCIATES, INC.
P.O. BOX 50685
MIDLAND, TX 79710

Project: Dynege/ Bertha Barber

PO#:

Order#: G0308194

Report Date: 12/29/2003

Certificates

US EPA Laboratory Code TX00158

ENVIRONMENTAL LAB OF TEXAS

SAMPLE WORK LIST

LARSON AND ASSOCIATES, INC.
P.O. BOX 50685
MIDLAND, TX 79710
915-687-0456

Order#: G0308194
Project:
Project Name: Dynegy/ Bertha Barber
Location: None Given

The samples listed below were submitted to Environmental Lab of Texas and were received under chain of custody. Environmental Lab of Texas makes no representation or certification as to the method of sample collection, sample identification, or transportation/handling procedures used prior to the receipt of samples by Environmental Lab of Texas, unless otherwise noted.

Lab ID:	Sample :	Matrix:	Date / Time	Date / Time	Container	Preservative
			Collected	Received		
0308194-01	MW-17 (0-2')	SOIL	12/16/03 13:39	12/17/03 14:55	4 oz glass	Ice
	<u>Lab Testing:</u>	Rejected: No		Temp: 1 C		
	8015M					
	8021B/5030 BTEX					
0308194-02	MW-17 (10-12')	SOIL	12/16/03 13:46	12/17/03 14:55	4 oz glass	Ice
	<u>Lab Testing:</u>	Rejected: No		Temp: 1 C		
	8015M					
	8021B/5030 BTEX					
0308194-03	MW-17 (20-22')	SOIL	12/16/03 13:54	12/17/03 14:55	4 oz glass	Ice
	<u>Lab Testing:</u>	Rejected: No		Temp: 1 C		
	8015M					
	8021B/5030 BTEX					
0308194-04	MW-17 (30-32')	SOIL	12/16/03 14:00	12/17/03 14:55	4 oz glass	Ice
	<u>Lab Testing:</u>	Rejected: No		Temp: 1 C		
	8015M					
	8021B/5030 BTEX					
0308194-05	MW-17 (40-42')	SOIL	12/16/03 14:12	12/17/03 14:55	4 oz glass	Ice
	<u>Lab Testing:</u>	Rejected: No		Temp: 1 C		
	8015M					
	8021B/5030 BTEX					
0308194-06	MW-18 (0-2')	SOIL	12/17/03 9:58	12/17/03 14:55	4 oz glass	Ice
	<u>Lab Testing:</u>	Rejected: No		Temp: 1 C		
	8015M					
	8021B/5030 BTEX					
0308194-07	MW-18 (10-12')	SOIL	12/17/03 10:05	12/17/03 14:55	4 oz glass	Ice
	<u>Lab Testing:</u>	Rejected: No		Temp: 1 C		

ENVIRONMENTAL LAB OF TEXAS

SAMPLE WORK LIST

LARSON AND ASSOCIATES, INC.
P.O. BOX 50685
MIDLAND, TX 79710
915-687-0456

Order#: G0308194
Project:
Project Name: Dynegy/ Bertha Barber
Location: None Given

The samples listed below were submitted to Environmental Lab of Texas and were received under chain of custody. Environmental Lab of Texas makes no representation or certification as to the method of sample collection, sample identification, or transportation/handling procedures used prior to the receipt of samples by Environmental Lab of Texas, unless otherwise noted.

<u>Lab ID:</u>	<u>Sample :</u>	<u>Matrix:</u>	<u>Date / Time</u> <u>Collected</u>	<u>Date / Time</u> <u>Received</u>	<u>Container</u>	<u>Preservative</u>
	8015M 8021B/5030 BTEX					
0308194-08	MW-18 (20-22')	SOIL	12/17/03 10:10	12/17/03 14:55	4 oz glass	Ice
	<u>Lab Testing:</u>	Rejected: No		Temp: 1 C		
	8015M 8021B/5030 BTEX					
0308194-09	MW-18 (30-32')	SOIL	12/17/03 10:20	12/17/03 14:55	4 oz glass	Ice
	<u>Lab Testing:</u>	Rejected: No		Temp: 1 C		
	8015M 8021B/5030 BTEX					
0308194-10	MW-18 (40-42')	SOIL	12/17/03 10:30	12/17/03 14:55	4 oz glass	Ice
	<u>Lab Testing:</u>	Rejected: No		Temp: 1 C		
	8015M 8021B/5030 BTEX					

ENVIRONMENTAL LAB OF TEXAS

ANALYTICAL REPORT

CINDY CRAIN
LARSON AND ASSOCIATES, INC.
P.O. BOX 50685
MIDLAND, TX 79710

Order#: G0308194
Project:
Project Name: Dynegy/ Bertha Barber
Location: None Given

Lab ID: 0308194-01
Sample ID: MW-17 (0-2')

8015M

Method <u>Blank</u>	Date <u>Prepared</u>	Date <u>Analyzed</u>	Sample <u>Amount</u>	Dilution <u>Factor</u>	Analyst	Method
		12/17/03	1	1	JLH	8015M

Parameter	Result mg/kg	RL
GRO, C6-C12	<10.0	10.0
DRO, >C12-C35	<10.0	10.0
TOTAL, C6-C35	<10.0	10.0

Surrogates	% Recovered	QC Limits (%)	
1-Chlorooctane	103%	70	130
1-Chlorooctadecane	103%	70	130

8021B/5030 BTEX

Method <u>Blank</u>	Date <u>Prepared</u>	Date <u>Analyzed</u>	Sample <u>Amount</u>	Dilution <u>Factor</u>	Analyst	Method
0007791-02		12/21/03	1	25	CK	8021B

Parameter	Result mg/kg	RL
Benzene	<0.025	0.025
Toluene	<0.025	0.025
Ethylbenzene	<0.025	0.025
p/m-Xylene	<0.025	0.025
o-Xylene	<0.025	0.025

Surrogates	% Recovered	QC Limits (%)	
aaa-Toluene	96%	80	120
Bromofluorobenzene	83%	80	120

ENVIRONMENTAL LAB OF TEXAS

ANALYTICAL REPORT

CINDY CRAIN
LARSON AND ASSOCIATES, INC.
P.O. BOX 50685
MIDLAND, TX 79710

Order#: G0308194
Project:
Project Name: Dynegy/ Bertha Barber
Location: None Given

Lab ID: 0308194-02
Sample ID: MW-17 (10-12')

8015M

Method <u>Blank</u>	Date <u>Prepared</u>	Date <u>Analyzed</u>	Sample <u>Amount</u>	Dilution <u>Factor</u>	Analyst	Method
		12/17/03	1	1	JLH	8015M

Parameter	Result mg/kg	RL
GRO, C6-C12	<10.0	10.0
DRO, >C12-C35	<10.0	10.0
TOTAL, C6-C35	<10.0	10.0

Surrogates	% Recovered	QC Limits (%)	
1-Chlorooctane	93%	70	130
1-Chlorooctadecane	80%	70	130

8021B/5030 BTEX

Method <u>Blank</u>	Date <u>Prepared</u>	Date <u>Analyzed</u>	Sample <u>Amount</u>	Dilution <u>Factor</u>	Analyst	Method
0007791-02		12/21/03	1	25	CK	8021B

Parameter	Result mg/kg	RL
Benzene	<0.025	0.025
Toluene	<0.025	0.025
Ethylbenzene	<0.025	0.025
p/m-Xylene	<0.025	0.025
o-Xylene	<0.025	0.025

Surrogates	% Recovered	QC Limits (%)	
aaa-Toluene	86%	80	120
Bromofluorobenzene	87%	80	120

DL = Diluted out N/A = Not Applicable RL = Reporting Limit

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ENVIRONMENTAL LAB OF TEXAS

ANALYTICAL REPORT

CINDY CRAIN
 LARSON AND ASSOCIATES, INC.
 P.O. BOX 50685
 MIDLAND, TX 79710

Order#: G0308194
 Project:
 Project Name: Dynegy/ Bertha Barber
 Location: None Given

Lab ID: 0308194-03
 Sample ID: MW-17 (20-22')

8015M

<u>Method</u>	<u>Date</u>	<u>Date</u>	<u>Sample</u>	<u>Dilution</u>	<u>Analyst</u>	<u>Method</u>
<u>Blank</u>	<u>Prepared</u>	<u>Analyzed</u>	<u>Amount</u>	<u>Factor</u>		
		12/17/03	1	1	JLH	8015M

Parameter	Result mg/kg	RL
GRO, C6-C12	<10.0	10.0
DRO, >C12-C35	<10.0	10.0
TOTAL, C6-C35	<10.0	10.0

Surrogates	% Recovered	QC Limits (%)	
1-Chlorooctane	94%	70	130
1-Chlorooctadecane	82%	70	130

8021B/5030 BTEX

<u>Method</u>	<u>Date</u>	<u>Date</u>	<u>Sample</u>	<u>Dilution</u>	<u>Analyst</u>	<u>Method</u>
<u>Blank</u>	<u>Prepared</u>	<u>Analyzed</u>	<u>Amount</u>	<u>Factor</u>		
0007791-02		12/21/03	1	25	CK	8021B

Parameter	Result mg/kg	RL
Benzene	<0.025	0.025
Toluene	<0.025	0.025
Ethylbenzene	<0.025	0.025
p/m-Xylene	<0.025	0.025
o-Xylene	<0.025	0.025

Surrogates	% Recovered	QC Limits (%)	
aaa-Toluene	95%	80	120
Bromofluorobenzene	94%	80	120

ENVIRONMENTAL LAB OF TEXAS

ANALYTICAL REPORT

CINDY CRAIN
LARSON AND ASSOCIATES, INC.
P.O. BOX 50685
MIDLAND, TX 79710

Order#: G0308194
Project:
Project Name: Dynegy/ Bertha Barber
Location: None Given

Lab ID: 0308194-04
Sample ID: MW-17 (30-32')

8015M

Method <u>Blank</u>	Date <u>Prepared</u>	Date <u>Analyzed</u>	Sample <u>Amount</u>	Dilution <u>Factor</u>	Analyst	Method
		12/17/03	1	1	JLH	8015M

Parameter	Result mg/kg	RL
GRO, C6-C12	<10.0	10.0
DRO, >C12-C35	<10.0	10.0
TOTAL, C6-C35	<10.0	10.0

Surrogates	% Recovered	QC Limits (%)	
1-Chlorooctane	92%	70	130
1-Chlorooctadecane	72%	70	130

8021B/5030 BTEX

Method <u>Blank</u>	Date <u>Prepared</u>	Date <u>Analyzed</u>	Sample <u>Amount</u>	Dilution <u>Factor</u>	Analyst	Method
0007791-02		12/21/03	1	25	CK	8021B

Parameter	Result mg/kg	RL
Benzene	<0.025	0.025
Toluene	<0.025	0.025
Ethylbenzene	<0.025	0.025
p/m-Xylene	<0.025	0.025
o-Xylene	<0.025	0.025

Surrogates	% Recovered	QC Limits (%)	
aaa-Toluene	89%	80	120
Bromofluorobenzene	92%	80	120

ENVIRONMENTAL LAB OF TEXAS

ANALYTICAL REPORT

CINDY CRAIN
LARSON AND ASSOCIATES, INC.
P.O. BOX 50685
MIDLAND, TX 79710

Order#: G0308194
Project:
Project Name: Dynegy/ Bertha Barber
Location: None Given

Lab ID: 0308194-05
Sample ID: MW-17 (40-42')

8015M

Method	Date	Date	Sample	Dilution		
<u>Blank</u>	<u>Prepared</u>	<u>Analyzed</u>	<u>Amount</u>	<u>Factor</u>	<u>Analyst</u>	<u>Method</u>
		12/17/03	1	1	JLH	8015M

Parameter	Result mg/kg	RL
GRO, C6-C12	<10.0	10.0
DRO, >C12-C35	<10.0	10.0
TOTAL, C6-C35	<10.0	10.0

Surrogates	% Recovered	QC Limits (%)	
1-Chlorooctane	91%	70	130
1-Chlorooctadecane	71%	70	130

8021B/5030 BTEX

Method	Date	Date	Sample	Dilution		
<u>Blank</u>	<u>Prepared</u>	<u>Analyzed</u>	<u>Amount</u>	<u>Factor</u>	<u>Analyst</u>	<u>Method</u>
0007791-02		12/21/03	1	25	CK	8021B

Parameter	Result mg/kg	RL
Benzene	<0.025	0.025
Toluene	<0.025	0.025
Ethylbenzene	<0.025	0.025
p/m-Xylene	<0.025	0.025
o-Xylene	<0.025	0.025

Surrogates	% Recovered	QC Limits (%)	
aaa-Toluene	90%	80	120
Bromofluorobenzene	94%	80	120

ENVIRONMENTAL LAB OF TEXAS

ANALYTICAL REPORT

CINDY CRAIN
LARSON AND ASSOCIATES, INC.
P.O. BOX 50685
MIDLAND, TX 79710

Order#: G0308194
Project:
Project Name: Dynege/ Bertha Barber
Location: None Given

Lab ID: 0308194-06
Sample ID: MW-18 (0-2')

8015M

Method Blank	Date Prepared	Date Analyzed	Sample Amount	Dilution Factor	Analyst	Method
		12/17/03	1	1	JLH	8015M

Parameter	Result mg/kg	RL
GRO, C6-C12	<10.0	10.0
DRO, >C12-C35	<10.0	10.0
TOTAL, C6-C35	<10.0	10.0

Surrogates	% Recovered	QC Limits (%)	
1-Chlorooctane	96%	70	130
1-Chlorooctadecane	72%	70	130

8021B/5030 BTEX

Method Blank	Date Prepared	Date Analyzed	Sample Amount	Dilution Factor	Analyst	Method
0007791-02		12/21/03	1	25	CK	8021B

Parameter	Result mg/kg	RL
Benzene	<0.025	0.025
Toluene	<0.025	0.025
Ethylbenzene	<0.025	0.025
p/m-Xylene	<0.025	0.025
o-Xylene	<0.025	0.025

Surrogates	% Recovered	QC Limits (%)	
aaa-Toluene	97%	80	120
Bromofluorobenzene	90%	80	120

ENVIRONMENTAL LAB OF TEXAS

ANALYTICAL REPORT

CINDY CRAIN
LARSON AND ASSOCIATES, INC.
P.O. BOX 50685
MIDLAND, TX 79710

Order#: G0308194
Project:
Project Name: Dynegy/ Bertha Barber
Location: None Given

Lab ID: 0308194-07
Sample ID: MW-18 (10-12')

8015M

Method	Date	Date	Sample	Dilution	Analyst	Method
<u>Blank</u>	<u>Prepared</u>	<u>Analyzed</u>	<u>Amount</u>	<u>Factor</u>		
		12/17/03	1	1	JLH	8015M

Parameter	Result mg/kg	RL
GRO, C6-C12	<10.0	10.0
DRO, >C12-C35	<10.0	10.0
TOTAL, C6-C35	<10.0	10.0

Surrogates	% Recovered	QC Limits (%)	
1-Chlorooctane	95%	70	130
1-Chlorooctadecane	70%	70	130

8021B/5030 BTEX

Method	Date	Date	Sample	Dilution	Analyst	Method
<u>Blank</u>	<u>Prepared</u>	<u>Analyzed</u>	<u>Amount</u>	<u>Factor</u>		
0007791-02		12/21/03	1	25	CK	8021B

Parameter	Result mg/kg	RL
Benzene	<0.025	0.025
Toluene	<0.025	0.025
Ethylbenzene	<0.025	0.025
p/m-Xylene	<0.025	0.025
o-Xylene	<0.025	0.025

Surrogates	% Recovered	QC Limits (%)	
aaa-Toluene	90%	80	120
Bromofluorobenzene	88%	80	120

ENVIRONMENTAL LAB OF TEXAS

ANALYTICAL REPORT

CINDY CRAIN
LARSON AND ASSOCIATES, INC.
P.O. BOX 50685
MIDLAND, TX 79710

Order#: G0308194
Project:
Project Name: Dynegy/ Bertha Barber
Location: None Given

Lab ID: 0308194-08
Sample ID: MW-18 (20-22')

8015M

Method	Date	Date	Sample	Dilution	Analyst	Method
<u>Blank</u>	<u>Prepared</u>	<u>Analyzed</u>	<u>Amount</u>	<u>Factor</u>		
		12/17/03	1	1	JLH	8015M

Parameter	Result mg/kg	RL
GRO, C6-C12	<10.0	10.0
DRO, >C12-C35	<10.0	10.0
TOTAL, C6-C35	<10.0	10.0

Surrogates	% Recovered	QC Limits (%)	
1-Chlorooctane	93%	70	130
1-Chlorooctadecane	70%	70	130

8021B/5030 BTEX

Method	Date	Date	Sample	Dilution	Analyst	Method
<u>Blank</u>	<u>Prepared</u>	<u>Analyzed</u>	<u>Amount</u>	<u>Factor</u>		
0007791-02		12/21/03	1	25	CK	8021B

Parameter	Result mg/kg	RL
Benzene	<0.025	0.025
Toluene	<0.025	0.025
Ethylbenzene	<0.025	0.025
p/m-Xylene	<0.025	0.025
o-Xylene	<0.025	0.025

Surrogates	% Recovered	QC Limits (%)	
aaa-Toluene	91%	80	120
Bromofluorobenzene	93%	80	120

ENVIRONMENTAL LAB OF TEXAS

ANALYTICAL REPORT

CINDY CRAIN
LARSON AND ASSOCIATES, INC.
P.O. BOX 50685
MIDLAND, TX 79710

Order#: G0308194
Project:
Project Name: Dynegy/ Bertha Barber
Location: None Given

Lab ID: 0308194-09
Sample ID: MW-18 (30-32')

8015M

Method	Date	Date	Sample	Dilution	Analyst	Method
<u>Blank</u>	<u>Prepared</u>	<u>Analyzed</u>	<u>Amount</u>	<u>Factor</u>		
		12/17/03	1	1	JLH	8015M

Parameter	Result mg/kg	RL
GRO, C6-C12	<10.0	10.0
DRO, >C12-C35	<10.0	10.0
TOTAL, C6-C35	<10.0	10.0

Surrogates	% Recovered	QC Limits (%)	
1-Chlorooctane	91%	70	130
1-Chlorooctadecane	72%	70	130

8021B/5030 BTEX

Method	Date	Date	Sample	Dilution	Analyst	Method
<u>Blank</u>	<u>Prepared</u>	<u>Analyzed</u>	<u>Amount</u>	<u>Factor</u>		
0007791-02		12/21/03	1	25	CK	8021B

Parameter	Result mg/kg	RL
Benzene	<0.025	0.025
Toluene	<0.025	0.025
Ethylbenzene	<0.025	0.025
p/m-Xylene	<0.025	0.025
o-Xylene	<0.025	0.025

Surrogates	% Recovered	QC Limits (%)	
aaa-Toluene	90%	80	120
Bromofluorobenzene	89%	80	120

ENVIRONMENTAL LAB OF TEXAS

ANALYTICAL REPORT

CINDY CRAIN
LARSON AND ASSOCIATES, INC.
P.O. BOX 50685
MIDLAND, TX 79710

Order#: G0308194
Project:
Project Name: Dynegy/ Bertha Barber
Location: None Given

Lab ID: 0308194-10
Sample ID: MW-18 (40-42')

8015M

Method <u>Blank</u>	Date <u>Prepared</u>	Date <u>Analyzed</u>	Sample <u>Amount</u>	Dilution <u>Factor</u>	Analyst	Method
		12/17/03	1	1	JLH	8015M

Parameter	Result mg/kg	RL
GRO, C6-C12	<10.0	10.0
DRO, >C12-C35	<10.0	10.0
TOTAL, C6-C35	<10.0	10.0

Surrogates	% Recovered	QC Limits (%)	
1-Chlorooctane	99%	70	130
1-Chlorooctadecane	72%	70	130

8021B/5030 BTEX

Method <u>Blank</u>	Date <u>Prepared</u>	Date <u>Analyzed</u>	Sample <u>Amount</u>	Dilution <u>Factor</u>	Analyst	Method
0007826-02		12/29/03	1	25	CK	8021B

Parameter	Result mg/kg	RL
Benzene	<0.025	0.025
Toluene	<0.025	0.025
Ethylbenzene	<0.025	0.025
p/m-Xylene	<0.025	0.025
o-Xylene	<0.025	0.025

Surrogates	% Recovered	QC Limits (%)	
aaa-Toluene	102%	80	120
Bromofluorobenzene	104%	80	120

Approval:

Raland K. Tuttle, Lab Director, QA Officer
Celey D. Keene, Org. Tech. Director
Jeanne McMurrey, Inorg. Tech. Director
Sandra Biezugbe, Lab Tech.
Sara Molina, Lab Tech.

12-29-03
Date

ENVIRONMENTAL LAB OF TEXAS

QUALITY CONTROL REPORT

8015M

Order#: G0308194

BLANK	SOIL	LAB-ID #	Sample Concentr.	Spike Concentr.	QC Test Result	Pct (%) Recovery	RPD
TOTAL, C6-C35-mg/kg		0007775-02			<10.0		
CONTROL	SOIL	LAB-ID #	Sample Concentr.	Spike Concentr.	QC Test Result	Pct (%) Recovery	RPD
TOTAL, C6-C35-mg/kg		0007775-03		952	922	96.8%	
MS	SOIL	LAB-ID #	Sample Concentr.	Spike Concentr.	QC Test Result	Pct (%) Recovery	RPD
TOTAL, C6-C35-mg/kg		0308194-01	0	952	995	104.5%	
MSD	SOIL	LAB-ID #	Sample Concentr.	Spike Concentr.	QC Test Result	Pct (%) Recovery	RPD
TOTAL, C6-C35-mg/kg		0308194-01	0	952	1015	106.6%	2.%
SRM	SOIL	LAB-ID #	Sample Concentr.	Spike Concentr.	QC Test Result	Pct (%) Recovery	RPD
TOTAL, C6-C35-mg/kg		0007775-05		1000	982	98.2%	

ENVIRONMENTAL LAB OF TEXAS

QUALITY CONTROL REPORT

8021B/5030 BTEX

Order#: G0308194

BLANK	SOIL	LAB-ID #	Sample Concentr.	Spike Concentr.	QC Test Result	Pct (%) Recovery	RPD
Benzene-mg/kg		0007791-02			< 0.025		
Benzene-mg/kg		0007826-02			< 0.025		
Toluene-mg/kg		0007791-02			< 0.025		
Toluene-mg/kg		0007826-02			< 0.025		
Ethylbenzene-mg/kg		0007791-02			< 0.025		
Ethylbenzene-mg/kg		0007826-02			< 0.025		
p/m-Xylene-mg/kg		0007791-02			< 0.025		
p/m-Xylene-mg/kg		0007826-02			< 0.025		
o-Xylene-mg/kg		0007791-02			< 0.025		
o-Xylene-mg/kg		0007826-02			< 0.025		
MS	SOIL	LAB-ID #	Sample Concentr.	Spike Concentr.	QC Test Result	Pct (%) Recovery	RPD
Benzene-mg/kg		0308199-03	0	0.1	0.097	97.0%	
Benzene-mg/kg		0308218-01	0	0.1	0.089	89.0%	
Toluene-mg/kg		0308199-03	0	0.1	0.102	102.0%	
Toluene-mg/kg		0308218-01	0	0.1	0.081	81.0%	
Ethylbenzene-mg/kg		0308199-03	0	0.1	0.101	101.0%	
Ethylbenzene-mg/kg		0308218-01	0	0.1	0.082	82.0%	
p/m-Xylene-mg/kg		0308199-03	0	0.2	0.206	103.0%	
p/m-Xylene-mg/kg		0308218-01	0	0.2	0.164	82.0%	
o-Xylene-mg/kg		0308199-03	0	0.1	0.100	100.0%	
o-Xylene-mg/kg		0308218-01	0	0.1	0.080	80.0%	
MSD	SOIL	LAB-ID #	Sample Concentr.	Spike Concentr.	QC Test Result	Pct (%) Recovery	RPD
Benzene-mg/kg		0308199-03	0.097	0.1	0.097	97.0%	0.0%
Benzene-mg/kg		0308218-01	0	0.1	0.083	83.0%	7.0%
Toluene-mg/kg		0308199-03	0.102	0.1	0.102	102.0%	0.0%
Toluene-mg/kg		0308218-01	0	0.1	0.080	80.0%	1.2%
Ethylbenzene-mg/kg		0308199-03	0.101	0.1	0.100	100.0%	1.0%
Ethylbenzene-mg/kg		0308218-01	0	0.1	0.080	80.0%	2.5%
p/m-Xylene-mg/kg		0308199-03	0.206	0.2	0.203	102.0%	1.5%
p/m-Xylene-mg/kg		0308218-01	0	0.2	0.161	80.5%	1.8%
o-Xylene-mg/kg		0308199-03	0.1	0.1	0.096	96.0%	4.1%
o-Xylene-mg/kg		0308218-01	0	0.1	0.081	81.0%	1.2%
SRM	SOIL	LAB-ID #	Sample Concentr.	Spike Concentr.	QC Test Result	Pct (%) Recovery	RPD
Benzene-mg/kg		0007791-05		0.1	0.104	104.0%	
Benzene-mg/kg		0007826-05		0.1	0.099	99.0%	
Toluene-mg/kg		0007791-05		0.1	0.090	90.0%	
Toluene-mg/kg		0007826-05		0.1	0.104	104.0%	
Ethylbenzene-mg/kg		0007791-05		0.1	0.086	86.0%	

ENVIRONMENTAL LAB OF TEXAS

QUALITY CONTROL REPORT

8021B/5030 BTEX

Order#: G0308194

<i>SRM</i>	SOIL	LAB-ID #	Sample Concentr.	Spike Concentr.	QC Test Result	Pct (%) Recovery	RPD
	Ethylbenzene-mg/kg	0007826-05		0.1	0.101	101.1%	
	p/m-Xylene-mg/kg	0007791-05		0.2	0.172	86.1%	
	p/m-Xylene-mg/kg	0007826-05		0.2	0.205	102.5%	
	o-Xylene-mg/kg	0007791-05		0.1	0.085	85.1%	
	o-Xylene-mg/kg	0007826-05		0.1	0.098	98.1%	

CHAIN—OF—CUSTODY RECORD

LA arson & associates, Inc. Fax: 915-687-0456
Environmental Consultants 915-687-0901

507 N. Marientfeld, Ste. 202 • Midland, TX 79701

LAB. I.D. NUMBER (LAB USE ONLY) REMARKS (I.E., FILTERED, UNFILTERED, PRESERVED, UNPRESERVED, GRAB COMPOSITE)

0308194-01
-02
-03
-04
-05
-06
-07
-08
-09
-10

PARAMETERS/METHOD NUMBER

NUMBER OF CONTAINERS

SITE MANAGER: C. Crain

PROJECT NAME: Bertha Barber

PAGE 1 OF 1 LAB. PO #

SAMPLE IDENTIFICATION

OTHER
SOIL
WATER
TIME

12/16/03 1339 MN-17 (10-20)
" 1346 " (10-12)
" 1354 " (20-32)
" 1400 " (30-32)
" 1412 " (40-42)
12/17/03 0958 MN-18 (10-20)
" 1005 " (10-12)
" 1010 " (20-32)
" 1020 " (30-32)
" 1030 " (40-42)

RECEIVED BY: (Signature) DATE: TIME:

SAMPLE SHIPPED BY: (Circle) FEDEX BUS AIRBILL #:
HAND DELIVERED UPS OTHER:

WHITE - RECEIVING LAB
YELLOW - RECEIVING LAB (TO BE RETURNED TO LA AFTER RECEIPT)
PINK - PROJECT MANAGER
GOLD - QA/QC COORDINATOR

SAMPLE TYPE: Soil

DATE: TIME:

DATE: TIME:

TURNAROUND TIME NEEDED

RELINQUISHED BY: (Signature)

DATE: 12/17/03 TIME: 1100

RECEIVED BY: (Signature)

DATE: 12/18/03 TIME: 1455

COMMENTS:

RECEIVING LABORATORY: ELO 1 RECEIVED BY: (Signature)
ADDRESS: 12600 W I-20 E
CITY: Odessa STATE: TX ZIP: 79765 DATE: 12-17-03 TIME: 1455

CONTACT: PHONE:

SAMPLE CONDITION WHEN RECEIVED:

LA CONTACT PERSON:

per 19c

ANALYTICAL REPORT

Prepared for:

CINDY CRAIN
LARSON AND ASSOCIATES, INC.
P.O. BOX 50685
MIDLAND, TX 79710

Project: Chev TX/ Bertha Barber

PO#:

Order#: G0308243

Report Date: 01/05/2004

Certificates

US EPA Laboratory Code TX00158

ENVIRONMENTAL LAB OF TEXAS

SAMPLE WORK LIST

LARSON AND ASSOCIATES, INC.

P.O. BOX 50685

MIDLAND, TX 79710

915-687-0456

Order#: G0308243

Project:

Project Name: Chev TX/ Bertha Barber

Location: None Given

The samples listed below were submitted to Environmental Lab of Texas and were received under chain of custody. Environmental Lab of Texas makes no representation or certification as to the method of sample collection, sample identification, or transportation/handling procedures used prior to the receipt of samples by Environmental Lab of Texas, unless otherwise noted.

<u>Lab ID:</u>	<u>Sample :</u>	<u>Matrix:</u>	<u>Date / Time</u> <u>Collected</u>	<u>Date / Time</u> <u>Received</u>	<u>Container</u>	<u>Preservative</u>
0308243-01	MW-18	WATER	12/23/03 10:45	12/24/03 9:05	40 mL glass	Ice, HCl
<u>Lab Testing:</u>		Rejected: No	Temp: 1.0 C			
8021B/5030 BTEX						
0308243-02	MW-17	WATER	12/23/03 11:10	12/24/03 9:05	40 mL glass	Ice, HCl
<u>Lab Testing:</u>		Rejected: No	Temp: 1.0 C			
8021B/5030 BTEX						

ENVIRONMENTAL LAB OF TEXAS

ANALYTICAL REPORT

CINDY CRAIN
LARSON AND ASSOCIATES, INC.
P.O. BOX 50685
MIDLAND, TX 79710

Order#: G0308243
Project:
Project Name: Chev TX/ Bertha Barber
Location: None Given

Lab ID: 0308243-01

Sample ID: MW-18

8021B/5030 BTEX

Method <u>Blank</u>	Date <u>Prepared</u>	Date <u>Analyzed</u>	Sample <u>Amount</u>	Dilution <u>Factor</u>	Analyst	Method
0007873-02		1/2/04	1	1	CK	8021B

Parameter	Result mg/L	RL
Benzene	0.012	0.001
Toluene	0.010	0.001
Ethylbenzene	0.001	0.001
p/m-Xylene	0.012	0.001
o-Xylene	0.007	0.001

Surrogates	% Recovered	QC Limits (%)	
aaa-Toluene	117%	80	120
Bromofluorobenzene	103%	80	120

Lab ID: 0308243-02

Sample ID: MW-17

8021B/5030 BTEX

Method <u>Blank</u>	Date <u>Prepared</u>	Date <u>Analyzed</u>	Sample <u>Amount</u>	Dilution <u>Factor</u>	Analyst	Method
0007873-02		1/2/04	1	1	CK	8021B

Parameter	Result mg/L	RL
Benzene	0.002	0.001
Toluene	<0.001	0.001
Ethylbenzene	<0.001	0.001
p/m-Xylene	0.001	0.001
o-Xylene	<0.001	0.001

Surrogates	% Recovered	QC Limits (%)	
aaa-Toluene	107%	80	120
Bromofluorobenzene	101%	80	120

DL = Diluted out N/A = Not Applicable RL = Reporting Limit

Page 1 of 2

ENVIRONMENTAL LAB OF TEXAS

ANALYTICAL REPORT

CINDY CRAIN
LARSON AND ASSOCIATES, INC.
P.O. BOX 50685
MIDLAND, TX 79710

Order#: G0308243
Project:
Project Name: Chev TX/ Bertha Barber
Location: None Given

Approval:

Raland K. Tuttle, Lab Director, QA Officer

Date

Celey D. Keene, Org. Tech. Director

Jeanne McMurrey, Inorg. Tech. Director

Sandra Biezugbe, Lab Tech.

Sara Molina, Lab Tech.

ENVIRONMENTAL LAB OF TEXAS

QUALITY CONTROL REPORT

8021B/5030 BTEX

Order#: G0308243

BLANK						
	WATER	LAB-ID #	Sample Concentr.	Spike Concentr.	QC Test Result	Pct (%) Recovery
Benzene-mg/L		0007873-02			<0.001	
Toluene-mg/L		0007873-02			<0.001	
Ethylbenzene-mg/L		0007873-02			<0.001	
p/m-Xylene-mg/L		0007873-02			<0.001	
o-Xylene-mg/L		0007873-02			<0.001	
MS						
	WATER	LAB-ID #	Sample Concentr.	Spike Concentr.	QC Test Result	Pct (%) Recovery
Benzene-mg/L		0308243-02	0.002	0.1	0.091	89.%
Toluene-mg/L		0308243-02	0	0.1	0.097	97.%
Ethylbenzene-mg/L		0308243-02	0	0.1	0.095	95.%
p/m-Xylene-mg/L		0308243-02	0.001	0.2	0.194	96.5%
o-Xylene-mg/L		0308243-02	0	0.1	0.097	97.%
MSD						
	WATER	LAB-ID #	Sample Concentr.	Spike Concentr.	QC Test Result	Pct (%) Recovery
Benzene-mg/L		0308243-02	0.002	0.1	0.084	82.%
Toluene-mg/L		0308243-02	0	0.1	0.090	90.%
Ethylbenzene-mg/L		0308243-02	0	0.1	0.087	87.%
p/m-Xylene-mg/L		0308243-02	0.001	0.2	0.178	88.5%
o-Xylene-mg/L		0308243-02	0	0.1	0.090	90.%
SRM						
	WATER	LAB-ID #	Sample Concentr.	Spike Concentr.	QC Test Result	Pct (%) Recovery
Benzene-mg/L		0007873-05		0.1	0.099	99.%
Toluene-mg/L		0007873-05		0.1	0.102	102.%
Ethylbenzene-mg/L		0007873-05		0.1	0.101	101.%
p/m-Xylene-mg/L		0007873-05		0.2	0.207	103.5%
o-Xylene-mg/L		0007873-05		0.1	0.105	105.%

CHAIN—OF—CUSTODY RECORD

LA arson & associates, Inc. Fax: 432-687-0456
Environmental Consultants 432-687-0901

507 N. Marienfeld, Ste. 202 • Midland, TX 79701

LAB. I.D. NUMBER (LAB USE ONLY)
REMARKS (I.E., FILTERED, UNFILTERED, PRESERVED, UNPRESERVED, GRAB COMPOSITE)

0308243-01 40 mL glass w/ HCl, Ice
4 -02

PARAMETERS/METHOD NUMBER

NUMBER OF CONTAINERS

SITE MANAGER: *Cindy Green*

PROJECT NAME: *BOREHA BARLEY*

PAGE 1 OF 1 LAB. PO #

DATE 12/23/05 TIME 10:45
12/23/05 TIME 11:00
WATER ✓
SOIL
OTHER

SAMPLE IDENTIFICATION
MHW-18
MHW-17

SAMPLED BY: (Signature) *[Signature]* DATE: 12/23/05 TIME: 12:15
RELINQUISHED BY: (Signature) *[Signature]* DATE: 12-24-03 TIME: 0905

RECEIVED BY: (Signature) _____ DATE: _____ TIME: _____
SAMPLE SHIPPED BY: (Circle) FEDEX BUS AIRBILL #:
HAND DELIVERED UPS OTHER:

COMMENTS: *Standard*

TURNAROUND TIME NEEDED
RECEIVING LABORATORY: *Env. Lab of TX* RECEIVED BY: (Signature) *[Signature]*
ADDRESS: *12600 W I-20E* DATE: *12-24-03* TIME: *0905*
CITY: *Odessa* STATE: *TX* ZIP: *79765*
CONTACT: _____ PHONE: _____

WHITE - RECEIVING LAB
YELLOW - RECEIVING LAB (TO BE RETURNED TO LA AFTER RECEIPT)
PINK - PROJECT MANAGER
GOLD - QA/QC COORDINATOR
SAMPLE TYPE: _____

LA CONTACT PERSON: _____
SAMPLE CONDITION WHEN RECEIVED: *1.0°C*

APPENDIX B

MONITORING WELL LOGS

Client: Dynegy Midstream Services, L. P.

Project: Bertha Barber

Project No: 3-0105

Location: N/2, SW/4, Sec. 5, T20S, R37E, Lea Co., NM

Log: MW-17

Geologist: Cindy K. Crain

Page: 1 of 1

SUBSURFACE PROFILE				SAMPLE			PID Measurement (PPM) 20 40 60 80	Well Detail	Notes Well Secured with Locking Above-Grade Cover
Depth	Symbol	Description	Elev.	Number	Type	Recovery			
5		Silty Sand 7.5 YR 5/3, brown quartz sand, very fine grained, very poorly sorted, loose, dry.	3556	1			10.7		1.0 to 15.0' bgs Cement-bentonite grout
10		Caliche 7.5 YR 7/2, pinkish gray quartz sand, very fine grained, very poorly sorted, indurated, dry.		2			13.4		0.0 to 20.0' bgs 2" Sch. 40 PVC Riser (Threaded)
20			3537	3			14.2		15.0 to 18.0' bgs Bentonite pellets
25		Silty, Clayey Sand 7.5 YR 7/6, reddish yellow quartz sand, very fine grained, very poorly sorted, damp at 25 feet bgs.							20.0 to 40.0' bgs 2" Sch. 40 Screen 0.02" Slot (Threaded)
30		Slight hydrocarbon odor and stain from 30 to 35 feet bgs.		4					18.0 to 40.0' bgs 8/16 graded silica sand
35		Wet at 40 feet bgs.					87.6		W. L. (12/23/03) 33.87' bgs
40			3520	5			16.0		Sch. 40 PVC Cap (Threaded)
45									
50									

Drilling Method: Air Rotary

Date Drilled: 12/16/03

Well Size: 2"

Larson and Associates, Inc.
507 North Marienfeld St., Ste. 202
Midland, Texas 79701
(915) 687-0901

TOC Elevation: 3559.75

Checked by: CKC

Drilled by: Scarborough Drilling

Client: Dynegy Midstream Services, L. P.

Project: Bertha Barber

Project No: 3-0105

Location: N/2, SW/4, Sec. 5, T20S, R37E, Lea Co., NM

Log: MW-18

Geologist: Cindy K. Crain

Page: 1 of 1

SUBSURFACE PROFILE				SAMPLE			PID Measurement (PPM)	Well Detail	Notes
Depth	Symbol	Description	Elev.	Number	Type	Recovery			
5		Silty Sand 7.5 YR 5/3, brown quartz sand, very fine grained, very poorly sorted, loose, dry.	3559	1			15.0		1.0 to 17.0' bgs Cement-bentonite grout
10		Caliche 7.5 YR 7/2, pinkish gray quartz sand, very fine grained, very poorly sorted, indurated, dry.		2			15.7		0.0 to 22.0' bgs 2" Sch. 40 PVC Riser (Threaded)
20				3			31.6		17.0 to 20.0' bgs Bentonite pellets
25		Silty, Clayey Sand 7.5 YR 7/6, reddish yellow quartz sand, very fine grained, very poorly sorted, damp at 26 feet bgs.	3538						22.0 to 42.0' bgs 2" Sch. 40 Screen 0.02" Slot (Threaded)
30		Slight hydrocarbon odor and stain from 30 to 40 feet bgs.		4					20.0 to 42.0' bgs 8/16 graded silica sand
35		Wet at 40 feet bgs.							
40			3519	5			91.5		W. L. (12/23/03) 35.66' bgs
45							98.2		Sch. 40 PVC Cap (Threaded)
50									

Drilling Method: Air Rotary

Date Drilled: 12/1/7/03

Well Size: 2"

Larson and Associates, Inc.
507 North Marienfeld St., Ste. 202
Midland, Texas 79701
(915) 687-0901

TOC Elevation: 3561.42

Checked by: CKC

Drilled by: Scarborough Drilling

APPENDIX C
PHOTOGRAPHS

DYNEGY MIDSTREAM SERVICES, L.P.
PIPELINE SEGMENT NEAR BERTHA BARBER TANK BATTERY
N/2, SW/4, SEC. 5, T20S, R37E, LEA CO., NM
PHOTOGRAPHS



1. View to north, of MW-18 installation, 12/17/03.



2. View to north, of MW-18 installation, 12/17/03.