30-015-37271

Proposed Drilling Location Background Sampling

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NMOCD ARTESIA

BOPCO, L.P.
James Ranch Unit #104H
Section 36, T-22-S, R-30-E
Eddy County, New Mexico

Accepted for record
NMOCD
NOV 06 2009

SPORT ENVIRONMENTAL SERVICES, PLLC
502 N. Big Spring Street, Midland, Texas 79701
Business: 432.683.1100 Fax: 888.500.0622

October 30, 2009

Mr. William R. Dannels
C. K. "Buddy" Jenkins
BOPCO, L.P.
P. O. Box 2760
Midland, TX 79702

Re: **Proposed Drilling Location Background Sampling Report**
James Ranch Unit #104H
Section 36, T-22-S, R-30-E
Eddy County, New Mexico

Dear Gentlemen:

Thank you for selecting Sport Environmental Services to perform background sampling at BOPCO, L.P.'s aforementioned James Ranch Unit #104H.

Attached please find a site plan denoting sample locations at the site displayed in a five-point arrangement plus a sixth background sample. One (1) sample was collected from each soil boring utilizing the direct push technique with a Geoprobe. Samples were collected at a depth of four feet (4'). As requested, shallow soil borings were utilized to reflect representative shallow site characteristics. This method of sampling was determined to be most effective due to the use of a closed-loop system at the site. Each soil sample was analyzed for **Total Petroleum Hydrocarbons** (C_6-C_{12} Gasoline Range Hydrocarbons; C_{12}-C_{18} Diesel Range Hydrocarbons; C_{28}-C_{35} Oil Range Hydrocarbons; and Total TPH), **Chlorides (Cl)** and **BTEX** (Benzene; Toluene; Ethylbenzene; m,p-Xylene; o-Xylene; Total Xylenes; and Total BTEX) content.

Analytical results for each soil sample are provided herein and condensed for your convenience within the attached **Sample Data Summary** table. In addition, latitude/longitude readings for each soil boring and background sample location are included within the enclosed 'Background Soil Investigation' site plan.

In summary, the TPH and BTEX levels within all soil samples analyzed are Non-Detect (ND). In addition, the NMOCD has a regulatory limitation for chlorides (Cl) in groundwater of 250 mg/kg. In lieu of a chloride limit in soil, 250 mg/kg is utilized by the NMOCD as a soil limit as well. The chloride levels detected, for all samples, fall below the NMOCD regulatory limitation of 250 mg/kg for chlorides (Cl).

In addition to the laboratory analytical results, please find enclosed photos taken October 19, 2009, at the subject proposed drilling location. Documentation of vegetation present will assist in the future determination that the 70% seed regrowth requirement has been met.

If you have any questions or comments with regard to this matter, please contact me at either my office (432.683.1100) or on my cell (432.553.8555). We would be more than happy to review these results with you.

Sincerely,

Debi S. Moore.

Debi S. Moore, M.E., R.E.P.A.

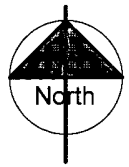
DSM/tlf

Enclosures: Background Soil Investigation Site Plan
Sample Data Summary
Xenco Analytical Report 349005
Site Photographs taken October 19, 2009

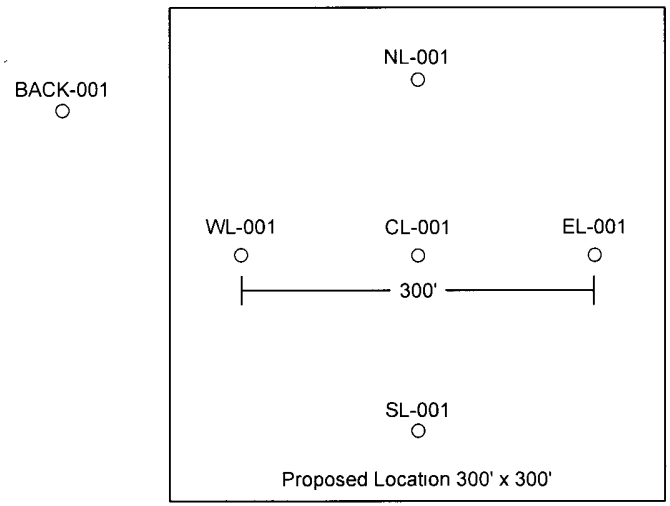
BOPCO, L.P.
James Ranch Unit #104H
Section 36, T-22-S, R-30-E
Eddy County, New Mexico

SITE PLAN DENOTING BACKGROUND SAMPLING LOCATIONS

James Ranch Unit #104H



Drawing Not to Scale



James Ranch Unit #104H		
CL-001	32°21' 01"	-103°50' 14"
NL-001	32°21' 02"	-103°50' 14"
SL-001	32°21' 00"	-103°50' 14"
EL-001	32°21' 01"	-103°50' 12"
WL-001	32°21' 01"	-103°50' 16"
BACK-001	32°21' 02"	-103°50' 17"

SPORT ENVIRONMENTAL SERVICES

BOPCO, LP
James Ranch Unit #104H
Section 36, Township 22S, Range 30E
Eddy County, NM

Background Soil Investigation
Site Plan

October 19, 2009

DWG By RS

BOPCO, L.P.
James Ranch Unit #104H
Section 36, T-22-S, R-30-E
Eddy County, New Mexico

SAMPLE DATA SUMMARY

James Ranch Unit #104H

Sample Data Summary

Project Name: BOPCO, LP - James Ranch Unit #104H
Project Location: Eddy County, New Mexico

						Analytical Results												
						Methods: SW8015 Mod (TPH), EPA 8021B (BTEX), EPA 300/300 1 (Cl)												
Sample ID	Lab ID	Matrix	Sample Depth	Date Sampled	Date Received	Carbon Ranges C6-C12 (mg/kg dry)	Carbon Ranges C12-C28	Carbon Ranges C28-C35	Total Hydrocarbons	Benzene	Toluene	Ethylbenzene	Xylene (p/m)	Xylene (o)	Total Xylenes	Total BTEX	Chloride (Cl) (mg/kg wet)	% Moisture
Background Sampling																		
NL-001	349005-001	Soil	4'	10/19/2009 0 00	10/20/2009 0:00	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	7.09	11.00
EL-001	349005-002	Soil	4'	10/19/2009 0:00	10/20/2009 0.00	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	34 7	9 32
SL-001	349005-003	Soil	4'	10/19/2009 0 00	10/20/2009 0:00	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	1 23
WL-001	349005-004	Soil	4'	10/19/2009 0:00	10/20/2009 0:00	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	1.47
CL-001	349005-005	Soil	4'	10/19/2009 0.00	10/20/2009 0:00	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	6 15	ND
Back-001	349005-006	Soil	4'	10/19/2009 0:00	10/20/2009 0 00	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	7.64	5.85

BOPCO, L.P.
James Ranch Unit #104H
Section 36, T-22-S, R-30-E
Eddy County, New Mexico

ANALYTICAL RESULTS
XENCO LABORATORIES
James Ranch Unit #104H

Analytical Report 349005

for

Sport Environmental Services, PLLC

Project Manager: Sally Jones

BOPCO, L.P.

James Ranch Unit 104 H

23-OCT-09

12600 West I-20 East Odessa, Texas 79765

Xenco-Houston (EPA Lab code: TX00122):
Texas (T104704215-08-TX), Arizona (AZ0738), Arkansas (08-039-0), Connecticut (PH-0102), Florida (E871002)
Illinois (002082), Indiana (C-TX-02), Iowa (392), Kansas (E-10380), Kentucky (45), Louisiana (03054)
New Hampshire (297408), New Jersey (TX007), New York (11763), Oklahoma (9218), Pennsylvania (68-03610)
Rhode Island (LAO00308), USDA (S-44102)

Xenco-Atlanta (EPA Lab Code: GA00046):
Florida (E87428), North Carolina (483), South Carolina (98015), Utah (AALI1), West Virginia (362), Kentucky (85)
Louisiana (04176), USDA (P330-07-00105)

Xenco-Miami (EPA Lab code: FL01152): Florida (E86678), Maryland (330)
Xenco-Tampa Mobile (EPA Lab code: FL01212): Florida (E84900)
Xenco-Odessa (EPA Lab code: TX00158): Texas (T104704400-08-TX)
Xenco-Dallas (EPA Lab code: TX01468): Texas (T104704295-08-TX)
Xenco-Corpus Christi (EPA Lab code: TX02613): Texas (T104704370-08-TX)
Xenco-Boca Raton (EPA Lab Code: FL00449): Florida(E86240),
South Carolina(96031001), Louisiana(04154), Georgia(917)

XENCO Laboratories

23-OCT-09

Project Manager: **Sally Jones**
Sport Environmental Services, PLLC
502 North Big Spring Street
Midland, TX 79701

Reference: XENCO Report No: **349005**
BOPCO, L.P.
Project Address: Eddy Co., NM

Sally Jones:

We are reporting to you the results of the analyses performed on the samples received under the project name referenced above and identified with the XENCO Report Number 349005. All results being reported under this Report Number apply to the samples analyzed and properly identified with a Laboratory ID number. Subcontracted analyses are identified in this report with either the NELAC certification number of the subcontract lab in the analyst ID field, or the complete subcontracted report attached to this report.

Unless otherwise noted in a Case Narrative, all data reported in this Analytical Report are in compliance with NELAC standards. Estimation of data uncertainty for this report is found in the quality control section of this report unless otherwise noted. Should insufficient sample be provided to the laboratory to meet the method and NELAC Matrix Duplicate and Matrix Spike requirements, then the data will be analyzed, evaluated and reported using all other available quality control measures.

The validity and integrity of this report will remain intact as long as it is accompanied by this letter and reproduced in full, unless written approval is granted by XENCO Laboratories. This report will be filed for at least 5 years in our archives after which time it will be destroyed without further notice, unless otherwise arranged with you. The samples received, and described as recorded in Report No. 349005 will be filed for 60 days, and after that time they will be properly disposed without further notice, unless otherwise arranged with you. We reserve the right to return to you any unused samples, extracts or solutions related to them if we consider so necessary (e.g., samples identified as hazardous waste, sample sizes exceeding analytical standard practices, controlled substances under regulated protocols, etc).

We thank you for selecting XENCO Laboratories to serve your analytical needs. If you have any questions concerning this report, please feel free to contact us at any time.

Respectfully,

Brent Barron, II
Odessa Laboratory Manager

Sample Cross Reference 349005

Sport Environmental Services, PLLC, Midland, TX

BOPCO, L.P.

Sample Id	Matrix	Date Collected	Sample Depth	Lab Sample Id
NL-001	S	Oct-19-09 13:00	4 - 4 ft	349005-001
EL-001	S	Oct-19-09 13:00	4 - 4 ft	349005-002
SL-001	S	Oct-19-09 13:00	4 - 4 ft	349005-003
WL-001	S	Oct-19-09 13:00	4 - 4 ft	349005-004
CL-001	S	Oct-19-09 13:00	4 - 4 ft	349005-005
Back-001	S	Oct-19-09 13:00	4 - 4 ft	349005-006

CASE NARRATIVE

XENCO Laboratories

Client Name: Sport Environmental Services, PLLC
Project Name: BOPCO, L.P.

Project ID:	*James Ranch Unit 104 H*	*Report Date:*	*23-OCT-09*
Work Order Number:	*349005*	*Date Received:*	*10/19/2009*

Sample receipt non conformances and Comments:

None

Sample receipt Non Conformances and Comments per Sample:

None

Analytical Non Conformances and Comments:

Batch: LBA-778022 Percent Moisture
None

Batch: LBA-778025 Percent Moisture
None

Batch: LBA-778033 Inorganic Anions by EPA 300
None

Batch: LBA-778147 BTEX-MTBE EPA 8021B
SW8021BM

Batch 778147, Benzene, Ethylbenzene, Toluene, m,p-Xylenes, o-Xylene recovered below QC limits in the Matrix Spike and Matrix Spike Duplicate.
Samples affected are: 349005-006, -004, -005.
The Laboratory Control Sample for Toluene, m,p-Xylenes , Benzene, o-Xylene, Ethylbenzene is within laboratory Control Limits

Batch: LBA-778181 TPH by SW8015 Mod
None

Batch: LBA-778259 BTEX-MTBE EPA 8021B
SW8021BM

Batch 778259, Benzene, Ethylbenzene recovered below QC limits in the Matrix Spike.
Samples affected are: 349005-003, -001, -002.
The Laboratory Control Sample for Benzene, Ethylbenzene is within laboratory Control Limits

Certificate of Analysis Summary 349005

Sport Environmental Services, PLLC, Midland, TX

Project Name: BOPCO, L.P.

Project Id: James Ranch Unit 104 H
Contact: Sally Jones
Project Location: Eddy Co., NM

Date Received in Lab: Mon Oct-19-09 03:27 pm
Report Date: 23-OCT-09
Project Manager: Brent Barron, II

Analysis Requested													
	Lab Id:	349005-001		349005-002		349005-003		349005-004		349005-005		349005-006	
	Field Id:	NL-001		EL-001		SL-001		WL-001		CL-001		Back-001	
	Depth:	4-4 ft		4-4 ft		4-4 ft		4-4 ft		4-4 ft		4-4 ft	
	Matrix:	SOIL		SOIL		SOIL		SOIL		SOIL		SOIL	
	Sampled:	Oct-19-09 13 00		Oct-19-09 13 00		Oct-19-09 13 00		Oct-19-09 13 00		Oct-19-09 13 00		Oct-19-09 13 00	
Anions by E300	*Extracted:*												
	Analyzed:	Oct-20-09 23 45		Oct-20-09 23 45		Oct-20-09 23 45		Oct-20-09 23 45		Oct-20-09 23 45		Oct-20-09 23 45	
	Units/RL:	mg/kg	RL	mg/kg	RL	mg/kg	RL	mg/kg	RL	mg/kg	RL	mg/kg	RL
Chloride		7 09	4 72	34 7	4 63	ND	4 25	ND	4 26	6 15	4 23	7 64	4 46
BTEX by EPA 8021B	*Extracted:*	Oct-21-09 15 00		Oct-21-09 15 00		Oct-21-09 15 00		Oct-20-09 12 00		Oct-20-09 12 00		Oct-20-09 12 00	
	Analyzed:	Oct-21-09 17 49		Oct-21-09 18.10		Oct-21-09 18 31		Oct-20-09 20 00		Oct-20-09 20 22		Oct-20-09 20 43	
	Units/RL:	mg/kg	RL	mg/kg	RL	mg/kg	RL	mg/kg	RL	mg/kg	RL	mg/kg	RL
Benzene		ND	0 0011	ND	0 0011	ND	0 0010	ND	0 0010	ND	0 0010	ND	0 0011
Toluene		ND	0 0022	ND	0 0022	ND	0 0020	ND	0 0020	ND	0 0020	ND	0 0021
Ethylbenzene		ND	0 0011	ND	0 0011	ND	0 0010	ND	0 0010	ND	0 0010	ND	0 0011
m,p-Xylenes		ND	0 0022	ND	0 0022	ND	0 0020	ND	0 0020	ND	0 0020	ND	0 0021
o-Xylene		ND	0 0011	ND	0 0011	ND	0 0010	ND	0 0010	ND	0 0010	ND	0 0011
Total Xylenes		ND	0 0011	ND	0 0011	ND	0 0010	ND	0 0010	ND	0 0010	ND	0 0011
Total BTEX		ND	0 0011	ND	0 0011	ND	0 0010	ND	0 0010	ND	0 0010	ND	0 0011
Percent Moisture	*Extracted:*												
	Analyzed:	Oct-20-09 17 00		Oct-20-09 17 00		Oct-20-09 17 00		Oct-20-09 17 00		Oct-20-09 17 00		Oct-20-09 17 00	
	Units/RL:	%	RL	%	RL	%	RL	%	RL	%	RL	%	RL
Percent Moisture		11 0	1 00	9 32	1 00	1 23	1 00	1 47	1 00	ND	1 00	5 85	1 00
TPH By SW8015 Mod	*Extracted:*	Oct-20-09 15 00		Oct-20-09 15 00		Oct-20-09 15 00		Oct-20-09 15 00		Oct-20-09 15 00		Oct-20-09 15 00	
	Analyzed:	Oct-21-09 05 01		Oct-21-09 05 28		Oct-21-09 05 55		Oct-21-09 06 22		Oct-21-09 06 51		Oct-21-09 07 19	
	Units/RL:	mg/kg	RL	mg/kg	RL	mg/kg	RL	mg/kg	RL	mg/kg	RL	mg/kg	RL
C6-C12 Gasoline Range Hydrocarbons		ND	16 8	ND	16 5	ND	15 2	ND	15 2	ND	15 0	ND	15 9
C12-C28 Diesel Range Hydrocarbons		ND	16 8	ND	16 5	ND	15 2	ND	15 2	ND	15 0	ND	15 9
C28-C35 Oil Range Hydrocarbons		ND	16 8	ND	16 5	ND	15 2	ND	15 2	ND	15 0	ND	15 9
Total TPH		ND	16 8	ND	16 5	ND	15 2	ND	15 2	ND	15 0	ND	15 9

Brent Barron, II
Odessa Laboratory Manager

Flagging Criteria

X In our quality control review of the data a QC deficiency was observed and flagged as noted. MS/MSD recoveries were found to be outside of the laboratory control limits due to possible matrix /chemical interference, or a concentration of target analyte high enough to effect the recovery of the spike concentration. This condition could also effect the relative percent difference in the MS/MSD.

B A target analyte or common laboratory contaminant was identified in the method blank. Its presence indicates possible field or laboratory contamination.

D The sample(s) were diluted due to targets detected over the highest point of the calibration curve, or due to matrix interference. Dilution factors are included in the final results. The result is from a diluted sample.

E The data exceeds the upper calibration limit; therefore, the concentration is reported as estimated.

F RPD exceeded lab control limits.

J The target analyte was positively identified below the MQL and above the SQL.

U Analyte was not detected.

L The LCS data for this analytical batch was reported below the laboratory control limits for this analyte. The department supervisor and QA Director reviewed data. The samples were either reanalyzed or flagged as estimated concentrations.

H The LCS data for this analytical batch was reported above the laboratory control limits. Supporting QC Data were reviewed by the Department Supervisor and QA Director. Data were determined to be valid for reporting.

K Sample analyzed outside of recommended hold time.

JN A combination of the "N" and the "J" qualifier. The analysis indicates that the analyte is "tentatively identified" and the associated numerical value may not be consistent with the amount actually present in the environmental sample.

BRL Below Reporting Limit.

RL Reporting Limit

* Outside XENCO's scope of NELAC Accreditation.

XENCO Laboratories

Form 2 - Surrogate Recoveries

Project Name: BOPCO, L.P.

Work Orders : 349005, **Project ID:** James Ranch Unit 104 H

Lab Batch #: 778147 **Sample:** 541124-1-BKS / BKS **Batch:** 1 **Matrix:** Solid

Units: mg/kg **Date Analyzed:** 10/20/09 18:35

BTEX by EPA 8021B Analytes	SURROGATE RECOVERY STUDY Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1,4-Difluorobenzene	0.0300	0.0300	100	80-120	
4-Bromofluorobenzene	0.0313	0.0300	104	80-120	

Lab Batch #: 778147 **Sample:** 541124-1-BSD / BSD **Batch:** 1 **Matrix:** Solid

Units: mg/kg **Date Analyzed:** 10/20/09 18:57

BTEX by EPA 8021B Analytes	SURROGATE RECOVERY STUDY Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1,4-Difluorobenzene	0.0296	0.0300	99	80-120	
4-Bromofluorobenzene	0.0309	0.0300	103	80-120	

Lab Batch #: 778147 **Sample:** 541124-1-BLK / BLK **Batch:** 1 **Matrix:** Solid

Units: mg/kg **Date Analyzed:** 10/20/09 19:39

BTEX by EPA 8021B Analytes	SURROGATE RECOVERY STUDY Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1,4-Difluorobenzene	0.0263	0.0300	88	80-120	
4-Bromofluorobenzene	0.0297	0.0300	99	80-120	

Lab Batch #: 778147 **Sample:** 349005-004 / SMP **Batch:** 1 **Matrix:** Soil

Units: mg/kg **Date Analyzed:** 10/20/09 20:00

BTEX by EPA 8021B Analytes	SURROGATE RECOVERY STUDY Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1,4-Difluorobenzene	0.0267	0.0300	89	80-120	
4-Bromofluorobenzene	0.0310	0.0300	103	80-120	

Lab Batch #: 778147 **Sample:** 349005-005 / SMP **Batch:** 1 **Matrix:** Soil

Units: mg/kg **Date Analyzed:** 10/20/09 20:22

BTEX by EPA 8021B Analytes	SURROGATE RECOVERY STUDY Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1,4-Difluorobenzene	0.0266	0.0300	89	80-120	
4-Bromofluorobenzene	0.0309	0.0300	103	80-120	

* Surrogate outside of Laboratory QC limits
** Surrogates outside limits; data and surrogates confirmed by reanalysis
*** Poor recoveries due to dilution
Surrogate Recovery [D] = 100 * A / B
All results are based on MDL and validated for QC purposes.

XENCO Laboratories

Form 2 - Surrogate Recoveries

Project Name: BOPCO, L.P.

Work Orders : 349005,

Project ID: James Ranch Unit 104 H

Lab Batch #: 778147 **Sample:** 349005-006 / SMP **Batch:** 1 **Matrix:** Soil

Units: mg/kg **Date Analyzed:** 10/20/09 20:43

BTEX by EPA 8021B Analytes	SURROGATE RECOVERY STUDY Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1,4-Difluorobenzene	0.0269	0.0300	90	80-120	
4-Bromofluorobenzene	0.0324	0.0300	108	80-120	

Lab Batch #: 778147 **Sample:** 349005-006 S / MS **Batch:** 1 **Matrix:** Soil

Units: mg/kg **Date Analyzed:** 10/20/09 23:10

BTEX by EPA 8021B Analytes	SURROGATE RECOVERY STUDY Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1,4-Difluorobenzene	0.0294	0.0300	98	80-120	
4-Bromofluorobenzene	0.0331	0.0300	110	80-120	

Lab Batch #: 778147 **Sample:** 349005-006 SD / MSD **Batch:** 1 **Matrix:** Soil

Units: mg/kg **Date Analyzed:** 10/20/09 23:32

BTEX by EPA 8021B Analytes	SURROGATE RECOVERY STUDY Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1,4-Difluorobenzene	0.0294	0.0300	98	80-120	
4-Bromofluorobenzene	0.0321	0.0300	107	80-120	

Lab Batch #: 778259 **Sample:** 541190-1-BKS / BKS **Batch:** 1 **Matrix:** Solid

Units: mg/kg **Date Analyzed:** 10/21/09 16:24

BTEX by EPA 8021B Analytes	SURROGATE RECOVERY STUDY Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1,4-Difluorobenzene	0.0293	0.0300	98	80-120	
4-Bromofluorobenzene	0.0297	0.0300	99	80-120	

Lab Batch #: 778259 **Sample:** 541190-1-BSD / BSD **Batch:** 1 **Matrix:** Solid

Units: mg/kg **Date Analyzed:** 10/21/09 16:45

BTEX by EPA 8021B Analytes	SURROGATE RECOVERY STUDY Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1,4-Difluorobenzene	0.0293	0.0300	98	80-120	
4-Bromofluorobenzene	0.0299	0.0300	100	80-120	

* Surrogate outside of Laboratory QC limits

** Surrogates outside limits, data and surrogates confirmed by reanalysis

*** Poor recoveries due to dilution

Surrogate Recovery [D] = 100 * A / B

All results are based on MDL and validated for QC purposes.

XENCO Laboratories

Form 2 - Surrogate Recoveries

Project Name: BOPCO, L.P.

Work Orders : 349005, **Project ID:** James Ranch Unit 104 H

Lab Batch #: 778259 **Sample:** 541190-1-BLK / BLK **Batch:** 1 **Matrix:** Solid

Units: mg/kg **Date Analyzed:** 10/21/09 17:28

BTEX by EPA 8021B Analytes	SURROGATE RECOVERY STUDY Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1,4-Difluorobenzene	0.0268	0.0300	89	80-120	
4-Bromofluorobenzene	0.0319	0.0300	106	80-120	

Lab Batch #: 778259 **Sample:** 349005-001 / SMP **Batch:** 1 **Matrix:** Soil

Units: mg/kg **Date Analyzed:** 10/21/09 17:49

BTEX by EPA 8021B Analytes	SURROGATE RECOVERY STUDY Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1,4-Difluorobenzene	0.0276	0.0300	92	80-120	
4-Bromofluorobenzene	0.0316	0.0300	105	80-120	

Lab Batch #: 778259 **Sample:** 349005-002 / SMP **Batch:** 1 **Matrix:** Soil

Units: mg/kg **Date Analyzed:** 10/21/09 18:10

BTEX by EPA 8021B Analytes	SURROGATE RECOVERY STUDY Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1,4-Difluorobenzene	0.0275	0.0300	92	80-120	
4-Bromofluorobenzene	0.0307	0.0300	102	80-120	

Lab Batch #: 778259 **Sample:** 349005-003 / SMP **Batch:** 1 **Matrix:** Soil

Units: mg/kg **Date Analyzed:** 10/21/09 18:31

BTEX by EPA 8021B Analytes	SURROGATE RECOVERY STUDY Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1,4-Difluorobenzene	0.0271	0.0300	90	80-120	
4-Bromofluorobenzene	0.0300	0.0300	100	80-120	

Lab Batch #: 778259 **Sample:** 349005-003 S / MS **Batch:** 1 **Matrix:** Soil

Units: mg/kg **Date Analyzed:** 10/22/09 01:57

BTEX by EPA 8021B Analytes	SURROGATE RECOVERY STUDY Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1,4-Difluorobenzene	0.0286	0.0300	95	80-120	
4-Bromofluorobenzene	0.0307	0.0300	102	80-120	

* Surrogate outside of Laboratory QC limits
** Surrogates outside limits; data and surrogates confirmed by reanalysis
*** Poor recoveries due to dilution
Surrogate Recovery [D] = 100 * A / B
All results are based on MDL and validated for QC purposes.

XENCO Laboratories

Form 2 - Surrogate Recoveries

Project Name: BOPCO, L.P.

Work Orders : 349005,

Project ID: James Ranch Unit 104 H

Lab Batch #: 778259 **Sample:** 349005-003 SD / MSD **Batch:** 1 **Matrix:** Soil

Units: mg/kg **Date Analyzed:** 10/22/09 02:18

BTEX by EPA 8021B Analytes	SURROGATE RECOVERY STUDY Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1,4-Difluorobenzene	0.0290	0.0300	97	80-120	
4-Bromofluorobenzene	0.0315	0.0300	105	80-120	

Lab Batch #: 778181 **Sample:** 541140-1-BKS / BKS **Batch:** 1 **Matrix:** Solid

Units: mg/kg **Date Analyzed:** 10/20/09 21:11

TPH By SW8015 Mod Analytes	SURROGATE RECOVERY STUDY Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1-Chlorooctane	113	100	113	70-135	
o-Terphenyl	37.3	50.0	75	70-135	

Lab Batch #: 778181 **Sample:** 541140-1-BSD / BSD **Batch:** 1 **Matrix:** Solid

Units: mg/kg **Date Analyzed:** 10/20/09 21:39

TPH By SW8015 Mod Analytes	SURROGATE RECOVERY STUDY Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1-Chlorooctane	118	99.7	118	70-135	
o-Terphenyl	37.5	49.9	75	70-135	

Lab Batch #: 778181 **Sample:** 541140-1-BLK / BLK **Batch:** 1 **Matrix:** Solid

Units: mg/kg **Date Analyzed:** 10/20/09 22:06

TPH By SW8015 Mod Analytes	SURROGATE RECOVERY STUDY Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1-Chlorooctane	78.6	99.8	79	70-135	
o-Terphenyl	38 3	49.9	77	70-135	

Lab Batch #: 778181 **Sample:** 349005-001 / SMP **Batch:** 1 **Matrix:** Soil

Units: mg/kg **Date Analyzed:** 10/21/09 05:01

TPH By SW8015 Mod Analytes	SURROGATE RECOVERY STUDY Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1-Chlorooctane	76.5	99.6	77	70-135	
o-Terphenyl	37.3	49.8	75	70-135	

* Surrogate outside of Laboratory QC limits

** Surrogates outside limits; data and surrogates confirmed by reanalysis

*** Poor recoveries due to dilution

Surrogate Recovery [D] = 100 * A / B

All results are based on MDL and validated for QC purposes.

XENCO Laboratories

Form 2 - Surrogate Recoveries

Project Name: BOPCO, L.P.

Work Orders : 349005,

Project ID: James Ranch Unit 104 H

Lab Batch #: 778181 **Sample:** 349005-002 / SMP **Batch:** 1 **Matrix:** Soil

Units: mg/kg **Date Analyzed:** 10/21/09 05:28

TPH By SW8015 Mod Analytes	SURROGATE RECOVERY STUDY Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1-Chlorooctane	81.4	100	81	70-135	
o-Terphenyl	39.8	50.0	80	70-135	

Lab Batch #: 778181 **Sample:** 349005-003 / SMP **Batch:** 1 **Matrix:** Soil

Units: mg/kg **Date Analyzed:** 10/21/09 05:55

TPH By SW8015 Mod Analytes	SURROGATE RECOVERY STUDY Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1-Chlorooctane	77.2	100	77	70-135	
o-Terphenyl	36.4	50.0	73	70-135	

Lab Batch #: 778181 **Sample:** 349005-004 / SMP **Batch:** 1 **Matrix:** Soil

Units: mg/kg **Date Analyzed:** 10/21/09 06:22

TPH By SW8015 Mod Analytes	SURROGATE RECOVERY STUDY Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1-Chlorooctane	79.0	100	79	70-135	
o-Terphenyl	37.8	50 0	76	70-135	

Lab Batch #: 778181 **Sample:** 349005-005 / SMP **Batch:** 1 **Matrix:** Soil

Units: mg/kg **Date Analyzed:** 10/21/09 06:51

TPH By SW8015 Mod Analytes	SURROGATE RECOVERY STUDY Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1-Chlorooctane	73.0	99.6	73	70-135	
o-Terphenyl	35.2	49.8	71	70-135	

Lab Batch #: 778181 **Sample:** 349005-006 / SMP **Batch:** 1 **Matrix:** Soil

Units: mg/kg **Date Analyzed:** 10/21/09 07:19

TPH By SW8015 Mod Analytes	SURROGATE RECOVERY STUDY Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1-Chlorooctane	76.1	99.9	76	70-135	
o-Terphenyl	36.9	50.0	74	70-135	

* Surrogate outside of Laboratory QC limits

** Surrogates outside limits; data and surrogates confirmed by reanalysis

*** Poor recoveries due to dilution

Surrogate Recovery [D] = 100 * A / B

All results are based on MDL and validated for QC purposes.

Form 2 - Surrogate Recoveries

Project Name: BOPCO, L.P.

Work Orders : 349005,

Project ID: James Ranch Unit 104 H

Lab Batch #: 778181 **Sample:** 349005-005 D / MD **Batch:** 1 **Matrix:** Soil

Units: mg/kg **Date Analyzed:** 10/21/09 07:48

TPH By SW8015 Mod Analytes	SURROGATE RECOVERY STUDY Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1-Chlorooctane	79.3	99.8	79	70-135	
o-Terphenyl	37.7	49.9	76	70-135	

* Surrogate outside of Laboratory QC limits

** Surrogates outside limits; data and surrogates confirmed by reanalysis

*** Poor recoveries due to dilution

Surrogate Recovery [D] = 100 * A / B

All results are based on MDL and validated for QC purposes

Blank Spike Recovery

Project Name: BOPCO, L.P.

Work Order #: 349005 **Project ID:** James Ranch Unit 104 H

Lab Batch #: 778033 **Sample:** 778033-1-BKS **Matrix:** Solid

Date Analyzed: 10/20/2009 **Date Prepared:** 10/20/2009 **Analyst:** LATCOR

Reporting Units: mg/kg **Batch #:** 1

BLANK /BLANK SPIKE RECOVERY STUDY

Anions by E300 Analytes	Blank Result [A]	Spike Added [B]	Blank Spike Result [C]	Blank Spike %R [D]	Control Limits %R	Flags
Chloride	ND	10.0	9.50	95	75-125	

Blank Spike Recovery [D] = 100*[C]/[B]
All results are based on MDL and validated for QC purposes.
BRL - Below Reporting Limit

BS / BSD Recoveries

Project Name: BOPCO, L.P.

Work Order #: 349005 **Project ID:** James Ranch Unit 104 H

Analyst: ASA **Date Prepared:** 10/20/2009 **Date Analyzed:** 10/20/2009

Lab Batch ID: 778147 **Sample:** 541124-1-BKS **Batch #:** 1 **Matrix:** Solid

Units: mg/kg

BTEX by EPA 8021B	BLANK /BLANK SPIKE / BLANK SPIKE DUPLICATE RECOVERY STUDY										
Analytes	**Blank Sample Result [A]**	**Spike Added [B]**	**Blank Spike Result [C]**	**Blank Spike %R [D]**	**Spike Added [E]**	**Blank Spike Duplicate Result [F]**	**Blk. Spk Dup. %R [G]**	**RPD %**	**Control Limits %R**	**Control Limits %RPD**	**Flag**
Benzene	ND	0 0996	0 0858	86	0 0998	0 0860	86	0	70-130	35	
Toluene	ND	0 0996	0 0839	84	0 0998	0 0844	85	1	70-130	35	
Ethylbenzene	ND	0 0996	0 0851	85	0 0998	0 0854	86	0	71-129	35	
m,p-Xylenes	ND	0 1992	0 1875	94	0 1996	0 1881	94	0	70-135	35	
o-Xylene	ND	0 0996	0 0916	92	0 0998	0 0913	91	0	71-133	35	

Analyst: ASA **Date Prepared:** 10/21/2009 **Date Analyzed:** 10/21/2009

Lab Batch ID: 778259 **Sample:** 541190-1-BKS **Batch #:** 1 **Matrix:** Solid

Units: mg/kg

BTEX by EPA 8021B	BLANK /BLANK SPIKE / BLANK SPIKE DUPLICATE RECOVERY STUDY										
Analytes	**Blank Sample Result [A]**	**Spike Added [B]**	**Blank Spike Result [C]**	**Blank Spike %R [D]**	**Spike Added [E]**	**Blank Spike Duplicate Result [F]**	**Blk. Spk Dup. %R [G]**	**RPD %**	**Control Limits %R**	**Control Limits %RPD**	**Flag**
Benzene	ND	0 1000	0 0909	91	0 1	0 0900	90	1	70-130	35	
Toluene	ND	0 1000	0 0897	90	0 1	0 0888	89	1	70-130	35	
Ethylbenzene	ND	0 1000	0 0926	93	0 1	0 0917	92	1	71-129	35	
m,p-Xylenes	ND	0 2000	0 2030	102	0 2	0 2019	101	1	70-135	35	
o-Xylene	ND	0 1000	0 0972	97	0 1	0 0985	99	1	71-133	35	

Relative Percent Difference RPD = 200*|(C-F)/(C+F)|
Blank Spike Recovery [D] = 100*(C)/[B]
Blank Spike Duplicate Recovery [G] = 100*(F)/[E]
All results are based on MDL and Validated for QC Purposes

XENCO Laboratories

BS / BSD Recoveries

Project Name: BOPCO, L.P.

Work Order #: 349005 **Project ID:** James Ranch Unit 104 H

Analyst: BEV **Date Prepared:** 10/20/2009 **Date Analyzed:** 10/20/2009

Lab Batch ID: 778181 **Sample:** 541140-1-BKS **Batch #:** 1 **Matrix:** Solid

Units: mg/kg

BLANK /BLANK SPIKE / BLANK SPIKE DUPLICATE RECOVERY STUDY

TPH By SW8015 Mod Analytes	Blank Sample Result [A]	Spike Added [B]	Blank Spike Result [C]	Blank Spike %R [D]	Spike Added [E]	Blank Spike Duplicate Result [F]	Blk. Spk Dup. %R [G]	RPD %	Control Limits %R	Control Limits %RPD	Flag
C6-C12 Gasoline Range Hydrocarbons	ND	1000	968	97	997	967	97	0	70-135	35	
C12-C28 Diesel Range Hydrocarbons	ND	1000	768	77	997	779	78	1	70-135	35	

Relative Percent Difference RPD = 200*|(C-F)/(C+F)|
Blank Spike Recovery [D] = 100*(C)/[B]
Blank Spike Duplicate Recovery [G] = 100*(F)/[E]
All results are based on MDL and Validated for QC Purposes

Form 3 - MS Recoveries

Project Name: BOPCO, L.P.

Work Order #: 349005
Lab Batch #: 778033
Project ID: James Ranch Unit 104 H
Date Analyzed: 10/20/2009
Date Prepared: 10/20/2009
Analyst: LATCOR
QC- Sample ID: 348988-001 S
Batch #: 1
Matrix: Soil
Reporting Units: mg/kg

Inorganic Anions by EPA 300	MATRIX / MATRIX SPIKE RECOVERY STUDY					
Analytes	Parent Sample Result [A]	Spike Added [B]	Spiked Sample Result [C]	%R [D]	Control Limits %R	Flag
Chloride	ND	112	90.8	81	75-125	

Matrix Spike Percent Recovery [D] = 100*(C-A)/B
Relative Percent Difference [E] = 200*(C-A)/(C+B)
All Results are based on MDL and Validated for QC Purposes

BRL - Below Reporting Limit

Form 3 - MS / MSD Recoveries

Project Name: BOPCO, L.P.

Work Order # : 349005 **Project ID:** James Ranch Unit 104 H

Lab Batch ID: 778147 **QC- Sample ID:** 349005-006 S **Batch #:** 1 **Matrix:** Soil

Date Analyzed: 10/20/2009 **Date Prepared:** 10/20/2009 **Analyst:** ASA

Reporting Units: mg/kg

BTEX by EPA 8021B Analytes	MATRIX SPIKE / MATRIX SPIKE DUPLICATE RECOVERY STUDY										
	Parent Sample Result [A]	Spike Added [B]	Spiked Sample Result [C]	Spiked Sample %R [D]	Spike Added [E]	Duplicate Spiked Sample Result [F]	Spiked Dup. %R [G]	RPD %	Control Limits %R	Control Limits %RPD	Flag
Benzene	ND	0 1060	0 0650	61	0 1060	0 0616	58	5	70-130	35	X
Toluene	ND	0 1060	0 0615	58	0 1060	0 0583	55	5	70-130	35	X
Ethylbenzene	ND	0 1060	0 0562	53	0 1060	0 0522	49	7	71-129	35	X
m,p-Xylenes	ND	0 2120	0 1202	57	0 2120	0 1114	53	8	70-135	35	X
o-Xylene	ND	0 1060	0 0574	54	0 1060	0 0535	50	7	71-133	35	X

Lab Batch ID: 778259 **QC- Sample ID:** 349005-003 S **Batch #:** 1 **Matrix:** Soil

Date Analyzed: 10/22/2009 **Date Prepared:** 10/21/2009 **Analyst:** ASA

Reporting Units: mg/kg

BTEX by EPA 8021B Analytes	MATRIX SPIKE / MATRIX SPIKE DUPLICATE RECOVERY STUDY										
	Parent Sample Result [A]	Spike Added [B]	Spiked Sample Result [C]	Spiked Sample %R [D]	Spike Added [E]	Duplicate Spiked Sample Result [F]	Spiked Dup. %R [G]	RPD %	Control Limits %R	Control Limits %RPD	Flag
Benzene	ND	0 1010	0 0700	69	0 1010	0 0730	72	4	70-130	35	X
Toluene	ND	0 1010	0 0712	70	0 1010	0 0738	73	4	70-130	35	
Ethylbenzene	ND	0 1010	0 0712	70	0 1010	0 0738	73	4	71-129	35	X
m,p-Xylenes	ND	0 2021	0 1564	77	0 2021	0 1618	80	3	70-135	35	
o-Xylene	ND	0 1010	0 0793	79	0 1010	0 0800	79	1	71-133	35	

Matrix Spike Percent Recovery [D] = 100*(C-A)/B
Relative Percent Difference RPD = 200*|(C-F)/(C+F)|

Matrix Spike Duplicate Percent Recovery [G] = 100*(F-A)/E

ND = Not Detected, J = Present Below Reporting Limit, B = Present in Blank, NR = Not Requested, I = Interference, NA = Not ApplicableN = See Narrative EQL = Estimated Quantitation Limit

Sample Duplicate Recovery

Project Name: BOPCO, L.P.

Work Order #: 349005

Lab Batch #: 778033 **Project ID:** James Ranch Unit 104 H
Date Analyzed: 10/20/2009 **Date Prepared:** 10/20/2009 **Analyst:** LATCOR
QC- Sample ID: 348988-001 D **Batch #:** 1 **Matrix:** Soil
Reporting Units: mg/kg

Anions by E300 Analyte	SAMPLE / SAMPLE DUPLICATE RECOVERY				
	Parent Sample Result [A]	Sample Duplicate Result [B]	RPD	Control Limits %RPD	Flag
Chloride	ND	ND	NC	20	

Lab Batch #: 778022
Date Analyzed: 10/20/2009 **Date Prepared:** 10/20/2009 **Analyst:** ASA
QC- Sample ID: 348976-001 D **Batch #:** 1 **Matrix:** Soil
Reporting Units: %

Percent Moisture Analyte	SAMPLE / SAMPLE DUPLICATE RECOVERY				
	Parent Sample Result [A]	Sample Duplicate Result [B]	RPD	Control Limits %RPD	Flag
Percent Moisture	11.7	11.4	3	20	

Lab Batch #: 778025
Date Analyzed: 10/20/2009 **Date Prepared:** 10/20/2009 **Analyst:** ASA
QC- Sample ID: 349005-004 D **Batch #:** 1 **Matrix:** Soil
Reporting Units: %

Percent Moisture Analyte	SAMPLE / SAMPLE DUPLICATE RECOVERY				
	Parent Sample Result [A]	Sample Duplicate Result [B]	RPD	Control Limits %RPD	Flag
Percent Moisture	1.47	1.70	15	20	

Lab Batch #: 778181
Date Analyzed: 10/21/2009 **Date Prepared:** 10/20/2009 **Analyst:** BEV
QC- Sample ID: 349005-005 D **Batch #:** 1 **Matrix:** Soil
Reporting Units: mg/kg

TPH By SW8015 Mod Analyte	SAMPLE / SAMPLE DUPLICATE RECOVERY				
	Parent Sample Result [A]	Sample Duplicate Result [B]	RPD	Control Limits %RPD	Flag
C6-C12 Gasoline Range Hydrocarbons	ND	ND	NC	35	
C12-C28 Diesel Range Hydrocarbons	ND	ND	NC	35	
C28-C35 Oil Range Hydrocarbons	ND	ND	NC	35	

Spike Relative Difference RPD 200 * | (B-A)/(B+A) |
All Results are based on MDL and validated for QC purposes.
BRL - Below Reporting Limit

Environmental Lab of Texas

Variance/ Corrective Action Report- Sample Log-In

Client: Spart Env.

Date/ Time 10.19.09 15:27

Lab ID # 34900S

Initials AL

Sample Receipt Checklist

					Client Initials
#1	Temperature of container/ cooler?	(Yes)	No	4.6 °C	
#2	Shipping container in good condition?	(Yes)	No		
#3	Custody Seals intact on shipping container/ cooler?	Yes	No	(Not Present)	
#4	Custody Seals intact on sample bottles/ container?	Yes	No	(Not Present)	
#5	Chain of Custody present?	(Yes)	No		
#6	Sample instructions complete of Chain of Custody?	(Yes)	No		
#7	Chain of Custody signed when relinquished/ received?	(Yes)	No		
#8	Chain of Custody agrees with sample label(s)?	(Yes)	No	ID written on Cont / Lid	
#9	Container label(s) legible and intact?	(Yes)	No	Not Applicable	
#10	Sample matrix/ properties agree with Chain of Custody?	(Yes)	No		
#11	Containers supplied by ELOT?	(Yes)	No		
#12	Samples in proper container/ bottle?	(Yes)	No	See Below	
#13	Samples properly preserved?	(Yes)	No	See Below	
#14	Sample bottles intact?	(Yes)	No		
#15	Preservations documented on Chain of Custody?	(Yes)	No		
#16	Containers documented on Chain of Custody?	(Yes)	No		
#17	Sufficient sample amount for indicated test(s)?	(Yes)	No	See Below	
#18	All samples received within sufficient hold time?	(Yes)	No	See Below	
#19	Subcontract of sample(s)?	Yes	No	(Not Applicable)	
#20	VOC samples have zero headspace?	(Yes)	No	Not Applicable	

Variance Documentation

Contact: _____ Contacted by: _____ Date/ Time: _____

Regarding: _____

Corrective Action Taken: _____

Check all that Apply

- ☐ See attached e-mail/ fax
- ☐ Client understands and would like to proceed with analysis
- ☐ Cooling process had begun shortly after sampling event

BOPCO, L.P.
James Ranch Unit #104H
Section 36, T-22-S, R-30-E
Eddy County, New Mexico

SITE PHOTOGRAPHS

TAKEN October 19, 2009

James Ranch Unit #104H

BOPCO, LP – James Ranch Unit #104H
Site Photographs taken October 19, 2009