

MARTIN YATES, III  
1912-1985

FRANK W. YATES  
1936-1986

S. P. YATES  
1914-2008



105 SOUTH FOURTH STREET  
ARTESIA, NEW MEXICO 88210-2118  
TELEPHONE (575) 748-1471

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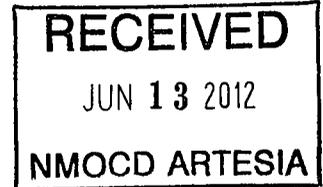
JOHN D. PERINI  
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June 12, 2012

Mr. Mike Bratcher  
NMOCD District II  
811 S. First Street  
Artesia, NM 88210

Re: Hawkins GY Battery  
30-015-21940  
Section 27, T18S-R26E  
Eddy County, New Mexico



Dear Mr. Bratcher,

Enclosed please find a Form C-141, Final Report for the above captioned site regarding release on January 30, 2012 (2RP-1016). Impacted soils this release were excavated and hauled to an NMOCD approved facility. Vertical and horizontal delineation samples were taken and sent to an NMOCD approved laboratory. Enclosed are the analytical reports, results show TPH and BTEX, to be below RRAL's, based on a site ranking of ten (depth to ground water recorded at 85' per NMOSE, Section 27, T18S-R26E); Yates Petroleum Corporation requests closure based on impacted soils excavated/hailed to an approved NMOCD disposal facility and analytical results.

If you have any questions, please call me at 575-748-4111.

Thank you.

YATES PETROLEUM CORPORATION

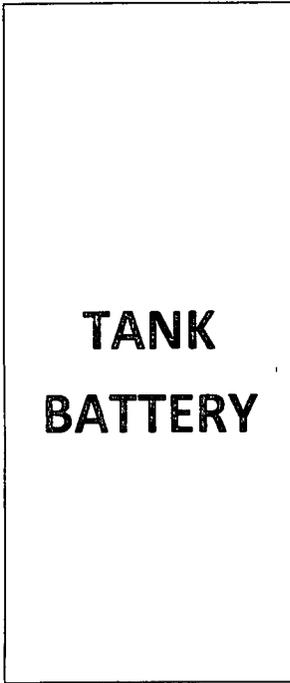
Amber Cannon  
Environmental Regulatory Agent

/anc  
Enclosure(s)



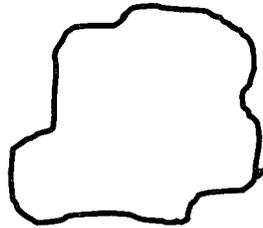
**HAWKINS GY Battery**  
**30-015-21940**  
**Section 27, T18S-R26E**  
**Eddy County, New Mexico**

**2RP-1016**



Lease Access

Lease Access



Release Area

B-3, B-4, B-5, B-6, B-7, B-8, B-9 and B-10 samples were taken from the bottom of the excavation.

SP East and SP West samples were taken from two stockpiles that were on location that we ended up hauling off due to high TPH results.

SW-1, Sidewall, SW-2 and SW-3 were taken from the west sidewall of the excavation.

E SW – 1 was taken from the East Sidewall.

S SW – 1 was taken from the South Sidewall.

N SW – 1 was taken from the North Sidewall.

# Hawkins GY Battery

Analytical Report-436241 & 436243	Sample Area	Sample Date	Sample Type	Depth	BTEX	GRO	DRO	TOTAL	Chlorides	
B-3'	Release Area	2/1/2012	Grab	3'	92	1130	831	1960	34.6	Excavated
B-4'	Release Area	2/1/2012	Grab	4'	2040	9520	2020	11500	19.5	Excavated
SW-1	Release Area	2/1/2012	Grab	6"	218	1320	529	1850	19.5	Excavated

Analytical Report-439294	Sample Area	Sample Date	Sample Type	Depth	BTEX	GRO	DRO	TOTAL	Chlorides	
B-5'	Release Area	3/22/2012	Grab/Auger	5'	2020	8540	1710	10250		Excavated
SP East	Release Area	3/22/2012	Grab	N/A	37.7	1090	3970	5060		Hauled Off
SP West	Release Area	3/22/2012	Grab	N/A	53.5	1160	2870	4030		Hauled Off
Sidewall	Release Area	3/22/2012	Grab	1' into Sidewall	483	3260	1920	5180		Excavated

Analytical Report-H201013	Sample Area	Sample Date	Sample Type	Depth	BTEX	GRO	DRO	TOTAL	Chlorides	
SW-2	Release Area	5/1/2012	Grab	2' into Sidewall	1.96	ND	ND	ND		
SW-3	Release Area	5/1/2012	Grab	3' into Sidewall	ND	ND	ND	ND		
B-6	Release Area	5/1/2012	Grab	6'	877.2	5240	1720	6960		Excavated
B-7	Release Area	5/1/2012	Grab	7'	363.58	2080	807	2887		Excavated
B-8	Release Area	5/1/2012	Grab	8'	252.8	1590	781	2371		Excavated

Analytical Report-H201274	Sample Area	Sample Date	Sample Type	Depth	BTEX	GRO	DRO	TOTAL	Chlorides	
E SW - 1	Release Area	6/4/2012	Grab	1' into Sidewall	ND	ND	ND	ND		
S SW - 1	Release Area	6/4/2012	Grab	1' into Sidewall	ND	ND	ND	ND		
N SW - 1	Release Area	6/4/2012	Grab	1' into Sidewall	ND	ND	ND	ND		
B-9	Release Area	6/4/2012	Grab	9'	ND	ND	ND	ND		
B-10	Release Area	6/4/2012	Grab	10'	0.319	ND	ND	ND		

Site Ranking is TEN (10). Depth to Ground Water 50-99' (approx. 85', Section 27-18S-26E, per NMOSE).

All results are ppm.Chlorides for documentation.

Released: 7 B/PW, 8 MCF; Recovered: 6 B/PW. Release Date: 1/30/2012

# Analytical Report 436243

for  
**Yates Petroleum Corporation**

**Project Manager: Amber Cannon**

**Hawkins GY Battery**

**30-015-21940**

**13-FEB-12**

Collected By: Client



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**12600 West I-20 East Odessa, Texas 79765**

Xenco-Houston (EPA Lab code: TX00122):

Texas (T104704215-10-6-TX), Arizona (AZ0765), 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 (LAO00312), USDA (S-44102)

Xenco-Atlanta (EPA Lab Code: GA00046):

Florida (E87429), 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-TX)

Xenco-Dallas (EPA Lab code: TX01468): Texas (T104704295-TX)

Xenco Phoenix (EPA Lab Code: AZ00901): Arizona (AZ0757)

Xenco-Phoenix Mobile (EPA Lab code: AZ00901): Arizona (AZM757)

Xenco Tucson (EPA Lab code: AZ000989): Arizona (AZ0758)



13-FEB-12

Project Manager: **Amber Cannon**  
**Yates Petroleum Corporation**  
105 South Fourth St.  
Artesia, NM 88210

Reference: XENCO Report No: **436243**  
**Hawkins GY Battery**  
Project Address: Eddy County

**Amber Cannon:**

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 436243. 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. 436243 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

*Recipient of the Prestigious Small Business Administration Award of Excellence in 1994.*

*Certified and approved by numerous States and Agencies.*

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**Sample Cross Reference 436243**

**Yates Petroleum Corporation, Artesia, NM**  
Hawkins GY Battery

<b>Sample Id</b>	<b>Matrix</b>	<b>Date Collected</b>	<b>Sample Depth</b>	<b>Lab Sample Id</b>
B-3'	S	02-01-12 10:15	3 - 3 ft	436243-001
B-4'	S	02-01-12 10:20	4 - 4 ft	436243-002
SW-1	S	02-01-12 10:25	1 - 1 ft	436243-003



## CASE NARRATIVE

*Client Name: Yates Petroleum Corporation*

*Project Name: Hawkins GY Battery*

*Project ID: 30-015-21940*

*Work Order Number: 436243*

*Report Date: 13-FEB-12*

*Date Received: 02/02/2012*

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**Sample receipt non conformances and comments:**

None

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**Sample receipt non conformances and comments per sample:**

None

**Analytical non conformances and comments:**

*Batch: LBA-881041 Anions by E300*

*RPD recovered outside QC limits between the sample and sample duplicate.*



# Certificate of Analysis Summary 436243

Yates Petroleum Corporation, Artesia, NM

Project Name: Hawkins GY Battery



Project Id: 30-015-21940

Contact: Amber Cannon

Project Location: Eddy County

Date Received in Lab: Thu Feb-02-12 11:55 am

Report Date: 13-FEB-12

Project Manager: Brent Barron II

<i>Analysis Requested</i>	<i>Lab Id:</i>	436243-001	436243-002	436243-003			
	<i>Field Id:</i>	B-3'	B-4'	SW-1			
	<i>Depth:</i>	3-3 ft	4-4 ft	1-1 ft			
	<i>Matrix:</i>	SOIL	SOIL	SOIL			
	<i>Sampled:</i>	Feb-01-12 10:15	Feb-01-12 10:20	Feb-01-12 10:25			
<b>Anions by E300</b>	<i>Extracted:</i>						
	<i>Analyzed:</i>	Feb-11-12 11:00	Feb-11-12 11:00	Feb-11-12 11:00			
	<i>Units/RL:</i>	mg/kg RL	mg/kg RL	mg/kg RL			
Chloride		34.6 1.02	19.5 1.02	19.5 0.978			
<b>Percent Moisture</b>	<i>Extracted:</i>						
	<i>Analyzed:</i>	Feb-03-12 14:20	Feb-03-12 14:20	Feb-03-12 14:20			
	<i>Units/RL:</i>	% RL	% RL	% RL			
Percent Moisture		17.5 1.00	17.3 1.00	14.1 1.00			

This analytical report, and the entire data package it represents, has been made for your exclusive and confidential use. The interpretations and results expressed throughout this analytical report represent the best judgment of XENCO Laboratories. XENCO Laboratories assumes no responsibility and makes no warranty to the end use of the data hereby presented. Our liability is limited to the amount invoiced for this work order unless otherwise agreed to in writing.

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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 affect the recovery of the spike concentration. This condition could also affect 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 quantitation limit and above the detection limit.
- 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.

\* Surrogate recovered outside laboratory control limit.

**BRL** Below Reporting Limit.

**RL** Reporting Limit

**MDL** Method Detection Limit      **SDL** Sample Detection Limit      **LOD** Limit of Detection

**PQL** Practical Quantitation Limit      **MQL** Method Quantitation Limit      **LOQ** Limit of Quantitation

**DL** Method Detection Limit

**NC** Non-Calculable

+ Outside XENCO's scope of NELAC Accreditation.      ^ NELAC or State program does not offer Accreditation at this time.

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2505 North Falkenburg Rd, Tampa, FL 33619	(210) 509-3334	(210) 509-3335
5757 NW 158th St. Miami Lakes, FL 33014	(813) 620-2000	(813) 620-2033
12600 West I-20 East, Odessa, TX 79765	(305) 823-8500	(305) 823-8555
6017 Financial Drive, Norcross, GA 30071	(432) 563-1800	(432) 563-1713
3725 E. Atlanta Ave, Phoenix, AZ 85040	(770) 449-8800	(770) 449-5477
	(602) 437-0330	



# Blank Spike Recovery

Project Name: Hawkins GY Battery

Work Order #: 436243

Project ID:

30-015-21940

Lab Batch #: 881041

Sample: 881041-1-BKS

Matrix: Solid

Date Analyzed: 02/10/2012

Date Prepared: 02/10/2012

Analyst: BRB

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	<0.840	20.0	19.9	100	75-125	

Blank Spike Recovery [D] =  $100 * [C] / [B]$

All results are based on MDL and validated for QC purposes

BRL - Below Reporting Limit



# Form 3 - MS Recoveries

Project Name: Hawkins GY Battery

Work Order #: 436243

Lab Batch #: 881041

Date Analyzed: 02/11/2012

QC- Sample ID: 436418-001 S

Date Prepared: 02/11/2012

Batch #: 1

Project ID: 30-015-21940

Analyst: BRB

Matrix: Soil

Reporting Units: mg/kg

### MATRIX / MATRIX SPIKE RECOVERY STUDY

Inorganic Anions by EPA 300 Analytes	Parent Sample Result [A]	Spike Added [B]	Spiked Sample Result [C]	%R [D]	Control Limits %R	Flag
Chloride	4.86	103	88.4	81	75-125	

Lab Batch #: 881041

Date Analyzed: 02/11/2012

QC- Sample ID: 436760-001 S

Date Prepared: 02/11/2012

Batch #: 1

Analyst: BRB

Matrix: Soil

Reporting Units: mg/kg

### MATRIX / MATRIX SPIKE RECOVERY STUDY

Inorganic Anions by EPA 300 Analytes	Parent Sample Result [A]	Spike Added [B]	Spiked Sample Result [C]	%R [D]	Control Limits %R	Flag
Chloride	4.59	100	94.5	90	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



# Sample Duplicate Recovery



**Project Name: Hawkins GY Battery**

Work Order #: 436243

Lab Batch #: 881041

Project ID: 30-015-21940

Date Analyzed: 02/11/2012 11.00

Date Prepared: 02/11/2012

Analyst: BRB

QC- Sample ID: 436418-001 D

Batch #: 1

Matrix: Soil

Reporting Units: mg/kg

SAMPLE / SAMPLE DUPLICATE RECOVERY					
Anions by E300	Parent Sample Result [A]	Sample Duplicate Result [B]	RPD	Control Limits %RPD	Flag
Analyte					
Chloride	4.86	6.38	27	20	F

Lab Batch #: 880595

Date Analyzed: 02/03/2012 09:00

Date Prepared: 02/03/2012

Analyst: BRB

QC- Sample ID: 436269-001 D

Batch #: 1

Matrix: Soil

Reporting Units: %

SAMPLE / SAMPLE DUPLICATE RECOVERY					
Percent Moisture	Parent Sample Result [A]	Sample Duplicate Result [B]	RPD	Control Limits %RPD	Flag
Analyte					
Percent Moisture	4.23	3.80	11	20	

Spike Relative Difference  $RPD = 200 * |(B-A)/(B+A)|$

All Results are based on MDL and validated for QC purposes

BRL - Below Reporting Limit





**XENCO Laboratories**  
 Atlanta, Boca Raton, Corpus Christi, Dallas  
 Houston, Miami, Odessa, Philadelphia  
 Phoenix, San Antonio, Tampa

Document Title: Sample Receipt Checklist  
 Document No.: SYS-SRC  
 Revision/Date No. 01, 5/27/2010  
 Effective Date: 6/1/2010 Page 1 of 1

**Prelogin / Nonconformance Report - Sample Log-In**

Client: Yates Petroleum  
 Date/Time: 2.2.12 11:55  
 Lab ID #: 436241 / 436243  
 Initials: AE

**Sample Receipt Checklist**

1. Samples on ice?	Blue	<u>Water</u>	No	
2. Shipping container in good condition?	<u>Yes</u>	No	None	
3. Custody seals intact on shipping container (cooler) and bottles?	<u>Yes</u>	No	N/A	
4. Chain of Custody present?	<u>Yes</u>	No		
5. Sample instructions complete on chain of custody?	<u>Yes</u>	No		
6. Any missing / extra samples?	Yes	<u>No</u>		
7. Chain of custody signed when relinquished / received?	<u>Yes</u>	No		
8. Chain of custody agrees with sample label(s)?	<u>Yes</u>	No		
9. Container labels legible and intact?	<u>Yes</u>	No		
10. Sample matrix / properties agree with chain of custody?	<u>Yes</u>	No		
11. Samples in proper container / bottle?	<u>Yes</u>	No		
12. Samples properly preserved?	<u>Yes</u>	No	N/A	
13. Sample container intact?	<u>Yes</u>	No		
14. Sufficient sample amount for indicated test(s)?	<u>Yes</u>	No		
15. All samples received within sufficient hold time?	<u>Yes</u>	No		
16. Subcontract of sample(s)?	Yes	No	<u>N/A</u>	
17. VOC sample have zero head space?	<u>Yes</u>	No	N/A	
18. Cooler 1 No.	Cooler 2 No.	Cooler 3 No.	Cooler 4 No.	Cooler 5 No.
lbs <u>2.0</u> °C	lbs °C	lbs °C	lbs °C	lbs °C

**Nonconformance Documentation**

Contact: \_\_\_\_\_ Contacted by: \_\_\_\_\_ Date/Time: \_\_\_\_\_

Regarding: \_\_\_\_\_

Corrective Action Taken: \_\_\_\_\_

- Check all that apply:
- Cooling process has begun shortly after sampling event and out of temperature condition acceptable by NELAC 5.5.8.3.1.a.1.
  - Initial and Backup Temperature confirm out of temperature conditions
  - Client understands and would like to proceed with analysis

# Analytical Report 436241

for  
Yates Petroleum Corporation

Project Manager: Amber Cannon

Hawkins GY Battery

30-015-21940

13-FEB-12

Collected By: Client



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**12600 West I-20 East Odessa, Texas 79765**

Xenco-Houston (EPA Lab code: TX00122):

Texas (T104704215-10-6-TX), Arizona (AZ0765), Arkansas (08-039-0), Connecticut (PH-0102), Florida (E871002)  
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New Hampshire (297408), New Jersey (TX007), New York (11763), Oklahoma (9218), Pennsylvania (68-03610)  
Rhode Island (LAO00312), USDA (S-44102)

Xenco-Atlanta (EPA Lab Code: GA00046):

Florida (E87429), 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-TX)

Xenco-Dallas (EPA Lab code: TX01468): Texas (T104704295-TX)

Xenco Phoenix (EPA Lab Code: AZ00901): Arizona (AZ0757)

Xenco-Phoenix Mobile (EPA Lab code: AZ00901): Arizona (AZM757)

Xenco Tucson (EPA Lab code: AZ000989): Arizona (AZ0758)



13-FEB-12

Project Manager: **Amber Cannon**  
**Yates Petroleum Corporation**  
105 South Fourth St.  
Artesia, NM 88210

Reference: XENCO Report No: **436241**  
**Hawkins GY Battery**  
Project Address: Eddy County

**Amber Cannon:**

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 436241. 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. 436241 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

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**Sample Cross Reference 436241**

**Yates Petroleum Corporation, Artesia, NM**

Hawkins GY Battery

<b>Sample Id</b>	<b>Matrix</b>	<b>Date Collected</b>	<b>Sample Depth</b>	<b>Lab Sample Id</b>
B-3'	S	02-01-12 10:15	3 - 3 ft	436241-001
B-4'	S	02-01-12 10:20	4 - 4 ft	436241-002
SW-1	S	02-01-12 10:25	1 - 1 ft	436241-003



## CASE NARRATIVE

*Client Name: Yates Petroleum Corporation*

*Project Name: Hawkins GY Battery*



*Project ID: 30-015-21940*

*Work Order Number: 436241*

*Report Date: 13-FEB-12*

*Date Received: 02/02/2012*

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**Sample receipt non conformances and comments:**

None

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**Sample receipt non conformances and comments per sample:**

None

**Analytical non nonformances and comments:**

*Batch: LBA-880592 BTEX by EPA 8021B*

*SW8021BM*

*Batch 880592, 1,4-Difluorobenzene recovered below QC limits . Matrix interferences is suspected; data confirmed by re-analysis  
Samples affected are: 436241-003.*

*SW8021BM*

*Batch 880592, Benzene, Ethylbenzene, Toluene, m\_p-Xylenes, o-Xylene recovered below QC limits in the Matrix Spike and Matrix Spike Duplicate.*

*Samples affected are: 436241-001, -003.*

*The Laboratory Control Sample for Toluene, Benzene, Ethylbenzene, m\_p-Xylenes , o-Xylene is within laboratory Control Limits*

*Batch: LBA-880721 BTEX by EPA 8021B*

*SW8021BM*

*Batch 880721, Benzene, Ethylbenzene, Toluene, m\_p-Xylenes, o-Xylene recovered below QC limits in the Matrix Spike and Matrix Spike Duplicate.*

*Samples affected are: 436241-002.*

*The Laboratory Control Sample for Toluene, Benzene, Ethylbenzene, m\_p-Xylenes , o-Xylene is within laboratory Control Limits*

*SW8021BM*

*Batch 880721, 1,4-Difluorobenzene recovered below QC limits . Matrix interferences is suspected; data confirmed by re-analysis*

*Samples affected are: 436241-002.*

*4-Bromofluorobenzene recovered above QC limits . Matrix interferences is suspected; data confirmed by re-analysis*

*Samples affected are: 436002-003 S,436002-003 SD.*



## CASE NARRATIVE

*Client Name: Yates Petroleum Corporation*

*Project Name: Hawkins GY Battery*



*Project ID: 30-015-21940*

*Work Order Number: 436241*

*Report Date: 13-FEB-12*

*Date Received: 02/02/2012*

*Batch: LBA-881186 TPH By SW8015B Mod  
SW8015B\_NM*

*Batch 881186, 1-Chlorooctane recovered above QC limits Data confirmed by re-analysis.*

*Samples affected are: 436241-002.*

*Batch 881186, 1-Chlorooctane recovered above QC limits Data not confirmed by re-analysis.*

*Samples affected are: 617761-1-BSD,436241-002 S,436241-002 SD.*

*SW8015B\_NM*

*Batch 881186, C6-C10 Gasoline Range Hydrocarbons recovered above QC limits in the Matrix Spike and Matrix Spike Duplicate. C10-C28 Diesel Range Hydrocarbons recovered above QC limits in the Matrix Spike Duplicate.*

*Samples affected are: 436241-001, -003, -002.*

*The Laboratory Control Sample for C10-C28 Diesel Range Hydrocarbons, C6-C10 Gasoline Range Hydrocarbons is within laboratory Control Limits*



# Certificate of Analysis Summary 436241

Yates Petroleum Corporation, Artesia, NM



Project Id: 30-015-21940

Contact: Amber Cannon

Project Location: Eddy County

Project Name: Hawkins GY Battery

Date Received in Lab: Thu Feb-02-12 11:55 am

Report Date: 13-FEB-12

Project Manager: Brent Barron II

Analysis Requested	Lab Id:	436241-001	436241-002	436241-003			
	Field Id:	B-3'	B-4'	SW-1			
	Depth:	3-3 ft	4-4 ft	1-1 ft			
	Matrix:	SOIL	SOIL	SOIL			
	Sampled:	Feb-01-12 10:15	Feb-01-12 10:20	Feb-01-12 10:25			
BTEX by EPA 8021B	Extracted:	Feb-03-12 15:00	Feb-07-12 09:54	Feb-03-12 15:00			
	Analyzed:	Feb-04-12 06:43	Feb-07-12 16:58	Feb-04-12 08:57			
	Units/RL:	mg/kg RL	mg/kg RL	mg/kg RL			
Benzene		2.35 0.200	91.1 5.99	2.90 0.198			
Toluene		23.0 0.401	663 12.0	52.6 0.396			
Ethylbenzene		23.1 0.200	466 5.99	57.6 0.198			
m,p-Xylenes		32.3 0.401	624 12.0	77.6 0.396			
o-Xylene		11.2 0.200	198 5.99	27.5 0.198			
Total Xylenes		43.5 0.200	822 5.99	105 0.198			
Total BTEX		92.0 0.200	2040 5.99	218 0.198			
Percent Moisture	Extracted:						
	Analyzed:	Feb-03-12 09:00	Feb-03-12 09:00	Feb-03-12 09:00			
	Units/RL:	% RL	% RL	% RL			
Percent Moisture		17.5 1.00	17.3 1.00	14.1 1.00			
TPH By SW8015B Mod	Extracted:	Feb-09-12 15:00	Feb-09-12 15:00	Feb-09-12 15:00			
	Analyzed:	Feb-10-12 12:37	Feb-10-12 13:07	Feb-10-12 13:40			
	Units/RL:	mg/kg RL	mg/kg RL	mg/kg RL			
C6-C10 Gasoline Range Hydrocarbons		1130 90.9	9520 90.8	1320 87.2			
C10-C28 Diesel Range Hydrocarbons		831 90.9	2020 90.8	529 87.2			
Total TPH		1960 90.9	11500 90.8	1850 87.2			

This analytical report, and the entire data package it represents, has been made for your exclusive and confidential use. The interpretations and results expressed throughout this analytical report represent the best judgment of XENCO Laboratories. XENCO Laboratories assumes no responsibility and makes no warranty to the end use of the data hereby presented. Our liability is limited to the amount invoiced for this work order unless otherwise agreed to in writing.

Houston - Dallas - San Antonio - Atlanta - Tampa - Boca Raton - Latin America - Odessa - Corpus Christi

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 affect the recovery of the spike concentration. This condition could also affect 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 quantitation limit and above the detection limit.
- 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.

\* Surrogate recovered outside laboratory control limit.

**BRL** Below Reporting Limit.

**RL** Reporting Limit

**MDL** Method Detection Limit      **SDL** Sample Detection Limit      **LOD** Limit of Detection

**PQL** Practical Quantitation Limit      **MQL** Method Quantitation Limit      **LOQ** Limit of Quantitation

**DL** Method Detection Limit

**NC** Non-Calculable

+ Outside XENCO's scope of NELAC Accreditation.      ^ NELAC or State program does not offer Accreditation at this time.

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## Form 2 - Surrogate Recoveries

Project Name: Hawkins GY Battery

Work Orders : 436241,

Project ID: 30-015-21940

Lab Batch #: 880592

Sample: 436241-001 / SMP

Batch: 1 Matrix: Soil

Units: mg/kg

Date Analyzed: 02/04/12 06:43

### SURROGATE RECOVERY STUDY

BTEX by EPA 8021B  Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1,4-Difluorobenzene	0.0241	0.0300	80	80-120	
4-Bromofluorobenzene	0.0340	0.0300	113	80-120	

Lab Batch #: 880592

Sample: 436241-003 / SMP

Batch: 1 Matrix: Soil

Units: mg/kg

Date Analyzed: 02/04/12 08:57

### SURROGATE RECOVERY STUDY

BTEX by EPA 8021B  Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1,4-Difluorobenzene	0.0196	0.0300	65	80-120	**
4-Bromofluorobenzene	0.0319	0.0300	106	80-120	

Lab Batch #: 880721

Sample: 436241-002 / SMP

Batch: 1 Matrix: Soil

Units: mg/kg

Date Analyzed: 02/07/12 16:58

### SURROGATE RECOVERY STUDY

BTEX by EPA 8021B  Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1,4-Difluorobenzene	0.0234	0.0300	78	80-120	**
4-Bromofluorobenzene	0.0316	0.0300	105	80-120	

Lab Batch #: 881186

Sample: 436241-001 / SMP

Batch: 1 Matrix: Soil

Units: mg/kg

Date Analyzed: 02/10/12 12:37

### SURROGATE RECOVERY STUDY

TPH By SW8015B Mod  Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1-Chlorooctane	109	100	109	70-135	
o-Terphenyl	47.2	50.0	94	70-135	

Lab Batch #: 881186

Sample: 436241-002 / SMP

Batch: 1 Matrix: Soil

Units: mg/kg

Date Analyzed: 02/10/12 13:07

### SURROGATE RECOVERY STUDY

TPH By SW8015B Mod  Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1-Chlorooctane	162	100	162	70-135	**
o-Terphenyl	45.1	50.1	90	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: Hawkins GY Battery

Work Orders : 436241,

Project ID: 30-015-21940

Lab Batch #: 881186

Sample: 436241-003 / SMP

Batch: 1 Matrix: Soil

SURROGATE RECOVERY STUDY					
TPH By SW8015B Mod	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
Analytes					
1-Chlorooctane	120	99.9	120	70-135	
o-Terphenyl	48.7	50.0	97	70-135	

Lab Batch #: 880592

Sample: 617417-1-BLK / BLK

Batch: 1 Matrix: Solid

SURROGATE RECOVERY STUDY					
BTEX by EPA 8021B	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
Analytes					
1,4-Difluorobenzene	0.0278	0.0300	93	80-120	
4-Bromofluorobenzene	0.0318	0.0300	106	80-120	

Lab Batch #: 880721

Sample: 617498-1-BLK / BLK

Batch: 1 Matrix: Solid

SURROGATE RECOVERY STUDY					
BTEX by EPA 8021B	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
Analytes					
1,4-Difluorobenzene	0.0274	0.0300	91	80-120	
4-Bromofluorobenzene	0.0328	0.0300	109	80-120	

Lab Batch #: 881186

Sample: 617761-1-BLK / BLK

Batch: 1 Matrix: Solid

SURROGATE RECOVERY STUDY					
TPH By SW8015B Mod	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
Analytes					
1-Chlorooctane	97.8	100	98	70-135	
o-Terphenyl	51.2	50.0	102	70-135	

Lab Batch #: 880592

Sample: 617417-1-BKS / BKS

Batch: 1 Matrix: Solid

SURROGATE RECOVERY STUDY					
BTEX by EPA 8021B	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
Analytes					
1,4-Difluorobenzene	0.0295	0.0300	98	80-120	
4-Bromofluorobenzene	0.0326	0.0300	109	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.



# Form 2 - Surrogate Recoveries

**Project Name: Hawkins GY Battery**

Work Orders : 436241,

Project ID: 30-015-21940

Lab Batch #: 880721

Sample: 617498-1-BKS / BKS

Batch: 1 Matrix: Solid

Units: mg/kg

Date Analyzed: 02/07/12 10:30

SURROGATE RECOVERY STUDY					
BTEX by EPA 8021B	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
Analytes					
1,4-Difluorobenzene	0.0296	0.0300	99	80-120	
4-Bromofluorobenzene	0.0345	0.0300	115	80-120	

Lab Batch #: 881186

Sample: 617761-1-BKS / BKS

Batch: 1 Matrix: Solid

Units: mg/kg

Date Analyzed: 02/10/12 11:05

SURROGATE RECOVERY STUDY					
TPH By SW8015B Mod	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
Analytes					
1-Chlorooctane	115	100	115	70-135	
o-Terphenyl	47.9	50.0	96	70-135	

Lab Batch #: 880592

Sample: 617417-1-BSD / BSD

Batch: 1 Matrix: Solid

Units: mg/kg

Date Analyzed: 02/03/12 21:44

SURROGATE RECOVERY STUDY					
BTEX by EPA 8021B	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
Analytes					
1,4-Difluorobenzene	0.0295	0.0300	98	80-120	
4-Bromofluorobenzene	0.0324	0.0300	108	80-120	

Lab Batch #: 880721

Sample: 617498-1-BSD / BSD

Batch: 1 Matrix: Solid

Units: mg/kg

Date Analyzed: 02/07/12 10:53

SURROGATE RECOVERY STUDY					
BTEX by EPA 8021B	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
Analytes					
1,4-Difluorobenzene	0.0296	0.0300	99	80-120	
4-Bromofluorobenzene	0.0353	0.0300	118	80-120	

Lab Batch #: 881186

Sample: 617761-1-BSD / BSD

Batch: 1 Matrix: Solid

Units: mg/kg

Date Analyzed: 02/10/12 11:35

SURROGATE RECOVERY STUDY					
TPH By SW8015B Mod	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
Analytes					
1-Chlorooctane	138	100	138	70-135	*
o-Terphenyl	60.2	50.0	120	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: Hawkins GY Battery

Work Orders : 436241,

Project ID: 30-015-21940

Lab Batch #: 880592

Sample: 436002-001 S / MS

Batch: 1 Matrix: Soil

Units: mg/kg

Date Analyzed: 02/04/12 02:38

### SURROGATE RECOVERY STUDY

BTEX by EPA 8021B Analytes	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	0.0338	0.0300	113	80-120	

Lab Batch #: 880721

Sample: 436002-003 S / MS

Batch: 1 Matrix: Soil

Units: mg/kg

Date Analyzed: 02/07/12 18:06

### SURROGATE RECOVERY STUDY

BTEX by EPA 8021B Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1,4-Difluorobenzene	0.0280	0.0300	93	80-120	
4-Bromofluorobenzene	0.0560	0.0300	187	80-120	*

Lab Batch #: 881186

Sample: 436241-002 S / MS

Batch: 1 Matrix: Soil

Units: mg/kg

Date Analyzed: 02/10/12 14:10

### SURROGATE RECOVERY STUDY

TPH By SW8015B Mod Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1-Chlorooctane	217	100	217	70-135	*
o-Terphenyl	46.3	50.0	93	70-135	

Lab Batch #: 880592

Sample: 436002-001 SD / MSD

Batch: 1 Matrix: Soil

Units: mg/kg

Date Analyzed: 02/04/12 03:00

### SURROGATE RECOVERY STUDY

BTEX by EPA 8021B Analytes	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	0.0332	0.0300	111	80-120	

Lab Batch #: 880721

Sample: 436002-003 SD / MSD

Batch: 1 Matrix: Soil

Units: mg/kg

Date Analyzed: 02/07/12 18:28

### SURROGATE RECOVERY STUDY

BTEX by EPA 8021B Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1,4-Difluorobenzene	0.0281	0.0300	94	80-120	
4-Bromofluorobenzene	0.0515	0.0300	172	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.



# Form 2 - Surrogate Recoveries

Project Name: Hawkins GY Battery

Work Orders : 436241,

Project ID: 30-015-21940

Lab Batch #: 881186

Sample: 436241-002 SD / MSD

Batch: 1 Matrix: Soil

Units: mg/kg

Date Analyzed: 02/10/12 14:39

## SURROGATE RECOVERY STUDY

TPH By SW8015B Mod Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1-Chlorooctane	257	99.5	258	70-135	*
o-Terphenyl	50.7	49.8	102	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.



# BS / BSD Recoveries



Project Name: Hawkins GY Battery

Work Order #: 436241

Analyst: ASA

Date Prepared: 02/03/2012

Project ID: 30-015-21940

Date Analyzed: 02/03/2012

Lab Batch ID: 880592

Sample: 617417-1-BKS

Batch #: 1

Matrix: Solid

Units: mg/kg

## BLANK / BLANK SPIKE / BLANK SPIKE DUPLICATE RECOVERY STUDY

BTEX by EPA 8021B	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
Analytes											
Benzene	<0.00100	0.100	0.0917	92	0.100	0.0913	91	0	70-130	35	
Toluene	<0.00200	0.100	0.0904	90	0.100	0.0898	90	1	70-130	35	
Ethylbenzene	<0.00100	0.100	0.0891	89	0.100	0.0887	89	0	71-129	35	
m_p-Xylenes	<0.00200	0.200	0.183	92	0.200	0.182	91	1	70-135	35	
o-Xylene	<0.00100	0.100	0.0918	92	0.100	0.0914	91	0	71-133	35	

Analyst: ASA

Date Prepared: 02/07/2012

Date Analyzed: 02/07/2012

Lab Batch ID: 880721

Sample: 617498-1-BKS

Batch #: 1

Matrix: Solid

Units: mg/kg

## BLANK / BLANK SPIKE / BLANK SPIKE DUPLICATE RECOVERY STUDY

BTEX by EPA 8021B	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
Analytes											
Benzene	<0.00100	0.100	0.0893	89	0.100	0.0916	92	3	70-130	35	
Toluene	<0.00200	0.100	0.0886	89	0.100	0.0910	91	3	70-130	35	
Ethylbenzene	<0.00100	0.100	0.0891	89	0.100	0.0913	91	2	71-129	35	
m_p-Xylenes	<0.00200	0.200	0.188	94	0.200	0.192	96	2	70-135	35	
o-Xylene	<0.00100	0.100	0.0913	91	0.100	0.0936	94	2	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



# BS / BSD Recoveries



Project Name: Hawkins GY Battery

Work Order #: 436241

Project ID: 30-015-21940

Analyst: ASA

Date Prepared: 02/09/2012

Date Analyzed: 02/10/2012

Lab Batch ID: 881186

Sample: 617761-1-BKS

Batch #: 1

Matrix: Solid

Units: mg/kg

## BLANK /BLANK SPIKE / BLANK SPIKE DUPLICATE RECOVERY STUDY

TPH By SW8015B Mod	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
Analytes											
C6-C10 Gasoline Range Hydrocarbons	<15 0	1000	768	77	1000	909	91	17	70-135	35	
C10-C28 Diesel Range Hydrocarbons	<15 0	1000	829	83	1000	970	97	16	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 / MSD Recoveries



Project Name: Hawkins GY Battery

Work Order #: 436241

Project ID: 30-015-21940

Lab Batch ID: 880592

QC- Sample ID: 436002-001 S

Batch #: 1 Matrix: Soil

Date Analyzed: 02/04/2012

Date Prepared: 02/03/2012

Analyst: ASA

Reporting Units: mg/kg

### MATRIX SPIKE / MATRIX SPIKE DUPLICATE RECOVERY STUDY

BTEX by EPA 8021B Analytes	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	<0.00120	0.120	0.0646	54	0.119	0.0803	67	22	70-130	35	X
Toluene	<0.00239	0.120	0.0591	49	0.119	0.0703	59	17	70-130	35	X
Ethylbenzene	<0.00120	0.120	0.0522	44	0.119	0.0584	49	11	71-129	35	X
m_p-Xylenes	<0.00239	0.239	0.0954	40	0.239	0.113	47	17	70-135	35	X
o-Xylene	<0.00120	0.120	0.0488	41	0.119	0.0579	49	17	71-133	35	X

Lab Batch ID: 880721

QC- Sample ID: 436002-003 S

Batch #: 1 Matrix: Soil

Date Analyzed: 02/07/2012

Date Prepared: 02/07/2012

Analyst: ASA

Reporting Units: mg/kg

### MATRIX SPIKE / MATRIX SPIKE DUPLICATE RECOVERY STUDY

BTEX by EPA 8021B Analytes	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	<0.00111	0.111	0.0662	60	0.111	0.0622	56	6	70-130	35	X
Toluene	0.0200	0.111	0.0588	35	0.111	0.0507	28	15	70-130	35	X
Ethylbenzene	0.0974	0.111	0.0780	0	0.111	0.0590	0	28	71-129	35	X
m_p-Xylenes	0.216	0.222	0.170	0	0.222	0.127	0	29	70-135	35	X
o-Xylene	0.200	0.111	0.126	0	0.111	0.0955	0	28	71-133	35	X

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 Applicable, N = See Narrative, EQL = Estimated Quantitation Limit



# Form 3 - MS / MSD Recoveries



Project Name: Hawkins GY Battery

Work Order #: 436241

Project ID: 30-015-21940

Lab Batch ID: 881186

QC- Sample ID: 436241-002 S

Batch #: 1 Matrix: Soil

Date Analyzed: 02/10/2012

Date Prepared: 02/09/2012

Analyst: ASA

Reporting Units: mg/kg

## MATRIX SPIKE / MATRIX SPIKE DUPLICATE RECOVERY STUDY

TPH By SW8015B Mod Analytes	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
C6-C10 Gasoline Range Hydrocarbons	9520	1210	13500	329	1200	16600	590	21	70-135	35	X
C10-C28 Diesel Range Hydrocarbons	2020	1210	3580	129	1200	4350	194	19	70-135	35	X

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 Applicable  
N = See Narrative, EQL = Estimated Quantitation Limit



# Sample Duplicate Recovery



**Project Name: Hawkins GY Battery**

**Work Order #: 436241**

**Lab Batch #: 880595**

**Project ID: 30-015-21940**

**Date Analyzed: 02/03/2012 09:00**

**Date Prepared: 02/03/2012**

**Analyst: BRB**

**QC- Sample ID: 436269-001 D**

**Batch #: 1**

**Matrix: Soil**

**Reporting Units: %**

SAMPLE / SAMPLE DUPLICATE RECOVERY					
Percent Moisture	Parent Sample Result [A]	Sample Duplicate Result [B]	RPD	Control Limits %RPD	Flag
Analyte					
Percent Moisture	4.23	3.80	11	20	

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





**XENCO Laboratories**  
 Atlanta, Boca Raton, Corpus Christi, Dallas  
 Houston, Miami, Odessa, Philadelphia  
 Phoenix, San Antonio, Tampa

Document Title: Sample Receipt Checklist  
 Document No.: SYS-SRC  
 Revision/Date: No. 01, 5/27/2010  
 Effective Date: 6/1/2010 Page 1 of 1

**Prelogin / Nonconformance Report - Sample Log-In**

Client: Yates Petroleum  
 Date/Time: 2.2.12 11:55  
 Lab ID #: 436241 / 436243  
 Initials: AE

**Sample Receipt Checklist**

1. Samples on ice?	Blue	<u>Water</u>	No	
2. Shipping container in good condition?	<u>Yes</u>	No	None	
3. Custody seals intact on shipping container (cooler) and bottles?	<u>Yes</u>	No	N/A	
4. Chain of Custody present?	<u>Yes</u>	No		
5. Sample instructions complete on chain of custody?	<u>Yes</u>	No		
6. Any missing / extra samples?	Yes	<u>No</u>		
7. Chain of custody signed when relinquished / received?	<u>Yes</u>	No		
8. Chain of custody agrees with sample label(s)?	<u>Yes</u>	No		
9. Container labels legible and intact?	<u>Yes</u>	No		
10. Sample matrix / properties agree with chain of custody?	<u>Yes</u>	No		
11. Samples in proper container / bottle?	<u>Yes</u>	No		
12. Samples properly preserved?	<u>Yes</u>	No	N/A	
13. Sample container intact?	<u>Yes</u>	No		
14. Sufficient sample amount for indicated test(s)?	<u>Yes</u>	No		
15. All samples received within sufficient hold time?	<u>Yes</u>	No		
16. Subcontract of sample(s)?	Yes	No	<u>N/A</u>	
17. VOC sample have zero head space?	<u>Yes</u>	No	N/A	
18. Cooler 1 No.	Cooler 2 No.	Cooler 3 No.	Cooler 4 No.	Cooler 5 No.
lbs <u>20</u> °C	lbs °C	lbs °C	lbs °C	lbs °C

**Nonconformance Documentation**

Contact: \_\_\_\_\_ Contacted by: \_\_\_\_\_ Date/Time: \_\_\_\_\_

Regarding: \_\_\_\_\_

Corrective Action Taken: \_\_\_\_\_

- Check all that apply:
- Cooling process has begun shortly after sampling event and out of temperature condition acceptable by NELAC 5.5.8.3.1.a.1.
  - Initial and Backup Temperature confirm out of temperature conditions
  - Client understands and would like to proceed with analysis

# Analytical Report 439294

## for Yates Petroleum Corporation

**Project Manager: Amber Cannon**

**Hawkins GY Battery**

**30-015-21940**

**03-APR-12**

Collected By: Client



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**12600 West I-20 East Odessa, Texas 79765**

Xenco-Houston (EPA Lab code: TX00122):

Texas (T104704215-10-6-TX), Arizona (AZ0765), 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 (LAO00312), USDA (S-44102)

Xenco-Atlanta (EPA Lab Code: GA00046):

Florida (E87429), 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)

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Xenco Phoenix (EPA Lab Code: AZ00901): Arizona (AZ0757)

Xenco-Phoenix Mobile (EPA Lab code: AZ00901): Arizona (AZM757)

Xenco Tucson (EPA Lab code: AZ000989): Arizona (AZ0758)



03-APR-12

Project Manager: **Amber Cannon**  
**Yates Petroleum Corporation**  
105 South Fourth St.  
Artesia, NM 88210

Reference: XENCO Report No: **439294**  
**Hawkins GY Battery**  
Project Address: Eddy County

**Amber Cannon:**

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 439294. 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. 439294 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

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**Sample Cross Reference 439294**

**Yates Petroleum Corporation, Artesia, NM**  
Hawkins GY Battery

<b>Sample Id</b>	<b>Matrix</b>	<b>Date Collected</b>	<b>Sample Depth</b>	<b>Lab Sample Id</b>
B-5'	S	03-22-12 09:30	5 - 5 ft	439294-001
SP East	S	03-22-12 09:30		439294-002
SP West	S	03-22-12 09:30		439294-003
Sidewall	S	03-22-12 09:30	1 - 1 ft	439294-004



## CASE NARRATIVE

*Client Name: Yates Petroleum Corporation*

*Project Name: Hawkins GY Battery*

*Project ID: 30-015-21940*

*Work Order Number: 439294*

*Report Date: 03-APR-12*

*Date Received: 03/23/2012*

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**Sample receipt non conformances and comments:**

None

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**Sample receipt non conformances and comments per sample:**

None

**Analytical non nonformances and comments:**

Batch: LBA-884479 BTEX by EPA 8021B

SW8021BM

Batch 884479, Benzene, Ethylbenzene, Toluene, m\_p-Xylenes, o-Xylene recovered below QC limits in the Matrix Spike and Matrix Spike Duplicate.

Samples affected are: 439294-002, -003, -004.

The Laboratory Control Sample for Toluene, Benzene, Ethylbenzene, m\_p-Xylenes , o-Xylene is within laboratory Control Limits

SW8021BM

Batch 884479, 4-Bromofluorobenzene recovered above QC limits . Matrix interferences is suspected; data confirmed by re-analysis

Samples affected are: 439294-003,439294-002.

Batch: LBA-884686 BTEX by EPA 8021B

SW8021BM

Batch 884686, Benzene, Ethylbenzene, Toluene, m\_p-Xylenes, o-Xylene recovered below QC limits in the Matrix Spike and Matrix Spike Duplicate.

Samples affected are: 439294-001.

The Laboratory Control Sample for Toluene, Benzene, Ethylbenzene, m\_p-Xylenes , o-Xylene is within laboratory Control Limits



# Certificate of Analysis Summary 439294

Yates Petroleum Corporation, Artesia, NM

Project Name: Hawkins GY Battery

Project Id: 30-015-21940

Contact: Amber Cannon

Project Location: Eddy County

Date Received in Lab: Fri Mar-23-12 08:20 am

Report Date: 03-APR-12

Project Manager: Brent Barron II

<i>Analysis Requested</i>	<i>Lab Id:</i>	439294-001	439294-002	439294-003	439294-004		
	<i>Field Id:</i>	B-5'	SP East	SP West	Sidewall		
	<i>Depth:</i>	5-5 ft			1-1 ft		
	<i>Matrix:</i>	SOIL	SOIL	SOIL	SOIL		
	<i>Sampled:</i>	Mar-22-12 09:30	Mar-22-12 09:30	Mar-22-12 09:30	Mar-22-12 09:30		
<b>BTEX by EPA 8021B</b>	<i>Extracted:</i>	Mar-29-12 15:51	Mar-27-12 11:05	Mar-27-12 11:05	Mar-27-12 11:05		
	<i>Analyzed:</i>	Mar-29-12 17:31	Mar-27-12 15:57	Mar-27-12 16:20	Mar-27-12 14:27		
	<i>Units/RL:</i>	mg/kg    RL	mg/kg    RL	mg/kg    RL	mg/kg    RL		
Benzene		49.7    5.83	ND    0.0519	ND    0.0513	2.13    0.562		
Toluene		574    11.7	1.25    0.104	1.60    0.103	54.5    1.12		
Ethylbenzene		494    5.83	9.93    0.0519	14.0    0.0513	143    0.562		
m_p-Xylenes		670    11.7	18.4    0.104	26.1    0.103	211    1.12		
o-Xylene		234    5.83	8.14    0.0519	11.8    0.0513	72.2    0.562		
Total Xylenes		904    5.83	26.5    0.0519	37.9    0.0513	283    0.562		
Total BTEX		2020    5.83	37.7    0.0519	53.5    0.0513	483    0.562		
<b>Percent Moisture</b>	<i>Extracted:</i>						
	<i>Analyzed:</i>	Mar-23-12 08:30	Mar-23-12 08:30	Mar-23-12 08:30	Mar-23-12 08:30		
	<i>Units/RL:</i>	%    RL	%    RL	%    RL	%    RL		
Percent Moisture		14.3    1.00	3.70    1.00	2.28    1.00	11.9    1.00		
<b>TPH By SW8015B Mod</b>	<i>Extracted:</i>	Mar-23-12 15:06	Mar-23-12 15:06	Mar-23-12 15:06	Mar-23-12 15:06		
	<i>Analyzed:</i>	Mar-26-12 20:40	Mar-26-12 21:04	Mar-26-12 21:28	Mar-26-12 21:53		
	<i>Units/RL:</i>	mg/kg    RL	mg/kg    RL	mg/kg    RL	mg/kg    RL		
C6-C10 Gasoline Range Hydrocarbons		8540    291	1090    258	1160    51.1	3260    56.6		
C10 - C28 Diesel Range Hydrocarbons		1710    291	3970    258	2870    51.1	1920    56.6		
Total TPH		10250    291	5060    258	4030    51.1	5180    56.6		

This analytical report, and the entire data package it represents, has been made for your exclusive and confidential use. The interpretations and results expressed throughout this analytical report represent the best judgment of XENCO Laboratories. XENCO Laboratories assumes no responsibility and makes no warranty to the end use of the data hereby presented. Our liability is limited to the amount invoiced for this work order unless otherwise agreed to in writing.

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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 affect the recovery of the spike concentration. This condition could also affect 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 quantitation limit and above the detection limit.
- 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.

\* Surrogate recovered outside laboratory control limit.

**BRL** Below Reporting Limit.

**RL** Reporting Limit

**MDL** Method Detection Limit      **SDL** Sample Detection Limit      **LOD** Limit of Detection

**PQL** Practical Quantitation Limit      **MQL** Method Quantitation Limit      **LOQ** Limit of Quantitation

**DL** Method Detection Limit

**NC** Non-Calculable

+ NELAC certification not offered for this compound.

\* (Next to analyte name or method description) = Outside XENCO's scope of NELAC accreditation

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(770) 449-8800	(770) 449-5477
(602) 437-0330	



## Form 2 - Surrogate Recoveries

**Project Name: Hawkins GY Battery**

Work Orders : 439294,

Project ID: 30-015-21940

Lab Batch #: 884403

Sample: 439294-001 / SMP

Batch: 1 Matrix: Soil

Units: mg/kg

Date Analyzed: 03/26/12 20:40

**SURROGATE RECOVERY STUDY**

TPH By SW8015B Mod  Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1-Chlorooctane	105	99.7	105	70-135	
o-Terphenyl	35.3	49.9	71	70-135	

Lab Batch #: 884403

Sample: 439294-002 / SMP

Batch: 1 Matrix: Soil

Units: mg/kg

Date Analyzed: 03/26/12 21:04

**SURROGATE RECOVERY STUDY**

TPH By SW8015B Mod  Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1-Chlorooctane	127	99.5	128	70-135	
o-Terphenyl	39.2	49.8	79	70-135	

Lab Batch #: 884403

Sample: 439294-003 / SMP

Batch: 1 Matrix: Soil

Units: mg/kg

Date Analyzed: 03/26/12 21:28

**SURROGATE RECOVERY STUDY**

TPH By SW8015B Mod  Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1-Chlorooctane	108	99.8	108	70-135	
o-Terphenyl	39.9	49.9	80	70-135	

Lab Batch #: 884403

Sample: 439294-004 / SMP

Batch: 1 Matrix: Soil

Units: mg/kg

Date Analyzed: 03/26/12 21:53

**SURROGATE RECOVERY STUDY**

TPH By SW8015B Mod  Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1-Chlorooctane	104	99.8	104	70-135	
o-Terphenyl	35.7	49.9	72	70-135	

Lab Batch #: 884479

Sample: 439294-004 / SMP

Batch: 1 Matrix: Soil

Units: mg/kg

Date Analyzed: 03/27/12 14:27

**SURROGATE RECOVERY STUDY**

BTEX by EPA 8021B  Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1,4-Difluorobenzene	0.0247	0.0300	82	80-120	
4-Bromofluorobenzene	0.0322	0.0300	107	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.



# Form 2 - Surrogate Recoveries

Project Name: Hawkins GY Battery

Work Orders : 439294,

Project ID: 30-015-21940

Lab Batch #: 884479

Sample: 439294-002 / SMP

Batch: 1 Matrix: Soil

Units: mg/kg

Date Analyzed: 03/27/12 15:57

## SURROGATE RECOVERY STUDY

BTEX by EPA 8021B Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1,4-Difluorobenzene	0.0249	0.0300	83	80-120	
4-Bromofluorobenzene	0.0397	0.0300	132	80-120	**

Lab Batch #: 884479

Sample: 439294-003 / SMP

Batch: 1 Matrix: Soil

Units: mg/kg

Date Analyzed: 03/27/12 16:20

## SURROGATE RECOVERY STUDY

BTEX by EPA 8021B Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1,4-Difluorobenzene	0.0248	0.0300	83	80-120	
4-Bromofluorobenzene	0.0459	0.0300	153	80-120	**

Lab Batch #: 884686

Sample: 439294-001 / SMP

Batch: 1 Matrix: Soil

Units: mg/kg

Date Analyzed: 03/29/12 17:31

## SURROGATE RECOVERY STUDY

BTEX by EPA 8021B Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1,4-Difluorobenzene	0.0241	0.0300	80	80-120	
4-Bromofluorobenzene	0.0325	0.0300	108	80-120	

Lab Batch #: 884403

Sample: 619699-1-BLK / BLK

Batch: 1 Matrix: Solid

Units: mg/kg

Date Analyzed: 03/26/12 19:52

## SURROGATE RECOVERY STUDY

TPH By SW8015B Mod Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1-Chlorooctane	90.2	99.6	91	70-135	
o-Terphenyl	37.0	49.8	74	70-135	

Lab Batch #: 884479

Sample: 619765-1-BLK / BLK

Batch: 1 Matrix: Solid

Units: mg/kg

Date Analyzed: 03/27/12 12:33

## SURROGATE RECOVERY STUDY

BTEX by EPA 8021B Analytes	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	0.0281	0.0300	94	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.



# Form 2 - Surrogate Recoveries

Project Name: Hawkins GY Battery

Work Orders : 439294,

Project ID: 30-015-21940

Lab Batch #: 884686

Sample: 619904-1-BLK / BLK

Batch: 1 Matrix: Solid

Units: mg/kg

Date Analyzed: 03/29/12 17:09

### SURROGATE RECOVERY STUDY

BTEX by EPA 8021B Analytes	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	0.0270	0.0300	90	80-120	

Lab Batch #: 884403

Sample: 619699-1-BKS / BKS

Batch: 1 Matrix: Solid

Units: mg/kg

Date Analyzed: 03/26/12 19:03

### SURROGATE RECOVERY STUDY

TPH By SW8015B Mod Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1-Chlorooctane	108	99.9	108	70-135	
o-Terphenyl	46.7	50.0	93	70-135	

Lab Batch #: 884479

Sample: 619765-1-BKS / BKS

Batch: 1 Matrix: Solid

Units: mg/kg

Date Analyzed: 03/27/12 11:03

### SURROGATE RECOVERY STUDY

BTEX by EPA 8021B Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1,4-Difluorobenzene	0.0304	0.0300	101	80-120	
4-Bromofluorobenzene	0.0320	0.0300	107	80-120	

Lab Batch #: 884686

Sample: 619904-1-BKS / BKS

Batch: 1 Matrix: Solid

Units: mg/kg

Date Analyzed: 03/29/12 15:38

### SURROGATE RECOVERY STUDY

BTEX by EPA 8021B Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1,4-Difluorobenzene	0.0284	0.0300	95	80-120	
4-Bromofluorobenzene	0.0297	0.0300	99	80-120	

Lab Batch #: 884403

Sample: 619699-1-BSD / BSD

Batch: 1 Matrix: Solid

Units: mg/kg

Date Analyzed: 03/26/12 19:28

### SURROGATE RECOVERY STUDY

TPH By SW8015B Mod Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1-Chlorooctane	111	99.7	111	70-135	
o-Terphenyl	45.8	49.9	92	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: Hawkins GY Battery

Work Orders : 439294,

Project ID: 30-015-21940

Lab Batch #: 884479

Sample: 619765-1-BSD / BSD

Batch: 1 Matrix: Solid

Units: mg/kg

Date Analyzed: 03/27/12 11:25

### SURROGATE RECOVERY STUDY

BTEX by EPA 8021B Analytes	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	0.0313	0.0300	104	80-120	

Lab Batch #: 884686

Sample: 619904-1-BSD / BSD

Batch: 1 Matrix: Solid

Units: mg/kg

Date Analyzed: 03/29/12 16:00

### SURROGATE RECOVERY STUDY

BTEX by EPA 8021B Analytes	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	0.0291	0.0300	97	80-120	

Lab Batch #: 884403

Sample: 439310-008 S / MS

Batch: 1 Matrix: Soil

Units: mg/kg

Date Analyzed: 03/27/12 05:36

### SURROGATE RECOVERY STUDY

TPH By SW8015B Mod Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1-Chlorooctane	98.4	99.9	98	70-135	
o-Terphenyl	36.5	50.0	73	70-135	

Lab Batch #: 884479

Sample: 439379-001 S / MS

Batch: 1 Matrix: Soil

Units: mg/kg

Date Analyzed: 03/27/12 17:05

### SURROGATE RECOVERY STUDY

BTEX by EPA 8021B Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1,4-Difluorobenzene	0.0288	0.0300	96	80-120	
4-Bromofluorobenzene	0.0324	0.0300	108	80-120	

Lab Batch #: 884686

Sample: 439431-002 S / MS

Batch: 1 Matrix: Soil

Units: mg/kg

Date Analyzed: 03/29/12 22:26

### SURROGATE RECOVERY STUDY

BTEX by EPA 8021B Analytes	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	0.0320	0.0300	107	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.



# Form 2 - Surrogate Recoveries

Project Name: Hawkins GY Battery

Work Orders : 439294,

Project ID: 30-015-21940

Lab Batch #: 884403

Sample: 439310-008 SD / MSD

Batch: 1 Matrix: Soil

Units: mg/kg

Date Analyzed: 03/27/12 06:01

### SURROGATE RECOVERY STUDY

TPH By SW8015B Mod Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1-Chlorooctane	79.5	99.8	80	70-135	
o-Terphenyl	36.0	49.9	72	70-135	

Lab Batch #: 884479

Sample: 439379-001 SD / MSD

Batch: 1 Matrix: Soil

Units: mg/kg

Date Analyzed: 03/27/12 17:28

### SURROGATE RECOVERY STUDY

BTEX by EPA 8021B Analytes	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	0.0296	0.0300	99	80-120	

Lab Batch #: 884686

Sample: 439431-002 SD / MSD

Batch: 1 Matrix: Soil

Units: mg/kg

Date Analyzed: 03/29/12 22:49

### SURROGATE RECOVERY STUDY

BTEX by EPA 8021B Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1,4-Difluorobenzene	0.0287	0.0300	96	80-120	
4-Bromofluorobenzene	0.0315	0.0300	105	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.



# BS / BSD Recoveries



Project Name: Hawkins GY Battery

Work Order #: 439294

Project ID: 30-015-21940

Analyst: ASA

Date Prepared: 03/27/2012

Date Analyzed: 03/27/2012

Lab Batch ID: 884479

Sample: 619765-1-BKS

Batch #: 1

Matrix: Solid

Units: mg/kg

## BLANK /BLANK SPIKE / BLANK SPIKE DUPLICATE RECOVERY STUDY

BTEX by EPA 8021B	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
Analytes											
Benzene	<0.00100	0.100	0.102	102	0.100	0.0942	94	8	70-130	35	
Toluene	<0.00200	0.100	0.102	102	0.100	0.0942	94	8	70-130	35	
Ethylbenzene	<0.00100	0.100	0.102	102	0.100	0.0949	95	7	71-129	35	
m_p-Xylenes	<0.00200	0.200	0.212	106	0.200	0.197	99	7	70-135	35	
o-Xylene	<0.00100	0.100	0.103	103	0.100	0.0957	96	7	71-133	35	

Analyst: ASA

Date Prepared: 03/29/2012

Date Analyzed: 03/29/2012

Lab Batch ID: 884686

Sample: 619904-1-BKS

Batch #: 1

Matrix: Solid

Units: mg/kg

## BLANK /BLANK SPIKE / BLANK SPIKE DUPLICATE RECOVERY STUDY

BTEX by EPA 8021B	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
Analytes											
Benzene	<0.00100	0.100	0.0806	81	0.100	0.0855	86	6	70-130	35	
Toluene	<0.00200	0.100	0.0800	80	0.100	0.0862	86	7	70-130	35	
Ethylbenzene	<0.00100	0.100	0.0809	81	0.100	0.0865	87	7	71-129	35	
m_p-Xylenes	<0.00200	0.200	0.165	83	0.200	0.180	90	9	70-135	35	
o-Xylene	<0.00100	0.100	0.0809	81	0.100	0.0874	87	8	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



## Form 3 - MS / MSD Recoveries

**Project Name: Hawkins GY Battery**

Work Order #: 439294

Project ID: 30-015-21940

Lab Batch ID: 884479

QC- Sample ID: 439379-001 S

Batch #: 1 Matrix: Soil

Date Analyzed: 03/27/2012

Date Prepared: 03/27/2012

Analyst: ASA

Reporting Units: mg/kg

MATRIX SPIKE / MATRIX SPIKE DUPLICATE RECOVERY STUDY											
BTEX by EPA 8021B Analytes	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	<0.000998	0.0998	0.0360	36	0.0996	0.0338	34	6	70-130	35	X
Toluene	<0.00200	0.0998	0.0188	19	0.0996	0.0167	17	12	70-130	35	X
Ethylbenzene	0.00718	0.0998	0.0165	9	0.0996	0.0159	9	4	71-129	35	X
m_p-Xylenes	0.0116	0.200	0.0281	8	0.199	0.0263	7	7	70-135	35	X
o-Xylene	0.00678	0.0998	0.0158	9	0.0996	0.0151	8	5	71-133	35	X

Lab Batch ID: 884686

QC- Sample ID: 439431-002 S

Batch #: 1 Matrix: Soil

Date Analyzed: 03/29/2012

Date Prepared: 03/29/2012

Analyst: ASA

Reporting Units: mg/kg

MATRIX SPIKE / MATRIX SPIKE DUPLICATE RECOVERY STUDY											
BTEX by EPA 8021B Analytes	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	<0.00104	0.104	0.0696	67	0.103	0.0657	64	6	70-130	35	X
Toluene	<0.00207	0.104	0.0693	67	0.103	0.0659	64	5	70-130	35	X
Ethylbenzene	<0.00104	0.104	0.0690	66	0.103	0.0663	64	4	71-129	35	X
m_p-Xylenes	<0.00207	0.207	0.141	68	0.205	0.135	66	4	70-135	35	X
o-Xylene	<0.00104	0.104	0.0673	65	0.103	0.0634	62	6	71-133	35	X

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 Applicable  
N = See Narrative, EQL = Estimated Quantitation Limit



# Sample Duplicate Recovery



**Project Name: Hawkins GY Battery**

**Work Order #: 439294**

**Lab Batch #: 884324**

**Project ID: 30-015-21940**

**Date Analyzed: 03/23/2012 08:30**

**Date Prepared: 03/23/2012**

**Analyst: BRB**

**QC- Sample ID: 439258-001 D**

**Batch #: 1**

**Matrix: Solid**

**Reporting Units: %**

SAMPLE / SAMPLE DUPLICATE RECOVERY					
Percent Moisture	Parent Sample Result [A]	Sample Duplicate Result [B]	RPD	Control Limits %RPD	Flag
Analyte					
Percent Moisture	38.4	38.3	0	20	

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





**XENCO Laboratories**  
 Atlanta, Boca Raton, Corpus Christi, Dallas  
 Houston, Miami, Odessa, Philadelphia  
 Phoenix, San Antonio, Tampa

Document Title: Sample Receipt Checklist  
 Document No.: SYS-SRC  
 Revision/Date: No. 01, 5/27/2010  
 Effective Date: 6/1/2010 Page 1 of 1

**Prelogin / Nonconformance Report - Sample Log-In**

Client: Yates Petroleum  
 Date/Time: 3.23.12 08:20  
 Lab ID #: 437294  
 Initials: WR/AE

**Sample Receipt Checklist**

1. Samples on ice?	Blue	<del>Water</del>	No	
2. Shipping container in good condition?	<u>Yes</u>	No	None	
3. Custody seals intact on shipping container (cooler) and bottles?	<u>Yes</u>	No	N/A	
4. Chain of Custody present?	<u>Yes</u>	No		
5. Sample instructions complete on chain of custody?	<u>Yes</u>	No		
6. Any missing / extra samples?	Yes	<u>No</u>		
7. Chain of custody signed when relinquished / received?	<u>Yes</u>	No		
8. Chain of custody agrees with sample label(s)?	<u>Yes</u>	No		
9. Container labels legible and intact?	<u>Yes</u>	No		
10. Sample matrix / properties agree with chain of custody?	<u>Yes</u>	No		
11. Samples in proper container / bottle?	<u>Yes</u>	No		
12. Samples properly preserved?	<u>Yes</u>	No	N/A	
13. Sample container intact?	<u>Yes</u>	No		
14. Sufficient sample amount for indicated test(s)?	<u>Yes</u>	No		
15. All samples received within sufficient hold time?	<u>Yes</u>	No		
16. Subcontract of sample(s)?	Yes	No	<u>N/A</u>	
17. VOC sample have zero head space?	<u>Yes</u>	No	N/A	
18. Cooler 1 No.	Cooler 2 No.	Cooler 3 No.	Cooler 4 No.	Cooler 5 No.
lbs <u>3.0</u> °C	lbs °C	lbs °C	lbs °C	lbs °C

**Nonconformance Documentation**

Contact: \_\_\_\_\_ Contacted by: \_\_\_\_\_ Date/Time: \_\_\_\_\_

Regarding: \_\_\_\_\_

Corrective Action Taken: \_\_\_\_\_

- Check all that apply:
- Cooling process has begun shortly after sampling event and out of temperature condition acceptable by NELAC 5.5.8.3.1.a.1.
  - Initial and Backup Temperature confirm out of temperature conditions
  - Client understands and would like to proceed with analysis

May 10, 2012

AMBER CANNON

Yates Energy Petroleum Corp

105 S 4th Street

Artesia, NM 88210

RE: HAWKINS GY BATTERY

Enclosed are the results of analyses for samples received by the laboratory on 05/03/12 11:20.

Cardinal Laboratories is accredited through Texas NELAP under certificate number T104704398-11-3. Accreditation applies to drinking water, non-potable water and solid and chemical materials. All accredited analytes are denoted by an asterisk (\*). For a complete list of accredited analytes and matrices visit the TCEQ website at [www.tceq.texas.gov/field/qa/lab\\_accred\\_certif.html](http://www.tceq.texas.gov/field/qa/lab_accred_certif.html).

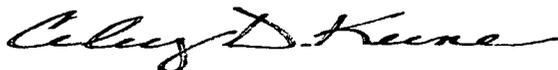
Cardinal Laboratories is accredited through the State of Colorado Department of Public Health and Environment for:

Method EPA 552.2	Haloacetic Acids (HAA-5)
Method EPA 524.2	Total Trichloromethanes (TTHM)
Method EPA 524.4	Regulated VOCs (V1, V2, V3)

Accreditation applies to public drinking water matrices.

This report meets NELAP requirements and is made up of a cover page, analytical results, and a copy of the original chain-of-custody. If you have any questions concerning this report, please feel free to contact me.

Sincerely,



Celey D. Keene

Lab Director/Quality Manager

**Analytical Results For:**

 Yates Energy Petroleum Corp  
 AMBER CANNON  
 105 S 4th Street  
 Artesia NM, 88210  
 Fax To: (505) 748-4635

Received:	05/03/2012	Sampling Date:	05/01/2012
Reported:	05/10/2012	Sampling Type:	Soil
Project Name:	HAWKINS GY BATTERY	Sampling Condition:	Cool & Intact
Project Number:	30-015-21940	Sample Received By:	Jodi Henson
Project Location:	EDDY COUNTY, NM		

**Sample ID: SW 2 (H201013-01)**
**BTEX 8260B**

mg/kg

Analyzed By: CMS

Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
<b>Benzene*</b>	<b>0.152</b>	0.050	05/09/2012	ND	2.24	112	2.00	3.94	
<b>Toluene*</b>	<b>0.922</b>	0.050	05/09/2012	ND	2.09	104	2.00	5.50	
<b>Ethylbenzene*</b>	<b>0.376</b>	0.050	05/09/2012	ND	1.96	97.8	2.00	5.95	
<b>Total Xylenes*</b>	<b>0.510</b>	0.150	05/09/2012	ND	6.29	105	6.00	5.94	

*Surrogate: Dibromofluoromethane*      85.4 %      61.3-142

*Surrogate: Toluene-d8*      97.3 %      71.3-129

*Surrogate: 4-Bromofluorobenzene*      85.5 %      65.7-141

**TPH 8015M**

mg/kg

Analyzed By: MS

Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10	<10.0	10.0	05/09/2012	ND	183	91.3	200	5.05	
DRO >C10-C28	<10.0	10.0	05/09/2012	ND	173	86.7	200	3.21	

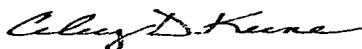
*Surrogate 1-Chlorooctane*      82.6 %      55.5-154

*Surrogate 1-Chlorooctadecane*      91.7 %      57.6-158

Cardinal Laboratories

\*=Accredited Analyte

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Celey D. Keene, Lab Director/Quality Manager

**Analytical Results For:**

 Yates Energy Petroleum Corp  
 AMBER CANNON  
 105 S 4th Street  
 Artesia NM, 88210  
 Fax To: (505) 748-4635

Received:	05/03/2012	Sampling Date:	05/01/2012
Reported:	05/10/2012	Sampling Type:	Soil
Project Name:	HAWKINS GY BATTERY	Sampling Condition:	Cool & Intact
Project Number:	30-015-21940	Sample Received By:	Jodi Henson
Project Location:	EDDY COUNTY, NM		

**Sample ID: SW 3 (H201013-02)**

BTEX 8260B		mg/kg		Analyzed By: CMS						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
Benzene*	<0.050	0.050	05/09/2012	ND	2.24	112	2.00	3.94		
Toluene*	<0.050	0.050	05/09/2012	ND	2.09	104	2.00	5.50		
Ethylbenzene*	<0.050	0.050	05/09/2012	ND	1.96	97.8	2.00	5.95		
Total Xylenes*	<0.150	0.150	05/09/2012	ND	6.29	105	6.00	5.94		

Surrogate: Dibromofluoromethane 87.0 % 61.3-142

Surrogate: Toluene-d8 97.8 % 71.3-129

Surrogate: 4-Bromofluorobenzene 84.7 % 65.7-141

TPH 8015M		mg/kg		Analyzed By: MS						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
GRO C6-C10	<10.0	10.0	05/09/2012	ND	183	91.3	200	5.05		
DRO >C10-C28	<10.0	10.0	05/09/2012	ND	173	86.7	200	3.21		

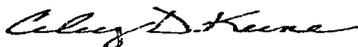
Surrogate: 1-Chlorooctane 94.3 % 55.5-154

Surrogate: 1-Chlorooctadecane 96.8 % 57.6-158

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\* = Accredited Analyte

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Celey D. Keene, Lab Director/Quality Manager

**Analytical Results For:**

 Yates Energy Petroleum Corp  
 AMBER CANNON  
 105 S 4th Street  
 Artesia NM, 88210  
 Fax To: (505) 748-4635

Received:	05/03/2012	Sampling Date:	05/01/2012
Reported:	05/10/2012	Sampling Type:	Soil
Project Name:	HAWKINS GY BATTERY	Sampling Condition:	Cool & Intact
Project Number:	30-015-21940	Sample Received By:	Jodi Henson
Project Location:	EDDY COUNTY, NM		

**Sample ID: B 6 (H201013-03)**

BTEX 82608		mg/kg		Analyzed By: CMS						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
<b>Benzene*</b>	<b>25.2</b>	5.00	05/09/2012	ND	2.24	112	2.00	3.94		
<b>Toluene*</b>	<b>302</b>	5.00	05/09/2012	ND	2.09	104	2.00	5.50		
<b>Ethylbenzene*</b>	<b>212</b>	5.00	05/09/2012	ND	1.96	97.8	2.00	5.95		
<b>Total Xylenes*</b>	<b>338</b>	15.0	05/09/2012	ND	6.29	105	6.00	5.94		

Surrogate: Dibromofluoromethane 86.0 % 61.3-142

Surrogate: Toluene-d8 94.2 % 71.3-129

Surrogate: 4-Bromofluorobenzene 88.3 % 65.7-141

TPH 8015M		mg/kg		Analyzed By: MS							S-06
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier		
<b>GRO C6-C10</b>	<b>5240</b>	50.0	05/09/2012	ND	183	91.3	200	5.05			
<b>DRO &gt;C10-C28</b>	<b>1720</b>	50.0	05/09/2012	ND	173	86.7	200	3.21			

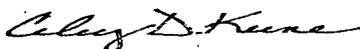
Surrogate: 1-Chlorooctane 188 % 55.5-154

Surrogate: 1-Chlorooctadecane 128 % 57.6-158

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\*=Accredited Analyte

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Celey D. Keene, Lab Director/Quality Manager

**Analytical Results For:**

 Yates Energy Petroleum Corp  
 AMBER CANNON  
 105 S 4th Street  
 Artesia NM, 88210  
 Fax To: (505) 748-4635

Received:	05/03/2012	Sampling Date:	05/01/2012
Reported:	05/10/2012	Sampling Type:	Soil
Project Name:	HAWKINS GY BATTERY	Sampling Condition:	Cool & Intact
Project Number:	30-015-21940	Sample Received By:	Jodi Henson
Project Location:	EDDY COUNTY, NM		

**Sample ID: B 7 (H201013-04)**

BTEX 8260B		mg/kg		Analyzed By: CMS						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
<b>Benzene*</b>	<b>6.48</b>	5.00	05/09/2012	ND	2.24	112	2.00	3.94		
<b>Toluene*</b>	<b>100</b>	5.00	05/09/2012	ND	2.09	104	2.00	5.50		
<b>Ethylbenzene*</b>	<b>97.1</b>	5.00	05/09/2012	ND	1.96	97.8	2.00	5.95		
<b>Total Xylenes*</b>	<b>160</b>	15.0	05/09/2012	ND	6.29	105	6.00	5.94		

Surrogate: Dibromofluoromethane 86.5 % 61.3-142

Surrogate: Toluene-d8 94.5 % 71.3-129

Surrogate: 4-Bromofluorobenzene 88.9 % 65.7-141

TPH 8015M		mg/kg		Analyzed By: MS						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
<b>GRO C6-C10</b>	<b>2080</b>	10.0	05/09/2012	ND	183	91.3	200	5.05		
<b>DRO &gt;C10-C28</b>	<b>807</b>	10.0	05/09/2012	ND	173	86.7	200	3.21		

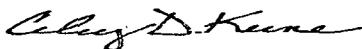
Surrogate: 1-Chlorooctane 134 % 55.5-154

Surrogate: 1-Chlorooctadecane 97.2 % 57.6-158

Cardinal Laboratories

\* = Accredited Analyte

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Celey D. Keene, Lab Director/Quality Manager

**Analytical Results For:**

 Yates Energy Petroleum Corp  
 AMBER CANNON  
 105 S 4th Street  
 Artesia NM, 88210  
 Fax To: (505) 748-4635

Received:	05/03/2012	Sampling Date:	05/01/2012
Reported:	05/10/2012	Sampling Type:	Soil
Project Name:	HAWKINS GY BATTERY	Sampling Condition:	Cool & Intact
Project Number:	30-015-21940	Sample Received By:	Jodi Henson
Project Location:	EDDY COUNTY, NM		

**Sample ID: B 8 (H201013-05)**

BTEX 82608		mg/kg		Analyzed By: CMS						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
Benzene*	<5.00	5.00	05/09/2012	ND	2.24	112	2.00	3.94		
Toluene*	54.7	5.00	05/09/2012	ND	2.09	104	2.00	5.50		
Ethylbenzene*	73.1	5.00	05/09/2012	ND	1.96	97.8	2.00	5.95		
<b>Total Xylenes*</b>	<b>125</b>	15.0	05/09/2012	ND	6.29	105	6.00	5.94		

Surrogate Dibromofluoromethane 85.5 % 61.3-142

Surrogate: Toluene-d8 97.1 % 71.3-129

Surrogate: 4-Bromofluorobenzene 89.6 % 65.7-141

TPH 8015M		mg/kg		Analyzed By: MS						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
GRO C6-C10	1590	10.0	05/09/2012	ND	183	91.3	200	5.05		
DRO >C10-C28	781	10.0	05/09/2012	ND	173	86.7	200	3.21		

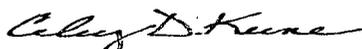
Surrogate 1-Chlorooctane 146 % 55.5-154

Surrogate: 1-Chlorooctadecane 107 % 57.6-158

Cardinal Laboratories

\* = Accredited Analyte

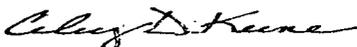
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Celey D. Keene, Lab Director/Quality Manager

**Notes and Definitions**

- S-06            The recovery of this surrogate is outside control limits due to sample dilution required from high analyte concentration and/or matrix interference's.
- ND             Analyte NOT DETECTED at or above the reporting limit
- RPD            Relative Percent Difference
- \*\*              Samples not received at proper temperature of 6°C or below.
- \*\*\*             Insufficient time to reach temperature.
- Chloride by SM4500C-B does not require samples be received at or below 6°C  
Samples reported on an as received basis (wet) unless otherwise noted on report



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Celey D. Keene, Lab Director/Quality Manager





PHONE (575) 393-2326 • 101 E. MARLAND • HOBBS, NM 88240

June 12, 2012

AMBER CANNON

Yates Energy Petroleum Corp

105 S 4th Street

Artesia, NM 88210

RE: HAWKINS GY BATTERY

Enclosed are the results of analyses for samples received by the laboratory on 06/07/12 10:00.

Cardinal Laboratories is accredited through Texas NELAP under certificate number T104704398-11-3. Accreditation applies to drinking water, non-potable water and solid and chemical materials. All accredited analytes are denoted by an asterisk (\*). For a complete list of accredited analytes and matrices visit the TCEQ website at [www.tceq.texas.gov/field/qa/lab\\_accred\\_certif.html](http://www.tceq.texas.gov/field/qa/lab_accred_certif.html).

Cardinal Laboratories is accredited through the State of Colorado Department of Public Health and Environment for:

Method EPA 552.2	Haloacetic Acids (HAA-5)
Method EPA 524.2	Total Trihalomethanes (TTHM)
Method EPA 524.4	Regulated VOCs (V1, V2, V3)

Accreditation applies to public drinking water matrices.

This report meets NELAP requirements and is made up of a cover page, analytical results, and a copy of the original chain-of-custody. If you have any questions concerning this report, please feel free to contact me.

Sincerely,

A handwritten signature in cursive script that reads 'Celey D. Keene'.

Celey D. Keene

Lab Director/Quality Manager

**Analytical Results For:**

 Yates Energy Petroleum Corp  
 AMBER CANNON  
 105 S 4th Street  
 Artesia NM, 88210  
 Fax To: (505) 748-4635

Received:	06/07/2012	Sampling Date:	06/04/2012
Reported:	06/12/2012	Sampling Type:	Soil
Project Name:	HAWKINS GY BATTERY	Sampling Condition:	Cool & Intact
Project Number:	30-015-21940	Sample Received By:	Jodi Henson
Project Location:	EDDY COUNTY, NM		

**Sample ID: E SW - 1 (H201274-01)**

BTX 8021B		mg/kg		Analyzed By: ZZZ					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Benzene*	<0.050	0.050	06/09/2012	ND	1.71	85.3	2.00	4.32	
Toluene*	<0.050	0.050	06/09/2012	ND	1.71	85.5	2.00	3.11	
Ethylbenzene*	<0.050	0.050	06/09/2012	ND	1.74	86.8	2.00	3.06	
Total Xylenes*	<0.150	0.150	06/09/2012	ND	5.25	87.6	6.00	2.52	

Surrogate 4-Bromofluorobenzene (PID) 101 % 89 4-126

TPH 8015M		mg/kg		Analyzed By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10	<10.0	10.0	06/08/2012	ND	182	91.1	200	4.54	
DRO >C10-C28	<10.0	10.0	06/08/2012	ND	184	92.2	200	7.32	

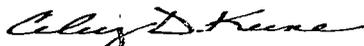
Surrogate 1-Chlorooctane 79.4 % 65 2-140

Surrogate 1-Chlorooctadecane 93.2 % 63 6-154

Cardinal Laboratories

\*=Accredited Analyte

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Celey D. Keene, Lab Director/Quality Manager

**Analytical Results For:**

 Yates Energy Petroleum Corp  
 AMBER CANNON  
 105 S 4th Street  
 Artesia NM, 88210  
 Fax To: (505) 748-4635

Received:	06/07/2012	Sampling Date:	06/04/2012
Reported:	06/12/2012	Sampling Type:	Soil
Project Name:	HAWKINS GY BATTERY	Sampling Condition:	Cool & Intact
Project Number:	30-015-21940	Sample Received By:	Jodi Henson
Project Location:	EDDY COUNTY, NM		

**Sample ID: S SW - 1 (H201274-02)**

BTEX 8021B		mg/kg		Analyzed By: ZZZ					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Benzene*	<0.050	0.050	06/11/2012	ND	1.71	85.3	2.00	4.32	
Toluene*	<0.050	0.050	06/11/2012	ND	1.71	85.5	2.00	3.11	
Ethylbenzene*	<0.050	0.050	06/11/2012	ND	1.74	86.8	2.00	3.06	
Total Xylenes*	<0.150	0.150	06/11/2012	ND	5.25	87.6	6.00	2.52	

Surrogate: 4-Bromofluorobenzene (PIE) 102 % 89.4-126

TPH 8015M		mg/kg		Analyzed By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10	<10.0	10.0	06/08/2012	ND	182	91.1	200	4.54	
DRO >C10-C28	<10.0	10.0	06/08/2012	ND	184	92.2	200	7.32	

Surrogate 1-Chlorooctane 84.4 % 65.2-140

Surrogate 1-Chlorooctadecane 98.9 % 63.6-154

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Celey D. Keene, Lab Director/Quality Manager

**Analytical Results For:**

 Yates Energy Petroleum Corp  
 AMBER CANNON  
 105 S 4th Street  
 Artesia NM, 88210  
 Fax To: (505) 748-4635

Received:	06/07/2012	Sampling Date:	06/04/2012
Reported:	06/12/2012	Sampling Type:	Soil
Project Name:	HAWKINS GY BATTERY	Sampling Condition:	Cool & Intact
Project Number:	30-015-21940	Sample Received By:	Jodi Henson
Project Location:	EDDY COUNTY, NM		

**Sample ID: N SW - 1 (H201274-03)**

BTEX 8021B		mg/kg		Analyzed By: ZZZ					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Benzene*	<0.050	0.050	06/09/2012	ND	1.71	85.3	2.00	4.32	
Toluene*	<0.050	0.050	06/09/2012	ND	1.71	85.5	2.00	3.11	
Ethylbenzene*	<0.050	0.050	06/09/2012	ND	1.74	86.8	2.00	3.06	
Total Xylenes*	<0.150	0.150	06/09/2012	ND	5.25	87.6	6.00	2.52	

Surrogate: 4-Bromofluorobenzene (PIC) 100 % 89.4-126

TPH 8015M		mg/kg		Analyzed By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10	<10.0	10.0	06/08/2012	ND	182	91.1	200	4.54	
DRO >C10-C28	<10.0	10.0	06/08/2012	ND	184	92.2	200	7.32	

Surrogate: 1-Chlorooctane 83.7 % 65.2-140

Surrogate: 1-Chlorooctadecane 101 % 63.6-154

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Celey D. Keene, Lab Director/Quality Manager

**Analytical Results For:**

 Yates Energy Petroleum Corp  
 AMBER CANNON  
 105 S 4th Street  
 Artesia NM, 88210  
 Fax To: (505) 748-4635

Received:	06/07/2012	Sampling Date:	06/04/2012
Reported:	06/12/2012	Sampling Type:	Soil
Project Name:	HAWKINS GY BATTERY	Sampling Condition:	Cool & Intact
Project Number:	30-015-21940	Sample Received By:	Jodi Henson
Project Location:	EDDY COUNTY, NM		

**Sample ID: B9 (H201274-04)**

BTEX 80218		mg/kg		Analyzed By: ZZZ					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Benzene*	<0.050	0.050	06/09/2012	ND	1.71	85.3	2.00	4.32	
Toluene*	<0.050	0.050	06/09/2012	ND	1.71	85.5	2.00	3.11	
Ethylbenzene*	<0.050	0.050	06/09/2012	ND	1.74	86.8	2.00	3.06	
Total Xylenes*	<0.150	0.150	06/09/2012	ND	5.25	87.6	6.00	2.52	

Surrogate 4-Bromofluorobenzene (PIL) 98.8 % 89.4-126

TPH 8015M		mg/kg		Analyzed By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10	<10.0	10.0	06/08/2012	ND	182	91.1	200	4.54	
DRO >C10-C28	<10.0	10.0	06/08/2012	ND	184	92.2	200	7.32	

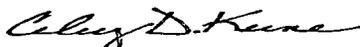
Surrogate 1-Chlorooctane 87.4 % 65.2-140

Surrogate: 1-Chlorooctadecane 102 % 63.6-154

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Celey D. Keene, Lab Director/Quality Manager

**Analytical Results For:**

 Yates Energy Petroleum Corp  
 AMBER CANNON  
 105 S 4th Street  
 Artesia NM, 88210  
 Fax To: (505) 748-4635

Received:	06/07/2012	Sampling Date:	06/04/2012
Reported:	06/12/2012	Sampling Type:	Soil
Project Name:	HAWKINS GY BATTERY	Sampling Condition:	Cool & Intact
Project Number:	30-015-21940	Sample Received By:	Jodi Henson
Project Location:	EDDY COUNTY, NM		

**Sample ID: B10 (H201274-05)**

BTEX 8021B		mg/kg		Analyzed By: ZZZ					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Benzene*	<0.050	0.050	06/11/2012	ND	1.71	85.3	2.00	4.32	
Toluene*	<b>0.086</b>	0.050	06/11/2012	ND	1.71	85.5	2.00	3.11	
Ethylbenzene*	<b>0.076</b>	0.050	06/11/2012	ND	1.74	86.8	2.00	3.06	
Total Xylenes*	<b>0.157</b>	0.150	06/11/2012	ND	5.25	87.6	6.00	2.52	

Surrogate 4-Bromofluorobenzene (PIC) 105 % 89.4-126

TPH 8015M		mg/kg		Analyzed By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10	<10.0	10.0	06/08/2012	ND	182	91.1	200	4.54	
DRO >C10-C28	<10.0	10.0	06/08/2012	ND	184	92.2	200	7.32	

Surrogate: 1-Chlorooctane 83.5 % 65.2-140

Surrogate: 1-Chlorooctadecane 96.0 % 63.6-154

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Celey D. Keene, Lab Director/Quality Manager

**Notes and Definitions**

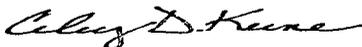
- ND Analyte NOT DETECTED at or above the reporting limit
- RPD Relative Percent Difference
- \*\* Samples not received at proper temperature of 6°C or below.
- \*\*\* Insufficient time to reach temperature.
- Chloride by SM4500Cl-B does not require samples be received at or below 6°C  
Samples reported on an as received basis (wet) unless otherwise noted on report

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