Remediation Proposal – imaged out of sequence – incident is closed

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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October 10, 2011

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

Re:

Graham AKB State #8

30-015-31913

Section 2, T22S-R31E Eddy County, New Mexico

RECEIVED OCT 11 2011 NMOCD ARTESIA

Dear Mr. Bratcher:

Yates Petroleum Corporation is submitting the enclosed work plan for the above captioned well. The plan is being submitted in response to the C-141 report dated August 11, 2011.

If there are no objections with the scope of work described in the plan, Yates will have a contractor begin work on or after the week of October 10, 2011.

If you have any questions call me at (575) 748-4111

Thank you.

YATES PETROLEUM CORPROATION

Amber Cannon

**Environmental Regulatory Agent** 

Enclosure(s)

Yates Petroleum Corporation

Graham AKB State #8 Work Plan

Section 2, T22S-R31E

Eddy County, New Mexico

October 10, 2011

#### I. Location

The well is located approximately 34 miles southwest of Eunice, NM and 10 miles east of County Road 31, as represented by the attached Livingston Ridge, NM, USGS Quadrangle Map.

#### II. Background

On August 19, 2011, Yates submitted to the NMOCD District II office, via facsimile, a Form C-141 for a release of 42 B/PW & 6 B/O with no oil or produced water recovered. The total affected area is approximately 20 feet by 50 feet area. Initial delineation samples were taken (8/12/2011 and 9/13/2011) and sent to an NMOCD approved laboratory (results enclosed).

#### III. Surface and Ground Water

Area surface geology is Cenozoic. The nearest groundwater of record is listed on the trend map and shows depth to groundwater approximately 124 feet making the site ranking for this site a zero (0). Watercourses in the area are dry except for infrequent flows in response to major precipitation events.

The ranking for this site is zero (0) based on the as following:

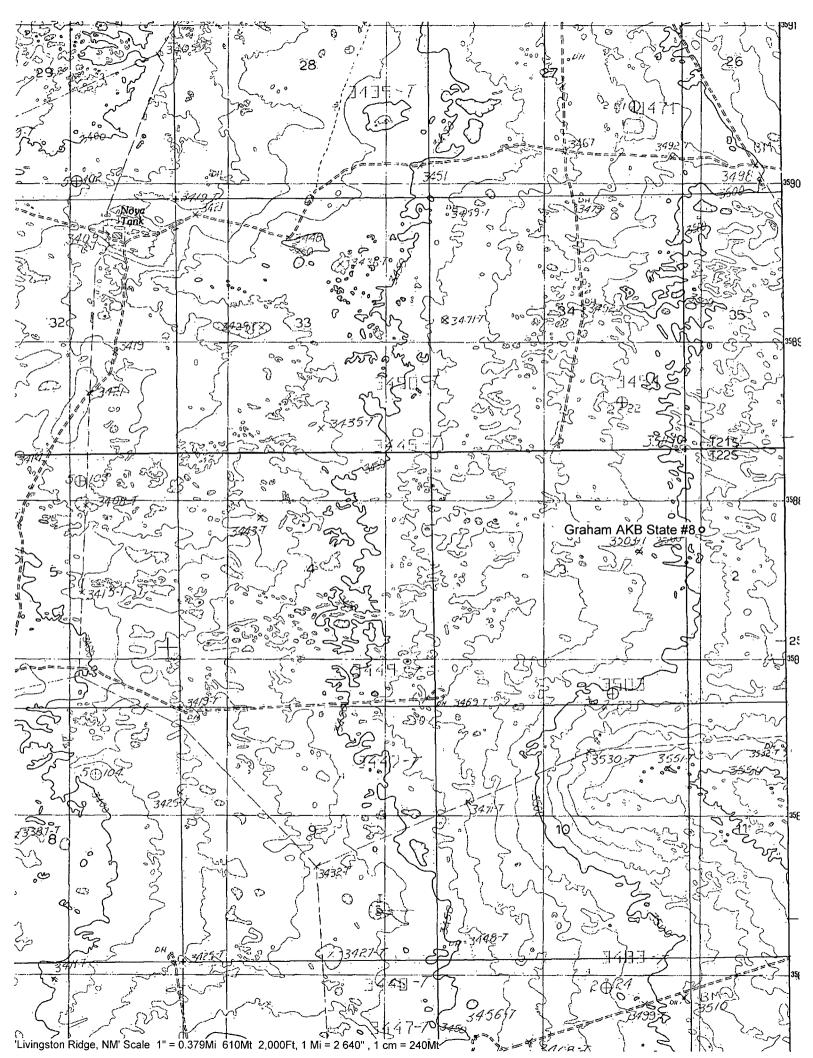
Depth to ground water > 100'
Wellhead Protection Area > 1000'
Distance to surface water body > 1000'

#### IV. Soils

The area consists of soils that are caliche and interspersed with clay seams providing a low permeability barrier to retard vertical percolation of contaminants into the subsurface.

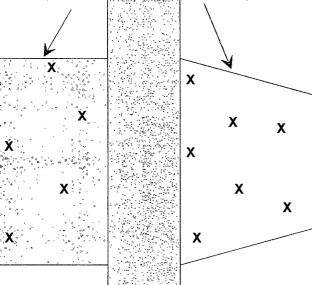
### V. Scope of Work

Based on analytical results, Yates Petroleum Corporation will have a contractor excavate three (3) feet of impacted soils from section "A" (noted in yellow on site diagram); impacted soils will be taken to an NMOCD approved facility for disposal. Based on these same analytical results, Yates Petroleum Corporation will not take further delineation samples as analytical results are within the RRAL's for BTEX (50 ppm) and TPH (5000 ppm) for the Total Ranking Score of zero (0). Also, chloride levels are at acceptable levels at four (4) feet. When excavation work has been completed, Yates Petroleum Corporation will submit a C-141, Final Report, analytical results and a site sample diagram and request closure of the site. Upon Final C-141 approval the excavation will be backfilled with clean, like materials.





Release/Excavation Area (contamainated soils scraped from surface)



Production Pad Graham AKB State #8

Pumping Unit

Lease Road

Analytical Report- 425794 & 425795	Sample Area	Sample Date	Sample Type	Depth	BTEX*	GRO	DRO	TOTAL	Chlorides:
1.72,0,004, 0.420,100,00	. ಸಿ.ಎ. ಕ್ರೌ.ಎ. ಕ್ರಿಎ.	Gearlibio.bara.	oʻgʻilibio: i ybo	W. W. P. OP CO. CO.	E-10 1-10 1-2	0.10	51.0	101712	A Lots and the contract of
Comp-01.0A	Release Area	8/12/2011	Comp/Auger	1'	3.29	203	1020	1220	4,470
Comp-02.0A	Release Area	8/12/2011	Comp/Auger	2'	0.204	64.2	632	696	5,360
Comp-03.0A	Release Area	8/12/2011	Comp/Auger	3'	ND	ND	106	106	5,560
Comp-01:0B	Release Area	8/12/2011	Comp/Auger	1'	ND	ND	296	296	942
Comp-02.0B	Release Area	8/12/2011	Comp/Auger	2'	ND	ND	55.1	55.1	218

Site Ranking is ZERO (0). Depth to Ground Water >100' (approx. 124').

All results are ppm.Chlorides for documentation. X - Sample Points

Released: 42 B/PW, 6 B/O; Recovered: 0 B/PW, 0 B/O. Release Date: 8/7/2011



**Graham AKB State #8** 

30-015-31913

Section 2, T22S-R31E

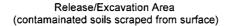
**Eddy County, NM** 

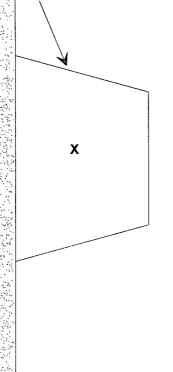
**SAMPLE DIAGRAM(Not to Scale)** 

Xenco Laboratories# 425794 & 425795 Report Date: 8/24/2011

Prepared by Amber Cannon Environmental Regulatory Agent Trainee







Production Pad Graham AKB State #8

Pumping:Unit

Гe	ase	Roa	ď	,

Analytical Report- 427563	Sample Area	Sample Date	Sample Type	Depth	BTEX GRO DRO TOTAL	Chlorides
Grab-04.0	Release Area	9/13/2011	Grab/Backhoe	4'	ANALYSIS NOT CONDUCTED AS	1,780
Grab-05.0	Release Area	9/13/2011	Grab/Backhoe	5'	YATES WAS IN LIMITS FROM	39.9
Grab-06.0	Release Area	9/13/2011	Grab/Backhoe	6'	FIRST SAMPLES TAKEN 8/12/2011	7.7

Site Ranking is ZERO (0). Depth to Ground Water >100' (approx. 124').

All results are ppm.Chlorides for documentation.  $\ensuremath{\textbf{X}}$  -  $\ensuremath{\textbf{Sample Points}}$ 

Released: 42 B/PW, 6 B/O; Recovered: 0 B/PW, 0 B/O. Release Date: 8/7/2011



**Graham AKB State #8** 

30-015-31913

Section 2, T22S-R31E

**Eddy County, NM** 

**SAMPLE DIAGRAM(Not to Scale)** 

Xenco Laboratories# 427563 Report Date: 9/21/2011

Prepared by Amber Cannon Environmental Regulatory Agent Trainee

# NED P

# **Analytical Report 425794**

# for Yates Petroleum Corporation

Project Manager: Amber Cannon Graham AKB State # 8 30-015-31913 24-AUG-11

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 (AALII), 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)

Page 1 of 18 Final 1.000









24-AUG-11

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

Reference: XENCO Report No: 425794

Graham AKB State # 8
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 425794. 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. 425794 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 425794**

### Yates Petroleum Corporation, Artesia, NM

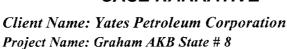
Graham AKB State # 8

Sample Id	Matrix	<b>Date Collected</b>	Sample Depth	Lab Sample Id
Comp-01.0 A	S	08-12-11 11:27	1 - 1 ft	425794-001
Comp-02.0 A	S	08-12-11 11:54	2 - 2 ft	425794-002
Comp-03.0 A	S	08-12-11 12:33	3 - 3 ft	425794-003
Comp-01.0 B	S	08-12-11 13:17	1 - 1 ft	425794-004
Comp-02.0 B	S	08-12-11 13:37	2 - 2 ft	425794-005



#### CASE NARRATIVE





Project ID:

30-015-31913

Work Order Number: 425794

Report Date: 24-AUG-11

Date Received: 08/16/2011

#### Sample receipt non conformances and comments:

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

None

#### Analytical non nonformances and comments:

Batch: LBA-867727 TPH By SW8015B Mod SW8015B NM

Batch 867727, 1-Chlorocctane recovered above QC limits Data not confirmed by re-analysis. Samples affected are: 610130-1-BKS,610130-1-BLK,610130-1-BSD,425870-001 SD.

#### SW8015B\_NM

Batch 867727, C10-C28 Diesel Range Hydrocarbons recovered below QC limits in the Matrix Spike.

Samples affected are: 425794-003, -004, -002, -001, -005.

The Laboratory Control Sample for C10-C28 Diesel Range Hydrocarbons is within laboratory Control Limits

Batch: LBA-867872 BTEX by EPA 8021B

SW8021BM

Batch 867872, 4-Bromofluorobenzene recovered above QC limits. Matrix interferences is suspected; data not confirmed by re-analysis Samples affected are: 425689-001 S,425689-001 SD.

#### SW8021BM

Batch 867872, Benzene, Ethylbenzene, Toluene, m\_p-Xylenes, o-Xylene recovered below QC limits in the Matrix Spike and Matrix Spike Duplicate.

Samples affected are: 425794-004, -005.

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

Final 1 000



### CASE NARRATIVE





Client Name: Yates Petroleum Corporation

Project Name: Graham AKB State # 8



Project ID:

30-015-31913

Work Order Number: 425794

Report Date: 24-AUG-11

Date Received: 08/16/2011

Batch: LBA-868086 BTEX by EPA 8021B

SW8021BM

Batch 868086, 1,4-Difluorobenzene recovered below QC limits . Matrix interferences is suspected; data confirmed by re-analysis

Samples affected are: 425794-001.

4-Bromofluorobenzene recovered above QC limits . Matrix interferences is suspected; data

confirmed by re-analysis

Samples affected are: 425794-002,425794-001.

Final 1.000



# Certificate of Analysis Summary 425794

### Yates Petroleum Corporation, Artesia, NM



Project Id: 30-015-31913

Project Location: Eddy County

Contact: Amber Cannon

Project Name: Graham AKB State #8

Date Received in Lab: Tue Aug-16-11 09:50 am Report Date: 24-AUG-11

Project Manager: Brent Barron II

								r i uject ivia	nager.	Brem Banon	11	
	Lab Id:	425794-0	001	425794-0	002	425794-0	003	425794-0	004	425794-0	005	
Annhair Banasatud	Field Id:	Comp-01	0 A	Comp-02.	0 A	Comp-03	.0 A	Comp-01	.0 B	Comp-02	.0 B	
Analysis Requested	Depth:	1-1 ft		2-2 ft		3-3 ft		1-1 ft		2-2 ft		
	Matrix:	SOIL		SOIL		SOIL	,	SOIL		SOIL		
	Sampled:	Aug-12-11	11.27	Aug-12-11	11.54	Aug-12-11	12:33	Aug-12-11	13 17	Aug-12-11	13·37	
BTEX by EPA 8021B	Extracted:	Aug-23-11	11.00	Aug-23-11	11 00	Aug-23-11	11 00	Aug-19-11	16 00	Aug-19-11	16 00	
	Analyzed:	Aug-23-11	19.20	Aug-23-11	15 54	Aug-23-11	16 17	Aug-20-11	05 25	Aug-20-11	05 48	
	Units/RL:	mg/kg	RL	mg/kg	RL	mg/kg	RL	mg/kg	RL	mg/kg	RL	
Benzene		0 0223	0 0205	ND	0 00106	ND	0.00103	ND	0 00103	ND	0 00102	
Toluene		0 0497	0 0409	ND	0 00212	ND	0 00207	ND	0 00206	ND	0 00205	
Ethylbenzene		0 642	0.0205	0 0326	0 00106	ND	0 00103	ND	0 00103	ND	0 00102	
m_p-Xylenes		2 02	0 0-109	0.111	0 00212	ND	0.00207	ND	0 00206	ND	0.00205	
o-Xylene		0 559	0 0205	0 0602	0.00106	ND	0.00103	ND	0 00103	ND	0 00102	
Total Xylenes		2.58	0 0205	0 171	0 00106	ND	0 00103	ND	0 00103	ND	0 00102	
Total BTEX		3.29	0 0205	0 204	0 00106	ND	0 00103	ND	0 00103	ND	0 00102	
Percent Moisture	Extracted:											
	Analyzed:	Aug-16-11	11 15	Aug-16-11	11-15	Aug-16-11	11 15	Aug-16-11	11 15	Aug-16-11	11.15	
	Units/RL:	%	RL	%	RL	%	RL	%	RL	%	RL	
Percent Moisture		3.03	1.00	5 26	1 00	3.02	1.00	3 20	1 00	1 88	1 00	
TPH By SW8015B Mod	Extracted:	Aug-17-11	16 00	Aug-17-11	16:00	Aug-17-11	16:00	Aug-17-11	16.00	Aug-17-11	16 00	
	Analyzed:	Aug-18-11	12:34	Aug-18-11	13 02	Aug-18-11	13.30	Aug-18-11	13:59	Aug-18-11	14.27	
	Units/RL:	mg/kg	RL	mg/kg	RL	mg/kg	RL	nıg/kg	RL	mg/kg	RL	
C6-C10 Gasoline Range Hydrocarbons		203	15 5	64.2	15.8	ND	15 5	ND	15 5	ND	15.3	
C10-C28 Diesel Range Hydrocarbons		1020	15.5	632	15.8	106	15 5	296	15 5	55 1	15.3	
Total TPH		1220	15 5	696	15.8	106	15 5	296	15.5	55 1	15.3	

Page 6 of 18

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

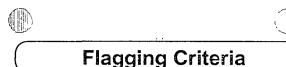












- X In our quality control review of the data a QC deficiency was observed and flagged as noted. MS/MSD recoveries were found to be outside of the laboratory control limits due to possible matrix /chemical interference, or a concentration of target analyte high enough to affect the recovery of the spike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

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#### CHAIN OF CUSTODY RECORD AND ANALYSIS REQUEST

12600 West I-20 East Odessa, Texas 79765 Phone: 432-563-1800 Fax: 432-563-1713

	Project Manager:	Amber Can	non															Proj	ect	Name	: <u>G</u>	rah	an	ı Al	<b>(B</b>	St	ate	#8				
	Company Name	Yates Petro	oleum Corpora	ition										<b></b>					Pro	ject #	t: <u>30</u>	-01	5-31	1913	3							
	Company Address:	105 South	4th Street															Pr	ojec	t Loc	:: <u>Ed</u>	dy C	ount	y	_							
	City/State/Zip:	Artesia, NM	88210								_									PO #	: 10	3202	0									
	Telephone No:	575-748-41	11				_ Fax No:		575	-748	3-458	35					Re	eport	Forn	nat:	×	Sta	ndar	ď		]	TRR	ь		NP	DES	3
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ORDER	1#: 425794	1425	195							F	reser	vation	8#0	of Con	tainer	s	Ма	trix	28	T	TC	TAL.	Se	-	+	9					48, 72 hrs	
.AB # (lab use only)		D CODE		Beginning Depth	Ending Depth	Date Sampled	Time Sampled	Field Filtered	Total # of Contamers	<u>əc</u>	HNO <sub>3</sub>	J.	HOSEN HOSEN	Na <sub>2</sub> S <sub>2</sub> O <sub>3</sub>	Nane	Other ( Specify)	DW=Drinking Water SL≈Siudge GW = Groundwater S≅Sudge	on-Potable S	418 1 8015M	Cations (Ca Mo Na K)	04, Alke		ks Ag Ba Cd Cr Pb Hg	Volatiles	platties	BTEX 8021B/5030 or BTEX 8260	RCI	N O R M	0000	ı	e-Schedule) 24.	Standard TAT
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#### 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 Pa

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

Client: 19105	Petroleur	M					
Date/Time: 8:11		50					
Lab ID#: 4入	2794 / 430	57°	15				
Initials:	UE						
		s	ample Receipt Check	list			
1. Samples on ice?				Blue	Water	No	
2. Shipping container in	n good condition?			Yes	No	None	
3. Custody seals intact		er (co	poler) and bottles?	(Yes)	No	N/A	
4. Chain of Custody pro	esent?			Yes	No		
5. Sample instructions	complete on chain o	f cus	tody?	Yes	No		
6. Any missing / extra s	samples?			Yes	(No		
7. Chain of custody sig	ned when relinquish	ed / r	eceived?	Yes	No		
8. Chain of custody ag	rees with sample lab	el(s)?	>	(Yes)	No		
9. Container labels leg	ble and intact?	~·		Yes	No		
10. Sample matrix / pro	perties agree with c	hain d	of custody?	Yes	No		
11. Samples in proper	container / bottle?			Yes	No		
12. Samples properly p	reserved?			(Yes)	No	N/A	
13. Sample container is	ntact?		<del></del>	(Yes)	No		
14. Sufficient sample a	mount for indicated	test(s	s)?	Yes	No		
15. All samples receive	ed within sufficient h	old ti	me?	Yes	No		
16. Subcontract of san	iple(s)?			Yes	No	N/A <sub>3</sub>	
17. VOC sample have a	ero head space?		<del>-</del>	(Yes)	No	N/A	
18. Cooler 1 No.	Cooler 2 No.		Cooler 3 No.	Cooler 4 N	o.	Cooler 5 No.	
lbs ().	C lbs	°C	lbs °C	lbs	°c	lbs	°c
_	ľ	Vond	conformance Docume	entation			
Contact:	Contac	ted b	v:		Date/Time:		
				<del></del>			
Regarding:							
Corrective Action Take	en:						· · · · · · · · · · · · · · · · · · ·
Chack all that analy	FiCapling						
Check all that apply:	condition a	nas b ccept	egun shortly after sampling able by NELAC 5.5.8.3.1.a.1	g event and ( I.	out of temper	ature	
			perature confirm out of ten		nditions		

Final 1.000

☐ Client understands and would like to proceed with analysis

# **Analytical Report 425795**

# for Yates Petroleum Corporation

Project Manager: Amber Cannon Graham AKB State # 8 30-015-31913 24-AUG-11

Collected By: Client



Celebrating 20 Years of commitment to excellence in Environmental Testing Services



#### 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 (AALII), 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)









24-AUG-11

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

Reference: XENCO Report No: 425795

Graham AKB State # 8
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 425795. 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. 425795 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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### Yates Petroleum Corporation, Artesia, NM

Graham AKB State # 8

Sample Id	Matrix	Date Collected	Sample Depth	Lab Sample Id
Comp-01.0 A	S	08-12-11 11:27	1 - 1 ft	425795-001
Comp-02.0 A	S	08-12-11 11:54	2 - 2 ft	425795-002
Comp-03.0 A	S	08-12-11 12:33	3 - 3 ft	425795-003
Comp-01.0 B	S	08-12-11 13:17	1 - 1 ft	425795-004
Comp-02 0 B	S	08-12-11 13:37	2 - 2 ft	425795-005



### CASE NARRATIVE





Client Name: Yates Petroleum Corporation

Project Name: Graham AKB State # 8



Project ID:

30-015-31913

Work Order Number: 425795

Report Date: 24-AUG-11 Date Received: 08/16/2011

Sample receipt non conformances and comments:

None

Sample receipt non conformances and comments per sample:

None

Analytical non nonformances and comments:

Batch: LBA-867919 Anions by E300

E300MI

Batch 867919, Chloride recovered above QC limits in the Matrix Spike.

Samples affected are: 425795-003, -001, -002, -005, -004.

The Laboratory Control Sample for Chloride is within laboratory Control Limits

Final 1.000



# Certificate of Analysis Summary 425795

### Yates Petroleum Corporation, Artesia, NM





Project Id: 30-015-31913

Project Name: Graham AKB State #8

Contact: Amber Cannon

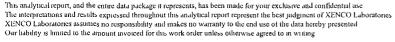
Project Location: Eddy County

Date Received in Lab: Tue Aug-16-11 09:50 am

Report Date: 24-AUG-11

Project Manager: Brent Barron II

								1 roject win	mager.	Dient Banon I	*	
	Lab Id:	425795-0	001	425795-0	02	425795-0	03	425795-0	04	425795-0	05	
Analusta Danasatad	Field Id:	Comp-01	0 A	Comp-02.0	) А 📗	Comp-03	0 A	Comp-01	0 B	Comp-02.	0 В	
Analysis Requested	Depth:	1-1 ft		2-2 ft		3-3 ft		1-1 ft		2-2 ft		
	Matrix:	SOIL		SOIL		SOIL		SOIL		SOIL		
	Sampled:	Aug-12-11	11 27	Aug-12-11 1	1.54	Aug-12-11 1	12:33	Aug-12-11	13·17	Aug-12-11 1	3 37	
Anions by E300	Extracted:											
	Analyzed:	Aug-20-11	11:00	Aug-20-11 l	1 00	Aug-20-11 l	11.00	Aug-20-11	1.00	Aug-20-11 1	1 00	
	Units/RL:	mg/kg	RL	mg/kg	RL	mg/kg	RL	nıg/kg	RL	mg/kg	RL	
Chloride		4470	86 6	5360	88.7	5560	86,6	942	21.7	218	21.4	
Percent Moisture	Extracted:											
	Analyzed:	Aug-16-11	11 15	Aug-16-11 1	1.15	Aug-16-11 1	1:15	Aug-16-11 1	1.15	Aug-16-11 1	1.15	
	Units/RL:	%	RL	%	RL	%	RL	%	RL	%	RL	
Percent Moisture		3.03	1 00	5 26	1.00	3 02	1.00	3 20	1 00	1.88	1 00	



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Brent Barron II Odessa Laboratory Manager

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### **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 quantiation 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.
- 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.

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12600 West I-20 East Odessa, Texas 79765 Phone: 432-563-1800 Fax: 432-563-1713

	Project Manager:	Amber Can	non														_	Pro	ject	Nar	ne:	Gr	aha	am	AK	B	Sta	te i	<b>#8</b>			
	Company Name	Yates Petro	leum Corpora	ation													=		Pr	ojec	t #:	30-0	015	-319	)13							<u>.</u>
	Company Address	105 South 4	th Street	<b></b>													_	P	roje	ct L	oc:	Eddy	у Со	unty								
	City/State/Zip:	Artesia, NM	88210																	PC	) #:	1032	2020	)								
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LAB # (lab use only)	FIEL	.D CODE		Beginning Depth	Ending Depth	Date Sampled	Time Sampled	Field Filtered	Total # of Containers	lce	HNO <sub>3</sub>	<u> </u>	H2504	NaOH NavSrD*	None	Other ( Specify)	DW=Drnking Water SL=Sudge GW = Groundwater S=SoutSclid		TPH 4181 8015M	Ť		Anions (Cl, SO4, Alkalinfty)	- [	Metals. As Ag Ba Cd Cr Pb	Votatiles	/5030 or		NORM	Chlorides		RUSH TAT (Pre-Schedule)	Standard TAT
	Com	p-01.0 A		1'	1'	8/12/2011	11:27 AM		1	Х							s	_	х							X	<u> </u>		х		I	×
25	Com	p-02.0 A		2'	2'	8/12/2011	11:54 AM		1	х							9		х						$\perp$	X	<u> </u>	_	x		$\perp$	×
2.5	Com	p-03.0 A	· — · · · · ·	3'	3'	8/12/2011	12:33 PM		1	×		_	1	_	_	_	S		х	_	_	4	_		$\downarrow$	X	_	$\downarrow$	Х		_ _	×
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#### 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 Pa

# Prelogin / Nonconformance Report - Sample Log-In

client: Yates Petroleium			•		
Date/Time: 8:10:11 9:50			:		
Lab ID#: 420794 / 435795					
Initials:					
		• •			
Sample Receip	t Cnecki	IST			
1. Samples on ice?		Blue	Water	No	
2. Shipping container in good condition?		Yes	No	None	
3. Custody seals intact on shipping container (cooler) and bottles	?	(Yes)	No	N/A	
4. Chain of Custody present?		Yes	No		
5. Sample instructions complete on chain of custody?		Yes	No		
6. Any missing / extra samples?		Yes	No No		
7. Chain of custody signed when relinquished / received?		Yes	No		
8. Chain of custody agrees with sample label(s)?		(Yes)	No		
9. Container labels legible and intact?		Yes	No		
10. Sample matrix / properties agree with chain of custody?		Yes	No		
11. Samples in proper container / bottle?		(Yes)	No		
12. Samples properly preserved?		(Yes)	No	N/A	
13. Sample container intact?		(Yes)	No		
14. Sufficient sample amount for indicated test(s)?		Yes	No		
15. All samples received within sufficient hold time?		(Yes	No		
16. Subcontract of sample(s)?		Yes	No	(N/A)	
17. VOC sample have zero head space?		(Yes)	No	N/A	
18. Cooler 1 No. Cooler 2 No. Cooler 3 No.		Cooler 4 No	).	Cooler 5 No.	
Ibs (g.) °C Ibs °C Ibs	°c	lbs	°c	lbs	°C
Nonconformance	Docume	ntation			
			Data/Times	-	
Contacted by:			Date/Time:_		<del></del>
Regarding:					
Corrective Action Taken:					
Check all that apply:   Cooling process has begun shorth, after					<del></del>

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condition acceptable by NELAC 5.5.8.3.1.a.1.

☐ Client understands and would like to proceed with analysis

☐ Initial and Backup Temperature confirm out of temperature conditions



# **Analytical Report 427563**

# for Yates Petroleum Corporation

Project Manager: Amber Cannon Graham AKB State # 8 30-015-31913 21-SEP-11

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)

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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)

Page 1 of 11 Final 1 000









21-SEP-11

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

Reference: XENCO Report No: 427563

**Graham AKB State #8**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 427563. 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. 427563 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.

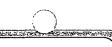
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# **Sample Cross Reference 427563**

# Yates Petroleum Corporation, Artesia, NM

Graham AKB State # 8

Sample Id	Matrix	<b>Date Collected</b>	Sample Depth	Lab Sample Id
Grab 04.0	S	09-13-11 09:05	4 - 4 ft	427563-001
Grab 05.0	S	09-13-11 09:10	5 - 5 ft	427563-002
Grab 06.0	S	09-13-11 09:15	6 - 6 ft	427563-003



### CASE NARRATIVE





Client Name: Yates Petroleum Corporation

Project Name: Graham AKB State #8



Project ID:

30-015-31913

Work Order Number: 427563

Report Date: 21-SEP-11 Date Received. 09/14/2011

Sample receipt non conformances and comments:

None

Sample receipt non conformances and comments per sample:

None

Final 1.000



Project Id: 30-015-31913

Project Location: Eddy County

Contact: Amber Cannon

# Certificate of Analysis Summary 427563

### Yates Petroleum Corporation, Artesia, NM

Project Name: Graham AKB State #8

Date Received in Lab: Wed Sep-14-11 09:30 am

Report Date: 21-SEP-11

Project Manager: Brent Barron II

								Troject Manager.	DIGIT Dation II	
	Lab Id:	427563-0	100	427563-0	02	427563-0	03			
Analysis Requested	Field Id:			Grab 05	0	Grab 06	.0			
Amalysis Requesieu	Depth:			5-5 ft		6-6 ft				
	Matrix:	SOIL		SOIL		SOIL				
	Sampled:	Sep-13-11	09:05	Sep-13-11 0	9:10	Sep-13-11 (	9:15			
Anions by E300	Extracted:									
	Analyzed:	Sep-15-11	18:54	Sep-15-11 1	8:54	Sep-15-11 1	18:54			
	Units/RL:	mg/kg	RL	mg/kg	RL	mg/kg	RL			
Chloride		1780	18.1	39 9	4 38	7.70	4.32			
Percent Moisture	Extracted:					•				
Analyzed:		Sep-14-11 13:15		Sep-14-11 13·15		Sep-14-11 13·15				
	Units/RL:	%	RL	%	RL	%	RL			
Percent Moisture		7 00	1 00	4 03	1 00	2.75	1 00	· ·		

Page 5 of 11



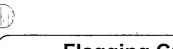
This analytical report, and the entire data package it represents, has been made for your exclusive and confidential use The interpretations and results expressed throughout this analytical report represent the best judgment of XENCO Laboratories XENCO Laboratories assumes no responsibility and makes no warranty to the end use of the data hereby presented Our hability 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 quantiation 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.

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.

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#### CHAIN OF CUSTODY RECORD AND ANALYSIS REQUEST

12600 West I-20 East Odessa, Texas 79765 Phone: 432-563-1800 Fax: 432-563-1713

	Project Manager:	Amber Cannon																Pro	oject	Nar	ne: _	Gra	haı	m A	KE	3 S1	tate	e #	8			
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LAB # (lab use only)	FIEL	.D CODE		Beginning Depth	Ending Depth	Date Sampled	Time Sampled	Field Filtered	Total # of Containers	ice .	HNO3	ΡĢ	H <sub>2</sub> SO <sub>4</sub>	NaOH	None	Other ( Specify)		GW = Groundwater S=Soil/Solid NP=Non-Potable Specify Other	418.1 8015M	TPH: TX 1005 TX 1008	Cations (Ca, Mg, Na, K)	Anions (Gl. SO4, Alkalinity)	Ca Ca Pa		Semivolatiles	/5030 or BTEX	RCI	NORM.	Chlorides		RUSH TAT (Pra-Schedule) 24, 48, 72 hrs	Standard TAT
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Final 1.000





#### **XENCO** Laboratories

Atlanta, Boca Raton, Corpus Christi, Dalias 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: Yests	Petroleum			•					
Date/Time: 9	14.11 9:30	)							
Lab ID#:	127563								
Initials:	Ü g								
		Sample Receipt Ch	ecklist						
1. Samples on ice?			Blue	Water	No				
2. Shipping container in	good condition?		Yes	No	None				
3. Custody seals intact	on shipping container (	cooler) and bottles?	CYES	No	N/A				
4. Chain of Custody pre	sent?		TES	TES No					
5. Sample instructions	complete on chain of cu	ıstody?	Yes	No					
6. Any missing / extra s	amples?		Yes	(No)					
7. Chain of custody sign	ned when relinquished	/ received?	Yes	No					
8. Chain of custody agr	ees with sample label(s	5)?	Yes	No					
9. Container labels legi	ble and intact?	(Yes)	No						
10. Sample matrix / pro	perties agree with chair	Yes	No -						
11. Samples in proper of	container / bottle?		Yes	No					
12. Samples property p	reserved?		Yes	No	N/A_				
13. Sample container in	rtact?		Yes	No					
14. Sufficient sample ar	mount for indicated tes	t(s)?	Yes	No					
15. All samples receive	d within sufficient hold	time?	Yes	No					
16. Subcontract of sam	ple(s)?		Yes	No	NIA				
17. VCC sample have z	ero head space?		Yes	No	NAS				
18. Cooler 1 No.	Cooler 2 No.	Cooler 3 No.	Cooler 4 N	o	Cooler 5 No.				
lbs 21.5.	C lbs	°C lbs	°C lbs	٥٥	C Ibs	°c			
	No	nconformance Doc	umentation						
Contact:	Contacted	by:	<del></del>	Date/Time:	·				
Regarding:				· · · · · · · · · · · · · · · · · · ·					
Corrective Action Take	en:								
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□ Initial and Backup Temperature confirm out of temperature conditions

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.

☐ Client understands and would like to proceed with analysis