

FRANK W. YATES

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JAMES S. BROWN CHIEF OPERATING OFFICER

February 25, 2014

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

Mr. Duncan Whitlock BLM – Carlsbad Field Office 620 East Greene Street Carlsbad, NM 88220

RE: Martha AIK Federal #1 30-015-26549 Section 11, T22S-R31E Eddy County, New Mexico

Mr. Bratcher and Mr. Whitlock,



# SEE ATTACHED FOR CONDITIONS OF APPROVAL

# SUBJECT TO LIKE APPROVAL BY STATE

Yates Petroleum Corporation would like to submit the following plan of work to you regarding the two releases that occurred at the above mentioned facility on April 18, 2013 (2RP-1631) and April 27, 2013 (2RP-1643). The April 18, 2013 release was 850 barrels produced water and 33 barrels of oil, with 650 barrels of produced water and 20 barrels of oil recovered. The April 27, 2013 release was 250 barrels of produced water and 1 barrel of oil with no amounts recovered. Both releases occurred in the field to the south of the battery and inside the unlined bermed battery. After both releases Yates had excavated the visibly impacted soils, approximately 1'-2' from surface level in the field south of the battery, areas where the releases pooled had more soils excavated. Yates also excavated soils from within the battery to the extent that was practicable for safety reasons. All soils excavated were disposed of at a NMOCD approved facility.

Initial TPH/BTEX and Chloride delineation samples were taken and were sent to a NMOCD approved facility. The release area was split and sampled in four separate sections MB, MF1, MF2, and MF3, please see analytical report H301097. Analytical results in section MB were elevated, but due to safety and practicability reasons Yates could not complete further vertical delineation within this area. Analytical results also showed elevated chloride levels in the field to the south of the battery so Yates did further vertical delineation in sections MF1, MF2, and MF3, please see analytical report H302034. These analytical results still showed elevated chloride levels in the field and Yates was asked by NMOCD and BLM to complete further vertical delineation. At a meeting on September 23, 2013, NMOCD and BLM agreed that Yates could just do one sample point closest to section MF3. This further vertical delineation was completed by a core rig and the sample point was labeled MF4, please see analytical report H400167.

Based off of previous conversations with NMOCD and BLM, complete vertical delineation analytical results, and depth to ground water, Yates Petroleum Corporation proposes to leave all chloride impacted soils in place and use a natural caliche/top soil cap over the release area. Yates will create a cap over the entire release area with 2' of caliche and 2' of topsoil. The caliche would be packed as much as possible to create a good barrier over the chloride impacted soils. The 4' cap would allow a good root zone for the area to re-vegetate. Yates also feels that with this layer of caliche in the cap and other hard layers we encountered while completing vertical delineation sampling, it is unlikely that the chlorides left in place would reach groundwater that is greater than 100'. Due to the small amounts of rain the area sees, Yates also feels that the chlorides left in place would not be pushed further down and would therefore not reach groundwater.

When backfilling /creating the barrier over the release area, Yates will make sure the release area is above the surrounding surface levels to ensure that a pooling area is not created.

The site will be added to our seeding list for June 2014 and then monitored for re-vegetation.

If NMOCD or BLM has an objection to the proposed work, please respond with an email. If there are no objections from NMOCD or BLM, Yates would like to begin work no later than Tuesday, March 4, 2014.

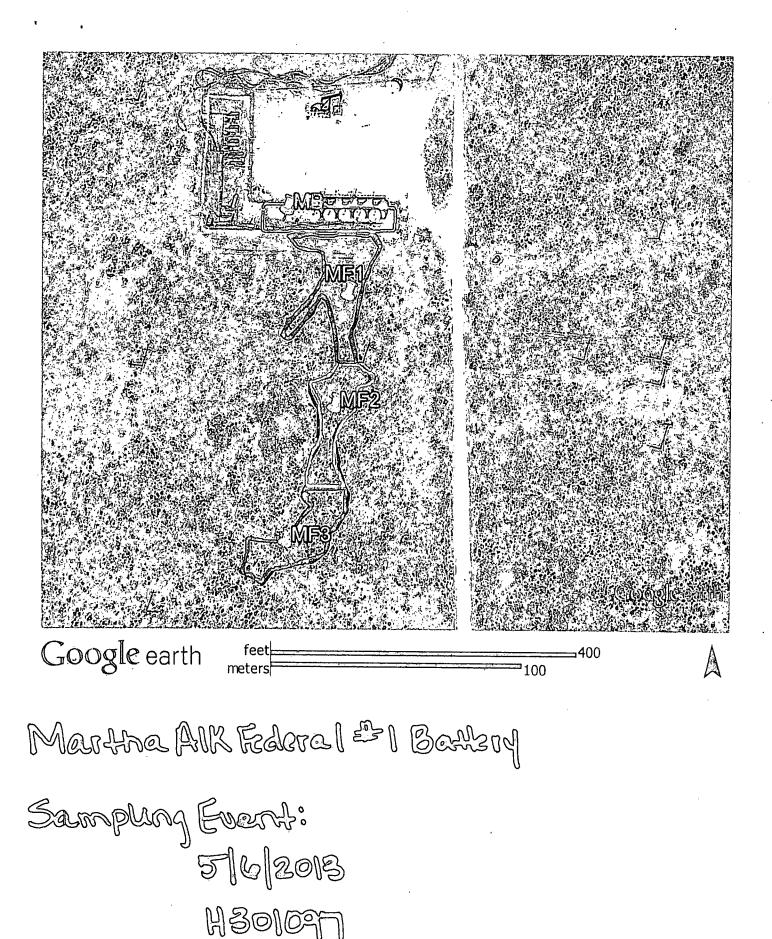
If you have any questions or concerns, I can be reached at (575) 748-4111 or by email at acannon@yatespetroleum.com.

Thank You,

Amber Cannon Environmental Regulatory Agent Yates Petroleum Corporation

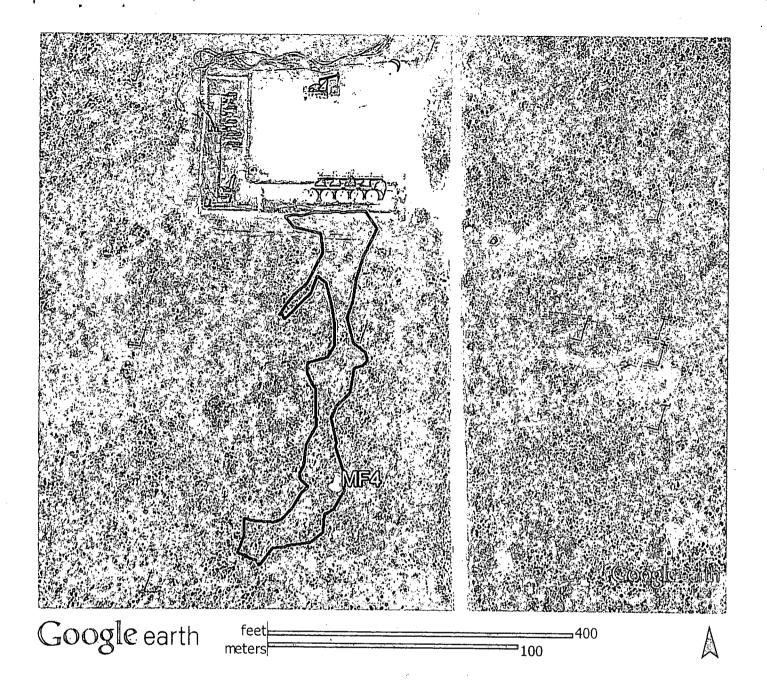
Enclosure(s)

Google earth feet meters A 100 Martha AIK Federal - 1 Bestern GPS of release area: 4/18/2013 (2RP-1031) 4/27/2013 (2RP-1043)



\*NOTE: SAmpling Points shown are not to scalet

MF2 **MFS** Googleearth feet meters A °100 Martha AIK Federal - 1 Battery Sampling Event: , 8/22/2013 H302034 \* NOTE: Sampling points shown are not to scale &



Martha ANK Federal 21 Bestery

Sampling Event: 1/17/2014 HYDOIGT

KNOTE: SAMPLING POINTS Shown are not to scale to

# Martha AIK Federal #1

# **Cardinal Laboratories**

Analytical Report-									
<u>H301097</u>	Sample Area	Sample Date	Sample Type	Depth	BTEX	GRO	DRO	TOTAL	Chlorides
MB-1'	Release Area	5/6/2013	Grab/Backhoe	1'	ND	ND	ND	ND	5,120
MB-2'	Release Area	5/6/2013	Grab/Backhoe	2'	ND	ND	ND	ND	8,240
MB-3'	Release Area	5/6/2013	Grab/Backhoe	3'	ND	ND	ND	ND	6,000
MB-4'	Release Area	5/6/2013	Grab/Backhoe	4'	ND	ND	ND	ND	6,000
MB-5'	Release Area	5/6/2013	Grab/Backhoe	5'	ND	ND	ND	ND	5,440
MB-6'	Release Area	5/6/2013	Grab/Backhoe	6'	ND	ND	ND	ND	6,080
MF1-1'	Release Area	5/6/2013	Composite/Backhoe	1'	ND	ND	28.3	28.3	5,840
MF1-2'	Release Area	5/6/2013	Composite/Backhoe	2'	ND	ND	41.1	41.1	5,760
MF1-3'	Release Area	5/6/2013	Composite/Backhoe	3'	ND	ND	ND	ND	7,520
MF1-4'	Release Area	5/6/2013	Composite/Backhoe	4'	ND	ND	ND	ND	10;600
MF1-5'	Release Area	5/6/2013	Composite/Backhoe	5'	ND	ND	ND	ND	15,600
MF1-6'	Release Area	5/6/2013	Composite/Backhoe	6'	ND	ND	ND	ND	12,200
MF2-1'	Release Area	5/6/2013	Composite/Backhoe	1	ND	ND	189	189.	6,000
ME2:2'	Release Area	5/6/2013	Composite/Backhoe	2'	ND	ND	ND	ND	6,160
MF2-3'	Release Area	5/6/2013	Composite/Backhoe	3'	ND	ND	ND	ND	8,000
MF2-4'	Release Area	5/6/2013	Composite/Backhoe	4'	ND	ND	ND	ND	21,000
MF2-5'	Release Area	5/6/2013	Composite/Backhoe	5'	ND	ND	ND	ND	21,000
MF2-6'	Release Area	5/6/2013	Composite/Backhoe	6'	ND	ND	ND	ND.	22,000
MF3-1'	Release Area	5/6/2013	Composite/Backhoe	1'	ND	ND	ND	ND	6,320
MF3-2'	Release Area	5/6/2013	Composite/Backhoe	2'	ND	ND	ND	ND	5,840
MF3-3'	Release Area	5/6/2013	Composite/Backhoe	3'	ND	ND	ND	ND	15,200
MF3-4'	Release Area	5/6/2013	Composite/Backhoe	4'	ND	ND	ND	ND	18,800
MF3-5'	Release Area	5/6/2013	Composite/Backhoe	5'	ND	ND	ND	ND	7,680
MF3-6'	Release Area	5/6/2013	Composite/Backhoe	6'	ND	ND	ND	ND	6,800

Analytical Report-					
H302034	Sample Area	Sample Date	Sample Type	Depth	Chlorides
MF1-7	Release Area	8/22/2013	Grab/Backhoe	7.	6,240
MF1-8	Release Area	8/22/2013	Grab/Backhoe	-8'	28,400
MF1-9	Release Area	8/22/2013	Grab/Backhoe	9'	30,800
MF1-10	Release Area	8/22/2013	Grab/Backhoe	10*	24,600
MF1-11	Release Area	8/22/2013	Grab/Backhoe	11'	14,600
MF1-12	Release Area	8/22/2013	Grab/Backhoe	12	11,800
MF2-7	Release Area	8/22/2013	Grab/Backhoe	7'	25,200
MF2;8	Release Area	8/22/2013	Grab/Backhoe	8'	22,200
MF2-9	Release Area	8/22/2013	Grab/Backhoe	9,	17,000
MF3-7	Release Area	8/22/2013	Grab/Backhoe	7'	23,200
MF3-8	Release Area	8/22/2013	Grab/Backhoe	8'	13,900
MF3-9	Release Area	8/22/2013	Grab/Backhoe	9'	28,400

Analytical Report- H400167	Sample Area	Sample Date	Sample Type	Depth	Chlorides
MF4-10	Release Area	1/17/2014	Core Rig Grab	10'	16;400
MF4-15	Release Area	1/17/2014	Core Rig Grab	15'	544
MF4-20	Release Area	1/17/2014	Core Rig Grab	20'	224

**Site Ranking is Zero (0).** Depth to Ground Water >100' (approx. 150', Section 11-22S-31E, per Trend Map). All results are ppm.Chlorides for documentation.

Released: 850 B/PW, 33 B/O; Recovered: 650 B/PW, 20 B/O. Release Date: 4/18/2013 (2RP-1631) Released: 250 B/PW, 1 B/O; Recovered: 0 B/PW, 0 B/O. Release Date: 4/27/2013 (2RP-1643)



May 13, 2013

AMBER CANNON

Yates Energy Petroleum Corp

105 S 4th Street

Artesia, NM 88210

RE: MARTHA AIK FEDERAL BATTERY

Enclosed are the results of analyses for samples received by the laboratory on 05/08/13 11:00.

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 <a href="https://www.tceq.texas.gov/field/qa/lab\_accred\_certif.html">www.tceq.texas.gov/field/qa/lab\_accred\_certif.html</a>.

Cardinal Laboratories is accreditated 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,

Celeg D. Herne

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:	05/08/2013	Sampling Date:	05/06/2013
Reported:	05/13/2013	Sampling Type:	Soil
Project Name:	MARTHA AIK FEDERAL BATTERY	Sampling Condition:	Cool & Intact
Project Number:	30-015-26549	Sample Received By:	Jodi Henson
Project Location:	EDDY COUNTY, NM		

### Sample ID: MF2 - 1' (H301097-01)

Chloride, SM4500Cl-B	SM4500Cl-B mg/kg		Analyze	Analyzed By: DW					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	6000	16.0	05/10/2013	ND	432	108	400	0.00	

### Sample ID: MF2 - 2' (H301097-02)

Chloride, SM4500Cl-B mg/kg Analyzed By: DW

Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	6160	16.0	05/10/2013	ND	432	108	400	0.00	

### Sample ID: MF2 - 3' (H301097-03)

Chloride, SM4500Cl-B mg/kg		Analyze	Analyzed By: DW						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	8000	16.0	05/10/2013	ND	432	108	400	0.00	

### Sample ID: MF2 - 4' (H301097-04)

Chloride, SM4500Cl-B	mg/kg		Analyzed By: DW						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	21000	16.0	05/10/2013	ND	432	108	400	0.00	

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\*=Accredited Analyte

PLEASE NOTE: Ubbilly and Damages. Candinal's lability and clean's enduaive remedy for any claim ansing, whether based in contract or tort, shall be limited to the amount paid by clean for analyses. All claims, including trace for neglogene and any other cance witablewer while be defined waived unders made in whing and received by Cantal within thirty (20) days after completion of the applicable served. In no event shall be defined unders like for incidental or consequential damages, including, where immunes and other cances whitewers interpreting to be amount paid by clean for analyses. All claims, including trace for orest-quential damages, including, where immunes are understained and the performance of the services hereuniter by Cantinal, regardless of whether such claims have also any of the above stated restands related on the weather entities down. This report state reproduced eventies hereuniter by Cantinal, regardless of whether such claims in which write many of the above stated related to otherwise. Results related to the services in the with writem approxish of cancel aborations.

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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:	05/08/2013	Sampling Date:	05/06/2013
Reported:	05/13/2013	Sampling Type:	Soil
Project Name:	MARTHA AIK FEDERAL BATTERY	Sampling Condition:	Cool & Intact
Project Number:	30-015-26549	Sample Received By:	Jodi Henson
Project Location:	EDDY COUNTY, NM		

### Sample ID: MF2 - 5' (H301097-05)

Chloride, SM4500Cl-B mg/kg		Analyzed By: DW		·····			···		
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	21000	16.0	05/10/2013	ND	432	108	400	0.00	

### Sample ID: MF2 - 6' (H301097-06)

Chloride, SM4500Cl-B mg/kg		'kg	kg Analyzed By: DW						
· Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	22000	16.0	05/10/2013	ND	432	108	400	0.00	

### Sample ID: MF3 - 1' (H301097-07)

Chloride, SM4500Cl-B	mg/kg		Analyzed By: DW						-
Analyte	Result	Reporting Limit	Analyzed	Method Blank	8S	% Recovery	True Value QC	RPD	Qualifier
Chloride	6320	16.0 <sub>/</sub>	05/10/2013	ND	432	108	400	0.00	

### Sample ID: MF3 - 2' (H301097-08)

Chloride, SM4500Cl-B	B mg/kg		Analyzed By: DW						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	5840	16.0	05/10/2013	ND	432	108	400	0.00	

### Sample ID: MF3 - 3' (H301097-09)

Chloride, SM4500Cl-B	mg/kg		Analyzed By: DW						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	15200	16.0	05/10/2013	ND	432	108	400	0.00	

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\*=Accredited Analyte

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Celez E. Keine

Celey D. Keene, Lab Director/Quality Manager

# **N**Laboratories

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

# Analytical Results For:

Yates Energy	gy Petroleum Corp
AMBER CAI	NNON
105 S 4th 9	Street
Artesia NM	, 88210
Fax To:	(505) 748-4635

Received:	05/08/2013	Sampling Date:	05/06/2013
Reported:	05/13/2013	Sampling Type:	Soil
Project Name:	MARTHA AIK FEDERAL BATTERY	Sampling Condition:	Cool & Intact
Project Number:	30-015-26549	Sample Received By:	Jodi Henson
Project Location:	EDDY COUNTY, NM		

### Sample ID: MF3 - 4' (H301097-10)

Chloride, SM4500Cl-B	1loride, SM4500Cl-B mg/kg			d By: DW					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	18800	16.0	05/10/2013	ND	432	108	400	0.00	

### Sample ID: MF3 - 5' (H301097-11)

Chloride, SM4500CI-B	mg	mg/kg		Analyzed By: DW					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	7680	16.0	05/10/2013	ND	432	108	400	0.00	
Sample ID: MF3 - 6' (H30	1097-12)								
Chloride, SM4500Cl-B	mg	/kg	Analyze	ed By: DW			· .		
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier

ND

432

108

400

0.00

### Sample ID: MB - 1' (H301097-13)

6800

16.0

Chloride

Chloride, SM4500Cl-B	mg	/kg	Analyzed By: DW			·			
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	5120	16.0	05/10/2013	ND	432	108	400	0.00 ·	

05/10/2013

# Sample ID: MB - 2' (H301097-14)

Chloride, SM4500Cl-B	ride, SM4500Cl-B mg/kg		Analyzed By: DW						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	8240	16.0	05/10/2013	ND	432	108	400	0.00	

### Cardinal Laboratories

\*=Accredited Analyte

PEASE NOTE: Uability and Damages, Cardina's fability and cloru's exclusive remedy for any dam ansing, whether based in contract or loru, shall be limited to the amount paid by client for analyses. All claims, including those for negligence and any other cause inhistomer shall be detined waived unless made in writing and received by Cardinal within thiny (30) day's after completion of the applicable service. In no event shall Cardinal be lable for including those for negligence and producing, without limitizion, business interruptions, loss of profis incruised by dient, inscluding during the busications and of or individed to the performance of the services between for the services between for whether such daim is based upon any of the above stated reasons or cohermize, Results relate only to the samples identified above. This report shall not be responded except in hall with written approval of Cardinal laborations.

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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:	05/08/2013	Sampling Date:	05/06/2013	
Reported:	05/13/2013	Sampling Type:	Soil	
Project Name:	MARTHA AIK FEDERAL BATTERY	Sampling Condition:	Cool & Intact	
Project Number:	30-015-26549	Sample Received By:	Jodi Henson	
Project Location:	EDDY COUNTY, NM			

### Sample ID: MB - 3' (H301097-15)

Chloride, SM4500Cl-B mg/kg			Analyzed By: DW						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BŚ	% Recovery	True Value QC	RPD	Qualifier
Chloride	6000	16.0	05/10/2013	ND	432	108 .	400	0.00	

### Sample ID: MB - 4' (H301097-16)

Chloride, SM4500Cl-B	mg/kg		Analyzed By: DW						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	6000	16.0	05/10/2013	ND	432	108	400	0.00	

### Sample ID: MB - 5' (H301097-17)

Chloride, SM4500Cl-B	mg	/kg	Analyze	d By: DW					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	5440	16.0	05/10/2013	ND	432	108	400	0.00	

### Sample ID: MB - 6' (H301097-18)

Chloride, SM4500Cl-B	mg	/kg	Analyze	d By: DW					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	6080	16.0	05/10/2013	ND	432	108	400	0.00	

### Sample ID: MF1 - 1' (H301097-19)

Chloride, SM4500Cl-B	mg	/kg	Analyze	d By: DW					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	5840	16.0	05/10/2013	ND	432	108	400	0.00	
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\*=Accredited Analyte

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Celey D. Keene, Lab Director/Quality Manager



# Analytical Results For:

		Yates Energy Petro AMBER CANNON 105 S 4th Street Artesia NM, 88210 Fax To: (505)			
Received:	05/08/2013		Sampling Date:	05/06/2013	
Papartad	05/12/2012		Compling Type:	Coll	

Reported:	05/13/2013	Sampling Type:	Soil
Project Name:	MARTHA AIK FEDERAL BATTERY	Sampling Condition:	Cool & Intact
Project Number:	30-015-26549	Sample Received By:	Jodi Henson
Project Location:	EDDY COUNTY, NM		

### Sample ID: MF1 - 2' (H301097-20)

Chloride, SM4500Cl-B	mg	/kg	Analyze	d By: DW					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	8\$	% Recovery	True Value QC	RPD	Qualifier
Chloride	5760	16.0	05/10/2013	ND	416	104	400	3.77	

### Sample ID: MF1 - 3' (H301097-21)

Chloride, SM4500Cl-B	mg	/kg	Analyze	d By: DW					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	7520	16.0	05/10/2013	NŅ	416	104	400	3.77	

### Sample ID: MF1 - 4' (H301097-22)

Chloride, SM4500Cl-B mg/kg			Analyze	d By: DW		· · · · · · · · · · · · · · · · · · ·			
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	10600	16.0	05/10/2013	ND	416	104	400	3.77	

### Sample ID: MF1 - 5' (H301097-23)

Chloride, SM4500Cl-B	mg	/kg	Analyze	d By: DW					······································
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	15600	16.0	05/10/2013	ND	416	104	400	3.77	

# Sample ID: MF1 - 6' (H301097-24)

Chloride, SM4500Cl-B	mg,	/kg	Analyze	d By: DW					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	12200	16.0	05/10/2013	ND	416	104	400	3.77	
						••	· · · · · · · · · · · · · · · · · · ·		

### Cardinal Laboratories

\*=Accredited Analyte

PLEASE NOTE: Liability and Damages. Cardinal's stability and chemise bolicavie remedy for any chain analysing, whether based in contract or tort, shall be limited to the amount paid by client for analysis. All claims, including those firm negligence and any other dates whatsoever shall be deemed walved unless made in whiting and necessed by Cardinal within thirty (30) days after completion of the applicable service. In no event shall Cardinal be liable for incidential or consequential damages, including, without limitation, bupiness interruptions, loss of use, or loss of profits incurred by dient, its subsolitates, affiliates or successors and/or or related to the performance of the services hereunder by Cardinal, regardless of whether such damin is based upon any of the above stated reasons or otherwise, Results related only to the samples identified above. This report shall not be reproduced except in hal with written approval of Cardinal Laborationes.

Celeg Di Keine

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

Cardinal Laboratories

\*=Accredited Analyte

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Celeg E Keine

Celey D. Keene, Lab Director/Quality Manager

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May 13, 2013

AMBER CANNON

Yates Energy Petroleum Corp

105 S 4th Street

Artesia, NM 88210

RE: MARTHA AIK FEDERAL BATTERY

Enclosed are the results of analyses for samples received by the laboratory on 05/08/13 11:00,

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 <a href="https://www.tceq.texas.gov/field/qa/lab">www.tceq.texas.gov/field/qa/lab</a> accredited certif.html.

Cardinal Laboratories is accreditated 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,

Celeg D. Freeme

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:	05/08/2013	Sampling Date:	05/06/2013
Reported:	05/13/2013	Sampling Type:	Soil
Project Name:	MARTHA AIK FEDERAL BATTERY	Sampling Condition:	Cool & Intact
Project Number:	30-015-26549	Sample Received By:	Jodi Henson
Project Location:	EDDY COUNTY, NM		

### Sample ID: MF2 - 1' (H301097-01)

BTEX 8021B	mg/	kg	Analyze	d By: AP					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Benzene*	<0.050	0.050	05/10/2013	ND	2.16	108	2.00	4.05	
Toluene*	<0.050	0.050	05/10/2013	ND	1.98	98.8	2.00	3.36	
Ethylbenzene*	<0.050	0.050	05/10/2013	ND	2.14	107	2.00	2.83	
Total Xylenes*	<0.150	0.150	05/10/2013	ND	6.19	103	6.00	2.61	
Total BTEX	<0.300	0.300	05/10/2013	ND					
Surrogate: 4-Bromofluorobenzene (PIL	110 9	% \$9.4-12	6			· · · · · · · · · · · · · · · · · · ·			
TPH 8015M	mg/	kg	Analyze	d By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier

				1			· · · ·		
GRO C6-C10	<10.0	10.0	05/09/2013	ND	210	105	200	0.918	
DRO >C10-C28	189	10.0	05/09/2013	ND	205	102	200	0.533	
Surrogate: 1-Chlornoctane	109 %	65.2-1							

.

Cardinal Laboratories

Surrogate: 1-Chlorooctadecane

105%

63.6-154

### \*=Accredited Analyte

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Celey Li Keine

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:	05/08/2013	Sampling Date:	05/06/2013
Reported:	05/13/2013	Sampling Type:	Soil
Project Name:	MARTHA AIK FEDERAL BATTERY	Sampling Condition:	Cool & Intact
Project Number:	30-015-26549	Sample Received By:	Jodi Henson
Project Location:	EDDY COUNTY, NM		

### Sample ID: MF2 - 2' (H301097-02)

BTEX 8021B	mg/	kg	Analyze	d By: AP					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Benzene*	<0.050	0.050	05/10/2013	ND	2.16	108	2.00	4.05	
Toluene*	<0.050	0.050	05/10/2013	ND	1.98	98.8	2.00	3.36	
Ethylbenzene*	<0.050	0.050	05/10/2013	ND	2.14	107	2,00	2.83	
Total Xylenes*	<0.150	0.150	05/10/2013	ND	6.19	103	6.00	2.61 -	
Total BTEX	<0.300	0.300	05/10/2013	ND					
Surrogate: 4-Bromofluorobenzene (PID	108 9	% 89.4-12	6	• • •					
TPH 8015M	. mg/	'kg	Analyze	d By: MS			<u></u>		
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10	<10.0	10.0	05/09/2013	ND	210	105	200	0.918	
DRO >C10-C28	<10.0	10.0	05/09/2013	ND	205	102	200	0.533	
Surrogate: 1-Chlorooctane	99.6	% 65.2-14	0						
Surrogate: 1-Chlorooctadecane	105 9	63.6-15	4						

**Cardinal Laboratories** 

\*=Accredited Analyte

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Celegi Keine

Celey D. Keene, Lab Director/Quality Manager

# CARDINAL Laboratories

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

## Analytical Results For:

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

Received:	05/08/2013	Sampling Date:	05/06/2013	
Reported:	05/13/2013	Sampling Type:	Soil	
Project Name:	MARTHA AIK FEDERAL BATTERY	Sampling Condition:	Cool & Intact	
Project Number:	30-015-26549	Sample Received By:	Jodi Henson	
Project Location:	EDDY COUNTY, NM			

### Sample ID: MF2 - 3' (H301097-03)

BTEX 8021B	mg,	'kg	Analyze	d By: AP					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	ßS	% Recovery	True Value QC	RPD	Qualifier
Benzene* ·	< 0.050	. 0.050	05/10/2013	ŇD	2.16	108	2,00	4.05	
Toluene*	<0.050	0.050	05/10/2013	ND	1.98	98.8	2:00	3.36	
Ethylbenzene*	<0.050	0.050	05/10/2013	ND	2.14	107	2.00	2.83	
Total Xylenes*	<0.150	0.150	05/10/2013	ND	6.19	103	6.00	2.61	
Total BTEX	<0.300	0.300	05/10/2013	ND					
Surrogate: 4-Bromofluorobenzene (PIL	109	% 89.4-12	6					*****	
TPH 8015M	mg,	'kg	Analyze	d By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	8S	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10	<10.0	10.0	05/09/2013	ND	210	105	200	0.918	
DRO >C10-C28	<10.0	10.0	05/09/2013	ND	205	102	200	0.533	
Surrogate: 1-Chlorooctane	99.3	% 65,2-14	0			<u></u>			
Surrogate: 1-Chlorooctadecane	104	63.6-15	4						

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\*=Accredited Analyte

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Celeg Di Keine

Celey D. Keene, Lab Director/Quality Manager

Page 4 of 28



# Analytical Results For:

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

Received:	05/08/2013	Sampling Date:	05/06/2013
Reported:	05/13/2013	Sampling Type:	Soil
Project Name:	MARTHA AIK FEDERAL BATTERY	Sampling Condition:	Cool & Intact
Project Number:	30-015-26549	Sample Received By:	Jodi Henson
Project Location:	EDDY COUNTY, NM		

### Sample ID: MF2 - 4' (H301097-04)

BTEX 8021B Analyzed By: AP mg/kg Reporting Limit Method Blank Analyte Result Analyzed БS True Value QC RPD Qualifier % Recovery < 0.050 0.050 05/10/2013 ND 2.16 108 2.00 4.05 Benzene<sup>#</sup> < 0.050 0.050 05/10/2013 ND ·1.98 98.8 2.00 3.36 Toluene\* Ethylbenzene\* < 0.050 0.050 05/10/2013 ND 2.14 107 2.00 2,83 <0.150 0.150 05/10/2013 Total Xylenes\* ND 6.19 103 6.00 2.61 Total BTEX < 0,300 0.300 05/10/2013 ND Surrogate: 4-Bromofluorobenzene (PIE 89.4-126 108% TPH 8015M mg/kg Analyzed By: MS Result Reporting Limit Analyzed Method Blank Qualifier Analyte ВS % Recovery True Value QC RPD GRO C6-C10 <10.0 10.0 05/09/2013 ND 0.918 210 105 200 DRO >C10-C28 <10.0 10.0 05/09/2013 ND 205 102 200 0,533 92.5% Surrogate: 1-Chlorooctane 65.2-140

### **Cardinal Laboratories**

Surrogete: 1-Chlorooctadecane

29.4%

63.6-154

\*=Accredited Analyte

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Celeg Di Kene

Celey D. Keene, Lab Director/Quality Manager

# **CARDINAL** Laboratories

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

# Analytical Results For:

Yates Energy	Petroleum Corp
AMBER CAN	NON
105 S 4th St	reet
Artesia NM, 8	38210
Fax To:	(505) 748-4635

Received:	05/08/2013	Sampling Date:	05/06/2013
Reported:	05/13/2013	Sampling Type:	Soil
Project Name:	MARTHA AIK FEDERAL BATTERY	Sampling Condition:	Cool & Intact
Project Number:	30-015-26549	Sample Received By:	Jodi Henson
Project Location:	EDDY COUNTY, NM		

### Sample ID: MF2 - 5' (H301097-05)

4

BTEX 8021B	mg,	/kg	Analyze	d By: AP					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Benzene*	< 0.050	0.050	05/10/2013	ND	2.16	108	2.00	4.05	
Toluene*	<0.050	0.050	05/10/2013	ND	1.98	98.8	2.00	3.36	
Ethylbenzene*	<0.050	0.050	05/10/2013	ND	2.14	107	2.00	2.83	
Total Xylenes*	< 0.150	0.150	05/10/2013	ND	6.19	103	6.00	2.61	
Total BTEX	< 0.300	0.300	05/10/2013	ND					
Surrogate: 4-Bromofluorobenzene (PIL	110	% 89.4-12	6				, <u>, , , , , , , , , , , , , , , , , , </u>		
трн 8015м	mg,	/kg	Analyze	d By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10	<10.0	10.0	05/10/2013	ND	194	96.9	200	0.684	
DRO >C10-C28	<10.0	10.0	05/10/2013	ND	181	90.7	200	1.51	
Surrogate: 1-Chlorooctane	90.4	% 65.2-14	0						
Surrogate: 1-Chlorooctadecane	92.3	% 63.6-15	4						

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Celey D. Keene, Lab Director/Quality Manager

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

## Analytical Results For:

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

Received:	05/08/2013	Sampling Date:	05/06/2013	
Reported:	05/13/2013	Sampling Type:	Soil	
Project Name:	MARTHA AIK FEDERAL BATTERY	Sampling Condition:	Cool & Intact	
Project Number:	30-015-26549	Sample Received By:	Jodi Henson	
Project Location:	EDDY COUNTY, NM			

## Sample ID: MF2 - 6' (H301097-06)

BTEX 8021B	mg/	kg	Analyze	d By: AP					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Benzene*	<0.050	0.050	05/10/2013	ND	2.16	108	2.00	4.05	
Toluene*	<0.050	0.050	05/10/2013	ND	1.98	. 98.8	2.00	3.36	
Ethylbenzene*	<0.050	0.050	05/10/2013	ND	2,14	107	2.00	2.83	
Total Xylenes*	<0.150	0.150	05/10/2013	ND	6.19	103	6.00	2.61	
Total BTEX	<0.300	0.300	05/10/2013	ND					
Surrogate: 4-Bromofluorobenzene (PIL	109 5	% 89.4-12	6	ι.					
TPH 8015M	mg/	kg	Analyze	d By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10	<10.0	10.0	05/10/2013	ND	194	96.9	200	0.684	
DRO >C10-C28	<10.0	10.0	05/10/2013	· ND	181	90.7	200	1.51	
Surrogate: 1-Chlorooctane	97.0	% 65.2-14	0	·		· · ·		·····	
Surrogate: 1-Chlorooctadecane	98.1	% 63.6-15	4						

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Celeiz Li Keine

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:	05/08/2013	Sampling Date:	05/06/2013
Reported:	05/13/2013	Sampling Type:	Soil
Project Name:	MARTHA AIK FEDERAL BATTERY	Sampling Condition:	Cool & Intact
Project Number:	30-015-26549	Sample Received By:	Jodi Henson
Project Location:	EDDY COUNTY, NM		

### Sample ID: MF3 - 1' (H301097-07)

BTEX 80218 mg/kg Analyzed By: AP Analyte Result Reporting Limit Analyzed Method Blank BS True Value QC RPD Qualifier % Recovery Benzene\* < 0.050 0.050 05/10/2013 ND 2.16 108 2.00 4.05 Toluene\* < 0.050 0.050 05/10/2013 ND 1.98 98.8 2.00 3.36 Ethylbenzene\* < 0.050 0.050 05/10/2013 ND 2,14 107 2.00 2.83 Total Xylenes\* < 0.150 0.150 05/10/2013 ND 6.19 103 6.00 2.61 Total BTEX < 0.300 0.300 05/10/2013 ND 108 % 89.4-126 Surrogate: 4-Bromofluorobenzene (PIL TPH 8015M mg/kg Analyzed By: MS Analyte Result Reporting Limit Analyzed Method Blank ΒS % Recovery True Value QC RPD Qualifier GRO C6-C10 <10.0 10.0 05/10/2013 ND 194 96.9 200 0.684 DRO >C10-C28 <10.0 10.0 05/10/2013 ND 181 90.7 200 1,51 100% 65.2-140 Surrogate: 1-Chlorooctane

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Surrogate: 1-Chlorooctadecane

107%

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:	05/08/2013	Sampling Date:	05/06/2013
Reported:	05/13/2013	Sampling Type:	Soil
Project Name:	MARTHA AIK FEDERAL BATTERY	Sampling Condition:	Cool & Intact
Project Number:	30-015-26549	Sample Received By:	Jodi Henson
Project Location:	EDDY COUNTY, NM		

## Sample ID: MF3 - 2' (H301097-08)

BTEX 8021B	mg/	kg	Analyze	d By: AP		·····			
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Benzene*	<0.050	0.050	05/10/2013	ND	2.16	108	2.00	4.05	
Toluene*	<0.050	0.050	05/10/2013	ND	1.98	98.8	2.00	3.36	
Ethylbenzene*	< 0.050	0.050	05/10/2013	ND	2.14	107	2.00	2.83	
Total Xylenes*	<0.150	0.150	05/10/2013	ND	6.19	103	6.00	2.61	
Total BTEX	<0.300	0.300	05/10/2013	ND					
Surrogate: 4-Bromofluorobenzene (PIE	108	89.4-12	26					,,	
TPH 8015M	mg,	'kg	Analyze	d By: MS			<u></u>		
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10	<10.0	10.0	05/10/2013	ND	194	96.9	200	0.684	
DRO >C10-C28	<10.0	10.0	05/10/2013	ND	181	90.7	200	1.51	
Surrogate: 1-Chlvrooctane	93.5	% 65.2-14	10						
Surrogate: 1-Chlorooctadecane	97.5	% 63.6-15	4						

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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:	05/08/2013	Sampling Date:	05/06/2013
Reported:	05/13/2013	Sampling Type:	Soil
Project Name:	MARTHA AIK FEDERAL BATTERY	Sampling Condition:	Cool & Intact
Project Number:	30-015-26549	Sample Received By:	Jodi Henson
Project Location:	EDDY COUNTY, NM		

### Sample ID: MF3 - 3' (H301097-09)

BTEX 8021B	mg/	kg	Analyze	d By: AP					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Benzene*	<0.050	0.050	05/10/2013	ND	2.16	108	· 2.00	4.05	
Toluene*	< 0.050	0.050	05/10/2013	ND	1.98	98.8	2.00	3.36	
Ethylbenzene*	<0.050	0.050	05/10/2013	ND	2,14	107	2.00	2.83	
Total Xylenes*	<0.150	0.150	05/10/2013	ND	6.19	103	5.00	2.61	
Total BTEX	<0.300	0.300	05/10/2013	ND					
Surrogate: 4-Bromofluorobenzene (PIL	108	% 89.4-12	6			<u>ر</u>			······································
трн 8015м	mg,	/kg	Analyze	d By: MS			·		
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10	<10.0	10.0	05/10/2013	ND	194	96.9	200	0.684	
DRO >C10-C28	<10.0	10.0	05/10/2013	ND	181	90.7	200	1.51	
Surrogate: 1-Chlorooctane	85.5	% 65.2-14	0						
Surrogate: 1-Chlorooctadecane	88.4	% 63.6-15	4						

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Celey D. Keene, Lab Director/Quality Manager



### Analytical Results For:

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

Received:	05/08/2013	Sampling Date:	05/06/2013
Reported:	05/13/2013	Sampling Type:	Soil
Project Name:	MARTHA AIK FEDERAL BATTERY	Sampling Condition:	Cool & Intact
Project Number:	30-015-26549	Sample Received By:	Jodi Henson
Project Location:	EDDY COUNTY, NM		

# Sample ID: MF3 - 4' (H301097-10)

BTEX 8021B	mg/	kg	Analyze	d By: AP					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	ßS	% Recovery	True Value QC	RPD	Qualifier
Benzene*	<0.050	0.050	05/10/2013	ND	2.16	108	2.00	4.05	
Toluene*	<0.050	0.050	05/10/2013	ND	1.98	98.8	2.00	3.36	
Ethylbenzene*	<0.050	0.050	05/10/2013	ND	2,14	107	2.00	2.83	
Total Xylenes*	<0.150	0.150	05/10/2013	ND	6,19	103	6.00	2.61	
Total BTEX	<0.300	0.300	05/10/2013	ND					
Surrogate: 4-Bromofluorobenzene (PIL	108 9	% \$9.4-12	6						
TPH 8015M	mg/	kg	Analyze	d By: MS					
Analyte .	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10	<10.0	10.0	05/10/2013	ND	194	96.9	200	0.684	

ND

181

90.7

200

1.51

05/10/2013

		···	
Surrogate: 1-Chlorooctane	3	86.6 %	65.2-140
Surrogate' 1-Chlorooctadecane		91.8%	63.6-154

<10.0

10.0

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DRO >C10-C28

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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:	05/08/2013	Sampling Date:	05/06/2013	
Reported:	05/13/2013	Sampling Type:	Soil	
Project Name:	MARTHA AIK FEDERAL BATTERY	Sampling Condition:	Cool & Intact	
Project Number:	30-015-26549	Sample Received By:	Jodi Henson	
Project Location:	EDDY COUNTY, NM			

### Sample ID: MF3 - 5' (H301097-11)

BTEX 8021B mg/kg Analyzed By: AP Reporting Limit Analyte Result Analyzed Method Blank ВS % Recovery True Value QC RPD Qualifier Benzene\* < 0.050 0.050 05/10/2013 ND 2.08 104 2.00 4.33 Toluene\* < 0.050 0.050 05/10/2013 ND 1.90 95.1 ,2.00 4.29 Ethylbenzene\* < 0.050 0.050 05/10/2013 ND 2.06 103 2.00 4.72 Total Xylenes\* < 0.150 0.150 05/10/2013 ND 6.06 101 6.00 4.21 Total BTEX <0.300 0.300 05/10/2013 ND 89.4-126 Surrogate: 4-Bromofluorobenzene (PIE 108 % 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	05/10/2013	ND	194	96.9	200	0.684	
DRO >C10-C28	<10.0	10.0	05/10/2013	ND	181	90.7	200	1.51	
						······································	······		
Surrogate: 1-Chlorooctane	90.3 %	6 65.2-14	0						

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Surrogate: 1-Chlorooctadecane

96.4 %

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:	05/08/2013	Sampling Date:	05/06/2013
Reported:	05/13/2013	Sampling Type:	Soil
Project Name:	MARTHA AIK FEDERAL BATTERY	Sampling Condition:	Cool & Intact
Project Number:	30-015-26549	Sample Received By:	Jodi Henson
Project Location:	EDDY COUNTY, NM		

### Sample ID: MF3 - 6' (H301097-12)

BTEX 80218 mg/kg Analyzed By: AP Reporting Limit Analyte Result Analyzed Method Blank BS % Recovery True Value QC RPD Qualifier 0.050 05/10/2013 Benzene\* < 0.050 ND 2.08 104 2.00 4.33 Toluene\* < 0.050 0.050 05/10/2013 ND 1.90 2.00 95.1 4.29 Ethylbenzene\* < 0.050 0.050 05/10/2013 ND 2.06 103 2.00 4.72 0.150 05/10/2013 Total Xylenes\* < 0.150 ND 6.06 6.00 101 4.21 Total BTEX < 0.300 0.300 05/10/2013 ND Surrogate: 4-Bromofluorobenzene (PIL) 109% 89.4-126 TPH 8015M Analyzed By: MS mg/kg Analyte Result Reporting Limit Analyzed Method Blank ВS % Récoverv True Value OC RPD Qualifier GRO C6-C10 <10.0 10.0 05/10/2013 ND 194 96.9 200 0.684 <10.0 10.0 05/10/2013 DRO >C10-C28 ND 181 90.7 200 1.51

Surrogate: 1-Chlorooctane	91.0 %	65.2-140
Surrogate: 1-Chlorooctadecane	95.7 %	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:	05/08/2013	Sampling Date:	05/06/2013
Reported:	05/13/2013	Sampling Type:	Soil
Project Name:	MARTHA AIK FEDERAL BATTERY	Sampling Condition:	Cool & Intact
Project Number:	30-015-26549	Sample Received By:	Jodi Henson
Project Location:	EDDY COUNTY, NM		

### Sample ID: MB - 1' (H301097-13)

BTEX 80218	mg/	kg	Analyze	d By: AP					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Benzene*	< 0.050	0.050	05/10/2013	ND	2.08	104	2.00	- 4.33	·
Toluene*	<0.050	0.050	05/10/2013	ND	1.90	95.1	2.00	4.29	
Ethylbenzene*	<0.050	0.050	05/10/2013	ND	2.06	103	2.00	4.72	
Total Xylenes*	< 0.150	0.150	05/10/2013	ND	6.06	101	6.00	4.21	
Total BTEX	<0.300	0.300	05/10/2013	ND					
Surrogate: 4-Bromofluorobenzene (PIE	110 9	% 89.4-12	26						
TPH 8015M	mg/	/kg	Analyze	d By: MS			<u></u>		
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10	<10.0	10.0	05/10/2013	ND	194	96.9	200	0.684	
DRO >C10-C28	<10.0	10.0	05/10/2013	ND	181	90.7	200	1.51	
Surrogate: 1-Chlorooctane	98.7	% 65.2-14	10	/				**************************************	<u></u>
Surrogate: 1-Chlorooctadecane	106	% 63.6-15	54						

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Celez Li Keine

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:	05/08/2013	Sampling Date:	05/06/2013
Reported:	05/13/2013	Sampling Type:	Soil
Project Name:	MARTHA AIK FEDERAL BATTERY	Sampling Condition:	Cool & Intact
Project Number:	30-015-26549	Sample Received By:	Jodi Henson
Project Location:	EDDY COUNTY, NM		

### Sample ID: MB - 2' (H301097-14)

BTEX 8021B	mg/	'kg	Analyze	d By: AP		·····			
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Benzene*	< 0.050	0.050	05/10/2013	ND \	2.03	104	2.00	4.33	
Toluene*	<0.050	0.050	05/10/2013	ND	1.90	95.1	2.00	4.29	
Ethylbenzene*	< 0.050	0.050	05/10/2013	ND	2.06	103	2.00	4.72	
Total Xylenes*	<0.150	0.150	05/10/2013	ND	6.05	101	6.00	4.21	
Total BTEX	<0.300	0.300	05/10/2013	ND		·			,
Surrogate: 4-Bromofluorobenzene (PIL	109 9	% \$9.4-12	6						
TPH 8015M	mg,	'kg	Analyze	d By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10	<10.0	10.0	05/10/2013	ND	194	96.9	200	0.684	
DRO >C10-C28	<10.0	10.0	05/10/2013	ND	181	90.7	200	1.51	
Surrogate: 1-Chlorooctane	93.6	% 65.2-14	0						
Surrogate: 1-Chlorooctadecane	97.9	% 63.6-15	4						

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Celegit 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:	05/08/2013	Sampling Date:	05/06/2013
Reported:	05/13/2013	Sampling Type:	Soil
Project Name:	MARTHA AIK FEDERAL BATTERY	Sampling Condition:	Cool & Intact
Project Number:	30-015-26549 /	Sample Received By:	Jodi Henson
Project Location:	EDDY COUNTY, NM		

### Sample ID: MB - 3' (H301097-15)

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BTEX 8021B	mg/	′kg	Analyze	d By: AP			·		
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Benzene*	<0.050	. 0.050	05/10/2013	ND.	2.08	104	2.00	4.33	
Toluene*	<0.050	0.050	05/10/2013	ND	1.90	95.1	2.00	4.29	
Ethylbenzene*	<0.050	0.050	05/10/2013	ND	2.06	103	2.00	4.72	
Total Xylenes*	<0,150	0.150	05/10/2013	ND	6.06	101	, 6.00	4.21	
Total BTEX	<0.300	0.300	05/10/2013	ND					
Surrogate: 4-Bromofluorobenzene (PIL	109	% 89.4-12						······	
трн 8015м	mg,	/kg	Analyze	d By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10	<10.0	10.0	05/10/2013	ND	194	96.9	200	0.684	
DRO >C10-C28	<10.0	10.0	05/10/2013	ND	181	90,7	200	1.51	
Surrogate: 1-Chlorooctane	99.7	% 65.2-14	10						
Surrogate: 1-Chlorooctadecane	107	% 63.6-15	i <i>4</i>						

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Celen De Keine

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:	05/08/2013	Sampling Date:	05/06/2013
Reported:	05/13/2013	Sampling Type:	Soil
Project Name:	MARTHA AIK FEDERAL BATTERY	Sampling Condition:	Cool & Intact
Project Number:	30-015-26549	Sample Received By:	Jodi Henson
Project Location:	EDDY COUNTY, NM		

### Sample ID: MB - 4' (H301097-16)

BTEX 8021B	mg/	′kg	Analyze	d By: AP					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	B\$	% Recovery	True Value QC	RPD	Qualifier
Benzene*	<0.050	0.050	05/10/2013	ND	2.08	104	2.00	4.33	
Toluene*	<0.050	0.050	05/10/2013	ND	1.90	95.1	2.00	4.29	
Ethylbenzene*	<0.050	0.050	05/10/2013	ND	2.06	103	2.00	4.72	
Total Xylenes*	< 0.150	0.150	05/10/2013	ND	6.06	101	6.00	4.21	
Total BTEX	<0.300	0.300	05/10/2013	ND					
Surrogate: 4-Bromofluorobenzene (PIE	109	% \$9.4-12	6						
TPH 8015M	mg,	′kg	Analyze	d By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	85	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10	<10.0	10.0	05/10/2013	ND	194	96.9	200	0.684	
DRO >C10-C28	<10.0	10.0	05/10/2013	ND	181	90.7	200	1.51	
Surrogate: 1-Chlorooctane	105 :	% 65.2-14	0	· · · · · · · · · · · · · · · · · · ·					
Surrogate: 1-Chlorooctadecane	114 :	% 63.6-15	4						

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Celey D. Keene, Lab Director/Quality Manager



# Analytical Results For:

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

Received:	05/08/2013	Sampling Date:	05/06/2013
Reported:	05/13/2013	Sampling Type:	Soil
Project Name:	MARTHA AIK FEDERAL BATTERY	Sampling Condition:	Cool & Intact
Project Number:	30-015-26549	Sample Received By:	Jodi Henson
Project Location:	EDDY COUNTY, NM		

### Sample ID: MB - 5' (H301097-17)

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BTEX 8021B	mg/	mg/kg Analyzed		d By: AP					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Benzene*	<0.050	0.050	05/10/2013	ND	2.08	104	2.00	4.33	
Toluene*	<0.050	0.050	05/10/2013	ND	1.90	95.1	2,00	4.29	
Ethylbenzene*	<0.050	0.050	05/10/2013	ND	2.06	103	2,00	4.72	
Total Xylenes*	<0.150	0.150	05/10/2013	ND	6.06	101	6.00	4.21	
Total BTEX	<0.300	0.300	05/10/2013	ND					
Surrogate: 4-Bromofluorobenzene (PIL	108	% 89.4-12	6						
трн 8015м	mg/	'kg	Analyze	d By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10	<10.0	10.0	05/10/2013	ND	194	.96.9	200	0.684	
DRO >C10-C28	<10.0	10.0	05/10/2013	ND	181	90.7	200	1,51	
Surrogate: 1-Chlorooctane	103 :		0						
Surrogate: 1-Chlorooctadecane	110 :	63.6-15	4						

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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:	05/08/2013	Sampling Date:	05/06/2013	
Reported:	05/13/2013	Sampling Type:	Soil	
Project Name:	MARTHA AIK FEDERAL BATTERY	Sampling Condition:	Cool & Intact	
Project Number:	30-015-26549	Sample Received By:	Jodi Henson	
Project Location:	EDDY COUNTY, NM			

### Sample ID: MB - 4' (H301097-16)

BTEX 8021B	mg/kg		Analyzed By: AP						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	8S	% Recovery	True Value QC	RPD	Qualifier
Benzene*	<0.050	0.050	05/10/2013	ND	2.08	104	2.00	4.33	
Toluene*	<0.050	0.050	05/10/2013	ND	1.90	95.1	2.00	4.29	
Ethylbenzene*	<0.050	0.050	05/10/2013	ND	2.06	103	2.00	4.72	
Total Xylenes*	<0.150	0,150	05/10/2013	ND	6.06	101	6.00	4.21	
Total BTEX	<0.300	0.300	05/10/2013	ND					
Surrogate: 4-Bromofluorobenzene (PID	109	% \$9.4-12	26						
TPH 8015M	mg/	'kg	Analyze	d By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10	<10.0	10.0	05/10/2013	ND	194	96.9	200	0.684	
DRO >C10-C28	<10.0	10.0	05/10/2013	ND	181	90.7	200	1.51	
Surrogate: 1-Chlorooctane	105	% 65.2-14	10					<u></u>	
Surrogate: 1-Chlorooctadecane	114	% 63.6-15	54						

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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:	05/08/2013	Sampling Date:	05/06/2013
Reported:	05/13/2013	Sampling Type:	Soil
Project Name:	MARTHA AIK FEDERAL BATTERY	Sampling Condition:	Cool & Intact
Project Number:	30-015-26549	Sample Received By:	Jodi Henson
Project Location:	EDDY COUNTY, NM		

### Sample ID: MB - 5' (H301097-17)

BTEX 8021B	mg/kg		Analyzed By: AP						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	85	% Recovery	True Value QC	RPD	Qualifier
Benzene*	<0.050	0.050	05/10/2013	ND	2.08	104	2.00	4.33	
Toluene*	<0.050	0.050	05/10/2013	ND	1.90	95.1	2.00	4.29	
Ethylbenzene*	<0.050	0.050	05/10/2013	ND	2.06	103	2.00	4.72	
Total Xylenes*	<0.150	0.150	05/10/2013	ND	6.06	101	6.00	4.21	
Total BTEX	<0.300	0.300	05/10/2013	ND					
Surrogate: 4-Bromofluorobenzene (PID	108	% 89.4-12	6						
трн 8015м	mg/	'kg	Analyzed By: MS			<u></u>			
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10	<10.0	10.0	05/10/2013	ND	194	.96.9	200	0.684	
DRO >C10-C28	<10.0	10.0	05/10/2013	ND	181	90.7	200	1.51	
Surrogate: 1-Chlorooctane	103	% 65.2-14	10						·····
Surrogate: 1-Chlorooctadecane	110	63.6-15	54						

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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:	05/08/2013	Sampling Date:	05/06/2013
Reported:	05/13/2013	Sampling Type:	Soil
Project Name:	MARTHA AIK FEDERAL BATTERY	Sampling Condition:	Cool & Intact
Project Number:	30-015-26549	Sample Received By:	Jodi Henson
Project Location:	EDDY COUNTY, NM		

## Sample ID: MB - 6' (H301097-18)

BTEX 8021B	mg/	kg	Analyze	d By: AP					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Benzene*	<0.050	0.050	05/10/2013	ND	2.08	104	2.00	4.33	
Toluene*	<0.050	0.050	05/10/2013	ND	1.90	95.1	· 2.00	4.29	
Ethylbenzene*	<0.050	0.050	05/10/2013	ND	2.06	103	2.00	4.72	
Total Xylenes*	<0.150	0.150	05/10/2013	ND	6.06	101	6.00	4.21	
Total BTEX	<0.300	0.300	05/10/2013	ND					
Surrogate: 4-Bromofluorobenzene (PIL	109 \$	% 89.4-12	6				······································		
трн 8015м	mg/	kg	Analyze	d By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10	<10.0	10.0	05/10/2013	ND	194.	96.9	200	0.684	
DRO >C10-C28	<10.0	10.0	05/10/2013	ND	181	90.7	200	1.51	
Surrogate: 1-Chlorooctane	96.1	% 65.2-14	0						
Surrogate: 1-Chlorooctadecane	102 9	63.6-15	4						

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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

05/08/2013	Sampling Date:	05/06/2013
05/13/2013	Sampling Type:	Soil
MARTHA AIK FEDERAL BATTERY	Sampling Condition:	Cool & Intact
30-015-26549	Sample Received By:	Jodi Henson
EDDY COUNTY, NM		
	05/13/2013 MARTHA AIK FEDERAL BATTERY 30-015-26549	05/13/2013Sampling Type:MARTHA AIK FEDERAL BATTERYSampling Condition:30-015-26549Sample Received By:

## Sample ID: MF1 - 1' (H301097-19)

BTEX 8021B	mg/	kg	Analyze	d By: AP				·····	
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
, Benzene*	<0.050	0.050	05/10/2013	ND	2.08	104	2.00	4.33	
Toluene*	<0.050	0.050	05/10/2013	ND	1.90	95.1	2.00	4.29	
Ethylbenzene*	<0.050	0.050	05/10/2013	ND	2.06	103	2.00	4.72	
Total Xylenes*	<0.150	0.150	05/10/2013	ND	6.06	101	6.00	4.21	
Total BTEX	<0.300	0.300	05/10/2013	ND					
Surrogate: 4-Bromofluorobenzene (PIL	109	% \$9.4-12	6						
TPH 8015M	mg,	′kg	Analyze	d By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10	<10.0	10.0	05/10/2013	ND	194	96.9	200	0.684	
DRO >C10-C28	28.3	10.0	05/10/2013	ND	181	90.7	200	1.51	
Surrogate: 1-Chlorooctane	106	65.2-14	0						
Surrogate: 1-Chlorooctadecane	116	63.6-13	4						

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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:	05/08/2013	Sampling Date:	05/06/2013
Reported:	05/13/2013	Sampling Type:	Soil
Project Name:	MARTHA AIK FEDERAL BATTERY	Sampling Condition:	Cool & Intact
Project Number:	30-015-26549	Sample Received By:	Jodi Henson
Project Location:	EDDY COUNTY, NM		

## Sample ID: MF1 - 2' (H301097-20)

BTEX 8021B	mg/	kg	Analyze	d By: AP					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Benzene*	<0.050	0.050	05/10/2013	ND	2.08	104	2.00	4.33	
Toluene*	<0.050	0.050	05/10/2013	ND	1.90	95.1	2.00	4.29	
Ethylbenzene*	<0.050	0.050	05/10/2013	ND	2.06	103	2.00	4.72	
Total Xylenes*	< 0.150	0.150	05/10/2013	ND	6.06	101	6.00	4.21	
Total BTEX	<0.300	0.300	05/10/2013	ND					
Surrogate: 4-Bromofluorobenzene (PIL	108 9	% 89.4-12	6				· · · · · · · · · · · · · · · · · · ·	- <i>//</i>	
TPH 8015M	mg/	kg	Analyze	d By: MS	·····				•
Analyte	Result	Reporting Limit.	Analyzed	Method Blank	85	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10	<10.0	10.0	05/10/2013	ND	194	96.9	200	0.684	
DRO >C10-C28	41.1	10.0	05/10/2013	ND	181	90.7	200	1.51	
Surrogate: 1-Chlorooctane	100 5	% 65.2-14	0		·······				
Surrogate: 1-Chlorooctadecane	104 9	63.6-15	4						

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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:	05/08/2013	Sampling Date:	05/06/2013
Reported:	05/13/2013	Sampling Type:	Soil
Project Name:	MARTHA AIK FEDERAL BATTERY	Sampling Condition:	Cool & Intact
Project Number:	30-015-26549	Sample Received By:	Jodi Henson
Project Location:	EDDY COUNTY, NM		

## Sample ID: MF1 - 3' (H301097-21)

BTEX 8021B	mg/	kg	Analyze	d By: AP		·····			
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Benzene*	<0.050	0.050	05/10/2013	ND	2.08	104	2.00	4.33	
Toluene*	<0.050	0.050	05/10/2013	ND	1.90	95.1	2.00	4.29	
Ethylbenzene*	<0.050	0.050	05/10/2013	ŃD	2.06	103	2.00	4.72	
Total Xylenes*	<0.150	0.150	05/10/2013	ND	6.06	101	6.00	4.21	
Total BTEX	<0.300	0.300	05/10/2013	ND					
Surrogate: 4-Bromofluorobenzene (PIL	109 5	% 89.4-12	6						
TPH 8015M	mg/	'kg	Analyze	d By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10	<10.0	10.0	05/10/2013	ND	194	96.9	200	0.684	
DRO >C10-C28	<10.0	10.0	05/10/2013	ND	181	90.7	200	1.51	
Surrogate: 1-Chlorooctane	102 \$	65.2-14	0		• ••••				
Surrogate: 1-Chlorooctadecane	103 \$	63.6-15	4						

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Celegit 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:	05/08/2013	Sampling Date:	05/06/2013
Reported:	05/13/2013	Sampling Type:	Soil
Project Name:	MARTHA AIK FEDERAL BATTERY	Sampling Condition:	Cool & Intact
Project Number:	30-015-26549	Sample Received By:	Jodi Henson
Project Location:	EDDY COUNTY, NM		

#### Sample ID: MF1 - 4' (H301097-22)

BTEX 8021B	nig/	kg	Analyze	d By: AP					
Analyte	Result	Reporting Limit	Analyzed	, Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Benzene*	< 0.050	0.050	05/10/2013	ND	2.08	104	2.00	4.33	
Toluene*	< 0.050	0.050	05/10/2013	ND	1.90	95.1	2.00	4,29	
Ethylbenzene*	< 0.050	0.050	05/10/2013	ND	2.06	103	2.00	4.72	
Total Xylenes*	< 0.150	0.150	05/10/2013	ND	6.06	101	6.00	4.21	
Total BTEX	<0.300	0.300	05/10/2013	ND					
Surrogate: 4-Bromofluorobenzene (P.	ID · 109 :	% \$9.4-12	6			1			
TPH 8015M	mg/	kg	Analyze	d By: MS			·		
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	, RPD	Qualifier
GRO C6-C10	<10.0	10.0	05/10/2013	. ND	194	96.9	200	0.684	
DRO >C10-C28	<10.0	10.0	05/10/2013	ND	181	90.7	200	1.51	
Surrogate: 1-Chlorooctane	107	% 65.2-14	0						
Surrogate: 1-Chlorooctadecane	114 5	63.6-15	4						

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#### \*=Accredited Analyte

PLEASE NOTE: Lability and Damages. Cardinal's fability and clerit's endusive remedy for any claim ansing, whether based in contrast or lost, shall be finited to the amount paid by clerit for analyses. All claims, including trose for negligence and any other save whatsoever shall be deemed wahed unliss make in writing and revised by claimal, within thim; (30) days after completion of the applicable service. In no event shall Cardinal be fable for incidental or correct, analyses, including, writishing, writ

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## Analytical Results For:

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

Received:	05/08/2013	Sampling Date:	05/06/2013
Reported:	05/13/2013	Sampling Type:	Soil
Project Name:	MARTHA AIK FEDERAL BATTERY	Sampling Condition:	Cool & Intact
Project Number:	30-015-26549	Sample Received By:	Jodi Henson
Project Location:	EDDY COUNTY, NM		

#### Sample ID: MF1 - 5' (H301097-23)

BTEX 8021B	mg,	/kg	Analyze	d By: AP					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Benzene*	<0.050	0.050	05/10/2013	ND	2.08	104	2,00	4.33	
Toluene*	<0.050	0.050	05/10/2013	ND	1.90	95.1	2.00	4.29	
Ethylbenzene*	<0.050	0.050	05/10/2013	ND	2.06	103	2.00	4.72	
Total Xylenes*	<0.150	0.150	05/10/2013	ND	6.06	101	6,00	4.21	
Total BTEX	<0.300	0.300	05/10/2013	ND					
Surrogate: 4-Bromofluorobenzene (PIL	109	% 89.4-12	6						
TPH 8015M	mg,	/kg	Analyze	d By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	6S	% Recovery	True Value QC	RPD	Qualifier
		10.0	05/10/2013	ND	194	96.9	200	0.684	
GRO C6-C10	<10.0	10.0	03/10/2013	ne -					

Surrogate: 1-Chlorooctadecane 105 % 63.6-154

\*=Accredited Analyte

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Cardinal Laboratories

Celey D. Keene, Lab Director/Quality Manager

## PHONE (575) 393-2326 9 101 E. MARLAND 9 HOBBS, NM 88240

## Analytical Results For:

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

Received:	05/08/2013	Sampling Date:	05/06/2013	
Reported:	05/13/2013	Sampling Type:	Soil	
Project Name:	MARTHA AIK FEDERAL BATTERY	Sampling Condition:	Cool & Intact	
Project Number:	30-015-26549	Sample Received By:	Jodi Henson	
Project Location:	EDDY COUNTY, NM			

## Sample ID: MF1 - 6' (H301097-24)

BTEX 8021B	mg/	kg	Analyze	d By: AP	····				
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Benzene*	<0.050	0.050	05/10/2013	ND	2.08	104	2.00	4.33	
Toluene*	<0.050	0.050	05/10/2013	ND	1.90	95.1	2.00	4.29	
Ethylbenzene*	<0.050	0.050	05/10/2013	ND	2.06	103	2.00	4.72	
Total Xylenes*	<0.150	0.150	05/10/2013	ND	6.06	101	6.00	4.21	
Total BTEX	<0.300	0.300	05/10/2013	ND					
Surrogate: 4-Bromofluorobenzene (PIE	108 5	% \$9.4-12							
TPH 8015M	mg/	kg	Analyze	d By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10	<10.0	10.0	05/13/2013	ND	213	107	200	0.896	
DRO >C10-C28	<10.0	10.0	05/13/2013	ND	209	104.	200	1.12	
Surrogate: 1-Chlorooctane	110 :	% 65.2-14	0						

Surrogate: 1-Chlorooctadecane 118 % 63.6-154

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#### \*=Accredited Analyte

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Celeng L. Keene



#### 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 $6^{\circ}\text{C}$
	Samples reported on an as received basis (wet) unless otherwise noted on report

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Celey D. Keene, Lab Director/Quality Manager

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

August 29, 2013

AMBER CANNON

YATES PETROLEUM CORPORATION

105 S 4th Street

Artesia, NM 88210

RE: MARTHA AIK FEDERAL #1 FIELD

Enclosed are the results of analyses for samples received by the laboratory on 08/23/13 12:45.

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.

Cardinal Laboratories is accreditated 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,

Celeg D. Herne

Celey D. Keene Lab Director/Quality Manager



### Analytical Results For:

YATES PETROLEUM CORPORATION AMBER CANNON 105 S 4th Street Artesia NM, 88210 Fax To: (505) 748-4635

Received:	08/23/2013	Sampling Date:	08/22/2013
Reported:	08/29/2013	Sampling Type:	Soil
Project Name:	MARTHA AIK FEDERAL #1 FIELD	Sampling Condition:	Cool & Intact
Project Number:	30-015-26549	Sample Received By:	Jodi Henson
Project Location:	EDDY COUNTY, NM		

### Sample ID: MARTHA 1 FIELD 1-7 (H302034-01)

Chloride, SM4500Cl-B	/kg	Analyze	d By: DW							
Analyte	Result	Reporting Limit	Analyzed	Method Blank	85	% Recovery	True Value QC	RPD	Qualifier	
Chloride	6240	16.0	08/29/2013	ND	448	112	400	3.64		

#### Sample ID: MARTHA 1 FIELD 1-8 (H302034-02)

Chloride, SM4500Cl-B mg/kg Analyzed By: DW

Analyte	•	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride		28400	16.0	08/29/2013	ND	448	112	400	3.64	

#### Sample ID: MARTHA 1 FIELD 1-9 (H302034-03)

Chloride, SM4500Cl-B	nıg/	'kg	Analyze	d By: DW					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	8S	- % Recovery	True Value QC	RPD	Qualifier
. Chloride	30800	16.0	08/29/2013	ND	448	112	400	3.64	

## Sample ID: MARTHA 1 FIELD 1-10 (H302034-04)

Chloride, SM4500Cl-B	mg/kg		Analyzed By: DW						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	8S	% Recovery	True Value QC	RPD	Qualifier
Chloride	24600	16.0	08/29/2013	ND	448	112	400	3.64	

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#### \*=Accredited Analyte

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Celeg E Keine

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

#### Analytical Results For:

YATES PETROLEUM CORPORATION AMBER CANNON 105 S 4th Street Artesia NM, 88210 Fax To: (505) 748-4635

Received:	08/23/2013		Sampling Date:	08/22/2013
Reported:	08/29/2013		Sampling Type:	Soil
Project Name:	MARTHA AIK FEDERAL #1 FIELD		Sampling Condition:	Cool & Intact
Project Number:	30-015-26549	•	Sample Received By:	Jodi Henson
Project Location:	EDDY COUNTY, NM		•	

## Sample ID: MARTHA 1 FIELD 1-11 (H302034-05)

Chloride, SM4500Cl-B	mg/kg		Analyzed By: DW						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	14600	16.0	08/29/2013	ND	448	112	400	3.64	

#### Sample ID: MARTHA 1 FIELD 1-12 (H302034-06)

Chloride, SM4500Cl-B mg/kg Analyzed By: DW

Analyte	Result	Reporting Limit	Analyzed	Method Blank	БS	% Recovery	True Value QC	RPD	Qualifier
Chloride	11800	16.0	08/29/2013	ND	448	112	400	3.64	

#### Sample ID: MARTHA 1 FIELD 2-7 (H302034-07)

Chloride, SM4500Cl-B	mg į	/kg	Analyzed By: DW		·				<u></u>
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	25200	16.0	08/29/2013	ND	448	112	400	3.64	

## Sample ID: MARTHA 1 FIELD 2-8 (H302034-08)

Chloride, SM4500CI-B	mg,	/kg	Analyze	d By: DW		·······		·····	
Analyte	Result	Reporting Limit	Analyzed	Method Blank	8S	% Recovery	True Value QC	RPD	Qualifier
Chloride	22200	16.0	08/29/2013	ND	448	112	400	3.64	

#### Sample ID: MARTHA 1 FIELD 2-9 (H302034-09)

Chloride, SM4500Cl-B	mg,	/kg	Analyzed By: DW						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	17000	16.0	08/29/2013	ND	448	112	400	3,64	

#### Cardinal Laboratories

\*=Accredited Analyte

PLEASE NOTE: Labling and Damages. Candinalis Labling and clerifs exclusive remedy for any claim arising, whether based in contract or test, shall be timed to the amount pairs by clerif for availytes. All clears, including these for negligence and any other cause whatbeer shall be detened waived unless made in while give determed by Cardinal within thing (30) days after completion of the applicable service. In no event shall be cardinal be lable for modernal or consequenced damages, including, whithout Immadion, busies unless, loss of use, or loss of prefix normed by clears, afflictes or surcessors arises out or explained to related to the performance of the services horeunder by Cardinal, regardless of whether such claim is based open any of the above stated reasons or otherwise. Results relate only to the service by regardles are be precisived entering in the above stated reasons or otherwise.

Celeg D. Kune

Celey D. Keene, Lab Director/Quality Manager



#### Analytical Results For:

YATES PETROLEUM CORPORATION AMBER CANNON 105 S 4th Street Artesia NM, 88210 Fax To: (505) 748-4635

Received:	08/23/2013	Sampling Date:	08/22/2013
Reported:	08/29/2013	Sampling Type:	Soil
Project Name:	MARTHA AIK FEDERAL #1 FIELD	Sampling Condition:	Cool & Intact
Project Number:	30-015-26549	Sample Received By:	Jodi Henson
Project Location:	EDDY COUNTY, NM		

#### Sample ID: MARTHA 1 FIELD 3-7 (H302034-10)

Chloride, SM4500CI-B	mg/kg		Analyzed By: DW						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	23200	16.0	08/29/2013	ND	448	112	400	3.64	

## Sample ID: MARTHA 1 FIELD 3-8 (H302034-11)

Chloride, SM4500Cl-B	mg/kg		Analyzed By: DW						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	13900	16.0	08/29/2013	ND	448	-112	400	3.64	

#### Sample ID: MARTHA 1 FIELD 3-9 (H302034-12)

Chloride, SM4500CI-B mg/kg Analyzed By: DW

Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	28400	16.0	08/29/2013	ND	448	112	400	3,64	

#### Cardinal Laboratories

#### \*=Accredited Analyte

REPOSE NOTE: Liability and Damages. Candinel's labitry and client's endowine remety for any claim ensing, whether based in contract on tort, shall be limited to the amount paid by client for analyses. All claims, including those for negligence and any objer cause whateover shall be detends whened unlies made in whiting and received by Calimal within thirty (33) days after complexan of the applicable scripts. In no event shall Cardinal be lable for inodential or consequential damages, including without by the set of sources whateover shall be cleant for any object and source and within thirty (33) days after complexan of the applicable scripts. In no event shall Cardinal be lable for inodential or consequential damages, including without by the set of sources within the set of the set of or related to the performance of the services hereunder by Cardinal, regardless of whether such claims to be sponded sources in a day of the above state of states or otherware. Results relate any of the source state of states or otherware. Results relate any of the source state of states or otherware related above. This report that not be reported carepting in any of the above frame of the services.

Celeg Di Kune

Celey D. Keene, Lab Director/Quality Manager



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

## Notes and Definitions

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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,
▲ <b>ズ</b> ギ	Insufficient time to reach temperature.
-	Chloride by SM4500CI-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

Cardinal Laboratories

\*=Accredited Analyte

REASE NOTE: Liabley and Damages. Cardinal's famility and clears enclosive remety for any clears anisong, whether based in contract or tort, shall be limited to the amount paid by chent for analyses. All clears, including those for neplogence and any coter cause whether has be deemed waired unless mode in whithing and received by Cardinal within thiny (30) cays after completion of the epifcetele service. In no event shall Cardinal be label for incidental or contenuential damages, including, which it is subcidianes, afflicates or successors arriving out of or related to the performance of the samueles hereinder by Cardinal, regardless of whether such claim is based upon any of the above stated reasons or otherwise. Results relive on to the samueles (being date), this report shall not be reproduced encept in hall with writen approal of Cardinal Laboratores.

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	Project Manager:	Amber Cannon					<u> </u>	_				-					I	Proje	ot N	ame	:		M	arth	a A	.IK F	Fed	eral	#1 I	Field		
	Company Name	Yates Petroleum Corporation	on										·····			_	Project #:							30	)-01	5-2	654	9				
	Company Address:	105 South 4th Street																Pro	ject	t Loc: Eddy County												
	City/State/Zip:	Алеsia, NM 88210														_	PO #:103-2020															
	Telephone No:	575-748-4111 or 575-513-8799 Fax No: 575-748-4131 Report Forma																·														
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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	HNO3	HCI	H <sub>2</sub> SO4	NaOH	Na <sub>2</sub> S <sub>2</sub> O <sub>2</sub>	None Other ( Specify)	DW=Drinking Water SL=Sludge	GW ≍ Groundwater S=Soll/Solid	hor.		R	Anions (CI, SO4, Alkalinity)	SAR / ESP / CEC	Metals: As Ag Ba Cd Cr Pb Hg Se	Volatiles	Semivolatiles	BTEX 8021B/5030 or BTEX 8260	RCI	N.O.R.M.	Chlondes SAP	AHA	TAT (Pro-Schodulo) 24	Standard TAT
1	Martha 1 Field 1-7		7'	7'	8/22/2013	9:00 AM		1								1	S		1	1			-	-	-	┓	-+		x	<u> </u>	F	X
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January 21, 2014

AMBER CANNON

YATES PETROLEUM CORPORATION

105 S 4th Street

Artesia, NM 88210

RE: MARTHA AIK FEDERAL BATTERY

Enclosed are the results of analyses for samples received by the laboratory on 01/20/14 12:15.

Cardinal Laboratories is accredited through Texas NELAP under certificate number T104704398-13-5. 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 <a href="https://www.tcea.texas.gov/field/ga/lab\_accred\_certif.html">www.tcea.texas.gov/field/ga/lab\_accred\_certif.html</a>.

Cardinal Laboratories is accreditated 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,

Celeg D. Keine

Celey D. Keene Lab Director/Quality Manager

Page 1 of 4

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

## Analytical Results For:

YATES PET	TROLEUM CORPORATION
AMBER CA	NNON
105 S 4th	Street
Artesia NM	1, 88210
Fax To:	(505) 748-4635

Received:	01/20/2014	Sampling Date:	01/17/2014
Reported:	01/21/2014	Sampling Type:	Soil
Project Name:	MARTHA AIK FEDERAL BATTERY	Sampling Condition:	** (See Notes)
Project Number:	30-015-26549	Sample Received By:	Jodi Henson
Project Location:	EDDY COUNTY, NM		

#### Sample ID: MF 4-10 (H400167-01)

Chloride, SM4500CI-B	mg,	/kg	Analyze	d By: AP					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	16400	16.0	01/21/2014	ND	416	104	400	3.92	

### Sample ID: MF 4-15 (H400167-02)

Chloride, SM4500Cl-B	mg	/kg	Analyze	d By: AP					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	544	16.0	01/21/2014	ND	416	104	400	3.92	

## Sample ID: MF 4-20 (H400167-03)

Chloride, SM4500Cl-B	 mg	/kg	Analyze	d By: AP					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	224	16.0	01/21/2014	ND	416	104	400	3.92	

#### Cardinal Laboratories

#### \*=Accredited Analyte

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Celeg Di Keine

## Readinal Nulaboratories

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

#### 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.
2 V X	Insufficient time to reach temperature.
	Chloride by SI-14500CI-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

**Cardinal Laboratories** 

#### \*=Accredited Analyte

PLEXES NOTE: Labelity and Damages. Candinal's Labelity and clent's endicate remedy for any claim ansing, whether based in contract or tort, shall be inneed to the amount pand by clent for analyses. All claims, including those for negligence and any other cause whitesoerie shall be detended wakes or lists made in working and received by Candinal action thirty (30) days after completion of the applicable service. In no event shall Cardinal be label for incidental or consequencial damages, including, writes limitation, business literationands, or loss of use of society statisticable straiged or consequencial damages, including writes. Immature, business literations or otherwse, Results relate only to the samples identified atour. This report shall not be reproduced except in full write momental absorptions.

Celeg Di Keene

Celey D. Keene, Lab Director/Quality Manager

Page 3 of 4

	ARDINAL LA 101 East Mark Project Manager: Company Name Company Address: City/State/Zip: Telephone No:	Amber C: <u>Yates Pel</u> <u>105 Sout</u> <u>Artesia, N</u> <u>575-748-</u>	NM 88240 annon troleum C h 4th Stre IM 8821 4111	eet 0		]	. (505) 393-2326	Fax No										Reț	Proj Pr	ect I Proj ojec	-	*: *:			arth	na /  	AIK 0-01 ddy 20(		ieral 654 Junty 120	9 /		DEŚ	Page 4 of 4	
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## Condition of Approval Martha AIK Federal #1, 3001526549 Sec. 11, T22S-R31E, NM65417

Your work plan dated February 25, 2014 is approved subject to like approval by the NMOCD for the Martha AIK Federal #1 spill. These spills were off the location and occurred on April 18, 2013 and April 27, 2013 (NMOCD # 2RP-1631 & 2RP-1643).

- 1. Yates has or will excavate down to 4' then will place 2' compacted caliche barrier and 2' of like soil material back on top of spill area.
- 2. If area does not support vegetation growth Yates will be required to do additional work.
- 3. It may be beneficial to fence area to prevent livestock from damaging new growth once area is seeded in June 2014.

APPROVED J.D. Whitlock, Jr. On Lettoch 9

## Bratcher, Mike, EMNRD

From:	Amber Cannon <acannon@yatespetroleum.com></acannon@yatespetroleum.com>
Sent:	Tuesday, February 25, 2014 2:23 PM
То:	Bratcher, Mike, EMNRD; Duncan Whitlock
Cc:	Bob Asher
Subject:	Martha AIK Federal #1
Attachments:	MarthaAIKFederal1Field_Workplan022414.pdf

Importance:

High

Mike/Duncan,

Please find attached a work plan for the two releases that occurred on April 18, 2013 and April 27, 2013 (2RP-1631) at the Martha AIK Federal #1.

If either of you object to Yates' proposal, please let me know. Yates would like to get started on or before March 4, 2014.

Thanks,

# **Amber Cannon**

Environmental Regulatory Agent Yates Petroleum Corporation Office: (575) 748-4111 Cell: (575) 513-8799

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