Yates Petroleum

Cigarillo SWD System

2RP-2580

Upland Area

Final Work Plan

<u>o Asher</u>
tcher, Mike, EMNRD; Patterson, Heather, EMNRD; Billings, Bradford, EMNRD
<u>ie Parker</u>
arillo SWD System Work Plan (9-15-2015)
esday, September 15, 2015 3:19:17 PM
arillo SWD System Work Plan (9-15-2015).pdf

I've included that Yates will also construct low berms for erosion control per our meeting this morning.

Thank you.

# **Robert Asher** NM Environmental Regulatory Supervisor Yates Petroleum Corporation 105 S. 4<sup>th</sup> Street

Artesia, NM 88210 575-748-4217 (Office) 575-365-4021 (Cell)

This message may contain confidential information and is intended for the named recipient only. If you are not the intended recipient you are notified that disclosing, copying, distributing or taking any action in reliance on the contents of this information is strictly prohibited. E-mail transmission cannot be guaranteed to be secure or errorfree as information could be intercepted, corrupted, lost, destroyed, arrive late or incomplete, or contain viruses. The sender therefore does not accept liability for any errors or omissions in the contents of this message, which arise as a result of e-mail transmission. If verification is required please request a hard-copy version. MARTIN YATES, 01 1912-1985 FRANK W. YATES 1936-1986

5.P YATES



JOHN A. YATES CHAIRMAN OF THE BOARD

JOHN A. YATES JR.

JOHN D. PERINI EXECUTIVE V.P. OF MONETIZATION CHIEF FINANCIAL DEFICER

JAMES 5. BROWN CHIEF OPERATING DEFICER

105 SOUTH FOURTH STREET

ARTESIA, NEW MEXICO 88210-2118

TELEPHONE (575) 748-1471

September 15, 2015

Mr. Mike Bratcher NMOCD District II 1301 West Grand Artesia, NM 88210

Re: Cigarillo SWD System (SE of the Bonbon BNN State Com. #1-H) 2RP-2580 30-015-36913 Section 27, T25S-R28E Eddy County, New Mexico

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 November 4, 2014.

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 September 21, 2015.

If you have any questions call me at (575) 748-4217

Thank you.

YATES PETROLEUM CORPORATION

Robert Asher NM Environmental Regulatory Supervisor

Enclosure(s)

KATHY H. PORTER SECRETARY Yates Petroleum Corporation

Cigarillo SWD System Work Plan

Section 27, T25S-R28E

Eddy County, New Mexico

September 15, 2015

### I. Location

The release point is located approximately 10 miles south of Malaga, NM and 0.25 miles west of Pecos Highway (US 285), as represented by the attached Red Bluff, NM, USGS Quadrangle Map.

## II. Background

On November 4, 2014, Yates submitted to the NMOCD District II office a Form C-141 for a release of 20 B/O and 500 B/PW with 15 B/O and 375 B/PW recovered. The total affected area is approximately 330 feet by 1500 feet area. The release was from a buried poly line that failed. Initial impacted soils were excavated to depths between 12" and 24" and hauled to an approved NMOCD facility. Delineation samples were taken (11/13/2014) and sent to an NMOCD approved laboratory (results enclosed).

### III. Surface and Ground Water

Area surface geology ranges from Cenozoic to Paleozoic. Groundwater of record is listed on the Chevron Texaco Trend Map shows depth to groundwater approximately 50 feet making the site ranking for this site a ten (10). Watercourses in the area are dry except for infrequent flows in response to major precipitation events.

The ranking for this site is ten (10) based on the as following:

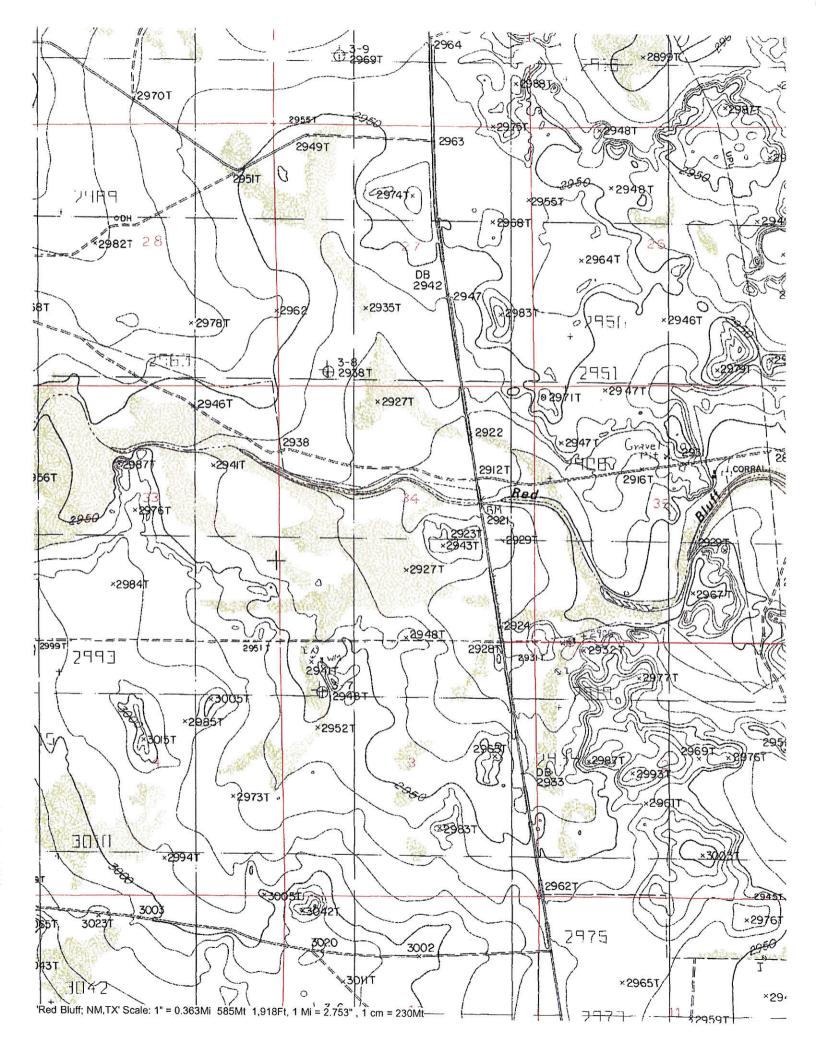
Depth to ground water50-99'Wellhead Protection Area> 1000'Distance to surface water body> 1000'

### IV. Soils

The area consists of soils that are caliche and loamy top soil and are 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 excavate a ten (10) foot by ten (10) foot by four (4) foot deep area of impacted soils within the release area designated in blue on the enclosed sample diagram. Those soils will be taken to an approved NMOCD facility. Based on background analytical results enclosed, Yates will conduct horizontal delineation of chlorides utilizing Hack Quantab strips. Impacted soils above the background level of 1440 ppm will be excavated and hauled to an MNOCD approved facility. Impacted soils below the background level of 1440 ppm will be left inplace. When delineation sampling and excavation work is completed a C-141, Final Report will be submitted to the NMOCD and request closure of the site. When delineation samples indicate chlorides to be below the background level of 1440 ppm within the area designated in blue, like soils will be brought in and backfilled and the entire release area will be contoured to match current grade of surface. Low berms will incorporated on the reclaimed surface to limit watershed size, disperse water and promote infiltration. The area will be seeded with the mixture recommended by the NMSLO/Red Bluff Draw Remediation Plan.



Analytical Report-		Sample						
H301570-01 (Cardinal)	Sample Area	Date	Sample Type	Depth	BTEX	GRO	DRO	Chlorides
	Release/							
A 1.0	Excavation	7/22/2015	Comp/Backhoe	1'				46
	Release/							
A 2.0	Excavation	7/22/2015	Comp/Backhoe	2'				32
A 3.0	Release/ Excavation	7/00/0015	Comp/Deckhoo	21				
A 3.0	Release/	7/22/2015	Comp/Backhoe	3'				ND
A 4.0	Excavation	7/22/2015	Comp/Backhoe	4'				130
	Release/						1. 1. 1. 1.	100
A 5.0	Excavation	7/22/2015	Comp/Backhoe	5'				180
	Release/							
A 6.0	Excavation	7/22/2015	Comp/Backhoe	6'				ND
Analytical Report-	Comple Area	Sample						
H301570-01 (Cardinal)	Sample Area	Date	Sample Type	Depth	BTEX	GRO	DRO	Chlorides
B 1.0	Release/ Excavation	7/22/2015	Come /Deckhoo	4				115
D I.U	Release/	112212015	Comp/Backhoe	1'				ND
B 2.0	Excavation	7/22/2015	Comp/Backhoe	2'				56
	Release/	TILLILO TO	Comp/Duoknoo					
B 3.0	Excavation	7/22/2015	Comp/Backhoe	3'				40
	Release/							
B 4.0	Excavation	7/22/2015	Comp/Backhoe	4'				74
D.C.O	Release/ Excavation	7/00/0045	0	-1				
B 5.0	Release/	7/22/2015	Comp/Backhoe	5'				290
B 6.0	Excavation	7/22/2015	Comp/Backhoe	6'				730
Analytical Report-		Sample						
H301570-01 (Cardinal)	Sample Area	Date	Sample Type	Depth	BTEX	GRO	DRO	Chlorides
	Release/							
C 1.0	Excavation	7/22/2015	Comp/Backhoe	1'				3700
	Release/		1000 0000 000	0.9756				
C 2.0	Excavation	7/22/2015	Comp/Backhoe	2'				1100
C 3.0	Release/ Excavation	7/22/2015	Comp/Rookboo	3'				0700
0 3.0	Release/	112212015	Comp/Backhoe	3				2700
C 4.0	Excavation	7/22/2015	Comp/Backhoe	4'				4200
	Release/							4200
C 5.0	Excavation	7/22/2015	Comp/Backhoe	5'				99
	Release/			- 840				
C 6.0	Excavation	7/22/2015	Comp/Backhoe	6'				65

Site Ranking is Ten (10). Depth to Ground Water 50-99' (approx. 50', per NMOSE).

All results are ppm. X - Sample Points - Release Point

Released : 20 B/O & 500 B/PW; Recovered: 15 B/O & 375 B/PW. Release Date: 10/10/2014

				Ĵ					
		「大学	「「「「「「「」」」」		0	「「「「「「「」」」」			
							に行きた		
	Analylical Report- H403878(cardint) C01.0A	Sample Area Background	Sample Date 12/17/2014	Sample Type Comp/Backhoe	Depth 1'	BTEX	GRO	DRO	Chlorides <16.0
10/	C02.0A C03.0A C04.0A C05.0A C06.0A	Background Background Background Background	12/17/2014 12/17/2014 12/17/2014	Comp/Backhoe Comp/Backhoe Comp/Backhoe Comp/Backhoe	2 3' 4' 5 6'				<16.0 464 1280 1100 1440
	Site Ranking is Tem All results are ppm. Released : 20 B/O &	(10). Depth to X - Sample Po	Ground Wate	er 50-99' (appr Release Point	ox 50', per N		D/2014	4	
PETROLEUM CORPORATION	Cigarillo SWD 30-015-30 Section 27, T2 Eddy Count	6913 25S-R28E	•	Ēn	SAN Prepar vironmen	MPLE D ed by R ntal Reg	lobert	Asher	sion



Hall Environmental Analysis Laboratory 4901 Hawkins NE Albuquerque, NM 87109 TEL: 505-345-3975 FAX: 505-345-4107 Website: www.hallenvironmental.com

July 31, 2015

Robert Asher Yates Petroleum Corporation 105 South Fourth Street Artesia, NM 88210 TEL: (575) 748-4217 FAX

RE: Cigarillo SWD System

OrderNo.: 1507B56

Dear Robert Asher:

Hall Environmental Analysis Laboratory received 6 sample(s) on 7/24/2015 for the analyses presented in the following report.

These were analyzed according to EPA procedures or equivalent. To access our accredited tests please go to <u>www.hallenvironmental.com</u> or the state specific web sites. In order to properly interpret your results it is imperative that you review this report in its entirety. See the sample checklist and/or the Chain of Custody for information regarding the sample receipt temperature and preservation. Data qualifiers or a narrative will be provided if the sample analysis or analytical quality control parameters require a flag. When necessary, data qualifers are provided on both the sample analysis report and the QC summary report, both sections should be reviewed. All samples are reported, as received, unless otherwise indicated. Lab measurement of analytes considered field parameters that require analysis within 15 minutes of sampling such as pH and residual chlorine are qualified as being analyzed outside of the recommended holding time.

Please don't hesitate to contact HEAL for any additional information or clarifications.

ADHS Cert #AZ0682 -- NMED-DWB Cert #NM9425 -- NMED-Micro Cert #NM0190

Sincerely,

andy

Andy Freeman Laboratory Manager 4901 Hawkins NE Albuquerque, NM 87109

Analytical Report Lab Order: 1507B56

Date Reported: 7/31/2015

	ates Petroleum Corporat Sigarillo SWD System	ion			L	ab O	rder:	1507B	56
Lab ID:	1507B56-001			C	Collection Date:	7/2	2/2015 1	0:15:00 A	M
Client Sample ID:	A 1.0				Matrix	SO	IL		
Analyses		Result	RL	Qual	Units	DF	Date An	alyzed	Batch ID
EPA METHOD 300	.0: ANIONS							Ana	lyst: LGT
Chloride		46	30		mg/Kg	20	7/28/201	5 9:33:35 F	PM 20490
Lab ID:	1507B56-002			C	Collection Date:	: 7/2	2/2015 1	0:20:00 A	M
Client Sample ID:	A 2.0				Matrix	s SO	IL		
Analyses		Result	RL	Qual	Units	DF	Date An	alyzed	Batch ID
EPA METHOD 300 Chloride	.0: ANIONS	32	30		mg/Kg	20	7/28/201		lyst: <b>LGT</b> PM 20490
Lab ID:	1507B56-003			0	Collection Date	: 7/2	2/2015 1	0:24:00 A	M
Client Sample ID:	A 3.0				Matrix	: SC	IL		
Analyses		Result	RL	Qual	Units	DF	Date An	alyzed	Batch ID
EPA METHOD 300 Chloride	0.0: ANIONS	ND	30		mg/Kg	20	7/28/201		lyst: <b>LGT</b> PM 20490
Lab ID:	1507B56-004			(	Collection Date	: 7/2	2/2015 1	0:27:00 A	М
<b>Client Sample ID:</b>	A 4.0				Matrix	: SC	IL		
Analyses		Result	RL	Qual	Units	DF	Date An	alyzed	Batch ID
EPA METHOD 300 Chloride	0.0: ANIONS	130	30		mg/Kg	20	7/28/201		lyst: <b>LGT</b> PM 20490
Lab ID:	1507B56-005			(	Collection Date	: 7/2	22/2015 1	0:30:00 A	M
<b>Client Sample ID:</b>	A 5.0				Matrix	: SC	DIL		
Analyses		Result	RL	Qual	Units	DF	Date Ar	nalyzed	Batch ID
EPA METHOD 300 Chloride	).0: ANIONS	180	30		mg/Kg	20	7/28/201		lyst: <b>LGT</b> PM 20490

Hall Environmental Analysis Laboratory, Inc.

Refer to the QC Summary report and sample login checklist for flagged QC data and preservation information.

Qualifiers: \*

\* Value exceeds Maximum Contaminant Level.D Sample Diluted Due to Matrix

- H Holding times for preparation or analysis exceeded
- ND Not Detected at the Reporting Limit

R RPD outside accepted recovery limits

- S % Recovery outside of range due to dilution or matrix
- B Analyte detected in the associated Method Blank
- E Value above quantitation range
- J Analyte detected below quantitation limits Page 1 of 3
- P Sample pH Not In Range
- RL Reporting Detection Limit

CLIENT: Project:	Yates Petroleum Corp Cigarillo SWD System			Narry Second Management (Management)	Lab Order:	15071	356
Lab ID: Client Sample	1507B56-006 e ID: A 6.0				ate: 7/22/2015 trix: SOIL	10:35:00	AM
Analyses		Result	RL Qual	Units	DF Date A	nalyzed	Batch ID
EPA METHO Chloride	D 300.0: ANIONS	ND	30	mg/Kg	20 7/28/20		alyst: <b>LGT</b> 5 PM 20490

# Hall Environmental Analysis Laboratory, Inc.

Lab Order: 1507B56

**Analytical Report** 

Date Reported: 7/31/2015

Refer to the QC Summary report and sample login checklist for flagged QC data and preservation information.

#### Qualifiers:

- \* Value exceeds Maximum Contaminant Level. D
- Sample Diluted Due to Matrix
- H Holding times for preparation or analysis exceeded
- ND Not Detected at the Reporting Limit
- RPD outside accepted recovery limits R
- S % Recovery outside of range due to dilution or matrix
- В Analyte detected in the associated Method Blank
- Е Value above quantitation range
- J Analyte detected below quantitation limits Page 2 of 3
- Р Sample pH Not In Range
- RL Reporting Detection Limit

# QC SUMMARY REPORT Hall Environmental Analysis Laboratory, Inc.

WO#: 1507B56

31-Jul-15

Client: Project:		Petroleum Co illo SWD Syst	1	on							
Sample ID	MB-20490	SampT	ype: ME	BLK	Tes	tCode: EF	PA Method	300.0: Anion	s		ternesisten setterne en en gran
Client ID:	PBS	Batch	ID: 204	490	R	RunNo: 27	7838				
Prep Date:	7/28/2015	Analysis D	ate: 7/	28/2015	S	eqNo: 8	36982	Units: mg/K	g		
Analyte		Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Chloride	(Mine - Anonica - An	ND	1.5								
Sample ID	LCS-20490	SampT	ype: LC	S	Tes	tCode: EF	PA Method	300.0: Anion	s		
Client ID:	LCSS	Batch	ID: 20	490	F	RunNo: 2	7838				
Prep Date:	7/28/2015	Analysis D	ate: 7/	28/2015	5	SeqNo: 8	36983	Units: mg/K	g		
Analyte		Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Chloride		15	1.5	15.00	0	98.1	90	110			

#### Qualifiers:

- \* Value exceeds Maximum Contaminant Level.
- D Sample Diluted Due to Matrix
- H Holding times for preparation or analysis exceeded
- ND Not Detected at the Reporting Limit
- R RPD outside accepted recovery limits
- S % Recovery outside of range due to dilution or matrix
- B Analyte detected in the associated Method Blank
- E Value above quantitation range
- J Analyte detected below quantitation limits
- P Sample pH Not In Range
- RL Reporting Detection Limit

Page 3 of 3



Hall Environmental Anatysis Labordory 4901 Hawkins NL Albuquerque NM 87109 TEL: 505-345-3975 FAX: 505-345-4107 Website: www.nallervironmental.com

Sample Log-In Check List

Client Name: Yates Petrole	um Corpora Work Order N	lumber: 1507B	56		RcptNo	1
<u>.</u>						
Received by/date:	< C1/24/1	5				
Logged By. Lindsay Mar	igin 7/24/2015 9:05.	MA 00.		Juniky Hangt Juniky Hangt		
Completed By: Lindsay Mar	igin 7/24/2015 12:53	3:34 PM		Sound of Harring D		
Reviewed By	5 07/24/15					
Chain of Custody						
1. Custody seals intact on san	nple bottles?	Yes		No	Not Present 🗸	
2. Is Chain of Custody comple	te?	Yes	×	No	Not Present	
3. How was the sample delive	red?	Coun	<u>91</u>			
Log In						
4. Was an attempt made to c	uol the samples?	Yes	V	No	NA	
5. Were all samples received	at a temperature of >0° C to 5 0°	°C Yes	~	No	NA	
5 Sample(s) in proper contain	ner(s)?	Yes	<b>X</b>	No		
7. Sufficient sample volume for	or indicated test(s)?	Yes	~	No		
8. Are samples (except VOA :		Yes	V	No		
9. Was preservative added to		Yes		No 🖌	NA	
10. VOA vials have zero heads	pace?	Yes		No 🗌	No VOA Vials 🖌	
11. Were any sample containe	rs received broken?	Yes		No 🖌		
					# of preserved bottles checked	
12. Does paperwork match bot		Yes	¥	No	for pH: (<2 c	or >12 unless noted
(Note discrepancies on cha 13. Are matrices correctly iden	an and a second s	Yes	V	No	Adjusted?	
12. Is it clear what analyses w		Yes		No		
15. Were all holding times able (If no. notify customer for a	e to be met?	Yes	~	No	Checked by.	
<u>Special Handling (if app</u>	licable)					
16. Was client notified of all di	screpancies with this order?	Yes		No	NA 🖌	
Person Notified:		Date		an a		
By Whom		Via: eM	ail 🗌	Phone Fax	in Person	
Regarding:	na sen na se	e set en al set d'Al constant en parte en en en an de renard en de la béa		ACAMACOLOCIO (CONTENIO) PORTO PORTO PORTO DE LA CONTENIO DE LA CONTENIO DE LA CONTENIO DE LA CONTENIO DE LA CON		
Client Instructions		n mana a mana a an anna an anna an anna an anna an an	our transmitter interest			
17. Additional remarks:						
18. Cooler Information						
Copler No Temp °C		al No Seal D	ate	Signed By		
1 1.0	Good Yes					
Page 1 of 1						

Client: Yates Petroleum Corporation X Standa Mailing Address: 105 South 4th Street Cigarillo S Artesia, NM 88210 Project #: Phone #: (575) 748-4217 20-015-36 Phone #: (575) 748-4217 20-015-36 email: boba@yatespetroleum.com Project M o.NOC Package: Project M Conteditation: □ Level 4 (Full Validation) PO# 2056	X Standard C Rush					SIS/	AL C	C		2
ul Validation)	ect Name:		The second	C			1		ANALYSIS LABORATORY	
II Validation)				\$	w.halle	environ	www.hallenvironmental.com	L CO		
(Full Validation)	Cigarillo SWU System	1701 M (1703 Adda and 1	1067	4901 Hawkins NE -	- NE	Albuqu	Albuquerque, NM 87109	NM 87	109	
(Full Validation)	ect #:		Tel. (	505-345-3975	3975	Fax	505-345-4107	15-410		100 B
(Full Validation)	30-015-36913				A	alysis	Analysis Request	ta Ref		
Level 4 (Full Validation)	Project Manager:		(ʎjuc		an an a she for a start of a start	Annang a chairteal Ann	S		and the second	
Level 4 (Full Validation)	Robert Asher		) SG			90-94 (4) (9) (9) (9) (9) (9) (9) (9) (9) (9) (9	CB.		waata 1aa (1997 1996	
	PO# 205632		ອ) ເ			1	ქ 29		0318-33MrG08	1
	Sampler: Robert Asher		191	(1)			808	(		UN
□ Other	ce: XYes	о Р	_ +	81 t		s	/ 61	(AC		10
	Sample Temperature: /	000	1961	po						K] ⊃
Matrix Sample Request ID	Container Preservative Type and # Type	HEAL NO.	DTEX + Weilio M + X3T8 M + Y3T8	ntəM) H9T	мөм) адэ АИЧ) 0rc8	M 8 AADA <mark>D) enoinA</mark>	ite99 1808	0V) 80828 m92) 0728		ardus iA
722/15 10:15 AM Soil A 1.0	- 4oz. N/A	9		nese course a	20000010+10-00-00 140000010+1020510	×			n Liperio I	
10:20 AM Soil A 2.0 1	- 4oz. N/A	-95		Nun Geboore		×			7716 4469709	
10:24 AM Soli A 3.0	1 - 4oz. N/A	-933				×			arenout	
10:27 AM Soil A 4.0	1 - 4oz. N/A	-0201				×				
10:30 AM Soil A 5.0	- 4oz. N/A	42	allieste aanderst (* 7			×				
-0:35 AM Soil A 6.0	- 4oz. N/A	-CC6	10-1711-00- <u>00</u>	en al contra de la c		×			anna (a traine de si	0344 validentine (n. 114
A MARTINE COLOR				19194 (Sec.	an a	and the second se				
										Nerra
Doto: Time Relinquished Dr. A. Received b.	Received by: Asline Survey	Date Time 07/24/15 0905	Remarks:	-						
Time. Reinquistred ty:	Received by:	Date Time								



Hall Environmental Analysis Laboratory 4901 Hawkins NE Albuquerque, NM 87109 TEL: 505-345-3975 FAX: 505-345-4107 Website: www.hallenvironmental.com

July 31, 2015

Robert Asher Yates Petroleum Corporation 105 South Fourth Street Artesia, NM 88210 TEL: (575) 748-4217 FAX

RE: Cigarillo SWD System

OrderNo.: 1507B57

Dear Robert Asher:

Hall Environmental Analysis Laboratory received 6 sample(s) on 7/24/2015 for the analyses presented in the following report.

These were analyzed according to EPA procedures or equivalent. To access our accredited tests please go to <u>www.hallenvironmental.com</u> or the state specific web sites. In order to properly interpret your results it is imperative that you review this report in its entirety. See the sample checklist and/or the Chain of Custody for information regarding the sample receipt temperature and preservation. Data qualifiers or a narrative will be provided if the sample analysis or analytical quality control parameters require a flag. When necessary, data qualifers are provided on both the sample analysis report and the QC summary report, both sections should be reviewed. All samples are reported, as received, unless otherwise indicated. Lab measurement of analytes considered field parameters that require analysis within 15 minutes of sampling such as pH and residual chlorine are qualified as being analyzed outside of the recommended holding time.

Please don't hesitate to contact HEAL for any additional information or clarifications.

ADHS Cert #AZ0682 -- NMED-DWB Cert #NM9425 -- NMED-Micro Cert #NM0190

Sincerely,

andig

Andy Freeman Laboratory Manager 4901 Hawkins NE Albuquerque, NM 87109

**Analytical Report** 

Lab Order: 1507B57 Date Reported: 7/31/2015 Yates Petroleum Corporation Lab Order: 1507B57 Cigarillo SWD System 1507B57-001 Collection Date: 7/22/2015 10:42:00 AM Matrix SOII

# Hall Environmental Analysis Laboratory, Inc.

Client Sample ID:	В 1.0			Mat	trix: SOIL
Analyses		Result	RL Qual	Units	DF Date Analyzed Batch ID
EPA METHOD 300	.0: ANIONS				Analyst: LGT
Chloride		ND	30	mg/Kg	20 7/28/2015 11:37:40 PM 20490
Lab ID:	1507B57-002			Collection D	ate: 7/22/2015 10:45:00 AM
Client Sample ID:	B 2.0			Mat	trix: SOIL
Analyses	~	Result	RL Qual	Units	DF Date Analyzed Batch ID
EPA METHOD 300	.0: ANIONS				Analyst: LGT
Chloride		56	30	mg/Kg	20 7/28/2015 11:50:04 PM 20490
Lab ID:	1507B57-003			Collection D	ate: 7/22/2015 10:48:00 AM
Client Sample ID:	В 3.0			Ma	trix: SOIL
Analyses		Result	RL Qual	Units	DF Date Analyzed Batch ID
EPA METHOD 300	.0: ANIONS				Analyst: LGT
Chloride		40	30	mg/Kg	20 7/29/2015 12:02:29 AM 20490
Lab ID:	1507B57-004			Collection D	Date: 7/22/2015 10:51:00 AM
Client Sample ID:	B 4.0			Ma	trix: SOIL
Analyses		Result	RL Qual	Units	DF Date Analyzed Batch ID
EPA METHOD 300	.0: ANIONS				Analyst: LGT
Chloride		74	30	mg/Kg	20 7/29/2015 12:14:54 AM 20490
Lab ID:	1507B57-005			Collection <b>E</b>	Date: 7/22/2015 10:53:00 AM
<b>Client Sample ID:</b>	В 5.0			Ma	trix: SOIL
Analyses		Result	RL Qual	Units	DF Date Analyzed Batch ID
EPA METHOD 300	.0: ANIONS				Analyst: LGT
Chloride		290	30	mg/Kg	20 7/29/2015 12:42:32 PM 20513

Refer to the QC Summary report and sample login checklist for flagged QC data and preservation information.

**Qualifiers:** 

CLIENT:

**Project:** 

Lab ID:

\* Value exceeds Maximum Contaminant Level.

Sample Diluted Due to Matrix D

Н Holding times for preparation or analysis exceeded

ND Not Detected at the Reporting Limit

R RPD outside accepted recovery limits

% Recovery outside of range due to dilution or matrix S

- В Analyte detected in the associated Method Blank
- Е Value above quantitation range
- J Analyte detected below quantitation limits Page 1 of 3
- Р Sample pH Not In Range
- **Reporting Detection Limit** RL

CLIENT: Project:	Yates Petroleum Corpo Cigarillo SWD System				Lab Order:	1507B5	7
Lab ID: Client Sample	1507B57-006 e ID: B 6.0	H MANTAN MANYA MANJALAN ANA MINA MANA MANA MANA MANA MAN	AN A		ate: 7/22/2015 1 trix: SOIL	0:56:00 AN	M
Analyses		Result	RL Qual	Units	DF Date An	alyzed	Batch ID
EPA METHO Chloride	D 300.0: ANIONS	730	30	mg/Kg	20 7/29/201	Analy 5 1:19:45 PI	yst: <b>LGT</b> M 20513

Hall Environmental Analysis Laboratory, Inc.

Refer to the QC Summary report and sample login checklist for flagged QC data and preservation information.

Qualifiers:

\*

- D Sample Diluted Due to Matrix
- H Holding times for preparation or analysis exceeded

Value exceeds Maximum Contaminant Level.

- ND Not Detected at the Reporting Limit
- R RPD outside accepted recovery limits
- S % Recovery outside of range due to dilution or matrix
- B Analyte detected in the associated Method Blank
- E Value above quantitation range
- J Analyte detected below quantitation limits Page 2 of 3
- P Sample pH Not In Range
- RL Reporting Detection Limit

Analytical Report Lab Order: 1507B57 Date Reported: 7/31/2015

# **QC SUMMARY REPORT** Hall Environmental Analysis Laboratory, Inc.

WO#: 1507B57

Page 3 of 3

31-Jul-15

Client: Project:		Petroleum Corpora illo SWD System	tion							
Sample ID	MB-20490	SampType: I	<b>IBLK</b>	Tes	tCode: EF	A Method	300.0: Anion	s	en han en here i de land an daarde van de	
Client ID:	PBS	Batch ID:	20490	F	lunNo: 27	7838				
Prep Date:	7/28/2015	Analysis Date:	7/28/2015	S	eqNo: 83	36982	Units: mg/K	g		
Analyte Chloride		Result PQI ND 1		SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Sample ID	LCS-20490	SampType:	_CS	Tes	tCode: EF	PA Method	300.0: Anion	S		
Client ID:	LCSS	Batch ID:	20490	F	RunNo: 27	7838				
Prep Date:	7/28/2015	Analysis Date:	7/28/2015	S	eqNo: 8	36983	Units: mg/K	g		
Analyte		Result PQ		SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Chloride		15 1	5 15.00	0	98.1	90	110			
Sample ID	MB-20513	SampType:	MBLK	Tes	tCode: EF	PA Method	300.0: Anion	S		
Client ID:	PBS	Batch ID:	20513	F	RunNo: 27	7852				
Prep Date:	7/29/2015	Analysis Date:	7/29/2015	5	SeqNo: 8	37706	Units: mg/K	g		
Analyte Chloride		Result PQ ND 1		SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Sample ID	LCS-20513	SampType:	LCS	Tes	tCode: EF	PA Method	300.0: Anion	S		
Client ID:	LCSS	Batch ID:	20513	F	RunNo: 2	7852				
Prep Date:	7/29/2015	Analysis Date:	7/29/2015	5	SeqNo: 8	37707	Units: mg/K	(g		
Analyte		Result PQ		SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Chloride		15 1	.5 15.00	0	98.5	90	110			

Qualifiers:

- \* Value exceeds Maximum Contaminant Level.
- D Sample Diluted Due to Matrix
- H Holding times for preparation or analysis exceeded
- ND Not Detected at the Reporting Limit
- R RPD outside accepted recovery limits
- S % Recovery outside of range due to dilution or matrix
- B Analyte detected in the associated Method Blank
- E Value above quantitation range
- J Analyte detected below quantitation limits
  - Sample pH Not In Range
- RL Reporting Detection Limit

Р



Hall Environmental Analysis Laboratory 4901 Hawkins NL Albaquerque - NM 87109 TEL - 505-345-3975 FAX: 505-345-4107 Website: www.hadenvironmental.com

# Sample Log-In Check List

Client Name Yates Petroleum Corpora	Work Order Numbe	r. 1507B57	a decentra de alta son de maniera de la constituir reanna en decast se plas de la constituir de la constituir d	RcptNo	n finnen en finnen an er en
	ca podis			e unande i deuterroop i i	
Received by/date	61 12(115				
Logged By: Lindsay Mangin	7/24/2015 9:05:00 AM	Л	Junity Hologo		
Completed By Lindsay Mangin	7/24/2015 12:58:08 F	M	Journal of History D Journal of History D		
Reviewed By.	01/24/15				
Chain of Custody					
1. Custody seals intact on sample bottles?		Yes	No	Not Present 🗸	
2. Is Chain of Custody complete?		Yes 🗸	No	Not Present	
<ol><li>How was the sample delivered?</li></ol>		Courier			
Log In					
4. Was an attempt made to cool the samp	les?	Ycs 🗸	No	NA	
5 Were all samples received at a tempera	lure of >0° C to 6.0°C	Yes 🗸	No	NA 🚞	
6. Sample(s) in proper container(s)?		Yes 🗸	No 📖		
7 Sufficient sample volume for indicated to	estis)?	Yes 🗸	No		
8. Are samples (except VOA and ONG) pro	perly preserved?	Yes 🗸	No		
9. Was preservative added to bottles?		Yes	No 🖌	NA	
10 VOA vials have zero headspace?		Yes	No	No VOA Vials 🗸	
11. Were any sample containers received b	vroken?	Yes	No 🖌	H of occounted	
				# of preserved bottles checked	
12. Does paperwork match bottle labels?	à	Yes 🗸	No	for pH: (<2 o	r >12 unless noted)
(Note discrepancies on chain of custody 13. Are matrices correctly identified on Cha		Yes 🗸	No	Adjusted?	
14. Is it clear what analyses were requested		Yes 🖌	No		
15 Were all holding times able to be met?		Yes 🔽	No	Checked by	
(If no, notify customer for authorization.	)				
Special Handling (if applicable)					
16. Was client notified of all discrepancies	with this order?	Yes	No	NA 🗹	
Person Notified:	Date	[	nation and the second and the second s		
By Whom:	Via:	cMail	Phone Fax	In Person	
Regarding:	en e		a na sa		
Client Instructions:					
17. Additional remarks.					
18. Cooler Information	11 1226 B			2	
Cooler No Temp °C Condition	A Contraction of the second	Seal Date	Signed By		
1 1.0 Gnod	Yes			or and the second se	
Page 1 of 1					

Assertion         Assertion <t< th=""><th>Chain-</th><th>of-Cu</th><th>ecord</th><th>Turn-Around Time:</th><th>me</th><th></th><th></th><th>T</th><th>ALL</th><th>EN</th><th>VIR.</th><th>Z S</th><th>HALL ENVIRONMENT</th><th>TAL</th></t<>	Chain-	of-Cu	ecord	Turn-Around Time:	me			T	ALL	EN	VIR.	Z S	HALL ENVIRONMENT	TAL
Protect Marrie:         Constrained	nt: Yates Pi	etroleum		X Standard				<	NAL	YSI.	2 N	ğ	ORAT	ORY
Glass:         Total South 4th Street         Classino         Allocation         A				Project Name	1.7				www.ha	llenviroi	nmenta	1.con		
MM 88210         Project #:           (151) 744.4217         30-015-30613           (151) 744.4217         30-015-30613           0.660/941459601061m.com         30-015-30613           0.660/941459601061m.com         30-015-30613           0.660/941459601061m.com         30-015-30613           0.660/941459601061m.com         20-015-30613           0.600/971459601061m.com         20-015-30613           0.600/971459601061m.com         20-015-30613           0.600/971459601061m.com         20-015-30613           0.600/971         20-016-20613           0.600/971         20-016-20613           0.600/971         20-016-20613           0.600/971         20-016-20613           0.600/971         20-016-20614           0.700/971         17-14           0.700/971         17-14           0.700/971         17-14           0.700/971         17-14           0.700/971         17-14           0.700/971         17-14           0.700/971         17-14           0.700/971         17-14           0.700/971         17-14           0.700/971         17-14           0.700/971         17-14           0.700/971	ing Address	105 So	uth 4th Street	Cigarillo SWD	) System		4901	Hawki	IS NE		nercue.	WN.	87109	
Intermediate         Intermediat         Intermediate         Intermediate </td <td>esia. NM 882</td> <td>510</td> <td></td> <td>Project #:</td> <td></td> <td></td> <td>Tei.</td> <td>505-34</td> <td>5-3975</td> <td>Fax</td> <td>505-3</td> <td>45-4</td> <td>107</td> <td></td>	esia. NM 882	510		Project #:			Tei.	505-34	5-3975	Fax	505-3	45-4	107	
Object         Manage: Manage:         Project Manage:         Project Manage:           Object         Manage:         Robert Ashor         Robert Ashor         Robert Ashor           Object         Manage:         Sample for Manage:         Sample for Manage:         Robert Ashor           Object         Manage:         Sample for Manage:         Sample for Manage:         Sample for Manage:           Object         Matrix         Sample for Manage:         Sample for Manage:         Sample for Manage:           Object         Matrix         Sample for Manage:         Sample for Manage:         Sample for Manage:           Opject         Matrix         Sample for Manage:         Sample for Manage:         Sample for Manage:           Opject         Matrix         Sample for Manage:         N/A         A         N           Matrix         Sample for Manage:         N/A         A         N         Sample for Manage:           Matrix         Sample for Matrix         Sample for Manage:         N/A         A         N         Sample for Manage:           Matrix         Sample for Matrix         N/A         A         N/A         A         N           Matrix         Sample for Matrix         N/A         A         A         A	ne # (575)	748-4217		30-015-36913	~					nalysi	s Requ	est		
Briting and Second Asian Tipe         Robert Asian Tipe <throbert asian<br="">Tipe         Robert Asian Tipe</throbert>	ail: boba@y	atespetre	oleum.com	Project Mana	ger:		(Λ <sub>I</sub> uo	(1090)			S,		and the second sec	
add         Iceed 4 (Full Validation)         POM 20682           Bitn n:         Sampler: Rockert Asher         Sampler: Rockert Asher           Time         Sampler: Rockert Asher         Sampler Temperature: / 0°C           Time         Sampler: Rockert Asher         Sampler Temperature: / 0°C           Time         Sampler Temperature: / 0°C         Sampler Temperature: / 0°C           Time         Bit K + MrlBE + TPH Bestrading         Bit K + MrlBE + TPH Bestrading           Time         Bit K + MrlBE + TPH Bestrading         Bit K + MrlBE + TPH Bestrading           Time         Bit K + MrlBE + TPH Bestrading         Bit K + MrlBE + TPH Bestrading           Time         Bit K + MrlBE + TPH Bestrading         Bit K + MrlBE + TPH Bestrading           Time         Bit K + MrlBE + TPH Bestrading         Bit K + MrlBE + TPH Bestrading           Time         Bit K + MrlBE + TPH Bestrading         Bit K + MrlBE + TPH Bestrading           Time         Bit K + MrlBE + TPH Bestrading         Bit K + MrlBE + TPH Bestrading           Time         Bit K + MrlBE + TPH Bestrading         Bit K + MrlBE + TP	QC Package:			Robert Ashe	-		685	10/9	and the second second second		bCB			
P     Container     Time     Matrix     Sampler     Rochet Asher       Time     Matrix     Sample Request ID     Type     Sample Request ID     Sample Request ID       Type     Onite:     Xype     Matrix     Sample Request ID     Type and #       Type     Time     Matrix     Sample Request ID     Type and #     Type and #       Type     Time     Matrix     Sample Request ID     Type and #     Type and #       Type     Time     Matrix     Sample Request ID     Type and #     Type and #       Type     Time     Matrix     Sample Request ID     Type and #     Type Actinome (CI)       Type     Time     Matrix     Matrix     Matrix     Matrix       Costainer     Time     Time     Matrix     Matrix       Costainer     Time     Matrix     Matrix     Matrix       Costainer     Time     Time     Matrix     Matrix       Costainer     Time     Time     Matrix     Matrix       Costainer     Time	Standard		Level 4 (Full Validation)	PO# 205632			))				851			
P         Onlice:         XYes         Doliter           Time         Matrix         Sample Request ID         Sample Request ID         Sample Request ID           Type         Cortainer         Preservative         Type         Sample Request ID         Sample Request ID           Type         Time         Matrix         Sample Request ID         Type and #         Type         Sample Request ID           Type and #         Type         Type         NiA         The Matrix         Sample Request ID           Type and #         Type         The Matrix         Sample Request ID         Type and #         Type and #         Sample Request ID           Type         Totaliner         Totaliner         Totaliner         Totaliner         Sample Request ID         Totaliner           Time         Sample Request ID         Total         Total         Total         X         Sample Recuest ID           Time         Sample Request ID         Total         X         NA         Total         X         Sample Recuest ID           Total         Sample Request ID         Total         X         NA         X         X         Sample Receipted sol           Cortainer         Sample Request ID         Total         X         X <td>reditation:</td> <td></td> <td></td> <td>Sampler: Ro</td> <td>bert Asher</td> <td></td> <td>⊦d⊥</td> <td></td> <td></td> <td></td> <td>808 /</td> <td>-</td> <td></td> <td></td>	reditation:			Sampler: Ro	bert Asher		⊦d⊥				808 /	-		
Time         Matrix         Sample Temperature:         A           Time         Matrix         Sample Request ID         Cortainer         Preservative           Time         Matrix         Sample Request ID         Cortainer         Preservative           Time         Matrix         Sample Request ID         Cortainer         Preservative           Time         Sam         Sai         B-10         1 - 402         N/A           Type and #         Type         N/A         PCR         B         B-100           Type         Sai         B-10         1 - 402         N/A         PCR         B           Cisi AM         Sai         B-20         1 - 402         N/A         PCR         B         B           Cisi AM         Sai         B-20         1 - 402         N/A         PCR         B </td <td>NELAP</td> <td></td> <td>31 </td> <td></td> <td><b>X Yes</b></td> <td></td> <td>+</td> <td></td> <td></td> <td></td> <td>/ 60</td> <td></td> <td></td> <td></td>	NELAP		31 		<b>X Yes</b>		+				/ 60			
Time       Matrix       Sample Request ID       Container       Preservative       HEAL No.       Type       Type       Matrix       Sample Request ID       Type       Matrix       Matrix       Sample Request ID       Container       HEAL No.       Matrix       Matrix       Sample Request ID       Container       Matrix       Sample Request ID       Container       Matrix	EDD (Type)			Sample Tem	perature: /	000	381			letə	opio	Al article Line of the	Λ-1	numut () (199
Cx2 AM       Sail       B-1.0       1 - 402       N/A $\mathcal{T}$ I $\mathcal{T}$ I $\mathcal{T}$ I $\mathcal{T}$ I       I $\mathcal{T}$ I       <	and the second	Matrix		Cortainer Type and #	Preservative Typo	HEAL NO.	M + XJT8	COLUMN DESIGNATION OF THE OWNER		M 8 AROR	iteo9 1808		U8210/28	
IC-85 AM         Suil         B-2.0         1 - 402         N/A $\frown C$	be antrone	- Constant	8-1.0	1 - 4oz.	N/A	100-			Autoritemaanse	×		-+	THE REPORT OF A	
TC-88 AM       Sail       B-3.0       1 - 402       N/A $-CC3$ I       B-3.0       I	2011 Control 10		B-2.0		N/N	42		400 Lagostonian (***************	tuloaanaintet Marri	×			u carmee	
TC:51 AM       Soil $E-4.0$ $1 \cdot 402$ N/A $-775$ $P$ $P$ TC:53 AM       Soil $B-5.0$ $1 \cdot 402$ N/A $-775$ $P$ $P$ TC:56 AM       Soil $B-6.0$ $1 \cdot 402$ N/A $-775$ $P$ $P$ TC:56 AM       Soil $B-6.0$ $1 \cdot 402$ N/A $-775$ $P$ $P$ TC:56 AM       Soil $B-6.0$ $1 - 402$ N/A $-775$ $P$ $P$ TC:56 AM       Soil $B-6.0$ $1 - 402$ N/A $-775$ $P$ $P$ TC:56 AM       Soil $B-6.0$ $1 - 402$ N/A $-775$ $P$ $P$ Time:       Soil $B-6.0$ $1 - 402$ N/A $-775$ $P$ $P$ $P$ $P$ Time:       Selinquished by: $P$ <td>1</td> <td></td> <td>B-3.0</td> <td>1 - 4oz.</td> <td>N/A</td> <td><u>(</u>33</td> <td></td> <td></td> <td></td> <td>~</td> <td></td> <td></td> <td></td> <td></td>	1		B-3.0	1 - 4oz.	N/A	<u>(</u> 33				~				
10:55 AM       Soil       B-5.0       1 - 4oz.       N/A $\neg \uparrow \uparrow \circ$ 10:56 AM       Soil       B-6.0       1 - 4oz.       N/A $\neg \uparrow \uparrow \circ$ 10:56 AM       Soil       B-6.0       1 - 4oz.       N/A $\neg \uparrow \uparrow \circ$ 10:56 AM       Soil       B-6.0       1 - 4oz.       N/A $\neg \uparrow \uparrow \circ$ 10:56 AM       Soil       B-6.0       1 - 4oz.       N/A $\neg \uparrow \uparrow \circ$ 10:56 AM       Soil       B-6.0       1 - 4oz.       N/A $\neg \uparrow \uparrow \circ$ 10:56 AM       Soil       B-6.0       1 - 4oz.       N/A $\neg \uparrow \uparrow \circ$ 10:50 A       Soil       B-6.0       1 - 4oz.       N/A $\neg \uparrow \uparrow \circ$ 10:50 A       Soil       B-6.0       1 - 4oz.       Doil $\neg \uparrow \uparrow \circ$ 11:60 A       Soil       B-6.0       1 - 4oz.       Doil $\neg \uparrow \circ \uparrow \circ$ 11:61 A       Soil       B-6.0       Doil       1 - 4oz.       Doil       Doil       Doil         11:61 A       Soil       Doil       Doi			B-4.0	1 - 402.	N/A	-023-			_	×				
Total         Soil         E-E.0         1 - 4oz         N/A        (7)/bit           Interesting         E-E.0         1 - 4oz         N/A         -(7)/bit         <			B-5.0	1 - 402.	N/A	-775		4044450000000		×				
Time:     Relinquished by:     Cate     Time       1 33     2 30     07/24/15     09/05       1 33     Received by:     Received by:     Cate     Time			B-6.0		N/A	20%-		eneratorian e		~		NITE ALL COLORADO		
Time:     Relinquished by:     Cate     Time       130A     Received by:     Cate     Time       130A     Callour     Synac     C/24/15     C905       Imme:     Retrinquished by:     Cate     Time	et manage de Vateria en en en en	and a classical lower million												
Time:     Relinquished by:     Cate     Time       3 39A     2 39A     0 2 0 1/2 4/1/5     0 3 0 5/05       1 59A     2 39A     0 2 0 2 0 5/05     0 3 0 5/05       1 me:     Retrinquished by:     Received by:     0 2 0 5/05							a na sina di colori di co					THE STREET		
Time:     Relinquished by:     Received by:     Cate     Time       139A     230A     2100 Sove     7/24/15     0305       1me:     Relinquished by:     Received by:     Cate     Time								<b></b>				_		
1 30 CLOUL CLEVEL STOR 07/24/15		Relinquis	thed by-	Received by:			Remarks:	4.4.4 4.1-2			-			
firme: Relinquished by: Cate	195 7 281		ろうろく	alean	Some c									
	Tine:		shed by:	Received by:										



Hall Environmental Analysis Laboratory 4901 Hawkins NE Albuquerque, NM 87109 TEL: 505-345-3975 FAX: 505-345-4107 Website: <u>www.hallenvironmental.com</u>

July 31, 2015

Robert Asher Yates Petroleum Corporation 105 South Fourth Street Artesia, NM 88210 TEL: (575) 748-4217 FAX

RE: Cigarillo SWD System

OrderNo.: 1507B58

Dear Robert Asher:

Hall Environmental Analysis Laboratory received 6 sample(s) on 7/24/2015 for the analyses presented in the following report.

These were analyzed according to EPA procedures or equivalent. To access our accredited tests please go to <u>www.hallenvironmental.com</u> or the state specific web sites. In order to properly interpret your results it is imperative that you review this report in its entirety. See the sample checklist and/or the Chain of Custody for information regarding the sample receipt temperature and preservation. Data qualifiers or a narrative will be provided if the sample analysis or analytical quality control parameters require a flag. When necessary, data qualifers are provided on both the sample analysis report and the QC summary report, both sections should be reviewed. All samples are reported, as received, unless otherwise indicated. Lab measurement of analytes considered field parameters that require analysis within 15 minutes of sampling such as pH and residual chlorine are qualified as being analyzed outside of the recommended holding time.

Please don't hesitate to contact HEAL for any additional information or clarifications.

ADHS Cert #AZ0682 -- NMED-DWB Cert #NM9425 -- NMED-Micro Cert #NM0190

Sincerely,

andy

Andy Freeman Laboratory Manager 4901 Hawkins NE Albuquerque, NM 87109

	Yates Petroleum Corpo Cigarillo SWD System		ter minden south Hard Sciences and a marked big marked	La	ab Order: 1507B	358
Lab ID:	1507B58-001	n den konsterna konst	an dan kanan di kanan dan baran dan baran dan baran da	<b>Collection Date:</b>	7/22/2015 11:00:00 A	M
Client Sample ID	: C 1.0			Matrix:	SOIL	
Analyses		Result	RL Qual	Units	DF Date Analyzed	Batch ID
EPA METHOD 30	0.0: ANIONS				Ana	alyst: LGT
Chloride		3700	150	mg/Kg	100 7/31/2015 1:50:34	AM 20513
Lab ID:	1507B58-002			<b>Collection Date:</b>	7/22/2015 11:03:00 A	M
<b>Client Sample ID</b>	: C 2.0			Matrix:	SOIL	
Analyses		Result	RL Qua	Units	DF Date Analyzed	Batch ID
EPA METHOD 30	0.0: ANIONS				Ana	alyst: LGT
Chloride		1100	75	mg/Kg	50 7/31/2015 2:02:58	AM 20513
Lab ID:	1507B58-003			<b>Collection Date:</b>	7/22/2015 11:06:00 A	АM
<b>Client Sample ID</b>	: C 3.0			Matrix:	SOIL	
Analyses		Result	RL Qua	l Units	DF Date Analyzed	Batch ID
EPA METHOD 30	00.0: ANIONS				Ana	alyst: LGT
Chloride		2700	150	mg/Kg	100 7/31/2015 2:15:23	AM 20513
Lab ID:	1507B58-004			Collection Date:	7/22/2015 11:09:00 A	4M
Client Sample ID	: C 4.0			Matrix:	: SOIL	
Analyses		Result	RL Qua	l Units	DF Date Analyzed	Batch ID
EPA METHOD 30	00.0: ANIONS				Ana	alyst: LGT
Chloride		4200	150	mg/Kg	100 7/31/2015 2:27:48	AM 20513
Lab ID:	1507B58-005			Collection Date:	: 7/22/2015 11:11:00 /	AM
<b>Client Sample ID</b>	C 5.0			Matrix	: SOIL	
Analyses		Result	RL Qua	l Units	DF Date Analyzed	Batch ID
EPA METHOD 30	00.0: ANIONS				Ana	alyst: LGT
Chloride		99	30	mg/Kg	20 7/29/2015 2:46:37	1.73.

Hall Environmental Analysis Laboratory, Inc.

Analytical Report Lab Order: 1507B58

Date Reported: 7/31/2015

Refer to the QC Summary report and sample login checklist for flagged QC data and preservation information.

Qualifiers:

\* Value exceeds Maximum Contaminant Level.

D Sample Diluted Due to Matrix

H Holding times for preparation or analysis exceeded

ND Not Detected at the Reporting Limit

R RPD outside accepted recovery limits

S % Recovery outside of range due to dilution or matrix

B Analyte detected in the associated Method Blank

- E Value above quantitation range
- J Analyte detected below quantitation limits Page 1 of 3
- P Sample pH Not In Range
- RL Reporting Detection Limit

					Date Reported. 7	13112013
CLIENT: Project:	Yates Petroleum Corp Cigarillo SWD Systen				Lab Order: 15	07B58
Lab ID: Client Sample	1507B58-006 e ID: C 6.0	Nanolad Maria International State of the Organization	Nerland Cashrovinan Sonid Loaden		ate: 7/22/2015 11:15:0	00 AM
Analyses		Result	RL Qua	l Units	DF Date Analyze	d Batch ID
EPA METHO	D 300.0: ANIONS	65	30	mg/Kg	20 7/29/2015 2:59	Analyst: <b>LGT</b> :01 PM 20513

## Hall Environmental Analysis Laboratory. Inc.

Value exceeds Maximum Contaminant Level.

Refer to the QC Summary report and sample login checklist for flagged QC data and preservation information.

D Sample Diluted Due to Matrix

\*

Qualifiers:

- Н Holding times for preparation or analysis exceeded
- ND Not Detected at the Reporting Limit
- RPD outside accepted recovery limits R
- S % Recovery outside of range due to dilution or matrix
- Analyte detected in the associated Method Blank в
- Value above quantitation range Е
- Analyte detected below quantitation limits J Page 2 of 3
- P Sample pH Not In Range
- RL Reporting Detection Limit

Date Reported: 7/31/2015

**Analytical Report** Lab Order: 1507B58

# QC SUMMARY REPORT Hall Environmental Analysis Laboratory, Inc.

Client: Project:		s Petroleum Cor rillo SWD Syste	3	on							
Sample ID	MB-20513	SampTy	pe: ME	BLK	Tes	tCode: El	PA Method	300.0: Anion	s		
Client ID:	PBS	Batch I	D: 20	513	R	RunNo: 2	7852				
Prep Date:	7/29/2015	Analysis Da	te: 7/	29/2015	S	SeqNo: 8	37706	Units: mg/K	g		
Analyte		Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Chloride		ND	1.5								
Sample ID	LCS-20513	SampTy	pe: LC	S	Tes	tCode: El	PA Method	300.0: Anion	s	*****	
Client ID:	LCSS	Batch	D: 20	513	F	RunNo: 2	7852				
Prep Date:	7/29/2015	Analysis Da	te: 7/	29/2015	S	SeqNo: 8	37707	Units: mg/K	g		
Analyte	2	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Chloride	1	15	1.5	15.00	0	98.5	90	110			

### Qualifiers:

- \* Value exceeds Maximum Contaminant Level.
- D Sample Diluted Due to Matrix
- H Holding times for preparation or analysis exceeded
- ND Not Detected at the Reporting Limit
- R RPD outside accepted recovery limits
- S % Recovery outside of range due to dilution or matrix
- B Analyte detected in the associated Method Blank
- E Value above quantitation range
- J Analyte detected below quantitation limits
- P Sample pH Not In Range
- RL Reporting Detection Limit

Page 3 of 3

1507B58 31-Jul-15

WO#:

HALL
ENVIRONMENTAL
ANALYSIS
LABORATORY

Hall Environmental Analysis Laboratory 4901 Hawkins NE Albuquerque - NM 87109 (EU: 505-345-39/5 FAA - 505-345-4107 Website: www.haffeavironmental.com

# Sample Log-In Check List

Client Name: Yates Petroleum Corpora	Work Order Numb	er. 1507B	58	aller of the second	ReptN	lc: 1
Received by/date:	37 24/15					
Logged By: Lindsay Mangin	7/24/2015 9:05:00 A	M		Hunger Hunger		
Completed By: Lindsay Mangin	7/24/2015 1:01:18 P	M		Juniky Holged Juniky Holged		
Reviewed By. (15	07/24/15			$\mathcal{O} \lor \mathcal{O}$		
Chain of Custody	<ul><li>IAAUS</li></ul>					
1. Custody seals intact on sample bottles?		Yes		No	Not Present	l.
2, Is Chain of Custody complete?		Yes	~	No	Not Present	
3. How was the sample delivered?		Cours	16			
Log In						
4. Was an attempt made to cool the sample	e5?	Yes	~	No	NA	
5 Were all samples received at a temperat	ure of >0° C to 6.0°C	Yes	~	No	NA	
6. Sample(s) in proper container(s)?		Yes		No 🗋		
7, Sufficient sample volume for indicated te	st(s)?	Yes	~	No		
8. Are samples (except VOA and ONG) pro	perly preserved?	Yes	V	No		
9. Was preservative added to bottles?		Ycs	i i unat	No 🗸	NA	
10, VOA vials have zero headspace?		Yes	The second se	No	No VOA Vials	
11. Wore any sample containers received b	roken?	Yes		No 🗸	disformant.	
					# of preserved bottles checked	
12. Does paperwork match bottle labels?		Yes	V	No	for pH:	<2 or >12 unless noted
(Note discrepancies on chain of custody 13 Are matrices correctly identified on Chair		Yes	~	No	Adjusted	
14. Is it clear what analyses were requested		Yes		No 🗌		
15. Were all holding times able to be met?		Yes	1	No	Checked b	y:
(If no, notify customer for authorization.)						
Special Handling (if applicable)						
16. Was client notified of all discrepancies v	vith this order?	Yes		No	NA	~
Person Notified:	Date	prost course temperature		the president decision of a second constrained and the second second second second second second second second		
By Whom:	Via:	eMa	il [	Phone Fax	In Person	
Regarding:		elle ( ) y est all the main child of provide and	hudration that hite value	iya darke su in saali dana di darbi di karingan il darbi di darbi	an a	
Client Instructions		ni ka munimi ku Prevalari (, mudun), la italiwa		n Martin menter en manala de relacionen de Classific (La Marcine, La Classific (La Marcine), La Classific (La M	ner het de ser de s	
17. Additional remarks.						
18 Cooler Information						
Coster No   Temp °C   Condition	Seal Intact Seal No	Seal D	ato	Signed By		
1 1.0 Good	Yes	and a second				
Page 1 of 1						

If necessary, samples submitted to Hall Environmental may be subcontracted to other accredited laboratories. This serves as notice of this possibility. Any sub-contracted data will be clearly notated on the analytical report.

Analytical Report-		Sample	-		1243	all?	14 A.	1 40
H403878(Cardinal)	Sample Area	Date	Sample Type	Depth	BTEX	GRO	DRO	Chlorides
C01.0A	Background	12/17/2014	Comp/Backhoe	1'				<16.0
C02.0A	Background	12/17/2014	Comp/Backhoe	2				<16.0
003.0A	Background	12/17/2014	Comp/Backhoe	3'				464
C04.0A	Background	12/17/2014	Comp/Backhoe	4'				1280
C05.0A	Background	12/17/2014	Comp/Backhoe	5				1100
C06.0A	Background	12/17/2014	Comp/Backhoe	6'				1440

Site Ranking is Ten (10). Depth to Ground Water 50-99' (approx 50', per NMOSE).

All results are ppm. X - Sample Points 😵 - Release Point Released : 20 B/O & 500 B/PW; Recovered: 15 B/O & 375 B/PW. Release Date: 10/10/2014



# **Cigarillo SWD System**

30-015-36913

Section 27, T25S-R28E

Eddy County, NM

## SAMPLE DIAGRAM

Prepared by Robert Asher Environmental Regulatory Division



December 23, 2014

ROBERT ASHER YATES PETROLEUM CORPORATION 105 S 4th Street Artesia, NM 88210

**RE: CIGARILLO SWD SYSTEM** 

Enclosed are the results of analyses for samples received by the laboratory on 12/18/14 16:11.

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.tceq.texas.gov/field/qa/lab">www.tceq.texas.gov/field/qa/lab</a> 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,

Celey D. Keine

Celey D. Keene Lab Director/Quality Manager



### Analytical Results For:

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

Received:	12/18/2014	Sampling Date:	12/17/2014
Reported:	12/23/2014	Sampling Type:	Soil
Project Name:	CIGARILLO SWD SYSTEM	Sampling Condition:	Cool & Intact
Project Number:	30-015-36913	Sample Received By:	Kathy Perez
Project Location:	EDDY COUNTY, NM		

### Sample ID: C01.0B (H403878-01)

Chloride, SM4500CI-B	mg	/kg	Analyze	d By: AP					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	<16.0	16.0	12/19/2014	ND	400	100	400	0.00	

### Sample ID: C02.0B (H403878-02)

Chloride, SM4500CI-B	mg	/kg	Analyze	d By: AP					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	<16.0	16.0	12/19/2014	ND	400	100	400	0.00	

#### Sample ID: C03.0B (H403878-03)

Chloride, SM4500CI-B	mg	/kg	Analyze	d By: AP					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	464	16.0	12/19/2014	ND	400	100	400	0.00	

#### Sample ID: C04.0B (H403878-04)

Chloride, SM4500Cl-B	mg	/kg	Analyze	d By: AP					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	1280	16.0	12/19/2014	ND	400	100	400	0.00	

#### **Cardinal Laboratories**

#### \*=Accredited Analyte

PLEASE NOTE: Liability and Damages. Cardinal's liability and client's exclusive remedy for any claim arising, whether based in contract or tort, shall be limited to the amount paid by client for analyses. All claims, including those for negligence and any other cause whatscever shall be deemed waived unless made in writing and received by Cardinal within thirty (30) days after completion of the applicable service. In no event shall Cardinal be liable for incidental or consequential damages, including, without limitation, business interruptions, loss of use, or loss of profits incurred by client, its subsidiaries, affiliates or successors arising out of or related to the performance of the services hereunder by Cardinal, regardless of whether such claim is based upon any of the above stated reasons or otherwise. Results relate only to the samples identified above. This reproduced except in full with written approval of Cardinal Laboratories.

Calley D. Kane-

Celey D. Keene, Lab Director/Quality Manager



### Analytical Results For:

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

Received:	12/18/2014	Sampling Date:	12/17/2014
Reported:	12/23/2014	Sampling Type:	Soil
Project Name:	CIGARILLO SWD SYSTEM	Sampling Condition:	Cool & Intact
Project Number:	30-015-36913	Sample Received By:	Kathy Perez
Project Location:	EDDY COUNTY, NM		

#### Sample ID: C05.0B (H403878-05)

Chloride, SM4500CI-B	mg	/kg	Analyze	d By: AP					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	1100	16.0	12/19/2014	ND	400	100	400	0.00	

## Sample ID: C06.0B (H403878-06)

Chloride, SM4500CI-B	mg/	/kg	Analyze	d By: AP					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	1440	16.0	12/22/2014	ND	416	104	400	3.92	

#### **Cardinal Laboratories**

#### \*=Accredited Analyte

PLEASE NOTE: Liability and Damages. Cardinal's liability and client's exclusive remedy for any claim arising, whether based in contract or tort, shall be limited to the amount paid by client for analyses. All claims, including those for negligence and any other cause whatsoever shall be deemed waived unless made in writing and received by Cardinal within thirty (30) days after completion of the applicable service. In no event shall Cardinal be liable for incidental or consequential damages, including, without limitation, business interruptions, loss of use, or loss of profits incurred by client, its subsidiaries, affiliates or successors arising out of or related to the performance of the services hereunder by Cardinal, regardless of whether such claim is based hower stated reasons or otherwise. Results relate only to the samples identified above. This reproduced except in full with written approval of Cardinal Laboratories.

4

Calley D. Keene-

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 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

PLEASE NOTE: Liability and Damages. Cardinal's liability and client's exclusive remedy for any daim arising, whether based in contract or tort, shall be limited to the amount paid by client for analyses. All claims, including those for negligence and any other cause whatsoever shall be deemed waived unless made in writing and received by Cardinal within thirty (30) days after completion of the applicable service. In no event shall Cardinal be liable for incidental or consequential damages, including, without limitation, business interruptions, loss of use, or loss of profits incurred by client, its subsidiaries, affiliates or successors arising out of or related to the performance of the services hereunder by Cardinal, regardless of whether such claim is based upon any of the above stated reasons or otherwise, Results relate only to the samples identified above. This report shall not be reproduced except in full with written approval of Cardinal Laboratories,

Celeg Di Keene -

Celey D. Keene, Lab Director/Quality Manager

3	Relinguished by		Delinguio	Special			6	h	4-4	2	e		LAB # (lab use only)		(lab use only)							R
	aned by:	lut ( WW		Special Instructions: Chlo			C06.0B	C05.0B	C04.0B	C03.0B	C02.0B	C01.0B	FIELD CODE	11 11	anily	Sampler Signature:	Telephone No: 575-748-42	City/State/Zip: Artesia, NM 88210	Company Address: 105 South 4th Street	Comp: (505) 393-232( Yates Petroleum Corporation	Project Manager: Robert Asher	ARDINAL LABORATORIES 101 East Marland, Hobbs, NM 88240
Coc	Date	Date 12/17/14	Dete	rides only.												(LA)	17	88210	th Street	eum Corporati	9r	ES IM 88240
-	a =	4:1:1	1				<i>6</i> 1	ວາ	4	ų	2	<u></u>	Beginning Depth			E				on		
1 4100	Time	4:17 PM		esults			م م	ບາຼ	4	٤	N		Ending Depth									
	Beceived by	Received by:		Chlorides only. ALL results in mg/kg. Thank you.			12/17/2014	12/17/2014	12/17/2014	12/17/2014	12/17/2014	12/17/2014	Date Sampled									(505) 393-232
		that	6	ink you.			10:10 AM	10:05 AM	10:00 AM	9:55 AM	9:50 AM	9:45 AM	Time Sampled			e-mail:	Fax No:					(505) 393-2326 FAX (505) 393-2476
		2				_	 						Field Filtered	]		here	1					3-247
		5				-+	 						Total #. of Containers	+-	1	boba@yatespetroleu						0
	0	X					 		-	1			HNO <sub>3</sub>	Pre		QV QV						
		$ \rangle$						1	1				HCI	Preservation		ates						
		1											H <sub>2</sub> SO <sub>4</sub>			spet						0
													NaOH	& # of C		role						HAI
			1			_	 			-			Na <sub>2</sub> S <sub>2</sub> O <sub>3</sub>			B						2 0
		N			-+	-+	 ×	×	×	×	$\times$	×	None	ontainers		.com						л С
Date	Date	Date X	1		-+		 						Other ( Specify) DW=Drinking Water SL=Sludge					1				rsn
		14 4					S	S	S	S	s	S	GW = Groundwater S=Soil/Solid NP=Non-Potable Specify Other	Matrix			Report Format:		70		Pro	CHAIN OF CUSTODY RECORD AND ANALYSIS REQUEST
TIMe	Time	, Time			_	_		ļ					TPH: 418.1 8015M 8015	5B	TT	7	For		Project Loc:	Pro	Project Name: Cigarillo SWD System	EC
-	0	000	< 00	F			 		-				TPH: TX 1005 TX 1006				mat:	PO #	ct L	Project #:	Nan	ORL
emp	by by	abel	OCs	abo		-+							Cations (Ca, Mg, Na, K)						<u></u>		ne:	0 AI
Temperature Upon Receipt:	Sample Hand Delivered by Sampler/Client Rep. by Courier? UPS	Labels on container(s) Custody seals on container(s) Custody seals on cooler(s)	Sample Containers Intact? VOCs Free of Headspace?	Laboratory Comments:		+	 ×	×	×	×	×	×	Anions (CI) SAR / ESP / CEC		TCLP: TOTAL:		× Standard	205632	Eddy County	30-015-36913	Cig	5
Ire U	npler	cont eals	ontai e of	YC		-+							Metals: As Ag Ba Cd Cr Pb Hg Se	e			itand	532	YC	)15-	arill	ANA
pon	Clie/	on o	ners Head	omn				-					Volatiles	_	ni laiy25	>	ard		ount	369	So	LY
Reco	ups	r(s) ontai	Inta	lents									Semivolatiles						~	13	B	SIS
aipt	~	ner(: (s)	ce?	*									BTEX 8021B/5030 or BTEX 8260	)		8					Sys	RE
	DHL	Ű				_	 						RCI			1	TRRP				iten	QUE
CN.	Ţ					_	 						N.O.R.M.				ζþ					ST
~	FedEx K	AR	AR				 										<b>[]</b>					
6	1	jui	UC.	1		+	 		-													
ဂိ	N N Lone Star	zzz	z z	t	-	+							RUSH TAT (Pre-Schedule) 24, 4	48,72	2 hrs	1	NPDES					
	ы	構成					×	×	×	$\times$	×		Standard TAT	Γ		1	Ś				Page	5 of 5
							 							4				1	1	la contraction of the second	-	a second s

5,6 °C

From:	Patterson, Heather, EMNRD
To:	"Bob Asher"
Cc:	Katie Parker; Bratcher, Mike, EMNRD; Billings, Bradford, EMNRD
Subject:	RE: Cigarillo SWD System Work Plan (9-15-2015)
Date:	Monday, September 21, 2015 1:17:00 PM

RE: Yates \* Cigarillo SWD System \* 30-015-36913 \* 2RP-2580 (upland portion of release)

Bob,

This work plan is approved as written.

OCD approval does not relieve the operator of liability should their operations fail to adequately investigate and remediate contamination that may pose a threat to ground water, surface water, human health or the environment. In addition, OCD approval does not relieve the operator of responsibility for compliance with any other federal, state, local laws and/or regulations.

If you have any questions or concerns, and for notification, please contact me.

Heather Patterson Environmental Specialist NMOCD District II Office (575)748-1283 ext.101 Cell (575)703-0228

From: Bob Asher [mailto:BobA@yatespetroleum.com]
Sent: Tuesday, September 15, 2015 3:18 PM
To: Bratcher, Mike, EMNRD; Patterson, Heather, EMNRD; Billings, Bradford, EMNRD
Cc: Katie Parker
Subject: Cigarillo SWD System Work Plan (9-15-2015)

I've included that Yates will also construct low berms for erosion control per our meeting this morning.

Thank you.

# **Robert Asher** NM Environmental Regulatory Supervisor Yates Petroleum Corporation

105 S. 4<sup>th</sup> Street Artesia, NM 88210 575-748-4217 (Office) 575-365-4021 (Cell)

This message may contain confidential information and is intended for the named recipient only. If you are not the intended recipient you are notified that disclosing,

copying, distributing or taking any action in reliance on the contents of this information is strictly prohibited. E-mail transmission cannot be guaranteed to be secure or errorfree as information could be intercepted, corrupted, lost, destroyed, arrive late or incomplete, or contain viruses. The sender therefore does not accept liability for any errors or omissions in the contents of this message, which arise as a result of e-mail transmission. If verification is required please request a hard-copy version.