

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

March 05, 2019

Johnny Titsworth Burnett Oil Co Inc PO Box 188 Loco Hills, NM 88255 TEL: (432) 425-2891 FAX

RE: Water Flood

OrderNo.: 1902C11

Dear Johnny Titsworth:

Hall Environmental Analysis Laboratory received 20 sample(s) on 2/28/2019 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 qualifiers 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 #NM0901

Sincerely,

andy

Andy Freeman Laboratory Manager 4901 Hawkins NE Albuquerque, NM 87109

Lab Order: 1902C11

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Hall Environ	mental Analysis	Laboratory, Inc	•				Date Reported: 3/5/	/2019	)
	Burnett Oil Co Inc Water Flood				Ι	.ab (	<b>Drder:</b> 1902	C11	
Lab ID:	1902C11-001		С	Collecti	on Date	e: 2/	27/2019		
Client Sample ID:	SP4 0-1				Matrix	s: SC	DIL		
Analyses		Result	RL	Qual	Units	DF	Date Analyzed	B	atch ID
EPA METHOD 300 Chloride	0.0: ANIONS	ND	60		mg/Kg	20	An 3/2/2019 2:32:43	-	t: <b>MRA</b> 43456
Lab ID:	1902C11-002		С	ollecti	on Date	<b>e:</b> 2/2	27/2019		
Client Sample ID:	SP4 1-2				Matrix	s: SC	DIL		
Analyses		Result	RL	Qual	Units	DF	Date Analyzed	B	atch ID
EPA METHOD 300 Chloride	0.0: ANIONS	ND	60		mg/Kg	20	An 3/2/2019 3:34:47	-	t: <b>MRA</b> 43456
Lab ID:	1902C11-003		С	ollecti	on Date	<b>e:</b> 2/2	27/2019		
Client Sample ID:	SP4 2-3				Matrix	s: SC	DIL		
Analyses		Result	RL	Qual	Units	DF	Date Analyzed	B	atch ID
EPA METHOD 300	0.0: ANIONS						An	alys	t: MRA
Chloride		60	60		mg/Kg	20	3/2/2019 3:47:11	AM	43456
Lab ID:	1902C11-004		C	ollecti	on Date	e: 2/	27/2019		
Client Sample ID:	SP4 3-4				Matrix	s: SC	DIL		
Analyses		Result	RL	Qual	Units	DF	Date Analyzed	B	atch ID
EPA METHOD 300 Chloride	0.0: ANIONS	ND	60		mg/Kg	20	An 3/2/2019 3:59:36	-	t: <b>MRA</b> 43456
Lab ID:	1902C11-005		С	ollecti	on Date	<b>e:</b> 2/	27/2019		
Client Sample ID:	SP4 4-5				Matrix	s: SC	DIL		
Analyses		Result	RL	Qual	Units	DF	Date Analyzed	B	atch ID
EPA METHOD 300	0.0: ANIONS						An	alys	t: MRA
Chloride		62	60		mg/Kg	20	3/2/2019 4:12:01	AM	43456

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

**Qualifiers:** \* Value exceeds Maximum Contaminant Level. В Analyte detected in the associated Method Blank Sample Diluted Due to Matrix Е D Value above quantitation range Н Holding times for preparation or analysis exceeded J Analyte detected below quantitation limits ND Not Detected at the Reporting Limit Р Sample pH Not In Range PQL Practical Quanitative Limit RL Reporting Detection Limit

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Hall Environ	mental Analysis	Laboratory, Inc	•			Ι	Date Reported: 3/5/	2019	
	Burnett Oil Co Inc Water Flood				I	.ab (	<b>Drder:</b> 1902	C11	
Lab ID:	1902C11-006		C	ollecti	on Date	e: 2/2	27/2019		
Client Sample ID:	SP4 5-6				Matrix	s: SC	DIL		
Analyses		Result	RL	Qual	Units	DF	Date Analyzed	Bate	ch ID
EPA METHOD 300 Chloride	0.0: ANIONS	ND	60		mg/Kg	20	An 3/2/2019 4:24:25 /	alyst: <b> </b> \M 4	<b>MRA</b> 43456
Lab ID:	1902C11-007		C	ollecti	on Date	e: 2/2	27/2019		
Client Sample ID:	SP4 6-7				Matrix	s: SC	DIL		
Analyses		Result	RL	Qual	Units	DF	Date Analyzed	Bate	ch ID
EPA METHOD 300 Chloride	0.0: ANIONS	ND	60		mg/Kg	20	An 3/2/2019 4:36:50 A	alyst: <b>I</b> M 4	<b>MRA</b> 43456
Lab ID:	1902C11-008		С	ollecti	on Date	e: 2/2	27/2019		
Client Sample ID:	SP4 7-8				Matrix	s: SC	DIL		
Analyses		Result	RL	Qual	Units	DF	Date Analyzed	Bate	ch ID
EPA METHOD 300	0.0: ANIONS						An	alyst: <b>I</b>	MRA
Chloride		ND	60		mg/Kg	20	3/2/2019 4:49:15 /	AM 4	43456
Lab ID:	1902C11-009		C	ollecti	on Date	e: 2/2	27/2019		
Client Sample ID:	SP4 8-9				Matrix	s: SC	DIL		
Analyses		Result	RL	Qual	Units	DF	Date Analyzed	Bate	ch ID
EPA METHOD 300 Chloride	0.0: ANIONS	ND	60		mg/Kg	20	An 3/2/2019 5:01:39 A	alyst: <b>I</b>	<b>VRA</b> 43456
Lab ID:	1902C11-010		C	ollecti	on Date	e: 2/2	27/2019		
Client Sample ID:	SP4 9-10				Matrix	s: SC	DIL		
Analyses		Result	RL	Qual	Units	DF	Date Analyzed	Bate	ch ID
EPA METHOD 300	0.0: ANIONS						An	alyst: <b>I</b>	MRA
Chloride		ND	60		mg/Kg	20	3/2/2019 5:14:04 /	AM 4	43456

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

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Hall Environ	mental Analysis	Laboratory, In	c.			Date Reported: 3/5/2019
	Burnett Oil Co Inc Vater Flood				Ι	Lab Order: 1902C11
Lab ID:	1902C11-011		С	ollecti	on Date	<b>e:</b> 2/27/2019
Client Sample ID:	SP14 0-1				Matrix	x: SOIL
Analyses		Result	RL	Qual	Units	DF Date Analyzed Batch ID
EPA METHOD 300 Chloride	0.0: ANIONS	ND	60		mg/Kg	Analyst: <b>smb</b> 20 3/2/2019 9:23:52 AM 43459
Lab ID:	1902C11-012		С	ollecti	on Date	e: 2/27/2019
Client Sample ID:	SP14 1-2				Matrix	x: SOIL
Analyses		Result	RL	Qual	Units	DF Date Analyzed Batch ID
EPA METHOD 300 Chloride	0.0: ANIONS	ND	60		mg/Kg	Analyst: <b>smb</b> 20 3/2/2019 9:36:16 AM 43459
Lab ID:	1902C11-013		С	ollecti	on Date	<b>e:</b> 2/27/2019
Client Sample ID:	SP14 2-3				Matrix	x: SOIL
Analyses		Result	RL	Qual	Units	DF Date Analyzed Batch ID
EPA METHOD 300	.0: ANIONS					Analyst: <b>smb</b>
Chloride		ND	60		mg/Kg	20 3/2/2019 9:48:40 AM 43459
Lab ID:	1902C11-014		С	ollecti	on Date	<b>e:</b> 2/27/2019
Client Sample ID:	SP14 3-4				Matrix	x: SOIL
Analyses		Result	RL	Qual	Units	DF Date Analyzed Batch ID
EPA METHOD 300 Chloride	0.0: ANIONS	ND	60		mg/Kg	Analyst: <b>smb</b> 20 3/2/2019 10:25:53 AM 43459
Lab ID:	1902C11-015		С	ollecti	on Date	<b>e:</b> 2/27/2019
Client Sample ID:	SP14 4-5				Matrix	x: SOIL
Analyses		Result	RL	Qual	Units	DF Date Analyzed Batch ID
EPA METHOD 300	.0: ANIONS					Analyst: smb
Chloride		ND	60		mg/Kg	20 3/2/2019 10:38:17 AM 43459

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

**Qualifiers:** \* Value exceeds Maximum Contaminant Level. В Analyte detected in the associated Method Blank Sample Diluted Due to Matrix Е D Value above quantitation range H Holding times for preparation or analysis exceeded J Analyte detected below quantitation limits ND Not Detected at the Reporting Limit Р Sample pH Not In Range PQL Practical Quanitative Limit RL Reporting Detection Limit

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Hall Environ	mental Analysis	Laboratory, I	nc.			Ι	Date Reported: 3/5/	2019	
	Burnett Oil Co Inc Water Flood				Ι	.ab (	<b>Drder:</b> 1902	C11	
Lab ID:	1902C11-016		С	ollecti	on Date	e: 2/2	27/2019		
Client Sample ID:	SP14 5-6				Matrix	s: SC	DIL		
Analyses		Result	RL	Qual	Units	DF	Date Analyzed	Ba	tch ID
EPA METHOD 300 Chloride	0.0: ANIONS	ND	60		mg/Kg	20	An 3/2/2019 10:50:42	-	<b>smb</b> 43459
Lab ID:	1902C11-017		С	ollecti	on Date	e: 2/2	27/2019		
Client Sample ID:	SP14 6-7				Matrix	s: SC	DIL		
Analyses		Result	RL	Qual	Units	DF	Date Analyzed	Ba	tch ID
EPA METHOD 300 Chloride	0.0: ANIONS	ND	60		mg/Kg	20	An 3/2/2019 11:27:55	-	<b>smb</b> 43459
Lab ID:	1902C11-018		С	ollecti	on Date	e: 2/2	27/2019		
Client Sample ID:	SP14 7-8				Matrix	s: SC	DIL		
Analyses		Result	RL	Qual	Units	DF	Date Analyzed	Ba	tch ID
EPA METHOD 300	0.0: ANIONS						An	alyst:	smb
Chloride		ND	60		mg/Kg	20	3/2/2019 11:40:19	AM	43459
Lab ID:	1902C11-019		С	ollecti	on Date	e: 2/2	27/2019		
Client Sample ID:	SP14 8-9				Matrix	s: SC	DIL		
Analyses		Result	RL	Qual	Units	DF	Date Analyzed	Ba	tch ID
EPA METHOD 300 Chloride	0.0: ANIONS	ND	60		mg/Kg	20	An 3/2/2019 11:52:43	-	<b>smb</b> 43459
Lab ID:	1902C11-020		C	ollecti	on Date	<b>e:</b> 2/2	27/2019		
Client Sample ID:	SP14 9-10				Matrix	s: SC	DIL		
Analyses		Result	RL	Qual	Units	DF	Date Analyzed	Ba	tch ID
EPA METHOD 300	0.0: ANIONS						An	alyst:	smb
Chloride		ND	60		mg/Kg	20	3/2/2019 12:05:07	′ PM	43459

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

**Qualifiers:** \* Value exceeds Maximum Contaminant Level. В Analyte detected in the associated Method Blank Sample Diluted Due to Matrix Е D Value above quantitation range H Holding times for preparation or analysis exceeded J Analyte detected below quantitation limits ND Not Detected at the Reporting Limit Р Sample pH Not In Range PQL Practical Quanitative Limit RL Reporting Detection Limit

QC SUMMARY REPORT
Hall Environmental Analysis Laboratory, Inc.

WO#:	1902C11
	05-Mar-19

	nett Oil Co Inc ter Flood
Sample ID: MB-43456	SampType: mblk TestCode: EPA Method 300.0: Anions
Client ID: PBS	Batch ID: 43456 RunNo: 58054
Prep Date: 3/1/2019	Analysis Date: 3/1/2019 SeqNo: 1945654 Units: mg/Kg
Analyte Chloride	Result PQL SPK value SPK Ref Val %REC LowLimit HighLimit %RPD RPDLimit Qual ND 1.5
Sample ID: LCS-43456	SampType: Ics TestCode: EPA Method 300.0: Anions
Client ID: LCSS	Batch ID: 43456 RunNo: 58054
Prep Date: 3/1/2019	Analysis Date: 3/1/2019 SeqNo: 1945655 Units: mg/Kg
Analyte Chloride	Result         PQL         SPK value         SPK Ref Val         %REC         LowLimit         HighLimit         %RPD         RPDLimit         Qual           14         1.5         15.00         0         92.7         90         110
Sample ID: MB-43459	SampType: MBLK TestCode: EPA Method 300.0: Anions
Client ID: PBS	Batch ID: <b>43459</b> RunNo: <b>58081</b>
Prep Date: 3/1/2019	Analysis Date: 3/2/2019 SeqNo: 1947002 Units: mg/Kg
Analyte Chloride	Result PQL SPK value SPK Ref Val %REC LowLimit HighLimit %RPD RPDLimit Qual ND 1.5
Sample ID: LCS-43459	SampType: LCS TestCode: EPA Method 300.0: Anions
Client ID: LCSS	Batch ID: 43459 RunNo: 58081
Prep Date: 3/1/2019	Analysis Date: 3/2/2019 SeqNo: 1947003 Units: mg/Kg
Analyte	Result PQL SPK value SPK Ref Val %REC LowLimit HighLimit %RPD RPDLimit Qual
Chloride	14 1.5 15.00 0 91.7 90 110

## **Qualifiers:**

- \* Value exceeds Maximum Contaminant Level.
- D Sample Diluted Due to Matrix
- Holding times for preparation or analysis exceeded Н
- ND Not Detected at the Reporting Limit
- PQL Practical Quanitative Limit
- 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
- Р Sample pH Not In Range
- RL Reporting Detection Limit
- W Sample container temperature is out of limit as specified
- - Page 5 of 5

HALL ENVIRONMENTA ANALYSIS LABORATORY	ЪL	Hall Environmental Albu Albu TEL: 505-345-3975 Website: www.hal	490 querq FAX: .	1 Hawkins NE ue, NM 87109 505-345-4107	Sar	nple Log-In Check List
Client Name: BURNETT C		Work Order Number:	1902	C11		RcptNo: 1
Received By: Thom May Completed By: Isaiah Orti:		28/2019 9:15:00 AM			A	
Reviewed By:	C	28/2019 9:26:01 AM			ILC	
LB: DAD 2/28	//9					
Chain of Custody						
<ol> <li>Is Chain of Custody comple</li> <li>How was the sample delive</li> </ol>			Yes <u>Cour</u> i		No 🗌	Not Present
Log In 3. Was an attempt made to co	ol the samples?		Yes		No 🗌	NA 🗌
4. Were all samples received a	at a temperature of >	•0° C to 6.0°C	Yes		No 🗌	
5. Sample(s) in proper contain	er(s)?		Yes		No 🗀	
6. Sufficient sample volume for			Yes		No 🗌	
7. Are samples (except VOA a		eserved?	Yes	$\checkmark$	No 🗌	
8. Was preservative added to b	pottles?	,	Yes		No 🗹	NA 🗌
9. VOA vials have zero headsp	ace?		Yes		No 🗌	No VOA Vials 🗹
10. Were any sample container	s received broken?		Yes		No 🗹	# of preserved
11.Does paperwork match botti (Note discrepancies on chai			Yes		No 🗌	bottles checked for pH: (<2 or >12 unless noted)
12. Are matrices correctly identi		ody?	Yes	✓	No 🗌	Adjusted?
13. Is it clear what analyses wer		Ň	Yes		No 🗌	
14. Were all holding times able t (If no, notify customer for au		`	Yes	✓	No 🗌	Checked by: DAD 2/28/19
Special Handling (if appl	icable)					
15. Was client notified of all dis		order?	Yes		No 🗌	NA 🔽
Person Notified: By Whom: Regarding: Client Instructions:		Date: <b> </b> Via:	eMa	il 📄 Phone	€ [] Fax	In Person
16. Additional remarks:	······································					······································
17. <u>Cooler Information</u> Cooler No Temp °C 1 5.4	Condition Seal In Good Yes	ntact Seal No Se	al Da	te Sigi	ned By	

Client: BUICHER OU COMPANY										HALL ENVIKONMENIAL	Z	Ľ	Z		
	1 COMPAND	■ Standard	🗆 Rush	-					S	ANALYSTS LABORATORY	<b>AB</b>	ORA	C	2	
		Project Name						w.hall	enviro	www.hallenvironmental.com	l.com	5	) ;		
Mailing Address: $ ho_{\mathcal{O}_{\mathcal{O}_{\mathcal{O}_{\mathcal{O}}}}}$	1300 188	Waterty	000		4	301 H₅	4901 Hawkins NE	۔ ۲	Albug	Albuquerque, NM 87109	Σ	87109			
ha	1	Project #:				el. 50!	Tel. 505-345-3975	3975	Fax .	Fax 505-345-4107	45-41	07			
Phone #:	5.1							A	alysi	Analysis Request	est		-		
email or Fax# 1 tits worth danethed	vorthal barnettail, com	Project Manager	ger:						("C						
QA/QC Package: □ Standard	Level 4 (Full Validation)	Johnny	Titsworth					(SMI	DS"Oc						
Accreditation		Sampler: Ku	(cuin Meeman	4		אם / o			ON.						(N
(be)		Te Le		5.4°C		) (פצי				səp			<u> </u>		<u>10 1</u>
Date Time Matrix	x Sample Request ID	Container Type and #	Preservative Type	HEAL NG. 1908CI 1	BTEX + MTE BTEX + MTE	1PH 8015B	EDB (Methoo	0168) a'HAA	RCRA 8 Met ID, 7) anoinA	sos1 Pestici	AOV) 80828	-imes) 0728			) səldduB ıiA
2/27/19 PM 5011	5p4 0 ~1	40£	<i>fcE</i>	1@-								X			1
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	3 ~ 4		-	-004											1
	4 5			200-											·
	5,6			900-											_
	6 7			50											
	7-8			800-											
	8~9			-004											
	9-10			-016											
				+								->			
<b>&gt;</b>		45	•	,i											<u> </u>
Date: Time: Relinquished by: 27/19 1:52 //	shed by:	Received by	1	2/27/19 1200	Remarks: 	Ś	other		$\mathcal{D}_{\mathcal{O}}$			ч. -			
	shed by:	Received By:	Courier 1	1		)									
14 140 1		Le Mar	VI	223-49 9.15											

	www.hallenvironmental.com	4901 Hawkins NE - Albuquerque, NM 87109	Tel. 505-345-3975 Fax 505-345-4107	Analysis Request	(†0) () (ОЧ) () () () ()	S'*O (SM W / C 0 SP2	ы (С	11PI 0 / 1 3270 3270 4.1)	(GK 141 141 141 140 140 140 140 140 140 140	BTEX + MTE BTEX + MTE BTFX + MTE BTPH (Method TPH (Method PPH's (8310 PPH's (8310 PPH's (8310 PPH's (8310 PPH's (8310 PPH's (8310 PPH'd PPH's (8310 PPH'd PP	×										>		Remarks: Total TPH exceeds 5000 Mg/kg - run deepar	sample. Total BEEX exceeds 50 mg/kg - run deeper	
Turn-Around Time: 5 day Standard D Rush	Project Name, Workor Hobd	D			Project Manager:	Johnny Titswoott		Sampler: LUVIN FICUTIAN On Ico: NO Yos: D NN	ΙĘ	Container Preservative HEAL No. Type and # Type / 70 201 (	4.a. tee -011	210- 1 1	-013	- 014	-015	910-	10-	-018	-019	0e0-		<b>X</b>	Received by Date Time	Reference Date Time	For p 1/1 2/28/19 a.15
Chain-of-Custody Record	Mailing Address: No. B., 6 12 8	4	LACOH	Phone #: 432 - 425- 2891	HEWERTH BURNET al. com	QA/QC Package:		□ Other	EDD (Type)	Date Time Matrix Sample Request ID	2/24/9 PM 2011 5p14 0-1		2,3	3 4	¥-5	5,6	6.7	2~8	8~9	9~10			Relinquished by:	127119 / 52 Burlin	2