State of New Mexico
Energy, Minerals and Natural Resources Department

MEMORANDUM

Date: October 24, 2017

To: Files: Administrative Orders SWD-806-B, SWD-1010, SWD-1055

From: Phillip Goetze, Engineering Bureau, OCD

RE: ADDITION OF NEW WATER SOURCES FOR THREE CLASS II DISPOSAL WELLS, SAN JUAN COUNTY, NEW MEXICO

CLASS II WELL INFORMATION:

1. Well Name: **Juniper SWD Well No. 1** API No. 30-045-29732
   Well Location: Unit D, Section 16, T24N, R10W, NMPM; 880' FNL and 730' FWL
   Injection Authority: SWD-806-B dated May 18, 2006 [IPI-302 dated June 30, 2008]

2. Well Name: **Juniper West SWD Well No. 1** API No. 30-045-33771
   Well Location: Unit N, Section 24, T24N, R11W, NMPM; 700' FSL and 1715' FWL
   Injection Authority: SWD-1055 dated December 1, 2006 [IPI-293 dated March 11, 2008]

3. Well Name: **Juniper Well No. 4** API No. 30-045-32783
   Well Location: Unit N, Section 17, T24N, R10W, NMPM; 660' FSL and 2015' FWL
   Injection Authority: SWD-1010 dated December 27, 2005 [IPI-416 dated February 14, 2014]

Coleman Oil & Gas, Inc. (OGRID No. 4838), the operator for the referenced salt water disposal (SWD) wells, has requested the addition of a new fluid source for disposal into all three SWD wells. All three SWD wells are active disposal wells with completions in the Mesaverde Group (with a combination of perforations in the Menefee Formation and Point Lookout Sandstone). Additionally, all three wells operate under approved Injection Pressure Increase (IPI) orders. The surface pressure gradients for these IPI orders range from 0.44 psi/foot to 0.62 psi/foot.

Previous sources for disposal in the three SWD had been identified in the C-108 applications for each well as being from coalbed methane (CBM) production in the Fruitland Formation.

The new sources will be from horizontal oil wells recently completed in the Mancos Shale. The operator proposes blending of the new source water with the Fruitland Formation production water to reduce any potential impacts to the SWD wells and their reservoir.

The operator provided recent analyses of the general chemistry for both the existing fluids being injected into the SWD wells and the new sources. This data is summarized in Table 1 (New Sources) and Table 2 (Existing SWD Fluids).

Table 1: Summary of New Sources Analytical Results

Source Identification	Sample Date	Major Ion Concentrations*						
		TDS	Cl^-	Na^+	K^+	SO_4^-	Fe(II)	pH
Good Times 24-10	11/13/2015	24700	12200	7720	203	18.1	178	5.59
Pinon 1H	11/13/2015	29100	16300	10500	86.4	<2.00	<4.5	7.39
Pinon 2H	11/13/2015	28800	15400	10400	88.6	<2.00	23.1	7.08

*All concentrations, except pH value, are in milligrams per liter (mg/L).

Table 2: Summary of Analytical Results for SWD Wells

Source Identification	Sample Date	Major Ion Concentrations*						
		TDS	Cl^-	Na^+	K^+	SO_4^-	Fe(II)	pH
Juniper SWD No. 1	9/26/2017	16600	10100	3440	50.0	<200	<2.00	7.46
Juniper West SWD No. 1	9/26/2017	14100	8380	2930	35.9	<2.00	<2.00	7.86
Juniper SWD No. 4	9/26/2017	13400	8480	2860	34.8	<200	<2.00	7.41

*All concentrations, except pH value, are in milligrams per liter (mg/L).

The analytical results for the new source waters indicate an average range of total dissolved concentrations (TDS) that are approximately 87 percent greater than current TDS values in the SWD well samples. However, the blending of the old and new produced water sources will reduce the TDS values as not to impact the reservoir. Accelerated scaling in the well bore will require additional maintenance and should be considered before application for a new IPI in any of the wells. Overall cation/anion concentrations of the new sources do not indicate any unusual distribution that might cause concern.

The review by the Engineering Bureau of the purposed action to include the new sources (while blending with the exiting CBM produced waters) is acceptable. The addition of new disposal fluids is defined as a minor modification [not requiring notice for permit modification] and the Bureau recommends the approval by the District of the C-103s for the inclusion of the new sources for each SWD well.

The Bureau does recommend that any future IPI applications have step-rate tests that are conducted using this new produced water chemistry.

Submit 1 Copy To Appropriate District Office
District I – (575) 393-6161
1625 N. French Dr., Hobbs, NM 88240
District II – (575) 748-1283
811 S. First St., Artesia, NM 88210
District III – (505) 334-6178
1000 Rio Brazos Rd., Aztec, NM 87410
District IV – (505) 476-3460
1220 S. St. Francis Dr., Santa Fe, NM 87505

State of New Mexico
Energy, Minerals and Natural Resources

OIL CONSERVATION DIVISION
1220 South St. Francis Dr.
Santa Fe, NM 87505

Form C-103
Revised July 18, 2013

WELL API NO. 30-045-32783

5. Indicate Type of Lease STATE ☐ FEE ☐

6. State Oil & Gas Lease No. NMNM 101058 (Federal)

SUNDRY NOTICES AND REPORTS ON WELLS
(DO NOT USE THIS FORM FOR PROPOSALS TO DRILL OR TO DEEPEN OR PLUG BACK TO A DIFFERENT RESERVOIR. USE "APPLICATION FOR PERMIT" (FORM C-101) FOR SUCH PROPOSALS.)

7. Lease Name or Unit Agreement Name: Juniper SWD

1. Type of Well: Oil Well ☐ Gas Well ☐ Other SWD; Mesa Verde

8. Well Number #4

2. Name of Operator: Coleman Oil & Gas, Inc

9. OGRID Number: 4838

3. Address of Operator: P.O. Drawer 3337, Farmington NM 87401

10. Pool name or Wildcat: SWD: Mesa Verde

4. Well Location
Unit Letter N : 660 feet from the South line and 2015 feet from the West line
Section 17 Township 24N Range 10W NMPM County San Juan

11. Elevation *(Show whether DR, RKB, RT, GR, etc.)* 6650' GL

12. Check Appropriate Box to Indicate Nature of Notice, Report or Other Data

NOTICE OF INTENTION TO:				SUBSEQUENT REPORT OF:			
PERFORM REMEDIAL WORK	☐	PLUG AND ABANDON	☐	REMEDIAL WORK	☐	ALTERING CASING	☐
TEMPORARILY ABANDON	☐	CHANGE PLANS	☐	COMMENCE DRILLING OPNS.	☐	P AND A	☐
PULL OR ALTER CASING	☐	MULTIPLE COMPL	☐	CASING/CEMENT JOB	☐		
DOWNHOLE COMMINGLE	☐						
CLOSED-LOOP SYSTEM	☐						
OTHER:	☒			OTHER:			☐

13. Describe proposed or completed operations. (Clearly state all pertinent details, and give pertinent dates, including estimated date of starting any proposed work). SEE RULE 19.15.7.14 NMAC. For Multiple Completions: Attach wellbore diagram of proposed completion or recompletion.

Coleman Oil & Gas respectfully request permission to accept Mancos Produced Water into the Juniper SWD #4 Disposal. Water will be primarily transferred through produced water gathering system operated by Coleman Oil & Gas, Inc. If produced water gathering system is down for repairs, water will be trucked. See the attached water analysis taken from three Mancos producers. Mancos produced water will be blended with Basin Fruitland Coal water.

Coleman Oil & Gas is a joint working interest owner in the Pinon Unit, Horizontal Mancos producers.

Juniper SWD #4 Administrative Order SWD-1010

Spud Date: July 4, 2005 Rotary Rig Release Date: July 9, 2005

I hereby certify that the information above is true and complete to the best of my knowledge and belief.

SIGNATURE Michael T. Hanson TITLE: Operations Engineer DATE: August 29, 2017

Type or print name: Michael T. Hanson E-mail address: mhanson@cog-fmn.com PHONE: (505) 327-0356

For State Use Only

APPROVED BY: _____ TITLE _____ DATE _____

Conditions of Approval (if any):

Green Analytical Laboratories
dzufelt@greenanalytical.com p: 970.247.4220 f: 970.247.4227 75 Suttle Street Durango, CO 81303
www.GreenAnalytical.com

Baker Hughes	Project: API +	
1215 Basin Rd	Project Name / Number: Coleman	**Reported:**
Farmington NM, 87401	Project Manager: Matt Pulte	01/03/14 15:33

Coleman Juniper SWD #4

1312198-03 (Water)

Analyte	Result	RL	MDL	Units	Dilution	Analyzed	Method	Notes	Analyst
General Chemistry									
Alkalinity, Bicarbonate*	**450**	10.0		mg/L	10	01/02/14	2320 B	Q1	JAW
Alkalinity, Carbonate*	**<10.0**	10.0		mg/L	10	01/02/14	2320 B	Q1	JAW
Alkalinity, Hydroxide*	**<10.0**	10.0		mg/L	10	01/02/14	2320 B	Q1	JAW
Alkalinity, Total*	**450**	10.0		mg/L	10	01/02/14	2320 B	Q1	JAW
Chloride*	**8700**	1000	500	mg/L	100	12/31/13	4500-Cl- C		JAW
Conductivity*	**25400**	10.0		uS/cm	1	12/27/13	2510 B		MJV
Hardness	**389**	66.2	0.880	mg/L	10	01/02/14	2340 B		JGS
pH*	**7.83**			pH Units	1	12/27/13	EPA150.1	H1	MJV
Resistivity	**39.4**			ohm/cm	1	12/31/13	2510 B		DJZ
Silcia Potentially Dissolved	**14.2**	10.7	7.38	mg/L	10	01/02/14	2340 B		JGS
Specific Gravity	**1.011**			N/A	1	12/30/13	Hydrometer, Modified Bouyoucos	H2	ABP
Sulfate	**<10.0**	10.0	1.08	mg/L	1	12/31/13	4500-SO42- E		ABP
TDS*	**13400**	10.0		mg/L	1	01/02/14	EPA160.1	H2, Q1	JAW
Potentially Dissolved Metals by ICP									
Barium*	**3.90**	0.100	0.038	mg/L	10	01/02/14	EPA200.7		JGS
Calcium*	**109**	10.0	0.039	mg/L	10	01/02/14	EPA200.7		JGS
Iron*	**4.64**	0.500	0.040	mg/L	10	01/02/14	EPA200.7		JGS
Lead*	**<1.00**	1.00	0.240	mg/L	10	01/02/14	EPA200.7		JGS
Magnesium*	**28.4**	10.0	0.190	mg/L	10	01/02/14	EPA200.7		JGS
Manganese*	**0.088**	0.050	0.004	mg/L	10	01/02/14	EPA200.7		JGS
Potassium*	**26.9**	10.0	3.64	mg/L	10	01/02/14	EPA200.7		JGS
Silicon	**6.64**	5.00	3.45	mg/L	10	01/02/14	EPA200.7		JGS
Sodium*	**5160**	10.0	0.041	mg/L	10	01/02/14	EPA200.7		JGS
Strontium*	**7.98**	1.00	0.003	mg/L	10	01/02/14	EPA200.7		JGS
Zinc*	**<0.500**	0.500	0.025	mg/L	10	01/02/14	EPA200.7		JGS
Cation/Anion Balance	**-4.06**								

Green Analytical Laboratories

Debbie Zufelt

Debbie Zufelt, Reports Manager

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Analytical Laboratory

Analytical Report

Report Summary

Client: Coleman Oil & Gas

Chain Of Custody Number:

Samples Received: 9/26/2017 5:15:00PM

Job Number: 05206-0001

Work Order: P709057

Project Name/Location: Juniper SWD #4

Report Reviewed By: _____ Date: 10/13/17

Walter Hinchman, Laboratory Director

_____ Date: 10/13/17

Tim Cain, Quality Assurance Officer

The results in this report apply to the samples submitted to Envirotech's Analytical Laboratory and were analyzed in accordance with the chain of custody document supplied by you, the client, and as such are for your exclusive use only. The results in this report are based on the sample as received unless otherwise noted. Partial or incomplete reproduction of this report is prohibited, unless approved by Envirotech, Inc. If you have any questions regarding this analytical report, please don't hesitate to contact Envirotech's Laboratory Staff.

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Analytical Laboratory

Coleman Oil & Gas	Project Name:	Juniper SWD #4	
P.O. Box 3337	Project Number:	05206-0001	**Reported:**
Farmington NM, 87499	Project Manager:	Mike Hanson	13-Oct-17 14:28

Analyical Report for Samples

Client Sample ID	Lab Sample ID	Matrix	Sampled	Received	Container
Produced Water	P709057-01A	Water	09/26/17	09/26/17	Poly 500mL

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Coleman Oil & Gas	Project Name:	Juniper SWD #4	
P.O. Box 3337	Project Number:	05206-0001	**Reported:**
Farmington NM, 87499	Project Manager:	Mike Hanson	13-Oct-17 14:28

Produced Water
P709057-01 (Water)

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Wet Chem/Gravimetric									
Total Dissolved Solids	**13400**	10.0	mg/L	1	1739026	09/29/17	10/03/17	SM2540C	
Dissolved Metals by 6010									
Calcium	**113**	0.50	mg/L	1	1739020	09/28/17	10/12/17	EPA 6010C	
Iron	ND	2.00	mg/L	1	1739020	09/28/17	10/12/17	EPA 6010C	
Magnesium	**24.6**	0.20	mg/L	1	1739020	09/28/17	10/12/17	EPA 6010C	
Potassium	**34.8**	0.50	mg/L	1	1739020	09/28/17	10/12/17	EPA 6010C	
Sodium	**2860**	2.00	mg/L	1	1739020	09/28/17	10/12/17	EPA 6010C	
Sodium Absorption Ratio	**63.6**		N/A	1	1741028	10/13/17	10/13/17	[CALC]	
Anions by 300.0									
Fluoride	ND	25.0	mg/L	100	1739016	09/27/17	09/27/17	EPA 300.0	
Chloride	**8480**	200	mg/L	100	1739016	09/27/17	09/27/17	EPA 300.0	
Nitrite-N	ND	25.0	mg/L	100	1739016	09/27/17 11:33	09/27/17 15:29	EPA 300.0	
Nitrate-N	ND	25.0	mg/L	100	1739016	09/27/17 11:33	09/27/17 15:29	EPA 300.0	
o-Phosphate-P	ND	25.0	mg/L	100	1739016	09/27/17 11:33	09/27/17 15:29	EPA 300.0	
Sulfate	ND	200	mg/L	100	1739016	09/27/17	09/27/17	EPA 300.0	
Wet Chemistry									
pH @25°C	**7.41**		pH Units	1	1739023	09/29/17 08:27	09/29/17 10:51	9040C/4500 H+B	HI
Specific Conductance (@ 25 C)	**23800**	10.0	uS/cm	1	1739024	09/29/17	09/29/17	9050A/2510 B	
Total Alkalinity (as CaCO3 at pH 4.5)	**610**	10.0	mg/L	1	1739025	09/29/17	10/02/17	SM2320B	
Bicarbonate Alkalinity (as CaCO3)	**610**		mg/L	1	1739025	09/29/17	10/02/17	SM2320B	
Hydroxide Alkalinity (as CaCO3)	0.00		mg/L	1	1739025	09/29/17	10/02/17	SM2320B	
Carbonate Alkalinity (as CaCO3)	0.00		mg/L	1	1739025	09/29/17	10/02/17	SM2320B	

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Colcman Oil & Gas	Projcct Namc:	Junipcr SWD #4	
P.O. Box 3337	Project Number:	05206-0001	**Reported:**
Farmington NM, 87499	Project Manager:	Mike Hanson	13-Oct-17 14:28

Wet Chem/Gravimetric - Quality Control

Envirotech Analytical Laboratory

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch 1739026 - Wet Chemistry Preparation										
Blank (1739026-BLK1)				Prepared: 29-Sep-17 Analyzed: 03-Oct-17						
Total Dissolved Solids	ND	10.0	mg/L							
LCS (1739026-BS1)				Prepared: 29-Sep-17 Analyzed: 03-Oct-17						
Total Dissolved Solids	84.0	10.0	mg/L	100		84.0	50-150			
Duplicate (1739026-DUP1)		Source: P709055-01		Prepared: 29-Sep-17 Analyzed: 03-Oct-17						
Total Dissolved Solids	16100	10.0	mg/L		16600			3.31	5	

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Coleman Oil & Gas	Project Name:	Juniper SWD #4	
P.O. Box 3337	Project Number:	05206-0001	**Reported:**
Farmington NM, 87499	Project Manager:	Mike Hanson	13-Oct-17 14:28

Dissolved Metals by 6010 - Quality Control

Envirotech Analytical Laboratory

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch 1739020 - Metals Water Hotblock Digestion EPA 3010A/200.2										
Blank (1739020-BLK1)				Prepared: 28-Sep-17 Analyzed: 03-Oct-17						
Calcium	ND	0.50	mg/L							
Iron	ND	2.00	"							
Magnesium	ND	0.20	"							
Potassium	ND	0.50	"							
Sodium	ND	2.00	"							
LCS (1739020-BS1)				Prepared: 28-Sep-17 Analyzed: 03-Oct-17						
Calcium	55.6	0.50	mg/L	50.0		111	85-115			
Iron	55.2	2.00	"	50.0		110	80-120			
Magnesium	46.6	0.20	"	50.0		93.2	85-115			
Potassium	4.75	0.50	"	5.00		95.0	85-115			
Sodium	48.2	2.00	"	50.0		96.3	85-115			
Matrix Spike (1739020-MS1)	Source: P709062-06			Prepared: 28-Sep-17 Analyzed: 03-Oct-17						
Calcium	102	0.50	mg/L	50.0	50.5	103	70-130			
Iron	51.3	2.00	"	50.0	ND	103	75-125			
Magnesium	49.8	0.20	"	50.0	2.53	94.6	70-130			
Potassium	7.29	0.50	"	5.00	2.14	103	70-130			
Sodium	66.0	2.00	"	50.0	15.2	101	70-130			
Matrix Spike Dup (1739020-MSD1)	Source: P709062-06			Prepared: 28-Sep-17 Analyzed: 03-Oct-17						
Calcium	105	0.50	mg/L	50.0	50.5	109	70-130	2.71	20	
Iron	53.5	2.00	"	50.0	ND	107	75-125	4.05	20	
Magnesium	49.8	0.20	"	50.0	2.53	94.5	70-130	0.0402	20	
Potassium	7.12	0.50	"	5.00	2.14	99.6	70-130	2.30	20	
Sodium	64.9	2.00	"	50.0	15.2	99.4	70-130	1.60	20	

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Colcman Oil & Gas	Projcct Namc:	Juniper SWD #4	
P.O. Box 3337	Project Number:	05206-0001	**Reported:**
Farmington NM, 87499	Project Manager:	Mike Hanson	13-Oct-17 14:28

Anions by 300.0 - Quality Control

Envirotech Analytical Laboratory

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch 1739016 - Anion Extraction EPA 300.0										
Blank (1739016-BLK1)				Prepared & Analyzed: 27-Sep-17						
Fluoride	ND	0.25	mg/L							
Chloridc	ND	2.00	"							
Nitritc-N	ND	0.25	"							
Nitrate-N	ND	0.25	"							
o-Phosphate-P	ND	0.25	"							
Sulfate	ND	2.00	"							
LCS (1739016-BS1)				Prepared & Analyzed: 27-Sep-17						
Fluoride	2.57	0.25	mg/L	2.50		103	90-110			
Chloride	25.6	2.00	"	25.0		102	90-110			
Nitrite-N	2.59	0.25	"	2.50		104	90-110			
Nitratc-N	2.45	0.25	"	2.50		98.1	90-110			
o-Phosphatc-P	11.8	0.25	"	12.5		94.5	90-110			
Sulfatc	25.3	2.00	"	25.0		101	90-110			
Matrix Spike (1739016-MS1)	Source: P709055-01			Prepared & Analyzed: 27-Sep-17						
Fluoridc	262	25.0	mg/L	250	ND	105	80-120			
Chloridc	12600	200	"	2500	10100	102	80-120			
Nitritc-N	257	25.0	"	250	ND	103	80-120			
Nitrate-N	248	25.0	"	250	ND	99.1	80-120			
o-Phosphate-P	1200	25.0	"	1250	ND	95.6	80-120			
Sulfate	2560	200	"	2500	ND	102	80-120			
Matrix Spike Dup (1739016-MSD1)	Source: P709055-01			Prepared & Analyzed: 27-Sep-17						
Fluoride	261	25.0	mg/L	250	ND	104	80-120	0.650	20	
Chloride	12500	200	"	2500	10100	98.6	80-120	0.633	20	
Nitrite-N	257	25.0	"	250	ND	103	80-120	0.117	20	
Nitratc-N	246	25.0	"	250	ND	98.6	80-120	0.567	20	
o-Phosphatc-P	1190	25.0	"	1250	ND	95.1	80-120	0.554	20	
Sulfate	2540	200	"	2500	ND	102	80-120	0.671	20	

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Analytical Laboratory

Coleman Oil & Gas	Project Name:	Juniper SWD #4	
P.O. Box 3337	Project Number:	05206-0001	**Reported:**
Farmington NM, 87499	Project Manager:	Mike Hanson	13-Oct-17 14:28

Wet Chemistry - Quality Control

Envirotech Analytical Laboratory

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch 1739023 - Wet Chemistry Preparation										
LCS (1739023-BS1)				Prepared & Analyzed: 29-Sep-17						
pH	7.98		pH Units	8.00		99.9	98.75-101.25			
Duplicate (1739023-DUP1)		Source: P709055-01		Prepared & Analyzed: 29-Sep-17						
pH	7.41		pH Units		7.46			0.672	20	

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Coleman Oil & Gas	Project Name:	Juniper SWD #4	
P.O. Box 3337	Project Number:	05206-0001	**Reported:**
Farmington NM, 87499	Project Manager:	Mike Hanson	13-Oct-17 14:28

Wet Chemistry - Quality Control

Envirotech Analytical Laboratory

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch 1739024 - Wet Chemistry Preparation										
Blank (1739024-BLK1)				Prepared & Analyzed: 29-Sep-17						
Specific Conductance (@ 25 C)	ND	10.0	uS/cm							
LCS (1739024-BS1)				Prepared & Analyzed: 29-Sep-17						
Specific Conductance (@ 25 C)	1420	10.0	uS/cm	1410		101	98-102			
Duplicate (1739024-DUP1)		Source: P709055-01		Prepared & Analyzed: 29-Sep-17						
Specific Conductance (@ 25 C)	28100	10.0	uS/cm		28000			0.357	20	

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Analytical Laboratory

Coleman Oil & Gas	Project Name:	Juniper SWD #4	
P.O. Box 3337	Project Number:	05206-0001	**Reported:**
Farmington NM, 87499	Project Manager:	Mike Hanson	13-Oct-17 14:28

Wet Chemistry - Quality Control

Envirotech Analytical Laboratory

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch 1739025 - Wet Chemistry Preparation										
LCS (1739025-BS1)				Prepared: 29-Sep-17 Analyzed: 02-Oct-17						
Total Alkalinity (as CaCO3 at pH 4.5)	260	10.0	mg/L	250		104	70-130			
Duplicate (1739025-DUP1)		Source: P709055-01		Prepared: 29-Sep-17 Analyzed: 02-Oct-17						
Total Alkalinity (as CaCO3 at pH 4.5)	385	10.0	mg/L		375			2.63	20	

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Analytical Laboratory

Coleman Oil & Gas	Project Name:	Juniper SWD #4	
P.O. Box 3337	Project Number:	05206-0001	**Reported:**
Farmington NM, 87499	Project Manager:	Mike Hanson	13-Oct-17 14:28

Notes and Definitions

H1	Sample was received after regulatory hold-time exceeded for target analyte.
DET	Analyte DETECTED
ND	Analyte NOT DETECTED at or above the reporting limit
NR	Not Reported
dry	Sample results reported on a dry weight basis
RPD	Relative Percent Difference

Project Information | Chain of Custody | Page 1 of 1

Client:	Coleman Oil & Gas Inc
Project:	Juniper SWD #4
Project Manager:	Adrie Hanson
Address:	P.O. Drawer 3337
City, State, Zip	Farmington NM 87499
Phone:	505-566-1996
Email:	mhanson@cog-inv.com

Report Attention

Report due by:	
Attention:	
Address:	
City, State, Zip	
Phone:	
Email:	

Lab Use Only

Lab WO#	Job Number
P709057	05206-0001

TAT: 1D | 3D

EPA Program: RCRA | CWA | SDWA

State: NM | CO | UT | AZ

Time Sampled	Date Sampled	Matrix	No Containers	Sample ID	Lab Number	DRO/ORO by 8015	GRO/DRO by 8015	BTEX by 8021	VOC by 8260	Metals 6010	Chloride 300.0	TPH 418.1	Calcium	Anion				Remarks
2:30pm	9/24/2017	H2O	1	Produced Water	1								✓	✓				
				Request SID with Analysis														
				Calcium Anion														

Analysis and Method

Additional Instructions: V.g ice in cooler

I, (field sampler), attest to the validity and authenticity of this sample. I am aware that tampering with or intentionally mislabelling the sample location, date or time of collection is considered fraud and may be grounds for legal action. Sampled by: _____

Samples requiring thermal preservation must be received on ice the day they are sampled or received packed in ice at an avg temp above 0 but less than 6 °C on subsequent days.

Relinquished by: (Signature)	Date	Time	Received by: (Signature)	Date	Time
	9/24/2017	5:15PM		9/26/17	17 15
Relinquished by: (Signature)	Date	Time	Received by: (Signature)	Date	Time

Lab Use Only
Received on ice: Y / N
T1 T2 T3
AVG Temp °C 2.0

Sample Matrix: S - Soil, Sd - Solid, Sg - Sludge, A - Aqueous, O - Other _____

Container Type: g - glass, p - poly/plastic, ag - amber glass, v - VOA

Note: Samples are discarded 30 days after results are reported unless other arrangements are made. Hazardous samples will be returned to client or disposed of at the client expense. The report for the analysis of the above samples is applicable only to those samples received by the laboratory with this COC. The liability of the laboratory is limited to the amount paid for on the report.

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Analytical Report

Report Summary

Client: Coleman Oil & Gas

Chain Of Custody Number:

Samples Received: 11/16/2015 7:05:00AM

Job Number: 05206-0001

Work Order: P511033

Project Name/Location: Good Times 24-10

Entire Report Reviewed By: _____ Date: 11/25/15

Tim Cain, Laboratory Manager

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Coleman Oil & Gas	Project Name:	Good Times 24-10	
P.O. Box 3337	Project Number:	05206-0001	**Reported:**
Farmington NM, 87499	Project Manager:	Mike Hanson	25-Nov-15 12:07

Analyical Report for Samples

Client Sample ID	Lab Sample ID	Matrix	Sampled	Received	Container
Good Times 24-10	P511033-01A	Aqueous	11/13/15	11/16/15	Poly 500mL

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Analytical Laboratory

Coleman Oil & Gas	Project Name:	Good Times 24-10	
P.O. Box 3337	Project Number:	05206-0001	**Reported:**
Farmington NM, 87499	Project Manager:	Mike Hanson	25-Nov-15 12:07

Good Times 24-10

P511033-01 (Water)

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Cation/Anion Analysis									
pH @20.6°C	**5.59**		pH Units	1	1547032	11/20/15 14:31	11/20/15 14:35	150.1/4500H	
Electrical Conductivity	**28900**		umhos/cm	1	1547032	11/20/15 14:31	11/20/15 14:35	EPA 120.1	
Total Dissolved Solids	**24700**	10.0	mg/L	1	1547020	11/19/15	11/19/15	160.1/2540C	
Sodium Absorption Ratio	**140**		N/A	1	1548015	11/25/15	11/25/15	[CALC]	
Total Alkalinity as CaCO3	**1080**	10.0	mg/L	1	1547021	11/19/15	11/19/15	Hach Method 8203	
Total Hardness as CaCO3	**574**	18.6	mg/L		[CALC]	11/20/15	11/24/15	[CALC]	
Bicarbonate as CaCO3	ND	10.0	mg/L	1	1547021	11/19/15	11/19/15	Hach Method 8203	
Carbonate as CaCO3	ND	10.0	mg/L	1	1547021	11/19/15	11/19/15	Hach Method 8203	
Hydroxide as CaCO3	ND	10.0	mg/L	1	1547021	11/19/15	11/19/15	Hach Method 8203	
Nitrate-N	**4.43**	0.25	mg/L	1	1547013	11/18/15 09:00	11/18/15 18:35	EPA 300.0	H2
Nitrite-N	**54.1**	0.25	mg/L	1	1547013	11/18/15 09:00	11/19/15 19:09	EPA 300.0	H2
Chloride	**12200**	2.00	mg/L	1	1547013	11/18/15	11/19/15	EPA 300.0	
Fluoride	ND	0.25	mg/L	1	1547013	11/18/15	11/19/15	EPA 300.0	
o-Phosphate-P	**105**	0.25	mg/L	1	1547013	11/18/15 09:00	11/19/15 19:09	EPA 300.0	H2
Sulfate	**18.1**	2.00	mg/L	1	1547013	11/18/15	11/18/15	EPA 300.0	
Iron	**178**	4.50	mg/L	9	1547033	11/20/15	11/24/15	EPA 6010C	
Calcium	**174**	4.50	mg/L	9	1547033	11/20/15	11/24/15	EPA 6010C	
Magnesium	**33.9**	1.80	mg/L	9	1547033	11/20/15	11/24/15	EPA 6010C	
Potassium	**203**	4.50	mg/L	9	1547033	11/20/15	11/24/15	EPA 6010C	
Sodium	**7720**	18.0	mg/L	9	1547033	11/20/15	11/24/15	EPA 6010C	

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Coleman Oil & Gas	Project Name:	Good Times 24-10	
P.O. Box 3337	Project Number:	05206-0001	**Reported:**
Farmington NM, 87499	Project Manager:	Mike Hanson	25-Nov-15 12:07

Cation/Anion Analysis - Quality Control

Envirotech Analytical Laboratory

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch 1547013 - Anion Extraction EPA 300.0										
Blank (1547013-BLK1)				Prepared & Analyzed: 18-Nov-15						
Nitrate-N	ND	0.25	mg/L							
Nitrite-N	ND	0.25	"							
Chloride	ND	2.00	"							
Fluoride	ND	0.25	"							
o-Phosphate-P	ND	0.25	"							
Sulfate	ND	2.00	"							
LCS (1547013-BS1)				Prepared & Analyzed: 18-Nov-15						
Nitrate-N	4.76	0.25	mg/L	5.00		95.2	90-110			
Nitrite-N	5.13	0.25	"	5.00		103	90-110			
Chloride	48.6	2.00	"	50.0		97.1	90-110			
Fluoride	5.13	0.25	"	5.00		103	90-110			
o-Phosphate-P	25.6	0.25	"	25.0		102	90-110			
Sulfate	47.2	2.00	"	50.0		94.5	90-110			
Matrix Spike (1547013-MS1)		Source: P511036-01		Prepared & Analyzed: 18-Nov-15						
Nitrate-N	48.2	2.50	mg/L	50.0	ND	96.4	80-120			
Nitrite-N	51.4	2.50	"	50.0	ND	103	80-120			
Chloride	571	20.0	"	500	77.7	98.6	80-120			
Fluoride	56.0	2.50	"	50.0	3.90	104	80-120			
o-Phosphate-P	257	2.50	"	250	ND	103	80-120			
Sulfate	475	20.0	"	500	ND	95.0	80-120			
Matrix Spike Dup (1547013-MSD1)		Source: P511036-01		Prepared & Analyzed: 18-Nov-15						
Nitrate-N	48.1	2.50	mg/L	50.0	ND	96.3	80-120	0.104	20	
Nitrite-N	51.5	2.50	"	50.0	ND	103	80-120	0.136	20	
Chloride	570	20.0	"	500	77.7	98.6	80-120	0.0473	20	
Fluoride	56.0	2.50	"	50.0	3.90	104	80-120	0.0715	20	
o-Phosphate-P	257	2.50	"	250	ND	103	80-120	0.0778	20	
Sulfate	475	20.0	"	500	ND	95.0	80-120	0.0211	20	

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Analytical Laboratory

Coleman Oil & Gas	Project Name:	Good Times 24-10	
P.O. Box 3337	Project Number:	05206-0001	**Reported:**
Farmington NM, 87499	Project Manager:	Mike Hanson	25-Nov-15 12:07

Notes and Definitions

H2	Sample was analyzed after regulatory hold-time exceeded for target analyte.
DET	Analyte DETECTED
ND	Analyte NOT DETECTED at or above the reporting limit
NR	Not Reported
dry	Sample results reported on a dry weight basis
RPD	Relative Percent Difference

Client: Coleman Oil + Gas, Inc
Project: Good Times 24-10
Sampler: Mike Hanson
Phone: 505-330-2903
Email(s): mhanson@cog-fmn.com
Project Manager: Mike Hanson

RUSH? ☐ 1d ☐ 3d

Lab Use Only
Lab WO# PG11033
Job Number 05206-0001

Page 1 of 1

Sample ID	Sample Date	Sample Time	Matrix	Containers QTY - Vol/TYPE/Preservative	GRO/DRO by 8015	BTEX by 8021	TPH by 418.1	Chloride by 300.0	Cation Anion	Lite Analysis				Lab Number	Correct Cont/Pres/v (S) Y/N
Good Times 24-10	11/13/15	3:00PM	H2O	None					✓	✓					Y

Relinquished by: (Signature)	Date	Time	Received by: (Signature)	Date	Time
[signature]	11/13	5:30PM	[signature]	11-16-15	7:05
Relinquished by: (Signature)	Date	Time	Received by: (Signature)	Date	Time

Lab Use Only
**Received on ice Y / N
T1 6.0 T2 T3
AVG Temp °C 6.0

Sample Matrix: S - Soil, Sd - Solid, Sg - Sludge, A - Aqueous, O - Other _____
Container Type: g - glass, p - poly/plastic, ag - amber glass, v - VOA

**Samples requiring thermal preservation must be received on ice the day they are sampled or received packed in ice at an avg temp above 0 but less than 6 °C on subsequent days.

☒ Sample(s) dropped off after hours to a secure drop off area.

Chain of Custody

Notes/Billing Info:

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Analytical Report

Report Summary

Client: Coleman Oil & Gas

Chain Of Custody Number:

Samples Received: 11/16/2015 7:05:00AM

Job Number: 05206-0001

Work Order: P511032

Project Name/Location: Pinon 01H

Entire Report Reviewed By: _____ Date: 11/25/15

Tim Cain, Laboratory Manager

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Analytical Laboratory

Coleman Oil & Gas	Project Name:	Pinon 01H	
P.O. Box 3337	Project Number:	05206-0001	**Reported:**
Farmington NM, 87499	Project Manager:	Mike Hanson	25-Nov-15 12:05

Analyical Report for Samples

Client Sample ID	Lab Sample ID	Matrix	Sampled	Received	Container
Pinon 01H	P511032-01A	Aqueous	11/13/15	11/16/15	Poly 500mL

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laboratory@envirotech-inc.com

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Coleman Oil & Gas	Project Name:	Pinon 01H	
P.O. Box 3337	Project Number:	05206-0001	**Reported:**
Farmington NM, 87499	Project Manager:	Mike Hanson	25-Nov-15 12:05

Pinon 01H

P511032-01 (Water)

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Cation/Anion Analysis									
pH @20.1°C	**7.39**		pH Units	1	1547032	11/20/15 14:31	11/20/15 14:35	150.1/4500H	
Electrical Conductivity	**42800**		umhos/cm	1	1547032	11/20/15 14:31	11/20/15 14:35	EPA 120.1	
Total Dissolved Solids	**29100**	10.0	mg/L	1	1547020	11/19/15	11/19/15	160.1/2540C	
Sodium Absorption Ratio	**178**		N/A	1	1548015	11/25/15	11/25/15	[CALC]	
Total Alkalinity as CaCO3	**519**	10.0	mg/L	1	1547021	11/19/15	11/20/15	Hach Method 8203	
Total Hardness as CaCO3	**657**	18.6	mg/L		[CALC]	11/20/15	11/24/15	[CALC]	
Bicarbonate as CaCO3	ND	10.0	mg/L	1	1547021	11/19/15	11/20/15	Hach Method 8203	
Carbonate as CaCO3	ND	10.0	mg/L	1	1547021	11/19/15	11/20/15	Hach Method 8203	
Hydroxide as CaCO3	ND	10.0	mg/L	1	1547021	11/19/15	11/20/15	Hach Method 8203	
Nitrate-N	**4.40**	0.25	mg/L	1	1547013	11/18/15 09:00	11/18/15 16:02	EPA 300.0	H2
Nitrite-N	**50.5**	0.25	mg/L	1	1547013	11/18/15 09:00	11/19/15 18:25	EPA 300.0	H2
Chloride	**16300**	2.00	mg/L	1	1547013	11/18/15	11/19/15	EPA 300.0	
Fluoride	**1.75**	0.25	mg/L	1	1547013	11/18/15	11/18/15	EPA 300.0	
o-Phosphate-P	**105**	0.25	mg/L	1	1547013	11/18/15 09:00	11/19/15 18:25	EPA 300.0	H2
Sulfate	ND	2.00	mg/L	1	1547013	11/18/15	11/18/15	EPA 300.0	
Iron	ND	4.50	mg/L	9	1547033	11/20/15	11/24/15	EPA 6010C	
Calcium	**187**	4.50	mg/L	9	1547033	11/20/15	11/24/15	EPA 6010C	
Magnesium	**46.4**	1.80	mg/L	9	1547033	11/20/15	11/24/15	EPA 6010C	
Potassium	**86.4**	4.50	mg/L	9	1547033	11/20/15	11/24/15	EPA 6010C	
Sodium	**10500**	18.0	mg/L	9	1547033	11/20/15	11/24/15	EPA 6010C	

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Coleman Oil & Gas	Project Name:	Pinon 01H	
P.O. Box 3337	Project Number:	05206-0001	**Reported:**
Farmington NM, 87499	Project Manager:	Mike Hanson	25-Nov-15 12:05

Cation/Anion Analysis - Quality Control

Envirotech Analytical Laboratory

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch 1547013 - Anion Extraction EPA 300.0										
Blank (1547013-BLK1)				Prepared & Analyzed: 18-Nov-15						
Nitrate-N	ND	0.25	mg/L							
Nitrite-N	ND	0.25	"							
Chloride	ND	2.00	"							
Fluoride	ND	0.25	"							
o-Phosphate-P	ND	0.25	"							
Sulfate	ND	2.00	"							
LCS (1547013-BS1)				Prepared & Analyzed: 18-Nov-15						
Nitrate-N	4.76	0.25	mg/L	5.00		95.2	90-110			
Nitrite-N	5.13	0.25	"	5.00		103	90-110			
Chloride	48.6	2.00	"	50.0		97.1	90-110			
Fluoride	5.13	0.25	"	5.00		103	90-110			
o-Phosphate-P	25.6	0.25	"	25.0		102	90-110			
Sulfate	47.2	2.00	"	50.0		94.5	90-110			
Matrix Spike (1547013-MS1)	**Source: P511036-01**			Prepared & Analyzed: 18-Nov-15						
Nitrate-N	48.2	2.50	mg/L	50.0	ND	96.4	80-120			
Nitrite-N	51.4	2.50	"	50.0	ND	103	80-120			
Chloride	571	20.0	"	500	77.7	98.6	80-120			
Fluoride	56.0	2.50	"	50.0	3.90	104	80-120			
o-Phosphate-P	257	2.50	"	250	ND	103	80-120			
Sulfate	475	20.0	"	500	ND	95.0	80-120			
Matrix Spike Dup (1547013-MSD1)	**Source: P511036-01**			Prepared & Analyzed: 18-Nov-15						
Nitrate-N	48.1	2.50	mg/L	50.0	ND	96.3	80-120	0.104	20	
Nitrite-N	51.5	2.50	"	50.0	ND	103	80-120	0.136	20	
Chloride	570	20.0	"	500	77.7	98.6	80-120	0.0473	20	
Fluoride	56.0	2.50	"	50.0	3.90	104	80-120	0.0715	20	
o-Phosphate-P	257	2.50	"	250	ND	103	80-120	0.0778	20	
Sulfate	475	20.0	"	500	ND	95.0	80-120	0.0211	20	

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Analytical Laboratory

Coleman Oil & Gas	Project Name:	Pinon 01H	
P.O. Box 3337	Project Number:	05206-0001	**Reported:**
Farmington NM, 87499	Project Manager:	Mike Hanson	25-Nov-15 12:05

Notes and Definitions

H2	Sample was analyzed after regulatory hold-time exceeded for target analyte.
DET	Analyte DETECTED
ND	Analyte NOT DETECTED at or above the reporting limit
NR	Not Reported
dry	Sample results reported on a dry weight basis
RPD	Relative Percent Difference

Client: Coleman Oil & Gas Inc
Project: Pinon 01H
Sampler: Mike Hanson
Phone: 505-330-2903
Email(s): mhanson@cog-fmn.com
Project Manager: Mike Hanson

RUSH? ☐ 1d ☐ 3d

Lab Use Only
Lab WO# P511032
Job Number 05206-0001

Page 1 of 1

Sample ID	Sample Date	Sample Time	Matrix	Containers QTY - Vol/TYPE/Preservative	GRO/DRO by 8015	BTEX by 8021	TPH by 418.1	Chloride by 300.0	Cation Anion	WTR Analysis				lab Only: Lab Number	lab Only: Correct Cont/Prsrv (s) Y/N
Pinon 01H	11/13/15	3:30 PM	H2O	NO					✓					1	Y

Relinquished by: (Signature)	Date	Time	Received by: (Signature)	Date	Time
[signature]	11/13/2015	5:30 PM	[signature]	11-16-15	7:05
Relinquished by: (Signature)	Date	Time	Received by: (Signature)	Date	Time

Lab Use Only
**Received on Ice Y / N
T1 5.6 T2____ T3____
AVG Temp °C 5.6

Sample Matrix: S - Soil, Sd - Solid, Sg - Sludge, A - Aqueous, O - Other ______
Container Type: g - glass, p - poly/plastic, ag - amber glass, v - VOA

**Samples requiring thermal preservation must be received on ice the day they are sampled or received packed in ice at an avg temp above 0 but less than 6 °C on subsequent days.

☒ Sample(s) dropped off after hours to a secure drop off area.

Chain of Custody

Notes/Billing info:

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Analytical Report

Report Summary

Client: Coleman Oil & Gas

Chain Of Custody Number:

Samples Received: 11/16/2015 7:05:00AM

Job Number: 05206-0001

Work Order: P511031

Project Name/Location: Pinon 02H

Entire Report Reviewed By: _____ Date: 11/25/15

Tim Cain, Laboratory Manager

The results in this report apply to the samples submitted to Envirotech's Analytical Laboratory and were analyzed in accordance with the chain of custody document supplied by you, the client, and as such are for your exclusive use only. The results in this report are based on the sample as received unless otherwise noted. Partial or incomplete reproduction of this report is prohibited, unless approved by Envirotech, Inc. If you have any questions regarding this analytical report, please don't hesitate to contact Envirotech's Laboratory Staff.

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Coleman Oil & Gas	Project Name:	Pinon 02H	
P.O. Box 3337	Project Number:	05206-0001	**Reported:**
Farmington NM, 87499	Project Manager:	Mike Hanson	25-Nov-15 12:04

Analyical Report for Samples

Client Sample ID	Lab Sample ID	Matrix	Sampled	Received	Container
Pinon 2H	P511031-01A	Aqueous	11/13/15	11/16/15	Poly 500mL

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Coleman Oil & Gas	Project Name:	Pinon 02H	
P.O. Box 3337	Project Number:	05206-0001	**Reported:**
Farmington NM, 87499	Project Manager:	Mike Hanson	25-Nov-15 12:04

Pinon 2H

P511031-01 (Water)

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Cation/Anion Analysis									
pH @20.4°C	**7.08**		pH Units	1	1547032	11/20/15 14:31	11/20/15 14:35	150.1/4500H	
Electrical Conductivity	**43000**		umhos/cm	1	1547032	11/20/15 14:31	11/20/15 14:35	EPA 120.1	
Total Dissolved Solids	**28800**	10.0	mg/L	1	1547020	11/19/15	11/19/15	160.1/2540C	
Sodium Absorption Ratio	**164**		N/A	1	1548015	11/25/15	11/25/15	[CALC]	
Total Alkalinity as CaCO3	**950**	10.0	mg/L	1	1547021	11/19/15	11/20/15	Hach Method 8203	
Total Hardness as CaCO3	**765**	18.6	mg/L		[CALC]	11/20/15	11/24/15	[CALC]	
Bicarbonate as CaCO3	ND	10.0	mg/L	1	1547021	11/19/15	11/20/15	Hach Method 8203	
Carbonate as CaCO3	ND	10.0	mg/L	1	1547021	11/19/15	11/20/15	Hach Method 8203	
Hydroxide as CaCO3	ND	10.0	mg/L	1	1547021	11/19/15	11/20/15	Hach Method 8203	
Nitrate-N	**5.32**	0.25	mg/L	1	1547013	11/18/15 09:00	11/18/15 14:35	EPA 300.0	H2
Nitrite-N	**3.04**	0.25	mg/L	1	1547013	11/18/15 09:00	11/18/15 14:35	EPA 300.0	H2
Chloride	**15400**	2.00	mg/L	1	1547013	11/18/15	11/19/15	EPA 300.0	
Fluoride	ND	0.25	mg/L	1	1547013	11/18/15	11/18/15	EPA 300.0	
o-Phosphate-P	**6.77**	0.25	mg/L	1	1547013	11/18/15 09:00	11/18/15 14:35	EPA 300.0	H2
Sulfate	ND	2.00	mg/L	1	1547013	11/18/15	11/18/15	EPA 300.0	
Iron	**23.1**	4.50	mg/L	9	1547033	11/20/15	11/24/15	EPA 6010C	
Calcium	**226**	4.50	mg/L	9	1547033	11/20/15	11/24/15	EPA 6010C	
Magnesium	**48.5**	1.80	mg/L	9	1547033	11/20/15	11/24/15	EPA 6010C	
Potassium	**88.6**	4.50	mg/L	9	1547033	11/20/15	11/24/15	EPA 6010C	
Sodium	**10400**	18.0	mg/L	9	1547033	11/20/15	11/24/15	EPA 6010C	

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Analytical Laboratory

Coleman Oil & Gas	Project Name:	Pinon 02H	
P.O. Box 3337	Project Number:	05206-0001	**Reported:**
Farmington NM, 87499	Project Manager:	Mike Hanson	25-Nov-15 12:04

Cation/Anion Analysis - Quality Control

Envirotech Analytical Laboratory

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch 1547013 - Anion Extraction EPA 300.0										
Blank (1547013-BLK1)				Prepared & Analyzed: 18-Nov-15						
Nitrate-N	ND	0.25	mg/L							
Nitrite-N	ND	0.25	"							
Chloride	ND	2.00	"							
Fluoride	ND	0.25	"							
o-Phosphate-P	ND	0.25	"							
Sulfate	ND	2.00	"							
LCS (1547013-BS1)				Prepared & Analyzed: 18-Nov-15						
Nitrate-N	4.76	0.25	mg/L	5.00		95.2	90-110			
Nitrite-N	5.13	0.25	"	5.00		103	90-110			
Chloride	48.6	2.00	"	50.0		97.1	90-110			
Fluoride	5.13	0.25	"	5.00		103	90-110			
o-Phosphate-P	25.6	0.25	"	25.0		102	90-110			
Sulfate	47.2	2.00	"	50.0		94.5	90-110			
Matrix Spike (1547013-MS1)	**Source: P511036-01**			Prepared & Analyzed: 18-Nov-15						
Nitrate-N	48.2	2.50	mg/L	50.0	ND	96.4	80-120			
Nitrite-N	51.4	2.50	"	50.0	ND	103	80-120			
Chloride	571	20.0	"	500	77.7	98.6	80-120			
Fluoride	56.0	2.50	"	50.0	3.90	104	80-120			
o-Phosphate-P	257	2.50	"	250	ND	103	80-120			
Sulfate	475	20.0	"	500	ND	95.0	80-120			
Matrix Spike Dup (1547013-MSD1)	**Source: P511036-01**			Prepared & Analyzed: 18-Nov-15						
Nitrate-N	48.1	2.50	mg/L	50.0	ND	96.3	80-120	0.104	20	
Nitrite-N	51.5	2.50	"	50.0	ND	103	80-120	0.136	20	
Chloride	570	20.0	"	500	77.7	98.6	80-120	0.0473	20	
Fluoride	56.0	2.50	"	50.0	3.90	104	80-120	0.0715	20	
o-Phosphate-P	257	2.50	"	250	ND	103	80-120	0.0778	20	
Sulfate	475	20.0	"	500	ND	95.0	80-120	0.0211	20	

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Coleman Oil & Gas	Project Name:	Pinon 02H	
P.O. Box 3337	Project Number:	05206-0001	**Reported:**
Farmington NM, 87499	Project Manager:	Mike Hanson	25-Nov-15 12:04

Notes and Definitions

H2	Sample was analyzed after regulatory hold-time exceeded for target analyte.
DET	Analyte DETECTED
ND	Analyte NOT DETECTED at or above the reporting limit
NR	Not Reported
dry	Sample results reported on a dry weight basis
RPD	Relative Percent Difference

Client: Coleman Oil + Gas, Inc
Project: Pinon 02H
Sampler: Mike Hanson
Phone: 505-330-2903
Email(s): mhanson@cog-fmn.com
Project Manager: Mike Hanson

RUSH? [ ] 1d [ ] 3d

Lab Use Only
Lab WO#: P511031
Job Number: 05206-0001

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Sample ID	Sample Date	Sample Time	Matrix	Containers QTY - Vol/TYPE/Preservative	GRO/DRO by 8015	BTEX by 8021	TPH by 418.1	Chloride by 300.0	Cation	Anion	WTR Anal (4SJ)			Lab Number	Correct Cont/Prsrv (s) Y/N
Pinon 2H	11/13/2015	3:30 PM	H2O	No					✓	✓				1	Y

Relinquished by: (Signature)	Date	Time	Received by: (Signature)	Date	Time
Mike Hanson	11/13/2015	5:30 PM	[signature]	11-16-15	7:05
Relinquished by: (Signature)	Date	Time	Received by: (Signature)	Date	Time

Lab Use Only
**Received on Ice Y / N
T1 5.8 T2 ____ T3 ____
AVG Temp °C 5.8

Sample Matrix: S - Soil, Sd - Solid, Sg - Sludge, A - Aqueous, O - Other ________

Container Type: g - glass, p - poly/plastic, ag - amber glass, v - VOA

**Samples requiring thermal preservation must be received on ice the day they are sampled or received packed in ice at an avg temp above 0 but less than 6 °C on subsequent days.

[X] Sample(s) dropped off after hours to a secure drop off area.

Chain of Custody

Notes/Billing info:

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Analytical Laboratory

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