Submit 1 Copy To Appropriate District Office	State of New Mexi		Form C-103
District I - (575) 393-6161 1625 N. French Dr., Hobbs, NM 882410BBS	Energy, Minerals and Natura	l Resources	Revised August J, 2011 WELL API NO.
<u>District II</u> – (575) 748-1283	OIL CONSERVATION I	NOISION	30-025-40619
811 S. First St., Artesia, NM 88210 <u>District III</u> – (505) 334-6178	3 2013 1220 South St. France		5. Indicate Type of Lease
District III – (505) 334-6178 1000 Rio Brazos Rd., Aztec, NM 87410 District IV – (505) 476-3460	Santa Fe, NM 875		STATE FEE 6. State Oil & Gas Lease No.
1000 C Ct Francis Da Coute Fe NIM	EIVED	37	o. State off & Gas Lease No.
	S AND REPORTS ON WELLS		7. Lease Name or Unit Agreement Name
(DO NOT USE THIS FORM FOR PROPOSAL DIFFERENT RESERVOIR. USE "APPLICAT			Plane 2 State Com
PROPOSALS.)		}	Blanco 3 State Com 8. Well Number 001H
1. Type of Well: Oil Well ☑ Ga 2. Name of Operator	s Well Other		9. OGRID Number
Cimarex Energ	y Co		215099
3. Address of Operator	N. C.: (00 Midles d TV 70701		10. Pool name or Wildcat
4. Well Location	St., Suite 600, Midland, TX 79701		Brinninstool; Bone Spring
Unit Letter O: 330	feet from the South lin	e and <u>1980</u>	feet from the <u>East</u> line
Section 3		Range 33E	NMPM Lea County
	1. Elevation (Show whether DR, R	KB, RT, GR, etc.)	
COLUMN TO A STATE OF THE STATE	3570)' GR	
12 Check An	propriate Box to Indicate Nat	ure of Notice J	Report or Other Data
•	•		•
NOTICE OF INTE	Į.		SEQUENT REPORT OF:
-		REMEDIAL WORK COMMENCE DRIL	
 -	- ,	CASING/CEMENT	_
DOWNHOLE COMMINGLE			
OTHER: frac water analysis	s & Info	OTHER:	П
13. Describe proposed or complete	ed operations. (Clearly state all per	tinent details, and	give pertinent dates, including estimated date
of starting any proposed work) proposed completion or recom		For Multiple Com	pletions: Attach wellbore diagram of
	•		
Cimarex Energy respectfully requests a	pproval of frac water from the Sno	ddy Federal frac p	it to be used during the frac of the Blanco 3
State Com #1 well.			
Attachments:			
Frac water analysis Snoddy frac pit diagram			
Shoddy frac pit diagram			
Spud Date: 11/19/2012	Rig Release Date	12/13/2	012
Sput Bure.	- Ang Release Bate		
I hereby certify that the information abo	eye is true and complete to the best	of my knowledge	and belief.
/ /X/// (ITTL		
SIGNATURE	TITLE Regul	latory Compliance	DATE1/18/2013
Type or print name Terri Stathern I	E-mail address: tstathem@cim	arex.com PHO	NE: <u>918-295-1763</u>
For State Use Only			
APPROVED BY	TITLE DE	f anas	DATE 3- 4-2013
Conditions of Approval (if any):		1170	
			/

SECTION 26, TOWNSHIP 20 SOUTH, RANGE 32 EAST, N.M.P.M., NEW MEXICO. LEA COUNTY. S00'00'14"W 674.9 S89*59'17"W 30.2 OWNER: USA LESSEE: WILLIAM C SMITH EXISTING LEASE ROAD *325' ROAD* S89*59'45"E POL 300 N89*59'46"W

LEGAL DESCRIPTION

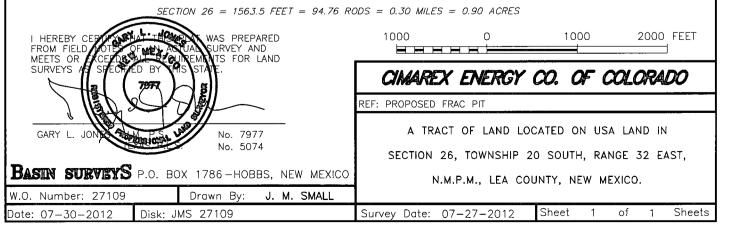
325' ROAD

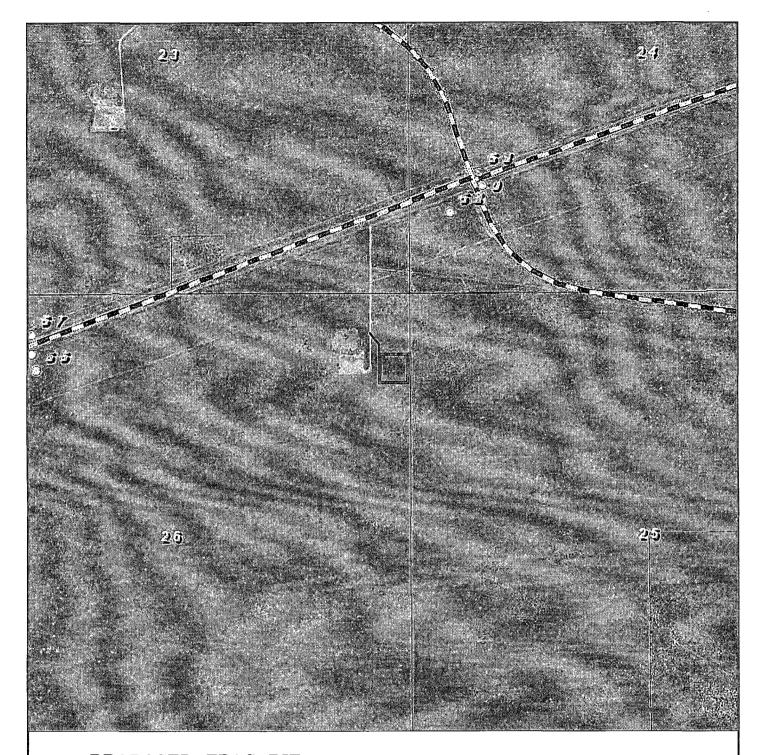
A TRACT OF LAND LOCATED IN SECTION 26, TOWNSHIP 20 SOUTH, RANGE 32 EAST, N.M.P.M., LEA COUNTY, NEW MEXICO AND BEING MORE PARTICULARLY DESCRIBED AS FOLLOWS:

BEGINNING AT A POINT WHICH LIES S.00°00'14"W., 674.9 FEET AND S.89'59'17"W., 30.2 FEET FROM THE NORTHEAST CORNER OF SAID SECTION 26; THENCE S.00°00'14"W., 300.0 FEET; THENCE N.89'59'46"W., 300.0 FEET; THENCE N.00°00'14"W., 300.0 FEET; THENCE S.89'59'45"E., 300.0 FEET TO THE POINT OF BEGINNING. SAID TRACT OF LAND BEING 2.07 ACRES, MORE OR LESS.

LEGAL DESCRIPTION

A STRIP OF LAND 25.0 FEET WIDE, LOCATED IN SECTION 26, TOWNSHIP 20 SOUTH, RANGE 32 EAST, N.M.P.M., LEA COUNTY, NEW MEXICO AND BEING 12.5 FEET LEFT AND RIGHT OF THE ABOVE PLATTED CENTERLINE SURVEY.





PROPOSED FRAC PIT Section 26, Township 20 South, Range 32 East, N.M.P.M., Lea County, New Mexico.



P.O. Box 1786 1120 N. West County Rd. Hobbs, New Mexico 88241 (575) 393-7316 — Office (575) 392-2206 — Fax basinsurveys.com

W.O. Number: JMS 27109

Survey Date: 07-27-2012

Scale: 1" = 2000'

Date: 07-30-2012





January 11, 2013

JOE L. PANDO

HOBBS OCD

CIMAREX ENERGY CO.-MIDLAND

JAN 23 2013

600 N. MARIENFELD ST, SUITE 600

MIDLAND, TX 79701

RECEIVED

RE: BLANCO 3 STATE 1H

Enclosed are the results of analyses for samples received by the laboratory on 01/02/13 15:00.

Cardinal Laboratories is accredited through Texas NELAP under certificate number T104704398-11-3. Accreditation applies to drinking water, non-potable water and solid and chemical materials. All accredited analytes are denoted by an asterisk (*). For a complete list on accredited analytes and matrices visit the TCEQ website at www.tceq.texas.gov/field/qa/lab accred certif.html.

Cardinal Laboratories is accreditated through the State of Colorado Department of Public Health and Environment for:

Method EPA 552.2

Haloacetic Acids (HAA-5)

Method EPA 524.2

Total Trihalomethanes (TTHM)

Method EPA 524.4

Regulated VOCs (V1, V2, V3)

Accreditation applies to public drinking water matrices.

Celey D. Keine

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. Keene

Lab Director/Quality Manager





CIMAREX ENERGY CO.-MIDLAND 600 N. MARIENFELD ST, SUITE 600

MIDLAND TX, 79701

Project: BLANCO 3 STATE 1H

Project Number: NONE GIVEN
Project Manager: JOE L. PANDO
Fax To: UNK-NOWN

Reported: 11-Jan-13 10:03

Sample ID	Laboratory ID	Matrix	Date Sampled	Date Received

SNOODY PIT

H300006-01

Water

02-Jan-13 00:00

02-Jan-13 15:00

Cardinal Laboratories

*=Accredited Analyte

PLEASE NOTE: Liability and Damages. Cardinal's flability 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 walved 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 clients based upon any of the above Stated reasons or otherwise. Results relate only to the samples identified above. This

Celey D. Keine



CIMAREX ENERGY CO.-MIDLAND 600 N. MARIENFELD ST, SUITE 600

MIDLAND TX, 79701

Project: BLANCO 3 STATE 1H

Project Number: NONE GIVEN Project Manager: JOE L. PANDO

Fax To: UNK-NOWN

Reported:

11-Jan-13 10:03

SNOODY PIT H300006-01 (Water)

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Analyst	Analyzed	Method	Notes
		Cardina	al Laborat	ories					
Inorganic Compounds									
Alkalinity, Bicarbonate	190	5.00	mg/L	1	2121709	AP	04-Jan-13	310.1	
Alkalinity, Carbonate	ND	0.00	mg/L	1	2121709	AP	04-Jan-13	310.1	
Chloride*	120	4.00	mg/L	1	3010318	DW	03-Jan-13	4500-Cl-B	
Conductivity*	871	1.00	uS/cm	1	3010404	AP	04-Jan-13	120.1	
pH*	8.09	0.100	pH Units	1	3010407	AP	04-Jan-13	150.1	
Sulfate*	99.1	10.0	mg/L	1	3010703	AP	08-Jan-13	375.4	
TDS*	520	5.00	mg/L	1	3010418	AP	04-Jan-13	160.1	
Alkalinity, Total*	156	4.00	mg/L	1	2121709	AP	04-Jan-13	310.1	
Dissolved Metals									
Calcium	64.1	1.00	mg/L	1	3011102	CK	09-Jan-13	200.7	GAL
Magnesium	17.6	1.00	mg/L	1	3011102	CK	09-Jan-13	200.7	GAL
Potassium	4.53	1.00	mg/L	1	3011102	CK	09-Jan-13	200.7	GAL
Sodium	86.0	1.00	mg/L	1	3011102	CK	09-Jan-13	200.7	GAL

Cardinal Laboratories

*=Accredited Analyte

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Celey D. Keene



CIMAREX ENERGY CO.-MIDLAND 600 N. MARIENFELD ST, SUITE 600 Project: BLANCO 3 STATE 1H

Reported: 11-Jan-13 10:03

MIDLAND TX, 79701

Project Number: NONE GIVEN Project Manager: JOE L. PANDO

Fax To: UNK-NOWN

Inorganic Compounds - Quality Control

Cardinal Laboratories

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch 2121709 - General Prep - Wet Chem						,				
Blank (2121709-BLK1)				Prepared &	: Analyzed:	17-Dec-12				
Alkalinity, Carbonate	ND	0.00	mg/L							
Alkalinity, Bicarbonate	ND	5.00	mg/L							
Alkalinity, Total	ND	4.00	mg/L							
LCS (2121709-BS1)				Prepared &	Analyzed:	17-Dec-12				
Alkalinity, Carbonate	ND	0.00	mg/L				80-120			
Alkalinity, Bicarbonate	146	5.00	mg/L				80-120			
Alkalinity, Total	120	4.00	mg/L	100		120	80-120			
LCS Dup (2121709-BSD1)				Prepared &	Analyzed:	17-Dec-12				
Alkalinity, Carbonate	ND	0.00	mg/L				80-120		20	
Alkalinity, Bicarbonate	142	5.00	mg/L				80-120	2.78	20	
Alkalinity, Total	116	4.00	mg/L	100		116	80-120	3.39	20	
Batch 3010318 - General Prep - Wet Chem										
Blank (3010318-BLK1)				Prepared &	Analyzed:	03-Jan-13				
Chloride	ND	4.00	mg/L							
LCS (3010318-BS1)				Prepared &	Analyzed:	03-Jan-13				
Chloride	108	4.00	mg/L	100		108	80-120			
LCS Dup (3010318-BSD1)				Prepared &	: Analyzed:	03-Jan-13				
Chloride	104	4.00	mg/L	100		104	80-120	3.77	20	
Batch 3010404 - General Prep - Wet Chem										
LCS (3010404-BS1)				Prepared: 0	3-Jan-13 A	nalyzed: 04	-Jan-13			
Conductivity	472		uS/cm	500		94.4	80-120			-

Cardinal Laboratories

*=Accredited Analyte

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Celey D. Keine



CIMAREX ENERGY CO.-MIDLAND 600 N. MARIENFELD ST, SUITE 600 MIDLAND TX, 79701

Project Number: NONE GIVEN

Project Manager: JOE L. PANDO

Project: BLANCO 3 STATE 1H

Reported: 11-Jan-13 10:03

Fax To: UNK-NOWN

Inorganic Compounds - Quality Control

Cardinal Laboratories

		Reporting		Spike	Source		%REC		RPD	_
Analyte	Result	Limit	Units	Level	Result	%REC	Limits	RPD	Limiț	Notes
Batch 3010404 - General Prep - Wet Chem										
Duplicate (3010404-DUP1)	Sour	rce: H300003	-01	Prepared: (03-Jan-13 A	nalyzed: 04	4-Jan-13			
Conductivity	589	1.00	uS/cm		577			2.06	20	
Batch 3010407 - NO PREP										
LCS (3010407-BS1)				Prepared: (03-Jan-13 A	nalyzed: 04	4-Jan-13			
pH	6.98		pH Units	7.00		99.7	90-110			
Duplicate (3010407-DUPI)	Sour	rce: H300003	-01	Prepared: (03-Jan-13 A	nalyzed: 04	4-Jan-13			
рН	7.95	0.100	pH Units		7.38			7.44	20	
Batch 3010418 - Filtration										
Blank (3010418-BLK1)				Prepared: (04-Jan-13 A	nalyzed: 09	9-Jan-13			
TDS	ND	5.00	mg/L							
LCS (3010418-BS1)				Prepared: 0	04-Jan-13 A	nalyzed: 09	9-Jan-13			
TDS	250	5.00	mg/L	240		104	80-120			
Batch 3010703 - General Prep - Wet Chem										
Blank (3010703-BLK1)				Prepared &	k Analyzed:	08-Jan-13				
Sulfate	ND	10.0	mg/L		-					
LCS (3010703-BS1)				Prepared &	k Analyzeď:	08-Jan-13				
Sulfate	21.5	10.0	mg/L	20.0		107	80-120			

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Celey D. Keine



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

Analytical Results For:

CIMAREX ENERGY CO.-MIDLAND 600 N. MARIENFELD ST, SUITE 600

MIDLAND TX, 79701

Project: BLANCO 3 STATE 1H

Project Number: NONE GIVEN Project Manager: JOE L. PANDO

Fax To: UNK-NOWN

Reported:

11-Jan-13 10:03

Inorganic Compounds - Quality Control

Cardinal Laboratories

		Reporting		Spike	Source		%REC		RPD	
Analyte	Result	Limit	Units	Level	Result	%REC	Limits	RPD	Limit	Notes
Batch 3010703 - General Pren - Wet Chem										

LCS Dup (3010703-BSD1)				Prepared & Analyzed: (8-Jan-13			
Sulfate	22.6	10.0	mg/L	20.0	113	80-120	5.40	20

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Celey D. Kune



CIMAREX ENERGY CO.-MIDLAND 600 N. MARIENFELD ST, SUITE 600

MIDLAND TX, 79701

Project: BLANCO 3 STATE 1H

Project Number: NONE GIVEN Project Manager: JOE L. PANDO

Reported: 11-Jan-13 10:03

Fax To: UNK-NOWN

Dissolved Metals - Quality Control

Cardinal Laboratories

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch 3011102 - Dissolved/Potentia	lly Dissolved Metals						_			_
Blank (3011102-BLK1)				Prepared: (7-Jan-13 A	nalyzed: 09)-Jan-13			
Magnesium	ND	1.00	mg/L							
Potassium	ND	1.00	mg/L							
Sodium	ND	1.00	mg/L							
Calcium	ND	1.00	mg/L							
LCS (3011102-BS1)				Prepared: (7-Jan-13 A	nalyzed: 09	9-Jan-13			
Magnesium	26.9		mg/L	25.0		108	85-115			
Calcium	4.80		mg/L	5.00		96.0	85-115			
Potassium	8.87		mg/L	10.0		88.7	85-115			
Sodium	7.80		mg/L	8.10		96.3	85-115			
LCS Dup (3011102-BSD1)				Prepared: (7-Jan-13 A	nalyzed: 09	9-Jan-13			
Magnesium	26.8		mg/L	25.0		107	85-115	0.372	20	
Sodium	7.90		mg/L	8.10		97.5	85-115	1.27	20	
Calcium	4.82		mg/L	5.00		96.4	85-115	0.416	20	
Potassium	8.87		mg/L	10.0		88.7	85-115	0,00	20	

Cardinal Laboratories

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Celey & Keene

Celey D. Keene, Lab Director/Quality Manager

*=Accredited Analyte



Notes and Definitions

GAL Analysis subcontracted to Green Analytical Laboratories, a subsidiary of Cardinal Laboratories.

ND Analyte NOT DETECTED at or above the reporting limit

RPD Relative Percent Difference

** Samples not received at proper temperature of 6°C or below.

*** Insufficient time to reach temperature.

- Chloride by SM4500Cl-B does not require samples be received at or below 6°C

Samples reported on an as received basis (wet) unless otherwise noted on report

Cardinal Laboratories *=Accredited Analyte

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Celey D. Keene



CHAIN-OF-CUSTODY AND ANALYSIS REQUEST

101 East Marland, Hobbs, NM 88240 (575) 393-2326 FAX (575) 393-2476

Company Name	Cincon France			***	di in	2	B	LL	ro							ANA	LYSI	S RE	QUE	ST			
Project Manage	Canary Energy				F	.O.	# :					7	7				1 7 7 7	Γ	T	ſ			
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City: 111:11						ttn:	·					3								1	1		
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Project Name:	Blevace 3 St 1/4				s	tate	:	Zip:				ζ_2	*				1					İ	ļ .
Project Location Sampler Name:	i:			114.4.4.4.		hon ax #	e #:	ant.				3											
	Sample I.D. 5000 1/2 Prince II. Source III. Source I				SLUDGE	OTHEK		P	ATE	TIME													
analyses. All claims includir service. In no event shall C	ig those for negligence and any other cause whatsoever shall is utified be liable to indicate and only other cause whatsoever shall is utified be liable to indicate and on the performance of services hereundar by Date: Date: Time:	e desirred ing withou Cardinal Re	waive i firmitat regald celv	o unless made in vision, business inter- ion, business inter- illess of whether busined By:	cting and re	ceived s clus ased u	by Cardinal e, or loss of pon any of t	within 30 profits inc	days alloured by	er completion o client, its subsid	of the appropries. Wise. Result ult:	l: <u>[</u>	□ Yes		No No		Phone Fax #:	#:			out program		en la serie
Delivered By Sampler - UPS	(Circle One) - Bus - Other:	-11 277	وي د	Sample C Cool In Yes [No [itact	n		KED B itials)	Ÿ;				Ţ	CUIL) ()	,							

MASS BALANCE SHEET

Parameter	Result	Units	Method
Calcium	64.1	mg/L	EPA 200.7
Magnesium	17.6	mg/L	EPA 200.7
Sodium	86	mg/L	EPA 200.7
Potassium	4.53	mg/L	EPA 200.7
Carbonate	0	mg/L	EPA 310.1
Bicarbonate	190	mg/L	EPA 310.1
Sulfate	99.1	mg/L	EPA 375.4
T-Alkalinity	156	mg/L	EPA 310.1
Chloride	120	mg/L	SM4500
Conductance	871	mg/L	EPA 120.1
TDS	520	mg/L	EPA 160.1

Anion-Cation Balance Acceptable Y/N?								
Analyte	Meq/L							
Carbonate	0							
Bicarbonate 3								
Sulfate	2							
Chloride	3							
Calcium	3							
Magnesium	. 1							
Sodium	4							
Potassium	0							

H300006-01	_		
_		_	
_			
_		 	

Total Anions	9
Total Cations	9
Anion/Cation (%Diff)	0.34
Calculated TDS	484.93
TDS Ratio (Measured/Calc	1.07
TDS/COND Ratio	0.59701493

Comments:



February 28, 2013

HOBBS OCD

FEB 2 8 2013

GREG LINGAFELTER

CIMAREX ENERGY CO.-MIDLAND

600 N. MARIENFELD ST, SUITE 600

MIDLAND, TX 79701

RECEIVED

RE: SNODDY POND

Enclosed are the results of analyses for samples received by the laboratory on 01/24/13 14:12.

Cardinal Laboratories is accredited through Texas NELAP under certificate number T104704398-11-3. Accreditation applies to drinking water, non-potable water and solid and chemical materials. All accredited analytes are denoted by an asterisk (*). For a complete list on accredited analytes and matrices visit the TCEQ website at www.tceq.texas.gov/field/qa/lab-accred_certif.html.

Cardinal Laboratories is accreditated through the State of Colorado Department of Public Health and Environment for:

Method EPA 552.2

Haloacetic Acids (HAA-5)

Method EPA 524.2

Total Trihalomethanes (TTHM)

Method EPA 524.4

Regulated VOCs (V1, V2, V3)

Accreditation applies to public drinking water matrices.

Celeg D. Keine

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. Keene

Lab Director/Quality Manager



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

Analytical Results For:

CIMAREX ENERGY CO.-MIDLAND 600 N. MARIENFELD ST, SUITE 600

Project: SNODDY POND

Reported:

MIDLAND TX, 79701

Project Number: NONE GIVEN Project Manager: GREG LINGAFELTER 28-Feb-13 15:54

Fax To: UNK-NOWN

Sample ID	Laboratory ID	Matrix	Date Sampled	Date Received
SNODDY POND WATER	H300208-01	Water	24-Jan-13 12:30	24-Jan-13 14:12

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CIMAREX ENERGY CO.-MIDLAND

Project: SNODDY POND

Reported:

600 N. MARIENFELD ST, SUITE 600 MIDLAND TX, 79701

Project Number: NONE GIVEN Project Manager: GREG LINGAFELTER 28-Feb-13 15:54

Fax To: UNK-NOWN

SNODDY POND WATER H300208-01 (Water)

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Analyst	Analyzed	Method	Notes
		Cardina	l Laborate	ories					
Inorganic Compounds									
Chloride*	52.0	4.00	mg/L	1	3012507	DW	25-Jan-13	4500-Cl-B	
Cyanide (total)	ND	0.010	mg/L	1	3020815	CK	07-Feb-13	335.4	GA
Fluoride	0.965	0.200	mg/L	1	3020814	CK	28-Jan-13	4500F C	GA
Nitrate as N	2.30	0.100	mg/L	1	3012511	AP	25-Jan-13	353.3	
pH*	7.73	0.100	pH Units	1	3012513	DW	25-Jan-13	150.1	
Phenols	ND	0.050	mg/L	I	3020816	CK	07-Feb-13	420.1	GA
Sulfate*	46.0	10.0	mg/L	1	3012802	DW	28-Jan-13	375.4	
rds*	306	5.00	mg/L	i	3013002	AP	30-Jan-13	160.1	
Dissolved Metals					,				
Aluminum	ND	0.0500	mg/L	1	3020806	CK	28-Jan-13	200.7	GA
Arsenic	ND	0.100	mg/L	1	3020806	CK	28-Jan-13	200.7	GA
Barium	0.101	0.010	mg/L	i	3020806	CK	28-Jan-13	200.7	GA
Boron	ND	0.200	mg/L	i	3020806	CK	28-Jan-13	200.7	GA
Cadmium	ND	0.00010	mg/L	1	3020807	CK	05-Feb-13	200.8	GA
Chromium	ND	0.050	mg/L	1	3020806	CK	28-Jan-13	200.7	GA
Cobalt	ND	0.0500	mg/L	1	3020806	CK	28-Jan-13	200.7	GA
Copper	ND	0.020	mg/L	1	3020806	CK	28-Jan-13	200.7	GA
lron	ND	0.050	mg/L	1	3020806	CK	28-Jan-13	200.7	GA
Lead	ND	0.0005	mg/L	1	3020807	CK	05-Feb-13	200.8	GA
Manganese	ND	0.005	mg/L	1	3020806	CK	28-Jan-13	200.7	GA
Molybdenum	ND	0.0500	mg/L	1	3020806	CK	28-Jan-13	200.7	GA
Nickel	ND	0.0500	mg/L	ī	3020806	CK	28-Jan-13	200.7	GA
Selenium	0.005	0.001	mg/L	i	3020807	CK	05-Feb-13	200.8	GA
Silver	ND	0.050	mg/L	1	3020806	CK	28-Jan-13	200.7	GA
Uranium	0.00130	0.000100	mg/L	1	3020807	CK	05-Feb-13	200.8	GA
Zinc	ND	0.050	mg/L	1	3020806	CK	28-Jan-13	200.7	GA

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CIMAREX ENERGY CO.-MIDLAND 600 N. MARIENFELD ST, SUITE 600

MIDLAND TX, 79701

Project: SNODDY POND

Project Number: NONE GIVEN

Reported: 28-Feb-13 15:54

Project Manager: GREG LINGAFELTER

Fax To: UNK-NOWN

SNODDY POND WATER

H300208-01 (Water)

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Analyst	Analyzed	Method	Notes
		Cardina	l Labora	tories					
Mercury (Total) by CVAA	<u></u> -								
Mercury	ND	0.0002	mg/L	1	3020808	CK	31-Jan-13	245.1	GAI
Radionuclides									SUB-RS
Radium-226	ND	0.40	pCi/L	1	3022810	СК	31-Jan-13	903.1/904	
Radium-228	ND	0.40	pCi/L	1	3022810	CK	31-Jan-13	903.1/904	
Combined Radium	ND	0.40	pCi/L	1	3022810	CK	31-Jan-13	903.1/904	
PCBs BY GC/ECD									SUB-SS
PCB 1016	ND	2.00	ug/L	1	3020407	CK	01-Feb-13	8082	
PCB 1221	ND	2.00	ug/L	1	3020407	CK	01-Feb-13	8082	
PCB 1232	ND	2.00	ug/L	1	3020407	CK	01-Feb-13	8082	
PCB 1242	ND	2.00	ug/L	1	3020407	CK	01-Feb-13	8082	
PCB 1248	ND	2.00	ug/L	1	3020407	CK	01-Feb-13	8082	
PCB 1254	ND	2.00	ug/L	1	3020407	CK	01-Feb-13	8082	
PCB 1260	ND	2.00	ug/L	1	3020407	CK	01-Feb-13	8082	
Surrogate: Tetrachloro-meta-xylene		103 %	35-	140	3020407	CK	01-Feb-13	8082	
Volatile Organic Compounds by EPA	Method 8260B								
Vinyl chloride*	ND	0.001	mg/L	1	3012807	ms	28-Jan-13	8260	
1,1-Dichloroethene*	ND	0.001	mg/L	1	3012807	ms	28-Jan-13	8260	
Methylene chloride*	ND	0.001	mg/L	1	3012807	ms	28-Jan-13	8260	
1,1-Dichloroethane*	ND	0.001	mg/L	1	3012807	ms	28-Jan-13	8260	
Chloroform*	ND	0.001	mg/L	1	3012807	ms	28-Jan-13	8260	
Carbon tetrachloride*	ND	0.001	mg/L	1	3012807	ms	28-Jan-13	8260	
1,1,1-Trichloroethane*	ND	0.001	mg/L	1	3012807	ms	28-Jan-13	8260	
Benzene*	ND	0.001	mg/L	i	3012807	ms	28-Jan-13	8260	
1,2-Dichloroethane*	ND	0.001	mg/L	1	3012807	ms	28-Jan-13	8260	
Trichloroethene*	ND	0.001	mg/L	1	3012807	ms	28-Jan-13	8260	
Toluene*	ND	0.001	mg/L	1	3012807	ms	28-Jan-13	8260	
Tetrachloroethene*	ND	0.001	mg/L	1	3012807	ms	28-Jan-13	8260	

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CIMAREX ENERGY CO.-MIDLAND 600 N. MARIENFELD ST, SUITE 600

MIDLAND TX, 79701

Project: SNODDY POND

Project Number: NONE GIVEN

Project Manager: GREG LINGAFELTER

Fax To: UNK-NOWN

Reported: 28-Feb-13 15:54

SNODDY POND WATER

H300208-01 (Water)

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Analyst	Analyzed	Method	Notes
		Cardinal	l Laborat	tories					
Volatile Organic Compounds by EPA	Method 8260B								
1,1,2-Trichloroethane*	ND	0.001	mg/L	1	3012807	ms	28-Jan-13	8260	
1,2-Dibromoethane*	ND	0.001	mg/L	1	3012807	ms	28-Jan-13	8260	
Ethylbenzene*	ND	0.001	mg/L	1	3012807	ms	28-Jan-13	8260	
m-p Xylenes*	ND	0.002	mg/L	1	3012807	ms	28-Jan-13	8260	
o-Xylene*	ND	0.001	mg/L	l	3012807	ms	28-Jan-13	8260	
Total Xylenes*	ND	0.003	mg/L	ı	3012807	ms	28-Jan-13	8260	
1,1,2,2-Tetrachloroethane*	ND	0.001	mg/L	l	3012807	ms	28-Jan-13	8260	
Naphthalene*	ND	0.001	mg/L	1	3012807	ms	28-Jan-13	8260	
Surrogate: Dibromofluoromethane		94.4 %	70.2	-143	3012807	ms	28-Jan-13	8260	
Surrogate: Toluene-d8		96.7 %	73.8	2-118	3012807	ms	28-Jan-13	8260	
Surrogate: 4-Bromofluorobenzene		95.6 %	48-	134	3012807	ms	28-Jan-13	8260	
Semivolatile Organic Compounds by	GCMS								
Naphthalene	ND	0.001	mg/L	1.16	3020508	ms	05-Feb-13	8270C	
2-Methylnaphthalene	ND	0.001	mg/L	1.16	3020508	ms	05-Feb-13	8270C	
1-Methylnaphthalene	ND	0.001	mg/L	1.16	3020508	ms	05-Feb-13	8270C	
Acenaphthylene	ND	0.001	mg/L	1.16	3020508	ms	05-Feb-13	8270C	
Acenaphthene	ND	0.001	mg/L	1.16	3020508	ms	05-Feb-13	8270C	
Fluorene	ND	0.001	mg/L	1.16	3020508	ms	05-Feb-13	8270C	
Phenanthrene	ND	0.001	mg/L	1.16	3020508	ms	05-Feb-13	8270C	
Anthracene	ND	0.001	mg/L	1.16	3020508	ms	05-Feb-13	8270C	
Carbazole	ND	0.001	mg/L	1.16	3020508	ms	05-Feb-13	8270C	
Fluoranthene	ND	0.001	mg/L	1.16	3020508	ms	05-Feb-13	8270C	
Pyrene	ND	0.001	mg/L	1.16	3020508	ms	05-Feb-13	8270C	
Benzo[a]anthracene	ND	0.001	mg/L	1.16	3020508	ms	05-Feb-13	8270C	
Chrysene	ND	0.001	mg/L	1.16	3020508	ms	05-Feb-13	8270C	
Benzo[b]flouranthene	ND	0.001	mg/L	1.16	3020508	ms	05-Feb-13	8270C	
Benzo[k]flouranthene	ND	0.001	mg/L	1.16	3020508	ms	05-Feb-13	8270C	
Benzo[a]pyrene	ND	0.0002	mg/L	1.16	3020508	ms	05-Feb-13	8270C	

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Celey D. Keene, Lab Director/Quality Manager



CIMAREX ENERGY CO.-MIDLAND 600 N. MARIENFELD ST, SUITE 600

Project: SNODDY POND

Reported:

Project Number: NONE GIVEN

28-Feb-13 15:54

MIDLAND TX, 79701

Project Manager: GREG LINGAFELTER
Fax To: UNK-NOWN

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SNODDY POND WATER

H300208-01 (Water)

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Analyst	Analyzed	Method	Notes
		Cardina	l Laborat	ories					
Semivolatile Organic Compounds by	GCMS								
Indeno[1,2,3-cd]pyrene	ND	0.001	mg/L	1.16	3020508	ms	05-Feb-13	8270C	
Dibenz[a,h]anthracene	ND	0.001	mg/L	1.16	3020508	ms	05-Feb-13	8270C	
Benzo[g,h,i]perylene	ND	0.001	mg/L	1.16	3020508	ms	05-Feb-13	8270C	
Surrogate: Nitrobenzene-d5		114 %	35-	114	3020508	ms	05-Feb-13	8270C	
Surrogate: 2-Fluorobiphenyl		114 %	43-	116	3020508	ms	05-Feb-13	8270C	
Surrogate: Terphenyl-dl4		130 %	33-	141	3020508	ms	05-Feb-13	8270C	

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CIMAREX ENERGY CO.-MIDLAND 600 N. MARIENFELD ST, SUITE 600 Project: SNODDY POND

Reported: 28-Feb-13 15:54

MIDLAND TX, 79701

Project Number: NONE GIVEN Project Manager: GREG LINGAFELTER

Fax To: UNK-NOWN

Inorganic Compounds - Quality Control

Cardinal Laboratories

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch 3012507 - General Prep - Wet Chem										
										
Blank (3012507-BLK1)				Prepared &	Analyzed:	25-Jan-13				
Chloride	ND	4.00	mg/L							
LCS (3012507-BS1)				Prepared &	Analyzed:	25-Jan-13				
Chloride	108	4.00	mg/L	100		108	80-120			
LCS Dup (3012507-BSD1)				Prepared &	Analyzed:	25-Jan-13				
Chloride	108	4.00	mg/L	100		108	80-120	0.00	20	
Batch 3012511 - General Prep - Wet Chem										
Blank (3012511-BLK1)				Prepared &	Analyzed:	25-Jan-13				
Nitrate as N	ND	0.100	mg/L							
LCS (3012511-BS1)				Prepared &	Analyzed:	25-Jan-13				
Nitrate as N	4.60	0.100	mg/L	5.00		92.0	80-120			
Duplicate (3012511-DUP1)	Sou	rce: H300208	-01	Prepared &	Analyzed:	25-Jan-13				
Nitrate as N	1.80	0.100	mg/L		2.30			24.4	25	
Batch 3012513 - NO PREP										
LCS (3012513-BS1)				Prepared &	Analyzed:	25-Jan-13				
рН	7.08		pH Units	7.00		101	90-110	~		
Duplicate (3012513-DUP1)	Sou	rce: H300212	-01	Prepared & Analyzed: 25-Jan-13						
pH	7.24	0.100	pH Units		7.14			1.39	20	

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CIMAREX ENERGY CO.-MIDLAND 600 N. MARIENFELD ST, SUITE 600

Project: SNODDY POND Project Number: NONE GIVEN

Reported: 28-Feb-13 15:54

MIDLAND TX, 79701

Project Manager: GREG LINGAFELTER

Fax To: UNK-NOWN

Inorganic Compounds - Quality Control

Cardinal Laboratories

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch 3012802 - General Prep - Wet Chem										
Blank (3012802-BLK1)				Prepared &	Analyzed:	28-Jan-13				
Sulfate	ND	10.0	mg/L						·	
LCS (3012802-BS1)				Prepared &	Analyzed:	28-Jan-13				
Sulfate	18.9	10.0	mg/L	20.0		94.6	80-120			
LCS Dup (3012802-BSD1)				Prepared &	Analyzed:	28-Jan-13				
Sulfate	24.2	10.0	mg/L	20.0		121	80-120	24.7	25	
Batch 3013002 - Filtration										
Blank (3013002-BLK1)				Prepared &	Analyzed:	30-Jan-13				
TDS	ND	5.00	mg/L							
LCS (3013002-BS1)				Prepared &	Analyzed:	30-Jan-13				
TDS	222	5.00	mg/L	240		92.5	80-120			
Duplicate (3013002-DUP1)	Sou	rce: H300209-	07	Prepared &	Analyzed:	30-Jan-13				
TDS	9020	5.00	mg/L		9050			0.421	20	
Batch 3020814 - General Prep										
Blank (3020814-BLK1)				Prepared &	Analyzed:	28-Jan-13				
Fluoride	ND	0.200	mg/L		<u> </u>					
LCS (3020814-BS1)				Prepared &	Analyzed:	28-Jan-13				
Fluoride	0.965		mg/L	1.00		96.5	85-115			

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CIMAREX ENERGY CO.-MIDLAND 600 N. MARIENFELD ST, SUITE 600 Project: SNODDY POND

Reported:

MIDLAND TX, 79701

Project Number: NONE GIVEN Project Manager: GREG LINGAFELTER 28-Feb-13 15:54

Fax To: UNK-NOWN

Inorganic Compounds - Quality Control

Cardinal Laboratories

		Reporting		Spike	Source		%REC		RPD	
Analyte	Result	Limit	Units	Level	Result	%REC	Limits	RPD	Limit	Notes
Batch 3020814 - General Prep										
LCS Dup (3020814-BSD1)				Prepared &	Analyzed:	28-Jan-13				
Fluoride	1.07		mg/L	1.00		107	85-115	10.3	20	
Batch 3020815 - General Prep					<u></u>					
Blank (3020815-BLK1)				Prepared &	Analyzed:	07-Feb-13				
Cyanide (total)	ND	0.010	mg/L							
LCS (3020815-BS1)				Prepared &	Analyzed:	07-Feb-13				
Cyanide (total)	0.148		mg/L	0.150		98.7	90-110			
Batch 3020816 - General Prep										
Blank (3020816-BLK1)				Prepared &	: Analyzed:	07-Feb-13				
Phenois	ND	0.050	mg/L							
LCS (3020816-BS1)				Prepared &	: Analyzed:	07-Feb-13				
Phenols	0.414		mg/L	0.400		104	80-120			
Matrix Spike (3020816-MS1)	Sour	Source: H300208-01			Analyzed:	07-Feb-13				
Phenois	0.400		mg/L	0.400	0.00	100	70-130			
Matrix Spike Dup (3020816-MSD1)	Sour	Source: H300208-01				Prepared & Analyzed: 07-Feb-13				
Phenols	0.393		mg/L	0.400	0.00	98.2	70-130	1.77	20	

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CIMAREX ENERGY CO.-MIDLAND 600 N. MARIENFELD ST, SUITE 600

MIDLAND TX, 79701

Project: SNODDY POND

Project Number: NONE GIVEN

Project Manager: GREG LINGAFELTER

Fax To: UNK-NOWN

Reported: 28-Feb-13 15:54

Dissolved Metals - Quality Control

Cardinal Laboratories

		Reporting		Spike	Source		%REC		RPD	
Analyte	Result	Limit	Units	Level	Result	%REC	Limits	RPD	Limit	Notes

Blank (3020806-BLK1)				Prepared & Anal	yzed: 28-Jan-13	
Aluminum	ND	0.0500	mg/L			
Cobalt	ND	0.0500	mg/L			
Iron	ND	0.050	mg/L			
Manganese	ND	0.005	mg/L			
Nickel	ND	0.0500	mg/L			
Barium	ND	0.010	mg/L			
Arsenic	ND	0.100	mg/L			
Zinc	ND	0.050	mg/L	•		
Sitver	ND	0.050	mg/L			
Boron	ND	0.200	mg/L			
Chromium	ND	0.050	mg/L			
Molybdenum	ND	0.0500	mg/L			
Copper	ND	0.020	mg/L			
LCS (3020806-BS1)				Prepared & Anal	yzed: 28-Jan-13	
Copper	4.86		mg/L	5.00	97.2	85-115
Nickel	2.36		mg/L	2.50	94.4	85-115
Aluminum	4.99		mg/L	5.00	99.8	85-115
Silver	0.124		mg/L	0.125	99.2	85-115
Cobalt	2.43		mg/L	2.50	97.2	85-115
Manganese	2.43		mg/L	2.50	97.2	85-115
Zinc	2.38		mg/L	2.50	95.2	85-115
Molybdenum	4.83		mg/L	5.00	96.6	85-115
Boron	4.93		mg/L	5.00	98.6	85-115
Chromium	2.48		mg/L	2.50	99.2	85-115
Barium	2.39		mg/L	2.50	95.6	85-115
Arsenic	4.88		mg/L	5.00	97.6	85-115
ron	5.02		mg/L	5.00	100	85-115

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%REC



Analytical Results For:

CIMAREX ENERGY CO.-MIDLAND 600 N. MARIENFELD ST, SUITE 600

MIDLAND TX, 79701

Project: SNODDY POND

Project Number: NONE GIVEN

Project Manager: GREG LINGAFELTER

Fax To: UNK-NOWN

Spike

Source

Reported: 28-Feb-13 15:54

RPD

Dissolved Metals - Quality Control

Cardinal Laboratories

Reporting

Analyte	Result	Limit	Units	Level	Result	%REC	Limits	RPD	Limit	Notes
Batch 3020806 - Dissolved/Potential	lly Dissolved Metals									
LCS Dup (3020806-BSD1)				Prepared &	: Analyzed:	28-Jan-13				
Boron	4.96		mg/L	5.00		99.2	85-115	0.607	20	
Nickel	2.38		mg/L	2.50		95.2	85-115	0.844	20	
Molybdenum	4.89		mg/L	5.00		97.8	85-115	1.23	20	
Barium	2.42		mg/L	2.50		96.8	85-115	1.25	20	
Zinc	2.40		mg/L	2.50		96.0	85-115	0.837	20	
Aluminum	5.00		mg/L	5.00		100	85-115	0.200	20	
Iron	5.04		mg/L	5.00		101	85-115	0.398	20	
Arsenic	4.96		mg/L	5.00		99.2	85-115	1.63	20	
Copper	4.89		mg/L	5.00		97.8	85-115	0.615	20	
Manganese	2.44		mg/L	2.50		, 97.6	85-115	0.411	20	
Chromium	2.50		mg/L	2.50		100	85-115	0.803	20	
Silver	0.126		mg/L	0.125		101	85-115	1.60	20	
Cobalt	2,45		mg/L	2.50		98.0	85-115	0.820	20	
Batch 3020807 - Dissolved/Potential	lly Dissolved Metals									

Batch 3020807 - D	Dissolved/Potentially	Dissolved	Metals
-------------------	-----------------------	-----------	--------

Blank (3020807-BLK1)				Prepared & Analy	zed: 05-Feb-13		
Selenium	ND	0.001	mg/L				
Uranium	ND	0.000100	mg/L				
Cadmium	ND	0.00010	mg/L				
Lead	ND	0.0005	mg/L				
LCS (3020807-BS1)				Prepared & Analy	zed: 05-Feb-13		
	0.0493		mg/L	0.0500	98.6	85-115	
	0.0493 0.0500		mg/L mg/L			85-115 85-115	
Uranium			•	0.0500	98.6		

Cardinal Laboratories

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Analytical Results For:

CIMAREX ENERGY CO.-MIDLAND 600 N. MARIENFELD ST, SUITE 600

MIDLAND TX, 79701

Project: SNODDY POND

Project Number: NONE GIVEN

Project Manager: GREG LINGAFELTER

Fax To: UNK-NOWN

Reported: 28-Feb-13 15:54

Total Metals by ICPMS - Quality Control

Cardinal Laboratories

		Reporting		Spike	Source		%REC		RPD	
Analyte	Result	Limit	Units	Level	Result	%REC	Limits	RPD	Limit	Notes
Batch 3020807 - Dissolved/Pote	entially Dissolved Metals									
(200000 POP4)				D 10		05 E.L. 12				

LCS Dup (3020807-BSD1)			Prepared & Analy	yzed: 05-Feb-13			
Uranium	0.0502	mg/L	0.0500	100	85-115	1.81	20
Cadmium	0.0506	mg/L	0.0500	101	85-115	1.19	20
Selenium	0.259	mg/L	0.250	104	85-115	1.95	20
Lead	0.0513	mg/L	0.0500	103	85-115	2.57	20

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CIMAREX ENERGY CO.-MIDLAND 600 N. MARIENFELD ST, SUITE 600 Project: SNODDY POND

Reported:

Project Number: NONE GIVEN

28-Feb-13 15:54

Project Manager: GREG LINGAFELTER MIDLAND TX, 79701

Fax To: UNK-NOWN

Mercury (Total) by CVAA - Quality Control

Cardinal Laboratories

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch 3020808 - EPA 245.1										
Blank (3020808-BLK1)				Prepared: 2	9-Jan-13 A	nalyzed: 31	-Jan-13			
Mercury	ND	0.0002	mg/L							
LCS (3020808-BS1)				Prepared: 2	9-Jan-13 A	nalyzed: 31	-Jan-13			
Mercury	0.0020		mg/L	0.00200		100	85-115			
LCS Dup (3020808-BSD1)				Prepared: 2	29-Jan-13 A	nalyzed: 31	-Jan-13			
Mercury	0.0019		mg/L	0.00200		95.0	85-115	5.13	20	

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CIMAREX ENERGY CO.-MIDLAND

Project: SNODDY POND

Reported:

600 N. MARIENFELD ST, SUITE 600

Project Number: NONE GIVEN

28-Feb-13 15:54

MIDLAND TX, 79701

Project Manager: GREG LINGAFELTER

Fax To: UNK-NOWN

PCBs BY GC/ECD - Quality Control

Cardinal Laboratories

Result Limit Units	Level Prepared: 30	Result 0-Jan-13 Aı	%REC	Limits -Feb-13	RPD	Limit	Notes
Blank (3020407-BLK1) PCB 1016 ND 2.00 ug/L PCB 1221 ND 2.00 ug/L PCB 1232 ND 2.00 ug/L PCB 1242 ND 2.00 ug/L PCB 1248 ND 2.00 ug/L	Prepared: 30	0-Jan-13 Aı	nalyzed: 01	_Feb_13			
PCB 1016 ND 2.00 ug/L PCB 1221 ND 2.00 ug/L PCB 1232 ND 2.00 ug/L PCB 1242 ND 2.00 ug/L PCB 1248 ND 2.00 ug/L	Prepared: 3	0-Jan-13 Aı	nalyzed: 01	-Feb-13			
PCB 1221 ND 2.00 ug/L PCB 1232 ND 2.00 ug/L PCB 1242 ND 2.00 ug/L PCB 1248 ND 2.00 ug/L				-1 00-13			
PCB 1232 ND 2.00 ug/L PCB 1242 ND 2.00 ug/L PCB 1248 ND 2.00 ug/L							
PCB 1242 ND 2.00 ug/L PCB 1248 ND 2.00 ug/L							
PCB 1248 ND 2.00 ug/L							
Ç							
PCR 1254 ND 2.00 mg/l.							
100 1251 110 ag 1							
PCB 1260 ND 2.00 ug/L							
Surrogate: Tetrachloro-meta-xylene 8.77 ug/L	10.0		87.7	35-140			
LCS (3020407-BS1)	Prepared: 30	0-Jan-13 Aı	nalyzed: 01	-Feb-13			
PCB 1016 71.9 ug/L	100		71.9	40-130	*		
PCB 1242 ND 2.00 ug/L				40-130			
PCB 1254 ND 2.00 ug/L				40-130			
PCB 1260 82.7 ug/L	100		82.7	40-130			
Surrogate: Tetrachloro-meta-xylene 8.81 ug/L	10.0		88.1	35-140			
LCS Dup (3020407-BSD1)	Prepared: 30	0-Jan-13 Ar	nalyzed: 01	-Feb-13			
PCB 1016 74.4 ug/L	100		74.4	40-130	3.42	30	
PCB 1242 ND 2.00 ug/L				40-130		30	
PCB 1254 ND 2.00 ug/L				40-130		30	
PCB 1260 80.8 ug/L	100		80.8	40-130	2.32	30	
Surrogate: Tetrachloro-meta-xylene 9.31 ug/L							

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Reported:

28-Feb-13 15:54



Analytical Results For:

CIMAREX ENERGY CO.-MIDLAND

600 N. MARIENFELD ST, SUITE 600 MIDLAND TX, 79701

Project: SNODDY POND

Project Number: NONE GIVEN

Project Manager: GREG LINGAFELTER

Fax To: UNK-NOWN

Volatile Organic Compounds by EPA Method 8260B - Quality Control

Cardinal Laboratories

	ъ.	Reporting	T.T. de-	Spike	Source	0/DEC	%REC	DDD	RPD	Not
Analyte	Result	Limit	Units	Level	Result	%REC	Limits	RPD	Limit	Notes
Batch 3012807 - Volatiles										
Blank (3012807-BLK1)	_			Prepared &	: Analyzed:	28-Jan-13				
Vinyl chloride	ND	0.001	mg/L							
1,1-Dichloroethene	ND	0.001	mg/L							
Methylene chloride	ND	100.0	mg/L							
1,1-Dichloroethane	ND	0.001	mg/L							
Chloroform	ND	0.001	mg/L							
Carbon tetrachloride	ND	0.001	mg/L							
1,1,1-Trichloroethane	ND	0.001	mg/L							
Benzene	ND	100.0	mg/L							
1,2-Dichloroethane	ND	0.001	mg/L							
Trichloroethene	ND	0.001	mg/L							
Toluene	ND	100.0	mg/L							
Tetrachloroethene	ND	0.001	mg/L							
1,1,2-Trichloroethane	ND	0.001	mg/L							
1,2-Dibromoethane	ND	0.001	mg/L							
Ethylbenzene	ND	0.001	mg/L							
m-p Xylenes	ND	0.002	mg/L							
o-Xylene	ND	0.001	mg/L							
Total Xylenes	ND	0.003	mg/L							
1,1,2,2-Tetrachloroethane	ND	0.001	mg/L							
Naphthalene	ND	0.001	mg/L							
Surrogate: Dibromofluoromethane	0.00950		mg/L	0.0100		95.0	70.2-143			
Surrogate: Toluene-d8	0.00966		mg/L	0.0100		96.6	73.8-118			
Surrogate: 4-Bromofluorobenzene	0.00955		mg/L	0.0100		95.5	48-134			
LCS (3012807-BS1)				Prepared &	: Analyzed:	28-Jan-13				
Vinyl chloride	0.020	0.001	mg/L	0.0200		102	63.4-131			
1,1-Dichloroethene	0.020	0.001	mg/L	0.0200		99.9	68.7-131			
Methylene chloride	0.019	0.001	mg/L	0.0200		93.6	63.1-134			
1,1-Dichloroethane	0.020	0.001	mg/L	0.0200		100	74.5-121			
Chloroform	0.019	0.001	mg/L	0.0200		93.8	76-115			
Carbon tetrachloride	0.020	0.001	mg/L	0.0200		98.8	66.6-128			
1,1,1-Trichloroethane	0.020	0.001	mg/L	0.0200		98.2	71.1-127			

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CIMAREX ENERGY CO.-MIDLAND 600 N. MARIENFELD ST, SUITE 600

MIDLAND TX, 79701

Project: SNODDY POND

Project Number: NONE GIVEN

Project Manager: GREG LINGAFELTER

Fax To: UNK-NOWN

Reported: 28-Feb-13 15:54

Volatile Organic Compounds by EPA Method 8260B - Quality Control

Cardinal Laboratories

		Reporting		Spike	Source		%REC		RPD	
Analyte	Result	Limit	Units	Level	Result	%REC	Limits	RPD	Limit	Notes
Batch 3012807 - Volatiles										
LCS (3012807-BS1)				Prepared &	Analyzed:	28-Jan-13				
Benzene	0.020	0.001	mg/L	0.0200		99.4	76.5-120			
1,2-Dichloroethane	0.020	0.001	mg/L	0.0200		99.3	75.5-117			
Trichloroethene	0.020	0.001	mg/L	0.0200		98.5	76.3-118			
Toluene	0.019	0.001	mg/L	0.0200		96.6	74.8-121			
Tetrachloroethene	0.019	0.001	mg/L	0.0200		96.0	52.4-136			
1,1,2-Trichloroethane	0.020	0.001	mg/L	0.0200		101	76.6-118			
1,2-Dibromoethane	0.020	0.001	mg/L	0.0200		98.2	77.8-119			
Ethylbenzene	0.019	0.001	mg/L	0.0200		97.2	78.4-121			
m-p Xylenes	0.039	0.002	mg/L	0.0400		97.4	80-120			
o-Xylene	0.019	0.001	mg/L	0.0200		97.3	71-126			
Total Xylenes	0.058	0.003	mg/L	0.0600		97.4	73.6-126			
1,1,2,2-Tetrachloroethane	0.020	0.001	mg/L	0.0200		101	74.2-122			
Naphthalene	0.022	0.001	mg/L	0.0200		110	68.4-126			
Surrogate: Dibromofluoromethane	0.0101		mg/L	0.0100		101	70.2-143			
Surrogate: Toluene-d8	0.00987		mg/L	0.0100		98.7	73.8-118			
Surrogate: 4-Bromofluorobenzene	0.00992		mg/L	0.0100		99.2	48-134			
LCS Dup (3012807-BSD1)				Prepared &	: Analyzed:	28-Jan-13				
Vinyl chloride	0.020	0.001	mg/L	0.0200		100	63.4-131	1.97	12.3	
1,1-Dichloroethene	0.020	0.001	mg/L	0.0200		97.7	68.7-131	2.23	18.3	
Methylene chloride	0.019	0.001	mg/L	0.0200		94.3	63.1-134	0.692	19.8	
1,1-Dichloroethane	0.019	0.001	mg/L	0.0200		97.2	74.5-121	2.84	9.91	
Chloroform	0.018	0.001	mg/L	0.0200		91.9	76-115	2.05	9.44	
Carbon tetrachloride	0.019	0.001	mg/L	0.0200		96.0	66.6-128	2.82	16	
1,1,1-Trichloroethane	0.019	0.001	mg/L	0.0200		95.6	71.1-127	2.68	12.2	
Benzene	0.020	0.001	mg/L	0.0200		97.8	76.5-120	1.67	9.89	
1,2-Dichloroethane	0.019	0.001	mg/L	0.0200		96.8	75.5-117	2.55	9.07	
Trichloroethene	0.019	0.001	mg/L	0.0200		96.0	76.3-118	2.57	12	
Toluene	0.019	0.001	mg/L	0.0200		95.8	74.8-121	0.884	12.3	
Tetrachloroethene	0.019	0.001	mg/L	0.0200		92.8	52.4-136	3.34	43.6	
1,1,2-Trichloroethane	0.020	100.0	mg/L	0.0200		101	76.6-118	0.397	11.1	
1,2-Dibromoethane	0.019	0.001	mg/L	0.0200		96.9	77.8-119	1.33	11.3	

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Celey D. Keene, Lab Director/Quality Manager



CIMAREX ENERGY CO.-MIDLAND 600 N. MARIENFELD ST, SUITE 600 Project: SNODDY POND

Reported:

Project Number: NONE GIVEN Project Manager: GREG LINGAFELTER 28-Feb-13 15:54

MIDLAND TX, 79701

Fax To: UNK-NOWN

Volatile Organic Compounds by EPA Method 8260B - Quality Control

Cardinal Laboratories

	.	Reporting	** *.	Spike	Source	4/886	%REC	nnn	RPD	
Analyte	Result	Limit	Units	Level	Result	%REC	Limits	RPD	Limit	Notes
Batch 3012807 - Volatiles										
LCS Dup (3012807-BSD1)				Prepared &	Analyzed:	28-Jan-13				
Ethylbenzene	0.019	0.001	mg/L	0.0200		96.2	78.4-121	1.14	13.2	
m-p Xylenes	0.038	0.002	mg/L	0.0400		96.0	80-120	1.45	20	
o-Xylene	0.019	0.001	mg/L	0.0200		96.0	71-126	1.40	11.7	
Total Xylenes	0.058	0.003	mg/L	0.0600		96.0	73.6-126	1.43	13.1	
1,1,2,2-Tetrachloroethane	0.020	0.001	mg/L	0.0200		101	74.2-122	0.347	10.6	
Naphthalene	0.022	0.001	mg/L	0.0200		111	68.4-126	0.271	10.5	
Surrogate: Dibromofluoromethane	0.0101		mg/L	0.0100		101	70.2-143	•		
Surrogate: Toluene-d8	0.00990		mg/L	0.0100		99.0	73.8-118			
Surrogate: 4-Bromofluorobenzene	0.00995		mg/L	0.0100		99.5	48-134			

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CIMAREX ENERGY CO.-MIDLAND 600 N. MARIENFELD ST, SUITE 600

600 N. MARIENFELD ST, SUITE 600 MIDLAND TX, 79701

Project: SNODDY POND

Reported: 28-Feb-13 15:54

Project Number: NONE GIVEN

Project Manager: GREG LINGAFELTER

Fax To: UNK-NOWN

Semivolatile Organic Compounds by GCMS - Quality Control

Cardinal Laboratories

		Reporting		Spike	Source		%REC		RPD	
Analyte	Result	Limit	Units	Level	Result	%REC	Limits	RPD	Limit	Notes
Batch 3020508 - SW846-3510										
Blank (3020508-BLK1)				Prepared &	: Analyzed:	05-Feb-13				
Naphthalene	ND	0.001	mg/L							
2-Methylnaphthalene	ND	0.001	mg/L							
l-Methylnaphthalene	ND	0.001	mg/L							
Acenaphthylene	ND	0.001	mg/L							
Acenaphthene	ND	0.001	mg/L							
Fluorene	ND	0.001	mg/L							
Phenanthrene	ND	100.0	mg/L							
Anthracene	ND	0.001	mg/L							
Carbazole	ND	0.001	mg/L							
Fluoranthene	ND	0.001	mg/L							
Pyrene	ND	0.001	mg/L							
Benzo[a]anthracene	ND	0.001	mg/L							
Chrysene	ND	0.001	mg/L							
Benzo[b]flouranthene	ND	0.001	mg/L							
Benzo[k]flouranthene	ND	0.001	mg/L							
Benzo[a]pyrene	ND	0.0002	mg/L							
ndeno[1,2,3-cd]pyrene	ND	0.001	mg/L							
Dibenz[a,h]anthracene	ND	0.001	mg/L							
Benzo[g,h,i]perylene	ND	0.001	mg/L							
Surrogate: Nitrobenzene-d5	0.0424		mg/L	0.0500	, , , , , , , , , , , , , , , , , , , ,	84.8	35-114			
Surrogate: 2-Fluorobiphenyl	0.0457		mg/L	0.0500		91.4	43-116			
Surrogate: Terphenyl-dl4	0.0508		mg/L	0.0500		102	33-141			
LCS (3020508-BS1)				Prepared &	Analyzed:	05-Feb-13				
Naphthalene	0.010	0.001	mg/L	0.0125		78.7	21-133			
2-Methylnaphthalene	0.010	0.001	mg/L	0.0125		82.6	21-133			
Acenaphthylene	0.010	0.001	mg/L	0.0125		82.6	33-145			
Acenaphthene	0.010	0.001	mg/L	0.0125		79.3	47-145			
Fluorene	0.010	0.001	mg/L	0.0125		80.4	59-121			
Phenanthrene	0.011	0.001	mg/L	0.0125		85.4	54-120			
Anthracene	0.010	0.001	mg/L	0.0125		81.7	27-133			
Carbazole	0.010	0.001	mg/L	0.0125		77.7	70-130			

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CIMAREX ENERGY CO.-MIDLAND 600 N. MARIENFELD ST, SUITE 600 Project: SNODDY POND

Reported:

Project Number: NONE GIVEN

Project Manager: GREG LINGAFELTER

28-Feb-13 15:54

MIDLAND TX, 79701

Fax To: UNK-NOWN

Semivolatile Organic Compounds by GCMS - Quality Control

Cardinal Laboratories

		Reporting		Spike	Source		%REC		RPD	
Analyte	Result	Limit	Units	Level	Result	%REC	Limits	RPD	Limit	Notes
Batch 3020508 - SW846-3510										
LCS (3020508-BS1)				Prepared &	Analyzed:	05-Feb-13				
Fluoranthene	0.010	0.001	mg/L	0.0125		83.3	26-137			
Pyrene	0.010	0.001	mg/L	0.0125		80.7	52-115			
Benzo[a]anthracene	0.009	0.001	mg/L	0.0125		75.8	33-143			
Chrysene	0.010	0.001	mg/L	0.0125		81.8	17-168			
Benzo[b]flouranthene	0.010	0.001	mg/L	0.0125		76.5	24-159			
Benzo[k]flouranthene	0.010	0.001	mg/L	0.0125		83.6	11-162			
Benzo[a]pyrene	0.010	0.0002	mg/L	0.0125		80.4	17-163			
ndeno[1,2,3-cd]pyrene	0.010	0.001	mg/L	0.0125		82.4	0-171			
Dibenz[a,h]anthracene	0.010	0.001	mg/L	0.0125		81.9	0-227			
lenzo[g,h,i]perylene	0.010	100.0	mg/L	0.0125		82.5	0-219			
.CS Dup (3020508-BSD1)				Prepared &	Analyzed:	05-Feb-13				
Naphthalene	0.010	0.001	mg/L	0.0125		79.0	21-133	0.304	20	
-Methylnaphthalene	0.010	0.001	mg/L	0.0125		82.8	21-133	0.193	20	
cenaphthylene	0.010	0.001	mg/L	0.0125		82.4	33-145	0.291	20	
cenaphthene	0.010	0.001	mg/L	0.0125		76.4	47-145	3.70	20	
luorene	0.010	0.001	mg/L	0.0125		77.8	59-121	3.34	20	
henanthrene	0.010	0.001	mg/L	0.0125		83.4	54-120	2.27	20	
Anthracene	0.010	0.001	mg/L	0.0125		79.8	27-133	2.38	20	
Carbazole	0.010	0.001	mg/L	0.0125		79.4	70-130	2.14	20	
luoranthene	0.011	0.001	mg/L	0.0125		84.9	26-137	1.90	20	
yrene	0.010	0.001	mg/L	0.0125		83.4	52-115	3.31	20	
enzo[a]anthracene	0.010	0.001	mg/L	0.0125		83.7	33-143	9.93	20	
hrysene	0.010	0.001	mg/L	0.0125		79.7	17-168	2.67	20	
enzo[b]flouranthene	0.010	100.0	mg/L	0.0125		76.7	24-159	0.313	20	
enzo[k]flouranthene	0.010	0.001	mg/L	0.0125		80.2	11-162	4.10	20	
enzo[a]pyrene	0.010	0.0002	mg/L	0.0125		79.3	17-163	1.40	20	
ndeno[1,2,3-cd]pyrene	0.010	0.001	mg/L	0.0125		82.1	0-171	0.389	20	
Dibenz[a,h]anthracene	0.010	0.001	mg/L	0.0125		81.5	0-227	0.489	20	
Benzo[g,h,i]perylene	0.010	0.001	mg/L	0.0125		81.1	0-219	1.66	20	

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Celey D. Keine



Notes and Definitions

SUB-SS Analysis subcontracted to SunStar Laboratories, Inc.

SUB-RS Analysis subcontracted to Radiation Safety Engineering, Inc.

GAL Analysis subcontracted to Green Analytical Laboratories, a subsidiary of Cardinal Laboratories.

ND Analyte NOT DETECTED at or above the reporting limit

RPD Relative Percent Difference

** Samples not received at proper temperature of 6°C or below.

*** Insufficient time to reach temperature.

Chloride by SM4500Cl-B does not require samples be received at or below 6°C

Samples reported on an as received basis (wet) unless otherwise noted on report

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Celey D. Keene



CHAIN-OF-CUSTODY AND ANALYSIS REQUEST

101 East Marland, Hobbs, NM 88240 (575) 393-2326 FAX (575) 393-2476

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