BLANCO3STATE COM-#14

30.025,40619



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

February 08, 2013	HOBBS OCD
GREG LINGAFELTER CIMAREX ENERGY COMIDLAND 600 N. MARIENFELD ST, SUITE 600	FEB 1 8 2013
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 <a href="https://www.tceq.texas.gov/field/qa/lab">www.tceq.texas.gov/field/qa/lab</a> accredited analytes and matrices visit the TCEQ website at <a href="https://www.tceq.texas.gov/field/qa/lab">www.tceq.texas.gov/field/qa/lab</a> accredited analytes and matrices visit the TCEQ website at <a href="https://www.tceq.texas.gov/field/qa/lab">www.tceq.texas.gov/field/qa/lab</a> accredited analytes and matrices visit the TCEQ website at <a href="https://www.tceq.texas.gov/field/qa/lab">www.tceq.texas.gov/field/qa/lab</a> accredited certif.html.

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

Method EPA 552.2	Haloacetic Acids (HAA-5)
Method EPA 524.2	Total Trihalomethanes (TTHM)
Method EPA 524.4	Regulated VOCs (V1, V2, V3)

Accreditation applies to public drinking water matrices.

This report meets NELAP requirements and is made up of a cover page, analytical results, and a copy of the original chain-of-custody. If you have any questions concerning this report, please feel free to contact me.

Sincerely,

Celey D. Keine

Celey D. Keene Lab Director/Quality Manager

REVIEWAD/ APPROVED

Environmental Special

NMOCD-DIST 1 2/18/13



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

Analytical Results For:

	MAREX ENERGY COMIDLAND 0 N. MARIENFELD ST, SUITE 600 DLAND TX, 79701		ect: SNODDY POND er: NONE GIVEN er: GREG LINGAFELTER To: UNK-NOWN	Reported: 08-Feb-13 18:56		
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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\*=Accredited Analyte

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Celey D. Kune

Celey D. Keene, Lab Director/Quality Manager

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CIMAREX ENERGY COMIDLAND 600 N. MARIENFELD ST, SUITE 600 MIDLAND TX, 79701		Project Nun Project Mana		ie given G lingafe			c	Reported: 18-Feb-13 18	:56
		SNODDY H3002	POND W 08-01 (Wa						
Analyte	Result	Reporting Limit	Units	Dilution	Batch	Analyst	Analyzed	Method	Notes
		Cardina	l Laborat	ories					
Inorganic Compounds									
Chloride*	52.0	4.00	mg/L	1	3012507	DW	25-Jan-13	4500-CI-B	
Cyanide (total)	ND	0.010	mg/L	1	3020815	СК	07-Feb-13	335.4	GAL
Fluoride	0.965	0.200	mg/L	1	3020814	СК	28-Jan-13	4500F C	GAL
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	
Phenois	ND	0.050	mg/L	1	3020816	СК	07-Feb-13	420.1	GAL
Sulfate*	46.0	10.0	mg/L	1	3012802	DW	28-Jan-13	375.4	
TDS*	306	5.00	mg/L	1	3013002	АР	30-Jan-13	160,1	
Organic Compounds									SUB-SS
PCB 1016	ND	2.00	ug/L	1	3020407	СК	01-Feb-13	8082	
PCB 1221	ND	2.00	ug/L	I	3020407	СК	01-Feb-13	8082	
РСВ 1232	ND	2.00	ug/L	1	3020407	СК	01-Feb-13	8082	
РСВ 1242	ND	2.00	ug/L	1	3020407	СК	01-Feb-13	8082	
PCB 1248	ND	2.00	ug/L	1	3020407	СК	01-Feb-13	8082	
PCB 1254	ND	2.00	ug/L	1	3020407	СК	01-Feb-13	8082	
PCB 1260	ND	2.00	ug/L	1	3020407	СК	01-Feb-13	8082	
Surrogate: Tetrachloro-meta-xylene		103 %	35-1	40	3020407	СК	01-Feb-13	8082	
Dissolved Metals									
Aluminum	ND	0.0500	mg/L	1	3020806	СК	28-Jan-13	200.7	GAL
Arsenic	ND	0.100	mg/L	ł	3020806	СК	28-Jan-13	200.7	GAL
Barium	0.101	0.010	mg/L	1	3020806	СК	28-Jan-13	200.7	GAL
Boron	ND	0.200	mg/L	1	3020806	СК	28-Jan-13	200.7	GAL
Cadmium	ND	0.00010	mg/L	1	3020807	СК	05-Feb-13	200.8	GAL
Chromium	ND	0.050	mg/L	1	3020806	СК	28-Jan-13	200.7	GAL
Cobalt	ND	0.0500	mg/L	1	3020806	СК	28-Jan-13	200.7	GAL
Copper	ND	0.020	mg/L	1	3020806	СК	28-Jan-13	200.7	GAL
ron	ND	0.050	mg/L	1	3020806	СК	28-Jan-13	200.7	GAL

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Celey D. Kune

Celey D. Keene, Lab Director/Quality Manager



CIMAREX ENERGY COMIDLAND 600 N. MARIENFELD ST, SUITE 600 MIDLAND TX, 79701		Project Num Project Mana	ber: NO	g lingafe			0	Reported: 08-Feb-13 18:56			
		SNODDY H30020	POND ¥ 8-01 (Wa								
Analyte	Result	Reporting Limit	Units	Dilution	Batch	Analyst	Analyzed	Method	Notes		
		Cardina	l Laborat	ories							
Dissolved Metals											
Lead	ND	0.0005	mg/L	1	3020807	СК	05-Feb-13	200.8	GAL		
Manganese	ND	0.005	mg/L	1	3020806	СК	28-Jan-13	200.7	GAL		
Aolybdenum	ND	0.0500	mg/L	1	3020806	СК	28-Jan-13	200.7	GAL		
Vickel	ND	0.0500	mg/L	1	3020806	СК	28-Jan-13	200.7	GAL		
Selenium	0.005	0.001	mg/L	1	3020807	СК	05-Feb-13	200.8	GAL		
illver	ND	0.050	mg/L	1	3020806	СК	28-Jan-13	200.7	GAL		
Jranium	0.00130	0.000100	mg/L	1	3020807	СК	05-Feb-13	200.8	GAL		
Zinc	ND	0.050	mg/L	1	3020806	СК	28-Jan-13	200.7	GAL		
Mercury (Total) by CVAA						-					
Mercury	ND	0.0002	mg/L	1	3020808	СК	31-Jan-13	245.1	GAL		
Volatile Organic Compounds by EPA Meth	od 8260B										
Vinyl chloride*	ND	0.001	mg/L	1	3012807	ms	28-Jan-13	8260			
,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-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-Trichloroethane*	ND	0.001	mg/L	1	3012807	ms	28-Jan-13	8260			
Benzene*	ND	0.001	mg/L	1	3012807	ms	28-Jan-13	8260			
,2-Dichloroethane*	ND	0.001	mg/L	1	3012807	ms	28-Jan-13	8260			
Frichloroethene*	ND	0.001	mg/L	1	3012807	ms	28-Jan-13	8260			
Foluene*	ND	0.001	mg/L	1	3012807	ms	28-Jan-13	8260			
fetrachloroethene*	ND	0.001	mg/L	1	3012807	ms	28-Jan-13	8260			
,1,2-Trichloroethane*	ND	0.001	mg/L	1	3012807	ms	28-Jan-13	8260			
,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			
n-p Xylenes*	ND	0.002	mg/L	1	3012807	ms	28-Jan-13	8260			
-Xylene*	ND	0.001	mg/L	1	3012807	ms	28-Jan-13	8260			

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Celey D. Keene

Celey D. Keene, Lab Director/Quality Manager



CIMAREX ENERGY COMIDLAND 600 N. MARIENFELD ST, SUITE 600 MIDLAND TX, 79701		Project Num Project Mana	ber: NO	g lingafi				56	
		SNODDY H3002(	POND V 8-01 (Wa						
Analyte	Result	Reporting Limit	Units	Dilution	Batch	Analyst	Analyzed	Method	Notes
		Cardina	l Laborat	tories					
olatile Organic Compounds by EPA Metho	od 8260B								
`otal Xylenes*	ND	0.003	mg/L	1	3012807	ms	28-Jan-13	8260	
,1,2,2-Tetrachloroethane*	ND	0.001	mg/L	1	3012807	ms	28-Jan-13	8260	
laphthalene*	ND	0.001	mg/L	1	3012807	ms	28-Jan-13	8260	
urrogate: Dibromofluoromethane		94.4 %	70.2	-143	3012807	ms	28-Jan-13	8260	
urrogate: Toluene-d8		96.7 %	73.8	-118	3012807	ms	28-Jan-13	8260	
urrogate: 4-Bromofluorobenzene		95.6 %	48-	134	3012807	ms	28-Jan-13	8260	
semivolatile Organic Compounds by GCMS	8								
Naphthalene	ND	0.001	mg/L	1.16	3020508	ms	05-Feb-13	8270C	
-Methylnaphthalene	ND	0.001	mg/L	1.16	3020508	ms	05-Feb-13	8270C	
-Methylnaphthalene	ND	0.001	mg/L	1.16	3020508	ms	05-Feb-13	8270C	
cenaphthylene	ND	0.001	mg/L	1.16	3020508	ms	05-Feb-13	8270C	
cenaphthene	ND	0.001	mg/L	1.16	3020508	ms	05-Feb-13	8270C	
luorene	ND	0.001	mg/L	1.16	3020508	ms	05-Feb-13	8270C	
henanthrene	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	
luoranthene	ND	0.001	mg/L	1.16	3020508	ms	05-Feb-13	8270C	
yrene	ND	0.001	mg/L	1.16	3020508	ms	05-Feb-13	8270C	
enzo[a]anthracene	ND	0.001	mg/L	1.16	3020508	ms	05-Feb-13	8270C	
hrysene	ND	0.001	mg/L	1.16	3020508	ms	05-Feb-13	8270C	
enzo[b]flouranthene	ND	0.001	mg/L	1.16	3020508	ms	05-Feb-13	8270C	
enzo[k]flouranthene	ND	0.001	mg/L	1.16	3020508	ms	05-Feb-13	8270C	
enzo[a]pyrene	ND	0.0002	mg/L	1.16	3020508	ms	05-Feb-13	8270C	
ndeno[1,2,3-cd]pyrene	ND	0.001	mg/L	1.16	3020508	ms	05-Feb-13	8270C	
ibenz[a,h]anthracene	ND	0.001	mg/L	1.16	3020508	ms	05-Feb-13	8270C	
enzo[g,h,i perylene	ND	0.001	mg/L	1.16	3020508	ms	05-Feb-13	8270C	
urrogate: Nitrobenzene-d5		114 %	35-	114	3020508	ms	05-Feb-13	8270C	<u> </u>
urrogate: 2-Fluorohiphenyl		114 %	43-		3020508	ms	05-Feb-13	8270C	

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Celey D. Keine

Celey D. Keene, Lab Director/Quality Manager



CIMAREX ENERGY COMIDLAND 600 N. MARIENFELD ST, SUITE 600 MIDLAND TX, 79701		Project Number: Project Manager:				0	Reported: 3-Feb-13 18:	56
		SNODDY PO! H300208-01						
Analyte	Result	Reporting Limit Ur	nits Dilution	Batch	Analyst	Analyzed	Method	Notes
		Cardinal La	boratories					
Semivolatile Organic Compounds by GCMS								
Surrogate: Terphenyl-dl4		130 %	33-141	3020508	ms	05-Feb-13	8270C	

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CIMAREX ENERGY COMIDLAND 600 N. MARIENFELD ST, SUITE 600 MIDLAND TX, 79701	Project Number:	SNODDY POND NONE GIVEN GREG LINGAFELTER	Reported: 08-Feb-13 18:56
	Fax To:	UNK-NOWN	

## **Inorganic Compounds - Quality Control**

		Cardi	nal Lab	oratories						
		Reporting		Spike	Source		%REC		RPD	
Analyte	Result	Limit	Units	Level	Result	%REC	Limits	RPD	Limit	Notes
Batch 3012507 - General Prep - Wet Chem										
Blank (3012507-BLK1)				Prepared &	Analyzed:	25-Jan-13				
Chłoride	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 &	z 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)	Sour	rce: H300208	I-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				
pH	7.08		pH Units	7.00		101	90-110			
Duplicate (3012513-DUP1)	Sou	-ce: H300212	2-01	Prepared &	Analyzed:	25-Jan-13				
pH	7.24	0,100	pH Units		7.14			1.39	20	

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CIMAREX ENERGY COMIDLAND 600 N. MARIENFELD ST, SUITE 600 MIDLAND TX, 79701	Project Number:	SNODDY POND NONE GIVEN GREG LINGAFELTER	Reported: 08-Feb-13 18:56	
	• •	UNK-NOWN		

#### **Inorganic Compounds - Quality Control**

## **Cardinal Laboratories**

Andrea	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Analyte	Kesult	Limit	Units	Level	Result	%REC	Limits		Limit	inotes
Batch 3012802 - General Prep - Wet Chem										
Blank (3012802-BLK1)				Prepared &	Analyzed:	28-Jan-13	3			
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	irce: H300209-	07	Prepared &	Analyzed:	30-Jan-13				
TDS	9020	5.00	mg/L		9050			0.421	20	
Batch 3020814 - General Prep									F 601	
Blank (3020814-BLK1)				Prepared &	Analyzed:	28-Jan-13				
Fluoride	ND	0.200	mg/L							
LCS (3020814-BS1)				Prepared &	Analyzed:	28-Jan-13				
Fluoride	0.965		mg/L	1.00		96.5	85-115			

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Celey D.Kune

Celey D. Keene, Lab Director/Quality Manager



CIMAREX ENERGY COMIDLAND 600 N. MARIENFELD ST, SUITE 600 MIDLAND TX, 79701		Project Nu Project Ma	umber: nager:	Snoddy PC None Givei Greg Ling/ Unk-Nown	N AFELTER				Reported: Feb-13 18	8:56
	Inoi	rganic Com	-		Control					
		Cardin		oratories			· · · · ·			
Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch 3020814 - General Prep										<del>.</del>
.CS Dup (3020814-BSD1)				Prepared &	Analyzed:	28-Jan-13				
luoride	1.07		mg/L	1.00		107	85-115	10.3	20	
Batch 3020815 - General Prep										
Hank (3020815-BLK1)				Prepared &	Analyzed:	07-Feb-13				
Syanide (total)	ND	0.010	mg/L		·					
LCS (3020815-BS1)				Prepared &	Analyzed:	07-Feb-13				
Syanide (total)	0.148		mg/L	0.150		98.7	90-110			
Batch 3020816 - General Prep										
Blank (3020816-BLK1)				Prepared &	Analyzed:	07-Feb-13				
henols	ND	0.050	mg/L						<u></u>	
.CS (3020816-BS1)				Prepared &	Analyzed:	07-Feb-13				
henols	0.414		mg/L	0.400		104	80-120			
Aatrix Spike (3020816-MS1)	Sou	rce: H300208-	01	Prepared &	Analyzed:	07-Feb-13				
henols	0.400		mg/L	0.400	0.00	100	70-130			
Aatrix Spike Dup (3020816-MSD1)	Sou	rce: H300208-	01	Prepared &	Analyzed:	07-Feb-13				
henols	0.393		mg/L	0.400	0.00	98.2	70-130	1.77	20	

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Celey D. Keine

Celey D. Keene, Lab Director/Quality Manager



CIMAREX ENERGY COMIDLAND	Project:	SNODDY POND	Reported:
600 N. MARIENFELD ST, SUITE 600 Pro	oject Number:	NONE GIVEN	08-Feb-13 18:56
MIDLAND TX, 79701 Pro	ject Manager:	GREG LINGAFELTER	
	Fax To:	UNK-NOWN	

#### **Organic Compounds - Quality Control**

#### **Cardinal Laboratories**

						<u></u>			<u> </u>	
Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Analyte	Kesuit	Luill	Units	Level	Kesuit			ΝU		notes
Batch 3020407 - EPA 3510C										
Blank (3020407-BLK1)				Prepared: 3	30-Jan-13 A	nalyzed: 0	1-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							
PCB 1254	ND	2.00	ug/L							
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: 3	30-Jan-13 A	nalyzed: 0	1-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: 3	30-Jan-13 A	nalyzed: 01	I-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	10.0		93.1	35-140			

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#### \*=Accredited Analyte

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Celey D. Keine

Celey D. Keene, Lab Director/Quality Manager



- 1				
	CIMAREX ENERGY COMIDLAND	Project:	SNODDY POND	Reported:
	600 N. MARIENFELD ST, SUITE 600	Project Number:	NONE GIVEN	08-Feb-13 18:56
	MIDLAND TX, 79701	Project Manager:	GREG LINGAFELTER	
	·····	Fax To:	UNK-NOWN	

### **Total Recoverable Metals - Quality Control**

### **Cardinal Laboratories**

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch 3020806 - Dissolved/Potenti	ally Dissolved Metals									<u></u>
Blank (3020806-BLK1)				Prepared &	Analyzed:	28-Jan-13				
Manganese	ND	0.005	mg/L							
Barium	ND	0.010	mg/L							
Aluminum	ND	0.0500	mg/L							
Cobalt	ND	0.0500	mg/L							
Iron	ND	0.050	mg/L							
Nickel	ND	0.0500	mg/L							
Zinc	ND	0.050	mg/L							
Boron	ND	0.200	mg/L							
Chromium	ND	0.050	mg/L							
Silver	ND	0.050	mg/L							
Copper	ND	0.020	mg/L							
Molybdenum	ND	0.0500	mg/L							
Arsenic	ND	0.100	mg/L							
LCS (3020806-BS1)				Prepared &	Analyzed:	28-Jan-13				
Arsenic	4.88		mg/L	5.00		97.6	85-115			
Chromium	2.48		mg/L	2.50		99.2	85-115			
Copper	4.86		mg/L	5.00		97.2	85-115			
Iron	5.02		mg/L	5.00		100	85-115			
Aluminum	4.99		mg/L	5.00		99.8	85-115			
Barium	2.39		mg/L	2.50		95.6	85-115			
Molybdenum	4.83		mg/L	5.00		96.6	85-115			
Boron	4.93		mg/L	5.00		98.6	85-115			
Cobalt	2.43		mg/L	2.50		97.2	85-115			
Silver	0.124		mg/L	0.125		99.2	85-115			
Zinc	2.38		mg/L	2.50		95.2	85-115			
Manganese	2.43		mg/L	2.50		97.2	85-115			
Nickel	2.36		mg/L	2.50		94.4	85-115			

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Celey D. Kune

Celey D. Keene, Lab Director/Quality Manager



Fax To: UNK-NOWN		CIMAREX ENERGY COMIDLAND 600 N. MARIENFELD ST, SUITE 600 MIDLAND TX, 79701	Project Number: Project Manager:	GREG LINGAFELTER	Reported: 08-Feb-13 18:56	
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## **Dissolved Metals - Quality Control**

## **Cardinal Laboratories**

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

#### Batch 3020806 - Dissolved/Potentially Dissolved Metals

LCS Dup (3020806-BSD1)		Prepared & Analyzed: 28-Jan-13						
Nickel	2.38	mg/L	2.50	95.2	85-115	0.844	20	
ron	5.04	mg/L	5.00	101	85-115	0.398	20	
Zinc	2.40	mg/L	2.50	96.0	85-115	0.837	20	
Chromium	2.50	mg/L	2.50	100	85-115	0.803	20	
Molybdenum	4.89	mg/L	5.00	97.8	85-115	1.23	20	
Соррег	4.89	mg/L	5.00	97.8	85-115	0.615	20	
Arsenic	4.96	mg/L	5.00	99.2	85-115	1.63	20	
Aluminum	5.00	mg/L	5.00	100	85-115	0.200	20	
Silver	0.126	mg/L	0.125	101	85-115	1.60	20	
Barium	2.42	mg/L	2.50	96.8	85-115	1.25	20	
Boron	4.96	mg/L	5.00	99.2	85-115	0.607	20	
Manganese	2.44	mg/L	2.50	97.6	85-115	0.411	20	
Cobalt	2.45	mg/L	2.50	98.0	85-115	0.820	20	

#### Batch 3020807 - Dissolved/Potentially Dissolved Metals

Blank (3020807-BLK1)				Prepared & Anal	yzed: 05-Feb-13		
Uranium	ND	0.000100	mg/L				
Lead	ND	0.0005	mg/L				
Selenium	ND	0.001	mg/L				
Cadmium	ND	0.00010	mg/L				
LCS (3020807-BS1)				Prepared & Anal	yzed: 05-Feb-13		
Lead	0.0500		mg/L	0.0500	100	85-115	
Selenium	0.254		mg/L	0.250	102	85-115	
Cadmium	0.0500		mg/L	0.0500	100	85-115	

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Celey D. Kune

Celey D. Keene, Lab Director/Quality Manager



CIMAREX ENERGY COMIDLAND 600 N. MARIENFELD ST, SUITE 600 MIDLAND TX, 79701	Project Number: Project Manager:	SNODDY POND NONE GIVEN GREG LINGAFELTER UNK-NOWN	Reported: 08-Feb-13 18:56
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## **Dissolved Metals - Quality Control**

## **Cardinal Laboratories**

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch 3020807 - Dissolved/Potentially Dissolved Metals										

LCS Dup (3020807-BSD1)								
Lead	0.0513	mg/L	0.0500	103	85-115	2.57	20	
Selenium	0.259	mg/L	0.250	104	85-115	1.95	20	
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	

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Celey D. Keene, Lab Director/Quality Manager

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CIMAREX ENERGY COMIDLAND 600 N. MARIENFELD ST, SUITE 600 MIDLAND TX, 79701	Project: SNOD Project Number: NONE Project Manager: GREG Fax To: UNK-I	IE GIVEN 08 G LINGAFELTER	Reported: 3-Feb-13 18:56
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## Mercury (Total) by CVAA - Quality Control

## **Cardinal Laboratories**

		Reporting		Spike	Source		%REC		RPD	
Analyte	Result	Limit	Units	Level	Result	%REC	Limits	RPD	Limit	Notes
Batch 3020808 - EPA 245.1										
Blank (3020808-BLK1)				Prepared: 2	29-Jan-13 A	nalyzed: 31	-Jan-13			
Mercury	ND	0.0002	mg/L							
LCS (3020808-BS1)				Prepared: 2	29-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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Celey D. Kune

Celey D. Keene, Lab Director/Quality Manager



CIMAREX ENERGY COMIDLAND 600 N. MARIENFELD ST, SUITE 600	Project: Project Number:	SNODDY POND NONE GIVEN	Reported: 08-Feb-13 18:56
MIDLAND TX, 79701	Project Manager:	GREG LINGAFELTER	
	Fax To:	UNK-NOWN	

## 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										
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	0.001	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	0.001	mg/L							
1,2-Dichloroethane	ND	0.001	mg/L							
Trichloroethene	ND	0.001	mg/L							
Toluene	ND	0.001	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			
I, I-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			
I, I-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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Celez D.Kune

Celey D. Keene, Lab Director/Quality Manager



CIMAREX ENERGY COMIDLAND	Project:	SNODDY POND	Reported:
600 N. MARIENFELD ST, SUITE 600 Project	t Number:	NONE GIVEN	08-Feb-13 18:56
MIDLAND TX, 79701 Project	: Manager:	GREG LINGAFELTER	
	Fax To:	UNK-NOWN	

#### Volatile Organic Compounds by EPA Method 8260B - Quality Control

### **Cardinal Laboratories**

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch 3012807 - Volatiles									· · · · ·	
LC§ (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			
Foluene	0.019	0.001	mg/L	0.0200		96.6	74.8-121			
Fetrachloroethene	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			
n-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			
,1,2,2-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-Dichtoroethene	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-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	
,2-Dichloroethane	0.019	0.001	mg/L	0.0200		96.8	75.5-117	2.55	9.07	
richloroethene	0.019	0.001	mg/L	0.0200		96.0	76.3-118	2.57	12	
Foluene	0.019	0.001	mg/L	0.0200		95.8	74.8-121	0.884	12.3	
fetrachloroethene	0.019	0.001	mg/L	0.0200		92.8	52.4-136	3.34	43.6	
1,1,2-Trichloroethane	0.020	0.001	mg/L	0.0200		101	76.6-118	0.397	11.1	
,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. Keine

Celey D. Keene, Lab Director/Quality Manager



- 1				
	CIMAREX ENERGY COMIDLAND	Project:	SNODDY POND	Reported:
	600 N. MARIENFELD ST, SUITE 600	Project Number:	NONE GIVEN	08-Feb-13 18:56
	MIDLAND TX, 79701	Project Manager:	GREG LINGAFELTER	
		Fax To:	UNK-NOWN	

## Volatile Organic Compounds by EPA Method 8260B - Quality Control

## **Cardinal Laboratories**

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	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		ш	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		<i>99.0</i>	73.8-118			
Surrogate: 4-Bromofluorobenzene	0.00995		mg/L	0.0100		<i>99.5</i>	48-134			

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Celey D. Keene, Lab Director/Quality Manager



000 N. MARIEN EED ST, SOTTE 000	Project: SNODDY POND ect Number: NONE GIVEN ect Manager: GREG LINGAFELTER Fax To: UNK-NOWN	Reported: 08-Feb-13 18:56
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#### Semivolatile Organic Compounds by GCMS - Quality Control

#### **Cardinal Laboratories**

		Carun		oratories						
Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	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							
1-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	0.001	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							
Indeno[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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Celey D. Keine

Celey D. Keene, Lab Director/Quality Manager



CIMAREX ENERGY COMIDLAND 600 N. MARIENFELD ST, SUITE 600 MIDLAND TX, 79701	Project: SNODDY PC Project Number: NONE GIVE Project Manager: GREG LING Eav To: UNK-NOWN	EN 08-Feb-13 18:56 GAFELTER	
	Fax To: UNK-NOWN	N	

#### 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			
yrene	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			
enzo[g,h,i]perylene	0.010	0.001	mg/L	0.0125		82.5	0-219			
CS Dup (3020508-BSD1)				Prepared &	Analyzed:	05-Feb-13				
laphthalene	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	0.001	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	
enzo[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

Celey D. Keene, Lab Director/Quality Manager



CIMAREX ENERGY COMIDLAND 600 N. MARIENFELD ST, SUITE 600 MIDLAND TX, 79701	Project Number: Project Manager:	SNODDY POND NONE GIVEN GREG LINGAFELTER UNK-NOWN	Reported: 08-Feb-13 18:56
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Celey D. Kune

Celey D. Keene, Lab Director/Quality Manager



#### **Notes and Definitions**

SUB-SS	Analysis subcontracted to SunStar Laboratories, 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

Celey D. Keene, Lab Director/Quality Manager



# CHAIN-OF-CUSTODY AND ANALYSIS REQUEST

#### 101 East Marland, Hobbs, NM 88240 (575) 393-2326 FAX (575) 393-2476 Company Name: Cimarux Energy BILL TO ANALYSIS REQUEST Project Manager: Greg Linux Celier P.O. #: Address: 600 N. Marien Sild St Company: City: A: Janel State: TY Zip: 79701 Attn: Phone #: 432-260-7789 Fax #: Address: Project Owner: C. MAKE Ene Acy Project #: City: Project Name: 5 noddy State: Zip: Project Location: 5 nocky pand to + Mans Le to Blanco Phone #: Sampler Name: Fax #: Sach FOR LAB USE ONLY MATRIX PRESERV SAMPLING (C)OMP. GROUNDWATER WASTEWATER SOIL OIL SLUDGE SLUDGE S Sample I.D. ACID/BASE: ICE / COOL OTHER : Lab I.D. (G)RAB OR 1300203 DATE TIME Snodely Pend Loader 2413 12:30 12 PLEASE NOTE: Liability and Damages. Cardinal's liability and client's exclusive remedy for any claim arising whether based in contract or tent, shall be limited to the amount paid by the client for the analyses. All claims including those for negligence and any other cause whicesover shall be deemed wrived unless made in writing and received by Cardinal within 30 days after completion of the applicable service. In no event shall Cardinal be table for incidental or consequential damagos, including without limitation, business interruptions, loss of use, or loss of profits incurred by elient, its subsidiaries, affilinates or successors erising out of or related to the performance of services hereunder by Carcinal, regardless of whether such claim is based upon any of the above stated reasons or otherwise Phone Result: □ Yes □ No Add'I Phone # □ Yes □ No Add'I Fax #: **Relinguished By:** Received By: Date: REMARKS: Delyon & Limany Com - 4.32.260-7789 Cocod-1-24-13 ALC MADN Time: 14:12 .... Relinquished By: Date: **Received By:** AMAngum Ocimanez iorn. Time: TStathemore: marie com Delivered By: (Circle One) CHECKED BY: **Sample Condition** Cool Intact

† Cardinal cannot accept verbal changes. Please fax written changes to (575) 393-2326 2.6

Sampler - UPS - Bus - Other:

42

Ves Yes

Ctr

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