30-015-34770

Work Order: 7042327 Nitro 11 Fed #1

Page Number: 1 of 2 Nitro 11 Fed #1

# **Summary Report**

Justin Hutchins Phoenix Environmental 2113 French Dr. P.O. Box 1856 Hobbs, NM, 88240-41

Work Order: 7042327

Report Date: April 23, 2007

CIMAREX ENERGY CO.

Project Location: Nitro 11 Fed #1 Project Name:

Nitro 11 Fed #1 Project Number: 30-015-34770

			Date	Time	Date
Sample	Description	Matrix	Taken	Taken	Received
122484	E Bottom 35'	soil	2007-04-20	16:07	2007-04-23
122485	W Bottom 35'	soil	2007-04-20	16:21	2007-04-23
122486	C Bottom 35'	soil	2007-04-20	16:30	2007-04-23
122487	Background 1-6 inches	soil	2007-04-20	16:37	2007-04-23
122488	N Wall 30'	soil	2007-04-20	16:45	2007-04-23
122489	S Wall 30'	soil	2007-04-20	16:54	2007-04-23

Sample: 122484 - E Bottom 35'

Param	Flag	Result	Units	RL
Chloride		599	mg/Kg	5.00

Sample: 122485 - W Bottom 35'

Param	$\mathbf{Flag}$	Result	Units	RL
Chloride		280	mg/Kg	5.00

Sample: 122486 - C Bottom 35'

Param	Flag	Result	Units	RL
Chloride		509	mg/Kg	5.00

Sample: 122487 - Background 1-6 inches

 $continued \dots$ 

Report Date: April 30-015-34770	1 23, 2007	· · · · · · · · · · · · · · · · · · ·		age Number: 2 of 2 Nitro 11 Fed #1
sample 122487 con	$tinued \dots$			
Param	Flag	Result	Units	RL
Param	Flag	Result	Units	RL
Chloride	1	<100	mg/Kg	5.00
Sample: 122488 Param	$\mathbf{Flag}$	Result	Units	RL
Param Chloride	Flag	Result 1100	Units mg/Kg	RL 5.00
Sample: 122489	- S Wall 30'			
Param	Flag	Result	$\mathbf{Units}$	RL
Chloride			mg/Kg	5.00



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# Analytical and Quality Control Report

Justin Hutchins Phoenix Environmental 2113 French Dr. P.O. Box 1856 Hobbs, NM, 88240-41

CIMAREX Knersy Co.

Project Location: Nitro 11 Fed #1 Project Name: Nitro 11 Fed #1 Project Number: 30-015-34770

Report Date: April 23, 2007

Work Order: 

Enclosed are the Analytical Report and Quality Control Report for the following sample(s) submitted to TraceAnalysis, Inc.

			Date	rime	Date
Sample	Description	Matrix	Taken	Taken	Received
$\overline{122484}$	E Bottom 35'	soil	2007-04-20	16:07	2007-04-23
122485	W Bottom 35'	soil	2007-04-20	16:21	2007-04-23
122486	C Bottom 35'	soil	2007-04-20	16:30	2007-04-23
122487	Background 1-6 inches	soil	2007-04-20	16:37	2007-04-23
122488	N Wall 30'	soil	2007-04-20	16:45	2007-04-23
122489	S Wall 30'	soil	2007-04-20	16:54	2007-04-23

These results represent only the samples received in the laboratory. The Quality Control Report is generated on a batch basis. All information contained in this report is for the analytical batch(es) in which your sample(s) were analyzed.

This report consists of a total of 5 pages and shall not be reproduced except in its entirety, without written approval of TraceAnalysis, Inc.

Dr. Blair Leftwich, Director

#### Standard Flags

B - The sample contains less than ten times the concentration found in the method blank.

## Case Narrative

Samples for project 'Nitro 11 Fed #1' were received by TraceAnalysis, Inc. on 2007-04-23 and assigned to work order 7042327. Samples for work order 7042327 were received intact at a temperature of 4 C.

Samples were analyzed for the following tests using their respective methods.

Test	Method
Chloride (Titration)	SM 4500-Cl B

Results for these samples are reported on a wet weight basis unless data package indicates otherwise.

A matrix spike (MS) and matrix spike duplicate (MSD) sample is chosen at random from each preparation batch. The MS and MSD will indicate if a site specific matrix problem is occuring, however, it may not pertain to the samples for work order 7042327 since the sample was chosen at random. Therefore, the validity of the analytical data reported has been determined by the laboratory control sample (LCS) and the method blank (MB). These quality control measures are preformed with each preparation batch to ensure data integrity.

All other exceptions associated with this report have been footnoted on the appropriate analytical page to assist in general data comprehension. Please contact the laboratory directly if there are any questions regarding this project.

30-015-34770

Work Order: 7042327 Nitro 11 Fed #1

Page Number: 3 of 5 Nitro 11 Fed #1

# **Analytical Report**

#### Sample: 122484 - E Bottom 35'

Analysis:

Chloride (Titration)

QC Batch: 36680 Prep Batch: 31813

Analytical Method: Date Analyzed:

Sample Preparation:

SM 4500-Cl B 2007-04-23 2007-04-23

Prep Method: N/A Analyzed By: SMPrepared By: SM

RL

Parameter	
Chloride	

Units	
mg/Kg	

Dilution RL5.00 20

Sample: 122485 - W Bottom 35'

Analysis:

Chloride (Titration) 36680

Analytical Method: Date Analyzed:

SM 4500-Cl B 2007-04-23

Prep Method: N/A

Analyzed By: SMSM

QC Batch: Prep Batch: 31813

Sample Preparation: 2007-04-23

Prepared By:

Pa	rameter
Cł	loride

1146	280
Flag	Result
	RL

Units mg/Kg Dilution RL5.00

Sample: 122486 - C Bottom 35'

Analysis: QC Batch:

Prep Batch: 31813

Chloride (Titration) 36680

Analytical Method: Date Analyzed:

SM 4500-Cl B 2007-04-23

Prep Method: N/A Analyzed By:

SM

RL5.00

RL

Sample Preparation: 2007-04-23

Prepared By: SM

Parameter	Flag	Result	Units	Dilution
Chloride		509	mg/Kg	10

## Sample: 122487 - Background 1-6 inches

Analysis: QC Batch:

Chloride

Prep Batch:

Chloride (Titration) 36680

Analytical Method: Date Analyzed:

SM 4500-Cl B 2007-04-23

Prep Method: N/A

Sample Preparation: 2007-04-23

Analyzed By: SMPrepared By: SM

Flag Parameter

RLResult <100

Units

mg/Kg

Dilution RL5.00

#### Sample: 122488 - N Wall 30'

31813

31813

Analysis: QC Batch:

Prep Batch:

Chloride (Titration) 36680

Analytical Method: Date Analyzed: Sample Preparation:

SM 4500-Cl B 2007-04-23 2007-04-23

Prep Method: N/A Analyzed By: SMPrepared By: SM

 $<sup>^1{\</sup>rm dilution}$  due to turbidity of sample  $\bullet$ 

Report Date: April 23, 2007

30-015-34770

Work Order: 7042327 Nitro 11 Fed #1

Page Number: 4 of 5 Nitro 11 Fed #1

		RL			
Parameter	Flag	$\operatorname{Result}$	Units	Dilution	RL
Chloride		1100	mg/Kg	20	5.00

Sample: 122489 - S Wall 30'

Analysis: QC Batch:

Prep Batch:

Parameter

 $\overline{\text{Chloride}}$ 

Chloride (Titration)

36680 31813

Analytical Method: SM 4500-Cl B Date Analyzed:

2007-04-23 Sample Preparation: 2007-04-23

Spike

Amount

Prep Method: N/A Analyzed By: SM

Prepared By: SM

RLFlag

Result 849

Units mg/Kg Dilution RL20 5.00

Method Blank (1)

QC Batch: 36680

QC Batch: 36680 Prep Batch: 31813 Date Analyzed: 2007-04-23 2007 - 04 - 23QC Preparation:

Analyzed By: SM

MDL

Parameter Flag Result Chloride < 3.25 Prepared By: JS

RL

5

Units

mg/Kg

Matrix

Result

Laboratory Control Spike (LCS-1)

QC Batch: 36680 Prep Batch: 31813 Date Analyzed: 2007-04-23 QC Preparation:

Units

Analyzed By: SM Prepared By: JS

LCS Param Result Chloride 98.6

2007-04-23

Dil.

Rec. Rec. Limit

90 - 110

99

100 < 3.25 mg/Kg 1 Percent recovery is based on the spike result. RPD is based on the spike and spike duplicate result.

LCSD Spike Matrix Rec. RPD Param Result Units Dil. Result Limit RPD Amount Rec. Limit Chloride 99.2 100 < 3.25 99 90 - 110 20 mg/Kg 1

Percent recovery is based on the spike result. RPD is based on the spike and spike duplicate result.

Matrix Spike (MS-1) Spiked Sample: 122489

QC Batch: 36680 Prep Batch: 31813 Date Analyzed: 2007-04-23 QC Preparation: 2007-04-23

Analyzed By: SM Prepared By: JS

continued ...

Report Date: April 23, 2007

30-015-34770

Work Order: 7042327 Nitro 11 Fed #1 Page Number: 5 of 5 Nitro 11 Fed #1

matrix spikes continued . . .

Param		MS Result	Units	Dil.	Spike Amount	Matrix Result	Rec.	Rec. Limit
		MS			Spike	Matrix		Rec.
Param		$\mathbf{Result}$	${ m Units}$	Dil.	Amount	Result	Rec.	$_{ m Limit}$
Chloride	2	928	mg/Kg	20	2000	849.315	4	84.6 - 117

Percent recovery is based on the spike result. RPD is based on the spike and spike duplicate result.

		MSD			$\mathbf{Spike}$	Matrix		Rec.		RPD
Param		Result	Units	Dil.	Amount	Result	Rec.	Limit	RPD	$\mathbf{Limit}$
Chloride	3	990	mg/Kg	20	2000	849.315	7	84.6 - 117	6	20

Percent recovery is based on the spike result. RPD is based on the spike and spike duplicate result.

## Standard (ICV-1)

QC Batch: 36680

Date Analyzed: 2007-04-23

Analyzed By: SM

			ICVs	ICVs	ICVs	Percent	
			True	Found	Percent	Recovery	Date
Param	$\mathbf{Flag}$	${ m Units}$	Conc.	Conc.	Recovery	Limits	Analyzed
Chloride		mg/Kg	100	100	100	85 - 115	2007-04-23

### Standard (CCV-1)

QC Batch: 36680

Date Analyzed: 2007-04-23

Analyzed By: SM

			$rac{ ext{CCVs}}{ ext{True}}$	${ m CCVs} \ { m Found}$	$rac{ ext{CCVs}}{ ext{Percent}}$	Percent Recovery	Date
Param	Flag	Units	Conc.	Conc.	Recovery	Limits	Analyzed
Chloride		mg/Kg	100	100	100	85 - 115	2007-04-23

<sup>&</sup>lt;sup>2</sup>Matrix spike recoveries out of control limits due to matrix spike being diluted out. Use LCS/LCSD to demonstrate analysis is under control.

<sup>3</sup>Matrix spike recoveries out of control limits due to matrix spike being diluted out. Use LCS/LCSD to demonstrate analysis is under control.

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