

**Stephens & Johnson Operating Company
North of 82
Section 1, Township 15 South, Range 37 East
Lea County, New Mexico**

Work Plan

July 28, 2009



Prepared for:

**Stephens & Johnson Operating Company
811 Sixth Street, Suite 300
Wichita Falls, Texas 76301-2509**

By:

***Safety & Environmental Solutions, Inc.
703 East Clinton
Hobbs, New Mexico 88240
(575) 397-0510***

I. Background

Safety & Environmental Solutions, Inc. (SESI) was engaged by Stephens & Johnson Operating Company to perform a site assessment of the area located in Section 1, Township 15 South, and Range 37 East in Lea County, New Mexico. The subject area was impacted by the spillage of an undetermined amount of produced water from an injection line associated with production in the area on September 10, 2001. The remediation for this site was initiated in July 2003, however this site has been dormant for several years.

II. Surface and Ground Water

The nearest groundwater of record with the New Mexico State Engineer's Office is in Section 2 of Township 15 South, Range 37 East. According to measurements taken February 18, 1966, the depth to water in this well is 40 feet.

III. Soils

The soils in the area are predominantly sand and sandy loam.

IV. Work Performed

On May 12, 2009 Safety & Environmental Solutions, Inc was onsite to retrieve samples. Samples were retrieved at a depth of six (6) feet throughout the bottom and sides of the excavation. All samples were transported under Chain of Custody to Ana-Lab of Kilgore Texas for analysis. The samples were analyzed for Chlorides (EPA Method 300.00).

The results of the analysis are as follows:

DATE	ID	Cl ⁻ (mg/kg)
5/12/09	#1	17300
5/12/09	#2	1220
5/12/09	#3	218
5/12/09	#4	4530
5/12/09	#5	15700
5/12/09	#6	3770
5/12/09	EW	4140
5/12/09	SW #1	7520
5/12/09	SW #2	6200
5/12/09	SW #3	7670
5/12/09	SW #4	30.5
5/12/09	NW #1	8010
5/12/09	NW #2	14800
5/12/09	NW #3	14600
5/12/09	NW #4	2600
5/12/09	WW	21100

The results of the sampling indicated the chloride levels to be elevated in the bottom and all of the sides of the excavation with the exception of the south wall #3.

V. Action Plan

Closure

It is recommended that the site be excavated horizontally until the chloride concentrations are no greater than 250 ppm. An additional one (1) to two (2) feet will be removed from the bottom of the excavation. The excavated soil will be taken to a New Mexico Oil Conservation Division (NMOCD) approved disposal facility. The bottom and sides of the excavation will be sampled at the final excavation depths. The samples collected will be properly preserved and transported with Chain of Custody to Cardinal Laboratories, of Hobbs, New Mexico, for testing. Laboratory samples will be analyzed for Chlorides (EPA method 300.00). The analytical results will document the level of Chlorides left in place.

After the excavation is complete, a 40 mil plastic liner will be installed in the bottom of the excavation to prevent surface waters or future spills from coming into contact with the chloride left in place under the liner. Clean soil will be used to backfill the excavation and the site returned to natural grade. The location will be reseeded by the landowner's specifications.

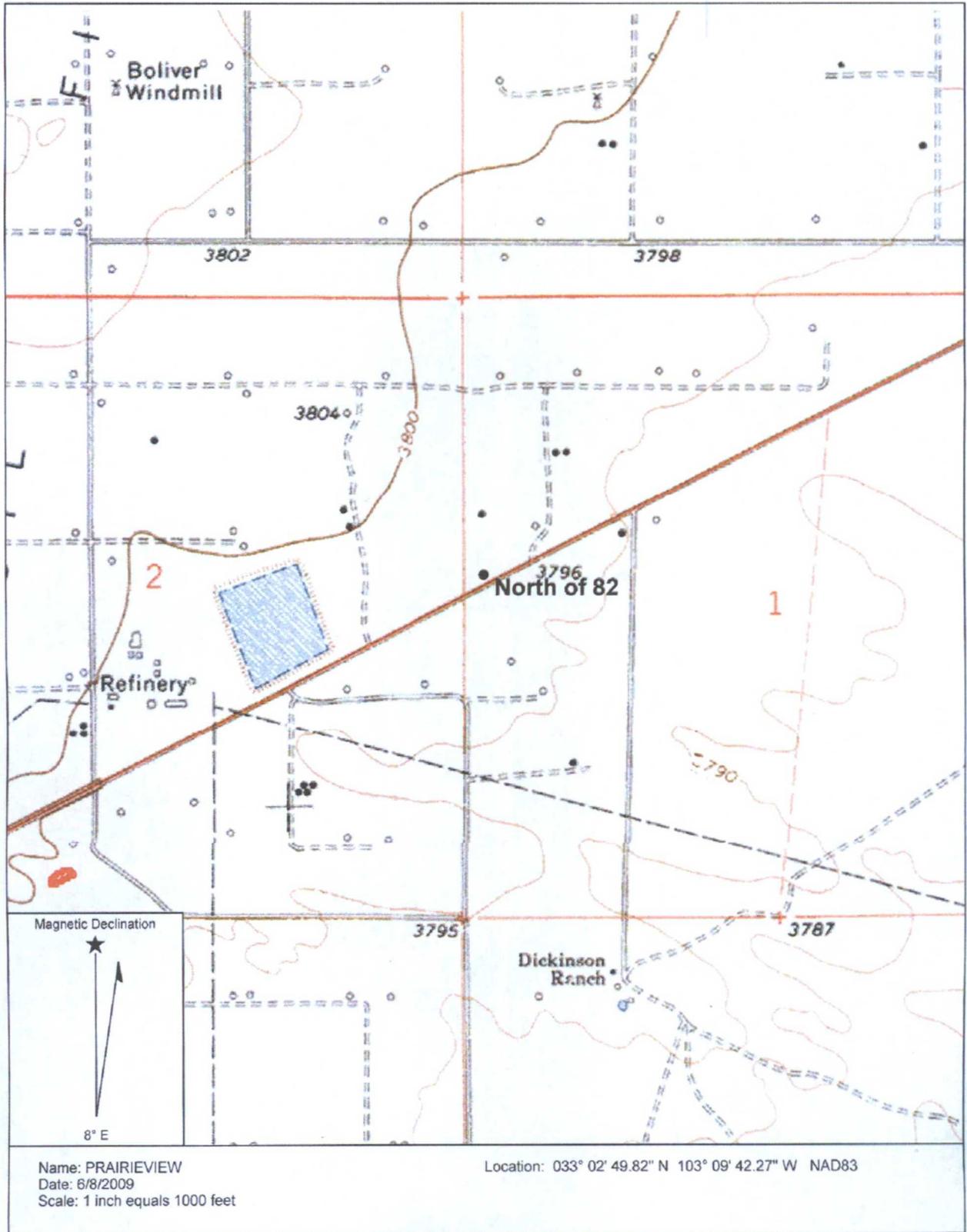
After completion of the delineation, a report of the findings and an appropriate work plan will be filed with the New Mexico Oil Conservation Division (NMOCD).

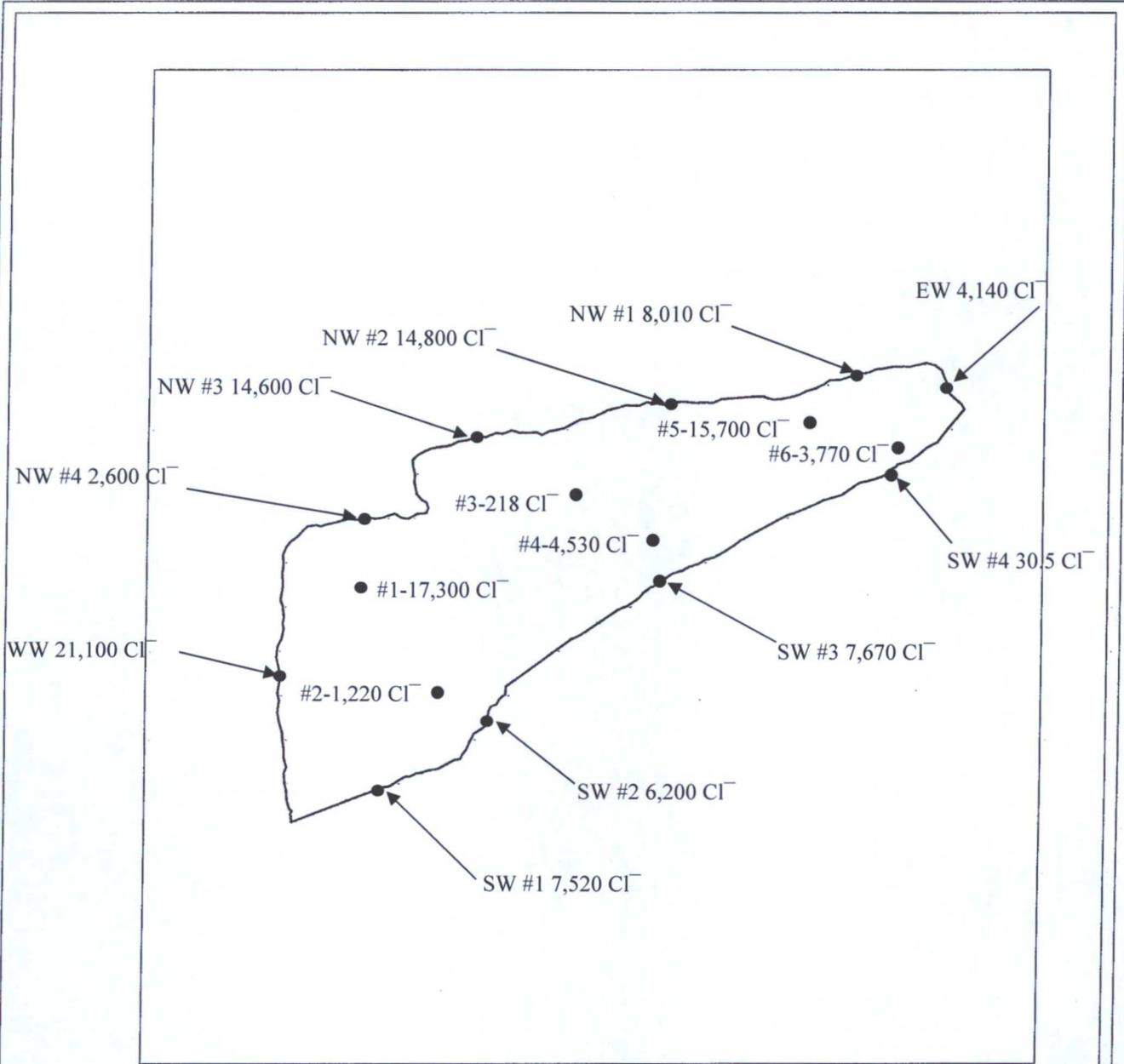
VI. Figures & Appendices

Figure 1 - Vicinity Map

Figure 2 - Site Plan

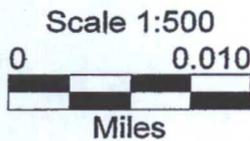
Appendix A – Analytical Results





North of 82

Lat/Long
WGS 1984



STE-03-001_1.cor
6/8/2009
GPS Pathfinder[®] Office
 Trimble[™]



Analytical Results

Report To

Brian Cuellar
 Safety & Environmental Solutio
 703 E. Clinton
 Hobbs, NM 88240

Report Table of Contents

Account
SESF

Project
442482

Stevens&Johnson N of 82

This report consists of this Table of Contents and the following pages:

<u>Report Name</u>	<u>Description</u>	<u>Pages</u>
442482_r03_03_ProjectResults	Ana-Lab Project P:442482 C:SESF Project Results	7
442482_r10_05_PROJQCG	Ana-Lab Project P:442482 C:SESF Project Quality Control Groups	1
442482_r99_09_CoC_SESF_1_of_1	Ana-Lab CoC SESF 442482_1_of_1	3
Total Pages:		11

Corporate Shipping: 2600 Dudley Rd. Kilgore, TX 75662



0-17025 # 0637-01



NELAP-accredited #T104704201-08-TX



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Ana-Lab Corp. P.O. Box 9000 Kilgore, TX 75663

Phone 903/984-0551 FAX 903/984-5914 e-Mail corp@ana-lab.com

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Results

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Account
SESF-P

Project
442482

Report To

Brian Cuellar
Safety & Environmental Solutio
703 E. Clinton
Hobbs, NM 88240

Stevens&Johnson N of 82

Results

Accredited Parameter Results Units RL Flags CAS Bottle

101309 #1

Received: 05/14/2009

Soil Collected by: I Kincaid Affiliation: Safety & Environment 05/12/2009 14:45

SW-846 9056 Analyzed: GDG 05/15/2009 1838 QCgroup 318119

AN Chloride (water extractable) 17300 mg/kg 3000 02

101310 #2

Received: 05/14/2009

Soil Collected by: I Kincaid Affiliation: Safety & Environment 05/12/2009 14:47

SW-846 9056 Analyzed: GDG 05/15/2009 1856 QCgroup 318119

AN Chloride (water extractable) 1220 mg/kg 60.0 02

101311 #3

Received: 05/14/2009

Soil Collected by: I Kincaid Affiliation: Safety & Environment 05/12/2009 14:49

SW-846 9056 Analyzed: GDG 05/15/2009 1913 QCgroup 318119

AN Chloride (water extractable) 218 mg/kg 30.0 02

101312 #4

Received: 05/14/2009

Soil Collected by: I Kincaid Affiliation: Safety & Environment 05/12/2009 15:02

SW-846 9056 Analyzed: GDG 05/15/2009 1931 QCgroup 318119

AN Chloride (water extractable) 4530 mg/kg 300 02

101313 #5

Received: 05/14/2009

Soil Collected by: I Kincaid Affiliation: Safety & Environment 05/12/2009 15:04

SW-846 9056 Analyzed: GDG 05/15/2009 1948 QCgroup 318119

AN Chloride (water extractable) 15700 mg/kg 1500 02

101314 #6

Received: 05/14/2009

Soil Collected by: I Kincaid Affiliation: Safety & Environment 05/12/2009 15:06

SW-846 9056 Analyzed: GDG 05/15/2009 2006 QCgroup 318119

AN Chloride (water extractable) 3770 mg/kg 300 02

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Results

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Account
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Project
442482

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Hobbs, NM 88240

Stevens&Johnson N of 82

Results

Accredited	Parameter	Results	Units	RL	Flags	CAS	Bottle
101315	#EW						Received: 05/14/2009
	Soil	Collected by: I Kincaid		Affiliation: Safety & Environment		05/12/2009	15:10
	SW-846 9056			Analyzed: GDG 05/15/2009	2024	QCgroup	318119
AN	Chloride (water extractable)	4140	mg/kg	300			02
101316	SW#1						Received: 05/14/2009
	Soil	Collected by: I Kincaid		Affiliation: Safety & Environment		05/12/2009	15:12
	SW-846 9056			Analyzed: GDG 05/15/2009	2041	QCgroup	318119
AN	Chloride (water extractable)	7520	mg/kg	300			02
101317	SW#2						Received: 05/14/2009
	Soil	Collected by: I Kincaid		Affiliation: Safety & Environment		05/12/2009	15:14
	SW-846 9056			Analyzed: GDG 05/15/2009	2059	QCgroup	318119
AN	Chloride (water extractable)	6200	mg/kg	300			02
101318	SW#3						Received: 05/14/2009
	Soil	Collected by: I Kincaid		Affiliation: Safety & Environment		05/12/2009	15:16
	SW-846 9056			Analyzed: GDG 05/15/2009	2117	QCgroup	318119
AN	Chloride (water extractable)	7670	mg/kg	300			02
101319	SW#4						Received: 05/14/2009
	Soil	Collected by: I Kincaid		Affiliation: Safety & Environment		05/12/2009	15:18
	SW-846 9056			Analyzed: GDG 05/15/2009	2152	QCgroup	318119
AN	Chloride (water extractable)	30.5	mg/kg	6.00			02
101320	NW#1						Received: 05/14/2009
	Soil	Collected by: I Kincaid		Affiliation: Safety & Environment		05/12/2009	15:22
	SW-846 9056			Analyzed: GDG 05/15/2009	2209	QCgroup	318119
	Chloride (water extractable)	8010	mg/kg	300			02

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Results

Accredited	Parameter	Results	Units	RL	Flags	CAS	Bottle
101321	NW#2						Received: 05/14/2009
	Soil	Collected by: I Kincaid		Affiliation: Safety & Environment		05/12/2009	15:24
AN	SW-846 9056 Chloride (water extractable)	14800	mg/kg	600		Analyzed: GDG 05/15/2009 2227 QCgroup	318119 02
101322	NW#3						Received: 05/14/2009
	Soil	Collected by: I Kincaid		Affiliation: Safety & Environment		05/12/2009	15:26
AN	SW-846 9056 Chloride (water extractable)	14600	mg/kg	600		Analyzed: GDG 05/15/2009 2245 QCgroup	318119 02
101323	NW#4						Received: 05/14/2009
	Soil	Collected by: I Kincaid		Affiliation: Safety & Environment		05/12/2009	15:28
AN	SW-846 9056 Chloride (water extractable)	2600	mg/kg	150		Analyzed: GDG 05/15/2009 2302 QCgroup	318119 02
101324	WW						Received: 05/14/2009
	Soil	Collected by: I Kincaid		Affiliation: Safety & Environment		05/12/2009	15:30
AN	SW-846 9056 Chloride (water extractable)	21100	mg/kg	300		Analyzed: GDG 05/18/2009 0917 QCgroup	318119 02

Sample Preparation

101309	#1						Received: 05/14/2009
AN	SW-846 9056 Water Extract-Ion Chromatography	40/4	grams			Analyzed: GDG 05/15/2009 1430 QCgroup	318001 01

101310 #2 Received: 05/14/2009

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Hobbs, NM 88240

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Sample Preparation

101310 #2

Received: 05/14/2009

SW-846 9056

Analyzed: GDG 05/15/2009 1430 QCgroup 318001

AN Water Extract-Ion Chromatography 40/4 grams 01

101311 #3

Received: 05/14/2009

SW-846 9056

Analyzed: GDG 05/15/2009 1430 QCgroup 318001

AN Water Extract-Ion Chromatography 40/4 grams 01

101312 #4

Received: 05/14/2009

SW-846 9056

Analyzed: GDG 05/15/2009 1430 QCgroup 318001

AN Water Extract-Ion Chromatography 40/4 grams 01

101313 #5

Received: 05/14/2009

SW-846 9056

Analyzed: GDG 05/15/2009 1430 QCgroup 318001

AN Water Extract-Ion Chromatography 40/4 grams 01

101314 #6

Received: 05/14/2009

SW-846 9056

Analyzed: GDG 05/15/2009 1430 QCgroup 318001

AN Water Extract-Ion Chromatography 40/4 grams 01

101315 #EW

Received: 05/14/2009

SW-846 9056

Analyzed: GDG 05/15/2009 1430 QCgroup 318001

AN Water Extract-Ion Chromatography 40/4 grams 01

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Sample Preparation

101322 NW#3

Received: 05/14/2009

AN	SW-846 9056	Water Extract-Ion Chromatography	40/4	grams	Analyzed: GDG 05/15/2009	1430	QCgroup	318001	01
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101323 NW#4

Received: 05/14/2009

AN	SW-846 9056	Water Extract-Ion Chromatography	40/4	grams	Analyzed: GDG 05/15/2009	1430	QCgroup	318001	01
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101324 WW

Received: 05/14/2009

AN	SW-846 9056	Water Extract-Ion Chromatography	40/4	grams	Analyzed: GDG 05/15/2009	1430	QCgroup	318001	01
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Qualifiers:

We report results on an 'As Received' or wet basis unless marked 'Dry Weight'. Unless otherwise noted, testing was performed at Ana-lab's corporate laboratory that holds the following Federal and State certificates: Texas Department of Health Lead Firm Certificate 2110076, EPA National Lead Laboratory Accreditation Program #637.01, US Consumer Product Safety Commission #1095, US Department of Agriculture Soil Import Permit S-37592, Texas Commission on Environmental Quality Drinking Water Laboratory Certificate TX219, Texas Commission on Environmental Quality NELAP T104704201-06-TX, Oklahoma Department of Environmental Quality Drinking Water Certification Lab ID# D9913, EPA Lab Number TX00063, USEPA Approved Perchlorate Testing Lab, USEPA UCMR2 Approved Lab, Oklahoma Department of Environmental Quality Laboratory Certificate 8125, Arkansas Department of Environmental Quality Certification #03-070-0, Louisiana Department of Environmental Quality Laboratory Certification (NELAP, LELAP) #02008, Louisiana Department of Health and Hospitals Drinking Water (NELAP) # LA030020, US Department of Energy Approved, State of Kansas Department of Health and Environment Waste Water and Solid/Hazardous Waste Cert. E-10365, Alabama Department of Environmental Management Drinking Water #41540. Ana-Lab is also accredited to the international ISO-17025 standard by the American Association for Laboratory Accreditation (A2LA Certificate # 0637-01). The Accredited column designates accreditation by U -- UCMR2 (EPA), A -- A2LA, N -- NELAC, or z -- not covered under one of these scopes of accreditation.

These analytical results relate to the sample tested. This report may NOT be reproduced EXCEPT in FULL without written approval of Ana-Lab Corp. Unless otherwise specified, these test results meet the requirements of NELAC.

RL is the Reporting Limit (sample specific quantitation limit) and is at or above the Method Detection Limit (MDL). CAS is Chemical Abstract Service number.

C. H. Whiteside, Ph.D., President



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Quality Control

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Project

442482

Brian Cuellar
 Safety & Environmental Solutio
 703 E. Clinton
 Hobbs, NM 88240

518119 I Soil SW-846 9056

Blank

Parameter	PrepSet	Reading	MDL	MDL	Units	Out	File
Chloride (water extractable)	318001	ND	0.0534	0.300	mg/kg		0000840797

CCV

Parameter	Reading	Known	Units	Recover%	Limits%	Out	File
Chloride (water extractable)	10.1	10.0	mg/kg	101	90.0 - 110		0000840799
Chloride (water extractable)	10.2	10.0	mg/kg	102	90.0 - 110		0000840796
Chloride (water extractable)	10.2	10.0	mg/kg	102	90.0 - 110		0000840798
Chloride (water extractable)	10.2	10.0	mg/kg	102	90.0 - 110		0000840812
Chloride (water extractable)	10.2	10.0	mg/kg	102	90.0 - 110		0000840822
Chloride (water extractable)	10.2	10.0	mg/kg	102	90.0 - 110		0000840825
Chloride (water extractable)	10.3	10.0	mg/kg	103	90.0 - 110		0000840823

LCS

Parameter	PrepSet	Reading	Known	Units	Recover%	Limits	File	Out
Chloride (water extractable)	318001	0.948	1.00	mg/kg	94.8	90.0 - 110	0000840800	

LCS Dup

Parameter	PrepSet	LCS	LCSD	Known	Limits%	LCS%	LCSD%	Units	RPD	Limit%
Chloride (water extractable)	318001	0.948	1.09	1.00	90.0 - 110	94.8	109	mg/kg	13.9	20.0

RPD is Relative Percent Difference: $\text{abs}(r1-r2) / \text{mean}(r1,r2) * 100\%$

Recover% is Recovery Percent: $\text{result} / \text{known} * 100\%$

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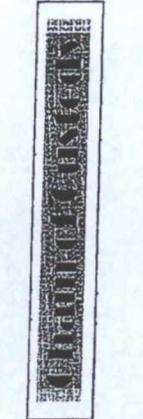
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Panhandle Oklahoma North-TX Central TX
 806.355.3556 405.292.6630 817.261.6404 512.821.0045
 Rio Grand Valley Ark-La-Miss Gulf Coast Alabama
 956.831.6437 318.219.9300 281.333.9414 256.830.0788



2600 Dudley Rd
 PO Box 9000
 Kilgore, TX 75662
 903.984.0551
 (fx) 903.984.5914
 e-mail: corp@ana-lab.com



Report to: **SESE**

Company name: **SESE**

Address: **703 E Clinton**

City: **Abbeville** State: **LA** Zip: **70510**

Phone: **504-397-0510** Fax: **504-397-0510**

Sampler Signature: *[Signature]*

Printed Name: **SESE** Affiliation: **SESE**

Project- Name / Location: **Stevens & Johnson N. of 82**

Billing (if different): **Stevens & Johnson N. of 82**

Client Code: **SESE**

Do Not Use	Field Identification	Date	Time	Matrix	# of Containers	Comments	Analysis Requested
	#1	5/12/19	1445	Soil	1		
	#2	1447					
	#3	1449					
	#4	1502					
	#5	1504					
	#6	1506					
	#EW #1	1510					
	SW #1	1512					
	SW #2	1514					
	SW #3	1516					

PO Number: **STE-05-001**

Received by: *[Signature]* Affiliation: **SESE**

Signature: *[Signature]* Affiliation: **SESE**

Printed Name: **Isaac Kincaid**

Signature: *[Signature]* Affiliation: **SESE**

Printed Name: **Christ Parker** Affiliation: **Ana-Lab**

Signature: *[Signature]*

Is Hazardous for: HF CN S=

Wastewater Drinking Water SW846

Samples Received on Ice? Yes No

Cooler/Sample Secure? Yes No

Requested TAT: **4 days**

Method of Shipment: Bus FedEx Lone Star UPS Hand delivered

Tracking or Shipping Number: **1919210782**

2 Day 3 day next day

#comments: **003689** **25°C**

003233

003532



Panhandle Oklahoma North-TX Central-TX
 806.355.3556 405.292.6630 817.261.6404 512.821.0045
 Rio Grand Valley Ark-La-Miss Gulf Coast Alabama
 956.831.6437 318.219.9300 281.333.9414 256.830.0788



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 PO Box 9000
 Kilgore, TX 75662
 903.984.0551
 (fx) 903.984.5914
 e-mail: corp@ana-lab.com



Report to: **SESE**

Company name: **SESE**

Address: **203 E Clinda**

City: **Hubbs** State: **TX** Zip: **78824**

Phone: **888240** Fax: **888240**

Sampler Signature: **[Signature]** Printed Name: **Office 20 SESE-TM.COM**

Lab Number: **3219** Printed Name: **Isaac Kincaid** Affiliation: **SESE**

Do Not Use	Field Identification	Date	Time	Matrix	# of Containers	Comments
	Sw #4	5/12/19	1510	Soil	1	
	Nal #1		1522			Comp(Grab)
	Nal #2		1524			Comp(Grab)
	Nal #3		1526			Comp(Grab)
	Nal #4		1528			Comp(Grab)
	1ALW		1530			Comp(Grab)

Analysis Requested: **Chlorides**

Project- Name / Location: **Stevens Johnson Ball of SC**

Billing (if different): **SESE**

Client Code: **SESE**

Is Hazardous for: HF CN S

Received by: **[Signature]** Affiliation: **SESE**

Printed Name: **Isaac Kincaid**

Signature: **[Signature]** Affiliation: **SESE**

Printed Name: **Christi Parker** Affiliation: **ANA-Lab**

Signature: **[Signature]**

Received by: **[Signature]** Affiliation: **ANA-Lab**

Printed Name: **Christi Parker** Affiliation: **ANA-Lab**

Samples Received on Ice? Yes No

Cooler/Sample Secure? Yes No

Requested TAT: **4 days**

Method of Shipment: Bus FedEx Lone Star UPS Hand delivered DHL other

Tracking or Shipping Number: **79754210788**

2 Day 3 day next day

#comments: **003689**
003233
003532
003688

25c