Souder, Miller & Associates ♦ 201 S. Halagueno ♦ Carlsbad, NM 88221
(575) 689-7040

May 6, 2015

NMOCD District I
1625 N. French Drive
Hobbs, New Mexico 88240

SUBJECT: SOIL REMEDIATION WORK PLAN FOR INCIDENT 1RP-4197 STATE "S" BRINE AND WATER STATION (BW-028), LEA COUNTY, NEW MEXICO

Dear Mr. Keyes:

On behalf of Key Energy Services (Key) Souder Miller & Associates (SMA) is pleased to submit the attached Work Plan summarizing the planned soil remediation of the release site located on the State "S" Brine And Water Station (BW-028) in Lea County, New Mexico. The purpose of the work plan is to obtain approval from the New Mexico Oil Conservation Division for remediation of the release that occurred on March 2, 2016.

At the request of Key, SMA responded to assess and delineate the production fluids release associated with the State "S" Brine And Water Station (BW-028) location. The release was initially reported to NMOCD by Key on March 2, 2016 and was a result of a human error. The table below summarizes information regarding the release. Results of the assessment and delineation follow in the attached report.

Table 1: Release information and Site Ranking

Name	State "S" Brine and Water Station (BW-028)				
Location	Incident Number	API Number	Section, Township, Range		
	1RP-4197	30-025-33547	SW/NE (Unit D)	Section 15	T 21S, R37 E NMPM
Estimated Date of Release	March 2, 2016				
Date Reported to NMOCD	March 3, 2016				
Reported by	Maren Coligan, Key Energy Services				
Land Owner	Millard Deck Trust				
Reported To	NM Oil Conservation Division (NMOCD)				
Source of Release	Human Error				
Released Material	Produced Water				
Released Volume	80 bbls Produced Water				
Recovered Volume	0 bbls Produced Water				
Net Release	80 bbls Produced Water				
Nearest Waterway	46 West of the location				
Depth to Groundwater	Estimated to be 70 feet				

Nearest Domestic Water Source	Great than 1,000 feet
NMOCD Ranking	10
SMA Response Dates	Initial: 4/11/16 Mitigation Activities:
Estimated Yd^3 Contaminated Soil Excavated and Disposed	2,680

A copy of the C-141 Initial is located in Appendix B. For questions or comments pertaining to the release or the attached Work Plan, please feel free to contact either of us.

Submitted by:

SOUDER, MILLER & ASSOCIATES

J. Austin Weyant

Austin Weyant
Project Scientist

Reviewed by:

Cynthia Gray, CHMM
Senior Scientist

Souder, Miller & Associates ♦ 201 S. Halagueno ♦ Carlsbad, NM 88221
(575) 689-7040

SOIL REMEDIATION WORK PLAN FOR INCIDENT 1RP-4197

KEY ENERGY SERVICES, LLC

STATE "S" BRINE AND WATER STATION (BW-028)
API# 30-025-33547
SECTION 15, T21S R37E, NMPM
LEA COUNTY, NM

Prepared for:
Key Energy Services LLC
6 Desta Dr. Suite 4300
Midland, TX 79705

Prepared by:
Souder, Miller & Associates
201 S. Halagueno
Carlsbad, NM 88221
575-689-7040

May 6, 2015
SMA Reference
5B24998 BG1

Table of Contents

Figures:

Tables:

Appendices:

1.0 Introduction

On behalf of Key Energy Services (Key) Souder Miller & Associates (SMA) has prepared this report that describes the assessment and initial delimitation of the releases associated with the State "S" Brine And Water Station (BW-028) in Lea County, New Mexico on land owned by the Millard Deck Trust. Figure 1 illustrates the vicinity and location of the site.

2.0 Site Ranking and Land Jurisdiction

The release site is located approximately 46 miles (> 1,000 feet) west of Salt Lake, in an area owned by Millard Deck Trust with an elevation of approximately 3,460 feet above sea level. After evaluation of the site using aerial photography and topographic maps, depth to groundwater is estimated to be greater less 100 feet but greater than 50 feet below ground surface (bgs). Figure 1 depicts the site vicinity and Figure 2 depicts the site details and sample locations.

SMA searched the New Mexico State Engineer's Office online water well database for water wells in the vicinity of the release. No well is located within a 1000 foot radius of the site. Figure 1 depicts the site vicinity and Figure 2 shows the site itself. The physical location of this release is within the jurisdiction of NMOCD.

This release location has been assigned a NMOCD ranking of 10 which requires a soil remediation standard of 10 parts per million (ppm) benzene, 50 ppm combined benzene, toluene, ethyl-benzene, and total xylenes (BTEX), and 1000 ppm total petroleum hydrocarbons (TPH). Table 1 illustrates site ranking rationale.

3.0 Assessment and Initial Results

On April 11, 2015, SMA personnel assessed the release area onsite with an gas powered auger, an Photo Ionization Detector (PID), and a mobile chlorides titration kit. The affected area was found to be 580 feet long and 15-80 feet wide. The release impact area was found to be in the pastor east of the well pad. Soils were impacted to at least 3 feet bgs in pasture. Sample locations are noted on Figure 2 Site Details and Sample Location Map. All samples were collected and processed according to NMOCD soil sampling procedures. The laboratory samples were sent under chain-of-custody protocols to Hall Environmental Analysis Laboratory for analysis for Benzene and Total BTEX using EPA Method 8021B, DRO and GRO by EPA Method 8015D, and total Chlorides using EPA Method 300.0.

4.0 Soil Remediation Work Plan

SMA will begin the site delineation and excavation of affected soils, with approval from area utilities owners via 811 and NMOCD. SMA personal continuously will guide the excavation activities by collecting composite soil samples for field screening with a mobile titration unit (EPA 4500) and a calibrated PID. Delineation will occurred to sufficiently map the plume of contamination by NMOCD standards. Delineation results from April 11, 2016 shows that affected soil occurs to a minimum of 3 feet bgs. The pasture will be excavated to 3 foot bgs to remove contaminated soil. The proposed excavation depths which will be based on delineation will be completed to achieve closure standards.

Excavation will occur to approximately three ft. bsg in the spill area. Samples will be taken in the sidewalls to ensure contaminated soils have been removed in the horizontal extent. Final

samples will be collected at final depth of excavation, where an in-situ cap will be placed within the excavation. The construction of the in-situ cap (Figure #3) has been designed to prevent both capillary and leaching movement of the brine affected soils. Starting from three ft. below surface grade, bentonite layer will be added to the bottom of the excavation. Then a plastic liner will be added as a capillary break between the affected soils and the proposed caliche cap. The caliche cap will consist of two feet of contaminant-free material placed, and compacted. Then, hay will be added above the caliche cap to form an intrusion barrier. This barrier will prevent leaching and formation of deep root systems into the cap itself. Topsoil will then be placed on top of the cap. The plastic liner on both sides of the caliche cap will effectively break the communication of precipitation through the compacted cap. After excavation, installation of in-situ cap and backfill occurs topsoil will be added as over burden to help with contouring of the area. Final samples will be collected at the maximum depths of the excavation. Approximately 2,680 cubic yards of contaminated soil will excavated. The contaminated soil was transported for proper disposal at New Mexico permitted Sundance facility in New Mexico.

5.0 Conclusions and Recommendations

NMOCD Guidelines for Remediation of Leaks, Spills, and Releases have established the following action levels for contaminants of concern with a site ranking of 10: 10 ppm (mg/kg) Benzene, 50 ppm total BTEX, and 1000 ppm TPH. The release consisted of produced and associated petroleum found during the initial assessment and delineation.

After the soil remediation work plan is approved by NMOCD, SMA will begin soil remediation activities on site.

Soil contaminant concentrations found during the initial delineation are illustrated in Figure 2. A summary of the laboratory analyses is included in Table 3. Laboratory reports are included in Appendix A.

6.0 Closure and Limitations

The scope of our services consisted of the performance of a preliminary spill assessment, verification of release stabilization, regulatory liaison, and preparation of this Remediation Work Plan. All work has been performed in accordance with generally accepted professional environmental consulting practices for oil and gas releases in the Permian Basin in New Mexico.

If there are any questions regarding this report, please contact either Austin Weyant at 575-689-7040 or Cindy Gray at 505-325-7535.

Submitted by:

SOUDER, MILLER & ASSOCIATES

J. Austin Weyant

Austin Weyant
Project Scientist

Reviewed by:

Cynthia Gray, CHMM
Senior Scientist

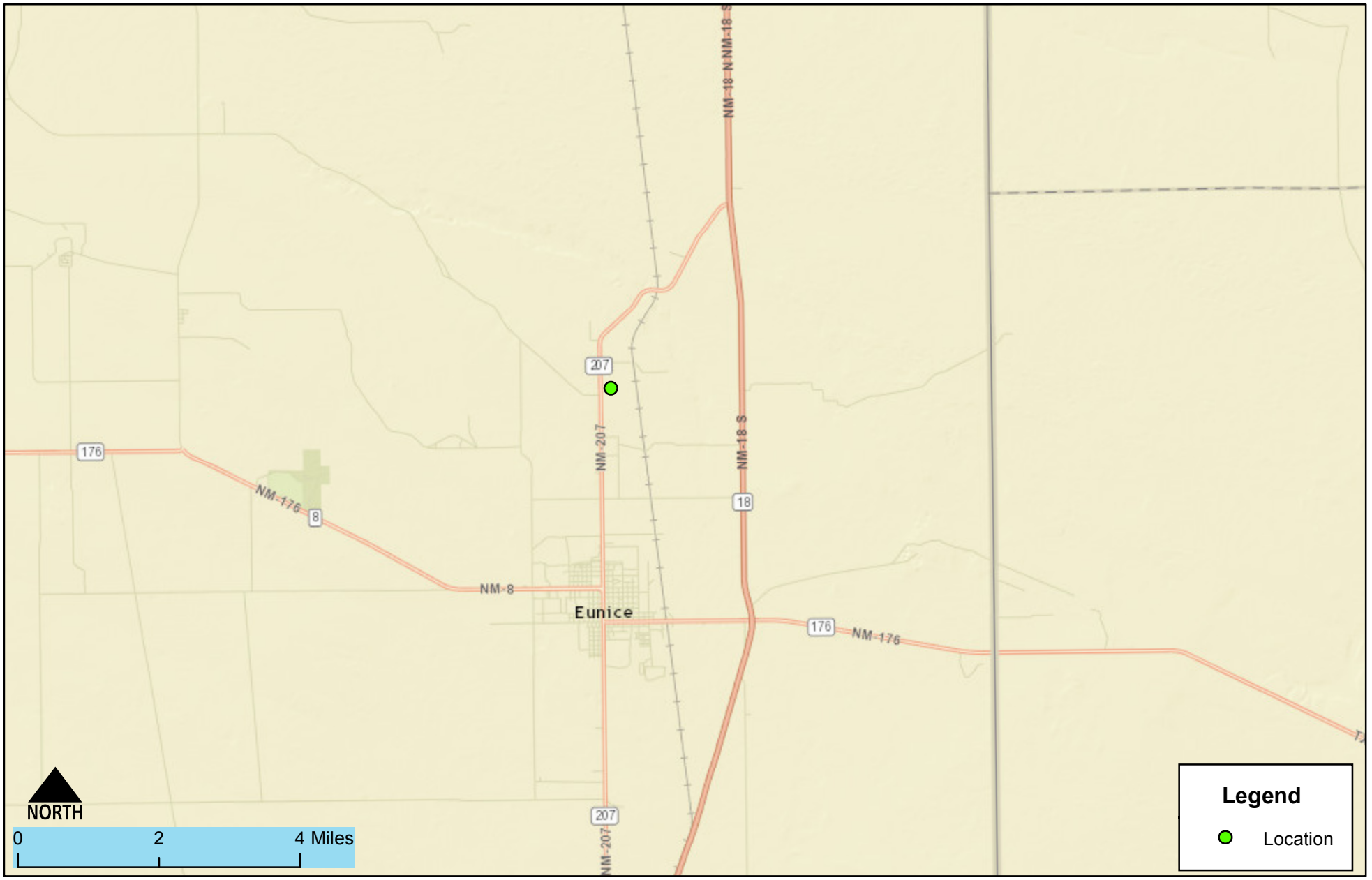
Figures:

Tables:

Appendices:

FIGURE 1

VICINITY MAP



Vicinity Map
Key Energy- State S
Eunice, New Mexico

Figure 1

Document: C:\Users\lcm\Documents\GIS DATA\MAPS\key state .mxd

Date Saved: 4/12/2016

Revisions
By: Date: Descr:
By: Date: Descr:

Drawn Lucas Middleton
Checked
Approved

SMA
201 South Halaguena Street
Carlsbad, New Mexico 88221
(575) 689.7040
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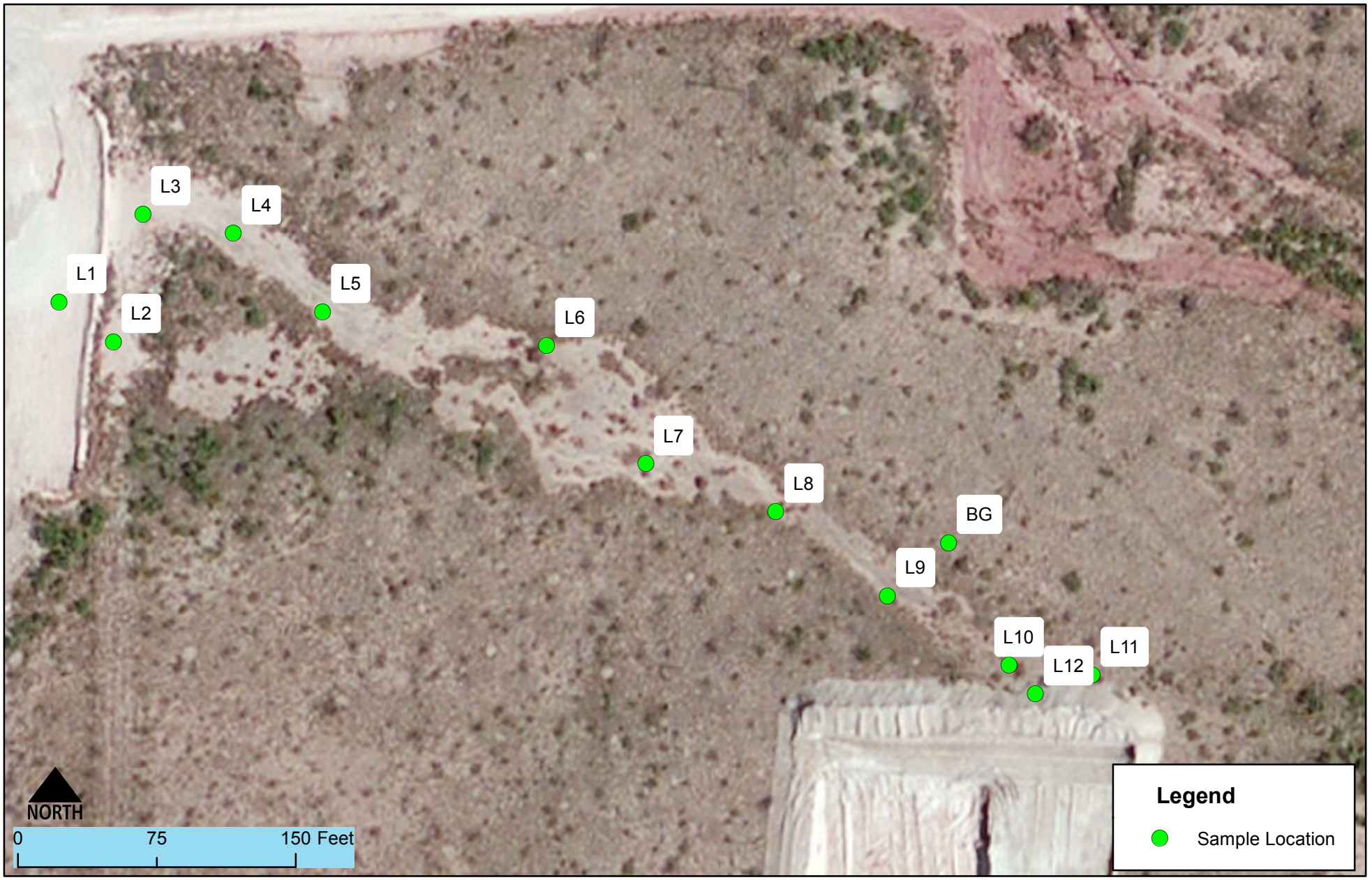
Serving the Southwest & Rocky Mountains

FIGURE 2

SITE MAP



Detailed Site and Sample Map
Key Energy- State S
Eunice, New Mexico

Figure 2

Revisions
By: Date: Descr:
By: Date: Descr:

Drawn Lucas Middleton
Checked
Approved

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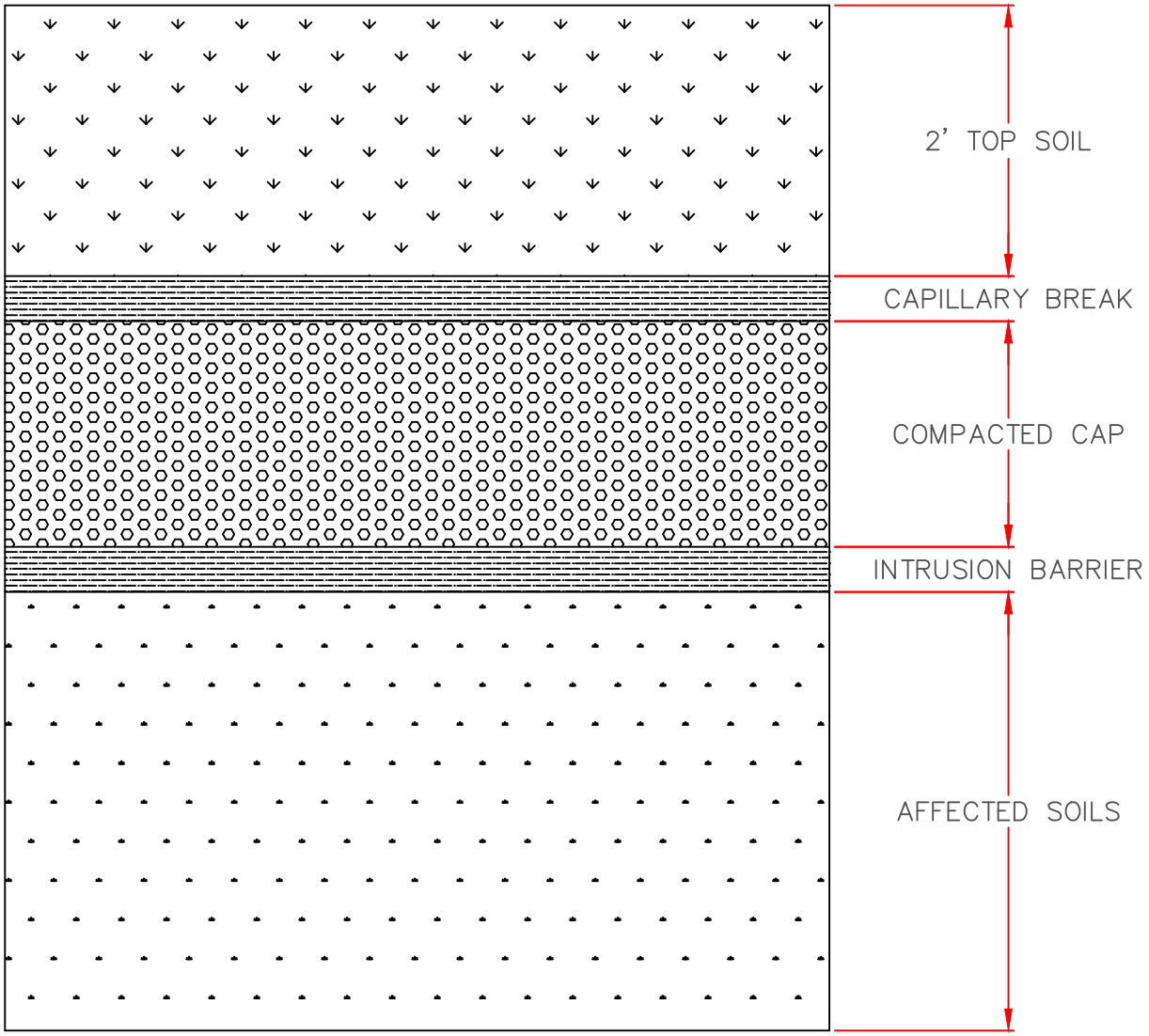
Date Saved: 4/12/2016

Document: C:\Users\lcm\Documents\GIS DATA\MAPS\key state .mxd

FIGURE 3

IN-SITU CAP AND BIO BARRIER DESIGN



SMA
Engineering
Environmental
Surveying

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COG

IN-SITU CAP
AND BIOBARRIER DESIGN
Key Station- State 1 Brine Station

Designed	Drawn	Checked
LM	GJF	KT

Date: May 2016
Scale: Horiz: NA Vert: NA
Project No: 5B23978
Figure 3

C:\Users\lcm\Documents\CAp design\COG cap.dwg, LCM, 5/9/2016 9:37 AM

TABLE 1

RELEASE INFORMATION AND SITE RANKING

Key Energy LLC

Table 1: Site Ranking

Site Ranking Determination Table

Depth to Groundwater	NMOCD Numeric Rank for this Site	Source for Ranking	Notes
< 50 BGS = 20		USGS Topo Maps; Google Earth Elevation Difference from the site and	Monument Draw is 1 miles to the north east of the location. ; Site elevation is approximately 2500 feet above salt lake
50' to 99' = 10	10		
>100' = 0			
Ranking Criteria for Horizontal Distance to Nearest Surface Water	**NMOCD Numeric Rank for this Site**	**Source for Ranking**	**Notes**
< 200' = 20		USGS Topo Maps; Google Earth ; ArcMap	Salt Lake nearset surface water is 46 miles west of location
200' - 1000' = 10			
>1000' = 0	0		
Ranking Criteria for Horizontal Distance to a Water Well or Water Source	**NMOCD Numeric Rank for this Site**	**Source for Ranking**	**Notes**
<1000' from a water source? <200' from a private domestic water source? YES OR NO to BOTH. YES = 20, NO = 0	0	NM State Engineer Water Well Database	nearest well is 1080 feet west of location
	0		
Total Site Ranking	**10**		
Soil Remedation Standards	**0 to 9**	**10 to 19**	**>19**
Benzene	**10 PPM**	**10 PPM**	**10 PPM**
BTEX	**50 PPM**	**50 PPM**	**50 PPM**
TPH	**5000 PPM**	**1000 PPM**	**100 PPM**

New Mexico Office of the State Engineer
Water Column/Average Depth to Water

(A CLW##### in the POD suffix indicates the POD has been replaced & no longer serves a water right file.)

(R=POD has been replaced, O=orphaned, C=the file is closed)

(quarters are 1=NW 2=NE 3=SW 4=SE)
(quarters are smallest to largest) (NAD83 UTM in meters) (In feet)

POD Number	POD Sub-basin	Code	County	Q 64	Q 16	Q 4	Sec	Tws	Rng	X	Y	Distance	Depth Well	Depth Water	Water Column
CP 00554			LE	2	2	16	21S	37E	672744	3595610*		302	80	70	10

Average Depth to Water: **70 feet**

Minimum Depth: **70 feet**

Maximum Depth: **70 feet**

Record Count: 1

UTMNAD83 Radius Search (in meters):

Easting (X): 673042 **Northing (Y):** 3595557.18 **Radius:** 1000

***UTM location was derived from PLSS - see Help**

TABLE 2

SUMMARY OF CHLORIDE FIELD SCREENING RESULTS

Table 1: Summary of Site PID Field Screening Results

FIELD SCREENING RESULTS SUMMARY					
Date	Time	Field Screening Reference	Sample Depth (Feet BGS)	PID Reading	Lab Sample Collected Y/N
4/11/2016	11:00 a.m.	L1-S	Surface	2,394	Y
4/11/2016	11:00 a.m.	L1-1	1'	559	Y
4/11/2016	11:00 a.m.	L1-3	3'	301	Y
4/11/2016	11:00 a.m.	L2-1	1'	3,354	Y
4/11/2016	11:00 a.m.	L3-1	1	8,385	Y
4/11/2016	11:00 a.m.	L4-1.5	1.5'	7,769	Y
4/11/2016	11:00 a.m.	L5-0.5	.5'	6,106	Y
4/11/2016	11:00 a.m.	L6-0.5	.5'	7,697	Y
4/11/2016	11:00 a.m.	L6-2	2'	7,511	Y
4/11/2016	11:00 a.m.	L6-1	1'	5,203	Y
4/11/2016	11:00 a.m.	L7-1	1'	5,762	Y
4/11/2016	11:00 a.m.	L8-1	1'	7,181	Y
4/11/2016	11:00 a.m.	L9-1	1'	8,185	Y
4/11/2016	11:00 a.m.	L10-1.5	1.5'	3,899	Y
4/11/2016	11:00 a.m.	L10-3	3'	258	Y
4/11/2016	11:00 a.m.	L11-S	Surface	559	Y
4/11/2016	11:00 a.m.	L11-1	1'	140	Y
4/11/2016	11:00 a.m.	L12-1	1'	4,186	Y
4/11/2016	11:00 a.m.	BG	1'	180	Y

TABLE 3

SUMMARY OF LABORATORY ANALYSES

Table 3: Summary of Laboratory Analyses

Analytical Report- TC84237	Sample Number on Figure 2 Map	Sample Date	Depth	BTEX ppm	Benzene mg/Kg	GRO mg/Kg	DRO mg/Kg	Cl- mg/Kg
TC84237-1	L1-1	4/11/2016	1'	N/A	N/A	N/A	N/A	440
TC84237-2	L1-3	4/11/2016	3'	N/A	N/A	N/A	N/A	116
TC84237-3	L2-1	4/11/2016	1'	N/A	N/A	N/A	N/A	4290
TC84237-4	L3-1	4/11/2016	1'	N/A	N/A	N/A	N/A	9,880
TC84237-5	L4-1.5	4/11/2016	1.5'	N/A	N/A	N/A	N/A	9,620
TC84237-6	L5-0.5	4/11/2016	0.5'	N/A	N/A	N/A	N/A	7790
TC84237-7	L6-0.5	4/11/2016	0.5'	N/A	N/A	N/A	N/A	8290
TC84237-8	L6-1	4/11/2016	1'	N/A	N/A	N/A	N/A	5650
TC84237-9	L6-2	4/11/2016	2'	N/A	N/A	N/A	N/A	5510
TC84237-10	L7-1	4/11/2016	1'	N/A	N/A	N/A	N/A	5490
TC84237-11	L8-1	4/11/2016	1'	N/A	N/A	N/A	N/A	7840
TC84237-12	L9-1	4/11/2016	1'	N/A	N/A	N/A	N/A	4190
TC84237-13	L10-1.5	4/11/2016	1.5'	N/A	N/A	N/A	N/A	374
TC84237-14	L10-3	4/11/2016	3'	N/A	N/A	N/A	N/A	1290
TC84237-15	L11-5	4/11/2016	5'	N/A	N/A	N/A	N/A	BDL
TC84237-16	L11-1	4/11/2016	1'	N/A	N/A	N/A	N/A	BDL
TC84237-17	L12-1	4/11/2016	2'	N/A	N/A	N/A	N/A	5140
TC84237-18	BG	4/11/2016	Surface	N/A	N/A	N/A	N/A	38.2

APPENDIX A

LABORATORY ANALYTICAL REPORTS

e-Hardcopy 2.0
Automated Report

Technical Report for

Key Energy

State# S Brine Station

SGS Accutest Job Number: TC84237

Sampling Date: 04/11/16

Report to:

Key Energy
6 Desota Drvie Suite 4300
Midland, TX 79705
aramirez01@keyenergy.com

ATTN: Ana Ramirez

Total number of pages in report: 37

Test results contained within this data package meet the requirements of the National Environmental Laboratory Accreditation Program and/or state specific certification programs as applicable.

Richard Rodriguez
Laboratory Director

Client Service contact: Electa Brown 713-271-4700

Certifications: TX (T104704220-16-24) AR (14-016-0) AZ (AZ0769) FL (E87628) KS (E-10366) LA (85695/04004) NJ (TX010) OK (2014-172) VA (7654)

Sections: 1 2 3 4 5 6

Table of Contents

Sample Summary

Key Energy

State# S Brine Station

Job No: TC84237

Sample Number	Collected Date	Time	By	Received	Matrix Code	Type	Client Sample ID
TC84237-1	04/11/16	10:00		04/22/16	SO	Soil	L1-1
TC84237-2	04/11/16	10:00		04/22/16	SO	Soil	L1-3
TC84237-3	04/11/16	10:00		04/22/16	SO	Soil	L2-1
TC84237-4	04/11/16	10:00		04/22/16	SO	Soil	L3-1
TC84237-5	04/11/16	10:00		04/22/16	SO	Soil	L4-1.5
TC84237-6	04/11/16	10:00		04/22/16	SO	Soil	L5-0.5
TC84237-7	04/11/16	10:00		04/22/16	SO	Soil	L6-0.5
TC84237-8	04/11/16	10:00		04/22/16	SO	Soil	L6-1
TC84237-9	04/11/16	10:00		04/22/16	SO	Soil	L6-2
TC84237-10	04/11/16	10:00		04/22/16	SO	Soil	L7-1
TC84237-11	04/11/16	10:00		04/22/16	SO	Soil	L8-1
TC84237-12	04/11/16	10:00		04/22/16	SO	Soil	L9-1
TC84237-13	04/11/16	10:00		04/22/16	SO	Soil	L10-1.5

Soil samples reported on a dry weight basis unless otherwise indicated on result page.

Sample Summary
(continued)

Key Energy

Job No: TC84237

State# S Brine Station

Sample Number	Collected Date	Time	By	Received	Matrix Code	Type	Client Sample ID
TC84237-14	04/11/16	10:00		04/22/16	SO	Soil	L10-3
TC84237-15	04/11/16	10:00		04/22/16	SO	Soil	L11-5
TC84237-16	04/11/16	10:00		04/22/16	SO	Soil	L11-1
TC84237-17	04/11/16	10:00		04/22/16	SO	Soil	L12-1
TC84237-18	04/11/16	10:00		04/22/16	SO	Soil	B6

Soil samples reported on a dry weight basis unless otherwise indicated on result page.

Summary of Hits

Job Number: TC84237
Account: Key Energy
Project: State# S Brine Station
Collected: 04/11/16

Lab Sample ID / Analyte	Client Sample ID	Result/ Qual	RL	MDL	Units	Method
TC84237-1	**L1-1**					
Chloride [a]		440	22		mg/kg	EPA 300/SW846 9056A
TC84237-2	**L1-3**					
Chloride [a]		116	22		mg/kg	EPA 300/SW846 9056A
TC84237-3	**L2-1**					
Chloride [a]		4290	22		mg/kg	EPA 300/SW846 9056A
TC84237-4	**L3-1**					
Chloride [a]		9880	89		mg/kg	EPA 300/SW846 9056A
TC84237-5	**L4-1.5**					
Chloride [a]		9620	89		mg/kg	EPA 300/SW846 9056A
TC84237-6	**L5-0.5**					
Chloride [a]		7790	67		mg/kg	EPA 300/SW846 9056A
TC84237-7	**L6-0.5**					
Chloride [a]		8290	89		mg/kg	EPA 300/SW846 9056A
TC84237-8	**L6-1**					
Chloride [a]		5650	68		mg/kg	EPA 300/SW846 9056A
TC84237-9	**L6-2**					
Chloride [a]		5510	66		mg/kg	EPA 300/SW846 9056A
TC84237-10	**L7-1**					
Chloride [a]		5490	46		mg/kg	EPA 300/SW846 9056A
TC84237-11	**L8-1**					
Chloride [a]		7840	69		mg/kg	EPA 300/SW846 9056A

Summary of Hits

Job Number: TC84237
Account: Key Energy
Project: State# S Brine Station
Collected: 04/11/16

Lab Sample ID / Analyte	Client Sample ID	Result/ Qual	RL	MDL	Units	Method
TC84237-12	**L9-1**					
Chloride [a]		4190	23		mg/kg	EPA 300/SW846 9056A
TC84237-13	**L10-1.5**					
Chloride [a]		374	22		mg/kg	EPA 300/SW846 9056A
TC84237-14	**L10-3**					
Chloride [a]		1290	21		mg/kg	EPA 300/SW846 9056A
TC84237-15	**L11-5**					
No hits reported in this sample.						
TC84237-16	**L11-1**					
No hits reported in this sample.						
TC84237-17	**L12-1**					
Chloride [a]		5140	65		mg/kg	EPA 300/SW846 9056A
TC84237-18	**B6**					
Chloride [a]		38.2	21		mg/kg	EPA 300/SW846 9056A

(a) Analysis performed at Accutest Laboratories, Dayton, NJ.

Sample Results

Report of Analysis

Report of Analysis

Client Sample ID:	L1-1		
Lab Sample ID:	TC84237-1	**Date Sampled:**	04/11/16
Matrix:	SO - Soil	**Date Received:**	04/22/16
		Percent Solids:	90.3
Project:	State# S Brine Station		

General Chemistry

Analyte	Result	RL	Units	DF	Analyzed	By	Method
Chloride [a]	440	22	mg/kg	1	05/02/16 22:23	ANJ	EPA 300/SW846 9056A
Solids, Percent	90.3		%	1	04/26/16	DS	SM 2540 G

(a) Analysis performed at Accutest Laboratories, Dayton, NJ.

RL = Reporting Limit

Report of Analysis

Client Sample ID:	L1-3		
Lab Sample ID:	TC84237-2	**Date Sampled:**	04/11/16
Matrix:	SO - Soil	**Date Received:**	04/22/16
		Percent Solids:	90.0
Project:	State# S Brine Station		

General Chemistry

Analyte	Result	RL	Units	DF	Analyzed	By	Method
Chloride [a]	116	22	mg/kg	1	05/02/16 23:11	ANJ	EPA 300/SW846 9056A
Solids, Percent	90		%	1	04/26/16	DS	SM 2540 G

(a) Analysis performed at Accutest Laboratories, Dayton, NJ.

RL = Reporting Limit

Report of Analysis

Client Sample ID:	L2-1		
Lab Sample ID:	TC84237-3	**Date Sampled:**	04/11/16
Matrix:	SO - Soil	**Date Received:**	04/22/16
		Percent Solids:	90.5
Project:	State# S Brine Station		

General Chemistry

Analyte	Result	RL	Units	DF	Analyzed	By	Method
Chloride [a]	4290	22	mg/kg	1	05/02/16 23:35	ANJ	EPA 300/SW846 9056A
Solids, Percent	90.5		%	1	04/26/16	DS	SM 2540 G

(a) Analysis performed at Accutest Laboratories, Dayton, NJ.

RL = Reporting Limit

Report of Analysis

Client Sample ID:	L3-1		
Lab Sample ID:	TC84237-4	**Date Sampled:**	04/11/16
Matrix:	SO - Soil	**Date Received:**	04/22/16
		Percent Solids:	89.2
Project:	State# S Brine Station		

General Chemistry

Analyte	Result	RL	Units	DF	Analyzed	By	Method
Chloride [a]	9880	89	mg/kg	4	05/02/16 23:59	ANJ	EPA 300/SW846 9056A
Solids, Percent	89.2		%	1	04/26/16	DS	SM 2540 G

(a) Analysis performed at Accutest Laboratories, Dayton, NJ.

RL = Reporting Limit

Report of Analysis

Client Sample ID:	L4-1.5		
Lab Sample ID:	TC84237-5	**Date Sampled:**	04/11/16
Matrix:	SO - Soil	**Date Received:**	04/22/16
		Percent Solids:	89.4
Project:	State# S Brine Station		

General Chemistry

Analyte	Result	RL	Units	DF	Analyzed	By	Method
Chloride [a]	9620	89	mg/kg	4	05/03/16 13:45	ANJ	EPA 300/SW846 9056A
Solids, Percent	89.4		%	1	04/26/16	DS	SM 2540 G

(a) Analysis performed at Accutest Laboratories, Dayton, NJ.

RL = Reporting Limit

Report of Analysis

Client Sample ID:	L5-0.5		
Lab Sample ID:	TC84237-6	**Date Sampled:**	04/11/16
Matrix:	SO - Soil	**Date Received:**	04/22/16
		Percent Solids:	89.0
Project:	State# S Brine Station		

General Chemistry

Analyte	Result	RL	Units	DF	Analyzed	By	Method
Chloride [a]	7790	67	mg/kg	3	05/03/16 01:35	ANJ	EPA 300/SW846 9056A
Solids, Percent	89		%	1	04/26/16	DS	SM 2540 G

(a) Analysis performed at Accutest Laboratories, Dayton, NJ.

RL = Reporting Limit

Report of Analysis

Client Sample ID:	L6-0.5		
Lab Sample ID:	TC84237-7	**Date Sampled:**	04/11/16
Matrix:	SO - Soil	**Date Received:**	04/22/16
		Percent Solids:	89.5
Project:	State# S Brine Station		

General Chemistry

Analyte	Result	RL	Units	DF	Analyzed	By	Method
Chloride [a]	8290	89	mg/kg	4	05/03/16 01:59	ANJ	EPA 300/SW846 9056A
Solids, Percent	89.5		%	1	04/26/16	DS	SM 2540 G

(a) Analysis performed at Accutest Laboratories, Dayton, NJ.

RL = Reporting Limit

Report of Analysis

Client Sample ID:	L6-1		
Lab Sample ID:	TC84237-8	**Date Sampled:**	04/11/16
Matrix:	SO - Soil	**Date Received:**	04/22/16
		Percent Solids:	87.6
Project:	State# S Brine Station		

General Chemistry

Analyte	Result	RL	Units	DF	Analyzed	By	Method
Chloride [a]	5650	68	mg/kg	3	05/03/16 02:22	ANJ	EPA 300/SW846 9056A
Solids, Percent	87.6		%	1	04/26/16	DS	SM 2540 G

(a) Analysis performed at Accutest Laboratories, Dayton, NJ.

RL = Reporting Limit

Report of Analysis

Client Sample ID:	L6-2		
Lab Sample ID:	TC84237-9	**Date Sampled:**	04/11/16
Matrix:	SO - Soil	**Date Received:**	04/22/16
		Percent Solids:	90.3
Project:	State# S Brine Station		

General Chemistry

Analyte	Result	RL	Units	DF	Analyzed	By	Method
Chloride [a]	5510	66	mg/kg	3	05/03/16 02:46	ANJ	EPA 300/SW846 9056A
Solids, Percent	90.3		%	1	04/26/16	DS	SM 2540 G

(a) Analysis performed at Accutest Laboratories, Dayton, NJ.

RL = Reporting Limit

Report of Analysis

Client Sample ID:	L7-1		
Lab Sample ID:	TC84237-10	**Date Sampled:**	04/11/16
Matrix:	SO - Soil	**Date Received:**	04/22/16
		Percent Solids:	87.3
Project:	State# S Brine Station		

General Chemistry

Analyte	Result	RL	Units	DF	Analyzed	By	Method
Chloride [a]	5490	46	mg/kg	2	05/03/16 03:10	ANJ	EPA 300/SW846 9056A
Solids, Percent	87.3		%	1	04/26/16	DS	SM 2540 G

(a) Analysis performed at Accutest Laboratories, Dayton, NJ.

RL = Reporting Limit

Report of Analysis

Client Sample ID:	L8-1		
Lab Sample ID:	TC84237-11	**Date Sampled:**	04/11/16
Matrix:	SO - Soil	**Date Received:**	04/22/16
		Percent Solids:	86.3
Project:	State# S Brine Station		

General Chemistry

Analyte	Result	RL	Units	DF	Analyzed	By	Method
Chloride [a]	7840	69	mg/kg	3	05/03/16 03:34	ANJ	EPA 300/SW846 9056A
Solids, Percent	86.3		%	1	04/26/16	DS	SM 2540 G

(a) Analysis performed at Accutest Laboratories, Dayton, NJ.

RL = Reporting Limit

Report of Analysis

Client Sample ID:	L9-1		
Lab Sample ID:	TC84237-12	**Date Sampled:**	04/11/16
Matrix:	SO - Soil	**Date Received:**	04/22/16
		Percent Solids:	87.1
Project:	State# S Brine Station		

General Chemistry

Analyte	Result	RL	Units	DF	Analyzed	By	Method
Chloride [a]	4190	23	mg/kg	1	05/03/16 03:58	ANJ	EPA 300/SW846 9056A
Solids, Percent	87.1		%	1	04/26/16	DS	SM 2540 G

(a) Analysis performed at Accutest Laboratories, Dayton, NJ.

RL = Reporting Limit

Report of Analysis

Client Sample ID:	L10-1.5		
Lab Sample ID:	TC84237-13	**Date Sampled:**	04/11/16
Matrix:	SO - Soil	**Date Received:**	04/22/16
		Percent Solids:	92.1
Project:	State# S Brine Station		

General Chemistry

Analyte	Result	RL	Units	DF	Analyzed	By	Method
Chloride [a]	374	22	mg/kg	1	05/03/16 04:22	ANJ	EPA 300/SW846 9056A
Solids, Percent	92.1		%	1	04/26/16	DS	SM 2540 G

(a) Analysis performed at Accutest Laboratories, Dayton, NJ.

RL = Reporting Limit

Report of Analysis

Client Sample ID:	L10-3		
Lab Sample ID:	TC84237-14	**Date Sampled:**	04/11/16
Matrix:	SO - Soil	**Date Received:**	04/22/16
		Percent Solids:	92.6
Project:	State# S Brine Station		

General Chemistry

Analyte	Result	RL	Units	DF	Analyzed	By	Method
Chloride [a]	1290	21	mg/kg	1	05/03/16 04:46	ANJ	EPA 300/SW846 9056A
Solids, Percent	92.6		%	1	04/26/16	DS	SM 2540 G

(a) Analysis performed at Accutest Laboratories, Dayton, NJ.

RL = Reporting Limit

Report of Analysis

Client Sample ID:	L11-5		
Lab Sample ID:	TC84237-15	**Date Sampled:**	04/11/16
Matrix:	SO - Soil	**Date Received:**	04/22/16
		Percent Solids:	95.7
Project:	State# S Brine Station		

General Chemistry

Analyte	Result	RL	Units	DF	Analyzed	By	Method
Chloride [a]	< 21	21	mg/kg	1	05/03/16 05:10	ANJ	EPA 300/SW846 9056A
Solids, Percent	95.7		%	1	04/26/16	DS	SM 2540 G

(a) Analysis performed at Accutest Laboratories, Dayton, NJ.

RL = Reporting Limit

Report of Analysis

Client Sample ID:	L11-1		
Lab Sample ID:	TC84237-16	**Date Sampled:**	04/11/16
Matrix:	SO - Soil	**Date Received:**	04/22/16
		Percent Solids:	93.2
Project:	State# S Brine Station		

General Chemistry

Analyte	Result	RL	Units	DF	Analyzed	By	Method
Chloride [a]	< 21	21	mg/kg	1	05/03/16 06:22	ANJ	EPA 300/SW846 9056A
Solids, Percent	93.2		%	1	04/26/16	DS	SM 2540 G

(a) Analysis performed at Accutest Laboratories, Dayton, NJ.

RL = Reporting Limit

Report of Analysis

Client Sample ID:	L12-1		
Lab Sample ID:	TC84237-17	**Date Sampled:**	04/11/16
Matrix:	SO - Soil	**Date Received:**	04/22/16
		Percent Solids:	91.5
Project:	State# S Brine Station		

General Chemistry

Analyte	Result	RL	Units	DF	Analyzed	By	Method
Chloride [a]	5140	65	mg/kg	3	05/03/16 14:09	ANJ	EPA 300/SW846 9056A
Solids, Percent	91.5		%	1	04/26/16	DS	SM 2540 G

(a) Analysis performed at Accutest Laboratories, Dayton, NJ.

RL = Reporting Limit

Report of Analysis

Client Sample ID:	B6		
Lab Sample ID:	TC84237-18	**Date Sampled:**	04/11/16
Matrix:	SO - Soil	**Date Received:**	04/22/16
		Percent Solids:	94.3
Project:	State# S Brine Station		

General Chemistry

Analyte	Result	RL	Units	DF	Analyzed	By	Method
Chloride [a]	38.2	21	mg/kg	1	05/03/16 07:10	ANJ	EPA 300/SW846 9056A
Solids, Percent	94.3		%	1	04/26/16	DS	SM 2540 G

(a) Analysis performed at Accutest Laboratories, Dayton, NJ.

RL = Reporting Limit

Misc. Forms

Custody Documents and Other Forms

Includes the following where applicable:

- Chain of Custody

CHAIN OF CUSTODY

PAGE 1 OF 2

SGS ACCUTEST

10165 Harwin Dr, Ste 150 Houston, TX 77036
TEL. 713-271-4700 FAX: 713-271-4770
www.accutest.com

FED-EX Tracking # | Bottle Order Control #
SGS Accutest Quote # | SGS Accutest Job # TC84237

Client / Reporting Information

Company Name: Key Energy Service
Street Address: 6 Desta Dr Suite 4300
City: Midland State: Tx Zip: 79705
Project Contact: Ana Ramirez E-mail:
Phone #: Fax #: aramirez@Keyenergy.com
Sampler(s) Name(s): Lucas Middleton Phone #: 575-689-5851

Project Information

Project Name: State S
Street:
City: State:
Project #:
Client Purchase Order #:
Project Manager:

Billing Information (If different from Report to)

Company Name:
Street Address:
City: State: Zip:
Attention:

Requested Analyses

Chlorides (EPA 300)
TPH

Matrix Codes

DW - Drinking Water
GW - Ground Water
WW - Water
SW - Surface Water
SO - Soil
SL - Sludge
SED-Sediment
OI - Oil
LIQ - Other Liquid
AIR - Air
SOL - Other Solid
WP - Wipe
FB-Field Blank

SGS Accutest Sample #	Field ID / Point of Collection	Collection: Date	Time	Sampled By	Matrix	# of bottles	Number of preserved Bottles: HCl	NaOH	ZnAcNaOH	HNO3	H2SO4	NONE	DI Water	MEOH	TSP	NaHSO4	ENCORE	OTHER	Chlorides (EPA 300)	TPH	LAB USE ONLY
	Trip Blank	4-11-16	10:00	Lm	Soil	1													X		
1	L1-1					1													X		
2	L1-3					1													X		
3	L2-1					1													X		
4	L3-1					1													X		
5	L4-1.5					1													X	DS	
6	L5-0.5					1													X		
7	L6-0.5					1													X		
8	L6-1					1													X		
9	L6-2					1													X		
10	L7-1					1													X		

Turnaround Time (Business days)

- [x] Standard
- [ ] 5 Day *RUSH*
- [ ] 4 Day *RUSH*
- [ ] 3 Day *RUSH*
- [ ] 2 Day *RUSH*
- [ ] 1 Day *EMERGENCY*

Emergency & Rush T/A data available VIA Lablink

Approved By (SGS Accutest PM): / Date:

Data Deliverable Information

- [ ] Commercial "A" (Level 1)
- [ ] Commercial "B" (Level 2)
- [ ] FULT1 (Level 3+4)
- [ ] REDT1 (Level 3+4)
- [ ] Commercial "C"
- [ ] TRRP
- [ ] EDD Format
- [ ] Other _____

Commercial "A" = Results Only
Commercial "B" = Results + QC Summary
Commercial "C" = Results + QC & Surrogate Summary

Form: SM021-0

Comments / Special Instructions

Send results also to
lucas.middleton@sondermiller.com

Sample Custody must be documented below each time samples change possession, including courier delivery.

Relinquished by Sampler:	Date Time:	Received By:	Date Time:	Relinquished By:	Date Time:	Received By:	Date Time:
1	4-21-16 1000	1 fedex		2 fedex		2 JESSICA	4/22/16 9:20
Relinquished by Sampler:	Date Time:	Received By:	Date Time:	Relinquished By:	Date Time:	Received By:	Date Time:
3		3		4		4	
Relinquished by:	Date Time:	Received By:	Date Time:	Custody Seal #	Intact / Not Intact	Preserved where applicable	On Ice / Cooler Temp
5		5					5.9

SGS ACCUTEST

CHAIN OF CUSTODY

PAGE 2 OF 2

10165 Harwin Dr, Ste 150 Houston, TX 77036
TEL. 713-271-4700 FAX: 713-271-4770
www.accutest.com

FED-EX Tracking #
Bottle Order Control #
SGS Accutest Quote #
SGS Accutest Job # TC84237

Client / Reporting Information

Company Name
Street Address
City State Zip
Project Contact E-mail
Phone # Fax #
Sampler(s) Name(s) Phone #

Project Information

Project Name: State S
Street
City State
Project #
Client Purchase Order #
Project Manager

Billing Information (If different from Report to)
Company Name
Street Address
City State Zip
Attention:

Requested Analyses: Chloride EPA 300

Matrix Codes: DW - Drinking Water, GW - Ground Water, WW - Water, SW - Surface Water, SO - Soil, SL- Sludge, SED-Sediment, OI - Oil, LIQ - Other Liquid, AIR - Air, SOL - Other Solid, WP - Wipe, FB-Field Blank

SGS Accutest Sample #	Field ID / Point of Collection	Date	Time	Sampled By	Matrix	# of bottles	HCl	NaOH	ZA/NaOH	HNO3	H2SO4	NONE	DI Water	MEOH	TSP	NaHSO4	ENCORE	OTHER	Chloride EPA 300	LAB USE ONLY
11	L8-1	4-11-16	10:00	Lcy	Soil	1													X	
12	L9-1																		X	
13	L10-1.5																		X	
14	L10-3																		X	
15	L11-5																		X	
16	L11-1																		X	
17	L12-1																		X	
18	B6																		X	
																			X	
																			X	
																			X	

Turnaround Time (Business days)

- ☐ Standard
- ☐ 5 Day *RUSH*
- ☐ 4 Day *RUSH*
- ☐ 3 Day *RUSH*
- ☐ 2 Day *RUSH*
- ☐ 1 Day *EMERGENCY*

Emergency & Rush T/A data available VIA Lablink

Approved By (SGS Accutest PM): / Date:

Data Deliverable Information

- ☐ Commercial "A" (Level 1)
- ☐ Commercial "B" (Level 2)
- ☐ FULT1 (Level 3+4)
- ☐ REDT1 (Level 3+4)
- ☐ Commercial "C"
- ☐ TRRP
- ☐ EDD Format
- ☐ Other ________

Commercial "A" = Results Only
Commercial "B" = Results + QC Summary
Commercial "C" = Results + QC & Surrogate Summary

Comments / Special Instructions

Form: SM021-0

Sample Custody must be documented below each time samples change possession, including courier delivery.

Relinquished by Sampler:	Date Time:	Received By:	Date Time:	Relinquished By:	Date Time:	Received By:	Date Time:
1		1 Fedex		2 Fedex		2 Jessica G	4/22/16
Relinquished by Sampler: 3	Date Time:	Received By: 3	Date Time:	Relinquished By: 4	Date Time:	Received By: 4	Date Time:
Relinquished by: 5	Date Time:	Received By: 5	Date Time:	Custody Seal #	☐ Intact ☐ Not intact	Preserved where applicable ☑	On Ice ☑ Cooler Temp. 5.9

TC84237: Chain of Custody
Page 2 of 3

SGS Accutest Sample Receipt Summary

Job Number: TC84237 **Client:** KEY ENERGY SERVICE **Project:** STATE S

Date / Time Received: **Delivery Method:** **Airbill #'s:** 782887709606

No. Coolers: 1 **Therm ID:** IR-4; **Temp Adjustment Factor:** 0;

Cooler Temps (Initial/Adjusted): #1: (5.9/5.9);

Cooler Security	Y	or	N		Y	or	N
1. Custody Seals Present:	☑		☐	3. COC Present:	☑		☐
2. Custody Seals Intact:	☑		☐	4. Smpl Dates/Time OK	☑		☐

Cooler Temperature	Y	or	N
1. Temp criteria achieved:	☑		☐
2. Cooler temp verification:			
3. Cooler media:	Ice (Bag)		

Quality Control Preservation	Y	or	N	N/A	WTB	STB
1. Trip Blank present / cooler:	☐		☐	☑	☐	☐
2. Trip Blank listed on COC:	☐		☐	☑		
3. Samples preserved properly:	☑		☐			
4. VOCs headspace free:	☐		☐	☑		

Sample Integrity - Documentation	Y	or	N
1. Sample labels present on bottles:	☑		☐
2. Container labeling complete:	☑		☐
3. Sample container label / COC agree:	☑		☐

Sample Integrity - Condition	Y	or	N
1. Sample recvd within HT:	☑		☐
2. All containers accounted for:	☑		☐
3. Condition of sample:	Intact		

Sample Integrity - Instructions	Y	or	N	N/A
1. Analysis requested is clear:	☑		☐	
2. Bottles received for unspecified tests	☐		☑	
3. Sufficient volume recvd for analysis:	☑		☐	
4. Compositing instructions clear:	☐		☐	☑
5. Filtering instructions clear:	☐		☐	☑

Comments Sample #8 L6-1 was received broken.

Misc. Forms

Custody Documents and Other Forms

(Accutest New Jersey)

Includes the following where applicable:

- Chain of Custody

50

SGS ACCUTEST — CHAIN OF CUSTODY

10165 Harwin Drive, Houston, TX 77036
TEL: 713-271-4700 FAX: 713-271-4770
www.sgs.com

FedEx Tracking # 6746 8792 7865 | Bottle Order Control # | SGS Accutest Quote # | SGS Accutest Job TC84237

Client / Reporting Information

Company Name: SGS Accutest
Street Address: 10165 Harwin Drive
City: Houston State: TX Zip: 77036
Project Contact: electab E-mail: electab@accutest.com
Phone #: 713-271-4700 Fax #:
Sampler(s) Name(s): Phone:

Project Information

Project Name: State# S Brine Station
Street:
City: State:
Project #:
Client Purchase Order #:
Project Manager: Electa Brown

Billing Information (if different from Report to)

Company Name:
Street Address:
City: State: Zip:
Attention:

Requested Analysis (see TEST CODE sheet)

Matrix Codes: DW - Drinking Water; GW - Ground Water; WW - Water; SW - Surface Water; SO - Soil; SL- Sludge; SED-Sediment; OI - Oil; LIQ - Other Liquid; AIR - Air; SOL - Other Solid; WP - Wipe; FB-Field Blank; EB-Equipment Blank; RB- Rinse Blank; TB-Trip Blank

Accutest Sample #	Field ID / Point of Collection	MEOH/DI Vial #	Collection Date	Collection Time	Sampled by	Matrix	# of bottles	Number of preserved Bottles: HCl	NaOH	HNO3	H2SO4	NONE	DI Water	MEOH	ENCORE	CHL -
1	L1-1		4/11/16	10:00:00 AM		SO	1					x				X
2	L1-3		4/11/16	10:00:00 AM		SO	1					x				X
3	L2-1		4/11/16	10:00:00 AM		SO	1					x				X
4	L3-1		4/11/16	10:00:00 AM		SO	1					x				X
5	L4-1.5		4/11/16	10:00:00 AM		SO	1					x				X
6	L5-0.5		4/11/16	10:00:00 AM		SO	1					x				X
7	L6-0.5		4/11/16	10:00:00 AM		SO	1					x				X
8	L6-1		4/11/16	10:00:00 AM		SO	1					x				X
9	L6-2		4/11/16	10:00:00 AM		SO	1					x				X
10	L7-1		4/11/16	10:00:00 AM		SO	1					x				X
11	L8-1		4/11/16	10:00:00 AM		SO	1					x				X
12	L9-1		4/11/16	10:00:00 AM		SO	1					x				X

INITIAL ASESSMENT 25 Oct
LABEL VERIFICATION

LAB USE ONLY: TX

Turnaround Time (Business days)

- [ ] Std. 10 Business Days
- [ ] 5 Day RUSH
- [ ] 3 Day EMERGENCY
- [ ] 2 Day EMERGENCY
- [ ] 1 Day EMERGENCY
- [X] other Due 5/2/2016

Emergency & Rush T/A data available VIA Lablink

Approved By (SGS Accutest PM): / Date:

Data Deliverable Information

- [ ] Commercial "A" (Level 1)
- [ ] Commercial "B" (Level 2)
- [ ] FULLT1 (Level 3+4)
- [ ] NJ Reduced
- [ ] Commercial "C"
- [ ] NYASP Category A
- [ ] NYASP Category B
- [X] State ICOMMB
- [ ] EDD Format
- [ ] Other

Commercial "A" = Results Only
Commercial "B" = Results + QC Summary
NJ Reduced = Results + QC Summary + Partial Raw data

Comments / Special Instructions: Split off into a 4oz container

Sample Custody must be documented below each time samples change possession, including courier delivery.

Relinquished by Sampler: 1	Date Time: 4/27/16 10:15	Received By: 1	Relinquished By: 2	Date Time: 4/27/16 10:15	Received By: 2
Relinquished by Sampler: 3	Date Time:	Received By: 3	Relinquished By: 4	Date Time:	Received By: 4
Relinquished by: 5	Date Time:	Received By: 5	Custody Seal #	[ ] Intact [ ] Not intact	Preserved where applicable [ ]

On Ice: [X] Cooler Temp: 3-3

TC84237: Chain of Custody
Page 1 of 3
Accutest New Jersey

SGS ACCUTEST

CHAIN OF CUSTODY

10165 Harwin Drive, Houston, TX 77036
TEL. 713-271-4700 FAX. 713-271-4770
www.sgs.com

FED EX Tracking # 6796 8792 7865

Bottle Order Control #

SGS Accutest Quote #

SGS Accutest Job TC84237

Client / Reporting Information

Company Name: SGS Accutest
Street Address: 10165 Harwin Drive
City: Houston State: TX Zip: 77036
Project Contact: electab E-mail: electab@accutest.com
Phone #: 713-271-4700 Fax #:
Sampler(s) Name(s): Phone:

Project Information

Project Name: State# S Brine Station
Street:
City: State:
Project #:
Client Purchase Order #:
Project Manager:

Billing Information (if different from Report to)

Company Name:
Street Address:
City: State: Zip:
Attention:

Requested Analysis (see TEST CODE sheet)

Matrix Codes: DW - Drinking Water; GW - Ground Water; WW - Water; SW - Surface Water; SO - Soil; SL- Sludge; SED-Sediment; OI - Oil; LIQ - Other Liquid; AIR - Air; SOL - Other Solid; WP - Wipe; FB-Field Blank; EB-Equipment Blank; RB- Rinse Blank; TB-Trip Blank

Accutest Sample #	Field ID / Point of Collection	MEOH/DI Vial #	Collection Date	Collection Time	Sampled by	Matrix	# of bottles	Number of preserved Bottles: HCl	NaOH	HNO3	H2SO4	NONE	DI Water	MEOH	ENCORE	CHL.	LAB USE ONLY
13	L10-1.5		4/11/16	10:00:00 AM		SO	1					x				X	
14	L10-3		4/11/16	10:00:00 AM		SO	1					x				X	
15	L11-5		4/11/16	10:00:00 AM		SO	1					x				X	
16	L11-1		4/11/16	10:00:00 AM		SO	1					x				X	
17	L12-1		4/11/16	10:00:00 AM		SO	1					x				X	
18	B6		4/11/16	10:00:00 AM		SO	1					x				X	

Turnaround Time (Business days)

- [ ] Std. 10 Business Days
- [ ] 5 Day RUSH
- [ ] 3 Day EMERGENCY
- [ ] 2 Day EMERGENCY
- [ ] 1 Day EMERGENCY
- [X] other Due 5/2/2016

Emergency & Rush T/A data available VIA Lablink

Approved By (SGAccutest PM): / Date:

Data Deliverable Information

- [ ] Commercial "A" (Level 1)
- [ ] Commercial "B" (Level 2)
- [ ] FULLT1 (Level 3+4)
- [ ] NJ Reduced
- [ ] Commercial "C"
- [ ] NYASP Category A
- [ ] NYASP Category B
- [X] State COMMB
- [ ] EDD Format
- [ ] Other

Commercial "A" = Results Only
Commercial "B" = Results + QC Summary
NJ Reduced = Results + QC Summary + Partial Raw data

Comments / Special Instructions

Split off into a 4oz container

Sample Custody must be documented below each time samples change possession, including courier delivery.

Relinquished by Sampler:	Date Time:	Received By:	Relinquished By:	Date Time:	Received By:
1	4/12/16	1 FED EX	2 FED EX	4/13/16 10:15	2
Relinquished by Sampler:	Date Time:	Received By:	Relinquished By:	Date Time:	Received By:
3		3	4		4
Relinquished by:	Date Time:	Received By:	Custody Seal #	Intact / Not Intact	Preserved where applicable
5		5			On Ice / Cooler Temp. 3.3

SGS Accutest Sample Receipt Summary

Job Number: TC84237 **Client:** _____ **Project:** _____

Date / Time Received: 4/27/2016 10:15:00 AM **Delivery Method:** _____ **Airbill #'s:** _____

Cooler Temps (Raw Measured) °C: Cooler 1: (3.3);

Cooler Temps (Corrected) °C: Cooler 1: (3.7);

Cooler Security	Y	or	N		Y	or	N
1. Custody Seals Present:	☑		☐	3. COC Present:	☑		☐
2. Custody Seals Intact:	☑		☐	4. Smpl Dates/Time OK	☑		☐

Cooler Temperature	Y	or	N
1. Temp criteria achieved:	☑		☐
2. Cooler temp verification:	IR Gun		
3. Cooler media:	Ice (Bag)		
4. No. Coolers:	1		

Quality Control Preservation	Y	or	N	N/A
1. Trip Blank present / cooler:	☐		☑	☐
2. Trip Blank listed on COC:	☐		☑	☐
3. Samples preserved properly:	☑		☐	
4. VOCs headspace free:	☐		☐	☑

Sample Integrity - Documentation	Y	or	N
1. Sample labels present on bottles:	☑		☐
2. Container labeling complete:	☑		☐
3. Sample container label / COC agree:	☑		☐

Sample Integrity - Condition	Y	or	N
1. Sample recvd within HT:	☑		☐
2. All containers accounted for:	☑		☐
3. Condition of sample:	Intact		

Sample Integrity - Instructions	Y	or	N	N/A
1. Analysis requested is clear:	☑		☐	
2. Bottles received for unspecified tests	☐		☑	
3. Sufficient volume recvd for analysis:	☑		☐	
4. Compositing instructions clear:	☐		☐	☑
5. Filtering instructions clear:	☐		☐	☑

Comments

General Chemistry

6

QC Data Summaries

(Accutest New Jersey)

Includes the following where applicable:

- Method Blank and Blank Spike Summaries
- Duplicate Summaries
- Matrix Spike Summaries

METHOD BLANK AND SPIKE RESULTS SUMMARY
GENERAL CHEMISTRY

Login Number: TC84237
Account: ALGC - Accutest Laboratories Gulf Coast, Inc.
Project: KEYETXM: State# S Brine Station

Analyte	Batch ID	RL	MB Result	Units	Spike Amount	BSP Result	BSP %Recov	QC Limits
Chloride	GP97276/GN45014	20	0.0	mg/kg	800	794	99.3	90-110%

Associated Samples:
Batch GP97276: TC84237-1, TC84237-2, TC84237-3, TC84237-4, TC84237-5, TC84237-6, TC84237-7, TC84237-8, TC84237-9, TC84237-10, TC84237-11, TC84237-12, TC84237-13, TC84237-14, TC84237-15, TC84237-16, TC84237-17, TC84237-18
(*) Outside of QC limits

DUPLICATE RESULTS SUMMARY
GENERAL CHEMISTRY

Login Number: TC84237
Account: ALGC - Accutest Laboratories Gulf Coast, Inc.
Project: KEYETXM: State# S Brine Station

Analyte	Batch ID	QC Sample	Units	Original Result	DUP Result	RPD	QC Limits
Chloride	GP97276/GN45014	TC84237-1	mg/kg	440	434	1.4	0-20%

Associated Samples:
Batch GP97276: TC84237-1, TC84237-2, TC84237-3, TC84237-4, TC84237-5, TC84237-6, TC84237-7, TC84237-8, TC84237-9, TC84237-10, TC84237-11, TC84237-12, TC84237-13, TC84237-14, TC84237-15, TC84237-16, TC84237-17, TC84237-18
(*) Outside of QC limits

MATRIX SPIKE RESULTS SUMMARY
GENERAL CHEMISTRY

Login Number: TC84237
Account: ALGC - Accutest Laboratories Gulf Coast, Inc.
Project: KEYETXM: State# S Brine Station

Analyte	Batch ID	QC Sample	Units	Original Result	Spike Amount	MS Result	%Rec	QC Limits
Chloride	GP97276/GN45014	TC84237-1	mg/kg	440	880	1370	105.7	80-120%
Chloride	GP97276/GN45014	TC84237-2	mg/kg	116	888	1280	131.1N(a)	80-120%

Associated Samples:
Batch GP97276: TC84237-1, TC84237-2, TC84237-3, TC84237-4, TC84237-5, TC84237-6, TC84237-7, TC84237-8, TC84237-9, TC84237-10, TC84237-11, TC84237-12, TC84237-13, TC84237-14, TC84237-15, TC84237-16, TC84237-17, TC84237-18
(*) Outside of QC limits
(N) Matrix Spike Rec. outside of QC limits
(a) Spike recovery indicates possible matrix interference and/or sample nonhomogeneity.

APPENDIX B
FORM C141 INITIAL