

October 27, 2014

Bob Allen Safety & Environmental Solutions 703 East Clinton

Hobbs, NM 88240

RE: SILVER SPIKE ENERGY

Enclosed are the results of analyses for samples received by the laboratory on 10/22/14 8:00.

Cardinal Laboratories is accredited through Texas NELAP under certificate number T104704398-13-5. 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 of 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> accred certif.html.

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

Method EPA 552.2

Haloacetic Acids (HAA-5)

Method EPA 524.2

Total Trihalomethanes (TTHM)

Method EPA 524.4

Regulated VOCs (V1, V2, V3)

Accreditation applies to public drinking water matrices.

Celey D. Keine

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

Sincerely,

Celey D. Keene

Lab Director/Quality Manager



Safety & Environmental Solutions Bob Allen 703 East Clinton Hobbs NM, 88240

Fax To:

(575) 393-4388

Received:

10/22/2014

Reported:

10/27/2014

Project Name:

SILVER SPIKE ENERGY

Project Number: Project Location: SSE-14-001 HOBBS, NM Sampling Date:

10/21/2014

Sampling Type:

Soil

Sampling Condition:

Cool & Intact

Sample Received By:

Jodi Henson

# Sample ID: SP-1 1 FT BGS (H403237-01)

BTEX 8021B	mg/	kg	Analyz	ed By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Benzene*	<0.050	0.050	10/22/2014	ND	1.88	94.1	2.00	3.68	Quanton
Toluene*	< 0.050	0.050	10/22/2014	ND	1.88	93.8	2.00	3.96	
Ethylbenzene*	0.095	0.050	10/22/2014	ND	1.88	94.1	2.00	4.16	
Total Xylenes*	0.259	0.150	10/22/2014	ND	5.50	91.7	6.00	4.24	
Total BTEX	0.354	0.300	10/22/2014	ND	5.1.5.5.	24.7	0.00	7.27	
Surrogate: 4-Bromofluorobenzene (PIL	123 %	61-154							
Chloride, SM4500CI-B	mg/l	kg	Analyze	d By: AP					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	<16.0	16.0	10/22/2014	ND	400	100	400	0.00	Ç
TPH 8015M	mg/k	(g	Analyze	d By: MS			100	0.00	
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10	<10.0	10.0	10/22/2014	ND	203	101	200	1.94	Qualifici
DRO >C10-C28	<10.0	10.0	10/22/2014	ND	205	102	200	2.91	
Surrogate: 1-Chlorooctane	112 %	47.2-157							
Surrogate: 1-Chlorooctadecane	121 %	52.1-176							

### Cardinal Laboratories

\*=Accredited Analyte

PLEASE NOTE: Liability and Damages. Cardinal's liability and client's exclusive remedy for any claim arising, whether based in contract or tort, shall be limited to the amount paid by client for analyses. All claims, including those for negligence and any other cause whatsoever shall be deemed waived unless made in writing and received by Cardinal within thirty (30) days after completion of the applicable service. In no event shall Cardinal be liable for incidental or consequential damages, claim is based upon any of the above stated reasons or otherwise. Results relate only to the samples identified above. This report shall not be reproduced except in full with written approval of Cardinal Laboratories.

Celen D. Keine



Safety & Environmental Solutions

Bob Allen 703 East Clinton

Hobbs NM, 88240

Fax To: (575) 393-4388

Received: Reported:

10/22/2014

10/27/2014

Project Name:

SILVER SPIKE ENERGY

Project Number: Project Location: SSE-14-001 HOBBS, NM Sampling Date:

10/21/2014

Sampling Type:

Soil

Sampling Condition:

Cool & Intact

Sample Received By:

Jodi Henson

# Sample ID: SP-2 1 FT BGS (H403237-02)

BTEX 8021B	mg/	kg	Analyz	ed By: MS					S-04
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Benzene*	<0.050	0.050	10/22/2014	ND	1.88	94.1	2.00	3.68	
Toluene*	<0.050	0.050	10/22/2014	ND	1.88	93.8	2.00	3.96	
Ethylbenzene*	0.310	0.050	10/22/2014	ND	1.88	94.1	2.00	4.16	
Total Xylenes*	1.12	0.150	10/22/2014	ND	5.50	91.7	6.00	4.24	
Total BTEX	1.43	0.300	10/22/2014	ND					
Surrogate: 4-Bromofluorobenzene (PIL	267 %	61-154					18.0		
Chloride, SM4500CI-B	mg/k	g	Analyze	d By: AP					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value OC	RPD	Qualifier
Chloride	1360	16.0	10/22/2014	ND	400	100	400	0.00	
TPH 8015M	mg/k	g	Analyze	d By: MS				0100	S-06
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10	210	50.0	10/22/2014	ND	203	101	200	1.94	
DRO >C10-C28	6930	50.0	10/22/2014	ND	205	102	200	2.91	
Surrogate: 1-Chlorooctane	209 %	47.2-157							
Surrogate: 1-Chlorooctadecane	217 %	52.1-176							

### Cardinal Laboratories

\*=Accredited Analyte

PLEASE NOTE: Liability and Damages. Cardinal's liability and client's exclusive remedy for any claim arising, whether based in contract or tort, shall be limited to the amount paid by client for analyses. All claims, including those for negligence and any other cause whatsoever shall be deemed waived unless made in writing and received by Cardinal within thirty (30) days after completion of the applicable service. In no event shall Cardinal be liable for incidental or consequential damages, claim is based upon any of the above stated reasons or otherwise. Results relate only to the samples identified above. This report shall not be reproduced except in full with written approval of Cardinal Laboratories.

Celey & Keine



Safety & Environmental Solutions Bob Allen

703 East Clinton Hobbs NM, 88240

Fax To:

(575) 393-4388

Received:

10/22/2014

Sampling Date:

10/21/2014

Reported:

10/27/2014

Sampling Type:

Soil

Project Name:

SILVER SPIKE ENERGY

Sampling Condition:

Cool & Intact

Project Number:

SSE-14-001

Project Location:

HOBBS, NM

Sample Received By:

Jodi Henson

# Sample ID: SP-3 1 FT BGS (H403237-03)

BTEX 8021B	mg/	kg	Analyz	ed By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Benzene*	< 0.050	0.050	10/22/2014	ND	1.88	94.1	2.00	3.68	
Toluene*	<0.050	0.050	10/22/2014	ND	1.88	93.8	2.00	3.96	
Ethylbenzene*	< 0.050	0.050	10/22/2014	ND	1.88	94.1	2.00	4.16	
Total Xylenes*	< 0.150	0.150	10/22/2014	ND	5.50	91.7	6.00	4.24	
Total BTEX	<0.300	0.300	10/22/2014	ND					
Surrogate: 4-Bromofluorobenzene (PIL	105 %	61-154							
Chloride, SM4500CI-B	mg/l	kg	Analyze	d By: AP					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	32.0	16.0	10/22/2014	ND	400	100	400	0.00	Qualifici
TPH 8015M	mg/k	(g	Analyze	d By: MS			,,,,,	0.00	
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value OC	RPD	Qualifier
GRO C6-C10	<10.0	10.0	10/22/2014	ND	203	101	200	1.94	
DRO >C10-C28	<10.0	10.0	10/22/2014	ND	205	102	200	2.91	
Surrogate: 1-Chlorooctane	86.6 %	47.2-157							
Surrogate: 1-Chlorooctadecane	93.3 %	52.1-176							

### Cardinal Laboratories

\*=Accredited Analyte

PLEASE NOTE: Liability and Damages. Cardinal's liability and client's exclusive remedy for any claim arising, whether based in contract or tort, shall be limited to the amount paid by client for analyses. All claims, including those for negligence and any other cause whatsoever shall be deemed waived unless made in writing and received by Cardinal within thirty (30) days after completion of the applicable service. In no event shall Cardinal be liable for incidental or consequential damages, including, without limitation, business interruptions, loss of use, or loss of profits incurred by client, its subsidiaries, affiliates or successors arising out of or related to the performance of the services hereunder by Cardinal, regardless of whether such claims is based upon any of the above stated reasons or otherwise. Results relate only to the samples identified above. This report shall not be reproduced except in full with written approval of Cardinal Laboratories.

Celey & Keene



Safety & Environmental Solutions Bob Allen 703 East Clinton Hobbs NM, 88240

Fax To:

(575) 393-4388

Received:

10/22/2014

Sampling Date:

10/21/2014

Reported:

10/27/2014

Sampling Type:

Soil

Project Name:

SILVER SPIKE ENERGY

Sampling Condition:

Cool & Intact

Project Number:

SSE-14-001

Sample Received By:

Jodi Henson

Project Location:

HOBBS, NM

### Sample ID: SP-4 1 FT BGS (H403237-04) BTEX 8021B

BIEX 8021B	mg/	kg	Analyze	ed By: MS					S-04
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value OC	RPD	Qualifier
Benzene*	0.051	0.050	10/23/2014	ND	1.88	94.1	2.00	3.68	Qualifici
Toluene*	0.494	0.050	10/23/2014	ND	1.88	93.8	2.00	3.96	
Ethylbenzene*	1.56	0.050	10/23/2014	ND	1.88	94.1	2.00	4.16	
Total Xylenes*	10.1	0.150	10/23/2014	ND	5.50	91.7	6.00	4.24	
Total BTEX	12.2	0.300	10/23/2014	ND			0.00	7,27	
Surrogate: 4-Bromofluorobenzene (PIL	373 %	61-154							
Chloride, SM4500CI-B	mg/k	g	Analyze	d By: AP					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value OC	RPD	Qualifier
Chloride	4160	16.0	10/22/2014	ND	400	100	400	0.00	Qualifici
TPH 8015M	mg/k	g	Analyzed	i By: ms			100	0.00	S-06
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value OC	RPD	Qualifier
GRO C6-C10	290	50.0	10/23/2014	ND	179	89.6	200	4.26	Qualifier
DRO >C10-C28	3830	50.0	10/23/2014	ND	195	97.5	200	7.17	
Surrogate: 1-Chlorooctane	153 %	47.2-157							
Surrogate: 1-Chlorooctadecane	205 %	52.1-176							

### Cardinal Laboratories

\*=Accredited Analyte

PLEASE NOTE: Liability and Damages. Cardinal's liability and client's exclusive remedy for any claim arising, whether based in contract or tort, shall be limited to the amount paid by client for analyses. All claims, including those for negligence and any other cause whatsoever shall be deemed walved unless made in writing and received by Cardinal within thirty (30) days after completion of the applicable service. In no event shall Cardinal be liable for incidental or consequential damages, claim is based upon any of the above stated reasons or otherwise. Results relate only to the samples identified above. This report shall not be reproduced except in full with written approval of Cardinal Laboratories.

Celego Keine



Safety & Environmental Solutions Bob Allen 703 East Clinton

Hobbs NM, 88240

Fax To: (575) 393-4388

Received: Reported:

10/22/2014

10/27/2014

Project Name: Project Number:

SILVER SPIKE ENERGY

Project Location:

SSE-14-001 HOBBS, NM Sampling Date:

10/21/2014 Soil

Sampling Type: Sampling Condition:

Cool & Intact

Sample Received By:

Jodi Henson

# Sample ID: SP-5 1 FT BGS (H403237-05)

BTEX 8021B	mg/	kg	Analyz	ed By: MS					S-06
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Benzene*	< 0.050	0.050	10/22/2014	ND	1.88	94.1	2.00	3.68	
Toluene*	0.434	0.050	10/22/2014	ND	1.88	93.8	2.00	3.96	
Ethylbenzene*	2.14	0.050	10/22/2014	ND	1.88	94.1	2.00	4.16	
Total Xylenes*	4.08	0.150	10/22/2014	ND	5.50	91.7	6.00	4.24	
Total BTEX	6.65	0.300	10/22/2014	ND					
Surrogate: 4-Bromofluorobenzene (PIL	409 %	61-154							
Chloride, SM4500CI-B	mg/k	(g	Analyze	d By: AP					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	416	16.0	10/22/2014	ND	400	100	400	0.00	<b>Q</b>
TPH 8015M	mg/k	g	Analyze	d By: ms			.,	0.00	S-06
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value OC	RPD	Qualifier
GRO C6-C10	294	50.0	10/23/2014	ND	179	89.6	200	4.26	Qualifier
DRO >C10-C28	7520	50.0	10/23/2014	ND	195	97.5	200	7.17	
Surrogate: 1-Chlorooctane	177 %	47.2-157							
Surrogate: 1-Chlorooctadecane	286 %	52.1-176							

## Cardinal Laboratories

\*=Accredited Analyte

PLEASE NOTE: Liability and Damages. Cardinal's liability and client's exclusive remedy for any claim arising, whether based in contract or tort, shall be limited to the amount paid by client for analyses. All claims, including those for negligence and any other cause whatsoever shall be deemed waived unless made in writing and received by Cardinal within thirty (30) days after completion of the applicable service. In no event shall Cardinal be liable for incidental or consequential damages, claim is based upon any of the above stated reasons or otherwise. Results relate only to the samples identified above. This report shall not be reproduced except in full with written approval of Cardinal Laboratories.

Celeg & Keine



Safety & Environmental Solutions Bob Allen

703 East Clinton Hobbs NM, 88240

Fax To:

(575) 393-4388

Received:

10/22/2014

Sampling Date:

10/21/2014

Reported:

10/27/2014

Sampling Type:

Soil

Project Name:

SILVER SPIKE ENERGY

Sampling Condition:

Cool & Intact

Project Number:

SSE-14-001

Project Location:

HOBBS, NM

Sample Received By:

Jodi Henson

# Sample ID: SP-6 1 FT BGS (H403237-06)

BTEX 8021B	mg/	kg	Analyz	ed By: MS					S-04
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Benzene*	0.221	0.050	10/22/2014	ND	1.88	94.1	2.00	3.68	Qualifici
Toluene*	1.66	0.050	10/22/2014	ND	1.88	93.8	2.00	3.96	
Ethylbenzene*	3.17	0.050	10/22/2014	ND	1.88	94.1	2.00	4.16	
Total Xylenes*	14.7	0.150	10/22/2014	ND	5.50	91.7	6.00	4.24	
Total BTEX	19.7	0.300	10/22/2014	ND			0.00	1,21	
Surrogate: 4-Bromofluorobenzene (PIL	458 %	61-154							
Chloride, SM4500CI-B	mg/l	кg	Analyze	d By: AP					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	640	16.0	10/22/2014	ND	400	100	400	0.00	Qualifici
TPH 8015M	mg/k	g	Analyze	d By: ms			100	0.00	S-06
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10	626	50.0	10/23/2014	ND	179	89.6	200	4.26	Qualifici
DRO >C10-C28	7080	50.0	10/23/2014	ND	195	97.5	200	7.17	
Surrogate: 1-Chlorooctane	171 %	47.2-157							
Surrogate: 1-Chlorooctadecane	263 %	52.1-176							

# Cardinal Laboratories

\*=Accredited Analyte

PLEASE NOTE: Liability and Damages. Cardinal's liability and client's exclusive remedy for any claim arising, whether based in contract or tort, shall be limited to the amount paid by client for analyses. All claims, including those for negligence and any other cause whatsoever shall be deemed waived unless made in writing and received by Cardinal within thirty (30) days after completion of the applicable service. In no event shall Cardinal be liable for incidental or consequential damages, claim is based upon any of the above stated reasons or otherwise. Results relate only to the samples identified above. This report shall not be reproduced except in full with written approval of Cardinal Laboratories.

Celley & Keine



# **Notes and Definitions**

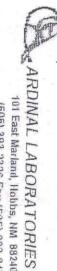
S-06	The recovery of this surrogate is outside control limits due to sample dilution required from high analyte concentration and/or matrix interference's.
S-04	The surrogate recovery for this sample is outside of established control limits due to a sample matrix effect.
ND	Analyte NOT DETECTED at or above the reporting limit
RPD	Relative Percent Difference
**	Samples not received at proper temperature of 6°C or below.
***	Insufficient time to reach temperature.
-	Chloride by SM4500Cl-B does not require samples be received at or below 6°C Samples reported on an as received basis (wet) unless otherwise noted on report

Cardinal Laboratories

\*=Accredited Analyte

PLEASE NOTE: Liability and Damages. Cardinal's liability and client's exclusive remedy for any claim arising, whether based in contract or tort, shall be limited to the amount paid by client for analyses. All claims, including those for negligence and any other cause whatsoever shall be deemed waived unless made in writing and received by Cardinal within thirty (30) days after completion of the applicable service. In no event shall Cardinal be liable for incidental or consequential damages, claim is based upon any of the above stated reasons or otherwise. Results relate only to the samples identified above. This report shall not be reproduced except in full with written approval of Cardinal Laboratories.

Celicy & Keene



# CHAIN-OF-CUSTODY AND ANALYSIS REQUEST

101 East Marland, Hobbs, NM 88240 (505) 393-2326 Fax (505) 393-2476

Project Nanager: Address:	Safety & Environmental Solutions, Inc. Boh Allen 703 East Clinton Hohbs State: NM Zip: 88240		P.6 #: Gompany: Same
Phone #:	7-0510 Fax#:	4388	Address:
Project #: 556	SC- /4001 Project Owner:	Project Owner: Silve Spilce CI	City:
Project Name:	Silver Spiles Guerra		State: Zip:
Project Location:	LEA COUNTY ( A	(40'6bs) PI	Phone #:
Sampler Name:	Sosa Jary	The state of the s	Fax #:
FOR LABIUSE ONLY	MAS openative	MATRIX	PRESERV SAMPLING
Lab I.D.	Sample I.D.	GORAB OR (C)ON CONTAINERS BROUNDWATER WASTEWATER SOIL DIL SLUDGE DITHER:	XCID/BASE: CE /'COOL OTHER:
-	5P-1 17 BGS 6	X	×
NN	SP-3 [ P B(S )	<×	X (0/2
15	SP-4 157 BAS 0	×	X
61	SP-6 (AT 1845)	\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\	X (0/2
PLEASE FOTE: I MAIN VIN			

28.00

Sample Condition

Sampler - UPS - Bus - Other: Delivered By: (Circle One)

Time:

Sampler Relinquis had