



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

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 www.tceq.texas.gov/field/qa/lab_accred_certif.html.

Cardinal Laboratories is accredited 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. Keene

Lab Director/Quality Manager

Analytical Results For:

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: SSE-14-001
 Project Location: 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

Analyzed 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* | 0.095 | 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 | | | | | |

Surrogate: 4-Bromofluorobenzene (PIL) 123 % 61-154

Chloride, SM4500Cl-B

mg/kg

Analyzed 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 | |

TPH 8015M

mg/kg

Analyzed By: MS

| 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 | |
| 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

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Celey D. Keene, Lab Director/Quality Manager

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 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: SSE-14-001
 Project Location: 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 | | Analyzed 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

| Chloride, SM4500Cl-B | | mg/kg | | Analyzed By: AP | | S-06 | | | |
|----------------------|-------------|-----------------|------------|-----------------|-----|------------|---------------|------|-----------|
| Analyte | Result | Reporting Limit | Analyzed | Method Blank | BS | % Recovery | True Value QC | RPD | Qualifier |
| Chloride | 1360 | 16.0 | 10/22/2014 | ND | 400 | 100 | 400 | 0.00 | |

| TPH 8015M | | mg/kg | | Analyzed By: MS | | 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

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Celey D. Keene, Lab Director/Quality Manager

Analytical Results For:

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: SSE-14-001
Project Location: HOBBS, NM

Sampling Date: 10/21/2014
Sampling Type: Soil
Sampling Condition: Cool & Intact
Sample Received By: Jodi Henson

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

| BTEX 8021B | | mg/kg | | Analyzed 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 (PIE) 105 % 61-154

| Chloride, SM4500Cl-B | | mg/kg | | Analyzed 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 | |

| TPH 8015M | | mg/kg | | Analyzed By: MS | | | | | |
|--------------|--------|-----------------|------------|-----------------|-----|------------|---------------|------|-----------|
| 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 | |
| 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

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Celey D. Keene, Lab Director/Quality Manager

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 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: SSE-14-001
 Project Location: HOBBS, NM

 Sampling Date: 10/21/2014
 Sampling Type: Soil
 Sampling Condition: Cool & Intact
 Sample Received By: Jodi Henson

Sample ID: SP-4 1 FT BGS (H403237-04)

| BTEX 8021B | | mg/kg | | Analyzed By: MS | | | | S-04 | |
|----------------|--------|-----------------|------------|-----------------|------|------------|---------------|------|-----------|
| Analyte | Result | Reporting Limit | Analyzed | Method Blank | BS | % Recovery | True Value QC | RPD | Qualifier |
| Benzene* | 0.051 | 0.050 | 10/23/2014 | ND | 1.88 | 94.1 | 2.00 | 3.68 | |
| 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 | | | | | |

Surrogate: 4-Bromofluorobenzene (PIL) 373 % 61-154

| Chloride, SM4500Cl-B | | mg/kg | | Analyzed By: AP | | | | S-06 | |
|----------------------|--------|-----------------|------------|-----------------|-----|------------|---------------|------|-----------|
| Analyte | Result | Reporting Limit | Analyzed | Method Blank | BS | % Recovery | True Value QC | RPD | Qualifier |
| Chloride | 4160 | 16.0 | 10/22/2014 | ND | 400 | 100 | 400 | 0.00 | |

| TPH 8015M | | mg/kg | | Analyzed By: ms | | | | S-06 | |
|--------------|--------|-----------------|------------|-----------------|-----|------------|---------------|------|-----------|
| Analyte | Result | Reporting Limit | Analyzed | Method Blank | BS | % Recovery | True Value QC | RPD | Qualifier |
| GRO C6-C10 | 290 | 50.0 | 10/23/2014 | ND | 179 | 89.6 | 200 | 4.26 | |
| 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

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 Received: 10/22/2014
 Reported: 10/27/2014
 Project Name: SILVER SPIKE ENERGY
 Project Number: SSE-14-001
 Project Location: HOBBS, NM

 Sampling Date: 10/21/2014
 Sampling Type: Soil
 Sampling Condition: Cool & Intact
 Sample Received By: Jodi Henson

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

| BTEX 8021B | | mg/kg | | Analyzed 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, SM4500Cl-B | | mg/kg | | Analyzed By: AP | | | | S-06 | |
|----------------------|------------|-----------------|------------|-----------------|-----|------------|---------------|------|-----------|
| 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 | |

| TPH 8015M | | mg/kg | | Analyzed By: ms | | | | S-06 | |
|--------------|-------------|-----------------|------------|-----------------|-----|------------|---------------|------|-----------|
| Analyte | Result | Reporting Limit | Analyzed | Method Blank | BS | % Recovery | True Value QC | RPD | Qualifier |
| GRO C6-C10 | 294 | 50.0 | 10/23/2014 | ND | 179 | 89.6 | 200 | 4.26 | |
| 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

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 Bob Allen
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 Hobbs NM, 88240
 Fax To: (575) 393-4388

Received: 10/22/2014
 Reported: 10/27/2014
 Project Name: SILVER SPIKE ENERGY
 Project Number: SSE-14-001
 Project Location: HOBBS, NM

Sampling Date: 10/21/2014
 Sampling Type: Soil
 Sampling Condition: Cool & Intact
 Sample Received By: Jodi Henson

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

| BTEX 8021B | | mg/kg | | Analyzed 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 | |
| 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 | | | | | |

Surrogate: 4-Bromofluorobenzene (PIC) 458 % 61-154

| Chloride, SM4500Cl-B | | mg/kg | | Analyzed By: AP | | | | S-06 | |
|----------------------|------------|-----------------|------------|-----------------|-----|------------|---------------|------|-----------|
| 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 | |

| TPH 8015M | | mg/kg | | Analyzed By: ms | | | | 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 | |
| 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

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*=Accredited Analyte

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Celey D. Keene, Lab Director/Quality Manager

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

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*=Accredited Analyte

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Celey D. Keene, Lab Director/Quality Manager



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CHAIN-OF-CUSTODY AND ANALYSIS REQUEST

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