

# **Analytical Report 539457**

**for  
Talon LPE**

**Project Manager: Sheldon Hitckcock**

**HAWK 8 Fed #46**

**02-NOV-16**

Collected By: Client



**1211 W. Florida Ave, Midland TX 79701**

Xenco-Houston (EPA Lab code: TX00122):  
Texas (T104704215), Arizona (AZ0765), Florida (E871002), Louisiana (03054)  
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02-NOV-16

Project Manager: **Sheldon Hitckcock**

**Talon LPE**

408 W. Texas St.

Artesia, NM 88210

Reference: XENCO Report No(s): **539457**

**HAWK 8 Fed #46**

Project Address:

**Sheldon Hitckcock:**

We are reporting to you the results of the analyses performed on the samples received under the project name referenced above and identified with the XENCO Report Number(s) 539457. All results being reported under this Report Number apply to the samples analyzed and properly identified with a Laboratory ID number. Subcontracted analyses are identified in this report with either the NELAC certification number of the subcontract lab in the analyst ID field, or the complete subcontracted report attached to this report.

Unless otherwise noted in a Case Narrative, all data reported in this Analytical Report are in compliance with NELAC standards. The uncertainty of measurement associated with the results of analysis reported is available upon request. Should insufficient sample be provided to the laboratory to meet the method and NELAC Matrix Duplicate and Matrix Spike requirements, then the data will be analyzed, evaluated and reported using all other available quality control measures.

The validity and integrity of this report will remain intact as long as it is accompanied by this letter and reproduced in full, unless written approval is granted by XENCO Laboratories. This report will be filed for at least 5 years in our archives after which time it will be destroyed without further notice, unless otherwise arranged with you. The samples received, and described as recorded in Report No. 539457 will be filed for 60 days, and after that time they will be properly disposed without further notice, unless otherwise arranged with you. We reserve the right to return to you any unused samples, extracts or solutions related to them if we consider so necessary (e.g., samples identified as hazardous waste, sample sizes exceeding analytical standard practices, controlled substances under regulated protocols, etc).

We thank you for selecting XENCO Laboratories to serve your analytical needs. If you have any questions concerning this report, please feel free to contact us at any time.

Respectfully,

**Kelsey Brooks**

Project Manager

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## Sample Cross Reference 539457



### Talon LPE, Artesia, NM

HAWK 8 Fed #46

| Sample Id | Matrix | Date Collected | Sample Depth | Lab Sample Id |
|-----------|--------|----------------|--------------|---------------|
| S-2       | S      | 10-28-16 15:00 |              | 539457-001    |
| S-3       | S      | 10-28-16 15:10 |              | 539457-002    |
| S-4       | S      | 10-28-16 15:20 |              | 539457-003    |



## CASE NARRATIVE



*Client Name: Talon LPE*

*Project Name: HAWK 8 Fed #46*

Project ID:

Work Order Number(s): 539457

Report Date: 02-NOV-16

Date Received: 10/29/2016

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### **Sample receipt non conformances and comments:**

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### **Sample receipt non conformances and comments per sample:**

None

### **Analytical non conformances and comments:**

Batch: LBA-3003040 BTEX by EPA 8021B

Soil samples were not received in Terracore kits and therefore were prepared by method 5030.



# Certificate of Analysis Summary 539457

Talon LPE, Artesia, NM

Project Name: HAWK 8 Fed #46



Project Id:

Contact: Sheldon Hitckcock

Project Location:

Date Received in Lab: Sat Oct-29-16 12:00 pm

Report Date: 02-NOV-16

Project Manager: Kelsey Brooks

| <i>Analysis Requested</i>                | <i>Lab Id:</i>    | 539457-001      | 539457-002      | 539457-003      |  |  |  |
|--|-------------------|-----------------|-----------------|-----------------|--|--|--|
|  | <i>Field Id:</i>  | S-2             | S-3             | S-4             |  |  |  |
|  | <i>Depth:</i>     |                 |                 |                 |  |  |  |
|  | <i>Matrix:</i>    | SOIL            | SOIL            | SOIL            |  |  |  |
|  | <i>Sampled:</i>   | Oct-28-16 15:00 | Oct-28-16 15:10 | Oct-28-16 15:20 |  |  |  |
| <b>BTEX by EPA 8021B</b>                 | <i>Extracted:</i> | Oct-31-16 14:10 | Oct-31-16 14:10 | Oct-31-16 14:10 |  |  |  |
|  | <i>Analyzed:</i>  | Nov-01-16 08:54 | Nov-01-16 09:10 | Oct-31-16 20:54 |  |  |  |
|  | <i>Units/RL:</i>  | mg/kg RL        | mg/kg RL        | mg/kg RL        |  |  |  |
| Benzene                                  |                   | ND 0.00150      | ND 0.00149      | ND 0.00149      |  |  |  |
| Toluene                                  |                   | ND 0.00200      | ND 0.00198      | ND 0.00199      |  |  |  |
| Ethylbenzene                             |                   | ND 0.00200      | ND 0.00198      | ND 0.00199      |  |  |  |
| m_p-Xylenes                              |                   | ND 0.00200      | ND 0.00198      | ND 0.00199      |  |  |  |
| o-Xylene                                 |                   | ND 0.00299      | ND 0.00298      | ND 0.00299      |  |  |  |
| Total Xylenes                            |                   | ND 0.00200      | ND 0.00198      | ND 0.00199      |  |  |  |
| Total BTEX                               |                   | ND 0.00150      | ND 0.00149      | ND 0.00149      |  |  |  |
| <b>Inorganic Anions by EPA 300/300.1</b> | <i>Extracted:</i> | Oct-31-16 17:14 | Oct-31-16 17:14 | Oct-31-16 17:14 |  |  |  |
|  | <i>Analyzed:</i>  | Oct-31-16 18:43 | Oct-31-16 18:50 | Oct-31-16 18:57 |  |  |  |
|  | <i>Units/RL:</i>  | mg/kg RL        | mg/kg RL        | mg/kg RL        |  |  |  |
| Chloride                                 |                   | 176 50.0        | 185 50.0        | 725 50.0        |  |  |  |
| <b>TPH By SW8015B Mod</b>                | <i>Extracted:</i> | Oct-31-16 16:00 | Oct-31-16 16:00 | Oct-31-16 16:00 |  |  |  |
|  | <i>Analyzed:</i>  | Nov-01-16 08:36 | Nov-01-16 09:01 | Nov-01-16 09:25 |  |  |  |
|  | <i>Units/RL:</i>  | mg/kg RL        | mg/kg RL        | mg/kg RL        |  |  |  |
| C6-C10 Gasoline Range Hydrocarbons       |                   | ND 14.9         | 49.6 15.0       | 16.3 15.0       |  |  |  |
| C10-C28 Diesel Range Hydrocarbons        |                   | ND 14.9         | 1210 15.0       | 654 15.0        |  |  |  |
| Total TPH                                |                   | ND 14.9         | 1270 15.0       | 670 15.0        |  |  |  |

This analytical report, and the entire data package it represents, has been made for your exclusive and confidential use. The interpretations and results expressed throughout this analytical report represent the best judgment of XENCO Laboratories. XENCO Laboratories assumes no responsibility and makes no warranty to the end use of the data hereby presented. Our liability is limited to the amount invoiced for this work order unless otherwise agreed to in writing.

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Kelsey Brooks  
Project Manager

- X** In our quality control review of the data a QC deficiency was observed and flagged as noted. MS/MSD recoveries were found to be outside of the laboratory control limits due to possible matrix /chemical interference, or a concentration of target analyte high enough to affect the recovery of the spike concentration. This condition could also affect the relative percent difference in the MS/MSD.
- B** A target analyte or common laboratory contaminant was identified in the method blank. Its presence indicates possible field or laboratory contamination.
- D** The sample(s) were diluted due to targets detected over the highest point of the calibration curve, or due to matrix interference. Dilution factors are included in the final results. The result is from a diluted sample.
- E** The data exceeds the upper calibration limit; therefore, the concentration is reported as estimated.
- F** RPD exceeded lab control limits.
- J** The target analyte was positively identified below the quantitation limit and above the detection limit.
- U** Analyte was not detected.
- L** The LCS data for this analytical batch was reported below the laboratory control limits for this analyte. The department supervisor and QA Director reviewed data. The samples were either reanalyzed or flagged as estimated concentrations.
- H** The LCS data for this analytical batch was reported above the laboratory control limits. Supporting QC Data were reviewed by the Department Supervisor and QA Director. Data were determined to be valid for reporting.
- K** Sample analyzed outside of recommended hold time.
- JN** A combination of the "N" and the "J" qualifier. The analysis indicates that the analyte is "tentatively identified" and the associated numerical value may not be consistent with the amount actually present in the environmental sample.

\*\* Surrogate recovered outside laboratory control limit.

**BRL** Below Reporting Limit.

**RL** Reporting Limit

**MDL** Method Detection Limit      **SDL** Sample Detection Limit      **LOD** Limit of Detection

**PQL** Practical Quantitation Limit      **SQL** Method Quantitation Limit      **LOQ** Limit of Quantitation

**DL** Method Detection Limit

**NC** Non-Calculable

+ NELAC certification not offered for this compound.

\* (Next to analyte name or method description) = Outside XENCO's scope of NELAC accreditation

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| (432) 563-1800 | (432) 563-1713 |
| (602) 437-0330 |                |



## Form 2 - Surrogate Recoveries

Project Name: HAWK 8 Fed #46

Work Orders : 539457,

Lab Batch #: 3003040

Sample: 539457-003 / SMP

Project ID:

Batch: 1 Matrix: Soil

Units: mg/kg

Date Analyzed: 10/31/16 20:54

### SURROGATE RECOVERY STUDY

| BTEX by EPA 8021B<br>Analytes | Amount Found [A] | True Amount [B] | Recovery %R [D] | Control Limits %R | Flags |
|-------------------------------|------------------|-----------------|-----------------|-------------------|-------|
| 1,4-Difluorobenzene           | 0.0267           | 0.0300          | 89              | 80-120            |       |
| 4-Bromofluorobenzene          | 0.0321           | 0.0300          | 107             | 80-120            |       |

Lab Batch #: 3003034

Sample: 539457-001 / SMP

Batch: 1 Matrix: Soil

Units: mg/kg

Date Analyzed: 11/01/16 08:36

### SURROGATE RECOVERY STUDY

| TPH By SW8015B Mod<br>Analytes | Amount Found [A] | True Amount [B] | Recovery %R [D] | Control Limits %R | Flags |
|--------------------------------|------------------|-----------------|-----------------|-------------------|-------|
| 1-Chlorooctane                 | 116              | 99.6            | 116             | 70-135            |       |
| o-Terphenyl                    | 61.2             | 49.8            | 123             | 70-135            |       |

Lab Batch #: 3003040

Sample: 539457-001 / SMP

Batch: 1 Matrix: Soil

Units: mg/kg

Date Analyzed: 11/01/16 08:54

### SURROGATE RECOVERY STUDY

| BTEX by EPA 8021B<br>Analytes | Amount Found [A] | True Amount [B] | Recovery %R [D] | Control Limits %R | Flags |
|-------------------------------|------------------|-----------------|-----------------|-------------------|-------|
| 1,4-Difluorobenzene           | 0.0275           | 0.0300          | 92              | 80-120            |       |
| 4-Bromofluorobenzene          | 0.0307           | 0.0300          | 102             | 80-120            |       |

Lab Batch #: 3003034

Sample: 539457-002 / SMP

Batch: 1 Matrix: Soil

Units: mg/kg

Date Analyzed: 11/01/16 09:01

### SURROGATE RECOVERY STUDY

| TPH By SW8015B Mod<br>Analytes | Amount Found [A] | True Amount [B] | Recovery %R [D] | Control Limits %R | Flags |
|--------------------------------|------------------|-----------------|-----------------|-------------------|-------|
| 1-Chlorooctane                 | 116              | 99.7            | 116             | 70-135            |       |
| o-Terphenyl                    | 61.0             | 49.9            | 122             | 70-135            |       |

Lab Batch #: 3003040

Sample: 539457-002 / SMP

Batch: 1 Matrix: Soil

Units: mg/kg

Date Analyzed: 11/01/16 09:10

### SURROGATE RECOVERY STUDY

| BTEX by EPA 8021B<br>Analytes | Amount Found [A] | True Amount [B] | Recovery %R [D] | Control Limits %R | Flags |
|-------------------------------|------------------|-----------------|-----------------|-------------------|-------|
| 1,4-Difluorobenzene           | 0.0269           | 0.0300          | 90              | 80-120            |       |
| 4-Bromofluorobenzene          | 0.0304           | 0.0300          | 101             | 80-120            |       |

\* Surrogate outside of Laboratory QC limits

\*\* Surrogates outside limits; data and surrogates confirmed by reanalysis

\*\*\* Poor recoveries due to dilution

Surrogate Recovery [D] =  $100 * A / B$

All results are based on MDL and validated for QC purposes.





## Form 2 - Surrogate Recoveries

Project Name: HAWK 8 Fed #46

Work Orders : 539457,

Lab Batch #: 3003034

Sample: 539457-003 / SMP

Project ID:

Batch: 1 Matrix: Soil

Units: mg/kg

Date Analyzed: 11/01/16 09:25

### SURROGATE RECOVERY STUDY

| TPH By SW8015B Mod<br>Analytes | Amount Found<br>[A] | True Amount<br>[B] | Recovery<br>%R<br>[D] | Control Limits<br>%R | Flags |
|--------------------------------|---------------------|--------------------|-----------------------|----------------------|-------|
| 1-Chlorooctane                 | 115                 | 99.9               | 115                   | 70-135               |       |
| o-Terphenyl                    | 61.0                | 50.0               | 122                   | 70-135               |       |

Lab Batch #: 3003040

Sample: 715592-1-BLK / BLK

Batch: 1 Matrix: Solid

Units: mg/kg

Date Analyzed: 10/31/16 16:29

### SURROGATE RECOVERY STUDY

| BTEX by EPA 8021B<br>Analytes | Amount Found<br>[A] | True Amount<br>[B] | Recovery<br>%R<br>[D] | Control Limits<br>%R | Flags |
|-------------------------------|---------------------|--------------------|-----------------------|----------------------|-------|
| 1,4-Difluorobenzene           | 0.0282              | 0.0300             | 94                    | 80-120               |       |
| 4-Bromofluorobenzene          | 0.0294              | 0.0300             | 98                    | 80-120               |       |

Lab Batch #: 3003034

Sample: 715582-1-BLK / BLK

Batch: 1 Matrix: Solid

Units: mg/kg

Date Analyzed: 10/31/16 23:28

### SURROGATE RECOVERY STUDY

| TPH By SW8015B Mod<br>Analytes | Amount Found<br>[A] | True Amount<br>[B] | Recovery<br>%R<br>[D] | Control Limits<br>%R | Flags |
|--------------------------------|---------------------|--------------------|-----------------------|----------------------|-------|
| 1-Chlorooctane                 | 120                 | 100                | 120                   | 70-135               |       |
| o-Terphenyl                    | 61.8                | 50.0               | 124                   | 70-135               |       |

Lab Batch #: 3003040

Sample: 715592-1-BKS / BKS

Batch: 1 Matrix: Solid

Units: mg/kg

Date Analyzed: 10/31/16 14:13

### SURROGATE RECOVERY STUDY

| BTEX by EPA 8021B<br>Analytes | Amount Found<br>[A] | True Amount<br>[B] | Recovery<br>%R<br>[D] | Control Limits<br>%R | Flags |
|-------------------------------|---------------------|--------------------|-----------------------|----------------------|-------|
| 1,4-Difluorobenzene           | 0.0291              | 0.0300             | 97                    | 80-120               |       |
| 4-Bromofluorobenzene          | 0.0308              | 0.0300             | 103                   | 80-120               |       |

Lab Batch #: 3003034

Sample: 715582-1-BKS / BKS

Batch: 1 Matrix: Solid

Units: mg/kg

Date Analyzed: 10/31/16 23:53

### SURROGATE RECOVERY STUDY

| TPH By SW8015B Mod<br>Analytes | Amount Found<br>[A] | True Amount<br>[B] | Recovery<br>%R<br>[D] | Control Limits<br>%R | Flags |
|--------------------------------|---------------------|--------------------|-----------------------|----------------------|-------|
| 1-Chlorooctane                 | 128                 | 100                | 128                   | 70-135               |       |
| o-Terphenyl                    | 63.3                | 50.0               | 127                   | 70-135               |       |

\* Surrogate outside of Laboratory QC limits

\*\* Surrogates outside limits; data and surrogates confirmed by reanalysis

\*\*\* Poor recoveries due to dilution

Surrogate Recovery [D] =  $100 * A / B$

All results are based on MDL and validated for QC purposes.



## Form 2 - Surrogate Recoveries

Project Name: HAWK 8 Fed #46

Work Orders : 539457,

Lab Batch #: 3003040

Sample: 715592-1-BSD / BSD

Project ID:

Batch: 1 Matrix: Solid

Units: mg/kg

Date Analyzed: 10/31/16 14:29

### SURROGATE RECOVERY STUDY

| BTEX by EPA 8021B<br>Analytes | Amount Found [A] | True Amount [B] | Recovery %R [D] | Control Limits %R | Flags |
|-------------------------------|------------------|-----------------|-----------------|-------------------|-------|
| 1,4-Difluorobenzene           | 0.0267           | 0.0300          | 89              | 80-120            |       |
| 4-Bromofluorobenzene          | 0.0274           | 0.0300          | 91              | 80-120            |       |

Lab Batch #: 3003034

Sample: 715582-1-BSD / BSD

Batch: 1 Matrix: Solid

Units: mg/kg

Date Analyzed: 11/01/16 00:17

### SURROGATE RECOVERY STUDY

| TPH By SW8015B Mod<br>Analytes | Amount Found [A] | True Amount [B] | Recovery %R [D] | Control Limits %R | Flags |
|--------------------------------|------------------|-----------------|-----------------|-------------------|-------|
| 1-Chlorooctane                 | 112              | 100             | 112             | 70-135            |       |
| o-Terphenyl                    | 63.7             | 50.0            | 127             | 70-135            |       |

Lab Batch #: 3003040

Sample: 539437-013 S / MS

Batch: 1 Matrix: Soil

Units: mg/kg

Date Analyzed: 10/31/16 15:30

### SURROGATE RECOVERY STUDY

| BTEX by EPA 8021B<br>Analytes | Amount Found [A] | True Amount [B] | Recovery %R [D] | Control Limits %R | Flags |
|-------------------------------|------------------|-----------------|-----------------|-------------------|-------|
| 1,4-Difluorobenzene           | 0.0273           | 0.0300          | 91              | 80-120            |       |
| 4-Bromofluorobenzene          | 0.0276           | 0.0300          | 92              | 80-120            |       |

Lab Batch #: 3003034

Sample: 539437-001 S / MS

Batch: 1 Matrix: Soil

Units: mg/kg

Date Analyzed: 11/01/16 01:06

### SURROGATE RECOVERY STUDY

| TPH By SW8015B Mod<br>Analytes | Amount Found [A] | True Amount [B] | Recovery %R [D] | Control Limits %R | Flags |
|--------------------------------|------------------|-----------------|-----------------|-------------------|-------|
| 1-Chlorooctane                 | 126              | 99.9            | 126             | 70-135            |       |
| o-Terphenyl                    | 62.0             | 50.0            | 124             | 70-135            |       |

Lab Batch #: 3003040

Sample: 539437-013 SD / MSD

Batch: 1 Matrix: Soil

Units: mg/kg

Date Analyzed: 10/31/16 15:47

### SURROGATE RECOVERY STUDY

| BTEX by EPA 8021B<br>Analytes | Amount Found [A] | True Amount [B] | Recovery %R [D] | Control Limits %R | Flags |
|-------------------------------|------------------|-----------------|-----------------|-------------------|-------|
| 1,4-Difluorobenzene           | 0.0300           | 0.0300          | 100             | 80-120            |       |
| 4-Bromofluorobenzene          | 0.0346           | 0.0300          | 115             | 80-120            |       |

\* Surrogate outside of Laboratory QC limits

\*\* Surrogates outside limits; data and surrogates confirmed by reanalysis

\*\*\* Poor recoveries due to dilution

Surrogate Recovery [D] =  $100 * A / B$

All results are based on MDL and validated for QC purposes.



## Form 2 - Surrogate Recoveries

Project Name: HAWK 8 Fed #46

Work Orders : 539457,

Lab Batch #: 3003034

Sample: 539437-001 SD / MSD

Project ID:

Batch: 1 Matrix: Soil

Units: mg/kg

Date Analyzed: 11/01/16 01:31

### SURROGATE RECOVERY STUDY

| TPH By SW8015B Mod<br><br>Analytes | Amount<br>Found<br>[A] | True<br>Amount<br>[B] | Recovery<br>%R<br>[D] | Control<br>Limits<br>%R | Flags |
|------------------------------------|------------------------|-----------------------|-----------------------|-------------------------|-------|
| 1-Chlorooctane                     | 124                    | 99.7                  | 124                   | 70-135                  |       |
| o-Terphenyl                        | 64.0                   | 49.9                  | 128                   | 70-135                  |       |

\* Surrogate outside of Laboratory QC limits

\*\* Surrogates outside limits; data and surrogates confirmed by reanalysis

\*\*\* Poor recoveries due to dilution

Surrogate Recovery [D] =  $100 * A / B$

All results are based on MDL and validated for QC purposes.



# BS / BSD Recoveries



Project Name: HAWK 8 Fed #46

Work Order #: 539457

Project ID:

Analyst: PJB

Date Prepared: 11/01/2016

Date Analyzed: 10/31/2016

Lab Batch ID: 3003040

Sample: 715592-1-BKS

Batch #: 1

Matrix: Solid

Units: mg/kg

## BLANK /BLANK SPIKE / BLANK SPIKE DUPLICATE RECOVERY STUDY

| BTEX by EPA 8021B | Blank Sample Result [A] | Spike Added [B] | Blank Spike Result [C] | Blank Spike %R [D] | Spike Added [E] | Blank Spike Duplicate Result [F] | Blk. Spk Dup. %R [G] | RPD % | Control Limits %R | Control Limits %RPD | Flag |
|-------------------|-------------------------|-----------------|------------------------|--------------------|-----------------|----------------------------------|----------------------|-------|-------------------|---------------------|------|
| Analytes          |                         |                 |                        |                    |                 |                                  |                      |       |                   |                     |      |
| Benzene           | <0.00150                | 0.100           | 0.102                  | 102                | 0.100           | 0.0897                           | 90                   | 13    | 70-130            | 35                  |      |
| Toluene           | <0.00200                | 0.100           | 0.102                  | 102                | 0.100           | 0.0882                           | 88                   | 15    | 70-130            | 35                  |      |
| Ethylbenzene      | <0.00200                | 0.100           | 0.106                  | 106                | 0.100           | 0.0934                           | 93                   | 13    | 71-129            | 35                  |      |
| m_p-Xylenes       | <0.00200                | 0.200           | 0.217                  | 109                | 0.200           | 0.191                            | 96                   | 13    | 70-135            | 35                  |      |
| o-Xylene          | <0.00300                | 0.100           | 0.107                  | 107                | 0.100           | 0.0944                           | 94                   | 13    | 71-133            | 35                  |      |

Analyst: MNR

Date Prepared: 10/31/2016

Date Analyzed: 10/31/2016

Lab Batch ID: 3003036

Sample: 715579-1-BKS

Batch #: 1

Matrix: Solid

Units: mg/kg

## BLANK /BLANK SPIKE / BLANK SPIKE DUPLICATE RECOVERY STUDY

| Inorganic Anions by EPA 300/300.1 | Blank Sample Result [A] | Spike Added [B] | Blank Spike Result [C] | Blank Spike %R [D] | Spike Added [E] | Blank Spike Duplicate Result [F] | Blk. Spk Dup. %R [G] | RPD % | Control Limits %R | Control Limits %RPD | Flag |
|-----------------------------------|-------------------------|-----------------|------------------------|--------------------|-----------------|----------------------------------|----------------------|-------|-------------------|---------------------|------|
| Analytes                          |                         |                 |                        |                    |                 |                                  |                      |       |                   |                     |      |
| Chloride                          | <5.00                   | 250             | 259                    | 104                | 250             | 261                              | 104                  | 1     | 90-110            | 20                  |      |

Relative Percent Difference RPD =  $200 * |(C-F)/(C+F)|$

Blank Spike Recovery [D] =  $100 * (C)/[B]$

Blank Spike Duplicate Recovery [G] =  $100 * (F)/[E]$

All results are based on MDL and Validated for QC Purposes



## BS / BSD Recoveries



**Project Name: HAWK 8 Fed #46**

**Work Order #: 539457**

**Project ID:**

**Analyst: ARM**

**Date Prepared: 10/31/2016**

**Date Analyzed: 10/31/2016**

**Lab Batch ID: 3003034**

**Sample: 715582-1-BKS**

**Batch #: 1**

**Matrix: Solid**

**Units: mg/kg**

### BLANK /BLANK SPIKE / BLANK SPIKE DUPLICATE RECOVERY STUDY

| <b>TPH By SW8015B Mod</b>          | <b>Blank<br/>Sample Result<br/>[A]</b> | <b>Spike<br/>Added<br/>[B]</b> | <b>Blank<br/>Spike<br/>Result<br/>[C]</b> | <b>Blank<br/>Spike<br/>%R<br/>[D]</b> | <b>Spike<br/>Added<br/>[E]</b> | <b>Blank<br/>Spike<br/>Duplicate<br/>Result [F]</b> | <b>Blk. Spk<br/>Dup.<br/>%R<br/>[G]</b> | <b>RPD<br/>%</b> | <b>Control<br/>Limits<br/>%R</b> | <b>Control<br/>Limits<br/>%RPD</b> | <b>Flag</b> |
|------------------------------------|--|--------------------------------|---|---------------------------------------|--------------------------------|---|---|------------------|----------------------------------|------------------------------------|-------------|
| <b>Analytes</b>                    |  |                                |   |                                       |                                |   |   |                  |                                  |                                    |             |
| C6-C10 Gasoline Range Hydrocarbons | <15.0                                  | 1000                           | 951                                       | 95                                    | 1000                           | 983   | 98                                      | 3                | 70-135                           | 35                                 |             |
| C10-C28 Diesel Range Hydrocarbons  | <15.0                                  | 1000                           | 969                                       | 97                                    | 1000                           | 991   | 99                                      | 2                | 70-135                           | 35                                 |             |

Relative Percent Difference RPD =  $200 * |(C-F)/(C+F)|$

Blank Spike Recovery [D] =  $100 * (C)/[B]$

Blank Spike Duplicate Recovery [G] =  $100 * (F)/[E]$

All results are based on MDL and Validated for QC Purposes



# Form 3 - MS / MSD Recoveries



Project Name: HAWK 8 Fed #46

Work Order #: 539457

Project ID:

Lab Batch ID: 3003040

QC- Sample ID: 539437-013 S

Batch #: 1 Matrix: Soil

Date Analyzed: 10/31/2016

Date Prepared: 10/31/2016

Analyst: PJB

Reporting Units: mg/kg

## MATRIX SPIKE / MATRIX SPIKE DUPLICATE RECOVERY STUDY

| BTEX by EPA 8021B<br>Analytes | Parent<br>Sample<br>Result<br>[A] | Spike<br>Added<br>[B] | Spiked Sample<br>Result<br>[C] | Spiked<br>Sample<br>%R<br>[D] | Spike<br>Added<br>[E] | Duplicate<br>Spiked Sample<br>Result [F] | Spiked<br>Dup.<br>%R<br>[G] | RPD<br>% | Control<br>Limits<br>%R | Control<br>Limits<br>%RPD | Flag |
|-------------------------------|-----------------------------------|-----------------------|--------------------------------|-------------------------------|-----------------------|--|-----------------------------|----------|-------------------------|---------------------------|------|
| Benzene                       | <0.00150                          | 0.0998                | 0.0852                         | 85                            | 0.0994                | 0.0930                                   | 94                          | 9        | 70-130                  | 35                        |      |
| Toluene                       | <0.00200                          | 0.0998                | 0.0845                         | 85                            | 0.0994                | 0.0956                                   | 96                          | 12       | 70-130                  | 35                        |      |
| Ethylbenzene                  | <0.00200                          | 0.0998                | 0.0883                         | 88                            | 0.0994                | 0.0984                                   | 99                          | 11       | 71-129                  | 35                        |      |
| m_p-Xylenes                   | <0.00200                          | 0.200                 | 0.181                          | 91                            | 0.199                 | 0.207                                    | 104                         | 13       | 70-135                  | 35                        |      |
| o-Xylene                      | <0.00299                          | 0.0998                | 0.0888                         | 89                            | 0.0994                | 0.106                                    | 107                         | 18       | 71-133                  | 35                        |      |

Lab Batch ID: 3003036

QC- Sample ID: 539437-018 S

Batch #: 1 Matrix: Soil

Date Analyzed: 10/31/2016

Date Prepared: 10/31/2016

Analyst: MNR

Reporting Units: mg/kg

## MATRIX SPIKE / MATRIX SPIKE DUPLICATE RECOVERY STUDY

| Inorganic Anions by EPA 300/300.1<br>Analytes | Parent<br>Sample<br>Result<br>[A] | Spike<br>Added<br>[B] | Spiked Sample<br>Result<br>[C] | Spiked<br>Sample<br>%R<br>[D] | Spike<br>Added<br>[E] | Duplicate<br>Spiked Sample<br>Result [F] | Spiked<br>Dup.<br>%R<br>[G] | RPD<br>% | Control<br>Limits<br>%R | Control<br>Limits<br>%RPD | Flag |
|---|-----------------------------------|-----------------------|--------------------------------|-------------------------------|-----------------------|--|-----------------------------|----------|-------------------------|---------------------------|------|
| Chloride                                      | 17.7                              | 250                   | 254                            | 95                            | 250                   | 248                                      | 92                          | 2        | 90-110                  | 20                        |      |

Lab Batch ID: 3003036

QC- Sample ID: 539505-001 S

Batch #: 1 Matrix: Soil

Date Analyzed: 10/31/2016

Date Prepared: 10/31/2016

Analyst: MNR

Reporting Units: mg/kg

## MATRIX SPIKE / MATRIX SPIKE DUPLICATE RECOVERY STUDY

| Inorganic Anions by EPA 300/300.1<br>Analytes | Parent<br>Sample<br>Result<br>[A] | Spike<br>Added<br>[B] | Spiked Sample<br>Result<br>[C] | Spiked<br>Sample<br>%R<br>[D] | Spike<br>Added<br>[E] | Duplicate<br>Spiked Sample<br>Result [F] | Spiked<br>Dup.<br>%R<br>[G] | RPD<br>% | Control<br>Limits<br>%R | Control<br>Limits<br>%RPD | Flag |
|---|-----------------------------------|-----------------------|--------------------------------|-------------------------------|-----------------------|--|-----------------------------|----------|-------------------------|---------------------------|------|
| Chloride                                      | 3890                              | 1250                  | 5110                           | 98                            | 1250                  | 5160                                     | 102                         | 1        | 90-110                  | 20                        |      |

Matrix Spike Percent Recovery  $[D] = 100 \times (C-A)/B$   
Relative Percent Difference  $RPD = 200 \times |(C-F)/(C+F)|$

Matrix Spike Duplicate Percent Recovery  $[G] = 100 \times (F-A)/E$

ND = Not Detected, J = Present Below Reporting Limit, B = Present in Blank, NR = Not Requested, I = Interference, NA = Not Applicable

N = See Narrative, EQL = Estimated Quantitation Limit, NC = Non Calculable - Sample amount is > 4 times the amount spiked.



# Form 3 - MS / MSD Recoveries



Project Name: HAWK 8 Fed #46

Work Order # : 539457

Project ID:

Lab Batch ID: 3003034

QC- Sample ID: 539437-001 S

Batch #: 1 Matrix: Soil

Date Analyzed: 11/01/2016

Date Prepared: 10/31/2016

Analyst: ARM

Reporting Units: mg/kg

## MATRIX SPIKE / MATRIX SPIKE DUPLICATE RECOVERY STUDY

| TPH By SW8015B Mod<br>Analytes     | Parent<br>Sample<br>Result<br>[A] | Spike<br>Added<br>[B] | Spiked Sample<br>Result<br>[C] | Spiked<br>Sample<br>%R<br>[D] | Spike<br>Added<br>[E] | Duplicate<br>Spiked Sample<br>Result [F] | Spiked<br>Dup.<br>%R<br>[G] | RPD<br>% | Control<br>Limits<br>%R | Control<br>Limits<br>%RPD | Flag |
|------------------------------------|-----------------------------------|-----------------------|--------------------------------|-------------------------------|-----------------------|--|-----------------------------|----------|-------------------------|---------------------------|------|
| C6-C10 Gasoline Range Hydrocarbons | <15.0                             | 999                   | 962                            | 96                            | 997                   | 996                                      | 100                         | 3        | 70-135                  | 35                        |      |
| C10-C28 Diesel Range Hydrocarbons  | <15.0                             | 999                   | 980                            | 98                            | 997                   | 1020                                     | 102                         | 4        | 70-135                  | 35                        |      |

Matrix Spike Percent Recovery  $[D] = 100 * (C - A) / B$   
Relative Percent Difference  $RPD = 200 * |(C - F) / (C + F)|$

Matrix Spike Duplicate Percent Recovery  $[G] = 100 * (F - A) / E$

ND = Not Detected, J = Present Below Reporting Limit, B = Present in Blank, NR = Not Requested, I = Interference, NA = Not Applicable

N = See Narrative, EQL = Estimated Quantitation Limit, NC = Non Calculable - Sample amount is > 4 times the amount spiked.



# XENCO Laboratories

## Prelogin/Nonconformance Report- Sample Log-In



Client: Talon LPE

Date/ Time Received: 10/29/2016 12:00:00 PM

Work Order #: 539457

Acceptable Temperature Range: 0 - 6 degC

Air and Metal samples Acceptable Range: Ambient

Temperature Measuring device used : R8

### Sample Receipt Checklist

### Comments

|  |     |
|--|-----|
| #1 *Temperature of cooler(s)?  | 6.3 |
| #2 *Shipping container in good condition?  | Yes |
| #3 *Samples received on ice?   | Yes |
| #4 *Custody Seal present on shipping container/ cooler?  | Yes |
| #5 *Custody Seals intact on shipping container/ cooler?  | Yes |
| #6 Custody Seals intact on sample bottles?   | Yes |
| #7 *Custody Seals Signed and dated?  | No  |
| #8 *Chain of Custody present?  | Yes |
| #9 Sample instructions complete on Chain of Custody?   | Yes |
| #10 Any missing/extra samples?   | No  |
| #11 Chain of Custody signed when relinquished/ received?   | Yes |
| #12 Chain of Custody agrees with sample label(s)?  | Yes |
| #13 Container label(s) legible and intact?   | Yes |
| #14 Sample matrix/ properties agree with Chain of Custody?   | Yes |
| #15 Samples in proper container/ bottle?   | Yes |
| #16 Samples properly preserved?  | Yes |
| #17 Sample container(s) intact?  | Yes |
| #18 Sufficient sample amount for indicated test(s)?  | Yes |
| #19 All samples received within hold time?   | Yes |
| #20 Subcontract of sample(s)?  | N/A |
| #21 VOC samples have zero headspace (less than 1/4 inch bubble)?   | N/A |
| #22 <2 for all samples preserved with HNO3,HCL, H2SO4? Except for samples for the analysis of HEM or HEM-SGT which are verified by the analysts. | N/A |
| #23 >10 for all samples preserved with NaAsO2+NaOH, ZnAc+NaOH?   | N/A |

\* Must be completed for after-hours delivery of samples prior to placing in the refrigerator

Analyst:

PH Device/Lot#:

Checklist completed by:

*Jessica Kramer*

Jessica Kramer

Date: 10/31/2016

Checklist reviewed by:

*Kelsey Brooks*

Kelsey Brooks

Date: 11/01/2016







# XENCO Laboratories

## Prelogin/Nonconformance Report- Sample Log-In



Client: Talon LPE

Date/ Time Received: 10/29/2016 12:00:00 PM

Work Order #: 539457

Acceptable Temperature Range: 0 - 6 degC

Air and Metal samples Acceptable Range: Ambient

Temperature Measuring device used : R8

| Sample Receipt Checklist   | Comments |
|--|----------|
| #1 *Temperature of cooler(s)?  | 6.3      |
| #2 *Shipping container in good condition?  | Yes      |
| #3 *Samples received on ice?   | Yes      |
| #4 *Custody Seal present on shipping container/ cooler?  | Yes      |
| #5 *Custody Seals intact on shipping container/ cooler?  | Yes      |
| #6 Custody Seals intact on sample bottles?   | Yes      |
| #7 *Custody Seals Signed and dated?  | No       |
| #8 *Chain of Custody present?  | Yes      |
| #9 Sample instructions complete on Chain of Custody?   | Yes      |
| #10 Any missing/extra samples?   | No       |
| #11 Chain of Custody signed when relinquished/ received?   | Yes      |
| #12 Chain of Custody agrees with sample label(s)?  | Yes      |
| #13 Container label(s) legible and intact?   | Yes      |
| #14 Sample matrix/ properties agree with Chain of Custody?   | Yes      |
| #15 Samples in proper container/ bottle?   | Yes      |
| #16 Samples properly preserved?  | Yes      |
| #17 Sample container(s) intact?  | Yes      |
| #18 Sufficient sample amount for indicated test(s)?  | Yes      |
| #19 All samples received within hold time?   | Yes      |
| #20 Subcontract of sample(s)?  | N/A      |
| #21 VOC samples have zero headspace (less than 1/4 inch bubble)?   | N/A      |
| #22 <2 for all samples preserved with HNO <sub>3</sub> , HCL, H <sub>2</sub> SO <sub>4</sub> ? Except for samples for the analysis of HEM or HEM-SGT which are verified by the analysts. | N/A      |
| #23 >10 for all samples preserved with NaAsO <sub>2</sub> +NaOH, ZnAc+NaOH?  | N/A      |

**\* Must be completed for after-hours delivery of samples prior to placing in the refrigerator**

Analyst:

PH Device/Lot#:

Checklist completed by:

*Jessica Kramer*

Jessica Kramer

Date: 10/31/2016

Checklist reviewed by:

*Kelsey Brooks*

Kelsey Brooks

Date: 11/01/2016