

# 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

*Client Name: Talon LPE**Project Name: HAWK 8 Fed #46*Project ID:  
Work Order Number(s): 539457Report 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      **MQL** 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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	(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 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 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 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 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 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 Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %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 Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %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 Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %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 Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %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 Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %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,

Project ID:

Lab Batch #: 3003040

Sample: 715592-1-BSD / BSD

Batch: 1 Matrix: Solid

Units: mg/kg

Date Analyzed: 10/31/16 14:29

## SURROGATE RECOVERY STUDY

BTEX by EPA 8021B 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 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 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 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 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  Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %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**

<b>BTEX by EPA 8021B</b>	<b>Blank Sample Result [A]</b>	<b>Spike Added [B]</b>	<b>Blank Spike Result [C]</b>	<b>Blank Spike %R [D]</b>	<b>Spike Added [E]</b>	<b>Blank Spike Duplicate Result [F]</b>	<b>Blk. Spk Dup. %R [G]</b>	<b>RPD %</b>	<b>Control Limits %R</b>	<b>Control Limits %RPD</b>	<b>Flag</b>
<b>Analytes</b>											
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**

<b>Inorganic Anions by EPA 300/300.1</b>	<b>Blank Sample Result [A]</b>	<b>Spike Added [B]</b>	<b>Blank Spike Result [C]</b>	<b>Blank Spike %R [D]</b>	<b>Spike Added [E]</b>	<b>Blank Spike Duplicate Result [F]</b>	<b>Blk. Spk Dup. %R [G]</b>	<b>RPD %</b>	<b>Control Limits %R</b>	<b>Control Limits %RPD</b>	<b>Flag</b>
<b>Analytes</b>											
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 Sample Result [A]</b>	<b>Spike Added [B]</b>	<b>Blank Spike Result [C]</b>	<b>Blank Spike %R [D]</b>	<b>Spike Added [E]</b>	<b>Blank Spike Duplicate Result [F]</b>	<b>Blk. Spk Dup. %R [G]</b>	<b>RPD %</b>	<b>Control Limits %R</b>	<b>Control Limits %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  
**Lab Batch ID:** 3003040  
**Date Analyzed:** 10/31/2016  
**Reporting Units:** mg/kg

**Project ID:**  
**QC- Sample ID:** 539437-013 S      **Batch #:** 1      **Matrix:** Soil  
**Date Prepared:** 10/31/2016      **Analyst:** PJB

**MATRIX SPIKE / MATRIX SPIKE DUPLICATE RECOVERY STUDY**

<b>BTEX by EPA 8021B</b>	<b>Parent Sample Result [A]</b>	<b>Spike Added [B]</b>	<b>Spiked Sample Result [C]</b>	<b>Spiked Sample %R [D]</b>	<b>Spike Added [E]</b>	<b>Duplicate Spiked Sample Result [F]</b>	<b>Spiked Dup. %R [G]</b>	<b>RPD %</b>	<b>Control Limits %R</b>	<b>Control Limits %RPD</b>	<b>Flag</b>
<b>Analytes</b>											
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**

<b>Inorganic Anions by EPA 300/300.1</b>	<b>Parent Sample Result [A]</b>	<b>Spike Added [B]</b>	<b>Spiked Sample Result [C]</b>	<b>Spiked Sample %R [D]</b>	<b>Spike Added [E]</b>	<b>Duplicate Spiked Sample Result [F]</b>	<b>Spiked Dup. %R [G]</b>	<b>RPD %</b>	<b>Control Limits %R</b>	<b>Control Limits %RPD</b>	<b>Flag</b>
<b>Analytes</b>											
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**

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

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.



# 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**

<b>TPH By SW8015B Mod</b>	<b>Parent Sample Result [A]</b>	<b>Spike Added [B]</b>	<b>Spiked Sample Result [C]</b>	<b>Spiked Sample %R [D]</b>	<b>Spike Added [E]</b>	<b>Duplicate Spiked Sample Result [F]</b>	<b>Spiked Dup. %R [G]</b>	<b>RPD %</b>	<b>Control Limits %R</b>	<b>Control Limits %RPD</b>	<b>Flag</b>
<b>Analytes</b>											
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.

**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



**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**

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**\* 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