

Analytical Report 528951

for
Talon LPE

Project Manager: Sheldon Hitckcock

Cal AB Launcher

29-APR-16

Collected By: Client



1211 W. Florida Ave, Midland TX 79701

Xenco-Houston (EPA Lab code: TX00122):

Texas (T104704215-15-19), Arizona (AZ0765), Florida (E871002), Louisiana (03054)
Oklahoma (9218)

Xenco-Dallas (EPA Lab code: TX01468): Texas (T104704295)

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Florida (E87429), North Carolina (483), South Carolina (98015), Kentucky (85), DoD (L10-135)

Texas (T104704477), Louisiana (04176), USDA (P330-07-00105)

Xenco-Lakeland: Florida (E84098)



29-APR-16

Project Manager: **Sheldon Hitckcock**

Talon LPE

408 W. Texas St.

Artesia, NM 88210

Reference: XENCO Report No(s): **528951**

Cal AB Launcher

Project Address: NM

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) 528951. 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. 528951 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 528951



Talon LPE, Artesia, NM

Cal AB Launcher

Sample Id	Matrix	Date Collected	Sample Depth	Lab Sample Id
C-1 1.5'	S	04-22-16 11:00	- 1.5 ft	528951-001
C-7 1.5'	S	04-22-16 10:15	- 1.5 ft	528951-002



CASE NARRATIVE



Client Name: Talon LPE

Project Name: Cal AB Launcher

Project ID:

Work Order Number(s): 528951

Report Date: 29-APR-16

Date Received: 04/22/2016

Sample receipt non conformances and comments:

Sample receipt non conformances and comments per sample:

None



Certificate of Analysis Summary 528951

Talon LPE, Artesia, NM

Project Name: Cal AB Launcher



Project Id:

Contact: Sheldon Hitckcock

Project Location: NM

Date Received in Lab: Fri Apr-22-16 03:58 pm

Report Date: 29-APR-16

Project Manager: Kelsey Brooks

Analysis Requested	Lab Id:	528951-001	528951-002				
	Field Id:	C-1 1.5'	C-7 1.5'				
	Depth:	1.5 ft	1.5 ft				
	Matrix:	SOIL	SOIL				
	Sampled:	Apr-22-16 11:00	Apr-22-16 10:15				
Inorganic Anions by EPA 300/300.1	Extracted:		Apr-28-16 18:00				
	Analyzed:		Apr-29-16 13:21				
	Units/RL:		mg/kg RL				
Chloride			629 40.0				
TPH By SW8015B Mod	Extracted:	Apr-23-16 11:00					
	Analyzed:	Apr-25-16 09:17					
	Units/RL:	mg/kg RL					
C6-C10 Gasoline Range Hydrocarbons		ND 15.0					
C10-C28 Diesel Range Hydrocarbons		17.9 15.0					
C28-C35 Oil Range Hydrocarbons		ND 15.0					
Total TPH		17.9 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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(210) 509-3334	(210) 509-3335
(432) 563-1800	(432) 563-1713
(602) 437-0330	



Form 2 - Surrogate Recoveries

Project Name: Cal AB Launcher

Work Orders : 528951,

Lab Batch #: 993066

Sample: 528951-001 / SMP

Project ID:

Batch: 1 Matrix: Soil

Units: mg/kg

Date Analyzed: 04/25/16 09:17

SURROGATE RECOVERY STUDY

TPH By SW8015B Mod Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1-Chlorooctane	85.0	99.9	85	70-135	
o-Terphenyl	44.5	50.0	89	70-135	

Lab Batch #: 993066

Sample: 708099-1-BLK / BLK

Batch: 1 Matrix: Solid

Units: mg/kg

Date Analyzed: 04/24/16 01:46

SURROGATE RECOVERY STUDY

TPH By SW8015B Mod Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1-Chlorooctane	104	100	104	70-135	
o-Terphenyl	52.8	50.0	106	70-135	

Lab Batch #: 993066

Sample: 708099-1-BKS / BKS

Batch: 1 Matrix: Solid

Units: mg/kg

Date Analyzed: 04/24/16 02:11

SURROGATE RECOVERY STUDY

TPH By SW8015B Mod Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1-Chlorooctane	119	100	119	70-135	
o-Terphenyl	53.5	50.0	107	70-135	

Lab Batch #: 993066

Sample: 708099-1-BSD / BSD

Batch: 1 Matrix: Solid

Units: mg/kg

Date Analyzed: 04/24/16 02:38

SURROGATE RECOVERY STUDY

TPH By SW8015B Mod Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1-Chlorooctane	104	100	104	70-135	
o-Terphenyl	46.9	50.0	94	70-135	

Lab Batch #: 993066

Sample: 528736-001 S / MS

Batch: 1 Matrix: Soil

Units: mg/kg

Date Analyzed: 04/24/16 03:34

SURROGATE RECOVERY STUDY

TPH By SW8015B Mod Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1-Chlorooctane	95.2	99.9	95	70-135	
o-Terphenyl	41.3	50.0	83	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: Cal AB Launcher

Work Orders : 528951,

Lab Batch #: 993066

Sample: 528736-001 SD / MSD

Project ID:

Batch: 1 Matrix: Soil

Units: mg/kg

Date Analyzed: 04/24/16 04:02

SURROGATE RECOVERY STUDY

TPH By SW8015B Mod Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1-Chlorooctane	100	99.7	100	70-135	
o-Terphenyl	44.5	49.9	89	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: Cal AB Launcher

Work Order #: 528951

Project ID:

Analyst: MNR

Date Prepared: 04/28/2016

Date Analyzed: 04/29/2016

Lab Batch ID: 993436

Sample: 708288-1-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	<2.00	50.0	48.7	97	50.0	48.5	97	0	90-110	20	

Analyst: ARM

Date Prepared: 04/23/2016

Date Analyzed: 04/24/2016

Lab Batch ID: 993066

Sample: 708099-1-BKS

Batch #: 1

Matrix: Solid

Units: mg/kg

BLANK /BLANK SPIKE / BLANK SPIKE DUPLICATE RECOVERY STUDY

TPH By SW8015B Mod	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											
C6-C10 Gasoline Range Hydrocarbons	<15.0	1000	916	92	1000	803	80	13	70-135	35	
C10-C28 Diesel Range Hydrocarbons	<15.0	1000	967	97	1000	843	84	14	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 Recoveries

Project Name: Cal AB Launcher



Work Order #: 528951

Lab Batch #: 993436

Date Analyzed: 04/29/2016

QC- Sample ID: 528951-002 S

Reporting Units: mg/kg

Date Prepared: 04/28/2016

Batch #: 1

Project ID:

Analyst: MNR

Matrix: Soil

MATRIX / MATRIX SPIKE RECOVERY STUDY						
Inorganic Anions by EPA 300	Parent Sample Result [A]	Spike Added [B]	Spiked Sample Result [C]	%R [D]	Control Limits %R	Flag
Analytes						
Chloride	629	1000	1610	98	80-120	

Matrix Spike Percent Recovery [D] = $100 \times (C-A)/B$
Relative Percent Difference [E] = $200 \times (C-A)/(C+B)$
All Results are based on MDL and Validated for QC Purposes

BRL - Below Reporting Limit



Form 3 - MS / MSD Recoveries



Project Name: Cal AB Launcher

Work Order # : 528951

Project ID:

Lab Batch ID: 993066

QC- Sample ID: 528736-001 S

Batch #: 1 Matrix: Soil

Date Analyzed: 04/24/2016

Date Prepared: 04/23/2016

Analyst: ARM

Reporting Units: mg/kg

MATRIX SPIKE / MATRIX SPIKE DUPLICATE RECOVERY STUDY

TPH By SW8015B Mod Analytes	Parent Sample Result [A]	Spike Added [B]	Spiked Sample Result [C]	Spiked Sample %R [D]	Spike Added [E]	Duplicate Spiked Sample Result [F]	Spiked Dup. %R [G]	RPD %	Control Limits %R	Control Limits %RPD	Flag
C6-C10 Gasoline Range Hydrocarbons	<15.0	999	770	77	997	795	80	3	70-135	35	
C10-C28 Diesel Range Hydrocarbons	21.6	999	819	80	997	875	86	7	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.

Project Name: Cal AB Launcher**Work Order #:** 528951**Lab Batch #:** 993436**Project ID:****Date Analyzed:** 04/29/2016 13:47**Date Prepared:** 04/28/2016**Analyst:** MNR**QC- Sample ID:** 528951-002 D**Batch #:** 1**Matrix:** Soil**Reporting Units:** mg/kg**SAMPLE / SAMPLE DUPLICATE RECOVERY**

Inorganic Anions by EPA 300/300.1	Parent Sample Result [A]	Sample Duplicate Result [B]	RPD	Control Limits %RPD	Flag
Analyte					
Chloride	629	621	1	20	

Spike Relative Difference RPD $200 * |(B-A)/(B+A)|$
All Results are based on MDL and validated for QC purposes.
BRL - Below Reporting Limit

☐ 4143 Greenbrier Drive, Stafford, TX 77477 281-240-4200
☐ 5332, Blackberry Drive, San Antonio, TX 78238 210-509-3334

☐ 9701 Harry Hines Blvd., Dallas, TX 75220 214-902-0300
☒ 12600 West 120 East, Odessa, TX 79765 432-563-1800

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Company-City

Talena/PE Austin, TX

Phone

525-689-5188

Project Name-Location

Cal AB Laguna

Project ID

525-689-5188

Proj. State: TX, AL, FL, GA, LA, MS, NC, NJ, PA, SC, TN, UT Other

Proj. Manager (PM)

Shedden Hitchcock

E-mail Results to

PEM and

Shedden Hitchcock

Fax No:

Invoice to ☐ Accounting ☐ Inc. Invoice with Final Report ☐ Invoice must have a P.O.

Shedden Hitchcock

Bill to:

Rachel Johnson - ETP

Quote/Pricing:

P.O. No:

☐ Call for P.O.

Reg Program: UST DRY-CLEAN Land-Fill Waste-Disp NPDES DW TRRP

QAPP Per-Contract CLP AGCEE NAVY DOE DOD USACE OTHER:

Special DIs (GW DW QAPP MDLs RIs See Lab PM Included Call PM)

Sampler Name

S. Hitchcock

Signature

Shedden Hitchcock

Sample ID

Sampling Date

Time

Depth ft' in" m

Matrix

Composite

Grab

Containers

Container Size

Container Type

Preservatives

VOA: Full-List BTEX-MTBE EtOH Oxyg VOHs VOAs

VOA: PP TCL DW Appdx-1 Appdx-2 CALL Other:

PAHs SIM 8310 8270

TX-1005 DRO GRO MA EPH MA VPH

SVOCs: Full-List DW BN&AE TCLP PP Appdx-2 CALL

OC Pesticides PCBs Herbicides OP Pesticides

Metals: RCRA-8 RCRA-4 Pb 13PP 23TAL Appdx 1 Appdx2

SPLP - TCLP (Metals VOCs SVOCs Pest. Herb. PCBs)

EDB / DBCP

TPH 8015 M

Chlorides

TATASAP 5h 12h 24h 48h 3d 5d 7d 10d 21d

Addn: PAH above mg/L W, mg/Kg S Highest Hit

Hold Samples (Surcharges will apply and are pre-approved)

Sample Clean-ups are pre-approved as needed

Addn: Date Rcv. by: From:

Remarks

It is typically 5-7 Working Days for level II and 10+ Working days for level III and IV data.

TAT: ASAP 5h 12h 24h 48h 3d 5d 7d 10d 21d

Standard TAT is project specific.

Relinquished by (Initials and Sign)

Date & Time

Relinquished to (Initials and Sign)

Date & Time

Total Containers per COC:

Cooler Temp: °C

Otherwise agreed on writing. Reports are the Intellectual Property of XENCO

until paid. Samples will be held 30 days after final report is e-mailed unless

hereby requested. Rush Charges and Collection Fees are pre-approved if needed.

Matrix: Air (A), Product (P), Solid (S), Water (W), Liquid (L)

Preservatives: Various (V), HCl pH<2 (H), H2SO4 pH<2 (S), HNO3 pH<2 (N), Asbc Acid&NaOH (A), ZnAc&NaOH (Z), (Cool, <4C) (C), None (NA), See Label (L), Other (O)

Cont. Size: 4oz (4), 8oz (8), 32oz (32), 40ml VOA (40), 1L (1), 500ml (5), Tedlar Bag (B), Various (V), Other

Cont. Type: Glass Amb (A), Glass Clear (C), Plastic (P), Various (V)

Notice: Signature of this document and relinquishment of these samples constitutes a valid purchase order from client company to Xenco Laboratories and its affiliate/corrected Temp: 41°C

subcontractors and assigns under Xenco's standard terms and conditions of service unless previously negotiated under a fully executed client contract.

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Final 1.000



XENCO Laboratories

Prelogin/Nonconformance Report- Sample Log-In



Client: Talon LPE

Date/ Time Received: 04/22/2016 03:58:28 PM

Work Order #: 528951

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)?	4.1
#2 *Shipping container in good condition?	N/A
#3 *Samples received on ice?	Yes
#4 *Custody Seal present on shipping container/ cooler?	N/A
#5 *Custody Seals intact on shipping container/ cooler?	N/A
#6 Custody Seals intact on sample bottles?	N/A
#7 *Custody Seals Signed and dated?	N/A
#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)?	No
#21 VOC samples have zero headspace (less than 1/4 inch bubble)?	N/A
#22 <2 for all samples preserved with HNO ₃ , HCL, H ₂ SO ₄ ? 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 ₂ +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:

Mary Alexis Negron
Mary Negron

Date: 04/22/2016

Checklist reviewed by:

Kelsey Brooks
Kelsey Brooks

Date: 04/22/2016