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HOBBS OCD

District I  
1625 N. French Dr., Hobbs, NM 88240  
District II  
1301 W. Grand Avenue, Artesia, NM 88210  
District III  
1000 Rio Brazos Road, Aztec, NM 87410  
District IV  
1220 S. St. Francis Dr., Santa Fe, NM 87505

State of New Mexico  
Energy Minerals and Natural Resources  
Oil Conservation Division  
1220 South St. Francis Dr.  
Santa Fe, NM 87505

OCT 30 2013  
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Form C-141  
Revised October 10, 2003  
Submit 2 Copies to appropriate  
District Office in accordance  
with Rule 116 on back  
side of form

**Release Notification and Corrective Action**

**OPERATOR**  Initial Report  Final Report

Name of Company	COG OPERATING LLC	Contact	Pat Ellis
Address	600 West Illinois Avenue, Midland, TX 79701	Telephone No.	432-230-0077
Facility Name	MAGNUM PRONTO STATE #4H	Facility Type	TANK BATTERY

Surface Owner	STATE	Mineral Owner		Lease No. (API#)	30-025-39951
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**LOCATION OF RELEASE**

Unit Letter	Section	Township	Range	Feet from the	North/South Line	Feet from the	East/West Line	County
C	8	26S	26E					LEA

Latitude 32.61053 Longitude 103.78080

**NATURE OF RELEASE**

Type of Release	Oil	Volume of Release	50bbls	Volume Recovered	20bbls
Source of Release	Oil hauler	Date and Hour of Occurrence	02/19/2013	Date and Hour of Discovery	02/19/2013 3:00am
Was Immediate Notice Given?	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> Not Required	If YES, To Whom?	Geoffrey R Leking - OCD		
By Whom?	Michelle Mullins	Date and Hour	02/20/2013 8:16am		
Was a Watercourse Reached?	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	If YES, Volume Impacting the Watercourse.			

If a Watercourse was Impacted, Describe Fully.\*

Describe Cause of Problem and Remedial Action Taken.\*

Oil hauler driver fell asleep while loading oil. Shut in load line to prevent further release of oil.

Describe Area Affected and Cleanup Action Taken.\*

Initially 50bbls of oil were released from an oil hauler and we were able to recover 20bbls with a vacuum truck. A temporary berm was placed around the release area, and the release was completely contained on the location. The free fluid has been recovered and the location has been scraped. Site remediation was performed in accordance with the approved Remedial Action Plan dated July 8, 2013. 92 cubic yards of contaminated soil was removed and disposed at the Parabo Disposal Facility east of Eunice, NM, operated by Sundance Services, Inc. Soils at the base of the excavation were sampled at four locations and analyzed for Benzene, BTEX, TPH and chloride. Laboratory analytical results indicate that remaining soils do not appear to contain Benzene, BTEX or TPH above laboratory reporting limits. Chloride in excess of 1,000 mg/kg is present at two sampled locations (at 2,050 and 2,680 mg/kg). The excavated area was backfilled with clean fill and contoured to provide drainage away from the site. Remedial actions are detailed in the Abatement Completion Report dated October 29, 2013.

I hereby certify that the information given above is true and complete to the best of my knowledge and understand that pursuant to NMOCD rules and regulations all operators are required to report and/or file certain release notifications and perform corrective actions for releases which may endanger public health or the environment. The acceptance of a C-141 report by the NMOCD marked as "Final Report" does not relieve the operator of liability should their operations have failed to adequately investigate and remediate contamination that pose a threat to ground water, surface water, human health or the environment. In addition, NMOCD acceptance of a C-141 report does not relieve the operator of responsibility for compliance with any other federal, state, or local laws and/or regulations.

Signature:		<u>OIL CONSERVATION DIVISION</u>	
Printed Name:	Josh Russo	Approved by District Supervisor:	
Title:	Senior Environmental Coordinator	Approval Date:	Expiration Date:
E-mail Address:	jrusso@concho.com	Conditions of Approval:	
Date:	02-22-2013	Phone:	432-212-2399
			Attached <input type="checkbox"/>

\* Attach Additional Sheets If Necessary

# Abatement Completion Report

## General Site Information:

Magnum Pronto State #4H Tank Battery Crude Oil Release

## Site Contact:

Pat Ellis, COG Operating LLC  
600 West Illinois Avenue, Midland, Texas 79701  
(432) 230-0077

## Depth to Ground Water

Greater than 100 feet below grade surface

## Distance to Nearest Surface Water

Laguna Plata (west-central Lea County), approximately 1.5 miles to the southeast

## Driving Directions

From NM529, south on Lea Co. Rd. 126A 12.5 mi, east on unimproved road 0.65 mi., south 0.35 mi., then southeast 0.25 mi. to tank battery.

## Legal Description

SE ¼ SE ¼ Section 32, T19S, R32E, N.M.P.M., Lea County, New Mexico

October 29, 2013

Terracon Project No. 68137010

HOBBS OCD

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## Prepared for:

High Sierra Transportation  
Fort Lupton, Colorado

## Prepared by:

Terracon Consultants, Inc.  
Las Cruces, New Mexico

Offices Nationwide  
Employee-Owned

Established in 1965  
terracon.com

# Terracon

Geotechnical ■ Environmental ■ Construction Materials ■ Facilities

October 29, 2013



High Sierra Transportation  
6075 CR 19  
Fort Lupton, Colorado 80621

Attn: Larry Cash, Safety  
P: 303-396-9964  
E: [lcash@highsierraenergy.com](mailto:lcash@highsierraenergy.com)

RE: **Abatement Completion Report**  
Magnum Pronto State #4H Tank Battery Crude Oil Release  
SE ¼ SE ¼ Section 32, Township 19 South, Range 32 East, N.M.P.M.  
Lea County, New Mexico  
Terracon Project No. 68137010

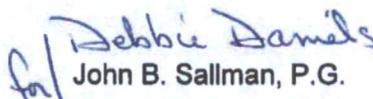
Dear Mr. Cash;

Terracon Consultants, Inc. (Terracon) is pleased to submit our Abatement Completion Report for the site referenced above. This report was developed in accordance with the New Mexico Oil Conservation Division (OCD) regulations concerning clean-up actions required for releases of crude oil, and with the Remedial Action Plan dated July 8, 2013 developed for the site by Terracon (Project Number 68137010). The report presents a description of the release incident and OCD notification, site characteristics, potential receptors, and remedial actions completed by the client at the site. Terracon developed this report in general accordance with our proposal (P6813-113E) dated May 6, 2013 and your notice to proceed dated May 13, 2013.

Terracon appreciates this opportunity to provide environmental services to High Sierra Transportation. Should you have any questions or require additional information, please do not hesitate to contact our office.

Sincerely,  
**Terracon Consultants, Inc.**

  
J. Kyle Williams  
Project Manager

  
John B. Sallman, P.G.  
Senior Principal / Environmental Services  
(Olathe, Kansas)



Terracon Consultants, Inc. 1640 Hickory Loop Suite 105 Las Cruces, New Mexico 88005  
P (575) 527 1700 F (575) 527 1092 [terracon.com](http://terracon.com)

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**APPENDIX C – WASTE MANIFESTS**

**Abatement Completion Report**  
**Magnum Pronto State #4H Tank Battery Crude Oil Release**  
**SE ¼ SE ¼ Section 32, Township 19 South, Range 32 East, N.M.P.M.**  
**Lea County, New Mexico**  
**Terracon Project No. 68137010**  
**October 29, 2013**

## **1.0 SITE DESCRIPTION**

The site is an approximate 2-acre tract of cleared land within the SE ¼ SE ¼ Section 32, Township 19 South, Range 32 East, N.M.P.M., Lea County, New Mexico (hereinafter, the site). The site is developed with a tank battery (five crude oil ASTs), a separator, and a pump jack. A Topographic Map showing the site location is included as Figure 1 and a Site Plan is included as Figure 2 in Appendix A.

## **2.0 SCOPE OF SERVICES**

At your request, the scope of services is to develop an Abatement Completion Report (ACR) in accordance with the New Mexico Oil Conservation Division (OCD) requirements and with the Remedial Action Plan dated July 8, 2013 developed for the site by Terracon (Project Number 68137010) that detail abatement activities that the client has completed at the site. This ACR addresses the February 19, 2013 release of approximately 50 barrels (BBL) of crude oil originating from overfilling of a High Sierra Transportation transport, and abatement actions completed at the site during August 2013. Terracon understands that oversight and/or performance of these activities is not required by the client, and is not a part of this scope of services.

### **2.1 Standard of Care**

Terracon's services were performed in a manner consistent with generally accepted practices of the profession undertaken in similar studies in the same geographical area during the same time. Terracon makes no warranties, either express or implied, regarding the findings, conclusions, or recommendations. Please note that Terracon does not warrant the work of laboratories, regulatory agencies, or other third parties supplying information used in the preparation of the report. These services were performed in accordance with the scope of work agreed with you, High Sierra Transportation, as reflected in our proposal.

### **2.2 Additional Scope Limitations**

Development of this ACR is based upon information provided by the Client and their remediation subcontractor, Allied International Emergency, LLC. Such information is subject to change over time. Certain indicators of the presence of hazardous substances, petroleum products, or other constituents may have been latent, inaccessible, unobservable,

## Remedial Action Plan

Magnum Pronto State #4H Release ■ Lea County, New Mexico

October 29, 2013 ■ Terracon Project No. 68137010



nondetectable, or not present during these services. We cannot represent that the site contains no hazardous substances, toxic materials, petroleum products, or other latent conditions beyond those by information provided by the Client and their subcontractor. The data, interpretations, findings, and our recommendations are based solely upon data provided by the Client within the scope of these services.

### 2.3 Reliance

This report has been prepared for the exclusive use of High Sierra Transportation (HST), Allied International Emergencies, LLC (Allied), COG Operating LLC (COG), and Haz-Mat One, and any authorization for use or reliance by any other party (except a governmental entity having jurisdiction over the site) is prohibited without the express written authorization of High Sierra Transportation and Terracon. Any unauthorized distribution or reuse is at High Sierra Transportation sole risk. Notwithstanding the foregoing, reliance by authorized parties will be subject to the terms, conditions, and limitations stated in the proposal, report, and Terracon's Agreement for Services. The limitation of liability defined in the terms and conditions is the aggregate limit of Terracon's liability to High Sierra Transportation and all relying parties unless otherwise agreed in writing.

## 3.0 INTRODUCTION AND NOTIFICATION

A release of approximately 50 barrels (BBL) of crude oil occurred on February 19, 2013 at the Magnum Pronto State #4H tank battery facility in Lea County, New Mexico. The site is operated by COG Operating LLC (COG), 600 West Illinois Avenue, Midland, Texas. The site is an approximate 2-acre cleared area with five crude oil ASTs, a separator, and a pump jack approximately 20 miles south of Maljamar, New Mexico. Incident information is provided in the following table:

Required Information	Site and Release information
Responsible party and local contact	The facility is operated by COG Operating LLC, and the contact is Pat Ellis at (432) 230-0077. The transport company is High Sierra Transportation, and the contact is Larry Cash at (303) 396-9964.
OCD Notification	Immediate notice of the release was provided to the OCD. Michelle Mullins (COG) notified Geoffrey R. Leking, Environmental, OCD District 1 at 8:16 a.m. on February 20, 2013.
Facility description	The facility is Magnum Pronto #4H in Lea County, New Mexico. It is an approximate 2-acre tank battery located within the SE ¼ SE ¼ Section 32, Township 19 South, Range 32 East, N.M.P.M., approximately 20 miles south of Maljamar, New Mexico. The site is developed with a tank battery, a separator, and a pump jack.

## Remedial Action Plan

Magnum Pronto State #4H Release ■ Lea County, New Mexico

October 29, 2013 ■ Terracon Project No. 68137010



Required Information	Site and Release information
Time of incident	February 19, 2013, discovered at 3:00 a.m.
Discharge event	The release occurred during transport loading. The HST transport driver fell asleep while loading crude oil, and overfilled the transport releasing approximately 50 BBL in the area west of the tank battery. The driver shut in the load line when discovered preventing further release. The spill area was completely within the location, covering approximately 6,000 square feet of the cleared area west of the battery. The spill area is shown on Figure 2 of Appendix A
Type of discharge	Crude oil
Quantity of spilled material	Approximately 50 BBL
Site characteristics	Relatively flat with hummocky dunes, with the native ground surface very gently sloping to the southwest.
Immediate corrective actions	A temporary berm was placed around the release. Approximately 20 BBL of crude oil was recovered using a vacuum truck.

## 4.0 INITIAL RESPONSE ACTIONS

### 4.1 Source Elimination and Site Security

Initial source elimination was accomplished by the HST truck driver by closing the load line valve. HST deployed their on-call spill response contractor, Allied International Emergency, LLC to secure the site and perform containment and site stabilization activities.

### 4.2 Containment and Site Stabilization

Allied began containment and recovery operations by constructing a perimeter berm around the release area. Allied then recovered approximately 20 BBL of crude oil using a vacuum truck.

## 5.0 REMEDIAL ACTION PLAN

### 5.1 Site and Waste Characteristics

The July 8, 2013 Remedial Action Plan findings and requirements are summarized in this section. This plan included an assessment of the site and waste characteristics, and the findings of this assessment are as follows:

## Remedial Action Plan

Magnum Pronto State #4H Release ■ Lea County, New Mexico  
October 29, 2013 ■ Terracon Project No. 68137010



- **Depth to Ground Water** - The depth to groundwater at the site is anticipated to be over 100 feet below grade surface (bgs). A search of the New Mexico Office of the State Engineer (NMSEO) website identified no registered wells within one mile of the site, and registered wells within 5 miles of the site have an average depth to ground water of 175 feet bgs, with a minimum reported depth of 102 feet bgs.
- **Distance to Nearest Potable Water Well** - The nearest water well registered in the NMSEO database is approximately 1.9 miles to the northeast.
- **Distance to Nearest Surface Water** - The Laguna Plata (playa) is approximately 1.5 miles southeast of the site.
- **Site Soils** - Soils at the site are mapped as Kermit soils and dune lands, 0 to 12 percent slopes. This soil has a surface layer of fine to coarse sand. Dunes in the area are 8 to 12 feet high. Interdune areas have a fine to coarse sand layer from 4 to 20 inches thick overlying a sandy clay loam. Kermit soil is very rapidly permeable and runoff is slow. Soil blowing is severe.
- **Contaminated Soils** - Initial assessment of soil contaminant levels was performed at four locations across the release area to estimate the volume of soil requiring removal. Each location was sampled at the surface, at 1 foot bgs, and at 2 feet bgs, and analyzed for total petroleum hydrocarbons (TPH). Results of these sample analyses are:
  - TPH concentrations in surface soil samples ranged from 27,400 to 48,400 mg/kg;
  - TPH in the 1 foot bgs soil samples ranged from 510 to 10,300 mg/kg; and
  - TPH in the 2 foot bgs soil samples ranged from 544 to 2,830 mg/kg.
- **Ground Water Quality** - Ground water quality is unknown at the site. As stated previously, there are no wells registered with the NMSEO website within one mile of the site.

## 5.2 Soil Remedial Action Levels

Soil remedial action levels were determined using the OCD ranking criteria. The hazard ranking for the site, and associated remedial action levels are provided below.

## Remedial Action Plan

Magnum Pronto State #4H Release ■ Lea County, New Mexico

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### 5.2.1 Ranking Criteria

The site characteristics were used to determine the ranking score for the site. Depth to groundwater is greater than 100 feet bgs at the site (ranking score of 0). The site is over 1,000 feet from water sources and private domestic wells (ranking score of 0). The site is also over 1,000 horizontal feet from the nearest surface water body (ranking score of 0). Therefore, the total ranking score for the site is 0.

### 5.2.2 Remediation Levels

Remediation levels for benzene, total BTEX (includes benzene, toluene, ethylbenzene and xylenes), chloride, and TPH were selected based on the total ranking score of 0 for the release site. These remediation levels are as follows:

Constituent	Remediation Level (ppm, mg/kg)
Benzene	10
BTEX	50
TPH	5,000
Chloride	1,000

### 5.3 Soil Sampling Procedures for Laboratory Analysis

Soil sampling for laboratory analysis was conducted according to OCD approved industry standards or other OCD-approved procedures. Accepted OCD soil sampling procedures and laboratory analytical methods are as follows:

- Collect samples in clean, air-tight glass jars supplied by the laboratory which will conduct the analysis or from a reliable laboratory equipment supplier.
- Label the samples with a unique code for each sample.
- Cool and store samples with cold packs or on ice.
- Promptly ship sample to the lab for analysis following chain of custody procedures.
- The samples must be analyzed within the holding times for the laboratory analytical method specified by EPA.
- Benzene, toluene, ethylbenzene and xylene - EPA Method 602/8020

## Remedial Action Plan

Magnum Pronto State #4H Release ■ Lea County, New Mexico

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- Chloride – EPA Method 300.0
- Total Petroleum Hydrocarbons -EPA Method 418.1, or; -EPA Method Modified 8015

## 6.0 SOIL REMEDIATION AND MANAGEMENT

Highly contaminated/saturated soils and unsaturated contaminated soils exceeding the remediation levels described in Section 6 were remediated as follows:

- Soils within the spill area shown on Figure 2 of Appendix A were excavated to a maximum depth of 2 feet below ground;
- Following excavation, four samples (CL-1, CL-2, CL-3 and CL-4) were collected from the base of the excavation to evaluate the remaining levels of soil contaminants at the site. Soil samples locations are shown on Site Plan provided as Figure 2 of Appendix A.
- The excavated area was backfilled with clean fill and contoured to provide drainage away from the site.

### 6.1 Clearance Soil Samples

Analytical results of soil samples CL-1 through CL-4 are compared with the remediation levels detailed in Section 5.2.2 above, and are as follows:

Constituent	Remediation Level	Soil Sample Identification			
		CL-1	CL-2	CL-3	CL-4
		(ppm, mg/kg)			
Benzene	10	ND*	ND	ND	ND
BTEX	50	ND	ND	ND	ND
TPH	5,000	ND	61.6	57.0	ND
Chloride	1,000	25.2	2,050	2,680	12.0

ND – Constituent Not Detected above laboratory detection limit.

The complete laboratory analytical report is provided in Appendix B. Soil samples CL-1, CL-2, CL-3 and CL-4 did not exhibit Benzene, BTEX and TPH concentrations at levels above

## Remedial Action Plan

Magnum Pronto State #4H Release ■ Lea County, New Mexico  
October 29, 2013 ■ Terracon Project No. 68137010



remediation levels. Soil samples CL-1 and CL-4 did not exhibit chloride concentrations at levels above remediation levels.

Chloride concentrations in soil samples CL-2 (2,050 mg/kg) and CL-3 (2,680 mg/kg) were above the remediation level of 1,000 mg/kg. The client proposes to leave this contamination in place at the site based on the following site characteristics:

- The depth to groundwater is over 100 feet below ground,
- Distance to the nearest potable water well to the site is over 1,000 feet. The nearest potable water well registered with the New Mexico State Engineer is located approximately 1.9 miles to the northeast,
- Distance to the nearest surface water body is over 1,000 feet. The nearest surface water body is the Laguna Playa, which is located approximately 1.5 miles to the southeast.
- The excavated area has been backfilled with clean fill and contoured to provide drainage away from the site.

The remaining site contaminants appear to pose minimal threat to present or foreseeable beneficial use of fresh water, public health and the environment.

## 6.2 Contaminated Soil Disposal

Contaminated soil removed from the site was disposed at an OCD-approved facility. Excavated soils were transported by truck (20 cubic yard capacity) and disposed of at the Parabo Disposal Facility operated by Sundance Services, Inc., located east of Eunice, New Mexico.

A total of 92 cubic yards of contaminated soil was transported to the Parabo Disposal Facility. A total of three 20-yard loads and two 16-yard loads were removed from the site and disposed. The waste manifests are provided in Appendix C.

## 7.0 FINDINGS AND RECOMMENDATIONS

The findings and recommendations of this remedial action are as follows:

- The objective of the remedial action was to remove and properly dispose of contaminated soil originating from a release of approximately 50 barrels of crude oil at the Magnum Pronto #4H site that occurred on February 19, 2013. Following soil removal, soil samples were collected from the base of the

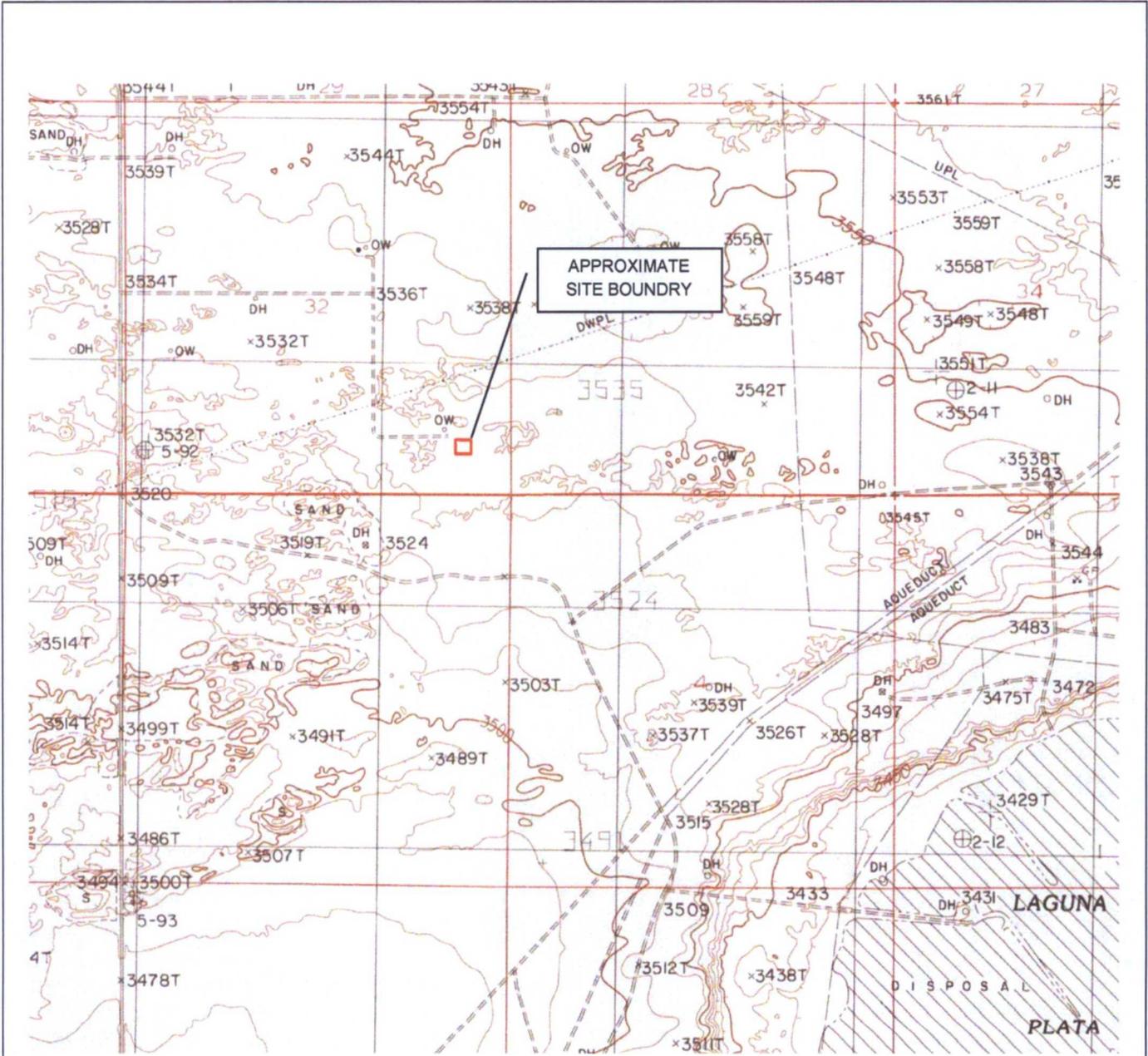
## Remedial Action Plan

Magnum Pronto State #4H Release ■ Lea County, New Mexico  
October 29, 2013 ■ Terracon Project No. 68137010



excavation to evaluate the presence of Benzene, BTEX, TPH and chloride in the on-site soils above relevant laboratory reporting limits.

- Based on review of the analytical results from soil samples collected during this remedial action, the site does not appear to be affected by a release of Benzene, BTEX, and TPH at concentrations exceeding remediation levels detailed the Remedial Action Plan dated July 8, 2013 (Terracon Project Number 68137710).
- Based on review of the analytical results from soil samples collected during this remedial action, the site soils appear to contain chloride above the remediation level of 1,000 mg/kg at two locations, CL-2 (2,050 mg/kg) and CL-3 (2,680 mg/kg).
- The remaining site contaminants appear to pose minimal threat to present or foreseeable beneficial use of fresh water, public health and the environment.
- If soils located on the site are to be disturbed during future excavations or construction activities, proper procedures should be followed with respect to worker health and safety; and any affected soil or groundwater encountered should be properly characterized, treated and/or disposed in accordance with applicable local, state or federal regulations.



USGS 7.5 MINUTE SERIES TOPOGRAPHIC MAP  
 STATE OF NM QUADRANGLES  
 WILLIAMS SINK, NEW MEXICO 1985

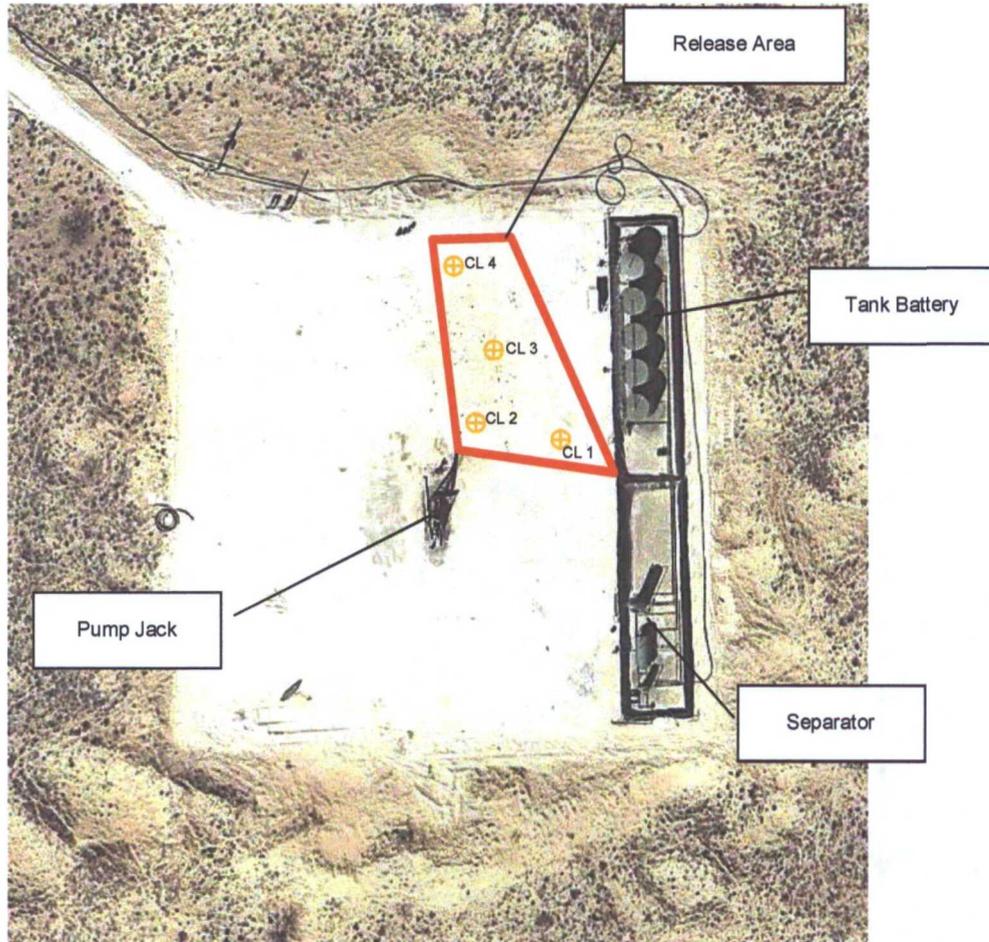
Project Mgr JKW  
 Approved by JBS  
 Checked by JBS  
 Drawn by JKW

Project No 68137010  
 Scale 1" = 2,000'  
 Date 10/21/13  
 File No. Figure 1

**Terracon**  
 1640 Hickory Loop, Suite 105  
 Las Cruces, NM 88005  
 Ph: 575-527-1700 Fax: 575-527-1092

TOPOGRAPHIC MAP  
 Magnum Pronto State #4H Tank Battery  
 SE ¼ SE ¼ Section 32, T19S, R32E, N.M.P.M.  
 Lea County, New Mexico

FIGURE  
 1



SOURCE: GOOGLE EARTH

⊕ SAMPLE LOCATION

Project Mgr	JKW	Project No	68137010	 1640 Hickory Loop, Suite 105 Las Cruces, NM 88005 Ph: 575-527-1700 Fax: 575-527-1092	SITE PLAN	FIGURE  2
Approved by	JBS	Scale	1" = 100'		Magnum Pronto State #4H Tank Battery	
Checked by	JBS	Date	10/21/13		SE ¼ SE ¼ Section 32, T19S, R32E, N.M.P.M.	
Drawn by	JKW	File No.	Figure 2		Lea County, New Mexico	

**APPENDIX B – ANALYTICAL REPORT AND CHAIN OF  
CUSTODY**

# Analytical Report 468808

## for Allied International Emergency

**Project Manager: Chris Waters**  
**Hazmat One/ Concho Maljamar NM**

**04-SEP-13**

Collected By: Client



**12600 West I-20 East Odessa, Texas 79765**

Xenco-Houston (EPA Lab code: TX00122):

Texas (T104704215-13-14-TX), Arizona (AZ0765), Arkansas (08-039-0), Connecticut (PH-0102), Florida (E871002)  
Illinois (002082), Indiana (C-TX-02), Iowa (392), Kansas (E-10380), Kentucky (45), Louisiana (03054)  
New Hampshire (297408), New Jersey (TX007), New York (11763), Oklahoma (9218), Pennsylvania (68-03610)  
Rhode Island (LAO00312), USDA (S-44102), DoD (L11-54)

Xenco-Atlanta (EPA Lab Code: GA00046):

Florida (E87429), North Carolina (483), South Carolina (98015), Kentucky (85), DoD (L10-135)  
Louisiana (04176), USDA (P330-07-00105)

Xenco-Tampa Mobile (EPA Lab code: FL01212): Florida (E84900)

Xenco-Lakeland: Florida (E84098)

Xenco-Odessa (EPA Lab code: TX00158): Texas (T104704400-TX)

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

Xenco Phoenix (EPA Lab Code: AZ00901): Arizona (AZ0757)

Xenco-Phoenix Mobile (EPA Lab code: AZ00901): Arizona (AZM757)

Xenco Tucson (EPA Lab code: AZ000989): Arizona (AZ0758)



04-SEP-13

Project Manager: **Chris Waters**  
**Allied International Emergency**  
2333 Delante Ave  
Fort Worth, TX 76117

Reference: XENCO Report No(s): **468808**  
**Hazmat One/ Concho Maljamar NM**  
Project Address: NM

**Chris Waters:**

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) 468808. 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. 468808 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

*Recipient of the Prestigious Small Business Administration Award of Excellence in 1994.  
Certified and approved by numerous States and Agencies.  
A Small Business and Minority Status Company that delivers SERVICE and QUALITY*

Houston - Dallas - Odessa - San Antonio - Tampa - Lakeland - Atlanta - Phoenix - Oklahoma - Latin America



# Sample Cross Reference 468808



Allied International Emergency, Fort Worth, TX

Hazmat One/ Concho Maljamar NM

Sample Id	Matrix	Date Collected	Sample Depth	Lab Sample Id
CL-1	S	08-14-13 17:30		468808-001
CL-2	S	08-14-13 17:32		468808-002
CL-3	S	08-14-13 17:33		468808-003
CL-4	S	08-14-13 17:35		468808-004



## CASE NARRATIVE



*Client Name: Allied International Emergency*

*Project Name: Hazmat One/ Concho Maljamar NM*

Project ID:  
Work Order Number(s): 468808

Report Date: 04-SEP-13  
Date Received: 08/19/2013

---

**Sample receipt non conformances and comments:**

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

None



# Certificate of Analysis Summary 468808

## Allied International Emergency, Fort Worth, TX



**Project Name:** Hazmat One/ Concho Maljamar NM  
**Date Received in Lab:** Mon Aug-19-13 09:59 am  
**Report Date:** 04-SEP-13  
**Project Manager:** Kelsey Brooks

**Project Id:**  
**Contact:** Chris Waters  
**Project Location:** NM

Analysis Requested		Lab Id:	468808-001	468808-002	468808-003	468808-004
		<b>Field Id:</b>	CL-1	CL-2	CL-3	CL-4
		<b>Depth:</b>				
		<b>Matrix:</b>	SOIL	SOIL	SOIL	SOIL
		<b>Sampled:</b>	Aug-14-13 17:30	Aug-14-13 17:32	Aug-14-13 17:33	Aug-14-13 17:35
<b>BTEX by EPA 8021B</b>		<b>Extracted:</b>	Aug-21-13 10:00	Aug-21-13 10:00	Aug-21-13 10:00	Aug-21-13 10:00
		<b>Analyzed:</b>	Aug-21-13 15:25	Aug-21-13 15:41	Aug-21-13 15:57	Aug-21-13 16:13
		<b>Units/RL:</b>	mg/kg RL	mg/kg RL	mg/kg RL	mg/kg RL
Benzene			ND 0.00102	ND 0.00101	ND 0.00104	ND 0.00100
Toluene			ND 0.00205	ND 0.00203	ND 0.00207	ND 0.00201
Ethylbenzene			ND 0.00102	ND 0.00101	ND 0.00104	ND 0.00100
m,p-Xylenes			ND 0.00205	ND 0.00203	ND 0.00207	ND 0.00201
o-Xylene			ND 0.00102	ND 0.00101	ND 0.00104	ND 0.00100
Total Xylenes			ND 0.00102	ND 0.00101	ND 0.00104	ND 0.00100
Total BTEX			ND 0.00102	ND 0.00101	ND 0.00104	ND 0.00100
<b>Inorganic Anions by EPA 300/300.1</b>		<b>Extracted:</b>	Sep-03-13 08:00	Sep-03-13 08:00	Sep-03-13 08:00	Sep-03-13 08:00
		<b>Analyzed:</b>	Sep-03-13 15:43	Sep-03-13 16:28	Sep-03-13 16:51	Sep-03-13 17:14
		<b>Units/RL:</b>	mg/kg RL	mg/kg RL	mg/kg RL	mg/kg RL
Chloride			25.2 2.07	2050 40.9	2680 41.5	12.0 2.02
<b>Percent Moisture</b>		<b>Extracted:</b>				
		<b>Analyzed:</b>	Aug-20-13 12:55	Aug-20-13 12:55	Aug-20-13 12:55	Aug-20-13 12:55
		<b>Units/RL:</b>	% RL	% RL	% RL	% RL
Percent Moisture			3.35 1.00	2.24 1.00	3.58 1.00	ND 1.00
<b>TPH By SW8015 Mod</b>		<b>Extracted:</b>	Aug-20-13 18:30	Aug-20-13 18:30	Aug-20-13 18:30	Aug-20-13 18:30
		<b>Analyzed:</b>	Aug-21-13 07:05	Aug-21-13 07:30	Aug-21-13 07:54	Aug-21-13 08:19
		<b>Units/RL:</b>	mg/kg RL	mg/kg RL	mg/kg RL	mg/kg RL
C6-C12 Gasoline Range Hydrocarbons			ND 15.5	16.2 15.3	ND 15.6	ND 15.1
C12-C28 Diesel Range Hydrocarbons			ND 15.5	45.4 15.3	57.0 15.6	ND 15.1
C28-C35 Oil Range Hydrocarbons			ND 15.5	ND 15.3	ND 15.6	ND 15.1
Total TPH			ND 15.5	61.6 15.3	57.0 15.6	ND 15.1

*Kelsey Brooks*

Kelsey Brooks  
Project Manager

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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- 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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(432) 563-1800	(432) 563-1713
(770) 449-8800	(770) 449-5477
(602) 437-0330	



## Form 2 - Surrogate Recoveries

**Project Name: Hazmat One/ Concho Maljamar NM**

**Work Orders :** 468808, 468808

**Project ID:**

**Lab Batch #:** 921078

**Sample:** 468808-001 / SMP

**Batch:** 1 **Matrix:** Soil

**Units:** mg/kg

**Date Analyzed:** 08/21/13 07:05

**SURROGATE RECOVERY STUDY**

TPH By SW8015 Mod  Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1-Chlorooctane	88.0	100	88	70-135	
o-Terphenyl	47.4	50.0	95	70-135	

**Lab Batch #:** 921078

**Sample:** 468808-002 / SMP

**Batch:** 1 **Matrix:** Soil

**Units:** mg/kg

**Date Analyzed:** 08/21/13 07:30

**SURROGATE RECOVERY STUDY**

TPH By SW8015 Mod  Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1-Chlorooctane	89.3	100	89	70-135	
o-Terphenyl	47.2	50.0	94	70-135	

**Lab Batch #:** 921078

**Sample:** 468808-003 / SMP

**Batch:** 1 **Matrix:** Soil

**Units:** mg/kg

**Date Analyzed:** 08/21/13 07:54

**SURROGATE RECOVERY STUDY**

TPH By SW8015 Mod  Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1-Chlorooctane	87.2	100	87	70-135	
o-Terphenyl	46.8	50.0	94	70-135	

**Lab Batch #:** 921078

**Sample:** 468808-004 / SMP

**Batch:** 1 **Matrix:** Soil

**Units:** mg/kg

**Date Analyzed:** 08/21/13 08:19

**SURROGATE RECOVERY STUDY**

TPH By SW8015 Mod  Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1-Chlorooctane	82.5	100	83	70-135	
o-Terphenyl	43.0	50.0	86	70-135	

**Lab Batch #:** 921117

**Sample:** 468808-001 / SMP

**Batch:** 1 **Matrix:** Soil

**Units:** mg/kg

**Date Analyzed:** 08/21/13 15:25

**SURROGATE RECOVERY STUDY**

BTEX by EPA 8021B  Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1,4-Difluorobenzene	0.0302	0.0300	101	80-120	
4-Bromofluorobenzene	0.0265	0.0300	88	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: Hazmat One/ Concho Maljamar NM

Work Orders : 468808, 468808

Project ID:

Lab Batch #: 921117

Sample: 468808-002 / SMP

Batch: 1 Matrix: Soil

Units: mg/kg

Date Analyzed: 08/21/13 15:41

### SURROGATE RECOVERY STUDY

BTEX by EPA 8021B Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1,4-Difluorobenzene	0.0304	0.0300	101	80-120	
4-Bromofluorobenzene	0.0267	0.0300	89	80-120	

Lab Batch #: 921117

Sample: 468808-003 / SMP

Batch: 1 Matrix: Soil

Units: mg/kg

Date Analyzed: 08/21/13 15:57

### SURROGATE RECOVERY STUDY

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

Lab Batch #: 921117

Sample: 468808-004 / SMP

Batch: 1 Matrix: Soil

Units: mg/kg

Date Analyzed: 08/21/13 16:13

### SURROGATE RECOVERY STUDY

BTEX by EPA 8021B Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1,4-Difluorobenzene	0.0301	0.0300	100	80-120	
4-Bromofluorobenzene	0.0267	0.0300	89	80-120	

Lab Batch #: 921078

Sample: 642800-1-BLK / BLK

Batch: 1 Matrix: Solid

Units: mg/kg

Date Analyzed: 08/21/13 01:06

### SURROGATE RECOVERY STUDY

TPH By SW8015 Mod Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1-Chlorooctane	90.5	100	91	70-135	
o-Terphenyl	49.8	50.0	100	70-135	

Lab Batch #: 921117

Sample: 642828-1-BLK / BLK

Batch: 1 Matrix: Solid

Units: mg/kg

Date Analyzed: 08/21/13 11:38

### SURROGATE RECOVERY STUDY

BTEX by EPA 8021B Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1,4-Difluorobenzene	0.0302	0.0300	101	80-120	
4-Bromofluorobenzene	0.0272	0.0300	91	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: Hazmat One/ Concho Maljamar NM

Work Orders : 468808, 468808

Project ID:

Lab Batch #: 921078

Sample: 642800-1-BKS / BKS

Batch: 1 Matrix: Solid

Units: mg/kg

Date Analyzed: 08/21/13 01:30

### SURROGATE RECOVERY STUDY

TPH By SW8015 Mod Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1-Chlorooctane	96.7	100	97	70-135	
o-Terphenyl	52.8	50.0	106	70-135	

Lab Batch #: 921117

Sample: 642828-1-BKS / BKS

Batch: 1 Matrix: Solid

Units: mg/kg

Date Analyzed: 08/21/13 10:50

### SURROGATE RECOVERY STUDY

BTEX by EPA 8021B Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1,4-Difluorobenzene	0.0347	0.0300	116	80-120	
4-Bromofluorobenzene	0.0295	0.0300	98	80-120	

Lab Batch #: 921078

Sample: 642800-1-BSD / BSD

Batch: 1 Matrix: Solid

Units: mg/kg

Date Analyzed: 08/21/13 01:54

### SURROGATE RECOVERY STUDY

TPH By SW8015 Mod Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1-Chlorooctane	95.4	100	95	70-135	
o-Terphenyl	50.9	50.0	102	70-135	

Lab Batch #: 921117

Sample: 642828-1-BSD / BSD

Batch: 1 Matrix: Solid

Units: mg/kg

Date Analyzed: 08/21/13 11:06

### SURROGATE RECOVERY STUDY

BTEX by EPA 8021B Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1,4-Difluorobenzene	0.0345	0.0300	115	80-120	
4-Bromofluorobenzene	0.0301	0.0300	100	80-120	

Lab Batch #: 921078

Sample: 468866-001 S / MS

Batch: 1 Matrix: Soil

Units: mg/kg

Date Analyzed: 08/21/13 02:42

### SURROGATE RECOVERY STUDY

TPH By SW8015 Mod Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1-Chlorooctane	92.1	100	92	70-135	
o-Terphenyl	42.1	50.0	84	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: Hazmat One/ Concho Maljamar NM

Work Orders : 468808, 468808

Project ID:

Lab Batch #: 921117

Sample: 468804-001 S / MS

Batch: 1 Matrix: Soil

Units: mg/kg

Date Analyzed: 08/21/13 14:20

### SURROGATE RECOVERY STUDY

BTEX by EPA 8021B Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1,4-Difluorobenzene	0.0331	0.0300	110	80-120	
4-Bromofluorobenzene	0.0293	0.0300	98	80-120	

Lab Batch #: 921078

Sample: 468866-001 SD / MSD

Batch: 1 Matrix: Soil

Units: mg/kg

Date Analyzed: 08/21/13 03:06

### SURROGATE RECOVERY STUDY

TPH By SW8015 Mod Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1-Chlorooctane	90.8	100	91	70-135	
o-Terphenyl	42.3	50.0	85	70-135	

Lab Batch #: 921117

Sample: 468804-001 SD / MSD

Batch: 1 Matrix: Soil

Units: mg/kg

Date Analyzed: 08/21/13 14:36

### SURROGATE RECOVERY STUDY

BTEX by EPA 8021B Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1,4-Difluorobenzene	0.0335	0.0300	112	80-120	
4-Bromofluorobenzene	0.0295	0.0300	98	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.



**Project Name: Hazmat One/ Concho Maljamar NM**

Work Order #: 468808, 468808

Analyst: KEB

Lab Batch ID: 921117

Sample: 642828-1-BKS

Date Prepared: 08/21/2013

Batch #: 1

Project ID:

Date Analyzed: 08/21/2013

Matrix: Solid

Units: mg/kg

BLANK/BLANK SPIKE / BLANK SPIKE DUPLICATE RECOVERY STUDY											
Analytes	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
BTEX by EPA 8021B											
Benzene	<0.000994	0.0994	0.0942	95	0.0996	0.0957	96	2	70-130	35	
Toluene	<0.00199	0.0994	0.0896	90	0.0996	0.0910	91	2	70-130	35	
Ethylbenzene	<0.000994	0.0994	0.0904	91	0.0996	0.0925	93	2	71-129	35	
m,p-Xylenes	<0.00199	0.199	0.180	90	0.199	0.184	92	2	70-135	35	
o-Xylene	<0.000994	0.0994	0.0912	92	0.0996	0.0935	94	2	71-133	35	

Analyst: JUM

Lab Batch ID: 921919

Sample: 643327-1-BKS

Date Prepared: 09/03/2013

Batch #: 1

Date Analyzed: 09/03/2013

Matrix: Solid

Units: mg/kg

BLANK/BLANK SPIKE / BLANK SPIKE DUPLICATE RECOVERY STUDY											
Analytes	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
Inorganic Anions by EPA 300/300.1											
Chloride	<2.00	50.0	49.8	100	50.0	45.7	91	9	80-120	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



**Project Name: Hazmat One/ Concho Maljamar NM**

**Work Order #: 468808, 468808**

**Analyst: ARM**

**Lab Batch ID: 921078**

**Sample: 642800-1-BKS**

**Date Prepared: 08/20/2013**

**Batch #: 1**

**Project ID:**

**Date Analyzed: 08/21/2013**

**Matrix: Solid**

**Units: mg/kg**

**BLANK/BLANK SPIKE / BLANK SPIKE DUPLICATE RECOVERY STUDY**

Analytes	TPH By SW8015 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
		C6-C12 Gasoline Range Hydrocarbons	<15.0	1000	922	92	1000	912	91	1	70-135	35
C12-C28 Diesel Range Hydrocarbons	<15.0	1000	937	94	1000	916	92	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 Recoveries**



**Project Name: Hazmat One/ Concho Maljamar NM**

**Work Order #:** 468808  
**Lab Batch #:** 921919  
**Date Analyzed:** 09/03/2013  
**QC- Sample ID:** 468808-001 S  
**Reporting Units:** mg/kg

**Date Prepared:** 09/03/2013  
**Batch #:** 1

**Project ID:**  
**Analyst:** JUM  
**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	25.2	51.7	79.0	104	80-120	

**Lab Batch #:** 921919  
**Date Analyzed:** 09/03/2013  
**QC- Sample ID:** 469562-002 S  
**Reporting Units:** mg/kg

**Date Prepared:** 09/03/2013  
**Batch #:** 1

**Analyst:** JUM  
**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	112	534	660	103	80-120	

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

BRL - Below Reporting Limit



**Project Name:** Hazmat One/ Concho Maljamar NM

**Work Order #:** 468808  
**Lab Batch ID:** 921117  
**Date Analyzed:** 08/21/2013  
**Reporting Units:** mg/kg

**Project ID:**

**QC- Sample ID:** 468804-001 S      **Batch #:** 1      **Matrix:** Soil  
**Date Prepared:** 08/21/2013      **Analyst:** KEB

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

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
BTEX by EPA 8021B											
Benzene	<0.00103	0.103	0.0906	88	0.102	0.0888	87	2	70-130	35	
Toluene	<0.00205	0.103	0.0861	84	0.102	0.0846	83	2	70-130	35	
Ethylbenzene	<0.00103	0.103	0.0861	84	0.102	0.0848	83	2	71-129	35	
m,p-Xylenes	<0.00205	0.205	0.172	84	0.204	0.169	83	2	70-135	35	
o-Xylene	<0.00103	0.103	0.0878	85	0.102	0.0865	85	1	71-133	35	

**QC- Sample ID:** 468866-001 S      **Batch #:** 1      **Matrix:** Soil  
**Date Prepared:** 08/20/2013      **Analyst:** ARM

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

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
TPH By SW8015 Mod											
C6-C12 Gasoline Range Hydrocarbons	<15.3	1020	907	89	1020	903	89	0	70-135	35	
C12-C28 Diesel Range Hydrocarbons	141	1020	983	83	1020	1080	92	9	70-135	35	

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

ND = Not Detected, I = Present Below Reporting Limit, B = Present in Blank, NR = Not Requested, I = Interference, NA = Not Applicable  
 N = See Narrative, EQ. = Estimated Quantitation Limit, NC = Non Calculable - Sample amount is > 4 times the amount spiked.

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



# Sample Duplicate Recovery



**Project Name: Hazmat One/ Concho Maljamar NM**

**Work Order #: 468808**

**Lab Batch #: 921085**

**Project ID:**

**Date Analyzed: 08/20/2013 12:55**

**Date Prepared: 08/20/2013**

**Analyst: WRU**

**QC- Sample ID: 468808-001 D**

**Batch #: 1**

**Matrix: Soil**

**Reporting Units: %**

## SAMPLE / SAMPLE DUPLICATE RECOVERY

Percent Moisture  Analyte	Parent Sample Result [A]	Sample Duplicate Result [B]	RPD	Control Limits %RPD	Flag
Percent Moisture	3.35	3.39	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





# XENCO Laboratories

## Prelogin/Nonconformance Report- Sample Log-In



Client: Allied International Emergency  
 Date/ Time Received: 08/19/2013 09:59:00 AM  
 Work Order #: 468808

Acceptable Temperature Range: 0 - 6 degC  
 Air and Metal samples Acceptable Range: Ambient  
 Temperature Measuring device used :

Sample Receipt Checklist	Comments
#1 *Temperature of cooler(s)?	
#2 *Shipping container in good condition?	Yes
#3 *Samples received on ice?	Yes
#4 *Custody Seals intact on shipping container/ cooler?	Yes
#5 Custody Seals intact on sample bottles?	Yes
#6 *Custody Seals Signed and dated?	Yes
#7 *Chain of Custody present?	Yes
#8 Sample instructions complete on Chain of Custody?	Yes
#9 Any missing/extra samples?	No
#10 Chain of Custody signed when relinquished/ received?	Yes
#11 Chain of Custody agrees with sample label(s)?	Yes
#12 Container label(s) legible and intact?	Yes
#13 Sample matrix/ properties agree with Chain of Custody?	Yes
#14 Samples in proper container/ bottle?	Yes
#15 Samples properly preserved?	Yes
#16 Sample container(s) intact?	Yes
#17 Sufficient sample amount for indicated test(s)?	Yes
#18 All samples received within hold time?	Yes
#19 Subcontract of sample(s)?	Yes
#20 VOC samples have zero headspace (less than 1/4 inch bubble)?	N/A
#21 <2 for all samples preserved with HNO3,HCL, H2SO4?	N/A
#22 >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#:
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Checklist completed by: *Kelsey Brooks* Date: 08/19/2013  
 Kelsey Brooks

Checklist reviewed by: *Kelsey Brooks* Date: 08/20/2013  
 Kelsey Brooks



# SUNDANCE SERVICES, Inc.

P.O. Box 1737 Eunice, New Mexico 88231  
(575) 394-2511

TICKET No. 258054

LEASE OPERATOR/SHIPPER/COMPANY: COG

LEASE NAME: Magnum Pronto St. #4H

TRANSPORTER COMPANY: MBG Services TIME 3:38 AM/PM

DATE: 8-15-13 VEHICLE NO: 01 GENERATOR COMPANY MAN'S NAME: Chris Waters

CHARGE TO: Allied Int. Emergency RIG NAME AND NUMBER: 432-813-4211

### TYPE OF MATERIAL

- |                                           |                                                       |                                   |
|-------------------------------------------|-------------------------------------------------------|-----------------------------------|
| <input type="checkbox"/> Production Water | <input type="checkbox"/> Drilling Fluids              | <input type="checkbox"/> Rinsate  |
| <input type="checkbox"/> Tank Bottoms     | <input checked="" type="checkbox"/> Contaminated Soil | <input type="checkbox"/> Jet Out  |
| <input type="checkbox"/> Solids           | <input type="checkbox"/> BS&W Content:                | <input type="checkbox"/> Call Out |

Description: Oil

RRC or API # \_\_\_\_\_ C-133#

VOLUME OF MATERIAL [ ] BBLs. \_\_\_\_\_ :  YARD 16 : [ ] \_\_\_\_\_

AS A CONDITION TO SUNDANCE SERVICES, INC.'S ACCEPTANCE OF THE MATERIALS SHIPPED WITH THIS JOB TICKET, OPERATOR/SHIPPER REPRESENTS AND WARRANTS THAT THE WASTE MATERIAL SHIPPED HERewith IS MATERIAL EXEMPT FROM THE RESOURCE, CONSERVATION AND RECOVERY ACT OF 1976, AS AMENDED FROM TIME TO TIME, 40 U.S.C. § 6901, et seq., THE NM HEALTH AND SAF. CODE § 361.001 et seq., AND REGULATIONS RELATED THERETO, BY VIRTUE OF THE EXEMPTION AFFORDED DRILLING FLUIDS, PRODUCED WATERS, AND OTHER WASTE ASSOCIATED WITH THE EXPLORATION, DEVELOPMENT OR PRODUCTION OF CRUDE OIL OR NATURAL GAS OR GEOTHERMAL ENERGY.

ALSO AS A CONDITION TO SUNDANCE SERVICES, INC.'S ACCEPTANCE OF THE MATERIALS SHIPPED WITH THIS JOB TICKET, TRANSPORTER REPRESENTS AND WARRANTS THAT ONLY THE MATERIAL DELIVERED BY OPERATOR/SHIPPER TO TRANSPORTER IS NOW DELIVERED BY TRANSPORTER TO SUNDANCE SERVICES, INC.'S FACILITY FOR DISPOSAL.

**THIS WILL CERTIFY** that the above Transporter loaded the material represented by this Transporter Statement at the above described location, and that it was tendered by the above described shipper. This will certify that no additional materials were added to this load, and that the material was delivered without incident.

DRIVER: Cristina Ortega  
(SIGNATURE)

FACILITY REPRESENTATIVE: J. Sta Giz  
(SIGNATURE)

White - Sundance      Canary - Sundance Acct #1      Pink - Transporter



# SUNDANCE SERVICES, Inc.

P.O. Box 1737 Eunice, New Mexico 88231  
(575) 394-2511

TICKET No. 258064

LEASE OPERATOR/SHIPPER/COMPANY: COG

LEASE NAME: Magnum Pronto St. Com 4H

TRANSPORTER COMPANY: TJB

TIME: 4:22 AM (PM)

DATE: 8-15-13 VEHICLE NO: C-100

GENERATOR COMPANY MAN'S NAME: Chris Waters

CHARGE TO: Allied Int. Emergency

RIG NAME AND NUMBER: 432-813-4211

### TYPE OF MATERIAL

- |                                           |                                                       |                                   |
|-------------------------------------------|-------------------------------------------------------|-----------------------------------|
| <input type="checkbox"/> Production Water | <input type="checkbox"/> Drilling Fluids              | <input type="checkbox"/> Rinsate  |
| <input type="checkbox"/> Tank Bottoms     | <input checked="" type="checkbox"/> Contaminated Soil | <input type="checkbox"/> Jet Out  |
| <input type="checkbox"/> Solids           | <input type="checkbox"/> BS&W Content:                | <input type="checkbox"/> Call Out |

Description: old

RRC or API #

C-133#

VOLUME OF MATERIAL  BBLs. :  YARD 16 :

AS A CONDITION TO SUNDANCE SERVICES, INC.'S ACCEPTANCE OF THE MATERIALS SHIPPED WITH THIS JOB TICKET, OPERATOR/SHIPPER REPRESENTS AND WARRANTS THAT THE WASTE MATERIAL SHIPPED HERewith IS MATERIAL EXEMPT FROM THE RESOURCE, CONSERVATION AND RECOVERY ACT OF 1976, AS AMENDED FROM TIME TO TIME, 40 U.S.C. § 6901, et seq., THE NM HEALTH AND SAF. CODE § 361.001 et seq., AND REGULATIONS RELATED THERETO, BY VIRTUE OF THE EXEMPTION AFFORDED DRILLING FLUIDS, PRODUCED WATERS, AND OTHER WASTE ASSOCIATED WITH THE EXPLORATION, DEVELOPMENT OR PRODUCTION OF CRUDE OIL OR NATURAL GAS OR GEOTHERMAL ENERGY.

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DRIVER:

[Signature]  
(SIGNATURE)

FACILITY REPRESENTATIVE:

[Signature]  
(SIGNATURE)

White - Sundance

Canary - Sundance Acct #1

Pink - Transporter



# SUNDANCE SERVICES, Inc.

P.O. Box 1737 Eunice, New Mexico 88231  
(575) 394-2511

TICKET No. 258065

LEASE OPERATOR/SHIPPER/COMPANY: <u>CDG</u>		
LEASE NAME: <u>Magnum Pronto St. Com. 4H</u>		
TRANSPORTER COMPANY: <u>Rt M Lara's Trucking</u>	TIME: <u>4:25 AM/PM</u>	
DATE: <u>8-15-13</u>	VEHICLE NO: <u>R-1</u>	GENERATOR COMPANY MAN'S NAME: <u>Chris Waters</u>
CHARGE TO: <u>Allied Int. Emergency</u>	RIG NAME AND NUMBER: <u>432-813-4211</u>	

### TYPE OF MATERIAL

- |                                           |                                                       |                                   |
|-------------------------------------------|-------------------------------------------------------|-----------------------------------|
| <input type="checkbox"/> Production Water | <input checked="" type="checkbox"/> Drilling Fluids   | <input type="checkbox"/> Rinsate  |
| <input type="checkbox"/> Tank Bottoms     | <input checked="" type="checkbox"/> Contaminated Soil | <input type="checkbox"/> Jet Out  |
| <input type="checkbox"/> Solids           | <input type="checkbox"/> BS&W Content:                | <input type="checkbox"/> Call Out |

Description: oil

RRC or API # \_\_\_\_\_ C-133# \_\_\_\_\_

VOLUME OF MATERIAL [ ] BBLs. \_\_\_\_\_ : [  ] YARD 20 : [ ] \_\_\_\_\_

AS A CONDITION TO SUNDANCE SERVICES, INC.'S ACCEPTANCE OF THE MATERIALS SHIPPED WITH THIS JOB TICKET, OPERATOR/SHIPPER REPRESENTS AND WARRANTS THAT THE WASTE MATERIAL SHIPPED HERewith IS MATERIAL EXEMPT FROM THE RESOURCE, CONSERVATION AND RECOVERY ACT OF 1976, AS AMENDED FROM TIME TO TIME, 40 U.S.C. § 6901, et seq., THE NM HEALTH AND SAF. CODE § 361.001 et seq., AND REGULATIONS RELATED THERETO, BY VIRTUE OF THE EXEMPTION AFFORDED DRILLING FLUIDS, PRODUCED WATERS, AND OTHER WASTE ASSOCIATED WITH THE EXPLORATION, DEVELOPMENT OR PRODUCTION OF CRUDE OIL OR NATURAL GAS OR GEOTHERMAL ENERGY.

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DRIVER: [Signature]  
(SIGNATURE)

FACILITY REPRESENTATIVE: [Signature]  
(SIGNATURE)

White - Sundance      Canary - Sundance Acct #1      Pink - Transporter



# SUNDANCE SERVICES, Inc.

P.O. Box 1737 Eunice, New Mexico 88231  
(575) 394-2511

TICKET No. 258066

LEASE OPERATOR/SHIPPER/COMPANY: <u>COG</u>	
LEASE NAME: <u>Magnum Pronto St. Com. 4H</u>	
TRANSPORTER COMPANY: <u>R &amp; M Lara's Truck</u>	TIME: <u>4:26 AM</u> (PM)
DATE: <u>8-15-13</u> VEHICLE NO: <u>R-6</u>	GENERATOR COMPANY MAN'S NAME: <u>Chris Waters</u>
CHARGE TO: <u>Allied Int. Emergenc</u>	RIG NAME AND NUMBER: <u>432-813-4211</u>

### TYPE OF MATERIAL

- |                                           |                                                       |                                   |
|-------------------------------------------|-------------------------------------------------------|-----------------------------------|
| <input type="checkbox"/> Production Water | <input type="checkbox"/> Drilling Fluids              | <input type="checkbox"/> Rinsate  |
| <input type="checkbox"/> Tank Bottoms     | <input checked="" type="checkbox"/> Contaminated Soil | <input type="checkbox"/> Jet Out  |
| <input type="checkbox"/> Solids           | <input type="checkbox"/> BS&W Content:                | <input type="checkbox"/> Call Out |

Description: oil

RRC or API # \_\_\_\_\_ C-133#

VOLUME OF MATERIAL [ ] BBLs. \_\_\_\_\_ :  YARD 20 : [ ] \_\_\_\_\_

AS A CONDITION TO SUNDANCE SERVICES, INC.'S ACCEPTANCE OF THE MATERIALS SHIPPED WITH THIS JOB TICKET, OPERATOR/SHIPPER REPRESENTS AND WARRANTS THAT THE WASTE MATERIAL SHIPPED HERewith IS MATERIAL EXEMPT FROM THE RESOURCE, CONSERVATION AND RECOVERY ACT OF 1976, AS AMENDED FROM TIME TO TIME, 40 U.S.C. § 6901, et seq., THE NM HEALTH AND SAF. CODE § 361.001 et seq., AND REGULATIONS RELATED THERETO, BY VIRTUE OF THE EXEMPTION AFFORDED DRILLING FLUIDS, PRODUCED WATERS, AND OTHER WASTE ASSOCIATED WITH THE EXPLORATION, DEVELOPMENT OR PRODUCTION OF CRUDE OIL OR NATURAL GAS OR GEOTHERMAL ENERGY.

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DRIVER: [Signature]  
(SIGNATURE)

FACILITY REPRESENTATIVE: [Signature]  
(SIGNATURE)

White - Sundance      Canary - Sundance Acct #1      Pink - Transporter



# SUNDANCE SERVICES, Inc.

P.O. Box 1737 Eunice, New Mexico 88231  
(575) 394-2511

TICKET No. 258076

LEASE OPERATOR/SHIPPER/COMPANY: COG

LEASE NAME: Magnum Pronto #4H

TRANSPORTER COMPANY: J+L Trucking TIME: 5:38 AM/PM

DATE: 8-15-13 VEHICLE NO: 208 GENERATOR COMPANY MAN'S NAME: Chris Waters

CHARGE TO: Allied Int. Emergency RIG-NAME AND NUMBER: 432-813-4211

### TYPE OF MATERIAL

- |                                           |                                                       |                                   |
|-------------------------------------------|-------------------------------------------------------|-----------------------------------|
| <input type="checkbox"/> Production Water | <input type="checkbox"/> Drilling Fluids              | <input type="checkbox"/> Rinsate  |
| <input type="checkbox"/> Tank Bottoms     | <input checked="" type="checkbox"/> Contaminated Soil | <input type="checkbox"/> Jet Out  |
| <input type="checkbox"/> Solids           | <input type="checkbox"/> BS&W Content:                | <input type="checkbox"/> Call Out |

Description: O/D

RRC or API # \_\_\_\_\_ C-133# \_\_\_\_\_

VOLUME OF MATERIAL [ ] BBLs. \_\_\_\_\_ :  YARD 20 : [ ] \_\_\_\_\_

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DRIVER: [Signature]  
(SIGNATURE)

FACILITY REPRESENTATIVE: [Signature]  
(SIGNATURE)

White - Sundance      Canary - Sundance Acct #1      Pink - Transporter