#### Technical Review of the RCRA Facility Investigation Supplemental Sampling Report November 2016 PUMA Energy Caribe LLC Former Caribbean Petroleum Refining Terminal Bayamón, Puerto Rico (EPA ID. No. PRD000632182)



USEPA Comment	Response to Comment
III. Specific Comments	
1. Section 4, Page 4-1, Concentration Units: Please keep a uniform nomenclature for the constituent's units of concentration. Some are reported in micrograms per kilogram (ug/kg), while others are reported in milligrams per kilogram (mg/kg) in the same section. Although not incorrect, it is a source of confusion. Given that the EPA Regional Screening Levels for both Residential and Industrial Soil Scenarios are provided in mg/kg, EPA recommends to provide all analytical results in mg/kg as much as possible throughout the Report.	Noted, and tables will be changed accordingly.
IV. Responses to USEPA Comments Issued on October 20, 2015	
2. Section 5, Page 5-1, First paragraph: Puma concluded that "sampling results did not indicate the presence of any analyte above USEPA 's Industrial RSL".EPA agrees partially with this conclusion. There are no RSLs for TPH-GRO and TPH-DRO. The most recent EPA RSL Tables released on May 2016 only provide RSLs for TPH depending on the amount of aliphatic and/or aromatics compounds. Please clarify if you used another criteria to reach this conclusion. Also, even if RSL exceedances become now inconclusive, what are the exposure scenarios given the Sites current use? Are there any potential exposure pathways that need to be evaluated?	Since this report was part of the original RFI report, it was decided to keep the same comparisons and, as previously mentioned in the RFI, the most current RSLs will be used in future reports submitted following approval of the RFI Report.
2. Tables 2 and 3, Pages T-1 and T-2: Please provide unit for analyte concentration.	Analyte concentrations were noted in the footnotes; however, we have added the concentration to each header, and were made uniform as per comment number 1.



PUMA Energy Caribe, LLC

# RCRA FACILITY INVESTIGATION SUPPLEMENTAL SAMPLING REPORT

Former Caribbean Petroleum Corporation Refinery/Terminal - Bayamón, Puerto Rico

November 2016

Ada

Efraín Calderón Jr. Project Manager

Jol C alonso

John Alonso, CHMM, REP Client Director

# RCRA FACILITY INVESTIGATION SUPPLEMENTAL SAMPLING REPORT

Former CAPECO Refinery/Terminal Bayamón, Puerto Rico

Prepared for: PUMA Energy Caribe, LLC

Prepared by: Arcadis Caribe, PSC 48 City View Plaza 1, Suite 401 Rd 165, Km 1.2 Guaynabo Puerto Rico 00968 Tel 787 777 4000 Fax 787 777 8086

Our Ref.: E027.00501

Date: November 16, 2016

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VERSION CONTROL										
Issue	<b>Revision No</b>	Date Issued	Page No	Description	Reviewed by					

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arcadis.com 7030161869.doc

# **ACRONYMS AND ABBREVIATIONS**

Arcadis	Arcadis Caribe, PSC
bgs	below ground surface
CAPECO	Caribbean Petroleum Corporation
DRO	diesel range organics
GRO	gasoline range organics
HASP	health and safety plan
ORO	oil range organics
PREQB	Puerto Rico Environmental Quality Board
PUMA	PUMA Energy Caribe, LLC
QA/QC	quality assurance/quality control
RCRA	Resource Conservation and Recovery Act
RFI	Resource Conservation and Recovery Act Facility Investigation
SOP	standard operation procedures
SWMU	solid waste management unit
ТРН	total petroleum hydrocarbons
USEPA	United States Environmental Protection Agency
WWTP	wastewater treatment plant

## **1 INTRODUCTION**

On March 26, 2015, PUMA Energy Caribe, LLC (PUMA) submitted the Resource Conservation and Recovery Act Facility Investigation (RFI) Report for the former CAPECO Refinery/Terminal located at Road PR-28, Km 2, Luchetti Industrial Park in Bayamón, Puerto Rico (Facility). Arcadis Caribe, PSC (Arcadis) conducted the RFI in accordance with the Final RFI Work Plan (Work Plan) dated February 2013 that was approved by the United States Environmental Protection Agency (USEPA) on March 19, 2013. Arcadis prepared the RFI to satisfy the activities stipulated in the Agreement with the New Purchaser (Agreement) dated 2011 (Docket Num. RCRA-02-2011-7305) between PUMA and the USEPA. This Agreement served as a modification to the 1995 Administrative Order on Consent (Order), Docket Num. II RCRA-95-3008(h)-0303 that was in place prior to the May 2011 purchase by PUMA.

The RFI report prepared by Arcadis provided a summary of the assessment activities performed until December 31, 2014. The USEPA reviewed the RFI, and provided comments to PUMA on November 12, 2015. On January 12, 2016, representatives of the USEPA and PUMA reviewed the comments, and agreed that PUMA would be required to complete a supplemental sampling program to address data gaps identified by the USEPA in order to complete the RFI. In response to the agreements reached at the meeting, PUMA submitted a scope of work to complete the supplemental sampling (**Appendix A**). The USEPA approved the revised scope of work on February 8, 2016. This RFI Supplemental Sampling Report presents the findings and conclusions of this sampling.

## **2** GENERAL SITE DESCRIPTION

The Facility is located at Road PR-28, Km 2, Luchetti Industrial Park in Bayamón, Puerto Rico, approximately 3 miles to the south of the Atlantic Ocean coast. The land use on adjacent properties is primarily commercial or industrial. Commercial and industrial properties border the Facility to the south and west; the U.S. Army facility Fort Buchanan is to the east, and Highway PR-22 to the north.

The entire Facility encompasses approximately 179 acres, of which 115 acres are developed as a petroleum products storage facility, including operational buildings, administrative offices, parking areas, and a wastewater treatment plant to the north. The Facility has an aboveground pipeline for the transfer of fuel from loading docks on San Juan Bay and to customers at the Luis Muñoz Marín International Airport. A liquid propane gas storage and distribution area is under development at the Facility. The remainder of the property is undeveloped, and includes a wetland area and Las Lajas Creek. **Figure 1** shows the general location and topography of the Facility and surrounding areas.

## **3 SUPPLEMENTAL SAMPLING FIELD ACTIVITIES**

The supplemental sampling program consisted of the collection of eight soil samples and the installation of two monitoring wells in the following three areas:

- Former oil lagoons (SWMU 11)
- Solid waste management units (SWMUs) 33, 34 and 35
- Wastewater treatment plant

The location of the samples collected in each of these areas is shown on **Figure 2.** The sample identification numbers and location are presented in **Table 1**. Samples were identified using the following nomenclature: FOL - # - #, meaning FOL - former oil lagoons, # - boring number, # - depth in feet; WWTP - SB - #, meaning WWTP - wastewater treatment plant, SB - soil boring, # - soil boring number - range in depth in feet; and WS - #, meaning WS - wetland soil, # - number of sample.

### 3.1 Soil Sampling in Former Oil Lagoon (SWMU 11)

Two soil samples were collected in the former oil lagoon area using a Geoprobe<sup>®</sup> direct-push sampling tool. The samples were collected just above the groundwater table at a depth approximately 16 feet below ground surface (bgs). (Note: the elevation in the area is approximately 10 feet above base grade elevation).

### 3.2 Soil Sampling in SWMU 33, 34 and 35 Area

Four soil samples were collected using a hand auger near SWMUs 33 (non-hazardous disposal site), 34 (sulfur lagoon), and 35 (catalytic waste). The samples were collected at a depth just above the water table at approximate depths ranging from 2 to 3 feet bgs.

## 3.3 Soil Sampling and Installation of Monitoring Wells at WWTP

Two groundwater monitoring wells were installed near the WWTP. As part of the monitoring well installation, one soil sample was collected just the water table at each location. The depths ranged between 2 and 5 feet bgs. The monitoring wells were developed, but they were not sampled as part of the Supplemental RFI. The monitoring well sampling was incorporated into the facility-wide semi-annual groundwater sampling program that occurred in June 2016.

# **4 SUMMARY OF ANALYTICAL RESULTS**

## 4.1 Former Oil Lagoons

The two soil samples collected in the former oil lagoons area were reported at concentrations of TPH-GRO of 19,200  $\mu$ g/kg and 22,200  $\mu$ g/kg in samples FOL-1-16 and FOL-2-16, respectively. In addition, a concentration of TPH-DRO was reported at 11,500  $\mu$ g/kg in sample FOL-1-16. All other analytes were reported below the detection levels. The results are summarized in **Table 2** and shown on **Figure 3**.

### 4.2 WWTP Area

The two soil samples collected in the WWTP area (WWTP-SB-1-2-3 and WWTP-SB-2-4-5) had reported concentrations of TPH-DRO of 3,240,000 µg/kg and 31,000 µg/kg, respectively. In addition, concentrations of total xylenes (20.6 mg/kg), TPH-GRO (15,500 mg/kg) and TPH-ORO (664,000 mg/kg) were also reported. All other analytes were reported below the detection levels. The results are summarized in **Table 2** and shown on **Figure 3**.

### 4.3 SWMUs 33, 34 and 35

Of the four samples collected near SWMUs 33, 34 and 35 area (WS-1, WS-2, WS-3 and WS-4), only sample WS-4 had a reported concentration above the analytical detection limit. TPH-DRO and TPH-ORO were reported at 58,200  $\mu$ g/kg and 63,700  $\mu$ g/kg, respectively, in this sample. The results are summarized in **Table 2** and shown on **Figure 3**.

## 4.4 Summary

The photolog for the sampling activities is provided in **Appendix B**. **Appendix C** includes field documentation obtained during the activities. In addition, **Table 2** includes the analytical results for the eight soil samples and the duplicate samples identified as DUP and DUP1.

**Table 3** provides the quality assurance/quality control analytical results for the blanks collected as part of the sampling procedures. **Appendix D** includes the analytical results and documentation provided and certified by the laboratory for all samples.

# **5 CONCLUSIONS**

The analytical results for the soil sampling completed for this Supplemental RFI only indicated detectable levels of TPH-GRO and/or TPH-DRO in several samples. The sampling results did not indicate the presence of any analyte above USEPA's Industrial RSL, as noted in the agreement RCRA-02-2011-7305 the facility will continue to be used as an industrial bulk oil terminal there for the potential expose pathways are limited or non-existent.

The sampling completed as part of this Supplemental RFI satisfies the requirements of the approved Work Plan, and does not change the conclusions or recommendations presented in the RFI and reviewed with the USEPA as part of the RFI review and Supplemental RFI Work Plan approval. Therefore, the submittal of this document completes PUMA's requirements for the RFI.

# **TABLES**



#### Table 1. Soil Borings Rationale/Location Description

Soil Boring ID	Description
FOL-1	Former oil lagoon – north-east of terminal
FOL-2	Former oil lagoon – north-east of terminal
WWTP-SB-1	Former wastewater treatment plant area
WWTP-SB-2	Former wastewater treatment plant area
WS-1	Wetland – north of terminal
WS-2	Wetland – north of terminal
WS-3	Wetland – north of terminal
WS-4	Wetland – north of terminal

#### Table 2. Soil Sample Analytical Results<sup>(1)</sup>

				USEPA's Met	USEPA's N	lethods 8015	B Modified			
Sample ID	Date (mm.dd.yy)	Benzene (mg/kg)	Ethanol (mg/kg)	Ethylbenzene (mg/kg)	MTBE (mg/kg)	Toluene (mg/kg)	Total Xylenes (mg/kg)	TPH-GRO (C <sub>6</sub> -C <sub>10</sub> ) (mg/kg)	TPH-DRO (C <sub>10</sub> -C <sub>28</sub> ) (mg/kg)	TPH-ORO (>C <sub>28</sub> -C <sub>40</sub> ) (mg/kg)
PREQB's Cleanup Levels		5 (a)	(b)	10 (a)	39 (a)	10 (a)	10 (a)	100 (a)	100 (a)	100 (a)
FOL-1-16	04.13.16	ND	ND	ND	ND	ND	ND	19.2	11.5	ND
FOL-2-16	04.13.16	ND	ND	ND	ND	ND	ND	22.2	15.0	ND
WWTP-SB-1-2-3	04.11.16	ND	ND	ND	ND	ND	20.6	15.5	3240	664

<sup>(1)</sup> units in mg/kg - milligrams per kilogram; ND - not detected; MTBE - methyl-tert-butyl-ether; DUP 1 - duplicate sample collected from WWTP-SB-1-2-3; DUP - duplicate sample collected from WS-\_; a - PREQB's Requirements, Actions and Procedures for the Closure of Underground Storage Tank Systems (May 2011), b - value not established by the PREQB or the USEPA

Table 2. Soil Sample Analytical Results (Cont.)<sup>(1)</sup>

				USEPA's Met	USEPA's Methods 8015B Modified					
Sample ID	Date (mm.dd.yy)	Benzene (mg/kg)	Ethanol (mg/kg)	Ethylbenzene (mg/kg)	MTBE (mg/kg)	Toluene (mg/kg)	Total Xylenes (mg/kg)	TPH-GRO (C <sub>6</sub> -C <sub>10</sub> ) (mg/kg)	TPH-DRO (C <sub>10</sub> -C <sub>28</sub> ) (mg/kg)	TPH-ORO (>C <sub>28</sub> -C <sub>40</sub> ) (mg/kg)
WWTP-SB-2-4-5	04.12.16	ND	ND	ND	ND	ND	ND	ND	31	ND
DUP 1	04.11.16	ND	ND	ND	ND	ND	ND	ND	146	120
WS-1	05.05.16	ND	ND	ND	ND	ND	ND	ND	ND	ND
WS-2	05.05.16	ND	ND	ND	ND	ND	ND	ND	ND	ND
WS-3	05.05.16	ND	ND	ND	ND	ND	ND	ND	ND	ND
WS-4	05.05.16	ND	ND	ND	ND	ND	ND	ND	58.2	63.7
DUP	05.05.16	ND	ND	ND	ND	ND	ND	ND	ND	ND

Table 3. QA/QC Analytical Results<sup>(2)</sup>

				USEPA's Met	USEPA's Methods 8015B Modified					
Sample ID	Date (mm.dd.yy)	Benzene (mg/L)	Ethanol (mg/L)	Ethylbenzene (mg/L)	MTBE (mg/L)	Toluene (mg/L)	Total Xylenes (mg/L)	TPH-GRO (C <sub>6</sub> -C <sub>10</sub> ) (mg/L)	TPH-DRO (C <sub>10</sub> -C <sub>28</sub> ) (mg/L)	TPH-ORO (>C <sub>28</sub> -C <sub>40</sub> ) (mg/L)
EB-041116	04.11.16	ND	ND	ND	ND	ND	ND	ND	ND	ND
FB-041116	04.11.16	ND	ND	ND	ND	ND	ND	ND	NA	NA
TB041116	04.11.16	ND	ND	ND	ND	ND	ND	ND	NA	NA
EB-041216	04.12.16	ND	ND	ND	ND	ND	ND	ND	NA	NA

(2) units in mg/L; ND - not detected; NA - not analyzed, MTBE - methyl-tert-butyl-ether

#### RCRA FACILITY INVESTIGATION SUPPLEMENTAL SAMPLING REPORT

Table 3. QA/QC Analytical Results (Cont.)<sup>(2)</sup>

		USEPA's Method 8260						USEPA's N	lethods 8015	iB Modified
Sample ID	Date (mm.dd.yy)	Benzene (mg/L)	Ethanol (mg/L)	Ethylbenzene (mg/L)	MTBE (mg/L)	Toluene (mg/L)	Total Xylenes (mg/L)	TPH-GRO (C <sub>6</sub> -C <sub>10</sub> ) (mg/L)	TPH-DRO (C <sub>10</sub> -C <sub>28</sub> ) (mg/L)	TPH-ORO (>C <sub>28</sub> -C <sub>40</sub> ) (mg/L)
FB-041216	04.12.16	ND	ND	ND	ND	ND	ND	ND	NA	NA
EB-041316	04.13.16	ND	ND	ND	ND	ND	ND	ND	ND	ND
FB-041316	04.13.16	ND	ND	ND	ND	ND	ND	ND	NA	NA
EB-050516	05.05.16	ND	ND	ND	ND	ND	ND	ND	ND	ND
FB-050516	05.05.16	ND	ND	ND	ND	ND	ND	ND	NA	NA
TRIP BLANK	05.05.16	ND	ND	ND	ND	ND	ND	ND	NA	NA

# **FIGURES**









AERIAL IMAGING FEB., 2016 , COORDINATES: 18° 23' 6.50"N , 66°8' 40.12"W (SOURCE: GOOGLE EARTH PRO)



LEGEND:

PUMA ENERGY CARIBE, LLC PUMA TERMINAL, KM. 2.0 LUCHETTI INDUSTRIAL PARK BAYAMON, PUERTO RICO RFI SUPPLEMENTAL SAMPLING REPORT NORTHERN TERMINAL AERIAL VIEWS (2011) AND DATA GAP AREAS FIGURE ARCADIS

2

NOT TO SCALE

 $\langle N \rangle$ 

Soil Sample Analytical Results						
Sample ID	WS-3					
Date	05.05.16					
Units	ug/kg					
USEPA's Method 8260						
Benzene	ND					
Ethanol	ND					
Ethyl benzene	ND					
Methyl tert-butyl ether	ND					
Toluene	ND					
Total Xylenes	ND					
USEPA's Method 8015B	Modified					
GRO (C6-C10)	ND					
DRO (C10-C28)	ND					
ORO (C28-C40)	ND					

Soil Sample Analytical Results						
Sample ID	WS-4					
Date	05.05.16					
Units	ug/kg					
USEPA's Method 8260						
Benzene	ND					
Ethanol	ND					
Ethyl benzene	ND					
Methyl tert-butyl ether	ND					
Toluene	ND					
Total Xylenes	ND					
USEPA's Method 8015B	Modified					
GRO (C6-C10)	ND					
DRO (C10-C28)	58200					
ORO (C28-C40)	63700					

Soil Sample Analytical Results	
Sample ID	WWTP-SB-2-4-5
Date	04.12.16
Units	ug/kg
USEPA's Method 8260	
Benzene	ND
Ethanol	ND
Ethyl benzene	ND
Methyl tert-butyl ether	ND
Toluene	ND
Total Xylenes	ND
USEPA's Method 8015B Modified	
GRO (C6-C10)	ND
DRO (C10-C28)	31000
ORO (C28-C40)	ND

Soil Sample Analytical Results	
Sample ID	WWTP-SB-1-2-3
Date	04.11.16
Units	ug/kg
USEPA's Method 8260	
Benzene	ND
Ethanol	ND
Ethyl benzene	ND
Methyl tert-butyl ether	ND
Toluene	ND
Total Xylenes	20.6
USEPA's Method 8015B Modified	
GRO (C6-C10)	15500
DRO (C10-C28)	3240000
ORO (C28-C40)	664000



Soil Sample Analytical Results		
Sample ID	WS-2	
Date	05.05.16	
Units	ug/kg	
USEPA's Method 8260		
Benzene	ND	
Ethanol	ND	
Ethyl benzene	ND	
Methyl tert-butyl ether	ND	
Toluene	ND	
Total Xylenes	ND	
USEPA's Method 8015B Modified		
GRO (C6-C10)	ND	
DRO (C10-C28)	ND	
ORO (C28-C40)	ND	

Soil Sample Analytical Results		
Sample ID	WS-1	
Date	05.05.16	
Units	ug/kg	
USEPA's Method 8260		
Benzene	ND	
Ethanol	ND	
Ethyl benzene	ND	
Methyl tert-butyl ether	ND	
Toluene	ND	
Total Xylenes	ND	
USEPA's Method 8015B Modified		
GRO (C6-C10)	ND	
DRO (C10-C28)	ND	
ORO (C28-C40)	ND	

Soil Sample Analytical Results		
Sample ID	FOL-1-16	
Date	04.13.16	
Units	ug/kg	
USEPA's Method 8260		
Benzene	ND	
Ethanol	ND	
Ethyl benzene	ND	
Methyl tert-butyl ether	ND	
Toluene	ND	
Total Xylenes	ND	
USEPA's Method 8015B Modified		
GRO (C6-C10)	19200	
DRO (C10-C28)	11500	
ORO (C28-C40)	ND	

Soil Sample Analytical Results		
Sample ID	FOL-2-16	
Date	04.13.16	
Units	ug/kg	
USEPA's Method 8260		
Benzene	ND	
Ethanol	ND	
Ethyl benzene	ND	
Methyl tert-butyl ether	ND	
Toluene	ND	
Total Xylenes	ND	
USEPA's Method 8015B Modified		
GRO (C6-C10)	22200	
DRO (C10-C28)	ND	
ORO (C28-C40)	ND	

LEGEND: MW-# - + existing monitoring wells 

WWTP AREA FORMER OIL LAGOON AREA SWMUs AREA



+ N -

NOT TO SCALE

NON-HAZARDOUS DISPOSAL SITE



SULFUR LAGOON CATALYTIC WASTE PUMP



# **APPENDIX A**

Scope of Work





### **CERTIFIED MAIL/RETURN RECEIPT REQUESTED**

Brenda Toraño-Díaz, PE EHS Manager Puma Energy Caribe, LLC P.O. Box 11961 San Juan, PR 00922

### RE: Approval of the September 2015 Final RCRA Facility Investigation Report and January 2016 Data Gap Scope of Work Former Caribbean Petroleum Refining facility in Bayamón, Puerto Rico (PRD000632182)

Dear Ms. Toraño:

The U.S. Environmental Protection Agency (EPA) has received the September 2015 Final RCRA Facility Investigation (RFI) Report (hereafter Final RFI Report) and the January 2016 Data Gap Scope of Work (Data Gap SOW) for the former Caribbean Petroleum Refining facility in Bayamón, Puerto Rico, now owned and operated by Puma Energy Caribe, LLC (Puma). The Data Gap SOW was submitted after EPA requested additional soil and groundwater samples in the areas of Solid Waste Management Units (SWMUs) #11, #33, #34, #35 and the Waste Water Treatment Plant on the letter issued November 12, 2015. On a meeting with EPA on January 12, 2016, Puma agreed to submit a final version of the September 2015 RFI Report for EPA approval and submit the Data Gap SOW as supplementary work to the RFI.

After careful evaluation EPA considers that the Data Gap SOW is appropriate and addresses the comments issued on the November 12, 2015 letter. Therefore, EPA is granting approval of the September 2015 Final RFI Report. Please notify EPA and the Puerto Rico Environmental Quality Board at least fifteen (15) days prior to commencing fieldwork related to the supplementary sampling. If you have any questions regarding this matter, please contact geologist David N. Cuevas, Ph.D. at (787) 977-5856 or through electronic mail at <u>cuevas.david@epa.gov</u>.

Sincerely,

José C. Font, Director Caribbean Environmental Protection Division

cc: Weldin Ortíz, Chairman PR Environmental Quality Board

# **APPENDIX B**

Photolog





#### **Project Photographs**

RCRA Facility Investigation Supplemental Sampling Report Former Caribbean Petroleum Corporation Refinery/Terminal Bayamón, Puerto Rico



### Photo: 1

Date: June 2016

### **Description:**

Drilling activities by subcontractors during installation of groundwater monitoring well WWTP-1

Location: Former wastewater treatment plant area

### Photo: 2

Date: June 2016

### **Description:**

Drilling activities by subcontractors during installation of groundwater monitoring well WWTP-2

### Location:

Former wastewater treatment plant area





#### **Project Photographs**

RCRA Facility Investigation Supplemental Sampling Report Former Caribbean Petroleum Corporation Refinery/Terminal Bayamón, Puerto Rico



Photo: 3

Date: June 2016

**Description:** General view of the sampled area, direction: southeast

Location: Former oil lagoons (SWMU 11)

Photo: 4

Date: June 2016

**Description:** Sampling activities

Location: SWMUs 33, 34, and 35 area



# **APPENDIX C**

**Field Documents** 



B0063764



ALL-WEATHER UNIVERSAL Nº 371FX-M



2 11-abril-2016 Algunidad . Se llamers 0645 Marianela Kenedo a Baenda Corano por Burger (personal de BRL Access. (por Requel Vargez) Coupe) comprando huld 0800: Se firman perison Caliente y general. Nelson y agua para hediratación in el campo. Aporte his pidio los 0700 Alegader a BBL JSA'S por actualizarse Coribe a buxar auto y pide information alguilado con laupo. de les farres à religire 0730: Glegada a entrada 0830: Le amenzo del Terninal juits Charle de segurdon, con personal de gioenndiscussed & ISA'S y Narchy To diagues y fim de piniso 0990: SI maron yelitza Morales a la punto a pomenere por Etran Colderon, Ee proceso de registrarse in el guardia de discutotion la estruction

antes all nivel fellenoder en el ara Con Brenda forano. frectico detecta do sigun les mucher, Se amenzam fores de notros de uplicheter bisado in cristenen. y segur le información de mireles de poros 09:20: EB-04/116 0990: Comienza muestres con handauger en aledanos. 1030 - FB-041116, SB-1 del area de TB-041116. WWTP. Se muestres duplicado de este El material geologico Vaita de "Silty day" muestra Dup 1. a las 1010 purto con must 1100: Se midio nivel WWTP-5B-1-2-3. este muetro que del aque en il barreno a DTW = 5.0 Dellimade ya que Ista localizada desde la superficie.

Juleo amenzo a Mover på 322 1420: Se fermino de Taslaler il pozo. Ver Well log para detilles Vez en la mañara de construcción · personal de hay. for 2 very anterious tomo 20 min De dinjo a preparar Cade una oprimed avec de descritamine ción de leguipo. 1530: St entrego' radio 11:30-12:30: almunzo. y permisos a kaquel. 1300 nivel de aque 1525; falide del Jennal medido desele la de GET: popepicie fre: DTW = 4.5 Julijo de prosiguo 1400 - Comprande hield a instale el pozo. par la mustres por medio de HSA ou 1630 Jugade a une pryundidad la oficina . Welate latimade de 13'.

8 12-abril-16 do Gevennokch, Fr. 01030 - flegada a Arcadis William Rodriguez Oricine Marianelas & Hector Babilonia. Mirado Burgor. a Quardin de segurided buscar radio de en la entrade mos Charlie para untigor pregunto di habiamos en el terminal, gases domado Charle de de Calibración que Seguridad de Prima deps Efrain y bann a to que se le antesto l'estaumaments de queno yaque ni GET Aradio para acceso vi el personal de mos direto a le Avcadi's presente la 0700: Glegado al habitan domado anterior. merter. Buardin De Terminal. Comunico' con nelson 0700: Jugada al y Brench Corano. forminar de personne

0825: EB-041216 Branch Coraño Unfers 0829: Se comenzo' que mo dejais enhar. TV acianele fue hables mustro a sielo in Brinda y se con handaugh. acordo que in el 0851: WWTP-543-2-4-5 Se to mo esta mustro dia & hey en la forde luego de teminor beron en la preserier las forces to tomoremon de minidad de la junto an utraining columne sedimentologia de escelta. 0800 - Chartle de Seguides yaque a encuento. per encina del miri de Arradis a GEI. SI platico. formenn la permons 0935-43-041216. apropado por Brande Nota: Se detecto bastorde hume dod al Gen. # 1220 HW= 0053. introdución el probe

desde le superficie o all Interface yaque el prope sale un salid con sedmento y poco humedo. Se aque sin enbouge le proceded a introdució formation colepso uno les parenet poro le pres. Se procedio pajor mos de 13'4" a introdució las barrero como hast ~15 port porta prophar el barreno ver si agilizabe la y ver Si entre el aqua 1040: no re detecto recergo. 1130-1230 : amuerzo intra de de aqua. Se 1235: PTW= D' WD2 procedo a seicer los detecto-pero se omeno bowards por dythe Dudy moado in i temp de entrada. probe Basado in Ahva migno la proprindided del dato de juis alicientes beners este en 13'4" amo B-1 4 B-9

prepar el pad y la quales en fræ de desamblio se secon bolardos del pozo. 1410: Se dejann polert facilmente, se toms puestos en el pozo ? la decisión de matrix primero WWTP-1 el pozo a une profunedad para manere temine etmade de 15. Se y prepar el pad. espera que, al iqual Thiego mis devijimis que la poso mentione a former el training & give tyden in vecoror Cheli de Seguridand X par el alto contenido de time requerido, de arcilla i adema anual. Se preparo Cadene de custodiã. 5 il alla he sido compactule por la leov : Ilizado a actuadeds de demolian prodi i de ento receirge il pozo en unal a grain 1-2 dits. Tuego Al

13 - abril . 1617 de en forces realizades y lo que queon pendiente: 0400 flegala a Arcon (Mairanele Merrod Brug) clouser convertado con equipo. 1730 Hegalo al Personal de Geveninken, William Dodriguez. 0745: Se aprobem por Brende Coramo. gen # 1245 y hw#0054. 0800: Chalo & Segundal y fima de decumentos Julans de compo, JSAis. Julyo no diripinos a busier

in punto manuan Se recopio equipo Incluspo pre chan y lardy la maguine de baneral elleches perals itable Dort moverto hacie il apea M. 1015: EB-041316 0850. Le incontram In puntos manan 1037: Se colecto muestra de suelo en area M Para aclesor a este Free utizamo O'area de "former old. la guaque de Geoenn-Lagoons (SWMU 11). La mustra que ubica notich que es biesel. Valimo al área de mas al sur si nombro la posos en WUTP FOL - 1-16 to puelo In este area vauan a fignierer de maden Lo bolordes y le pad. del pozo# 1. desde cinelles nesta Maysmente Course to 0950. St Leomeno de Very Warse sand '. Je Instales polerdo y pad mustra fue tomada

20FOL-1-16: a los 16' de acuerdo 18 25'7" alo espulado en -66071471 la proprieta aprobala 1115 FOL-2-16 Usicada al norte respecto FOL-2-16: 180 25' 7" al pupto 1 de mustra. - 66 71 4811 for oulos sampier Varian extre aveilles (130:+B-041316 y arenes queses. NO Luego Se preparo De detecto nivel friction nerera, cadine de Solo habia u poco de hume ded à eso custoder murtin Con lables y person de los 18-30'. Los de GET pinto los Condenados de estos bolerdo y poros. puntos son: 1335: Le entregarm
22 mustras en Pace. 1410 Regroamp al Terminal part Aacer de con, recoges lgupo de GET, Cenar permons 1 mencinhar que almer el ana doule Minulizo decin 1445 falice del Jernine 1520: Glegade i le Opinino à informer Some la toris de hay a Etrain. aller

	Client Locat North Easti Desc	t: tion ning ng: ript	Pum I: Pur Bay g: 182 -66 tions by	na Energ na Energ /amón, 25'02.50 08'09.9 y: Ma	gy Car rgy Ca Puerto )" 99" arianel:	ibe, LL ribe Te Rico a Merc	.C erminal, eado-Bu	, ,	Date Start/Finish:April 11, 2016Drilling Company:GeoEnviroTech, Inc.Driller's Name:W. RodriguezDrilling Method:HA, DPSampling Method:HA, DPSampler Size:2" ID 4' L	Boring ID: Borehole Depth: Well ID: Well Depth: Casing Elevation: Surface Elevation Water Level	WWTP-SB-1 17.5' WWTP-1 16.48' 2.90' ags NA : NA : 4.28'	
		ELEVATION	Sample Run Number	Sample/Int/Type	Recovery (feet)	PID (ppm)	USCS Code	Geologic Column	Stratigraphic Description		Well Construction	
-		_									Protec	ng -
	0	0	1	HA	1	0	GM		FILL: Gray (10YR 5/1) SILTY GRAVEL, si	t to granules		-0
F			2	HA	1	0	GM		subangular, medium sphericity, dry, very l	oose.		1
-		-	3	HA	1	0	СН		Alluvial Deposits (Qa): Dark grayish brown	n (10YR 4/2) CLAY,	concr	rete
Ī		-	4	HA	1	0	CL		Alluvial Deposits (Qa): Dark yellowish bro	wn (10YR 3/6)		-
Ī	_	_	5	HA	1	0	CL		SILTY CLAY, medium plasticity, silt 30%,	soft	hento	nite
	5	5 -	6	DP	1	0	CL					
Ī		-	7	DP	1	0	CL				san	d
ľ			8	DP	1	0	СН		Alluvial Deposits (Qa): Dark yellowish bro high plasticity, soft	wn and gray CLAY,	scre	en
ľ		1	9	DP	1	0	СН		5 p			1
	10 1/		10	DP	1	0	CL		Alluvial Deposits (Qa): Dark yellowish bro CLAY, (60% clay) medium plasticitv. soft	wn and gray SILTY		
Γ	⊥U- <i>1</i> (	1	11	DP	1	0	CL	Т: : Т	, , , , , , , , , , , , , , , , , , ,			
			12	DP	1	0	CL					]
			13	DP	1	0	CL	Η.				]
			14	DP	1	0	CL					]
	15. 11		15	DP	1	0	CL		Alluvial Deposits (Qa): Dark yellowish bro SANDY CLAY, medium to coarse sand (7	wn and gray 0%), wet		1_
	±J-13	ĺ	16	DP	1	0	CL		Ň			]13
Ľ			17	DP	1	0	CL	\				]



#48 City View Plaza I, Suite 401, Rd 165, km 1.2 Guaynabo, Puerto Rico 00968

Project No.: B0063764

Project Manager: Efraín Calderón Date: 7/7/2016

#### Remarks:

NA = Not Applicable/Available HA=Hand Auger DP= Direct Push NR = No Recovery HSA= Hollow Stem Auger SS= Split Spoon

Page: 1 of 1

Template:

	Clie Loc Nor Eas Des	nt: atior thing sting: scrip	Pum n: Pur Bay g: 182 : -66 tions b	na Ener ma Ene yamón, 25'03.10 08'06.6 <b>y:</b> M:	gy Car rgy Ca Puertc )" 68" arianel	ibe, LL ribe Te Rico a Merc	.C erminal cado-Bu	, ırgos	Date Start/Finish:       April 12, 2016         Drilling Company:       GeoEnviroTech, Inc.         Driller's Name:       W. Rodriguez         Drilling Method:       HA, DP         Sampling Method:       HA, DP         Sampler Size:       2" ID 4' L	Boring ID: Borehole Depth: Well ID: Well Depth: Casing Elevation: Surface Elevation Water Level	WWTP-SB 17.5' WWTP-2 18.87' 2.90' ags : NA : 11.26'	-2
	DEPTH	ELEVATION	Sample Run Number	Sample/Int/Type	Recovery (feet)	PID (ppm)	USCS Code	Geologic Column	Stratigraphic Description		Well	Construction
-		-									Π	Protective casing -
-	0	0-	1 2	HA HA	1	0	SM SM		Alluvial Deposits (Qa): Brown (10YR 4/3) fine sand to veru coarse sand (75%), silt granules to small pebbles (15%), angular very loose very thin roots present 1-3%	SILTY SAND, very and clay (10%), to subangular, dry,		-0
-		_	3 4	HA HA	1 1	0 0	ML SM		Alluvial Deposits (Qa): Brown CLAYEY S structure, dry, silt (70%), clay (30%)	LT, blocky		concrete
-	5	- 5 -	5 6	HA DP	1	0	SM SM		Alluvial Deposits (Qa): Brown (10YR 4/3) fine sand to veru coarse sand (75%), silt granules to small pebbles (15%), angular	SILTY SAND, very and clay (10%), to subangular, dry,		bentonite <sup>-5</sup>
-		_	7	DP	1	0	SM		very loose, very thin roots present 1-3%. Alluvial Deposits (Qa): Dark gravish brow	, 1 (10YR 4/2) SILTY		sand
-		_	8	DP	1	0	CL	 	SAND, silt (10%), fine to very coarse san medium pebbles (10%), subrounded to su	l (80%), small to bangular, dry to		screen
		_	9	DP	1	0	CL	H	Alluvial Deposits (Qa): Dark yellowish bro	wn (10YR 4/4)		
-	10-	10 -	10 11		1	0			SILTY CLAY, silt (30%), clay (70%), mois Alluvial Deposits (Qa): Dark grav (5Y 4/1)	t to wet ' SILTY CLAY. silt		- 10
ŀ		_	12	DP	1	0	CL		(30%), clay (70%), moist, high plasticity	,		-
F		_	13	DP	1	0	sc		Alluvial Deposits (Qa): Dark yellowish bro	wn CLAYEY SAND,		-
F		_	14	DP	1	0	sc		clay (40%), fine to coarse sand (60%), we	t		-
Ĺ	15-	-	15	DP	1	0	СН		Alluvial Deposits (Qa): Dark yellowish bro CLAY, high plasticity, moist to wet, strong	 wn and dark gray odor		
-			16 17		1		CH		, , , , , , , , , , , , , , , , , , ,			
-		-	18			0		H :	Alluvial Deposits (Qa): Dark yellowish bro SILTY CLAY, silt (30%), clay (70%), mois	wn (10YR 4/4) t, crumbles easily		-
-		_	19	DP	1	0	CL	- <u>\</u> -	Alluvial Deposits (Qa): Brown SANDY CL sand (10%), high plasticity, moist to wet	AY, fine to medium		-



#48 City View Plaza I, Suite 401, Rd 165, km 1.2 Guaynabo, Puerto Rico 00968

Project No.: B0063764

Project Manager: Efraín Calderón Date: 7/7/2016

## Remarks:

NA = Not Applicable/Available HA=Hand Auger DP= Direct Push NR = No Recovery HSA= Hollow Stem Auger SS= Split Spoon

Page: 1 of 1

Template:

# BBLCaribe ARCADIS

Samp	ole/Cor	e Log			
Boring/	well	TP-SE	B-/ Proje	ect No. BOD	63764 Page of
Site Loo	ation <u></u>	IN TP	, Ain	na Termina	2 Drilling Started ADin 11, 16 Drilling Completed
Total D	epth Drille	d <u>2/</u>	Feet Hole	Diameter $3$ ir	nches Type of Sample/
Length	and Diame	eter of Corir	ng Device _	4'X 2	D.5 <sup>11</sup> Coring Device <u>Group</u> Sampling Interval <u>Feet</u>
Land Su	rface Elev	ation	Feet	□ Surv	eyed 🗆 Estimated Datum
Drilling	Fluid Usec	l	NA		Drilling Method Direct Rush / HSA
Drilling	Contracto	r_6/1	ensi	stech, Fr	C. Driller W. Rudrigues Helper H. Rudrigues
Prepare	d by _	fariar	rela K	ferrado Bu	FGPS     Hammer     Hammer       Weight     N/A     Drop
Time	Sampl (fee From	le Depth et bgs) To	Core Recovery (Feet)	PID Reading with depth interval (ppm)	Sample/Core Description
0940	0	1	1	0	104R (5/1)) Gray Gilt to Very
					Warse Gand/granules (7520),
					small to medium pubbles
					anguler to Subenguler, nedun
nasa	1	2	1	12	Squencety, dry, Very love.
1010	2	3	1	0	1042 4/2) Dav and bound
					clay kich plasticity, high
					organic material westing
1-21	0	11		1	odur.
02/	2	4		0	(09K 2/6) Dark gellowish
					phone site 302 clay hedrin
0	1				ADT.
029	4	5	1	0	Same as abone.
035	6	7	(	D	Sances above strong adv
041	7	9	2	ð	Dark yell. brown and gray
inc	- 12	12		0	day, high plastiany isoft
1025	7	15	4	U	Sand is about COOV
					(DUN)



# Sample/Core Log (Cont.)

Boring/Well

Project No. \_\_\_\_\_

Page \_\_\_\_\_ of \_\_\_\_\_

	and the second se	and the second second			
Timo	Sample (foot	Depth	Core	PID Reading	Sample/Core Description
Time	From	To	(Feet)	(ppm)	Sample, core bescription
1100	13	14	1	0	Same on about
1105	14	17	3	D	Same as about Color Sandy
					clay, sand med to warse
					(700) day D'lo, Wet,
1.10	12	18		D	Very Soft
110	19	10	- j	0	Sand as about , WD+
111	18	19	,	1)	aund as for the contract
112	19	21	3		Same as 14-17 wet
	$\overline{\}$				
					10
		_			
					A n.a.h/
					hello
				5	
				1	

A LAND SURFACE	Project BUU 63764 Well WWTP-L
diffied hole inch diameter	County State PR Permit No. G1719 / H 0052 Land-Surface Elevation and Datum:
Well casing, inch diameter, Backfill	Installation Date(s)
Grout	Drilling Contractor <u>Gueninotech</u> Anc. Drilling Fluid <u>N/A</u>
Bentonite slurry	Development Technique(s) and Date(s)
6-48: TOC	Fluid Loss During Drillinggallons
Well Screen.	Water Removed During Developmentgallons Static Depth to Waterfeet below M.P.
	Pumping Durationhours
Gravel Pack	Specific Capacitygpm/ft
Formation Collapse	Well Purpose monitoring well
14.9.8 VOL 17.5 m	Remarks DTW = 4.28 TOC
Measuring Point is Top of Well Casing Unless Otherwise Noted. * Depth Below Land Surface	Prepared by
Well construction logs.XLS.xls 9/24/2009	

BBL<sup>Caribe</sup>

1. N

Sample/Core Log	5
Boring/Well(UWTP-SB-2 Project No. BOU63764	Page of (
Site Location Puma Terminal, WWTP Drilling Started 4	12/16 Drilling Completed 4/12/10
Total Depth Drilled $2/$ Feet Hole Diameter $3$ inches	Type of Sample/
Length and Diameter of Coring Device $4' \times 25^{\text{C}}$	Coring Device 91000 Sampling Interval Feet
Land Surface Elevation Feet 🛛 Surveyed 🗌 Estimated	Datum
Drilling Fluid Used Drilling Meth	nod Dirict Push / HA
Drilling Contractor Gwennerken Inc. Driller W.	- Rednanz Helper H. Babilo
Prepared by Mananela Lunado Burge Hammer	U O Hammer
Weight	Drop <u>PIA</u> ins
Sample Depth Core PID Reading	

Time	(fee	t bgs)	Recovery	with depth interval	Sample/Core Description
0.000	From	To	(Feet)	(ppm)	(10) 15 (12) D
08201	D	(		0	(104R412) busin sury sand
					Veni fire good to very coarse son
					(250) gill and alan 1000
					CTO UT, STOT WILL CLAST 10 W,
					granues to small publics
					15 20 Conquer to sub ongular
					dry, very loose. Very time
					Wots mint at 1-320.
1533	1	2	1	0	Anna Re About
herry	-1-	2	<u> </u>	0	Southe of any Ara builder
4844	6	2	(	0	Blown augu but, budy
					Structure, duy, (Tord filt,
					302 alun).
0847	3	4	1	Ð	Same on 0-1.
0851	4	5	1	D	(104R 4/2) Bark graund bron
					Silty Sand. (Silt 1000, they have
					to very course sand tory due
					to many (100) amail bi mad.
					AD VY WIST (10 W SUTWER TO THE
					pepples sub win dec to sub
					anguler).
10/0	5	7	Z	0	Same as above meet to we
IGIS	7	85	15	D	NINK LILLA DIONIN (DUD White)
4/13	,	015	1.0	U	una que avoin avge TIM

# BBLCaribe ARCADIS

# Sample/Core Log (Cont.)

Boring/Well \_\_\_\_\_ Page \_\_\_\_\_ of \_\_\_\_\_ Project No. \_\_\_\_\_ Sample Depth **PID Reading** (feet bgs) with depth interval Sample/Core Description (Feet) (ppm) 702,300) Silter clair mest 918 IN arcu 0 ()ann (IYAV 2 0 der 6 RII Stime DOGS aunt D t: im da Wet 21 20 0931 D burin 47 C

 $\gamma_{i}(k) = 1_{i} k_{i}$ 

Well Construction Log	
(Unconsolidated) 2.981	$P_{1}$ $P_{2}$ $P_{2$
↓ LAND SURFACE	Project <u>190063769</u> Well Cocc 17 2
	Town/City 15 augustion fairly new Futures
inch diameter	Permit No $Glip + 1772 4111 = UUS3$
drilled hole	Land-Surface Elevation and Datum:
ИЖ	feet Surveyed
Well casing,	Estimated
inch diameter,	Installation Date(s) <u>12 - Obuil - 14</u>
	Drilling Method HSA
Backfill	Geographic ted To
Grout	Drilling Contractor
11187 700	Drilling Fluid N/A
<u>401</u> n.	
	Development Technique(s) and Date(s)
E.F. D.L.	
87 700	
ft*	Fluid Loss During Drillinggallons
	Water Removed During Developmentgallons
-Well Screen	Static Depth to Waterfeet below M.P.
	Pumping Depth to Waterfeet below M.P.
	Pumping Durationhours
	Yieldgpm Date
Gravel Pack	Specific Capacitygpm/ft
Sand Pack	
	Well Purpose .
	Montoning Well
18 87 100	at www TPO arca
	Remarks
	$DTUI = 11, 210^{1}$ Tac
Measuring Point is	$10 \mu - 11 20 100$
Unless Otherwise Noted.	$\frown$
* Depth Below Land Surface	Brandhy Pelato

1

Well construction logs.XLS.xls 9/24/2009



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# CHAIN-OF-CUSTODY / Analytical Request Document

The Chain-of-Custody is a LEGAL DOCUMENT. All relevant fields must be completed accurately.

ection A equired Client Information:	Section Required	<b>B</b> Proiec	t Infor	mation:					Sect	ion C	rmation										Pa	ye:	1		/
ompany JBL Cante Hara	Report To		Ef	VAID	n /a	l de	unt	_	Atten	tion:								٦					19	6867	73
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mail To:	Purchase	Order	No.:				1		Pace (	Quote 1	1	Í	1					-	UST	8	RCRA	<b>\</b>	1	OTHER	
hane:	Project Na	ime:	N	DA	RFI	- 4	SEP	2	Pace Manad	Project	1		3					Si	te Locati	ion Te	vm	inal	Pun	ne	
equested Due Date/TAT:	Project Nu	mber:	Da	1016	371	14	1		Pace	Profile #	#:						6.0	1g	STAT	"E: _	P-10	<u> </u>	161 a.P.		
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Required Client Information MATRIX Drinking Wa	<u>I CODE</u> iter DW	es to le	COM		COLL			z		H	Pres	livat	T		7	+	-	-	-+-+				1	10	
Water Waste Wate	r WT	id code	8	COMPOSITE COMP				2												Î					
Product Soil/Solid	P SL	see val	GRA		XI.			COLLE	S			1.1		1	⇒	/	9	2	2		- 1	X	a la come		
SAMPLE ID Oil Wipe	OL WP	ш	ë)	es si n			5	ATO	NER						fest	X	al	NA	DI		1.	orine	-		3
Sample IDs MUST BE UNIQUE Tissue	TS	COD	YPE			1000	126	LEMP	NTAI	ved					sis	43	70	17	7			Chl	1.12		
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TB-04/116	eller and	UT	9	AL		HJul	000	D	3	-	1	3		-		VV	Vi	-			+			1.	
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		11	10	Q.M	101	22 000	1.44	131	1.11	1.24	3 3	Z	/		2	1	1600		V-14-16	6 n	2/5	1			
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				s	-	SIGNATU	RE of SAMI	LER		13	Aso	N	10	1	-	DATES	Signed		<b>36</b>			Terr	Rect	Seale (	amp

\*Important Note: By signing this form you are accepting Pace's NET 30 day payment terms and agreeing to late charges of 1.5% per month for any invoices not paid within 30 days.

di cha

F-ALL-Q-020rev.07, 15-May-2007



**Utilities and Structures Checklist** 

Project: Project Number: Date: Work locations applicable t	DCICA PFT BID 67 11-66 to this clearance checklist:	USEPA 3767 nul-14		-	
U	UWTP-SB	-1			
Pre-Field Work One Call or "811" notified 4 Utility companies notified d	48-72 hours in advance of wo uring the One Call process	ork?		Yes See at	No tached ticket
List any other utilities requi	ring notification:			None	
Client provided utility maps	or "as built" drawings showir	ng utilities?		Yes	🗆 No
Field Work Markings present: Subsurface Utility Lines of I One Call/"811" Client Provided Maps/I Client Clearance Interviews:	<ul> <li>Paint</li> <li>Evidence Used (3 Minimum):</li> <li>Drawings OR</li> <li>Name(s)/Affiliation(s)</li> </ul>	<ul> <li>Pin flags/stakes</li> <li>Maps/Drawings re</li> </ul>	queste	Other	None None
	Did persons interviewed in Yes, depths provided:	dicate depths of any utili	ties in t	he subs	urface?
		d to answer			
<ul> <li>Site Inspection</li> <li>GPR</li> <li>Air-Knife</li> <li>Hydro-Knife</li> <li>Public Records/Maps</li> </ul>	Tips for Successful Utility Loc 1. No excessive turning or dor 2. No hammering- no pickaxe 3. Select alternate/backup loc	ation: wnward force of handauge s-no digging bars-no hurry ations for clearance	rs/shove	els, etc. hortcuttir	ng
Metal Detector Handauger Potholing Probing Private Locator: Marine Locator: Other:	<ol> <li>Utilities may run directly un</li> <li>Be on site when utilizing pr</li> <li>Name and Company: Name and Company:</li> </ol>	der asphalt/concrete or be ivate utility locators	>5ftd	epth	tre
	-	TR	A	СК	

# BBLCaribe ARCADIS

Site Inspection

During inspections look for the following ("YES" requires follow up investigation):

		Utility color codes	S		
a)	Natural gas line present (evidence of a gas meter)?	Yellow		Yes	No
b)	Evidence of subsurface electric lines :	Red			
	i) Conduits to ground from electric meter?			Yes	- No
	ii) Overhead electric lines absent			Yes	No
	iii) Light poles, electric devices with no overhead lines?			Yes	No
C)	Evidence of water lines:	Blue			/
	i) Water meter on site?	1 - 2		Yes	No
	ii) Fire hydrants in vicinity of work?			Yes	No
	iii) Irrigation systems?			Yes	No
d)	Evidence of sewers or storm drains:	Green			_
	i) Restrooms or kitchen on site?			Yes	No
	ii) Gutter down spouts going into ground			Yes	No
	iii) Grates in ground in work area			Yes	No
e)	Evidence of telecommunication lines:	Orange			-
	i) Fiber optic warning signs in areas?			Yes	No
	ii) Lines from cable boxes running into ground?			Yes	No
	iii) Conduits from power poles running into ground?			Yes	No
	iv) Aboveground boxes or housings in work area?			Yes	No
f)	Underground storage tanks:				1
	i) Tank pit present?			Yes	No No
	ii) Product lines running to dispensers/buildings?			Yes	No
	iii) Vent present away from tank pit?			Yes	No No
g)	Proposed excavation markings in work area?	White		Yes	No
h)	Other: (DINK COUN Lines)			/	
	i) Evidence of linear asphalt or concrete repair		A	Yes	🗆 No
	ii) Evidence of linear ground subsidence or change in ve	egetation?	P	Yes	No
	iii) Manholes or valve covers in work area?		_ 🗆	Yes	No
	iv) Warning signs ("Call Before you Dig", etc) on or adjac	cent to site?		Yes	No
	v) Utility color markings not illustrated in this checklist?		P	Yes	□ · No
i)	Aboveground lines in or near the work area:				
	i) < 50 kV within 10 ft of work area?			Yes	No
	<li>ii) &gt;50 - 200 kV within 15 ft of work area?</li>			Yes	No
	<li>iii) &gt;200-350 kV within 20 ft of work area?</li>			Yes	No
	iv) >350-500 kV within 25 ft of work area?			Yes	No
	v) >500-750 kV within 35 ft or work area?			Yes	No
	vi) >750-1000 kV within 45 ft of work area?			Yes	No
-		4			,
Co	mments:	- about	4	-5	
	In Dual Dale U		(	-	

h) pink lines (2) at about 4-5 West from SB-1 at WWTP Area.

Do not initiate intrusive work if utilities are suspected to be present in area and are not located, markings are over 14 days old, or if clearance methods provide incomplete or conflicting information. Do not perform intrusive work within 30 inches of a utility marking without hand clearing.

Name and signature of person completing the checklist:

Name: Signature: Date:

langele yerred Burgs



C

**Utilities and Structures Checklist** 

Project: Project Number: Date: Work locations applicable	$\frac{12004RFI}{B0063F64}$ to this clearance checklist:		-	
U <b>Pre-Field Work</b> One Call or "811" notified Utility companies notified o	48-72 hours in advance of work? during the One Call process		Yes See at	No tached ticket
List any other utilities requ	iring notification:		None	
Client provided utility maps	s or "as built" drawings showing utilities?		Yes	🗆 No
Field Work Markings present: Subsurface Utility Lines of One Call/"811" Client Provided Maps/ Client Clearance Interviews:	Paint     Pin flags/stakes Evidence Used (3 Minimum):  Drawings OR     Maps/Drawings Name(s)/Affiliation(s)	C requeste	Other ed but no	None None
	<ul> <li>Did persons interviewed indicate depths of any ut</li> <li>Yes, depths provided:</li> <li>Did not know or refused to answer</li> </ul>	ilities in t	the subs	urface?
	Comments:			
<ul> <li>Site Inspection</li> <li>GPR</li> <li>Air-Knife</li> <li>Hydro-Knife</li> <li>Public Records/Maps</li> <li>Radiofrequency</li> <li>Metal Detector</li> <li>Handauger</li> <li>Potholing</li> <li>Publics</li> </ul>	Tips for Successful Utility Location: 1. No excessive turning or downward force of handaug 2. No hammering- no pickaxes-no digging bars-no hur 3. Select alternate/backup locations for clearance 4. Utilities may run directly under asphalt/concrete or b 5. Be on site when utilizing private utility locators	gers/shov rying or s be > 5 ft d	els, etc. hortcuttir epth	ng
	Nome and Company (Day 101 1)2)	[enlas	And	

# BBLCaribe ARCADIS

Site Inspection

During inspections look for the following ("YES" requires follow up investigation):

		Utility color codes		2	
a)	Natural gas line present (evidence of a gas meter)?	Yellow	Yes	No	
b)	Evidence of subsurface electric lines :	Red		-	
	i) Conduits to ground from electric meter?		Yes	No No	
	ii) Overhead electric lines absent		Yes	No No	
	iii) Light poles, electric devices with no overhead lines?		Yes	No	
C)	Evidence of water lines:	Blue		-	
	i) Water meter on site?		Yes	No No	
	ii) Fire hydrants in vicinity of work?		Yes	I No	
	iii) Irrigation systems?		Yes	No	
d)	Evidence of sewers or storm drains:	Green		1	
	i) Restrooms or kitchen on site?		Yes	- No	
	ii) Gutter down spouts going into ground		Yes	No	
	iii) Grates in ground in work area		Yes	No No	
e)	Evidence of telecommunication lines:	Orange		~	
	i) Fiber optic warning signs in areas?		Yes	No	
	ii) Lines from cable boxes running into ground?		Yes	No	
	iii) Conduits from power poles running into ground?		Yes	No	
	iv) Aboveground boxes or housings in work area?		Yes	No	
f)	Underground storage tanks:			-	
	i) Tank pit present?		Yes	No	
	ii) Product lines running to dispensers/buildings?		Yes	No	
	iii) Vent present away from tank pit?		Yes	No	
g)	Proposed excavation markings in work area?	White	Yes	No	
h)	Other:			1	
	<ul> <li>Evidence of linear asphalt or concrete repair</li> </ul>		Yes	No	
	ii) Evidence of linear ground subsidence or change in ve	egetation?	Yes	No	
	iii) Manholes or valve covers in work area?		Yes	No	
	iv) Warning signs ("Call Before you Dig", etc) on or adjac	cent to site?	Yes	No	
	v) Utility color markings not illustrated in this checklist?		Yes	No	
i)	Aboveground lines in or near the work area:				
	i) < 50 kV within 10 ft of work area?		Yes	No	
	<li>ii) &gt;50 - 200 kV within 15 ft of work area?</li>		Yes	No	
	iii) >200-350 kV within 20 ft of work area?		Yes	No	
	iv) >350-500 kV within 25 ft of work area?		Yes	A No	
	v) >500-750 kV within 35 ft or work area?		Yes	4 No	
	vi) >750-1000 kV within 45 ft of work area?		Yes	No	

area was the former Waster Water beatment block and was filled with soil. Boing area was deared.

Do not initiate intrusive work if utilities are suspected to be present in area and are not located, markings are over 14 days old, or if clearance methods provide incomplete or conflicting information. Do not perform intrusive work within 30 inches of a utility marking without hand clearing.

Name and signature of person completing the checklist:

Name: Signature: Date:

anancha gurado Buzy



# Site Specific Health and Safety Plan

Revision 13b, 3/9/2016

Project Name:

**RCRA RFI - USEPA PUMA** 

Project Number: B0063764 Client Name: Date: HASP Expires Revision:

Puma Energy Caribe, LLC 3/23/2016 3/23/2017 0

Approvals:

HASP Developer: Marianela Mercado-Burgos

Project Manager:

Efraín Calderón

HASP Reviewer:

X Giscles A'dy

Signed by: gisela.hernandezrivera@arcadis-us.com

Drving HAASP (LIMPS)

mergency Inform	ation
Puma Energy Caribe, Road # 28, Km 2.0, Lu Bayamón, PR 00965	LLC Terminal uchetti Industrial Park,
ers:	
ubulance) c, if applicable):	911
MA San Pablo	787-620-4747
anda Toraño	<u> </u>
	101-900-1331
ning injury/illness)	1-888-449-7787
Gisela Hernández	787-378-9430
Efraín Calderón	787-397-2245
Sharon Lingle	864-331-9940
Denis Baicer	614-778-9171
ess: Hospital HIMA San Pa	blo
70 Calle Santa Cruz	
00959	)
00000	
	787-620-4747
ess	
ess	
e <b>ss</b> gency Number/WorkCare as ap	oplicable
e <b>ss</b> gency Number/WorkCare as ag rEfra	oplicable aín Calderón
gency Number/WorkCare as a rEfr SD	oplicable aín Calderón enis Balcer
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gency Number/WorkCare as an r Efr S D Bre nble, or clear cell contents:	oplicable aín Calderón enis Balcer enda Toraño
gency Number/WorkCare as a r Efr S D Bread able, or clear cell contents: (s): To be determined on Si	oplicable aín Calderón enis Balcer enda Toraño te, follow Site directions
gency Number/WorkCare as a r Efri S D able, or clear cell contents: (s): To be determined on Si	oplicable aín Calderón enis Balcer enda Toraño te, follow Site directions te: DAMM buildu
	Puma Energy Caribe, Road # 28, Km 2.0, Lu Bayamón, PR 00965      ers:     hbulance)     ; if applicable):     MA San Pablo  enda Toraño     ming injury/illness)     Gisela Hernández     Efraín Calderón     Sharon Lingle     Denis Balcer      ess: Hospital HIMA San Pa     70 Calle Santa Cruz     Bayamón, Puerto Ricc     00959

×

#### **General Information**

Site Type (select all applicable where work will be conducted):

Active	ailroad
Bridge	Jemote Area
Buildings	Pesidential
	Petail
	Roadway (public, including right-of-way)
Military Installation	Water Treatment Plant (former)
Inactive Industrial	
Active Industrial	Security Risk Site/Location
Landfill	<b>tility</b>
Marine	ther (specify): Storage and Distribution Center
Mining	V
Parking Lot/Private Roadway	

If a lone worker is used on the project, additional communication and emergency action planning for lone worker required.

#### Surrounding Area and Topography (select one):

Surrounding area and topography are presented in the project work plan Surrounding area and topography (*briefly describe*):

□ Topography varies approx. from 2- 40 ft amsl decreasing from south to
 □ north. The northern area includes a wetland. There are two creeks crossing the property visible at the wetland (Diego and Las Lajas creeks). Another creek (Sta. Catalina) is located at the east of the property.

Simultaneous Operations (SimOps)

Not applicable

SimOps will exist on this project

☐ Normal operations of client. Posibility of other contractors to be working on Site

Site Background (select one):

Site background is presented in the project work plan Site background (*briefly describe*):

The Site is the main hydrocarbon fuel storage of Puma Energy Caribe in the

Puerto Rico dedicated to storage and distribution. Distribution include

✓ transportation of fuels via pipelines and trucks. Fuels include: Jet Fuel, Diesel, Gasoline, Ethanol, Propane and Butane Gas. The Site has been under federal and local environmental investigation including the monitoring of contaminants in soil and water.

# Project Tasks

The following tasks are identified for this project:

Examples: "Drilling/soil sampling", "Surveying", "General Inspections", "Construction Management/Inspections"

1 Soil Sampling	
2 Well Installation	
3 Utility Clearance	
4 Groundwater Sampling/purging	
5 Mobilization/Demobilization	
6 Vegetation Clearance	
Subcontractor H&S information is attached	The following H&S Standards are attached:
고 Utility clearance required.	Not applicable
Journey Management Plan attached	Not applicable
State specific H&S required:	

## **Roles and Responsibilities**

Name	Role	Additional Responsibilities (Describe)
1 Efraín Calderón	PM	
2 Antonio Perez	SSO	Field technician/Field Lead
3 Marianela Mercado Burgos	SSO	Geologist/Field Lead
4 Eliot Delgado	SSO	Field technician/Field Lead
5 Andres Colom	SSO	Field technician/Field Lead
6 Fernando Colom	SSO	Field technician/Field Lead

## Training

All Arcadis employees are required to	Selected Arcadis employees are required to have the	
have the following training to be on site:	following additional training:	
	Names or Numbers from above	е
H&S Program Orientation	Fire Extinguisher MM/ED/AP/FC//	AC
HAZCOM GHS/EAP	Benzene - General Awareness	
Defensive Driving - Smith On-Line		_
Hazwoper 40 Hour		_
Hazwoper 8-Hour Annual Refresher		
BBP (Bloodborne Pathogens)		_
First Aid/CPR		
DOT HazMat #1	None	_
None	None	
None	None	_
None	None	
None	None	_
None	None	
Client specific:	None	_
API Work Safe	None	
Other:	Other:	
General Puma Terminal Orientation		_

Task 2: We	Il Installation
Field-Drilling - Mechanical met	hod (drill rig, DPT, etc)
Hazard Types (unmitigated rar	iking H-High, M-Medium, L-Low): Suggested FHSHB Ref: III E, III F, III AD, III AN
Biological 3	Chemical 1 Driving 1 Electrical 1
Environmental 1	Gravity 1 Mechanical 1 Motion 1
Personal Safety 2	Pressure 1 Radiation 1 Sound 1
Overall Unmitigated Risk:	High Mitigated Risk: Medium if utilizing:
Controls that should be	Primary: TRACK Engineering Controls (specify below) Admin. Controls (specify below) JSAs Inspections
Considered:	Secondary: Job Briefing/Site Awareness H&S Standards Cont./Emerg. Planning PPE (see HASP "PPE" sectio
Enter Required Controls:	Refer to list of considered controls as required. Use appropriate hearing protection, SWA.
Hazardous Activity #2	
Field-Tools, hand - use of ham	imers, screwdrivers, wrenches, etc
Hazard Types (unmitigated ran	king H-High, M-Medium, L-Low): Suggested FHSHB Ref: III AD
Biological -	Chemical - Driving - Electrical -
Environmental -	Gravity L Mechanical - Motion M
Personal Safety -	Pressure - Radiation - Sound -
Overall Unmitinated Risk	Medium Mitigated Rick
Controls that should be	Primary: TRACK JSAs Engineering Controls (specify below) Inspections Secondary: H&S Standards Job
Considered:	Briefing/Site Awareness Admin. Controls (specify below) Specialized Equipment (specify below) Site AwarenessPPE (see HASP "PPE" section)
Enter Required Controls:	Refer to list of considered controls as required. Use appropriate gloves and tools for task, SWA.
Hazardous Activity #3	dogmont (all trace)
Theid - Weir Installation of Aban	
Hazard Types (unmitigated ran	king H-High, M-Medium, L-Low): Suggested FHSHB Ref: III F, III S, III AF
Biological	Chemical L Driving - Electrical L
Environmental L	Gravity M Mechanical L Motion M
Personal Safety L	Pressure L Radiation - Sound L
Overall Unmitigated Risk:	Medium Mitigated Risk: Low if utilizing:
Controls that should be	Primary: TRACK JSAs Secondary: PPE (see HASP "PPE" section)
Considered:	
Enter Required Controls:	Refer to list of considered controls as required. Use appropriate tools for task use dust mask when handling cement or other small particle materials, SWA.
Hazardous Activity #4	
General-Pinch points - moving	parts from doors, closures, rotating devices, falling objects, well covers, manholes, etc
Hazard Types (unmitigated ran	king H-High, M-Medium, L-Low): Suggested FHSHB Ref: III AF
Biological -	Chemical - Driving - Electrical -
Environmental -	Gravity L Mechanical - Motion M
Personal Safety -	Pressure M Radiation - Sound -
Overall Unmitigated Risk	Low Mitigated Risk: Low if utilizing:
Controls that should be	Primary: TRACK JSAs Engineering Controls (specify below) Secondary: Admin. Controls (specify below) Job
Considered:	Briefing/Site Awareness Inspections PPE (see HASP "PPE" section)
Enter Required Controls:	Refer to list of considered controls as required. Use appropriate gloves and tools for task, SWA.

Task 4: Gro	undwater Sampling/purging						
Hazardous Activity #1							
Field-Measurement - water levels and well sounding							
Hazard Types (unmitigated ran Biological - Environmental - Personal Safety -	king H-High, M-Medium, L-Low):     Suggested FHSHB Ref:     III E, III F       Chemical     H     Driving     -       Gravity     L     Mechanical     -       Pressure     -     Radiation     -						
Overall Unmitigated Risk: Controls that should be Considered:	Mitigated Risk: Low fif utilizing: Primary: TRACK JSAs Secondary: Job Briefing/Site Awareness PPE (see HASP "PPE" section)						
Enter Required Controls:	Refer to list of considered controls as required. Use appropriate gloves, safety glasses and ergonomics, SWA.						
Hazardous Activity #2 Chemical-Flammables/Combus	tibles - used or stored at a site						
Hazard Types (unmitigated rank	sing H-High, M-Medium, L-Low): Suggested EHSHB Ref: III AC						
Biological - Environmental - Personal Safety -	Chemical H Driving - Electrical - Gravity M Mechanical - Motion M Pressure M Radiation - Sound -						
Overall Unmitigated Risk: Controls that should be Considered:	High         Mitigated Risk:         Medium         if utilizing:           Primary:         TRACK JSAs Engineering Controls (specify below)         Secondary: Hazcom Training         MSDS/SDS (see also HASP Hazcom/GHS section)         Job Briefing/Site Awareness         Cont/Emerg. Planning         Admin. Controls (specify below)         Secondary: Hazcom Training         MSDS/SDS (see also HASP Hazcom/GHS section)         Non-training         MSDS/SDS (see also HASP Hazcom/GHS section)         Secondary: Hazcom/GHS section)         Non-training         MSDS/SDS (see also HASP Hazcom/GHS section)         Secondary: Hazcom/GHS section)         Non-training         MSDS/SDS (see also HASP Hazcom/GHS section)         Secondary: Hazcom/GHS section)						
Enter Required Controls:	Refer to list of considered controls as required. Prohibited the use of gasoline cars/trucks at the Site, non smoking procedures, SWA.						
Hazardous Activity #3	sampling with electric procuratic or other pop manual pump						
risid-oamping - monitoring wen	sampling war electric, predmate of other non-mandal pointp						
Hazard Types (unmitigated rank Biological - Environmental - Personal Safety -	ing H-High, M-Medium, L-Low): Suggested FHSHB Ref: III F, III AB, III AF Chemical L Gravity L Pressure - Radiation - Sound -						
Overall Unmitigated Risk: Controls that should be Considered:	Mitigated Risk: Low if utilizing: Primary: TRACK JSAs Engineering Controls (specify below) Inspections Secondary: Job Briefing/Site Awareness PPE (see HASP "PPE" section)						
Enter Required Controls:	Refer to list of considered controls as required. Use appropriate gloves, safety glasses and ergonomics, SWA.						
Hazardous Activity #4 Field-Ambient environment - ex	posure heat, cold, sun, weather, etc						
Hazard Types (unmitigated rank	ing H-High, M-Medium, L-Low): Suggested FHSHB Ref: III L III M						
Biological - Environmental L Personal Safety M	Chemical     Driving     M     Electrical       Gravity     H     Mechanical     -       Pressure     -     Radiation     -						
Overall Unmitigated Risk: Controls that should be Considered:	Medium         Mitigated Risk:         Medium         if utilizing:           Primary:         TRACK         Field H&S Handbook (see ref. above)         Secondary: H&S Standards         Engineering Controls           (specify below)         Admin. Controls         (specify below)         Specialized         Equipment         (specify below)         PPE (see HASP "PPE" section)						
Enter Required Controls:	Refer to list of considered controls as required. Take rest time as needed, hydrate properly, SWA.						

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## Hazard Communication (HazCom)/Global Harmonization System (GHS)

HAZCOM/GHS for this project is managed by the client or general contractor

List the chemicals anticipated to be used by Arcadis on this project per HazCom/GHS requirements. (Modify quantities as needed)

	Preservatives	Qty	Decontamination	Qty	Calibration	Qty.
	Not applicable		Not applicable		t applicable ملا	
	Hydrochloric acid	<500 ml	Alconox	≤ 5 lbs	pbutylene/air	1 cyl
	Nitric acid	<500 ml		≤ 1 gal	methane/air	1 cyl
	Sulfuric acid	<500 ml		≤ 1 gal	Pentane/air	1 cvl
	Sodium hydroxide	<500 ml	Methanol	≤ 1 gal	l√] Ævdrogen/air	1 cvl
Ц	Zinc acetate	<500 ml		< 1 gal	Propane/air	1 cvl
Ц	Ascorbic acid	<500 ml		< 4 gal	Hydrogen sulfide/air	1 cyl
	Acetic acid	<500 ml	Nitric acid	< 1 I	Inforce and a standard and a standard and a standard a standa	
	Isopropyl alcohol		Other:	216	standards (4 7 10)	
	Formalia $(<10\%)$	< 4 gal.			Unductivity standards	< 1 gal
	Methanol	< 4 gai.		-	hor:	≤ i yai
Н	Sodium bioulfoto	<500 ml		<b>-</b> 0		
	Socium bisultate	<500 mi	<u>}</u>			2
	Fuels	Qtv	Kits			Qtv
	Not applicable	<b>u</b> (j)	Not applicable			ω.j.
	Gasoline	≤ 5 gal	Hach (specify):			1 kit
	Diesel	≤ 5 gal	DTECH (specify):			1 kit
	Kerosene	≤ 5 gal	Other:			1 kit
П	Propane	1 cyl				-
$\overline{\Box}$	Other:					•31
	Jet Fuel, Ethanol					<b>(</b> 5)
	Pomodiation	Otv	Other	Ohr	DOT(1):	Otv
	Not applicable	Gly.	Not applicable	Giy.	MOT eligible soils	Qty.
	Not applicable		Spray paint	< 6 cans	MOT eligible water	÷
1		-	$\Box$ WD-40	$\leq 1$ can	MOT eligible solids	•)
		-	Pipe cement	≤ 1 can	MOT eligible liguids	
	A	-	Pipe primer	≤ 1 can	V I	50
	*	-	Mineral spirits	≤ 1 gal		-0.
$\Box$		-		- 12		
	ttach applicable Materials o	f Trade (MOT) gei	c shipping determination	n. SDS not generally	y applicable to this category.	
Saf	ety Data Sheets (SDS	s) must be ava	ble to field staff. In	dicate below ho	w SDS information will	
be µ	provided:					
	Not applicable			Contractor SDS	Ss are not applicable	
	Printed copy in compa	any venicie		Contractor SDS	s are attached	
	Printed copy in the pr	oject trailer/off	ice	Tocated:	ss will be on site and	
	Finited copy attached	ld computer	[	peateu.		
	Electronic copy on he	iu computer				

Bulk quantities of the following materials will be stored:

1

Contact the project H&S contact for information in determining code and regulatory requirements associated with <u>bulk storage</u> of materials.

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7

#### Site Control (check all that apply)

- Not applicable for this project.
- Site control protocols are addressed in JSA or other supporting document (attach)
- Maintain an exclusion zone of 5 ft. around the active work area
- Site control is integrated into the STAR Plan or TCP for the project
- Level C site control refer to Level C Supplement attached
- Other (specify):

#### Decontamination (check all that apply)

Not applicable for this project.

- Decontamination protocols are addressed in JSA or other governing document (attach)
- Wash hands and face prior to consuming food, drink or tobacco.
- Remove gloves and coveralls and contain, wash hands and face prior to consuming food,
- drink or tobacco. Ensure footwear is clean of site contaminants
  - Respiratory protection- refer to the Level C supplement attached.
- Other (specify):

## Sanitation (check all that apply)

Mobile operation with access to off-site restrooms and potable water

- Restroom facilities on site provided by client or other contractor
- $\overrightarrow{}$  Project to provide portable toilets (1 per 20 workers)
- Potable water available on site
- $\frac{1}{\sqrt{2}}$  Project to provide potable water (assume 1 gal./person/day)
- Project requires running water (hot and cold, or tepid) with soap and paper towels

## Sarety Briefings (check all that apply)

Safety briefing required daily

- Safety briefing required twice a day
- Safety briefings required at the following frequency:
- Subcontractors to participate in Arcadis safety briefings
- Arcadis to participate in client/contractor safety briefings
- ✓ Other (specify):

1

## Safety Equipment and Supplies

Safety equipment/supply requirements are addressed in the JSA or Permit for the task being performed. If work is not performed under a JSA or Permit, the following safety equipment is required to be present on site in good condition (Check all that apply):

	First aid kit
	Bloodborne pathogens kit
	Fire extinguisher
	Eyewash (ANSI compliant)
Ц	Eyewash (bottle)
	Drinking water
	Other:
4	Flags, caution tape

Insect repellent Sunscreen Air horn Traffic cones 2-way radios Heat stress monitor

Attachments

t.

5

## Subcontractor Acknowledgement: Receipt of HASP Signature Form

ARCADIS claims no responsibility for the use of this HASP by others although subcontractors working at the site may use this HASP as a guidance document. In any event, ARCADIS does not guarantee the health and/or safety of any person entering this site. Strict adherence to the health and safety guidelines provided herein will reduce, but not eliminate, the potential for injury at this site. To this end, health and safety becomes the inherent responsibility of personnel working at the site.

Printed Name	Company	Signature	Date
William Rodrigues	GET	MAG	04/11/16
Hardy Roding wer	GET	Alexin	04/14/14
GelARA Morale Jon has	GET	Alter Mier Bo	04/11/16
Hector P. Babilonia	GET	What a plan	04/12/16

## Visitor Acknowledgement and Acceptance of HASP Signature Form

By signing below, I waive, release and discharge the owner of the site and ARCADIS and their employees from any future claims for bodily and personal injuries which may result from my presence at, entering, or leaving the site and in any way arising from or related to any and all known and unknown conditions on the site.

Name	Company	Reason for Visit	Date/Time On Site	Date/Time Off Site
				441
				n
	-			
	-			

General	1								
ISAID	1	10544				Status		(2) Douiour	
Job Name		Environmental	Drilli	lling, soil sampling, well		Created E	Date	1/22/2014	
Task Desc	rintion	Drilling and So	il Sar	nnling		Poviow D	ato	2/15/2016	
Working h	ours	7:30om 2:00	n Sar	nping		Auto Clos	ate	3/15/2016	
Working hours 7:30am – 3:00		JIII			Auto Clos	sea	raise		
Client / F	Project								
Client	Т	RAFIGURA (P	UMA	ENERGY (	ARIBE, LL	C.)			
Project Nu	mber E	30063764.0000							
Project Na	me F	RCRA RFI USE	PA						
PIC	A	LONSO, JOHN	١C						
Project Ma	nager C	ALDERON, EF	RAI	N					
User Rol	es								
Role		Employee		1. E.S. m.s	Due Da	ite C	ompleted Date	Supervisor	Active
Developer		Lebron, Rita			2/12/20	14	1/22/2014	Calderon, Efrain	
HASP Revie	ewer	Hernandez, Al	ex		2/5/20	14		Alvarez, James	
Reviewer		Mercado-Burg	os, N	larianela	3/15/20	16	3/15/2016	Calderon, Efrain	R
Job Step	S								
2	General drill rig	g operation	1	drilling cau equipment Temporary hearing los excessive by rig oper	sing injury of utility dama or permane s due to noise gener ation or nea	or ge ent ated	<ol> <li>Interview personn</li> <li>Use hea drilling e pearby a</li> </ol>	v and involve site $p \neq k$ el. ring protection when quipment is in use, if	Structure USI.
			2	activities. Burns due	to hot surfa	rby ces on	2. ARCADI as any n requires those us conversa 1. Ensure of	activities requires its use or d necessary. S defines excessive noise oise environment that speech levels above ed for normal ation. drill rig has all machine	
			2	activities. Burns due drill rig	to hot surfa	ces on	<ol> <li>ARCADI as any n requires those us conversa</li> <li>Ensure o guards a</li> <li>Follow ca the equip</li> <li>Be caref augers a may bec</li> <li>Wear lea</li> <li>Avoid pla parts in t</li> </ol>	Introduction of the second sector of the second sec	whith
			2	activities. Burns due drill rig Contact wit of Concern	to hot surfa h Contamin in soils.	ces on	<ol> <li>ARCADI as any n requires those us conversa</li> <li>Ensure o guards a</li> <li>Follow ci the equip</li> <li>Be caref augers a may bec</li> <li>Wear lea</li> <li>Avoid pla parts in t</li> </ol>	activities requires its use of d necessary. S defines excessive noise oise environment that speech levels above ed for normal ation. drill rig has all machine and covers in place. aution labels and signs in oment. ul handling split spoons, ind other drill parts that ome hot during operation. ather work gloves. acing hands or other body he "line of fire" and always be performed in e HASP, and the Air	Production

buckets, mud from drilling,

Trips and falls due to drilling equipment laying on the ground (i.e. augers, split spoons, decon equipment,

rain.

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- footing.
- 1. Keep equipment and trash picked up, and stored away from the primary work area. 2. Be aware of wet areas, ensure firm

never fair our

			coolers, etc). Slips and fall due to water from decon buckets, mud from drilling, rain.	footing.	
3	Direct push drilling	1	Lacerations and crushing of fingers/body parts due to pinch points at the drill rods handled by workers.	<ol> <li>Keep a minimum of 5 feet away from drill rig operation and moving parts.</li> <li>Ensure equipment has all of the necessary guards and covers in place.</li> <li>Keep hands and body parts away of the "line of fire"</li> </ol>	
		2	Injury due to equipment trapping worker because working space is tight.	<ol> <li>Do not put yourself between the rig and a fixed object.</li> <li>Use Spotters or a tape measure to ensure clearances in tight areas.</li> <li>Pre-plan equipment movement from one location to the next.</li> <li>Leave enough work space, including side cabinets, and support vehicles.</li> </ol>	
		3	Cuts and lacerations while cutting sampling sleeves to get soil for sample.	<ol> <li>Driller must conduct the sleeves open, using sleeve holders for stability when cutting, and using the proper tool for this purpose (hook blade), change blade regularly.</li> <li>Cut away from the body, ensure other personnel are not in danger when cutting.</li> <li>Do the cutting on a sound, stable, obstructions free surface.</li> <li>Wear cut ressistant gloves alone or in combination with other required gloves.</li> </ol>	
4	4 Sample collection and processing		Injuries can result from pinch points on sampling equipment, and from breakage of sample containers.	<ol> <li>Care should be taken when opening sampling equipment.</li> <li>Look at empty containers before picking them up, and do not over- tighten container caps.</li> <li>Use dividers/bubble wrap to store containers in the cooler so they do not break.</li> </ol>	
		2	Lifting heavy coolers can cause back injuries	<ol> <li>Use two people to move heavy coolers. Use proper lifting techniques.</li> </ol>	
5	Monitoring well installation	1	Same hazards as in Step 2 with general drill rig operation	See step 2	
			Monitoring well construction materials can clutter the work area causing tripping hazards.	Well construction materials should be picked up during the well installation process.	
			Heavy lifting can cause muscle strains, and cutting open bags can cause lacerations.	Well construction materials are usually 50 lbs or greater. Team lift or use drill rig to hoist bags. Always use work gloves while cutting open bags.	
		4 Well pack material (i.e. sand grout, bentonite) can become airborne and get in your eyes.		Wear safety glasses for protection from airborne sand and dust. Work upwind so potential clouds from the dust does not fall onto self.	
		5	Cutting the top of the well to size can cause jagged/sharp edges on the top of the well casing.	Wear gloves when working with the top of the well casing, and file any sharp jagged edges that resulted from cutting to size.	
6	Soil cutting and purge water management	1	Moving full drums can cause back injury, or pinching/crushing injury	Preferably have the drilling contractor move full drums with their equipment. If this is not practicable, use lift assist devices such as	

PPE

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drum dollys, lift gates, etc. Employ proper lifting techniques, and perform TRACK to identify pinch/crush points. Wear leather work gloves, and clear all walking and work areas of debris prior to moving a drum.

Personal Protective Equina		a drum.
Personal Protective Equipm	ent	
long sleeve shirt/papte	Description	Required
o more simplants	Long pants required, long sleeve	Required
faceshield	If oploating	
safety glasses	in splasning hazards are foreseen	Recommended
boots		Required
rubber boots	lf muddy	Required
steel-toe boots		Recommended
chemical resistant gloves (specify type)	nitrile	Required
work gloves (specify type)	Last	Required
hard hat	Leather; cut resistant	Required
ear plugs		Required
traffic vestClass II or III		Required
dust mask		Required
1		Required
	Personal Protective Equipment Personal Protective Equipment long sleeve shirt/pants faceshield safety glasses boots rubber boots steel-toe boots chemical resistant gloves (specify type) work gloves (specify type) hard hat ear plugs traffic vestClass II or III dust mask	Personal Protective Equipment       Description         long sleeve shirt/pants       Long pants required, long sleeve recommended         faceshield       If splashing hazards are foreseen         safety glasses       Joots         boots       If muddy         steel-toe boots       If muddy         chemical resistant gloves (specify type)       Leather; cut resistant         hard hat       ear plugs         traffic vestClass II or III       Joots III

туре	Supply		
Communication Device	s mobile phone	Description	Required
	walkie talkie	Only in allowed areas, never while driving	Required
Decontamination	Decon supplies (specify type)	Alconox and water, ether	Required
Aiscellaneous	fire extinguisher	HASP	Required
	first aid kit	10 people construction	Required
	flashlight		Required
ersonal	eye wash (specify type)		Required
	insect repellant		Required
	sunscreen		Recommended
	water/fluid replacement		Recommended
affic Control	barricades		Required
t	raffic cones		Required
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Job Safety Analysis General							
Job Name	Environmental-Other	Created Date	1/21/2014				
Task Description	Mobilization / Demobilization	Review Date	3/15/2016				
Working hours	7:30am - 3:00pm	Auto Closed	False				

Client / Pr	roject	
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Client	TRAFIGURA (PUMA ENERGY CARIBE, LLC)
Project Number	B0063764.0000
Project Name	RCRA RFI USEPA
PIC	ALONSO, JOHN C
Project Manager	CALDERON, EFRAIN

User Roles								
Role	Employee	Due Date	Completed Date	Supervisor	Active			
Developer	Lebron, Rita	2/11/2014	1/22/2014	Calderon, Efrain				
HASP Reviewer	Hernandez, Alex	2/5/2014		Alvarez, James				
Reviewer	Mercado-Burgos, Marianela	3/15/2016	3/15/2016	Calderon, Efrain				

Job Step No.	Job Step Description		Potential Hazard	Critical Action	H&S Reference
1	Conduct TRACK, Review Stop Work Authority and PUMA ENERGY general safety rules	1	L/NL (Accident / Incident)	<ol> <li>Always conduct TRACK prior to start, during and after a task or job step.</li> <li>All personnel have the right and responsability to use their Stop Work Authority if conditions or actions make working unsafe.</li> <li>Remember PUMA Safety Rules and discuss them during the Safety Meeting.</li> </ol>	ARC HSMS000
2	Drive to / from Site	1	Collisions while driving or parked	<ol> <li>Review Trafic Control Plan.</li> <li>Only authorized, Defensive-Driving trained personnel can drive.</li> <li>Complete vehicle inspection prior to operating vehicle. Correct any abnormal situation or vehicle condition. Perform vehicle inspection in support trailer, parking lots or other low traffic areas.</li> <li>No mobile phone use or conducting distracting tasks while driving.</li> <li>Drive defensively, follow speed limits and traffic signs, periodically check mirrors, keep a safe distance from other cars and wear seatbelt</li> </ol>	ARCHSGE024 Phohibitud Phohibitud Miside Ferry ZOMPN
				seatbelt.	N.

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				<ul><li>facility requirements.</li><li>7. Choose location that minimizes chance for vehicle to be struck by another vehicle.</li></ul>
		2	Backing up hazards	<ol> <li>Check clearances before entering vehicle.</li> <li>Use spotter when backing, narrow spaces or when necessary.</li> </ol>
		3	Road and weather conditions (debris/animals in the road, poor road conditions, dark, wet, fog, etc.)	<ol> <li>Keep eyes on the road. Scan road for debris.</li> <li>Reduce speed 5 to 10 miles per hour less than the posted speed limit under less than ideal driving conditions.</li> </ol>
		4	Vehicle with mechanical/tire damage	<ol> <li>Complete vehicle inspection prior to operating vehicle.</li> <li>Have all required insurance (full coverage) for the drivers by the car rental company.</li> </ol>
		5	Distractions and Fatigue	<ol> <li>No mobile phone use or conducting distracting tasks while driving.</li> <li>Drive defensively, periodically check mirrors, keep a safe distance from other cars.</li> <li>Recognize the signals and dangers of drowsiness. Pay attention to indicators of drowsiness including: frequent yawning, heavy eyes, and blurred vision. Stop driving if you have any of these.</li> </ol>
3	Driving on Site	1	Violation of facility requirements resulting in loss (personal or property)	<ol> <li>Be knowledgeable and comply with facility requirements.</li> <li>Adhere to facility velocity limits and site conditions.</li> </ol>
		2	Collisions while driving or parked	<ol> <li>Drive defensively, periodically check mirrors, keep a safe distance from other cars and equipment, and wear seatbelt.</li> <li>Do a walk-around the vehicle before moving to ensure area is free from equipment/property.</li> <li>Look for changes due to construction activities, loading/unloading, traffic peak times, security, and others.</li> </ol>
		3	Hitting personnel	<ol> <li>Communicate personnel and people in the area your intention of move the vehicle.</li> <li>Do a walk-around the vehicle before moving to ensure no personnel is in the "line of fire".</li> </ol>
4	Demobilization from Site after finish work	1	Property loss Third party Loss/ Near Loss	<ol> <li>Ensure wastes are disposed, labeled and staged in a proper manner.</li> <li>Conduct all notifications, inventory and documentation.</li> <li>Ensure overall area is left in clean, good condition.</li> </ol>

PPE	Personal Protective Equipment	nt		
Туре	Personal Protective Equipment	Description	Required	
Dermal Protection	long sleeve shirt/pants	Long Pants required; Long sleeve shirt recommended	Required	
Eye Protection	safety glasses		Required	
Foot Protection	rubber boots	steel toed; if muddy	Recommended	
	steel-toe boots		Required	
Hand Protection	chemical resistant gloves (specify type)	nitrile	Required	
	work gloves (specify type)	Based on task:leather; cut resistant	Required	
Head Protection	hard hat		Required	
Hearing Protection	ear plugs		Required	
		<ol> <li>Ensure all tools, materials are ga</li> <li>Notify site repre- work completion condition obsen activities or left</li> </ol>	equipment and thered and stored. sentative of the and any unusual red during the in place.	

Supplies							
Туре	Supply	Description	Required				
<b>Communication Devices</b>	mobile phone	Only at allowed area, not when driving	Required				
	walkie talkie		Required				
Miscellaneous	fire extinguisher		Required				
	first aid kit		Required				
	flashlight		Recommended				
Personal	eye wash (specify type)		Required				
	insect repellant		Recommended				
	sunscreen		Recommended				
	water/fluid replacement		Required				
Traffic Control	barricades		Required				
	traffic cones		Required				

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Job Safety Analysis				
General				
JSA ID	7609	Status	(2) Review	
Job Name	Environmental-Air Monitoring	Created Date	6/5/2012	
Task Description	Air monitoring activities	Review Date	3/15/2016	
Working hours	7:30am – 3:00pm	Auto Closed	False	

Client / Project	
Client	TRAFIGURA (PUMA ENERGY CARIBE, LLC)
Project Number	B0063764.0000
Project Name	RCRA RFI USEPA
PIC	ALONSO, JOHN C
Project Manager	CALDERON, EFRAIN

# User Roles

Role	Employee	Due Date	Completed Date	Supervisor	Active
Developer	Cordero Castellanos, Carlos	2/5/2014	1/22/2014	Lebron, Rita	Ø
Developer	Hernandez Rivera, Gisela	2/5/2014	1/22/2014	Lebron, Rita	
Developer	Lebron, Rita	2/5/2014	1/22/2014	Calderon, Efrain	
HASP Reviewer	Hernandez, Alex	2/5/2014		Alvarez, James	
Quality Reviewer	Day, Chris	7/30/2012	7/30/2012	Jones, Daniel	
Reviewer	Mercado-Burgos, Marianela	3/15/2016	3/15/2016	Calderon, Efrain	

# Job Steps

Job Step No.	Job Step Description		Potential Hazard	Critical Action	H&S Reference
1	Conduct Safety Meeting, TRACK and review Stop Work Authority and PUMA Energy General Safety Rules	1	L/NL (Accident / Incident)	<ul> <li>Always conduct a safety meeting in which scope of work, hazards associated and controls are discussed.</li> <li>All personnel have the right and the responsibility to use their Stop Work Authority if conditions or actions make the working unsafe.</li> <li>Ensure security issues, work for third parties, and/or evacuation routes are discussed as they may differ depending on location and daily conditions on the facility.</li> </ul>	
2	Calibrate air monitoring equipment	1	Injury due to gas under pressure	<ul> <li>Ensure that tubing and connections between gas cylinders, regulators instrument and tubing are secure and damage/leak free. If damaged remove and replace.</li> <li>Install and remove regulator valves away from face, body and other workers. Never leave the regulator installed in the cylinder when not in use.</li> </ul>	
		2	Exposure to calibration gases (isobutylene, mixture five gases, benzene)	<ul> <li>Conduct calibration in a well- ventilated area</li> </ul>	
		3	Malfunctioning meters or skipped steps resulting in inadequate personnel protection	<ul> <li>Make sure equipment is in proper working order and meets standards set by manufacturer.</li> <li>Replace equipment when needed.</li> <li>Follow operators manual.</li> </ul>	
		4	Poor or inadequate record	<ul> <li>Document all calibration data and</li> </ul>	

			keeping	•	note any deficiencies in the calibration or equipment readings. Have second person verify results.	
3	Conduct periodic checks of equipment throughout the day (Isobutylene, mixed five gases and benzene)	1	Slips, trips, falls on uneven or slick surfaces or debris	•	Watch your foot placement. Ensure all personnel are wearing proper PPE (e.g. steel toe boots). Stay away from uneven surfaces, mud, standing water, oil, etc. Practice good housekeeping, remove any miscellaneous debris.	
		2	Struck by equipment	•	Find a safe location free of heavy equipment traffic and trip hazards and document monitoring levels. Maintain eye contact with operators of equipment to communicate your intentions.Do not enter work zone until eye contact and intentions are clear with operator.	
		3	Potential exposure to onsite contaminants of concern (COC)	•	Review action levels prior to mobilize to work area for testing. Ensure monitoring equipment is operating properly to protect personnel from exposure to contaminants.	
				•	Have back up on hand. When possible stay upwind or to side of potential source material.	
				•	If monitoring equipment presents a reading that causes concern - STOP WORK, evaluate the reading, and determine plan for continuation of work activities (i.e. test for benzene, implement engineering controls, evacuate work area, upgrade PPE, further investigation/air monitoring).	
		4	Noise hazards	٠	Wear hearing protection when monitoring in locations that require hearing protection.	
		5	Pinch points Laceration to hand from sampling glass tube	•	Wear adequate hand protection, high visibility gloves/cut resistant as applicable. Keep hands out of potential pinch point locations, clasps of cases, etc. Dispose of tube in safe location to prevent injuries to waste handlers	
		6	Fatigue and / or heat stress	•	Implement work/rest schedule, seek for shelter and drink plenty of water. Know symptoms of heat illnesses and recognize them on you or co-workers. Provide help and seek for medical assistance if necessary.	
		7	Loss time due to inadequate supply of equipment onsite	•	Have additional equipment supplies (such as extra benzene tubes, MSA filters) readily available in case needed.	
		8	Damage or malfunction of equipment due to water (rain/sample), soil, debris, or other instrument contamination	•	Ensure equipment is kept dry and clean during use. Do not contaminate probe, filters, and/or lamp while sampling. Keep probe apart from sample and make sure instrument does not absorbs any media (soil, debris, water) Keep a resealable bag available to	

				protect equipment from rain, mud, water or other substances. MAKE SURE equipment exhaust is not blocked by the bag.
4	4 Documentation	1	Poor and/or incomplete records	<ul> <li>Document site activities, details of sampling equipment - models, usage, sampling areas/ descriptions, monitoring data, unusual conditions that may affect monitoring results.</li> <li>Keep organize and file forms.</li> <li>Record all calibrations and write down any malfunctions experienced with equipment.</li> </ul>
		2	Slips, trips, falls Body injury due to traffic	• Find a safe location free of heavy equipment traffic and trip hazards and document monitoring levels.
5	Decontamination	1	Contact with COC	<ul> <li>Wipe down and clean monitoring equipment.</li> <li>Dispose properly of all protective clothing and spent decontamination supplies before leaving the exclusion zone.</li> <li>Remove any soil from boots before leaving the exclusion zone.</li> </ul>
6	Care and storage of air monitoring equipment	1	Equipment breakage / malfunction - including batteries and power supply	<ul> <li>Maintain integrity of dedicated systems.</li> <li>Properly store all equipment. Ensure equipment is stored in a clean, dry, fresh, safe place.</li> <li>Charge equipment nightly and as needed during the day.</li> <li>Have extra batteries / power supply onsite.</li> <li>Keep equipment clean.</li> <li>Inspect equipment to verify it is operational.</li> <li>Report any equipment issues to rental company for timely repair/replacement.</li> <li>Benlace the saturated filters and</li> </ul>
				<ul> <li>Replace the saturated filters and clean the bulb with the cleaning kit periodically.</li> </ul>

Level - 6

PPE	Personal Protective Equipment							
Туре	Personal Protective Equipment	Description	Required					
Dermal Protection	long sleeve shirt/pants		Required					
Eye Protection	safety glasses		Required					
Foot Protection	rubber boots	If muddy	Recommended					
	steel-toe boots		Required					
Hand Protection	chemical resistant gloves (specify type)	nitrile	Required					
	work gloves (specify type)	leather work and cut resistant	Required					
Head Protection	hard hat		Required					
Hearing Protection	ear plugs	if working at noisy locations/activities	Required					
Miscellaneous PPE	traffic vestClass II or III		Required					

 
 Supplies
 Type
 Supply
 Description
 Required

 Communication Devices
 mobile phone
 only at authorized areas; never while driving
 Required

 walkie talkie
 intrinsecally safe two way radio
 Required

Decontamination	Decon supplies (specify type)	personal decontamination, waste receptacles	Required
Miscellaneous	fire extinguisher	as per task conducted	Required
	first aid kit	as per task conducted	Required
	flashlight		Required
Personal	eye wash (specify type)	bottle	Required
	insect repellant		Recommended
	sunscreen		Recommended
	water/fluid replacement		Required
Traffic Control	barricades	as per task conducted	Required
	traffic cones	as per task conducted	Required

Review Comments				
Reviewer		Comments		
Employee: Role Review Type Completed Date	Hernandez, Alex HASP Reviewer Revise 7/2/2012	to format		
Employee: Role Review Type Completed Date	Hernandez, Alex HASP Reviewer Revise 7/11/2012	format (with 4 sight support)		
Employee: Role Review Type Completed Date	Day, Chris Quality Reviewer NA 7/30/2012	JSA is concise and clear, and effectively communicates critical action awareness.		

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Job Safety Ana	lysis					
General						
JSA ID	10552	Status	(2) Review			
Job Name	Environmental-Geophysical Survey	Created Date	1/22/2014			
Task Description	Utility Locating	Review Date	3/15/2016			
Working hours	7:30am – 3:00pm	Auto Closed	False			
Client / Project						
Client		11.0				
Client	TRAFIGURA (PUMA ENERGY CARIBE	, LLC)				
Project Number	B0063764.0000					
Project Name	RCRA RFI USEPA					
PIC	ALONSO, JOHN C					
Project Manager	CALDERON, EFRAIN					

**User Roles** Role Employee Due Date Completed Date Supervisor Active Developer Lebron, Rita 2/12/2014 1/22/2014 Calderon, Efrain HASP Reviewer Hernandez, Alex 2/5/2014  $\square$ Alvarez, James Reviewer Mercado-Burgos, Marianela 3/15/2016 3/15/2016 Calderon, Efrain

Job Steps					
Job Step No.	Job Step Description		Potential Hazard	Critical Action	H&S Reference
1	Coordinate Subsurface Utility Survey Activities	1	Traffic HazardsSubsurface/overhead utilities, property damages	Complete Utility clearance Checklist Review site locations and survey specifications Call and coordinate with the Puerto Rico Public Service Commision (as required)	ARCHSFS019
2	Mobilization of equipment to survey area	1	Lifting hazards (heavy or bulky equipment)	Use TRACK to plan lifts and routes to work location. Use proper lifting techniques	
		2	Awkward body postions and twisting	Plan activity to avoid twisting of body or awkward body positions. Use buddy system or job roatation to reduce exposure to conditions that can not be avoided	aven
		3	Trip and fall hazards from uneven ground or restricted view when carrying equipment	Break loads down to manageable size that does not obstruct view of ground. Plan route and use TRACK, wear footwear with good tread and ankle support. Use buddy system for large or bulky items when carrying.	Voorsted Voorsted
3 Set up survey grid an control	Set up survey grid and control	1	Slip trip and fall hazards from wet, uneven ground or over vegetation.	Identify and remove or minimize trip hazards. Check for wet/slippery walking surface, pipes, equipment, open sumps, excavations, among others. Select the less dangerous access routes. Don't walk across barricaded, non-authorized areas.	Sulfact
		2	Crush hazard or contact stress to hands/fingers from inserting pins or stakes.	Wear leather gloves when inseting pins, flaggng, or stakes into the ground. Do not hurry task if hammering.	
		3	Struck by hazards by vehicles if working in traffic area	Establish traffic control and wear a Class II traffic vest if in traffic area. Use vehicles to block work area when practical.	
		4	Repetitive stress from repeated bending or squatting during grid construction	Use job rotation when hazard exists, stretch before performing work activity. Use paint device that allows employee to stand up while spraying.	
		5	Chemical exposure from using spray paint	Stand up wind of paint spraying activities	
4	Performing survey	1	Slips trips and falls on wet, uneven or steep sloped surfaces	Identify and remove or minimize trip hazards. Check for wet/slippery walking surface, pipes, equipment, open sumps, excavations,	

				among others. Select the less dangerous access routes. Don't walk across barricaded, non-authorized areas.	
		2	Scrapes or cuts to hands, arms or legs from equipment or vegetation in area.	Wear leather or other suitabler gloves when perofroming survey, wear long pants, wear heavy long sleeve shirt if arm hazard exists.	
		3	Noise hazards from survey equipment using percussion devices	Wear hearing protection, keep uneccessary workers away from devices when activitated.	
		4	Ergonomic injury form improper or prolonged use of carried devices that are long or bulky	Use job rotation to reduce potential for injury. Implement prper lifting and body position practices.	
5	Demobilization and clean up	1	Muscle strain from removing pins or stakes	Use devices that maintain neutral body positions to remove pins when practical. Do not bend at waist wen removing.	
		2	Pinch hazards to fingers from equipment cases	Pinch hazards to fingers from equipment cases	
		3	Lifting hazards from demobilizing equipment from work area	Seek for help or mechanical devices when practical. Implement good lifting carrying techniques and proper body positioning practices	
		4	Slip, trip and falls carrying equipment that obstructs view or on wet or uneven surfaces.	Identify and remove or minimize trip hazards. Check for wet/slippery walking surface, pipes, equipment, open sumps, excavations, among others. Select the less dangerous access routes. Don't walk across barricaded, non-authorized areas.	

PPE	Personal Protective Equipment					
Туре	Personal Protective Equipment	Description	Required			
Dermal Protection	long sleeve shirt/pants	Long pants required; long sleeve shirt recommended	Required			
Eye Protection	safety glasses		Required			
Foot Protection	rubber boots	if muddy	Required			
	steel-toe boots		Required			
Hand Protection	work gloves (specify type)	leather	Required			
Head Protection	hard hat		Required			
Hearing Protection	ear plugs	If noisy activities	Required			
Miscellaneous PPE	traffic vestClass II or III		Required			

Supplies						
Туре	Supply	Description	Required			
Communication Devices	mobile phone	only in allowed areas; never when driving	Required			
	walkie talkie		Required			
Miscellaneous	fire extinguisher	small size abc	Required			
	first aid kit	10 people construction	Required			
	flashlight		Required			
Personal	eye wash (specify type)		Required			
	insect repellant		Recommended			
	sunscreen		Recommended			

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Job Safe	ty Analysis						
General							
JSA ID	10553			Stat	tus (2) Review		
Job Name	Environmer installation	ntal-Soil - manua	sampling/w	ell Crea	ated Date	1/23/2014	
Task Descri	ption Soil drilling auger	and san	npling using	a hand Rev	iew Date	3/15/2016	
Working ho	urs 7:30am – 3	:00pm		Auto	o Closed	False	
Client / Pr	oiect	_					
Client	TRAFIGURA		ENERGY				
Project Num	ber B0063764.0		LILLINOT	OANDE, LEO)			
Project Nam	e RCRA RELL	ISEPA					
PIC	ALONSO JO	OHN C					
Project Man	ager CALDERON	EFRAI	N				
Liser Polo	e	, _, , , , , , ,					
Role	Employee		None and	Due Date	Completed Da	te Supervisor	Active
Developer	Mercado-B	urgos. N	Marianela	2/13/2014	1/23/2014	Calderon, Efrain	
Reviewer	Lebron Rit	a		2/13/2014	1/23/2014	Lebron, Rita	N
HASP Review	ver Hernandez	Alex		2/6/2014		Alvarez James	
Reviewer	Moroada D	urgos A	Aarianolo	3/15/2014	2/16/2010	Coldorea Efecta	
Reviewei	Mercado-B	urgos, n	lananeia	3/15/2016	3/15/2016	Calderon, Efrain	M
		2 3 4	be encoun augering Muscle fat from lifting in and out Slips/trips/ from uneve working su Pinch poin	igue can occur heavy equipmen of vehicle falls could occur en walking and urfaces.	<ul> <li>Park as close as locations. Use lift the Field H&amp;S H.</li> <li>Carry equipment prior to set-up. M</li> <li>Disconnecting the be difficult to twise</li> </ul>	possible to the sample ting techniques outlined in andbook t carefully, inspect work area fark uneven surfaces. The bucket from the pole may st off. Use wrenches to make	Standard ARCHSF019, JSA #10552
2 Hand-auger clearance of drilling location		2	Muscle strains, overexertion, injuries from pulling/pushing when installing the boring, the auger from the hole, or forcing the auger on refusal.		or others who are close to you. Wear leather gloves to protect your hands. Stretch muscles prior to beginning. Using firm grip on handle, slowly turn auger and progress downward in 6" increments. Slowly pull auger from hole, use legs to pull auger out of hole. If water is encountered, a suction will be created when trying to remove the auger. Ask for assistance from another worker if you can't remove safely on your own. Prevent body overexertion/bending by adjusting auger rods so working height is between the shoulders and mid-thigh. If refusal occurs, Stop Work. Verify borehole with flashlight Select leather type work gloves or mechanics		ARCHSFS019 WM WUUUUUUUUUUUUUUUUUUUUUUUUUUUUUUUUUUU
		2	prolonged I	hand augering	(hot spots are wh readjust gloves o glove. If blisters t as not to worsen	here blisters start to form) r change to better padded begin to form, stop work so blistering.	
		3	when trying	age could occur a to force an auge	r from hole and ch	eck hole with flashlight if	

			forward if there is refusal.	possible. DO NOT use excessive force, utilities can be and have been damaged in this manner.	
		4	Fatigue can occur due to strenuous nature of hand augering activities, especially in hot/humid weather.	Take rest and hydration breaks as needed or switch out task with another employee.	
		5	Cuts / Lacerations	Do not use hammer towards another worker, hammer can slip and hurt you or other worker.	
		6	Electric shock after hitting electric line	Use augers with isolated handles/rods. Work over an isolating mat. Ensure utility checklist is completed, and that electric lines location have been discussed and identified.	
3	3 Decon Hand Auger	1	Exposure to COCs while deconing equipment.	Wear chemical protective gloves and wear safety glasses.	
		2	Cleaning solutions can splash while deconing equipment	Use PPE as outlined in the HASP and try to minimize splashing.	
		3	The end of the hand auger has sharp edges, and lacerations can occur	Use brush to scrub off soils and not hands. Do not reach into the bucket edges of the auger with your hand.	

PPE	Personal Protective Equipment						
Туре	Personal Protective Equipment	Description	Required				
Eye Protection	safety glasses		Required				
Foot Protection	boots		Required				
	steel-toe boots		Required				
Hand Protection	chemical resistant gloves (specify type)	nitrile	Required				
	work gloves (specify type)	leather	Required				
Head Protection	hard hat		Required				
Miscellaneous PPE	traffic vestClass II or III		Required				

## Supplies

Туре	Supply	Description	Required	
Decontamination	Decon supplies (specify type)		Required	
Miscellaneous	first aid kit		Required	
Personal	eye wash (specify type)	bottle	Required	

11-abri/14

Keller

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12-abril-16 Hat Stock

	PERMI	so	PARA		SAP: Rev. 1	<b>S-010</b> 1 Ago.07
	Buma En	PE		sos		
E # E & G Y	runa En	ergy	Caribe LLC.			NUMERO
ESTE PERMISO CUBRE UNICAME	NTE EL AREA ESPECIE	ICA Y DE	BERA MANTENERSE		8	1219
DEPTO Ambi	ental		DEGARTOLLE	FEOLI	11 0	1.50 11
AREA DE TRABAJO:	WW	TP		- FECHA	: <u>11-0</u>	bul-ke
MANIOBRAS PESADAS	DESCRIPCION DEL	TRABAJ	0: 1	undo	handred	1014
MATERIALES PELIGROSOS TUBERIAS CARGADAS	mustres	de.	sullo use	willow ,	handau	pr 1
EQUIPO ENERGIZADOS	mustres	, de	sullo via	PICEO	Parrect &	ash
TRABAJO DE EXCAVACION	Instalació	n' d	POZD (HS	A), e	APR	audertor 1
SOLICITANTE.	nola Here	abD	11/200		2 18.0	
SERALAR LAS PREGAUGUE	arrecta Merc	all	PUESTO:	-9	conuga	
MEDIDAS GENERALES	UE DEBEN TOMARSE P	SI N/A	EALIZACION DEL TRAI	BAJO	U Car	SI M/A
1. SE SATISFACE SAPS-001 ENTRADA A ESPA 2. SE SATISFACE SAPS-009 BLOQUEO DE EN	CIOS CONFINADOS ERGIAS PELIGROSAS		7. EPP COMPLETO Y EN BUE 8. HERRAMIENTAS COMPETA	N ESTADO	STADO	
3. SE SATISFACE SAPS-002 TRABAJOS CALIE 4. SE SATISFACE SAPS-003 TRABAJOS EN AL	INTES		9. EQUIPO CON INSPECCION	DE PRE-USO, SI	IN FALLAS CRITICAS	
5. SE CUMPLE CON ADMINISTRACION DE CAN	MBIOS		11. AREA ACORDONADA Y/O	SEÑALIZADA A	TRABAJO	
6. EJECOTANTE CALIFICADO, T EN CONDICIONES	FISICAS Y APROPIADAS		12. PREVENCIONISTA ASIGN	ADO (FIRMA AL C	CALCE)	
a) CABLES, ESLINGAS/ESTROBOS, GANC b) GRUAS CON CAPACIDAD DEL DOBLE I c) ANGULO DE BRAZO DE GRUA NO EXCI d) PATAS DE GRUA APOYADAS SOBRE TI e) ESTRUCTURAS, PISOS, TECHOS OK PA f) EQUIPOS DE SUJECION, TENSORES, CI g) NINGUNA PERSONA PUEDE QUEDAR B h) OPERADOR ACREDITADO CON CREDE MAMEJO NO RUTINARIO DE MATERIA a) HOJA(S) DE DATOS DE SEGURIDAD DI b) RIESGO DE TOXICIDAD/CORROSIVIDAT c) RIESGO DE IMPACTO AMBIENTAL CON d) RIESGO DE INCENDIO O EXPLOSION CI e) TRAYECTORIAS DE TUBERIAS/MANGU f) RIESGO DE ELECTRICIDAD ESTATICA CI g) CONDICIONES DE OPERACION /INCOM h) ANALISIS DE OPERACION REALIZADO i) TUBERIAS/ MANGUERAS PROBADAS A j) PERSONAL ENTRENADO EN LA OPERA a) MATERIAL PELIGROSO b) ANALISIS DE OPERACION REALIZADO c) EJECUTANTE(S) INVOLUCRADO(S) EN d) TUBERIA/ EQUIPO A TEMPERATURA AI e) ACCIONES DE PREPARACION DE EQUI DRENADO DESPRESURIZADO	HUS, PERNOS REVISADOS DE LA CARGA AL MENOS EDE LIMITE DE SEGURIDAD ERRENOS FIRMES ARA SOPORTAR LA CARGA UERDAS, ADECUADOS BAJO LA CARGA UERDAS, ADECUADOS BAJO LA CARGA INCIAL-LICENCIA ALES PELIGROSOS ISPONIBLE(S) D CONSIDERADO D CONSIDERADO D CONSIDERADO D CONSIDERADO D CONSIDERADO D CONSIDERADO D CONSIDERADO D CON EJECUTANTE(S) PRESION ACION RGADAS ANALISIS DE OPERACION PROPIADA PARA INICIAR PO / TUBERIA REALIZADAS LAVADO		a) REVISION ABAJO DE 600         EN ALTA TENSION         PROPORCIONE JUSTIFICACIÓN         a) REVISION DE AREAS A         b) ALSLAMIENTOS REAL         CONDUCTORES ADYADCENT         c) EPP DIELECTRICO:         d) PUESTA A TIERRA (GA         INSTALACIONES ELLE         PROPORCIONE JUSTIFICACIO         d) SIN INTERFERENCIA C         b) SIN INTERFERENCIA C         c) CABLE USO RUDO DE         d) CONDICIONES. AMBIEI         e) TARJETA DE SEGUIRD	V (CONDUCTORE (>600 V) NO SE DN DEL TRABAJO DN DEL TRABAJO DN DEL TRABAJO IZADOS EN EL ES GABINI CASCO	AUTORIZACION PARA U QUE PUEDEN CREAF AREA	E)
		0	a) TIPO DE EXCAVACION			SI
a) ANALISIS DE OPERACION REALIZADO b) EJECUTANTE(S) INVOLUCRADO(S) EN c) MEDIDAS DE SEGURIDAD ESPECIFICAS	O RUTINARIOS ANALISIS DE OPERACION_ S:		MENOR (0.60-1.20m) b) AUSENCIA DE RIESGO c) ADEMES PARA EVITAR d) INCLINACION DE LAS I e) ZONA PARA DEPOSITO f) PROYECTO DE INGENIE	J MAYOR (1.20 S EN SUBSUEL DERRUMBES PAREDES DISE DE MATERIAL ERIA PARA EXC	LO COMPROBADA EN EL PROYECTO ÎNADA EN PROYECTO EXCAVADO CAVACIONES PROFI	NDA (>6.00 m)
SE CONCEDE EL PERMISO PARA TRABAJOS C CUENTAN CON EL EQUIPO DE PROTECCIÓN PE	ALIENTES Y SE VERIFICA QU ERSONAL PARA REALIZAR EL	E EL(LOS) E	LA QUE EL AREA HA SIDO INS JECUTOR(ES) ESTAN CALIFIC ENTREGAR CI	ADOS PARA ES	SE ENCUENTRA LIB TE TRABAJO, CONOC RTAMENTO DE SEGU	RE DE RIESGO. CEN LOS RIESGOS Y JRIDAD
PREVENCIONISTA		PONSABIE		NALIZACI		
	10000	0)		Keyje	Ulla	Ves
	VERIFICACIONES DE	SEGURI	DAD DURANTE EL TR	ABAJO:	1 2	0
1a. VERIFICACION	2a. VERIFICACION	quy	3a. VERIFICACION FIRMA		CONDICIONES DESPUE	DN FINAL S DEL TRABAJO

TRA	PERMI ABAJOS	SO PAI EN CA	RA ALIENT	SAF Rev.	PS-002 1 Ago. 0	7
PUMA	2	Puma	Energy Ca	ribe LL	C.	
ESTE PERMISO CUBRE U EN UN LUGAR VISIBLE E DEPTO. <u>A</u> AREA DE TRABAJO:	JNICAMENTE EL ARE EN EL LUGAR DE TRA butto butto butto	A ESPECIFICA Y BAJO MIENTRA	DEBERA MANTEN S SE DESARROLL FECHA	NERSE .E A:	NUM 00 abril -	<b>ERO</b> 52
DESCRIPCION DEL TRAE MUSTRO Anstalació	A Sulo I X di Pozo	UtsA?	h	SOLDADI CORTE GENERAR GENERAR GENERA	URA CHISPAS R FLAMA R CALOR	H H
SOLICITANTE:	IONES QUE DEBEN T	OMARSE PARA		DEL TRABA		
OXIACETILENO 1. LOS CILINDROS DE OXIACET 2. MANOMETROS, MANGUERAS 3. PRUEBA DE FUGAS A MANG <u>MAQUINA DE SOLDAR</u> 4. CABLES Y PORTAELECTROE 5. MAQUINA DE SOLDAR CON O 6. EXTENSIONES ELECTRICAS 7. SE EFECTUO INSPECCION D	ILENO: VERTICALES, NO S, BOQUILLAS DE OXIACE UERAS CONEXIONES DE DOS EN BUEN ESTADO, SI CONEXION A TIERRA EN BUEN ESTADO, SIN EI E PRE-USO A EQUIPO DE	SUFREN RIESGO D TILENO EN BUEN E OXIACETILENO N EMPALMES MPALMES SOLDADURA Y OTR	E CAIDA STADO			
9. SE SATISFACE EL PROC. SA 10. SE SATISFACE EL PROC. SA 11. SE SATISFACE EL PROC. SA 12. SE SATISFACE EL PROC. SA 13. SE SATISFACE EL PROC. SA 14. EJECUTANTE CALIFICADO, 15. EL EPP ESTA COMPLETO Y 16. EL EXPLOSIMETRO INDICA	PS-001 ENTRADA A ESPAG APS-009 BLOQUEO DE EN APS-003 TRABAJOS EN AI APS-004 ADMINISTRACION S DE OTROS PROCEDIMIE EN CONDICIONES FISICA EN BUEN ESTADO CONDICIONES SEGURAS	CIOS CONFINADOS IERGIAS PELIGROS TURAS DE CAMBIOS NTOS DE SEGURIDA S Y APROPIADAS	AS			
17 RESULTADO EXPLOSIMI 18. REQUIERE MONITOREO 19. COLOCACION DE SEÑALIZ 20. NOTIFICACION AL PERSON 21. SUSPENDER OPERACIONE 22. COLOCACION DE EXTINGU 23. PREPARAR UN HIDRANTE O 24. RETIRAR COMPLISTINI ES D	ETRO LEL DE GASES CONSTANT ACION Y ACORDONAMIEN AL DEL AREA S DEL AREA MIENTRAS S IDORES AL ALCANCE PAR CONTRA INCENDIO PARA	EMENTE ITO DEL AREA E REALIZA EL TRAE RA USO INMEDIATO USO EN CASO DE E	H <sup>2</sup> S H <sup>2</sup> S BAJO			
25. MANTENER MOJADO EL PIS 26. CUBRIR CON LONA HUMED 27. MANTENER EXTRACTOR / V 28. ASIGNAR A UN PREVENCIO	SO, TUBERIAS O EQUIPOS A AREA DE TRABAJO Y E /ENTILADOR PARA DESA NISTA	S BAJO EL TRABAJO QUIPOS ADYACENT LOJAR HUMOS O VI SI NO	O CALIENTE TES ENTILAR N/A	SI S		
SE HAN VERIFICADO LAS CONDICIONES DE SE CONCEDE EL PERMISO PARA TRABAJO CUENTAN CON EL EQUIPO DE PROTECCIÓN	ESTE PERMISO POR LO CUAL SE S CALIENTES Y SE VERIFICA QUE I PERSONAL PARA REALIZAR EL	E GARANTIZA QUE EL ARE EL(LOS) EJECUTOR(ES) E IRABAJO.	A HA SIDO INSPECCIONADA STAN CALIFICADOS PARA E ENTREGAR COPIA AL DEP/	Y SE ENCUENTRA ESTE TRABAJO, CO ARTAMENTO DE S	LIBRE DE RIE NOCEN LOS R EGURIDAD	SGO. IESGOS
HORA DE INICIO DEL TRA	<b>BAJO:</b> 09	30 но	RA DE TERMINACI			
RESPONSABLE DE EJEC Marianda Mercia NOMBRE	CUCION DEL TRABAJO BUIGOS UERO Y FIRMA	+02 /0	RESPONSABLE	OPERATIVO AUS FIRMA		
	CACIONES DE SEGU	RIDAD DURANTE	EL TRABAJO:	1		
FIRMA	EIRMA 29	3a. V	FIRMA	CONDICIONES DESI	CION FINAL PUES DEL TRABA	guy

V

TRA	PERMISO ABAJOS EN	PARA I CALIENT	SAPS-002 Rev.1 Ago. 07
PUMA	2	Puma Energy Ca	ribe LLC.
ESTE PERMISO CUBRE U EN UN LUGAR VISIBLE E DEPTO. AMB AREA DE TRABAJO:	NICAMENTE EL AREA ESPE N EL LUGAR DE TRABAJO I MATAL WWTP	ECIFICA Y DEBERA MANTEN MIENTRAS SE DESARROLL FECHA	ERSE 0053
DESCRIPCION DEL TRAB Barenado , i de suelo,	AJO: Not d'a con' de p	070; mustra	SOLDADURA CORTE GENERAR CHISPAS GENERAR FLAMA GENERAR CALOR
SOLICITANTE:	ONES QUE DEBEN TOMAR	SE PARA LA REALIZACION	DEL TRABAJO
OXIACETILENO 1. LOS CILINDROS DE OXIACET 2. MANOMETROS, MANGUERAS 3. PRUEBA DE FUGAS A MANGU MAQUINA DE SOLDAR 4. CABLES Y PORTAELECTROD 5. MAQUINA DE SOLDAR CON C 6. EXTENSIONES ELECTRICAS 7. SE EFECTUO INSPECCION DE 8. EL EQUIDO DE SOLDADUDAN	ILENO: VERTICALES, NO SUFREM 5, BOQUILLAS DE OXIACETILENO JERAS CONEXIONES DE OXIACET OS EN BUEN ESTADO, SIN EMPAI CONEXION A TIERRA_ EN BUEN ESTADO, SIN EMPALME E PRE-USO A EQUIPO DE SOLDAD	N RIESGO DE CAIDA EN BUEN ESTADO TILENO LMES SS DURA Y OTROS EQUIPOS	SI NO N/A SI NO N/A SI NO N/A SI NO N/A SI NO N/A SI NO N/A SI NO N/A
9. SE SATISFACE EL PROC. SAF 10. SE SATISFACE EL PROC. SAF 11. SE SATISFACE EL PROC. SA 12. SE SATISFACE EL PROC. SA 13. SE SATISFACEN REQUISITOS 14. EJECUTANTE CALIFICADO, 15. EL EPP ESTA COMPLETO Y	PS-001 ENTRADA A ESPACIOS CO APS-009 BLOQUEO DE ENERGIAS APS-003 TRABAJOS EN ALTURAS APS-004 ADMINISTRACION DE CAU S DE OTROS PROCEDIMIENTOS DI EN CONDICIONES FISICAS Y APR EN BUEN ESTADO	NFINADOS PELIGROSAS MBIOS E SEGURIDAD Y CALIDAD ROPIADAS	
16. EL E <u>XPLOSIMETRO IND</u> ICA 17 RESULTADO EXPLOSIME 18. REQUIERE MONITOREO 19. COLOCACION DE SEÑALIZA 20. NOTIFICACION AL PERSON 21. SUSPENDER OPERACIONES	CONDICIONES SEGURAS ETRO LEL 2 DE GASES CONSTANTEMENT ACION Y ACORDONAMIENTO DEL AL DEL AREA S DEL AREA MIENTRAS SE REALI	CO H²S C AREA	SI NO N/A O <sup>2</sup> SI NO N/A SI NO N/A SI NO N/A SI NO N/A SI NO N/A SI NO N/A
22. COLOCACION DE EXTINGUI 23. PREPARAR UN HIDRANTE C 24. RETIRAR COMBUSTIBLES E 25. MANTENER MOJADO EL PIS 26. CUBRIR CON LONA HUMED 27. MANTENER EXTRACTOR / V 28. ASIGNAR A UN PREVENCIO	DORES AL ALCANCE PARA USO CONTRA INCENDIO PARA USO EN INFLAMABLES A MAS DE 50 PIE SO, TUBERIAS O EQUIPOS BAJO A AREA DE TRABAJO Y EQUIPOS VENTILADOR PARA DESALOJAR H NISTA	INMEDIATO CASO DE EMERGENCIA S EL TRABAJO CALIENTE ADYACENTES HUMOS O VENTILAR SINON/A	SI NO N/A SI NO N/A SI NO N/A SI NO N/A SI NO N/A SI NO N/A
SE HAN VERIFICADO LAS CONDICIONES DE SE CONCEDE EL PERMISO PARA TRABAJOS CUENTAN CON EL EQUIPO DE PROTECCIÓN	ESTE PERMISO POR LO CUAL SE GARANTI S CALIENTES Y SE VERIFICA QUE EL(LOS) E PERSONAL PARA REALIZAR EL TRABAJO.	ZA QUE EL AREA HA SIDO INSPECCIONADA JECUTOR(ES) ESTAN CALIFICADOS PARA E ENTREGAR COPIA AL DEP/	NOMBRE Y FIRMA DEL PREVENCIONIBTA Y SE ENCUENTRA LIBRE DE RIESGO, STE TRABAJO, CONOCEN LOS RIESGOS ARTAMENTO DE SEGURIDAD
HORA DE INICIO DEL TRA RESPONSABLE DE EJEC Mananda Marada	BAJO: 0730	HORA DE TERMINACI	ON: 14:20
		DURANTE EL TRABAJO:	
FIRMA	Maque allagian	Sa. VERIFICACION	CONDICIONES DESPUES DEL TRABAJO

FIRMA

PE TRABAJ	ERMISO	PARA _IGROS	SOS	SAPS-010 Rev. 1 Ago.07
PUMA ESTE PERMISO CUBRE UNICAMENTE EL A EN UN LUGAR VISIBLE EN EL LUGAR DE T DEPTO. <u>Ambiento</u>	UMA Energy	Caribe LLC. BERA MANTENERSE DESARROLLE	FECHA:	NUMERO 1220 12 - amil-14
AREA DE TRABAJO:	aw enado nstalacion Us contam	o: , mustres nes) mus ina conc Burg <u>os</u> puesto:	o de su treo l' de equi	elo, pozo andauzer ipo.
MEDIDAS GENERALES 1. SE SATISFACE SAPS-001 ENTRADA A ESPACIOS CONFI 2. SE SATISFACE SAPS-009 BLOQUEO DE ENERGIAS PEL 3. SE SATISFACE SAPS-002 TRABAJOS CALIENTES 4. SE SATISFACE SAPS-003 TRABAJOS EN ALTURAS 5. SE CUMPLE CON ADMINISTRACION DE CAMBIOS 6. EJECUTANTE CALIFICADO, Y EN CONDICIONES FISICAS Y AF	NADOSIIIIIIIIIIIIIIIIIIIIIIIIIIIIIII	7. EPP COMPLETO Y EN BUEN 8. HERRAMIENTAS COMPETA 9. EQUIPO CON INSPECCION 10. PERSONAL AFECTADO NO 11. AREA ACORDONADA Y/O 12. PREVENCIONISTA ASIGNA	I ESTADO S Y EN BUEN ESTADO DE PRE-USO, SIN FALL DTIFICADO DEL TRABA SEÑALIZADA APROPIA NDO (FIRMA AL CALCE)	AS CRITICAS
MANIOBRAS PESADAS a) CABLES, ESLINGAS/ESTROBOS, GANCHOS, PERN b) GRUAS CON CAPACIDAD DEL DOBLE DE LA CAR c) ANGULO DE BRAZO DE GRUA NO EXCEDE LIMITE d) PATAS DE GRUA APOYADAS SOBRE TERRENOS I e) ESTRUCTURAS, PISOS, TECHOS OK PARA SOPOI f) EQUIPOS DE SUJECION, TENSORES, CUERDAS, A g) NINGUNA PERSONA PUEDE QUEDAR BAJO LA CA h) OPERADOR ACREDITADO CON CREDENCIAL-LIC	SI N/A OS REVISADOS	TRABAJOS SOBRE EC         TENSION ABAJO DE 600 V         EN ALTA TENSION O         PROPORCIONE JUSTIFICACIO         a) REVISION DE AREAS AI	QUIPOS ENERGIZ V (CONDUCTORES Y EQU >600 V) NO SE AUTO N DEL TRABAJO	ADOS SI NIA JIPO ADYACENTE) DI RIZA EL TRABAJO
a) HOJA(S) DE DATOS DE SEGURIDAD DISPONIBLE b) RIESGO DE TOXICIDAD/CORROSIVIDAD CONSIDE c) RIESGO DE IMPACTO AMBIENTAL CONSIDERADO d) RIESGO DE INCENDIO O EXPLOSION CONSIDERA e) TRAYECTORIAS DE TUBERIAS/MANGUERAS ANA f) RIESGO DE ELECTRICIDAD ESTATICA CONSIDERA g) CONDICIONES DE OPERACION /INCOMPATIBLES h) ANALISIS DE OPERACION REALIZADO CON EJEC i) TUBERIAS/ MANGUERAS PROBADAS A PRESION i) DEPSONAL ENTRENADO EN LA OPERACION	(S)	b) ALSLAMIENTOS REALL CONDUCTORES ADYADCENTE c) EPP DIELECTRICO:( d) PUESTA A TIERRA (GAI INSTALACIONES ELE PROPORCIONE JUSTIFICACION	ZADOS EN EL AREA GABINETE CASCO GUA BINETES, EQUIPOS CTRICAS PROVIS I DE LA INSTALACION	PISO EQ. HERRAM METALICOS NTES CALZADO DE MEDICION)
TRABAJOS SOBRE TUBERIAS CARGADAS         a) MATERIAL PELIGROSO         b) ANALISIS DE OPERACION REALIZADO         c) EJECUTANTE(S) INVOLUCRADO(S) EN ANALISIS I         d) TUBERIA / EQUIPO A TEMPERATURA APROPIADA         e) ACCIONES DE PREPARACION DE EQUIPO / TUBERI         DRENADO       DESPRESURIZADO         LAVADO	SI N/A SI N/A DE OPERACION PARA INICIAR RIA REALIZADAS:	a) SIN INTERFERENCIA CO b) SIN INTERFERENCIA A c) CABLE USO RUDO DE d) CONDICIONES. AMBIEN e) TARJETA DE SEGUIRD/ EXCAVACIONES a) TIPO DE EXCAVACION:	AUTORI DN AREAS / EQUIPO: CIRCULACION DE VI CAPACIDAD / SOPOI ITALES (HUMEDAD, AD IEP LLENADA_	ZACION PARA UN MAXIMO DE 30 DIAS S DE OPERACION EHICULOS/PEATONES RTERIA ADECUADOS LLUVIA) APROPIADAS SI MA
OTROS TRABAJOS PELIGROSOS NO RUTIN a) ANALISIS DE OPERACION REALIZADO b) EJECUTANTE(S) INVOLUCRADO(S) EN ANALISIS I c) MEDIDAS DE SEGURIDAD ESPECIFICAS: PEDUDUCIÓN BE HAN VERIFICADO LAS CONDÍCIONES DE ESTE PERMIS	ARIOS SI N/A DE OPERACION	MENOR (0.60-1.20m) b) AUSENCIA DE RIESGOS c) ADEMES PARA EVITAR d) INCLINACION DE LAS P e) ZONA PARA DEPOSITO f) PROYECTO DE INGENIE	MAYOR (1.20-6.00m SEN SUBSUELO CO DERRUMBES EN EL AREDES DISEÑADA DE MATERIAL EXCA RIA PARA EXCAVACI	PROFUNDA (>6.00 m)         MPROBADA         PROYECTO         EN PROYECTO         VADO         IONES PROFUNDAS
SE CONCEDE EL PERMISO PARA TRABAJOS CALIENTES Y CUENTAN CON EL EQUIPO DE PROTECCIÓN PERSONAL P HORA DE INICIO DEL TRABAJO: PREVENCIONISTA	SE VERIFICA QUE EL(LOS) E. ARA REALIZAR EL TRABAJO. 0730 RESPONSABLE C	HORA DE FI	ADOS PARA ESTE TRA OPIA AL DEPARTAMEN NALIZACION:	INCOMPACTION LIBRE DE RIESGO. BAJO, CONOCEN LOS RIESGOS Y NTO DE SEGURIDAD
Ia. VERIFICACION	CACIONES DE SEGURI	DAD DURANTE EL TRA 3a. VERIFICACION FIRMA		VERIFICACION FINAL CIÓNES DESPUES DEL TRABAJO

Drill/Direct Push Type Rig Inspection Checklist							
Site/Project Name: RERA PFI USEPA / Puma Turninalbate: April 12, 16							
Rig Inspector (Name/Company): Maianele Herlado Burge / BBL Caribe							
Rig Type: Rotary Auger/Drilling Rig Direct Push Type (DPT)							
Owner: <u>Gevenninotech</u> , Anc.							
Year/Make: 1999							
Model: 4410 D7							
VIN #:							
Mileage: N/A							
Drill Hours: 3,114.9.							

(Inspector to mark columns below as appropriate)

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Category	Inspection Items	Pass	Fail	N/A	Action Needed
Emergency Switches	Kill switches are located and accessible to workers on both sides of the rotating stem. <b>NOTE:</b> Location and number of switches depend on the rig manufacturer; please refer to owner's manual (DPT typically has one switch on control panel).	~	-		
	Kill switches installed by the manufacturer are verified to be in operable condition and all workers are familiar with the location and operation of these switches. NEVER BYPASS, DISABLE, OR REMOVE KILL DEVICES.	V			
Protective Guards	Drive shafts, belts, chain drives, and universal joints are guarded to prevent accidental insertion of hands, fingers, or tools.	V	-		
	Pinch Points at equipment tools and materials are identified and marked.	V			
	Hands are never placed on wrenches where they can get trapped between the wrench and the drill rig.	/			
	Drilling rod strings not broken (or locked) by applying powered rotation to the drill with a wrench attached to it.		ŕ		
	Manual drilling rod string locking (or separation) is always done only after deenergizing the drill.	$\checkmark$	1		
	Extension leverage (cheaters) used safely on wrenches to break drill rods only if mechanical devices are not available.	/			
	Wrenches are always removed from rods before starting to drill.	$\checkmark$			
	Long-handled shovel/tool is used to clear away cuttings; only when auger has stopped; never cleared with the hands.	V	-		
Electrical Devices	Ground fall circuit interrupter (GFCI) installed in electrical facilities at all working areas.		~	~	
	Electrical connections properly grounded.			V	
	Electrical circuits in use provided with breakers and/or emergency shut-off switches.			/	
	Insulating glover and/or mats used when subsurface clearance is advanced with hand tools.			/	
	Weather proff extentions and connector used at exposed/open areas.			1	/

Category	Inspection Items	Pass	Fail	N/A	Action Needed
Cables	Cables on drill rig are free of kinks, frayed wires, birdcages, flat spots, grease, and worn or missing sections.	V	T		
	Cables are terminated at the working end with a proper eye splice; either swaged, coupled, or using cable clamps.	V			
	Cable clamps are installed with the saddle on the live or load side. Clamps are not alternated and are of the correct size and number for the cable size.	~			
	Wire ropes are not allowed to bend around sharp edges without cushion material.	V			
Pulleys	Pulleys are not to be bent, cracked, or broken.	V			
	Pulleys operate smoothly and freely, without resistance.	V			
Cable Winches	Motor is mounted in correct location and tightly secured to drill rig.	V	T		
	Winch is capable of being placed in the free spool (unwind smoothly) and locked position correctly, demonstrating that the cable is suitable for lifting during drilling operations.	V	7		
Safety Latches	Hooks installed on hoist cables are the safety type with a functional latch to prevent accidental separation.	V	1		
	Safety latches are functional and completely span the entire throat of the hook and have positive action to close the throat except when manually displaced for connecting or disconnecting a load.	~			
Flights/ Augers	Flights/Augers should not be bent, cracked, or broken. NOTE: Flights/Augers failing inspection must be removed from jobsite.	V	1		
	Flights should be blunt to prevent the risks of cuts.				
	Augers keys should not be bent, have any cracks/fractures, be excessively worn, or otherwise damaged.		1		
	Auger bolt holes and threads should not be damaged.				
	Inspect flights/augers for metal burrs. NOTE: Burrs must be filed to flat surface.				
	Avoid stacking augers; all should lay flat on ground.	V	-		
	Avoid manually lifting/moving augers. Should be lifted/moved with cable lines or, at a minimum, by two persons.	Λ			
Drill String	Drill string should not be bent or have any cracks/fractures.	V	1		
	Drill string connecting pins should not be bent, have any cracks/fractures, or be excessively worn.	/			
Mast	Mast is free of bends, cracks, or broken sections.	V			
	All mounting hardware (pins, bolts, etc.) should be in place.	V			
	No moving of drill ring while mast is in vertical position.	V	1		
	Maintenance/repairs to be performed on mast only in horizontal position.	V	1		
Hammering Device	Hammer free of cracks, fatigue, or other signs of excessive wear.			V	
	Hammer connections are secure.			~	1

Category	Inspection Items	Pass	Fail	N/A	Action Needed
Leveling Devices	Outriggers move in/out and up/down smoothly and freely while using controls on drill rig, with no hydraulic leaks.	V	1		
	Outriggers are extended prior to and whenever the mast is raised off its cradle. Outriggers must maintain pressure to continuously support and stabilize the drill rig (even while unattended).	V	ł		
	Outriggers are properly supported on the ground surface to prevent settling into the soil (use of outrigger support pads).	V			
Controls	Controls are intact, properly labeled, have freedom of movement, and have no loose wiring or connections.	0			
	Controls are not blocked or locked into an operation position.	V			
	Installed lights, signals, gauges, and alarms operate properly.				
	Lockout/Tagout procedures implemented.	1			
Lifting Devices	Slings, chokers, and lifting devices are inspected before using and are in proper working order. NOTE: Damaged units are to be labeled and removed from jobsite.	V			-
	Shackles/Clevises are in proper working order with pins/screws in place that is to be used while lifting.	~	ſ		
	Cables and lifting devices are not operated erratically or with a jerking action to overcome resistance.	V			
Hydraulic System	Hydraulic lines are secure, in good condition with no sign of excessive wear, and not leaking. <b>NOTE:</b> Check while pressurized.	V	1		
	Hydraulic lines are not in a bent or pinched position causing additional fluid restrictions/pressures.	N	1		
	Hydraulic oil reservoir has appropriate amount of oil and not leaking.	$\checkmark$			
	Documentation available to confirm that pressure relief valve was checked during shop maintenance activity and noted on maintenance log.				
Pump Lines (water, grout, etc.)	Suction/Discharge hoses, pipes, valves, and fittings are seccured and not leaking.	/			
	High pressure hoses have a safety chain, cable, or strap at each end to prevent whipping in the event of a failure.	$\checkmark$	1		
Fire Prevention	A fire extinguisher of appropriate size is located on drill rig and readily available/accesible for drilling crew (recommended 20 lb.).		_		
	Documentation available to confirm that the drilling crew has received training on proper use of fire extinguishers.	~			/
Ladders	Drill rig has a permanently attached or proper portable ladder to be used for access to drilling platform.			V	

Category	Inspection Items	Pass	Fail	N/A	Action Needed
Tracks	Tracks on rig are not excessively worn and free of any debris or foreign material.	~			
General	Drill rig meets regulations for transport on state/federal highways (inspection sticker, license plate, etc.).	V	~		
	Documentation available to verify that rig was inspected prior to arriving at job sites.		6		
	Does the rig size meet job requirements?	V	1		
	Maintenance log available for previous three months to confirm proper maintenance/inspection.	~	ſ		
Exhaust	Exhaust system should be free from defect and routes engine exhaust away from drill rig workers.	V	ſ		
Fuels	Fuel stored in an approved and properly labeled container.	/	1		
	Fuel transfer lines free from signs of excessive wear and not leaking.	V			
	Refueling and transferring of fuel is performed in an approved area with sufficient containment to prevent spillage.	1			
Exclusion/ Work Zones	The exclusion/work zone is centered over the borehole and the radius equal to or greater than the height of the mast (measured from ground level).				
	The exclusion/work zone should be clear of tripping hazards.				
	Workers maintain safe clearance from rotation auger.	/			
	The rig/drill is always operated by qualified drillers and never left unattended.	1	1		
	If drilling is done in an enclosed area, the exhaust fumes are vented from the work site.	V	1		
	If drilling with air, the exhaust and cuttings are directed away from the workers.	1	F		
	No drilling is performed in rainy weather and/or if lightning is expected.		-		
	Water supply to mitigate sparking potential and dust control readily available, if necessary.	V	1		
Overhead Obstructions	Except where electrical distribution and transmission lines have been de-energized and visibly grounded, drill rigs will be operated proximate to under, by, or near power lines in accordance with the following: * 50 KV or less - minimum clearance of 10 feet * 50 KV or greater - add 0.4 inches for every KV over 50 KV * If voltage is unknown, maintain at least 20 feet of clearance.	V			
	While the rig is in transit, clearance from energized power lines will be maintained as follows: * Less than 50 KV - 4 feet * 50 thru 365 KV - 10 feet * 366 thru 720 KV - 16 feet				
Rig Repairs	Repairs, when possible, are conducted offsite to reduce the risk of any onsite incidents.	V			
Specialized PPE	When working at elevated heights, workers are to wear a fall restraining device attached in a manner to restrict fall to less than six feet.	$\checkmark$			
	When working in wet/slippery conditions, all workers have a lug type sole or similar slip resistant sole, on their safety footwear to prevent slipping.	$\overline{\checkmark}$			



#### Recommended Spare Parts or Items to be Sent with Drill Crew

#### Drill Rig

**Emergency Switch Drive Coupling** Shear Pins/Keys (for drive coupling) Pump Packing Pump Hoses Auger Bolts Rod to Cap Pins **Cutter Head** Safety Latches, Hooks, Clamps Split Spoon Cutter Head Spill Kit (5 gal. bucket with oil dry and absorbent pads)

#### Hurricane 500 EL Vacuum

Check engine oil level on the dipstick: add 15W40 enginer oil as needed.	
Check blower oil. Two sight glasses should be 1/2 full. Add AMSOIL synthetic R&O	Ē
Gear & Bearing ISO 220 (RCM) as needed.	
Check radiator water level. DANGER! Check only when the machine is cold.	
Verify that all safety pins, locks, support legs and structs are in place.	Π
Position desired container under dump door.	П
Check machine for potential loose air hoses, hydraulic hoses and fasteners.	Π
Connect E-stop (Emergency Stop) button and cord; make sure button is pushed in.	Ē
Start-up machine at idle speed: let it warm up approximately 5 minutes.	$\overline{\Box}$
Check air pressure gauge on instrument panel (at least 90 PSI).	Ē
Engage the clutch lever (only at idle speed).	Ē
Turn on bag house filter switch (up position).	Π
Turn on dump system switch (up position).	П
Pull E-stop switch out; this should produce vacuum at vacuum inlet.	
10 march 1 have 10 the second	ŝ.

Rig Inspector:	Mananela Hercado Burgs
Company:	BIDL Coube
Drilling Contractor:	Willing Rodniger
Company:	CAMIS

DPT Rig

Date:

Emergency Switch Drive Caps Cutter Head Pull Cap Liner Cutter Rod to Cap Pins Liner Holder (used while cutting) Spill Kit (5 gal. bucket with oil dry and absorbent pads)

12 abril - 16 12/4/16 Date:

	Drill/Direct Push Type Rig Inspection Checklist
Site/Project Name	: Puma ferminal / RCRA RFI - USEPADate: 11-abril-Ko
Rig Inspector (Nai Rig Information:	me/Company): <u>Marianela Hercado Burgor</u> BB Coube Anadis
Rig Type:	Rotary Auger/Drilling Rig
Owner:	Gwenvintech, Inc.
Year/Make:	1999
Model:	Levid DT
VIN #:	
Mileage:	N/#
Drill Hours:	3197.3

(if applicable)

(Inspector to mark columns below as appropriate)

Category	Inspection Items	Pass	Fail	N/A	Action Needed
Emergency Switches	Kill switches are located and accessible to workers on both sides of the rotating stem. <b>NOTE:</b> Location and number of switches depend on the rig manufacturer; please refer to owner's manual (DPT typically has one switch on control panel).	V	-		
	Kill switches installed by the manufacturer are verified to be in operable condition and all workers are familiar with the location and operation of these switches. <b>NEVER BYPASS, DISABLE,</b> <b>OR REMOVE KILL DEVICES.</b>	/			
Protective Guards	Drive shafts, belts, chain drives, and universal joints are guarded to prevent accidental insertion of hands, fingers, or tools.	V	-		
	Pinch Points at equipment tools and materials are identified and marked.	$\checkmark$			
	Hands are never placed on wrenches where they can get trapped between the wrench and the drill rig.	$\checkmark$			
	Drilling rod strings not broken (or locked) by applying powered rotation to the drill with a wrench attached to it.	$\checkmark$			
	Manual drilling rod string locking (or separation) is always done only after deenergizing the drill.	~			
	Extension leverage (cheaters) used safely on wrenches to break drill rods only if mechanical devices are not available.	V			
	Wrenches are always removed from rods before starting to drill.	$\checkmark$			
	Long-handled shovel/tool is used to clear away cuttings; only when auger has stopped; never cleared with the hands.	V			
Electrical Devices	Ground fall circuit interrupter (GFCI) installed in electrical facilities at all working areas.			V	
	Electrical connections properly grounded.			V	
	Electrical circuits in use provided with breakers and/or emergency shut-off switches.			~	
	Insulating glover and/or mats used when subsurface clearance is advanced with hand tools.				
	Weather proff extentions and connector used at exposed/open areas.			1	

Category	Inspection Items	Pass	Fail	N/A	Action Needed
Cables	Cables on drill rig are free of kinks, frayed wires, birdcages, flat spots, grease, and worn or missing sections.	L	-		
	Cables are terminated at the working end with a proper eye splice; either swaged, coupled, or using cable clamps.	/			
	Cable clamps are installed with the saddle on the live or load side. Clamps are not alternated and are of the correct size and number for the cable size.				
	Wire ropes are not allowed to bend around sharp edges without cushion material.	V			
Pulleys	Pulleys are not to be bent, cracked, or broken.	U	-		
	Pulleys operate smoothly and freely, without resistance.		ĺ		
Cable Winches	Motor is mounted in correct location and tightly secured to drill rig.	V			
	Winch is capable of being placed in the free spool (unwind smoothly) and locked position correctly, demonstrating that the cable is suitable for lifting during drilling operations.	L	-		
Safety Latches	Hooks installed on hoist cables are the safety type with a functional latch to prevent accidental separation.	/	-		
	Safety latches are functional and completely span the entire throat of the hook and have positive action to close the throat except when manually displaced for connecting or disconnecting a load.	L	-		
Flights/ Augers	Flights/Augers should not be bent, cracked, or broken. NOTE: Flights/Augers failing inspection must be removed from jobsite.	L	-		
	Flights should be blunt to prevent the risks of cuts.	~			
	Augers keys should not be bent, have any cracks/fractures, be excessively worn, or otherwise damaged.	-			
	Auger bolt holes and threads should not be damaged.	~			
	Inspect flights/augers for metal burrs. NOTE: Burrs must be filed to flat surface.	~	-		
	Avoid stacking augers; all should lay flat on ground.	~	F		
	Avoid manually lifting/moving augers. Should be lifted/moved with cable lines or, at a minimum, by two persons.	~	1		
Drill String	Drill string should not be bent or have any cracks/fractures.	C	ł		
	Drill string connecting pins should not be bent, have any cracks/fractures, or be excessively worn.	1			
Mast	Mast is free of bends, cracks, or broken sections.	C	-		
	All mounting hardware (pins, bolts, etc.) should be in place.	~	1		
	No moving of drill ring while mast is in vertical position.		+		
	Maintenance/repairs to be performed on mast only in horizontal position.	L	1		
Hammering Device	Hammer free of cracks, fatigue, or other signs of excessive wear.			L	t,
	Hammer connections are secure.			L	

Category	Inspection Items	Pass	Fail	N/A	Action Needed
Leveling Devices	Outriggers move in/out and up/down smoothly and freely while using controls on drill rig, with no hydraulic leaks.	L	1		
	Outriggers are extended prior to and whenever the mast is raised off its cradle. Outriggers must maintain pressure to continuously support and stabilize the drill rig (even while unattended).	~			
	Outriggers are properly supported on the ground surface to prevent settling into the soil (use of outrigger support pads).	~			
Controls	Controls are intact, properly labeled, have freedom of movement, and have no loose wiring or connections.	$\checkmark$			
	Controls are not blocked or locked into an operation position.	V			
	Installed lights, signals, gauges, and alarms operate properly.				
	Lockout/Tagout procedures implemented.	V			
Lifting Devices	Slings, chokers, and lifting devices are inspected before using and are in proper working order. NOTE: Damaged units are to be labeled and removed from jobsite.	V			
	Shackles/Clevises are in proper working order with pins/screws in place that is to be used while lifting.				
	Cables and lifting devices are not operated erratically or with a jerking action to overcome resistance.	V			
Hydraulic System	Hydraulic lines are secure, in good condition with no sign of excessive wear, and not leaking. <b>NOTE:</b> Check while pressurized.	V			
	Hydraulic lines are not in a bent or pinched position causing additional fluid restrictions/pressures.				
	Hydraulic oil reservoir has appropriate amount of oil and not leaking.	0			
	Documentation available to confirm that pressure relief valve was checked during shop maintenance activity and noted on maintenance log.	$\checkmark$			
Pump Lines (water, grout, etc.)	Suction/Discharge hoses, pipes, valves, and fittings are seccured and not leaking.	V			
	High pressure hoses have a safety chain, cable, or strap at each end to prevent whipping in the event of a failure.	V			
Fire Prevention	A fire extinguisher of appropriate size is located on drill rig and readily available/accesible for drilling crew (recommended 20 lb.).	V			
	Documentation available to confirm that the drilling crew has received training on proper use of fire extinguishers.	V			
Ladders	Drill rig has a permanently attached or proper portable ladder to be used for access to drilling platform.		-	$\checkmark$	

Category	Inspection Items	Pass	Fail	N/A	Action Needed
Tracks	Tracks on rig are not excessively worn and free of any debris or foreign material.	V	-		
General	Drill rig meets regulations for transport on state/federal highways (inspection sticker, license plate, etc.).	V	-		
	Documentation available to verify that rig was inspected prior to arriving at job sites.		í.		
	Does the rig size meet job requirements?	8			
	Maintenance log available for previous three months to confirm proper maintenance/inspection.	i	ŕ		
Exhaust	Exhaust system should be free from defect and routes engine exhaust away from drill rig workers.	V			
Fuels	Fuel stored in an approved and properly labeled container.	L	-		
	Fuel transfer lines free from signs of excessive wear and not leaking.	V	1		
	Refueling and transferring of fuel is performed in an approved area with sufficient containment to prevent spillage.	V	ſ		
Exclusion/ Work Zones	The exclusion/work zone is centered over the borehole and the radius equal to or greater than the height of the mast (measured from ground level).	V	ſ		
	The exclusion/work zone should be clear of tripping hazards.	V	r		
	Workers maintain safe clearance from rotation auger.	V	-		
	The rig/drill is always operated by qualified drillers and never left unattended.		-		
	If drilling is done in an enclosed area, the exhaust fumes are vented from the work site.		-		
	If drilling with air, the exhaust and cuttings are directed away from the workers.	C	1		
	No drilling is performed in rainy weather and/or if lightning is expected.	L	1		
	Water supply to mitigate sparking potential and dust control readily available, if necessary.	V	1		
Overhead Obstructions	Except where electrical distribution and transmission lines have been de-energized and visibly grounded, drill rigs will be operated proximate to under, by, or near power lines in accordance with the following: * 50 KV or less - minimum clearance of 10 feet * 50 KV or greater - add 0.4 inches for every KV over 50 KV * If voltage is unknown, maintain at least 20 feet of clearance.	V	-		
	While the rig is in transit, clearance from energized power lines will be maintained as follows: * Less than 50 KV - 4 feet * 50 thru 365 KV - 10 feet * 366 thru 720 KV - 16 feet	V	1		
Rig Repairs	Repairs, when possible, are conducted offsite to reduce the risk of any onsite incidents.	V			
Specialized PPE	When working at elevated heights, workers are to wear a fall restraining device attached in a manner to restrict fall to less than six feet.	V			
	When working in wet/slippery conditions, all workers have a lug type sole or similar slip resistant sole, on their safety footwear to prevent slipping.	V	1		

### Recommended Spare Parts or Items to be Sent with Drill Crew

#### Drill Rig

**Emergency Switch Drive Coupling** Shear Pins/Keys (for drive coupling) Pump Packing Pump Hoses Auger Bolts Rod to Cap Pins Cutter Head Safety Latches, Hooks, Clamps Split Spoon Cutter Head Spill Kit (5 gal. bucket with oil dry and absorbent pads)

#### Hurricane 500 EL Vacuum

Drilling Contractor:

Company:

Check engine oil level on the dipstick: add 15W40 enginer oil as needed.
Check blower oil. Two sight glasses should be 1/2 full. Add AMSOIL synthetic R&O
Gear & Bearing ISO 220 (RCM) as needed.
Check radiator water level. DANGER! Check only when the machine is cold.
Verify that all safety pins, locks, support legs and structs are in place.
Position desired container under dump door.
Check machine for potential loose air hoses, hydraulic hoses and fasteners.
Connect E-stop (Emergency Stop) button and cord; make sure button is pushed in.
Start-up machine at idle speed: let it warm up approximately 5 minutes.
Check air pressure gauge on instrument panel (at least 90 PSI).
Engage the clutch lever (only at idle speed).
Turn on bag house filter switch (up position).
Turn on dump system switch (up position).
Pull E-stop switch out; this should produce vacuum at vacuum inlet.
Rig Inspector: Mananela Yerrado Burgos
bbl Cariba
Company: $(\mu) \cup (\mu) \cup (\mu)$

Rochiques

Date: 11/09/16

DPT Rig

**Emergency Switch** Drive Caps Cutter Head Pull Cap Liner Cutter Rod to Cap Pins Liner Holder (used while cutting) Spill Kit (5 gal. bucket with oil dry and absorbent pads)

	Drill/Direct Push Type Rig Inspection Checklist
Site/Project Name:	- Puna ferminal RCAR Date: 13-abil-10
Rig Inspector (Name/	Company): Mananer Mercado Burger 1BBL Caribe
Rig Information:	
Rig Type:	Rotary Auger/Drilling Rig Direct Push Type (DPT)
Owner:	Gevenvirouch, Fre.
Year/Make:	1999
Model:	6600 DT
VIN #:	
Mileage:	NA
Drill Hours:	3199.8

(if applicable)

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(Inspector to mark columns below as appropriate)

Category	Inspection Items	Pass	Fail	N/A	Action Needed
Emergency Switches	Kill switches are located and accessible to workers on both sides of the rotating stem. <b>NOTE:</b> Location and number of switches depend on the rig manufacturer; please refer to owner's manual (DPT typically has one switch on control panel).	V			
	Kill switches installed by the manufacturer are verified to be in operable condition and all workers are familiar with the location and operation of these switches. NEVER BYPASS, DISABLE, OR REMOVE KILL DEVICES.	$\checkmark$			
Protective Guards	Drive shafts, belts, chain drives, and universal joints are guarded to prevent accidental insertion of hands, fingers, or tools.				
	Pinch Points at equipment tools and materials are identified and marked.				
	Hands are never placed on wrenches where they can get trapped between the wrench and the drill rig.				
	Drilling rod strings not broken (or locked) by applying powered rotation to the drill with a wrench attached to it.				
	Manual drilling rod string locking (or separation) is always done only after deenergizing the drill.	~	-		
	Extension leverage (cheaters) used safely on wrenches to break drill rods only if mechanical devices are not available.		r		
	Wrenches are always removed from rods before starting to drill.				
	Long-handled shovel/tool is used to clear away cuttings; only when auger has stopped; never cleared with the hands.	$\checkmark$			
Electrical Devices	Ground fall circuit interrupter (GFCI) installed in electrical facilities at all working areas.			1	
	Electrical connections properly grounded.			1/	
	Electrical circuits in use provided with breakers and/or emergency shut-off switches.			1	
	Insulating glover and/or mats used when subsurface clearance is advanced with hand tools.			V	
	Weather proff extentions and connector used at exposed/open areas.			V	1

Category	Inspection Items	Pass	Fail	N/A	Action Needed
Cables	Cables on drill rig are free of kinks, frayed wires, birdcages, flat spots, grease, and worn or missing sections.	L			
	Cables are terminated at the working end with a proper eye splice; either swaged, coupled, or using cable clamps.	4			
	Cable clamps are installed with the saddle on the live or load side. Clamps are not alternated and are of the correct size and number for the cable size.	~	-		
	Wire ropes are not allowed to bend around sharp edges without cushion material.	V			
Pulleys	Pulleys are not to be bent, cracked, or broken.	1	ł		
	Pulleys operate smoothly and freely, without resistance.	V			
Cable Winches	Motor is mounted in correct location and tightly secured to drill rig.	~	t		
	Winch is capable of being placed in the free spool (unwind smoothly) and locked position correctly, demonstrating that the cable is suitable for lifting during drilling operations.	1			
Safety Latches	Hooks installed on hoist cables are the safety type with a functional latch to prevent accidental separation.	0			
	Safety latches are functional and completely span the entire throat of the hook and have positive action to close the throat except when manually displaced for connecting or disconnecting a load.	L			
Flights/ Augers	Flights/Augers should not be bent, cracked, or broken. NOTE: Flights/Augers failing inspection must be removed from jobsite.	C			
	Flights should be blunt to prevent the risks of cuts.	C			
	Augers keys should not be bent, have any cracks/fractures, be excessively worn, or otherwise damaged.	V			
	Auger bolt holes and threads should not be damaged.	L			
	Inspect flights/augers for metal burrs. NOTE: Burrs must be filed to flat surface.	~	1		
	Avoid stacking augers; all should lay flat on ground.	~	7		
	Avoid manually lifting/moving augers. Should be lifted/moved with cable lines or, at a minimum, by two persons.	V	-		
Drill String	Drill string should not be bent or have any cracks/fractures.	V	-		
	Drill string connecting pins should not be bent, have any cracks/fractures, or be excessively worn.	V			
Mast	Mast is free of bends, cracks, or broken sections.				
	All mounting hardware (pins, bolts, etc.) should be in place.	L	-		
	No moving of drill ring while mast is in vertical position.		$\square$		
	Maintenance/repairs to be performed on mast only in horizontal position.	V			
Hammering Device	Hammer free of cracks, fatigue, or other signs of excessive wear.				1
	Hammer connections are secure.			L	1

Category	Inspection Items	Pass	Fail	N/A	Action Needed
Leveling Devices	Outriggers move in/out and up/down smoothly and freely while using controls on drill rig, with no hydraulic leaks.	V			
	Outriggers are extended prior to and whenever the mast is raised off its cradle. Outriggers must maintain pressure to continuously support and stabilize the drill rig (even while unattended).	~			
	Outriggers are properly supported on the ground surface to prevent settling into the soil (use of outrigger support pads).	V			
Controls	Controls are intact, properly labeled, have freedom of movement, and have no loose wiring or connections.	V			
	Controls are not blocked or locked into an operation position.	~			
	Installed lights, signals, gauges, and alarms operate properly.	V	0		
	Lockout/Tagout procedures implemented.	V			
Lifting Devices	Slings, chokers, and lifting devices are inspected before using and are in proper working order. NOTE: Damaged units are to be labeled and removed from jobsite.	~			
	Shackles/Clevises are in proper working order with pins/screws in place that is to be used while lifting.	V			
	Cables and lifting devices are not operated erratically or with a jerking action to overcome resistance.	V			
Hydraulic System	Hydraulic lines are secure, in good condition with no sign of excessive wear, and not leaking. <b>NOTE:</b> Check while pressurized.	V			
	Hydraulic lines are not in a bent or pinched position causing additional fluid restrictions/pressures.	V			
	Hydraulic oil reservoir has appropriate amount of oil and not leaking.	V			
	Documentation available to confirm that pressure relief valve was checked during shop maintenance activity and noted on maintenance log.	~			
Pump Lines (water, grout, etc.)	Suction/Discharge hoses, pipes, valves, and fittings are seccured and not leaking.	~			
	High pressure hoses have a safety chain, cable, or strap at each end to prevent whipping in the event of a failure.	V			
Fire Prevention	A fire extinguisher of appropriate size is located on drill rig and readily available/accesible for drilling crew (recommended 20 lb.).	$\checkmark$			
	Documentation available to confirm that the drilling crew has received training on proper use of fire extinguishers.				
Ladders	Drill rig has a permanently attached or proper portable ladder to be used for access to drilling platform.			L	/

Category	Inspection Items	Pass	Fail	N/A	Action Needed
Tracks	Tracks on rig are not excessively worn and free of any debris or foreign material.	V			
General	Drill rig meets regulations for transport on state/federal highways (inspection sticker, license plate, etc.).	$\checkmark$			
	Documentation available to verify that rig was inspected prior to arriving at job sites.	U			
	Does the rig size meet job requirements?	1	1		
	Maintenance log available for previous three months to confirm proper maintenance/inspection.	U	-		
Exhaust	Exhaust system should be free from defect and routes engine exhaust away from drill rig workers.	N	<u>_</u>		
Fuels	Fuel stored in an approved and properly labeled container.	N	1		
	Fuel transfer lines free from signs of excessive wear and not leaking.	V	1		
	Refueling and transferring of fuel is performed in an approved area with sufficient containment to prevent spillage.	V			
Exclusion/ Work Zones	The exclusion/work zone is centered over the borehole and the radius equal to or greater than the height of the mast (measured from ground level).	V			
	The exclusion/work zone should be clear of tripping hazards.	V	1		
1 F	Workers maintain safe clearance from rotation auger.	N	1		
	The rig/drill is always operated by qualified drillers and never left unattended.	V	1		
	If drilling is done in an enclosed area, the exhaust fumes are vented from the work site.	1	1		
	If drilling with air, the exhaust and cuttings are directed away from the workers.		1		
	No drilling is performed in rainy weather and/or if lightning is expected.	1/	1		
	Water supply to mitigate sparking potential and dust control readily available, if necessary.	L			
Overhead Obstructions	Except where electrical distribution and transmission lines have been de-energized and visibly grounded, drill rigs will be operated proximate to under, by, or near power lines in accordance with the following: * 50 KV or less - minimum clearance of 10 feet * 50 KV or greater - add 0.4 inches for every KV over 50 KV * If voltage is unknown, maintain at least 20 feet of clearance.				
	While the rig is in transit, clearance from energized power lines will be maintained as follows: * Less than 50 KV - 4 feet * 50 thru 365 KV - 10 feet * 366 thru 720 KV - 16 feet	L	-		
Rig Repairs	Repairs, when possible, are conducted offsite to reduce the risk of any onsite incidents.	· ~	-		
Specialized PPE	When working at elevated heights, workers are to wear a fall restraining device attached in a manner to restrict fall to less than six feet.	~	+		
	When working in wet/slippery conditions, all workers have a lug type sole or similar slip resistant sole, on their safety footwear to prevent slipping.				

1-1-1

### Recommended Spare Parts or Items to be Sent with Drill Crew

Drill Rig	DPT Rig
Emergency Switch	Emergency Switch
Drive Coupling	Drive Caps
Shear Pins/Keys (for drive coupling)	Cutter Head
Pump Packing	Pull Cap
Pump Hoses	Liner Cutter
Auger Bolts	Rod to Cap Pins
Rod to Cap Pins	Liner Holder (used while cutting)
Cutter Head	Spill Kit (5 gal. bucket with oil dry and absorbent pads)
Safety Latches, Hooks, Clamps	, , , , , , , , , , , , , , , , , , ,
Split Spoon Cutter Head	
Spill Kit (5 gal. bucket with oil dry and absorbent pads)	
Hurricane 500 EL Vacuum	
Check engine oil level on the dipstick: add 15W40 enginer oil as needed.	
Check blower oil. Two sight glasses should be 1/2 full. Add AMSOIL synthetic R&O	
Gear & Bearing ISO 220 (RCM) as needed.	
Check radiator water level. DANGER! Check only when the machine is cold.	_
Position desired container under dume deser	
Check machine for notential loose air boson, bydraulia bases and featurers	
Connect E-ston (Emergency Ston) button and cord; make sure button is pushed in	
Start-up machine at idle speed: let it warm up approximately 5 minutes	
Check air pressure gauge on instrument papel (at least 90 PSI)	
Engage the clutch lever (only at idle speed)	
Furn on bag house filter switch (up position).	
furn on dump system switch (up position).	
Pull E-stop switch out; this should produce vacuum at vacuum inlet.	H
Rig Inspector: Mananela Mercade bu	Mate: April 13,16
Company: BBC Control	0
Drilling Contractor: WMiam Rudvigues	Date: 13-aboil-16
(. JT	

Document Control Number: TGM - BOUG3764-11/4/14 TGM + project number plus date as follows: vorcent

This form documents the tailgate meeting conducted in accordance with the Project HASP. Personnel who perform who operations on- site during the day are required to latend his meeting and to acknowledge their attendance, at least daily. Project Name: Project Name: Conducted by: ILLLA Signaturer (Hit) ILLLA Signaturer (Signaturer	TAILGATE HEALTH & SAFETY MEETING FORM						
Set duming the day at reducted to attend in meeting and to acknowledge their attendance. at the degrad cally.         Project Name:       With any work during the day attendence of attendence attendance.         Project Name:       With any work during the day attendence of attendence attendance.         Project Name:       With a during the day attendence of attendence attendence attendance.         Project Name:       With a during the day attendence of attendence attendence attendance.         Project Name:       Conducted by:         Image:       Signature final         Project Name:       Gonducted by:         Image:       Signature final         Image:       Signature final         Project Name:       Gonducted by:         Image:       Signature final         Project Name:       Gonducted by:         Image:       Signature final         Project Name:       Gonfined Space         Image	This form documents the tailgate meeting conducted in accordance with the Project HASP. Personnel who perform work operations on-						
Other       Conducted by:       SignatureT(full       Use of the full of the ful	Project Name: DOM DDT 1100000 Project Location: Phyma Tempora A (2011)						
Signature intra could of the second of th	Data: Life Time - Conducted by						
Clipit A. Ching the Variagate Meeting         TRACKing the Variagate Meeting         Init through the Tasks for the day):         1         2         JACE +         9         ALL -         1         2         JACE +         1         2         JACE +         1         2         JACE +         1         2         JACE +         1         2         2         3         3         3         4         4         4         4         5         5         5         5         1         5         6         1         5         1 <td< td=""><td>Labur 11008-30 Conducted by: UMB Signature Milling Glougist</td></td<>	Labur 11008-30 Conducted by: UMB Signature Milling Glougist						
TRACKing the \$filgate Médeting         Init through the Tasks (list the tasks for the day):         1       1         2       4         2       4         4       4         5       4         4       4         4       4         5       4         4       4         4       4         4       4         4       4         5       4         4       4         4       4         4	Client: Client Contact: Valgun Subcontractor companies: A.						
Initk through the Tasks (list the tasks for the day):       3       3       4       April - Market - Market - April	TRACKing the dailgate Meeting						
2	Think through the Tasks (list the tasks for the day):						
2       JALL       ALIAL       ALIA	1 Bannado sulla 3 Banenad HA (nels) - 9pm						
Other Hazardous Activities - Check the box if there are any other ARCADIS, Client or other party activities that may pose hazards to ARCADIS operations       If there are none, write "None" here:         If yes, describe them here:	2 TOST POTO 4 ATTRE MONTARE 6						
If yes, describe them here:       If yes, describe the here:       If yes, describe them here:       If yes, descrife them here:       If yes, describe them here:	Other Hazardous Activities - Check the box if there are any other ARCADIS, Client or						
How will they be controlled?       Will mark mark of the squire permit issuance or completion of a checklist or similar before work begins:       Doc #       Doc #       Doc #         Not applicable       Doc #       Working at Height       Confined Space         Energy Isolation (LOTO)       Excavation/Trenching       Dec #       Orderhead & Buried Utilities       Offened Space         Incidents from day before to review?       Decsons learned from the day before?       Any Stop Work Interventions yesterday?         Incidents from day before to review?       Decsons learned from the day before?       Any Stop Work Interventions yesterday?         Incidents from yesterday?       Will any work deviate from plan?       If deviations, notify PM & client         Incidents from yesterday?       Will any work deviate from plan?       Staff Knows gathering points?         Comments:       Staff Knows Emergency Plan (EAP)?       Staff Knows gathering points?         Comments:       Comments:       Will any work order week?       M H)         If feed tams to "dirty" JSAs, as needed?       Affective from space (LWM)       M order he hazard (check all those that are discussed) (Examples are provided) and Assess the Risks (Low, Medium, High - circle isk level	If yes, describe them here: Callor 1 Scherficus DWSas						
Prework Authorization - check activities to be conducted that require permit issuance or completion of a checklist or similar before work begins:       Doc #       Doc #<	How will they be controlled? her water down S. PPE (BUNShade)						
issuance or completion of a checklist or similar before work begins:       DUC#	Prework Authorization - check activities to be conducted that require permit						
Mot applicable       Doc #       Working at Height       Confined Space         Energy Isolation (LOTO)       Excavation/Trenching       Detriver         Mechanical Lifting Ops       Overhead & Buried Utilities       Other permit         Discuss following questions (for some review previous day's post activities). Check if yes :       Topics from Corp H&S to cover?         Incidents from day before to review?       Lessons learned from the day before?       Any Stop Work Interventions yesterday?         Any corrective actions from yesterday?       Will any work deviate from plan?       If deviations, notify PM & client         IJSAS or procedures are available?       Elsetd Teams to "dirty" JSAs, as needed?       Athequipment checked & OK?         IStaff has appropriate PPE?       Staff knows Emergency Plan (EAP)?       Istaff knows gathering points?         Comments:       Comments:       Ecognize the hazards (check all those that are discussed) (Examples are provided) and Assess the Risks (Low, Medium, High - circle isk level). Provide an overall assessment of hazards to be encountered today and briefly list them under the hazard category.         Corrective (i.e. ladder, scafford tripp)       If Motion (i.e. traffor moving water)       If M H         Effectrical (i.e. duilited lightning)       If Motion (i.e. take, poison ivy)       If M H         Effectrical (i.e. duilited lightning)       If M H       Biological (i.e. ticks, poison ivy)       M H	issuance or completion of a checklist or similar before work begins:						
Excavation/Trenching     Berry Isolation (LOTO)     Excavation/Trenching     Mechanical Lifting Ops     Overhead & Buried Utilities     Other permit <i>Multicles</i> Discuss following questions (for some review previous day's post activities). Check if yes:     Topics from Corp H&S to cover?     Incidents from day before to review?     Lessons learned from the day before?     Any Stop Work Interventions yesterday?     Any corrective actions from yesterday?     Will any work deviate from plan?     If deviations, notify PM & client     JSAS or procedures are available?     Electric Teams to "dirty" JSAs, as needed?     Staff has appropriate PPE?     Staff knows Emergency Plan (EAP)?     Staff knows gathering points?     Comments:     Recognize the hazards (check all those that are discussed) (Examples are provided) and Assess the Risks (Low, Medium, High - circle     isk level). Provide an overall assessment of hazards to be encountered today and briefly list them under the hazard category.     Gravity (i.e., ladder, scaffold ripps) (L M/H)     Pressure (e. gas cylinglers, wells) M H)     Chemical (i.e. wilking dightning)     (L M/H)     Pressonal (i.e., sicks, polson ivy) (L M H)     Fadiation (i.e., alpha, surg aser) (L M/H)     Sound (i.e., machinery, generators) (L M/H)     Personal (i.e., alone, night, not fit) (L M H)     Personal (i.e., alone, night, not fit) (L M H)     Personal (i.e., alone, night, not fit) (L M H)	Not applicable     Doc #     Working at Height     Confined Space						
Mechanical Lifting Ops       Overhead & Buried Utilities       Other permit Mud	Energy Isolation (LOTO)						
Discuss following questions (for some review previous day's post activities). Check if yes :       Topics from Corp H&S to cover?         Incidents from day before to review?       Lessons learned from the day before?       Any Stop Work Interventions yesterday?         Any corrective actions from yesterday?       Will any work deviate from plan?       If deviations, notify PM & client         JSAS or procedures are available?       Exect Teams to "dirty" JSAs, as needed?       AH=quipment checked & OK?         Staff has appropriate PPE?       Staff knows Emergency Plan (EAP)?       Staff knows gathering points?         Comments:	Mechanical Lifting Ops Overhead & Buried Utilities						
<ul> <li>Incidents from day before to review?</li> <li>Lessons learned from the day before?</li> <li>Any Stop Work Interventions yesterday?</li> <li>Will any work deviate from plan?</li> <li>If deviations, notify PM &amp; client</li> <li>JSAS or procedures are available?</li> <li>Staff knows Emergency Plan (EAP)?</li> <li>Staff knows gathering points?</li> <li>Comments:</li> </ul> Recognize the hazards (check all those that are discussed) (Examples are provided) and Assess the Risks (Low, Medium, High - circle risk level). Provide an overall assessment of hazards to be encountered today and brieffy list them under the hazard category. Gravity (i.e., ladder, scaffold trips) (I_M) H) Motion (i.e. traffic moving water) (D_M) H) Mechanical (i.e. auger motors) (L_M) (I_M) Electrical (i.e. dilities dightning) (I_M) H) Biological (i.e., ticks, poison ivy) (L_M H) Crownment (i.e., aphr.gun asser) (I_M) Sound (i.e., machinery, generators) (L_M) Personal (i.e. alone, night, not fit) (L_M H) Perving (i.e. arr, TV, boat, dozer) (L_M) Continue TRACK Process on Page 2	Discuss following questions (for some review previous day's post activities). Check if yes : Topics from Corp H&S to cover?						
Any corrective actions from yesterday?       Will any work deviate from plan?       If deviations, notify PM & client         I SAS or procedures are available?       Electric teams to "dirty" JSAs, as needed?       If deviations, notify PM & client         I Staff has appropriate PPE?       Staff knows Emergency Plan (EAP)?       Istaff knows gathering points?         Comments:	Incidents from day before to review?						
IJSA's or procedures are available?       Isterff trans to "dirty" JSA's, as needed?       IAH equipment checked & OK?         IStaff has appropriate PPE?       Istaff knows Emergency Plan (EAP)?       Istaff knows gathering points?         Comments:	Any corrective actions from yesterday? Will any work deviate from plan?						
Staff has appropriate PPE?       Staff knows Emergency Plan (EAP)?       Staff knows gathering points?         Comments:	JSAS or procedures are available?						
Comments:         Recognize the hazards (check all those that are discussed) (Examples are provided) and Assess the Risks (Low, Medium, High - circle tisk level)         Provide an overall assessment of hazards to be encountered today and briefly list them under the hazard category.         Gravity (i.e., ladder, scaffold trips)       (LW) H)         Motion (i.e., traffic moving water)       (D) H)         Electrical (i.e., utilities, lightning)       (LW) H)         Pressure (e., gas cylinders, wells)       M H)         Chemical (i.e., true, acid, paint)       (LW) H)         Biological (i.e., ticks, poison ivy)       (LM H)         Sound (i.e., machinery, generators)       (LW) H)         Personal (i.e. alone, night, not fit)       (LM H)         Continue TRACK Process on Page 2	Staff has appropriate PPE?						
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risk level) - Provide an overall assessment of hazards to be encountered today and briefly list them under the hazard category. Gravity (i.e., ladder, scaffold trips) (I M H) Motion (i.e., traffic moving water) (I M H) Mechanical (i.e., auger, motors) (L M H) Electrical (i.e., utilities lightning) (I M H) Pressure (i.e., gas cylinders, wells) (M H) Previonment (i.e., heat cold, ice) (L M H) Chemical (i.e., fuel, acid, paint) (L M H) Biological (i.e., ticks, poison ivy) (L M H) Radiation (i.e., alpha, sun laser) (I M H) Sound (i.e., machinery, generators) (L M H) Personal (i.e. alone, night, not fit) (L M H) Priving (i.e., for X, boat, dozer) (L M H) Continue TRACK Process on Page 2	Recognize the hazards (check all those that are discussed) (Examples are provided) and Assess the Risks (Low, Medium, High - circle						
Continue TRACK Process on Page 2	risk level) Provide an overall assessment of hazards to be encountered today and briefly list them under the hazard category.						
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Chemical (i.e., machinery, generators) (LMH) Biological (i.e., ticks, poison ivy) (LMH) Radiation (i.e., alpha, sun laser) (LMH) Sound (i.e., machinery, generators) (LMH) Personal (i.e. alone, night, not fit) (LMH) Priving (i.e. car, ATV, boat, dozer) (LMH)	Electrical (i.e. utilities lightning) (LOP) Electrical (i.e. utilities lightning) (LOP) Electrical (i.e. utilities lightning) (LOP)						
Sound (i.e., machinery, generators) (LMA) Personal (i.e. alone, night, not fit) (LMH) Priving (i.e. car, ATV, boat, dozer) (LMH)	Chemical (i.e., tuel, acid, paint) (LMH) Biological (i.e., ticks, poison ivy) (LMH) Radiation (i.e., alpha, sun aser) (LMH)						
Continue TRACK Process on Page 2	Sound (i.e., machinery, generators) (LMP) Personal (i.e. alone, night, not fit) (LMH) Driving (i.e. car, ATV, boat, dozer) (LMH)						
	Continue TRACK Process on Page 2						

Tailgate Health Safety Meeting Standard ARC HSGE001 Rev. 04 17 April 2012

A Real Commitment, A Daily Issue: Safety Pads available at Alphagraphics

Control the hazards (Check all and discuss those methods to control the hazards that will be implemented for the day): Review the HASP: applicable JSAs, and other control processes. Discuss and document any additional control processes.  Stop WORK AUTHORITY (Must be addressed in every Tailgate meeting - (See statements below)) Elimination  Substitution  General PP Usage  Hearing Conservation  Substitution  General PP Usage  Hearing Conservation  Signature and Certification Section - Site Staff and Visitors  Name/Company/Signature  Must be developed/used (specify)  Signature and Certification Section - Site Staff and Visitors  Name/Company/Signature  Must be developed/used (specify)  Visitor Name/Co - not involved in work  In Out  I	TAILGATE	HEALTH & SAFETY MEETING FC	DRM - Pg. 2
In the went of a minute for the supervisor with the order damages or provide a substitution     In the went of a minute montparticipation or concerns.	<b>Contro</b> l the hazards (Check all and discuss the HASP, applicable JSAs, and other control proc	hose methods to control the hazards that will be cesses. Discuss and document any additional o	e implemented for the day): Review the control processes.
Signature and Certification Section - Site Staff and Visitors         Name/Company/Signature         Muiare/Company/Signature       Initial & Sign in Initial & Sign of Initial & Sign o	STOP WORK AUTHORITY (Must be addr Elimination Engineering controls General PPE Usage Personal Hygiene Emergency Action Plan (EAP) JSA to be developed/used <u>(specify)</u>	ressed in every Tailgate meeting - (See stateme         Substitution         Administrative controls         Hearing Conservation         Exposure Guidelines         Fall Protection         TIP conducted (specify job/JSA)	ents below) Isolation Monitoring Respiratory Protection Decon Procedures Work Zones/Site Control Traffic Control Other (specify)
Name/Company/Signature         ////////////////////////////////////	Signature ar	d Certification Section - Site Staf	f and Visitors
Important Information and Numbers         All site staff should arrive fit for work. If not, they should report to the supervisor any restrictions or concerns.         In the event of an injury, employees will call WorkCare at 1.800.456 S155 and then notify the field supervisor who will, in turn, notify Corp H&S at 1.720.344.3844.         In the event of a utility strike or other damage to property of a client or 3 dp arty, employees will immediately notify Corp H&S at 1.720.344.3850.         In the event of a utility strike or other damage to property of a client or 3 dp arty, employees will immediately notify Corp H&S at 1.720.344.3850.         In the event of a utility strike or other damage to property of a client or 3 dp arty, employees will immediately notify Corp H&S at 1.720.344.3500.         Post Daily Activities Review - Review at end of day or before next day's work (Check those applicable and explain:)         Lessons learned and best practices learned today:         Incidents that occurred today:         Any other H&S issues:	Name/Comp Maianela Hereado E Matu Mark Angel Bate W: 1044 Lo da guer 1672	Burgs Aladis Allan	Initial & Sign in Time Initial & Sign out Time Understand the HASP 08:40 08:41
Import to the supervisor any restrictions or concerns.       In       Out         In the event of an injury, employees will call WorkCare at 1.800.455.6155 and then notify the field supervisor who will then notify the field supervisor who will then notify Corp H&S at 1.720.344.3844.       In       Out       Init is necessary to STOP THE JOB, I will perform TRACK; and then amend the hazard assessments.         In the event of a motor vehicle accident, employees will notify the field supervisor who will then notify Corp H&S at 1.720.344.3844.       In       Out       If it is necessary to STOP THE JOB, I will perform TRACK; and then amend the hazard assessments of HASP as needed.         In the event of a utility strike or other damage to property of a client or 3rd party, employees will immediately notify the field supervisor, who will then immediately notify to play the field supervisor, who will then immediately notify to play the field supervisor, who will then immediately notify to play the field supervisor, who will then immediately notify to play the field supervisor, who will then immediately notify to play the field supervisor.       I will not assist a subcontractor or other party with the work who will then immediately notify to play the field supervisor, who will then immediately notify the field supervisor.       I will not assist a subcontractor or other party with the work unless it is absolutely necessary and then only I have done TRACK and I have thoroughly controller hazard.         Incidents that occurred today:       Incidents that occurred today:<	Important Information and Numbers All site staff should arrive fit for work. If not, they should	Visitor Name/Co - not involved in work	I will STOP the job any time anyone is concerned or uncertain about health & safety or if anyone identifies a hazard or additional mitigation not recorded in the site,
In the event of a motor vehicle accident, employees will notify the field supervisor who will then notify Corp H&S at 1.720.344.3844 and then Corp Legal at 1.720.344.3756. In the event of a utility strike or other damage to properly of a client or 3rd party, employees will immediately notify the field supervisor, who will then immediately notify the field supervisor, who will then immediately notify the field supervisor, who will then immediately notify the field supervisor. Who will then immediately notify the field supervisor, who will then immediately notify the field supervisor. Who will the notify the field supervisor. Who will the notify the field supervisor. Who wil	report to the supervisor any restrictions or concerns. In the event of an injury, employees will call WorkCare at 1.800.455.6155 and then notify the field supervisor who will, in turn, notify Corp H&S at 1.720.344.3844.	In Out	project, job or task hazard assessment. I will be alert to any changes in personnel, conditions at the work site or hazards not covered by the original hazard assessments.
In the event of a utility strike or other damage to property of a client or 3rd party, employees will immediately notify the field supervisor, who will then immediately notify Corp Legal at 1.678.373.9556 and Corp H&S at 1.720.344,3500 Post Daily Activities Review - Review at end of day or before next day's work (Check those applicable and explain:) Lessons learned and best practices learned today: Incidents that occurred today: Any Stop Work interventions today? Any other H&S issues:	In the event of a motor vehicle accident, employees will notify the field supervisor who will then notify Corp H&S at 1.720.344.3844 and then Corp Legal at 1.720.344.3756.	In Out	If it is necessary to STOP THE JOB, I will perform TRACK; and then amend the hazard assessments or th HASP as needed.
Post Daily Activities Review       - Review at end of day or before next day's work (Check those applicable and explain:)         Lessons learned and best practices learned today:         Incidents that occurred today:         Any Stop Work interventions today?         Corrective/Preventive Actions needed for future work:         Any other H&S issues:	In the event of a utility strike or other damage to property of a client or 3rd party, employees will immediately notify the field supervisor, who will then immediately notify Corp Legal at 1.678.373.9556 and Corp H&S at 1.720.344.3500	In Out	I will not assist a subcontractor or other party with their work unless it is absolutely necessary and then only afte I have done TRACK and I have thoroughly controlled the hazard.
Incidents that occurred today: Any Stop Work interventions today? Corrective/Preventive Actions needed for future work: Any other H&S issues:	Post Daily Activities Review - Re	eview at end of day or before next day's work (C	Check those applicable and explain:)
Corrective/Preventive Actions needed for future work:	The stop Work interventions today?	rain (2 times	~ 30 min each)
	Corrective/Preventive Actions needed for	future work:	
		in all things	

Document Control Number: TGM - BDU63764 - 12/4 TGM + project number plus data and the 110

TGM + project number plus date as follows: xxxxxxxxxxxxxxxxx - dd/mm/year

TAILGATE HEALTH & SAFETY MEETING FORM
This form documents the tailgate meeting conducted in accordance with the Project HASP. Personnel who perform work operations on-
site during the day are required to attend this meeting and to acknowledge their attendance, at least daily.
Project Name: RCI24 PFI - USEPA Project Location, Punce Ferminal (WUP)
Date: Signature/Title: What and a cluster
Client: My Dreffy Could Client Contact: Anno / Neget Subcontractor companies: Augurt
TRACKing the Tailgate Meeting
Think through the Tasks (list the tasks for the day):
1 Muerred Suild an handauger inf. POto 5 Conducer
2 miletred divit push & pad y porardos 6 superisar
Other Hazardous Activities - Check the box if there are any other ARCADIS, Client or other party activities that may pose hazards to ARCADIS operations
If yes, describe them here: heal, Superfines desnoveldas 4 10 WSas
How will they be controlled? hidratricon, PPE (botrs), buddy system
Prework Authorization - check activities to be conducted that require permit Doc # Doc #
Not applicable Doc # Working at Height Confined Space
Energy Isolation (LOTO)
Outer permign ) [ CVermead & Burled Otimites [ Outer permign ) [ C CO
Discuss following questions (for some review previous day's post activities). Check if yes : Topics from Corp H&S to cover?
Incidents from day before to review?
Any corrective actions from yesterday? Will any work deviate from plan?
JAAs or procedures are available?
Staff has appropriate PPE?
<b>Recognize</b> the hazards (check all those that are discussed) (Examples are provided) and <b>Assess</b> the Risks (Low, Medium, High - circle risk level) - Provide an overall assessment of hazards to be encountered today and briefly list them under the hazard category.
Gravity (i.e., ladder, scaffold (trips); (L(MH) Motion (i.e., traffic), moving water) (L(MH) Mechanical (i.e., augers, motors) (L NF)
Electrical (i.e., utilities, lightning) (LMH)
Chemical (i.e., fue) acid, paint) (LM(H) Biological (i.e., ticks, poison ivy) (LM(H)) Radiation (i.e., alpha, eup, laser) (LM)
Sound (i.e., machinery, generators) (LMA) Personal (i.e. alone, night, not fit) (LMH) Driving (i.e. arX, boat, dozer) (LMA)
Continue TRACK Process on Page 2

TAILGATE	HEALTH & SAFETY MEETING FO	PRM - Pg. 2
Control the hazards (Check all and discuss the HASP, applicable JSAs, and other control proc	ose methods to control the hazards that will be esses. Discuss and document any additional	e implemented for the day): Review the control processes.
STOP WORK AUTHORITY (Must be addre Elimination Engineering controls General PPE Usage Personal Hygiene Emergency Action Plan (EAP) JSA to be developed/used <u>(specify)</u>	essed in every Tailgate meeting - (See stateme Substitution Administrative controls Hearing Conservation Exposure Guidelines Fall Protection TIP conducted <u>(specify job/JSA)</u>	ents below) Isolation Monitoring Respiratory Protection Decon Procedures Work Zones/Site Control Traffic Control Other <u>(specify)</u>
Signature an	d Certification Section - Site Stat	f and Visitors
Name/Comp. Hectic 2 8-6-6-6-4 William Rodrigues Mananula Mercudo Bi	any/Signature	Initial & Sign in Time Initial & Sign out Time HASP Y CS Y S Y S
Important Information and Numbers All site staff should arrive fit for work. If not, they should	Visitor Name/Co - not involved in work	I will STOP the job any time anyone is concerned or uncertain about health & safety or if anyone identifies a hazard or additional mitigation not recorded in the site,
In the event of an injury, employees will call WorkCare at 1.800.455.6155 and then notify the field supervisor who will, in turn, notify Corp H&S at 1.720.344.3844.	In Out	project, job or task hazard assessment. I will be alert to any changes in personnel, conditions at the work site or hazards not covered by the original hazard assessments.
In the event of a motor vehicle accident, employees will notify the field supervisor who will then notify Corp H&S at 1.720.344.3844 and then Corp Legal at 1.720.344.3756. In the event of a utility strike or other damage to property of a client or 3rd party, employees will immediately notify the field supervisor, who will then immediately notify Corp Legal at 1.678.373.9556 and Corp H&S at 1.720.344.3500	In Out In Out	If it is necessary to <b>STOP THE JOB</b> , I will perform <b>TRACK</b> ; and then amend the hazard assessments or the HASP as needed. I will not assist a subcontractor or other party with their work unless it is absolutely necessary and then only after I have done TRACK and I have thoroughly controlled the hazard.
1.720.344.3500   Post Daily Activities Review - Re   Lessons learned and best practices learn   Incidents that occurred today:   Any Stop Work interventions today?   Corrective/Preventive Actions needed for   Any other H&S issues:	eview at end of day or before next day's work ( ed today: TOMAMOS Ch.Hu Se future work:	Check those applicable and explain:) Junded be Pune (ugueill-
<u>K</u> eep H&S 1 <sup>s</sup>	<sup>t</sup> in all things	WorkCare - 1.800.455.6155

Document Control Number: TGM - BW 63764 - 13

/14

TGM + project number plus date as follows: xxxxxxxxxxxxxxxxx - dd/mm/year

TAILGATE HEALTH & SAFETY MEETING FORM
This form documents the tailgate meeting conducted in accordance with the Project HASP. Personnel who perform work operations on-
Project Name: DCDA DCT - US DDA
Date: (1) Time: Conducted by: 1/1/A Signature/Title: // A/A/A/A/A/A/A/A/A/A/A/A/A/A/A/A/A/A
(illent:
Hung Every Canbell aguel Velager Brench Succession and Companies tech, Inc.
TRACKing the Tailgate Meeting ' Yimm
Think through the Tasks (list the tasks for the day): 1 Pact - bollow dos 3 Superison 5 Cancing por Arca M 2 Witch a Current of the conductive 5 Cancing por Arca M
2 Trigstife Sue as divid Hush Conduct - propara revent
Other Hazardous Activities - Check the box if there are any other ARCADIS, Client or other party activities that may pose hazards to ARCADIS operations If yes, describe them here:
How will they be controlled? Buddy System, bidraticin, Walkie talkie, toma
Prework Authorization - check activities to be conducted that require permit issuance or completion of a checklist or similar before work begins to be conducted that require permit
Not applicable     Doc #     Working at Height     Confined Space
Energy Isolation (LOTO)
Mechanical Lifting Ops
Incidents from day before to review?
Any Stop Work Interventions yesterday?
Any corrective actions from yesterday? Will any work deviate from plan?
SAs or procedures are available?
Staff has appropriate PPE?
Comments:
Recognize the hazards (check all those that are discussed) (Examples are provided) and Assess the Risks (Low, Medium, High - circle risk level) - Provide an overall assessment of bazards to be encountered today and briefly list them under the bazard category
Gravity (i.e., ladder, scaffold trips? (LMH) Motion (i.e. traffic, moving water) (LMH) Mechanical (i.e. augers, motors) (LMH)
Electrical (i.e., utilities, lightning) (LMH) Pressure (i.e., gas cylinders, wells) (LMH) Environment (i.e., heat-cold, ice) (LMH)
Denemical (i.e. tug, acid, paint) (() H) Biological (i.e., ticks, poison ivy) (L M H) Radiation (i.e., alpha, sur) laser) ((M H)
Sound (i.e., machinery, generators) (LMH) Personal (i.e. alone, night, not fit) (LMH) Briving (i.e. Car, ATV, boat, dozer) (LMCH)
Continue TRACK Process on Page 2

TAILGATE	HEALTH & SAFETY MEETING FO	RM - Pg. 2				
<b>C</b> ontrol the hazards (Check all and discuss the HASP, applicable JSAs, and other control proc	nose methods to control the hazards that will be resses. Discuss and document any additional c	implemented for the day): Review the ontrol processes.				
STOP WORK AUTHORITY (Must be addre Elimination Engineering controls General PPE Usage Personal Hygiene Emergency Action Plan (EAP) JSA to be developed/used (specify)	ents below) Isolation Monitoring Respiratory Protection Decon Procedures Work Zones/Site Control Traffic Control Other <u>(specify)</u>					
Signature an	d Certification Section - Site Staff	and Visitors				
Name/Comp Mananela Mercado Pu William Lodigues, /GE	any/Signature 1305 LBBCCU. n.be MURA MANNA	Initial & Sign in Time Initial & Sign out Time HASP Markowski				
Important Information and Numbers All site staff should arrive fit for work. If not, they should	Visitor Name/Co - not involved in work	I will STOP the job any time anyone is concerned or uncertain about health & safety or if anyone identifies a hazard or additional mitigation not recorded in the site,				
In the event of an injury, employees will call WorkCare at 1.800.455.6155 and then notify the field supervisor who will, in turn, notify Corp H&S at 1.720.344.3844.	In Out	I will be alert to any changes in personnel, conditions at the work site or hazards not covered by the original hazard assessments.				
In the event of a motor vehicle accident, employees will notify the field supervisor who will then notify Corp H&S at 1.720.344.3844 and then Corp Legal at 1.720.344.3756. In the event of a utility strike or other damage to property of a client or 3rd party, employees will immediately notify the field supervisor, who will then immediately notify Corp Logal et 1678.373.0456 and Corp H&S at	If it is necessary to STOP THE JOB, I will perform TRACK; and then amend the hazard assessments or th HASP as needed. I will not assist a subcontractor or other party with thei work unless it is absolutely necessary and then only aft I have done TRACK and I have thoroughly controlled th					
1.720.344.3500 Rost Daily Activities Perious	wing at and of day or hofers part days work (C	herk those applicable and explain:)				
Corrective/Preventive Actions needed for     Any other H&S issues:	future work:					
<u>K</u> eep H&S 1 <sup>°</sup>	in all things	WorkCare - 1.800.455.6155				

Project Name and Number: Project Location: Vehicle Make/Model/Lic #:															
RCRA K+I USEA	- [ DUI	16574	24	I Pi	In	2 -	permi	nal		HUL	inda	il a	UCSUN		
Data	11 01-	1	,	17 26	-,,	<u></u>						/			
Date Valida Organization	11-00	11-11	0	and the			13-2010-16								
Vehicle Operator	LUMB			MMB			LILO								
Daily Odometer Reading	+014			702	9		705,	/							
Inspection:															
Daily	Acceptable	Deficient	N/A	Acceptable	Deficient	N/A	Acceptable	Deficient	N/A	Acceptable	Deficient	N/A	Acceptable	Deficient	N/A
Tires – condition/tread	A.			L.											
Tires – air pressure	R			Þ											
Jack/spare tire															
Light Switch							R								
Headlights	E.			- P											
Tail Lights				L.			E.								
Brake lights							E.								
Turn signals															
All glass and mirrors							E.								
Windshield wipers															
Fuel			<u> </u>												
Parking brake			<u>Ц</u>				4								
Horn			<u>Ц</u>												
Steering wheel play			Ц												
Brakes			Ц.												
Body damage		느님	Ц.			┼┢			<u> </u>						
Under vehicle – Leaks/obstructions			<u> </u>	L'A	<u> </u>	<u>⊢ ⊢</u>			<u>ц</u>						
Reverse warning			<u> </u>		<u> </u>	┝┢			_Ц_						
Prepared for weather	- U	<u> </u>	<u> </u>		<u> </u>	┼╠		<u> </u>	<u> </u>	<u> </u>					
Overall vehicle cleanliness															
Weekly		A	cceptat	ole ·			·	Deficient					N/A		
Engine oil			1	1											
Coolant level			1	/					····						
Transmission oil level			L.	/											
Brake fluid level			A	1						6.000					
Hydraulic oil			4	/								-			
Battery			4	1				<u> </u>							
Belts/hoses			4	1				<u> </u>							
Miscellaneous vehicle performance			1												
Trip Planning															
IMP signed by all operators?															
IMP located on site?													11.2		
Modifications documented and energy		•													
Rasic H&S supplies/equipment			o ovti			octive	afoty yost								
basic nao supplies/equipment			adsid	e warning equ	ipment (fl	are, flag	g, etc.) 🗌 Fla	shlight							
													Cited States II-		

If "deficient" is noted (other than fuel), please explain below and include what corrective action was taken and the date it was taken.

## BBLCaribe AraRCADIS

## **Motor Vehicle Inspection Form**

Waste & Container	Description	n Table				-														
Site Name	Pung Levininal										Project I	Project Name			DCDA RET-USEDA					
Physical Address	Leichetti Ind. Park zipcode									Project I	lumber		BOO /227124							
EPA ID #		h	mer										Arcadis	PM		F	·Colde	in		
Containers Location (specific area)	At	WI	NTP	an	a								Date			From	To	1(2004)		
	Container		Container Typ	Container	Fortown								Description							
Container Nomenclature	10 Ty (1-2, 3)	pe of Waste	DUMP=Dumpst BAG=Bag	er Material	Size		:	SOIL		1		GROUNDW	ATER	-	-		CONTAI	RER INFO		
	DUR	Soll Groundwater • Decon Water		Metal	55 gls	Level Full 3/4 Half	Odor Y	State	Color Brown	Level Full r 3/4 Half	Odor	State	Cold	r Tu own ht Br	rbidity Y	Good Rusted	Bull	ebel Information	neno	V
	1 0	GW +Decon	BAG		Other	1/4			Other	1/4		None None		ay		Dented	PUM	a Terni	nal 4	w
	Dure	Groundwater Decon Water GW +Decon	DR DUMP BAG	Plastic	□ 20 yd <sup>3</sup> □ 25 yd <sup>3</sup> □ Other	3/4 Half		Wet Dry	Light E Br/Red Other	r 🗌 3/4	□ Y □ N	Sheen Double F None	ace Gr	ay ar	Y N	Good Rusted Dented	Pun	o de l	ant	200
		Soil Groundwater Decon Water GW +Decon	DR DUMP BAG	Metal Plastic	☐ 55 gls ☐ 20 yd <sup>3</sup> ☐ 25 yd <sup>3</sup> ☐ Other	Full     3/4     Half     1/4		U Wet	Brown Light E Br/Rec Other	r 🛛 Full J 3/4 I Half I 1/4	Y N	Sheen Double F None	ace C Gr	own htBr	YN	Good Rusted Dented		-,		
		Soil Groundwater Decon Water GW +Decon	DR DUMP BAG	Metal     Plastic	□ 55 gls □ 20 yd <sup>3</sup> □ 25 yd <sup>3</sup>	Full 3/4 Half	U Y	U Wet	Brown	tr   Full 3/4   Half   1/4	C Y	Sheen Double F None	ace C	own htBr By	YN	Good Rusted Dented				
		Soil Groundwater Decon Water GW +Decon	DR DUMP BAG	I Metal	55 gls     20 yd <sup>3</sup> 25 yd <sup>3</sup> 25 yd <sup>3</sup>	Full     S/4     Half     1/4		Wet	Brown	Br C 3/4 I Half I 1/4	U Y U N	Sheen Double F		own ghiBr ay	) Y ) N	Good Rusted Dented				
		Soil Groundwater Decon Water GW +Decon	DR DUMP BAG	Metal     Plastic	□ 55 gis □ 20 yd <sup>3</sup> □ 25 yd <sup>3</sup>			Wet	Brown	Br 3/4 1 Hatf		Sheen Double F		own phtBr ay	] Y ] N	Good Rusted Dented				
		Soil Groundwater Decon Water GW +Decon		Metal Plastic	☐ 55 gls ☐ 20 yd <sup>3</sup> ☐ 25 yd <sup>3</sup> ☐ Other	Full     3/4     Half     1/4		Wet Dry	Brown	Br   Full Br   3/4 Half   1/4		Sheen Double F None		own ght Br ray ear	Y	Good Rusted				
		Soil Groundwater Decon Water GW +Decon	DR DUMP BAG	☐ Metal ☐ Plastic	55 gls     20 yd <sup>3</sup> 25 yd <sup>3</sup> Other	Full     3/4     Half     1/4		Wet Dry	Brown	Br   Full Br   3/4 1   Half   1/4		Sheen Double I None		own ght Br	] Y ] N	Good Rusted Dented				
		Soil Groundwater Decon Water GW +Decon		Metal	□ 55 gls □ 20 yd <sup>3</sup> □ 25 yd <sup>3</sup> □ Other	Full     3/4     Helt     1/4		Wei Dry	Brown	Br D Full Br 3/4 1 Half 1 1/4		Sheen Double I None		own ght Br	] Y ] N	Good Rusted Dented				
		Soil Groundwater Decon Water GW +Decon	DR DUMP BAG	Metal     Plastic	□ 55 gls □ 20 yd <sup>3</sup> □ 25 yd <sup>3</sup> □ Other	Full 3/4 Hall 1/4		Wel	Brown	3r - 3/4 d - Half - 1/4	U Y	Sheen Double None	Face G	own ght Br	Y N	Good Rusted				
		Soil Groundwater Decon Water GW +Decon	DR DUMP BAG	Metal Plastic	□ 55 gts □ 20 yd <sup>3</sup> □ 25 yd <sup>3</sup>	- Full 3/4 Hall 1/4		Wet	Brown	Br D Full Br D 3/4 d D Half D 1/4		Sheen Double None	Face G	rown ght Br	] Y ] N	Good Rusted		,		

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# **APPENDIX D**

Laboratory Analytical Results





Pace Analytical Services, Inc. 1000 Riverbend Blvd - Suite F St. Rose, LA 70087 (504)469-0333

April 27, 2016

Efrain Calderon BBL Caribe Engineering P.S.C. 48 City View Plaza1, Suite 401 Road 16, Km. 1.2 Guaynabo, PR 00968

RE: Project: RCRA RFI-USEPA Pace Project No.: 2035121

Dear Efrain Calderon:

Enclosed are the analytical results for sample(s) received by the laboratory on April 13, 2016. The results relate only to the samples included in this report. Results reported herein conform to the most current TNI standards and the laboratory's Quality Assurance Manual, where applicable, unless otherwise noted in the body of the report.

If you have any questions concerning this report, please feel free to contact me.

Sincerely,

la Sfee

Juan Redondo juan.redondo@pacelabs.com Project Manager

Enclosures

cc: Sharon Colon Abner Hernandez Marianela Mercado-Burgos





#### CERTIFICATIONS

Project: RCRA RFI-USEPA

Pace Project No.: 2035121

#### **New Orleans Certification IDs**

California Env. Lab Accreditation Program Branch: 11277CA Florida Department of Health (NELAC): E87595 Illinois Environmental Protection Agency: 0025721 Kansas Department of Health and Environment (NELAC): E-10266 Louisiana Dept. of Environmental Quality (NELAC/LELAP): 02006 Pennsylviania Dept. of Env Protection (NELAC): 68-04202 Texas Commission on Env. Quality (NELAC): T104704405-09-TX U.S. Dept. of Agriculture Foreign Soil Import: P330-10-00119



Pace Analytical Services, Inc. 1000 Riverbend Blvd - Suite F St. Rose, LA 70087 (504)469-0333

### SAMPLE SUMMARY

Project: RCRA RFI-USEPA

Pace Project No.: 2035121

Lab ID	Sample ID	Matrix	Date Collected	Date Received
2035121001	EB-041116	Water	04/11/16 09:20	04/13/16 13:30
2035121002	WWTP-SB-1-2-3	Solid	04/11/16 10:10	04/13/16 13:30
2035121003	DUP 1	Solid	04/11/16 00:00	04/13/16 13:30
2035121004	FB-041116	Water	04/11/16 10:30	04/13/16 13:30
2035121005	TB041116	Water	04/11/16 10:30	04/13/16 13:30
2035121006	EB-041216	Water	04/12/16 08:25	04/13/16 13:30
2035121007	WWTP-SB-2-4-5	Solid	04/12/16 08:51	04/13/16 13:30
2035121008	FB-041216	Water	04/12/16 09:35	04/13/16 13:30
2035121009	EB-041316	Water	04/13/16 10:15	04/13/16 13:30
2035121010	FB-041316	Water	04/13/16 11:30	04/13/16 13:30
2035121011	FOL-1-16	Solid	04/13/16 10:37	04/13/16 13:30
2035121012	FOL-2-16	Solid	04/13/16 11:15	04/13/16 13:30



### SAMPLE ANALYTE COUNT

Project: RCRA RFI-USEPA Pace Project No.: 2035121

Lab ID	Sample ID	Method	Analysts	Analytes Reported	Laboratory
2035121001	 EB-041116	EPA 8015B Modified	JG1	4	PASI-N
		EPA 8015/8021	MHM	2	PASI-N
		EPA 8260	RMP	10	PASI-N
2035121002	WWTP-SB-1-2-3	EPA 8015B Modified	JG1	4	PASI-N
		EPA 8015/8021	MHM	2	PASI-N
		EPA 8260	RMP	10	PASI-N
2035121003	DUP 1	EPA 8015B Modified	JG1	4	PASI-N
		EPA 8015/8021	MHM	2	PASI-N
		EPA 8260	RMP	10	PASI-N
2035121004	FB-041116	EPA 8015/8021	MHM	2	PASI-N
		EPA 8260	RMP	10	PASI-N
2035121005	TB041116	EPA 8015/8021	MHM	2	PASI-N
		EPA 8260	RMP	10	PASI-N
2035121006	EB-041216	EPA 8015B Modified	JG1	4	PASI-N
		EPA 8015/8021	MHM	2	PASI-N
		EPA 8260	RMP	10	PASI-N
2035121007	WWTP-SB-2-4-5	EPA 8015B Modified	JG1	4	PASI-N
		EPA 8015/8021	МНМ	2	PASI-N
		EPA 8260	RMP	10	PASI-N
2035121008	FB-041216	EPA 8015/8021	MHM	2	PASI-N
		EPA 8260	RMP	10	PASI-N
2035121009	EB-041316	EPA 8015B Modified	JG1	4	PASI-N
		EPA 8015/8021	MHM	2	PASI-N
		EPA 8260	RMP	10	PASI-N
2035121010	FB-041316	EPA 8015/8021	MHM	2	PASI-N
		EPA 8260	RMP	10	PASI-N
2035121011	FOL-1-16	EPA 8015B Modified	JG1	4	PASI-N
		EPA 8015/8021	MHM	2	PASI-N
		EPA 8260	RMP	10	PASI-N
2035121012	FOL-2-16	EPA 8015B Modified	JG1	4	PASI-N
		EPA 8015/8021	MHM	2	PASI-N
		EPA 8260	RMP	10	PASI-N


Project: RCRA RFI-USEPA

Pace Project No.: 2035121

Method:	EPA 8015B	Modified
mounoai	E1710010B	meaniea

Description:8015M DRO/ORO OrganicsClient:BBL Caribe / Arcadis PRDate:April 27, 2016

### **General Information:**

8 samples were analyzed for EPA 8015B Modified. All samples were received in acceptable condition with any exceptions noted below or on the chain-of custody and/or the sample condition upon receipt form (SCUR) attached at the end of this report.

### Hold Time:

The samples were analyzed within the method required hold times with any exceptions noted below.

### Sample Preparation:

The samples were prepared in accordance with EPA 3546 with any exceptions noted below. The samples were prepared in accordance with EPA 3535 with any exceptions noted below.

### Initial Calibrations (including MS Tune as applicable):

All criteria were within method requirements with any exceptions noted below.

### **Continuing Calibration:**

All criteria were within method requirements with any exceptions noted below.

### Surrogates:

All surrogates were within QC limits with any exceptions noted below.

### QC Batch: OEXT/8727

S0: Surrogate recovery outside laboratory control limits.

• WWTP-SB-1-2-3 (Lab ID: 2035121002)

```
• n-Pentacosane (S)
```

S5: Surrogate recovery outside control limits due to matrix interferences (not confirmed by re-analysis).

```
• DUP 1 (Lab ID: 2035121003)
```

```
n-Pentacosane (S)
o-Terphenyl (S)
MS (Lab ID: 218361)
n-Pentacosane (S)
o-Terphenyl (S)
MSD (Lab ID: 218362)
n-Pentacosane (S)
o-Terphenyl (S)
WWTP-SB-1-2-3 (Lab ID: 2035121002)
o-Terphenyl (S)
```

### Method Blank:

All analytes were below the report limit in the method blank, where applicable, with any exceptions noted below.

### Laboratory Control Spike:

All laboratory control spike compounds were within QC limits with any exceptions noted below.



Project: RCRA RFI-USEPA

Pace Project No.: 2035121

### Method: EPA 8015B Modified

Description:8015M DRO/ORO OrganicsClient:BBL Caribe / Arcadis PRDate:April 27, 2016

## QC Batch: OEXT/8686

L0: Analyte recovery in the laboratory control sample (LCS) was outside QC limits.

• LCS (Lab ID: 217090)

Diesel Range Organic (C10-C28)

### Matrix Spikes:

All percent recoveries and relative percent differences (RPDs) were within acceptance criteria with any exceptions noted below.

# QC Batch: OEXT/8686

A matrix spike/matrix spike duplicate was not performed due to insufficient sample volume.

### **Additional Comments:**

Batch Comments:

The LCS yielded elevated recovery due to a large non-diesel peak that eluted in the diesel range. There were no hits in any of the associated samples, nor was this peak present in any of the other runs. The LCS recovery for diesel fell within the acceptance range, with the area contributed by the contaminant eliminated from the calculation. The results were therefore accepted without further corrective action.

• QC Batch: GCSV / 6291

### Analyte Comments:

### QC Batch: OEXT/8727

D4: Sample was diluted due to the presence of high levels of target analytes.

• WWTP-SB-1-2-3 (Lab ID: 2035121002)

• o-Terphenyl (S)



Project: RCRA RFI-USEPA

Pace Project No.: 2035121

### Method: EPA 8015/8021

Description:8021 GCV BTEX, MTBE, GRO Med LClient:BBL Caribe / Arcadis PRDate:April 27, 2016

### **General Information:**

5 samples were analyzed for EPA 8015/8021. All samples were received in acceptable condition with any exceptions noted below or on the chain-of custody and/or the sample condition upon receipt form (SCUR) attached at the end of this report.

#### Hold Time:

The samples were analyzed within the method required hold times with any exceptions noted below.

### Sample Preparation:

The samples were prepared in accordance with EPA 5035A/5030B with any exceptions noted below.

### Initial Calibrations (including MS Tune as applicable):

All criteria were within method requirements with any exceptions noted below.

#### Continuing Calibration:

All criteria were within method requirements with any exceptions noted below.

#### Surrogates:

All surrogates were within QC limits with any exceptions noted below.

#### Method Blank:

All analytes were below the report limit in the method blank, where applicable, with any exceptions noted below.

### Laboratory Control Spike:

All laboratory control spike compounds were within QC limits with any exceptions noted below.

### Matrix Spikes:

All percent recoveries and relative percent differences (RPDs) were within acceptance criteria with any exceptions noted below.

### Additional Comments:



Project: RCRA RFI-USEPA

Pace Project No.: 2035121

### Method: EPA 8015/8021

Description:8021 GCV BTEX, MTBE, GROClient:BBL Caribe / Arcadis PRDate:April 27, 2016

### **General Information:**

7 samples were analyzed for EPA 8015/8021. All samples were received in acceptable condition with any exceptions noted below or on the chain-of custody and/or the sample condition upon receipt form (SCUR) attached at the end of this report.

### Hold Time:

The samples were analyzed within the method required hold times with any exceptions noted below.

### Initial Calibrations (including MS Tune as applicable):

All criteria were within method requirements with any exceptions noted below.

### Continuing Calibration:

All criteria were within method requirements with any exceptions noted below.

### Surrogates:

All surrogates were within QC limits with any exceptions noted below.

### Method Blank:

All analytes were below the report limit in the method blank, where applicable, with any exceptions noted below.

### Laboratory Control Spike:

All laboratory control spike compounds were within QC limits with any exceptions noted below.

### Matrix Spikes:

All percent recoveries and relative percent differences (RPDs) were within acceptance criteria with any exceptions noted below.

### QC Batch: GCV/2743

A matrix spike/matrix spike duplicate was not performed due to insufficient sample volume.

### Additional Comments:



Project: RCRA RFI-USEPA

Pace Project No.: 2035121

### Method: EPA 8260

Description:8260 MSV 5035 Low LevelClient:BBL Caribe / Arcadis PRDate:April 27, 2016

### General Information:

5 samples were analyzed for EPA 8260. All samples were received in acceptable condition with any exceptions noted below or on the chain-of custody and/or the sample condition upon receipt form (SCUR) attached at the end of this report.

### Hold Time:

The samples were analyzed within the method required hold times with any exceptions noted below.

### Sample Preparation:

The samples were prepared in accordance with EPA 5035/5030B with any exceptions noted below.

### Initial Calibrations (including MS Tune as applicable):

All criteria were within method requirements with any exceptions noted below.

### Continuing Calibration:

All criteria were within method requirements with any exceptions noted below.

### Internal Standards:

All internal standards were within QC limits with any exceptions noted below.

### Surrogates:

All surrogates were within QC limits with any exceptions noted below.

# QC Batch: MSV/4736

S0: Surrogate recovery outside laboratory control limits.

• MSD (Lab ID: 217034)

• 4-Bromofluorobenzene (S)

S2: Surrogate recovery outside laboratory control limits due to matrix interferences (confirmed by similar results from sample reanalysis).

• WWTP-SB-1-2-3 (Lab ID: 2035121002)

4-Bromofluorobenzene (S)

### Method Blank:

All analytes were below the report limit in the method blank, where applicable, with any exceptions noted below.

### Laboratory Control Spike:

All laboratory control spike compounds were within QC limits with any exceptions noted below.

### Matrix Spikes:

All percent recoveries and relative percent differences (RPDs) were within acceptance criteria with any exceptions noted below.

### QC Batch: MSV/4736

A matrix spike and/or matrix spike duplicate (MS/MSD) were performed on the following sample(s): 2035121002

M1: Matrix spike recovery exceeded QC limits. Batch accepted based on laboratory control sample (LCS) recovery.

• MS (Lab ID: 217033)



Project: RCRA RFI-USEPA

Pace Project No.: 2035121

 Method:
 EPA 8260

 Description:
 8260 MSV 5035 Low Level

 Client:
 BBL Caribe / Arcadis PR

 Date:
 April 27, 2016

## QC Batch: MSV/4736

A matrix spike and/or matrix spike duplicate (MS/MSD) were performed on the following sample(s): 2035121002

M1: Matrix spike recovery exceeded QC limits. Batch accepted based on laboratory control sample (LCS) recovery.

- Ethylbenzene
- m&p-Xylene
- o-Xylene
- MSD (Lab ID: 217034)
  - Ethylbenzene
  - m&p-Xylene
  - o-Xylene

Additional Comments:



Project: RCRA RFI-USEPA

Pace Project No.: 2035121

### Method: EPA 8260

Description:8260 MSVClient:BBL Caribe / Arcadis PRDate:April 27, 2016

### General Information:

7 samples were analyzed for EPA 8260. All samples were received in acceptable condition with any exceptions noted below or on the chain-of custody and/or the sample condition upon receipt form (SCUR) attached at the end of this report.

### Hold Time:

The samples were analyzed within the method required hold times with any exceptions noted below.

### Initial Calibrations (including MS Tune as applicable):

All criteria were within method requirements with any exceptions noted below.

### Continuing Calibration:

All criteria were within method requirements with any exceptions noted below.

### Internal Standards:

All internal standards were within QC limits with any exceptions noted below.

### Surrogates:

All surrogates were within QC limits with any exceptions noted below.

#### Method Blank:

All analytes were below the report limit in the method blank, where applicable, with any exceptions noted below.

### Laboratory Control Spike:

All laboratory control spike compounds were within QC limits with any exceptions noted below.

### Matrix Spikes:

All percent recoveries and relative percent differences (RPDs) were within acceptance criteria with any exceptions noted below.

### QC Batch: MSV/4725

A matrix spike/matrix spike duplicate was not performed due to insufficient sample volume.

### Additional Comments:

This data package has been reviewed for quality and completeness and is approved for release.



### Project: RCRA RFI-USEPA

Pace Project No.: 2035121

Sample: EB-041116	Lab ID: 2035121001		Collected: 04/11/1	Collected: 04/11/16 09:20		/13/16 13:30 N	latrix: Water	
Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
8015M DRO/ORO Organics	Analytical Meth	nod: EPA 80	015B Modified Prepa	ration M	lethod: EPA 3535	i		
Diesel Range Organic (C10-C28)	ND	ug/L	250	1	04/18/16 08:52	04/22/16 18:41		L3
Oil Range Organics (>C28-C40)	ND	ug/L	500	1	04/18/16 08:52	04/22/16 18:41		
Surrogates								
n-Pentacosane (S)	46	%.	16-137	1	04/18/16 08:52	04/22/16 18:41	629-99-2	
o-Terphenyl (S)	54	%.	10-121	1	04/18/16 08:52	04/22/16 18:41	84-15-1	
8021 GCV BTEX, MTBE, GRO	Analytical Meth	nod: EPA 80	015/8021					
Gasoline Range Organics <i>Surrogates</i>	ND	ug/L	50.0	1		04/15/16 16:43		
4-Bromofluorobenzene (S)	105	%.	44-148	1		04/15/16 16:43	460-00-4	
8260 MSV	Analytical Meth	nod: EPA 82	260					
Benzene	ND	ua/L	5.0	1		04/15/16 10:49	71-43-2	
Ethanol	ND	ua/L	500	1		04/15/16 10:49	64-17-5	
Ethylbenzene	ND	ua/L	5.0	1		04/15/16 10:49	100-41-4	
Methyl-tert-butyl ether	ND	<u>-</u>	5.0	1		04/15/16 10.49	1634-04-4	
Toluene	ND	ua/l	5.0	1		04/15/16 10:49	108-88-3	
m&p-Xvlene	ND	ug/L	10.0	1		04/15/16 10:49	179601-23-1	
o-Xvlene	ND	ug/L	5.0	1		04/15/16 10:49	95-47-6	
Surrogates	NB	ug/L	0.0			04/10/10 10.40	00 47 0	
Toluene-d8 (S)	98	%.	70-123	1		04/15/16 10:49	2037-26-5	
4-Bromofluorobenzene (S)	96	%.	62-134	1		04/15/16 10:49	460-00-4	
Dibromofluoromethane (S)	104	%.	64-130	1		04/15/16 10:49	1868-53-7	
Sample: WWTP-SB-1-2-3	Lab ID: 203	5121002	Collected: 04/11/1	6 10:10	Received: 04	/13/16 13:30 N	atrix: Solid	
Results reported on a "wet-weight" b	asis			• • • • • • •		,,		
Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
8015M DRO/ORO Organics	Analytical Meth	nod: EPA 80	)15B Modified Prepa	ration N	- lethod: EPA 3546	;		
Diagol Bongo Organia (C10, C28)	2240000		47900	F	04/01/16 11:05	04/06/16 10:07		
Oil Range Organics (>C28-C40)	664000	ug/kg ug/kg	239000	5	04/21/16 11:25	04/26/16 12:27		
Surrogates	1000	<u>.</u>	10.10-	_				
o-Terphenyl (S)	1660	%.	16-127	5	04/21/16 11:25	04/26/16 12:27	84-15-1	D4,S5
n-Pentacosane (S)	957	%.	16-147	5	04/21/16 11:25	04/26/16 12:27	629-99-2	S0
8021 GCV BTEX, MTBE, GRO Med L	Analytical Meth	nod: EPA 80	015/8021 Preparation	n Metho	d: EPA 5035A/50	30B		
Gasoline Range Organics	15500	ug/kg	2340	1	04/18/16 09:00	04/18/16 16:12		
4-Bromofluorobenzene (S)	111	%.	44-148	1	04/18/16 09:00	04/18/16 16:12	460-00-4	
8260 MSV 5035 Low Level	Analytical Meth	nod: EPA 82	260 Preparation Meth	nod: EP	A 5035/5030B			
Benzene	ND	ua/ka	5.0	1	04/16/16 11:00	04/16/16 12:59	71-43-2	
Ethanol	ND	ua/ka	499	1	04/16/16 11:00	04/16/16 12:59	64-17-5	
Ethylbenzene	ND	ua/ka	5.0	1	04/16/16 11:00	04/16/16 12:59	100-41-4	M1
Methyl-tert-butyl ether	ND	ug/kg	5.0	1	04/16/16 11:00	04/16/16 12:59	1634-04-4	

# **REPORT OF LABORATORY ANALYSIS**



Project: RCRA RFI-USEPA

Pace Project No.: 2035121

Sample: WWTP-SB-1-2-3	Lab ID: 203	5121002	Collected: 04/11/1	6 10:10	Received: 04	/13/16 13:30 N	1atrix: Solid	
Results reported on a "wet-weight" I	basis							
Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
8260 MSV 5035 Low Level	Analytical Met	hod: EPA 82	260 Preparation Meth	nod: EP/	A 5035/5030B			
Toluene	ND	ua/ka	5.0	1	04/16/16 11:00	04/16/16 12:59	108-88-3	
m&p-Xvlene	13.1	ua/ka	10	1	04/16/16 11:00	04/16/16 12:59	179601-23-1	M1
o-Xvlene	7.5	ua/ka	5.0	1	04/16/16 11:00	04/16/16 12:59	95-47-6	M1
Surrogates		3,3						
Toluene-d8 (S)	111	%.	70-123	1	04/16/16 11:00	04/16/16 12:59	2037-26-5	
4-Bromofluorobenzene (S)	139	%.	62-134	1	04/16/16 11:00	04/16/16 12:59	460-00-4	S2
Dibromofluoromethane (S)	107	%.	64-130	1	04/16/16 11:00	04/16/16 12:59	1868-53-7	
Sample: DUP 1	Lab ID: 203	5121003	Collected: 04/11/1	6 00:00	Received: 04	/13/16 13:30 M	latrix: Solid	
Results reported on a "wet-weight" k	basis							
Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
8015M DRO/ORO Organics	Analytical Met	hod: EPA 80	015B Modified Prepa	ration M	lethod: EPA 3546	6		
Diesel Range Organic (C10-C28)	146000	ua/ka	9330	1	04/21/16 11.25	04/22/16 19:37		
Oil Range Organics (>C28-C40)	120000	ug/kg	46600	1	04/21/16 11:25	04/22/16 19:37		
Surrogates		uging	10000	•	0 1/2 1/10 11:20	0 1/22/10 10:01		
o-Terphenyl (S)	137	%.	16-127	1	04/21/16 11:25	04/22/16 19:37	84-15-1	S5
n-Pentacosane (S)	206	%.	16-147	1	04/21/16 11:25	04/22/16 19:37	629-99-2	S5
8021 GCV BTEX, MTBE, GRO Med L	Analytical Met	hod: EPA 80	015/8021 Preparatior	n Metho	d: EPA 5035A/50	30B		
Gasoline Range Organics	ND	ug/kg	2200	1	04/18/16 09:00	04/18/16 16:40		
4-Bromofluorobenzene (S)	101	%.	44-148	1	04/18/16 09:00	04/18/16 16:40	460-00-4	
8260 MSV 5035 Low Level	Analytical Met	hod: EPA 82	260 Preparation Meth	nod: EP/	A 5035/5030B			
Benzene	ND	ua/ka	52	1	04/16/16 11.00	04/16/16 13:50	71-43-2	
Ethanol	ND	ug/kg	515	1	04/16/16 11:00	04/16/16 13:50	64-17-5	
Ethylbenzene	ND	ua/ka	5.2	1	04/16/16 11:00	04/16/16 13:50	100-41-4	
Methyl-tert-butyl ether	ND	ua/ka	5.2	1	04/16/16 11:00	04/16/16 13:50	1634-04-4	
Toluene	ND	ua/ka	5.2	1	04/16/16 11:00	04/16/16 13:50	108-88-3	
m&p-Xylene	ND	ug/kg	10.3	1	04/16/16 11:00	04/16/16 13:50	179601-23-1	
o-Xylene	ND	ug/kg	5.2	1	04/16/16 11:00	04/16/16 13:50	95-47-6	
Surrogates		00						
Toluene-d8 (S)	100	%.	70-123	1	04/16/16 11:00	04/16/16 13:50	2037-26-5	
4-Bromofluorobenzene (S)	110	%.	62-134	1	04/16/16 11:00	04/16/16 13:50	460-00-4	
Dibromofluoromethane (S)	100	%.	64-130	1	04/16/16 11:00	04/16/16 13:50	1868-53-7	
Sample: FB-041116	Lab ID: 203	5121004	Collected: 04/11/1	6 10:30	Received: 04	/13/16 13:30 N	latrix: Water	
Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
8021 GCV BTEX, MTBE, GRO	Analytical Met	hod: EPA 80	 D15/8021		-	-		
Gasoline Range Organics	ND	ua/L	50 0	1		04/15/16 17:10		
		- 9' -	00.0	•				

# **REPORT OF LABORATORY ANALYSIS**



### Project: RCRA RFI-USEPA

Pace Project No.: 2035121

Sample: FB-041116	Lab ID: 203	5121004	Collected: 04/11/1	6 10:30	Received: 04	/13/16 13:30	/latrix: Water	
Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
8021 GCV BTEX, MTBE, GRO	Analytical Met	hod: EPA 80	015/8021					
Surrogates								
4-Bromofluorobenzene (S)	103	%.	44-148	1		04/15/16 17:10	460-00-4	
8260 MSV	Analytical Met	hod: EPA 82	260					
Benzene	ND	ug/L	5.0	1		04/15/16 11:07	71-43-2	
Ethanol	ND	ug/L	500	1		04/15/16 11:07	64-17-5	
Ethylbenzene	ND	ug/L	5.0	1		04/15/16 11:07	100-41-4	
Methyl-tert-butyl ether	ND	ug/L	5.0	1		04/15/16 11:07	1634-04-4	
Toluene	ND	ua/L	5.0	1		04/15/16 11:07	108-88-3	
m&p-Xvlene	ND	ua/l	10.0	1		04/15/16 11.07	179601-23-1	
o-Xvlene	ND	ua/l	50	1		04/15/16 11:07	95-47-6	
Surrogates	NB	ug/L	0.0	•		04/10/10 11:07	00 41 0	
Toluene-d8 (S)	100	%	70-123	1		04/15/16 11.07	2037-26-5	
4-Bromofluorobenzene (S)	96	%	62-134	1		04/15/16 11:07	460-00-4	
Dibromofluoromethane (S)	108	%	64-130	1		04/15/16 11:07	1868-53-7	
	100	70.	04-100			10/10/11.07	1000-00-1	
Sample: TB041116	Lab ID: 203	5121005	Collected: 04/11/1	6 10:30	Received: 04	/13/16 13:30	/atrix: Water	
Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
8021 GCV BTEX, MTBE, GRO	Analytical Met	hod: EPA 80	)15/8021			_		
Gasoline Range Organics	ND	ua/l	50.0	1		04/15/16 17:38		
Surrogates		ag/L	00.0	•		01/10/10 11:00		
4-Bromofluorobenzene (S)	105	%.	44-148	1		04/15/16 17:38	460-00-4	
8260 MSV	Analytical Met	hod: EPA 82	260					
Benzene	ND	ua/L	5.0	1		04/15/16 11:24	71-43-2	
Ethanol	ND	ua/l	500	1		04/15/16 11 24	64-17-5	
Ethylbenzene	ND	ug/L	50	1		04/15/16 11:24	100-41-4	
Methyl_tert_butyl_ether		ug/L	5.0	1		04/15/16 11:24	1634-04-4	
Toluene		ug/L	5.0	1		04/15/16 11:24	108-88-3	
		ug/L	10.0	1		04/15/16 11:24	170601 22 1	
		ug/L	10.0	1		04/15/10 11.24	05 47 6	
0-Aylerie	ND	ug/L	5.0	I		04/15/10 11.24	95-47-0	
Toluono d8 (S)	100	0/_	70 123	1		04/15/16 11:24	2027 26 5	
1 Dremefluerebenzene (S)	100	70. 0/	70-123	1		04/15/10 11.24	2037-20-3	
4-Bromoliuorobenzene (S)	97	%.	62-134	1		04/15/16 11:24	460-00-4	
Dibromofluoromethane (S)	108	%.	64-130	1		04/15/16 11:24	1868-53-7	
Sample: EB-041216	Lab ID: 203	5121006	Collected: 04/12/	16 08:25	Received: 04	/13/16 13:30	/atrix: Water	
Parameters	Resulte	Inite	Report Limit	DF	Prenared	Analyzed	CAS No	Qual
		Units						Quai
8015M DRO/ORO Organics	Analytical Met	hod: EPA 80	015B Modified Prepa	ration M	ethod: EPA 3535	5		
Diesel Range Organic (C10-C28)	ND	ug/L	250	1	04/18/16 08:52	04/22/16 19:09		L3
Oil Range Organics (>C28-C40)	ND	ug/L	500	1	04/18/16 08:52	04/22/16 19:09		

# **REPORT OF LABORATORY ANALYSIS**



### Project: RCRA RFI-USEPA

Pace Project No.: 2035121

ParametersResultsUnitsReport LimitDFPreparedAnalyzer8015M DRO/ORO OrganicsAnalytical Method: EPA 8015B ModifiedPreparation Method: EPA 3535Surrogates n-Pentacosane (S)41%.16-137104/18/16 08:5204/22/16 19o-Terphenyl (S)51%.10-121104/18/16 08:5204/22/16 198021 GCV BTEX. MTBE, GROAnalytical Method: EPA 8015/8021	CAS No. Qual
8015M DRO/ORO Organics         Analytical Method: EPA 8015B Modified         Preparation         Method: EPA 3535           Surrogates n-Pentacosane (S)         41         %.         16-137         1         04/18/16 08:52         04/22/16 19           o-Terphenyl (S)         51         %.         10-121         1         04/18/16 08:52         04/22/16 19           8021 GCV BTEX. MTBE, GRO         Analytical Method: EPA 8015/8021         EPA 8015/8021         04/22/16 19	
Surrogates         16-137         1         04/18/16 08:52         04/22/16 19           o-Terphenyl (S)         51         %.         10-121         1         04/18/16 08:52         04/22/16 19           8021 GCV BTEX. MTBE, GRO         Analytical Method: EPA 8015/8021         5         5         04/22/16 19	
n-Pentacosane (S)       41       %.       16-137       1       04/18/16 08:52       04/22/16 19         o-Terphenyl (S)       51       %.       10-121       1       04/18/16 08:52       04/22/16 19         8021 GCV BTEX. MTBE, GRO       Analytical Method: EPA 8015/8021	~~ ~~ ~
8021 GCV BTEX. MTBE. GRO Analytical Method: EPA 8015/8021	.09 629-99-2 :09 84-15-1
Gasoline Range Organics ND ug/L 50.0 1 04/15/16 18 Surrogates	05
4-Bromofluorobenzene (S) 104 %. 44-148 1 04/15/16 18	.05 460-00-4
8260 MSV Analytical Method: EPA 8260	
Benzene         ND         ug/L         5.0         1         04/15/16         11	41 71-43-2
Ethanol ND ug/L 500 1 04/15/16 11	41 64-17-5
Ethylbenzene         ND         ug/L         5.0         1         04/15/16         11	41 100-41-4
Methyl-tert-butyl ether         ND         ug/L         5.0         1         04/15/16         11	41 1634-04-4
Toluene ND ug/L 5.0 1 04/15/16 11	41 108-88-3
m&p-Xylene ND ug/L 10.0 1 04/15/16 11	41 179601-23-1
o-Xylene ND ug/L 5.0 1 04/15/16 11	41 95-47-6
Surrogates	
Toluene-d8 (S) 99 %. 70-123 1 04/15/16 11	41 2037-26-5
4-Bromofluorobenzene (S) 95 %. 62-134 1 04/15/16 11	41 460-00-4
Dibromofluoromethane (S)         109         %.         64-130         1         04/15/16         11	41 1868-53-7
Sample: WWTP-SR-2-4-5 Lab ID: 2035121007 Collected: 04/12/16 08:51 Received: 04/13/16 13:30	Matrix: Solid
Results reported on a "wet-weight" basis	
Parameters Results Units Report Limit DF Prepared Analyzed	CAS No. Qual
8015M DRO/ORO Organics Analytical Method: EPA 8015B Modified Preparation Method: EPA 3546	
Diesel Range Organic (C10-C28) <b>31000</b> ug/kg 9510 1 04/21/16 11:25 04/22/16 18	41
Oil Range Organics (>C28-C40)         ND         ug/kg         47600         1         04/21/16         11:25         04/22/16         18           Surrogates         Surrogates <td>41</td>	41
o-Terphenyl (S) 108 %. 16-127 1 04/21/16 11:25 04/22/16 18	41 84-15-1
n-Pentacosane (S) 80 %. 16-147 1 04/21/16 11:25 04/22/16 18	41 629-99-2
8021 GCV BTEX, MTBE, GRO Med L Analytical Method: EPA 8015/8021 Preparation Method: EPA 5035A/5030B	
Gasoline Range Organics ND ug/kg 2290 1 04/18/16 09:00 04/18/16 17 Surrogates	.07
4-Bromofluorobenzene (S) 101 %. 44-148 1 04/18/16 09:00 04/18/16 17	.07 460-00-4
8260 MSV 5035 Low Level Analytical Method: EPA 8260 Preparation Method: EPA 5035/5030B	
Benzene ND ug/ka 5.3 1 04/16/16 11:00 04/16/16 14	:07 71-43-2
Ethanol ND ug/kg 531 1 04/16/16 11:00 04/16/16 14	.07 64-17-5
Ethylbenzene ND ug/kg 5.3 1 04/16/16 11:00 04/16/16 14	.07 100-41-4
Methyl-tert-butyl ether ND ug/kg 5.3 1 04/16/16 11:00 04/16/16 14	07 1634-04-4
Toluene ND ug/kg 5.3 1 04/16/16 11:00 04/16/16 14	07 108-88-3
	07 179601-23-1

# **REPORT OF LABORATORY ANALYSIS**



Project: RCRA RFI-USEPA

Pace Project No.: 2035121

Sample: WWTP-SB-2-4-5	Lab ID: 203	5121007	Collected: 04/12/1	16 08:51	1 Received: 04/13/16 13:30 Matrix: Solid					
Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual		
8260 MSV 5035 Low Level	Analytical Met	nod: EPA 8	260 Preparation Met	hod: EP/	A 5035/5030B					
o-Xylene	ND	ug/kg	5.3	1	04/16/16 11:00	04/16/16 14:07	95-47-6			
Toluene-d8 (S)	93	%.	70-123	1	04/16/16 11:00	04/16/16 14:07	2037-26-5			
4-Bromofluorobenzene (S)	99	%.	62-134	1	04/16/16 11:00	04/16/16 14:07	460-00-4			
Dibromofluoromethane (S)	104	%.	64-130	1	04/16/16 11:00	04/16/16 14:07	1868-53-7			
Sample: FB-041216	Lab ID: 203	5121008	Collected: 04/12/1	16 09:35	Received: 04	/13/16 13:30	/atrix: Water			
Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual		
8021 GCV BTEX, MTBE, GRO	Analytical Meth	nod: EPA 8	015/8021							
Gasoline Range Organics <i>Surrogates</i>	ND	ug/L	50.0	1		04/15/16 18:32				
4-Bromofluorobenzene (S)	103	%.	44-148	1		04/15/16 18:32	460-00-4			
8260 MSV	Analytical Mether	nod: EPA 8	260							
Benzene	ND	ug/L	5.0	1		04/15/16 11:58	71-43-2			
Ethanol	ND	ug/L	500	1		04/15/16 11:58	64-17-5			
Ethylbenzene	ND	ug/L	5.0	1		04/15/16 11:58	100-41-4			
Methyl-tert-butyl ether	ND	ug/L	5.0	1		04/15/16 11:58	1634-04-4			
Toluene	ND	ug/L	5.0	1		04/15/16 11:58	108-88-3			
m&p-Xylene	ND	ug/L	10.0	1		04/15/16 11:58	179601-23-1			
o-Xylene	ND	ug/L	5.0	1		04/15/16 11:58	95-47-6			
Surrogates										
Toluene-d8 (S)	99	%.	70-123	1		04/15/16 11:58	2037-26-5			
4-Bromofluorobenzene (S)	96	%.	62-134	1		04/15/16 11:58	460-00-4			
Dibromofluoromethane (S)	105	%.	64-130	1		04/15/16 11:58	1868-53-7			
Sample: EB-041316	Lab ID: 203	5121009	Collected: 04/13/1	16 10:15	Received: 04	/13/16 13:30	/atrix: Water			
Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual		
8015M DRO/ORO Organics	Analytical Met	nod: EPA 8	015B Modified Prepa	aration M	ethod: EPA 3535	5	_			
Diagol Bongo Organia (C10, C29)		.ug/l	250	1	04/10/16 00.50	04/22/16 10:27		12		
Oil Range Organics (>C28-C40)	ND	ug/L ug/L	250 500	1	04/18/16 08:52	04/22/16 19:37		LJ		
Surrogates	27	0/	10 107	1	04/10/16 00.50	04/00/46 40:07	620.00.2			
n-Pentacosane (S)	37	%. 0/	10-137	1	04/18/16 08:52	04/22/16 19:37	029-99-2			
	40 Apolytical Mot	70.	10-121	I	04/10/10 00.32	04/22/10 19.37	64-15-1			
OUZI GOV DIEA, MIDE, GRU	Analytical Meth	IUU. EFA O	015/0021							
Gasoline Range Organics <i>Surrogates</i>	ND	ug/L	50.0	1		04/15/16 18:59				
4-Bromofluorobenzene (S)	104	%.	44-148	1		04/15/16 18:59	460-00-4			

# **REPORT OF LABORATORY ANALYSIS**



### Project: RCRA RFI-USEPA

Pace Project No.: 2035121

Sample: EB-041316	Lab ID: 2035121009		Collected: 04/13/	Collected: 04/13/16 10:15		Received: 04/13/16 13:30 Matrix: Water		
Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
8260 MSV	Analytical Meth	nod: EPA 82	260					
Benzene	ND	ug/L	5.0	1		04/15/16 12:15	71-43-2	
Ethanol	ND	ug/L	500	1		04/15/16 12:15	64-17-5	
Ethylbenzene	ND	ug/L	5.0	1		04/15/16 12:15	100-41-4	
Methyl-tert-butyl ether	ND	ug/L	5.0	1		04/15/16 12:15	1634-04-4	
Toluene	ND	ug/L	5.0	1		04/15/16 12:15	108-88-3	
m&p-Xylene	ND	ug/L	10.0	1		04/15/16 12:15	179601-23-1	
o-Xylene	ND	ug/L	5.0	1		04/15/16 12:15	95-47-6	
Surrogates		Ū						
Toluene-d8 (S)	99	%.	70-123	1		04/15/16 12:15	2037-26-5	
4-Bromofluorobenzene (S)	97	%.	62-134	1		04/15/16 12:15	460-00-4	
Dibromofluoromethane (S)	107	%.	64-130	1		04/15/16 12:15	1868-53-7	
Sample: FB-041316	Lab ID: 203	5121010	Collected: 04/13/	16 11:30	Received: 04	/13/16 13:30 N	Aatrix: Water	
Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
8021 GCV BTEX. MTBE. GRO	Analytical Meth	nod: EPA 8			<u>.                                     </u>			
···· · · · · · · · · · · · · · · · · ·	· ····,							
Gasoline Range Organics	ND	ug/L	50.0	1		04/15/16 21:40		
Surrogates	100	0/					400.00.4	
4-Bromofluorobenzene (S)	106	%.	44-148	1		04/15/16 21:40	460-00-4	
8260 MSV	Analytical Meth	nod: EPA 82	260					
Benzene	ND	ug/L	5.0	1		04/15/16 12:32	71-43-2	
Ethanol	ND	ug/L	500	1		04/15/16 12:32	64-17-5	
Ethylbenzene	ND	ug/L	5.0	1		04/15/16 12:32	100-41-4	
Methyl-tert-butyl ether	ND	ug/L	5.0	1		04/15/16 12:32	1634-04-4	
Toluene	ND	ug/L	5.0	1		04/15/16 12:32	108-88-3	
m&p-Xylene	ND	ug/L	10.0	1		04/15/16 12:32	179601-23-1	
o-Xylene	ND	ug/L	5.0	1		04/15/16 12:32	95-47-6	
Surrogates		Ū						
Toluene-d8 (S)	99	%.	70-123	1		04/15/16 12:32	2037-26-5	
4-Bromofluorobenzene (S)	95	%.	62-134	1		04/15/16 12:32	460-00-4	
Dibromofluoromethane (S)	107	%.	64-130	1		04/15/16 12:32	1868-53-7	
Sample: FOL-1-16	Lab ID: 203	5121011	Collected: 04/13/	16 10:37	Received: 04	/13/16 13:30 N	latrix: Solid	
Results reported on a "wet-weight"	" basis							
Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
8015M DRO/ORO Organics	Analytical Meth	nod: EPA 80	015B Modified Prepa	aration M	ethod: EPA 3546	;		
Diosol Bango Organia (C10 C28)	11500		0140	1	04/21/16 11-25	04/21/16 10:07		
Oil Range Organics (>C28-C40) Surrogates	ND	ug/kg	45700	1	04/21/16 11:25	04/21/16 19:07		

# **REPORT OF LABORATORY ANALYSIS**

o-Terphenyl (S)

n-Pentacosane (S)



Project: RCRA RFI-USEPA

Pace Project No.: 2035121

Sample: FOL-1-16	Lab ID: 203	5121011	Collected: 04/13/1	6 10:37	Received: 04	/13/16 13:30 N	latrix: Solid	
Results reported on a "wet-weight" b	asis							
Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
8021 GCV BTEX, MTBE, GRO Med L	Analytical Meth	nod: EPA 80	015/8021 Preparatior	n Metho	d: EPA 5035A/50	30B		
Gasoline Range Organics	19200	ug/kg	2330	1	04/18/16 09:00	04/18/16 17:35		
4-Bromofluorobenzene (S)	119	%.	44-148	1	04/18/16 09:00	04/18/16 17:35	460-00-4	
8260 MSV 5035 Low Level	Analytical Mether	nod: EPA 82	260 Preparation Meth	nod: EP/	A 5035/5030B			
Benzene	ND	ug/kg	5.6	1	04/16/16 11:00	04/16/16 14:24	71-43-2	
Ethanol	ND	ug/kg	556	1	04/16/16 11:00	04/16/16 14:24	64-17-5	
Ethylbenzene	ND	ug/kg	5.6	1	04/16/16 11:00	04/16/16 14:24	100-41-4	
Methyl-tert-butyl ether	ND	ug/kg	5.6	1	04/16/16 11:00	04/16/16 14:24	1634-04-4	
Toluene	ND	ua/ka	56	1	04/16/16 11.00	04/16/16 14.24	108-88-3	
m&n-Xylene	ND	ua/ka	11 1	1	04/16/16 11:00	04/16/16 14:24	179601-23-1	
o-Xylene		ug/kg	56	1	04/16/16 11:00	04/16/16 14:24	95-47-6	
Surrogates	ND	uy/ky	5.0	1	04/10/10 11:00	04/10/10 14.24	93-47-0	
Toluene_d8 (S)	07	0/2	70-123	1	04/16/16 11:00	04/16/16 14:24	2037-26-5	
1 Bromofluorohonzono (C)	57	70. 0/	60 124	1	04/10/10 11:00	04/10/10 14.24	2007-20-0	
4-biomoliuorobenzene (S)	99	70. 0/	02-134	1	04/16/16 11.00	04/10/10 14.24	400-00-4	
Distribution of the trainer (S)	104	70.	64-130	I	04/10/10 11.00	04/10/10 14.24	1000-33-7	
Sample: FOL-2-16	Lab ID: 203	5121012	Collected: 04/13/1	6 11:15	Received: 04	/13/16 13:30 N	latrix: Solid	
Results reported on a "wet-weight" b	asis							
Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
8015M DRO/ORO Organics	Analytical Mether	nod: EPA 80	)15B Modified Prepa	ration N	lethod: EPA 3546	i		
Diesel Range Organic (C10-C28)	ND	ua/ka	9640	1	04/21/16 11.25	04/21/16 17:43		
Oil Pango Organics (>C28 C40)	ND	ug/kg	48200	1	04/21/16 11:25	04/21/16 17:43		
Surragatas	ND	uy/ky	40200		04/21/10 11.25	04/21/10 17.43		
a Torphonyl (S)	74	0/_	16 107	1	04/21/16 11:25	04/21/16 17:43	8/ 15 1	
n Dentesesene (C)	74	/0.	10-127	1	04/21/10 11.25	04/21/10 17.43	620.00.2	
n-Pentacosane (S)	12	%.	10-147	1	04/21/16 11:25	04/21/16 17:43	629-99-2	
8021 GCV BTEX, MTBE, GRO Med L	Analytical Mether	nod: EPA 80	015/8021 Preparation	n Metho	d: EPA 5035A/50	30B		
Gasoline Range Organics Surrogates	22200	ug/kg	2360	1	04/18/16 09:00	04/18/16 18:03		
4-Bromofluorobenzene (S)	122	%.	44-148	1	04/18/16 09:00	04/18/16 18:03	460-00-4	
8260 MSV 5035 Low Level	Analytical Mether	nod: EPA 82	260 Preparation Meth	nod: EP/	A 5035/5030B			
Benzene	ND	ug/kg	5.4	1	04/16/16 11:00	04/16/16 14:41	71-43-2	
Ethanol	ND	ug/kg	540	1	04/16/16 11:00	04/16/16 14:41	64-17-5	
Ethylbenzene	ND	ua/ka	5.4	1	04/16/16 11:00	04/16/16 14:41	100-41-4	
Methyl-tert-butyl ether	ND	ua/ka	54	1	04/16/16 11.00	04/16/16 14 41	1634-04-4	
Toluene		<u>a</u> ,a	5.4 5.1	1	04/16/16 11:00	04/16/16 14.41	108-88-3	
m&n_Yvlene		ug/kg	0.4 10 0	1	04/16/16 11:00	04/16/16 14.41	170601 22 1	
		ug/kg	10.0	1		04/10/10 14.41	05 47 0	
	ND	ug/kg	5.4	Т	04/10/16 11:00	04/10/10 14:41	90-47-0	
John Jacks	05	0/	70 400	1	01/16/16 11.00	04/16/16 14.44	2027 26 F	
1 Dramafluarek anziera (O)	90	70.	70-123	1		04/10/10 14.41	2031-20-3	
4-Bromotiuoropenzene (S)	97	%.	62-134	1	04/16/16 11:00	04/16/16 14:41	460-00-4	

# **REPORT OF LABORATORY ANALYSIS**



Project: RCRA RFI-USEPA

Pace Project No.: 2035121

Sample: FOL-2-16	Lab ID:	2035121012	Collected: 04/13/2	16 11:15	Received: 04	/13/16 13:30	Matrix: Solid				
esults reported on a "wet-weight" basis											
Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual			
8260 MSV 5035 Low Level       Analytical Method: EPA 8260 Preparation Method: EPA 5035/5030B											
<i>Surrogates</i> Dibromofluoromethane (S)	10	6 %.	64-130	1	04/16/16 11:00	04/16/16 14:41	1868-53-7				



Project:	RCRA RFI	-USEPA											
Pace Project No.:	2035121												
QC Batch:	GCV/274	0		Analys	is Method	: E	EPA 8015/802	21					
QC Batch Method:	EPA 503	5A/5030B		Analys	is Descrip	tion: 8	8021 BTEX, N	MTBE, GR	O Medium	Level Soi	l		
Associated Lab Sam	ples: 20	35121002,	2035121003, 2	035121007	, 2035121	011, 20351	21012						
METHOD BLANK:	216404			N	latrix: Sol	id							
Associated Lab Sam	ples: 20	35121002,	2035121003, 2	035121007	, 2035121	011, 20351	121012						
				Blank	R	leporting							
Param	neter		Units	Result	t	Limit	Analyz	ed	Qualifiers				
Gasoline Range Org	anics		ug/kg		ND	2500	0 04/18/16	11:16					
4-Bromofluorobenze	ne (S)		%.		100	44-148	3 04/18/16	11:16					
			6405										
LABORATORT CON	ITRUL SAN	NFLE. 21	0405	Spike	LCS	3	LCS	% Re	c.				
Param	neter		Units	Conc.	Resu	ult	% Rec	Limits	s Qi	ualifiers			
Gasoline Range Org	anics		ug/kg	25000		20100	80	6	1-136		-		
4-Bromofluorobenze	ne (S)		%.				105	44	1-148				
MATRIX SPIKE & M			ATE 216406	3		216407							
				MS	MSD	210101							
			2034871003	Spike	Spike	MS	MSD	MS	MSD	% Rec		Max	
Parameter	r	Units	Result	Conc.	Conc.	Result	Result	% Rec	% Rec	Limits	RPD	RPD	Qual
Gasoline Range Org	anics	ug/kg	ND	23900	24600	19300	19400	76	75	15-147	0	20	
4-Bromofluorobenze	ne (S)	%.						102	103	44-148			

Results presented on this page are in the units indicated by the "Units" column except where an alternate unit is presented to the right of the result.



Project:	RCRA RFI-USEP	A							
Pace Project No.:	2035121								
QC Batch:	GCV/2743		Analysis N	Method:	EP	A 8015/8021			
QC Batch Method:	EPA 8015/8021		Analysis D	Description:	80	21 W GCV B	TEX , MTBE,	GRO	
Associated Lab Sar	mples: 20351210	01, 2035121004, 2	2035121005, 20	)35121006, 2	03512	1008, 20351	21009, 20351	21010	
METHOD BLANK:	216710		Matr	rix: Water					
Associated Lab Sar	nples: 20351210	01, 2035121004, 2	2035121005, 20	035121006, 2	03512	1008, 20351	21009, 20351	21010	
			Blank	Reporti	ng				
Parar	neter	Units	Result	Limit		Analyzeo	d Qua	ifiers	
Gasoline Range Or	ganics	ug/L	N	ID	50.0	04/15/16 10	):26		
4-Bromofluorobenz	ene (S)	%.	10	)2 44	1-148	04/15/16 10	):26		
LABORATORY CO	NTROL SAMPLE:	216711							
			Spike	LCS		LCS	% Rec		
Parar	neter	Units	Conc.	Result	9	% Rec	Limits	Qualifiers	
Gasoline Range Or	ganics	ug/L	500	448		90	61-136		
4-Bromofluorobenz	ene (S)	%.				106	44-148		

Results presented on this page are in the units indicated by the "Units" column except where an alternate unit is presented to the right of the result.

# **REPORT OF LABORATORY ANALYSIS**



Project: RCRA RFI-USEPA

Pace Project No.: 2035121

QC Batch:	MSV/4736	
QC Batch Method:	EPA 5035/5030E	3
Associated Lab Sam	ples: 20351210	)(

 I736
 Analysis Method:
 EPA 8260

 035/5030B
 Analysis Description:
 8260 MSV 5035 Low Level

 2035121002, 2035121003, 2035121007, 2035121011, 2035121012
 2035121012

METHOD BLANK: 217031 Matrix: Solid

Associated Lab Samples: 2035121002, 2035121003, 2035121007, 2035121011, 2035121012

	Blank	Reporting		
Units	Result	Limit	Analyzed	Qualifiers
ug/kg	ND	5.0	04/16/16 12:08	
ug/kg	ND	500	04/16/16 12:08	
ug/kg	ND	5.0	04/16/16 12:08	
ug/kg	ND	10.0	04/16/16 12:08	
ug/kg	ND	5.0	04/16/16 12:08	
ug/kg	ND	5.0	04/16/16 12:08	
ug/kg	ND	5.0	04/16/16 12:08	
%.	95	62-134	04/16/16 12:08	
%.	105	64-130	04/16/16 12:08	
%.	98	70-123	04/16/16 12:08	
	Units ug/kg ug/kg ug/kg ug/kg ug/kg ug/kg ug/kg %. %. %.	BlankUnitsResultug/kgNDug/kgNDug/kgNDug/kgNDug/kgNDug/kgNDug/kgNDug/kgNDug/kgNDug/kgNDug/kgNDug/kgNDug/kgNDug/kgNDug/kgND%.95%.98	Blank         Reporting           Units         Result         Limit           ug/kg         ND         5.0           ug/kg         ND         500           ug/kg         ND         500           ug/kg         ND         5.0           %.         95         62-134           %.         105         64-130           %.         98         70-123	Units         Result         Limit         Analyzed           ug/kg         ND         5.0         04/16/16 12:08           ug/kg         ND         500         04/16/16 12:08           ug/kg         ND         5.0         04/16/16 12:08           %.         95         62-134         04/16/16 12:08           %.         105         64-130         04/16/16 12:08           %.         98         70-123         04/16/16 12:08

### LABORATORY CONTROL SAMPLE: 217032

	Spike	LCS	LCS	% Rec	
Parameter Units	Conc.	Result	% Rec	Limits	Qualifiers
Benzene ug/kg	50	50.5	101	68-129	
Ethylbenzene ug/kg	50	49.1	98	73-129	
m&p-Xylene ug/kg	100	98.5	98	71-132	
Methyl-tert-butyl ether ug/kg	50	49.8	100	51-155	
o-Xylene ug/kg	50	50.1	100	69-129	
Toluene ug/kg	50	48.4	97	70-130	
4-Bromofluorobenzene (S) %.			99	62-134	
Dibromofluoromethane (S) %.			100	64-130	
Toluene-d8 (S) %.			98	70-123	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 217033 217034												
			MS	MSD								
		2035121002	Spike	Spike	MS	MSD	MS	MSD	% Rec		Max	
Parameter	Units	Result	Conc.	Conc.	Result	Result	% Rec	% Rec	Limits	RPD	RPD	Qual
Benzene	ug/kg	ND	49.6	51.4	44.1	44.2	88	85	60-138	0	20	
Ethylbenzene	ug/kg	ND	49.6	51.4	31.3	30.2	55	51	66-136	3	20	M1
m&p-Xylene	ug/kg	13.1	99.2	103	64.5	60.6	52	46	64-138	6	20	M1
Methyl-tert-butyl ether	ug/kg	ND	49.6	51.4	41.6	40.8	79	74	48-164	2	20	
o-Xylene	ug/kg	7.5	49.6	51.4	31.3	29.2	48	42	63-136	7	20	M1
Toluene	ug/kg	ND	49.6	51.4	36.9	36.2	70	66	62-137	2	20	
4-Bromofluorobenzene (S)	%.						129	142	62-134			S0
Dibromofluoromethane (S)	%.						101	104	64-130			
Toluene-d8 (S)	%.						108	109	70-123			

Results presented on this page are in the units indicated by the "Units" column except where an alternate unit is presented to the right of the result.

# **REPORT OF LABORATORY ANALYSIS**



Project: RCRA RFI-USEPA

Pace Project No.: 2035121

QC Batch:	MSV/	4725	Analysis Method:	EPA 8260
QC Batch Method:	EPA 8	3260	Analysis Description:	8260 MSV
Associated Lab Samples: 2035121001, 2035121004			121005, 2035121006, 2035	5121008, 2035121009, 2035121010

 METHOD BLANK:
 216629
 Matrix:
 Water

 Associated Lab Samples:
 2035121001, 2035121004, 2035121005, 2035121006, 2035121009, 2035121009, 2035121010
 Reput

		Blank	Reporting			
Parameter	Units	Result	Limit	Analyzed	Qualifiers	
Benzene	ug/L	ND	5.0	04/15/16 10:15		
Ethanol	ug/L	ND	500	04/15/16 10:15		
Ethylbenzene	ug/L	ND	5.0	04/15/16 10:15		
m&p-Xylene	ug/L	ND	10.0	04/15/16 10:15		
Methyl-tert-butyl ether	ug/L	ND	5.0	04/15/16 10:15		
o-Xylene	ug/L	ND	5.0	04/15/16 10:15		
Toluene	ug/L	ND	5.0	04/15/16 10:15		
4-Bromofluorobenzene (S)	%.	96	62-134	04/15/16 10:15		
Dibromofluoromethane (S)	%.	107	64-130	04/15/16 10:15		
Toluene-d8 (S)	%.	99	70-123	04/15/16 10:15		

### LABORATORY CONTROL SAMPLE: 216630

		Spike	LCS	LCS	% Rec	
Parameter	Units	Conc.	Result	% Rec	Limits	Qualifiers
Benzene	ug/L	50	48.8	98	68-129	
Ethylbenzene	ug/L	50	47.0	94	73-129	
m&p-Xylene	ug/L	100	95.1	95	71-132	
Methyl-tert-butyl ether	ug/L	50	47.6	95	51-155	
o-Xylene	ug/L	50	48.6	97	69-129	
Toluene	ug/L	50	46.3	93	70-130	
4-Bromofluorobenzene (S)	%.			99	62-134	
Dibromofluoromethane (S)	%.			98	64-130	
Toluene-d8 (S)	%.			97	70-123	

Results presented on this page are in the units indicated by the "Units" column except where an alternate unit is presented to the right of the result.

### **REPORT OF LABORATORY ANALYSIS**



Analysis Method:

Project: RCRA RFI-USEPA

Pace Project No.: 2035121

QC Batch:	OEX	T/8727
QC Batch Method:	EPA	3546
Associated Lab Sam	ples.	2035121002

 546
 Analysis Description:
 EPA 8015 ORO

 2035121002, 2035121003, 2035121007, 2035121011, 2035121012

EPA 8015B Modified

METHOD BLANK: 21835	9		Matrix: Solid						
Associated Lab Samples:	2035121002,	2035121003,	2035121007,	2035121011	2035121012				
			<b>D</b> 1 1	-					

Parameter	Units	Result	Limit	Analyzed	Qualifiers
Diesel Range Organic (C10-C28)	ug/kg	ND	10000	04/21/16 14:56	
Oil Range Organics (>C28-C40)	ug/kg	ND	50000	04/21/16 14:56	
n-Pentacosane (S)	%.	74	16-147	04/21/16 14:56	
o-Terphenyl (S)	%.	73	16-127	04/21/16 14:56	

LABORATORY CONTROL SAMPLE:	218360	
		Spike

Description	1.1 14	Spike	LCS	LCS	% Rec	Qualifian
Parameter	Units	Conc.	Result	% Rec	Limits	Qualifiers
Diesel Range Organic (C10-C28)	ug/kg	40000	29900	75	34-125	
n-Pentacosane (S)	%.			78	16-147	
o-Terphenyl (S)	%.			83	16-127	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 218361 218362												
Decomptor	Linita	2035121002	MS Spike	MSD Spike	MS	MSD	MS	MSD	% Rec		Max	Qual
Parameter	Units	Result	Conc.	Conc.	Result	Result	% Rec	% Rec	Limits	RPD	RPD	Quai
Diesel Range Organic (C10- C28)	ug/kg	3240000	39600	39300	2880000	2790000	-896	-1130	10-163	3	20	
n-Pentacosane (S)	%.						786	399	16-147			S5
o-Terphenyl (S)	%.						881	681	16-127			S5

Results presented on this page are in the units indicated by the "Units" column except where an alternate unit is presented to the right of the result.



Project: RCRA RFI-USEPA

Pace Project No.: 2035121

QC Batch: OEXT/8686		Analysis Method:		EPA 8015B Mo	odified		
QC Batch Method: EPA 3535		Analysis D	escription:	EPA 8015 OR0	C		
Associated Lab Samples: 2035121	001, 2035121006, 20	35121009					
METHOD BLANK: 217089		Matri	x: Water				
Associated Lab Samples: 2035121	001, 2035121006, 20	35121009					
		Blank	Reporting	I			
Parameter	Units	Result	Limit	Analyze	ed Qu	ualifiers	
Diesel Range Organic (C10-C28)	ug/L	N	) 2	250 04/22/16 1	7:45		
Oil Range Organics (>C28-C40)	ug/L	N	) 5	500 04/22/16 1	7:45		
n-Pentacosane (S)	%.	63	2 16-1	37 04/22/16 1	7:45		
o-Terphenyl (S)	%.	7:	3 10-1	121 04/22/16 1	7:45		
LABORATORY CONTROL SAMPLE:	217090						
		Spike	LCS	LCS	% Rec		
Parameter	Units	Conc.	Result	% Rec	Limits	Qualifiers	
Diesel Range Organic (C10-C28)	ug/L	400	840	210	10-11	15 L0	
n-Pentacosane (S)	%.			64	16-13	37	
o-Terphenyl (S)	%.			86	10-12	21	

Results presented on this page are in the units indicated by the "Units" column except where an alternate unit is presented to the right of the result.



## QUALIFIERS

### Project: RCRA RFI-USEPA

Pace Project No.: 2035121

### DEFINITIONS

DF - Dilution Factor, if reported, represents the factor applied to the reported data due to dilution of the sample aliquot.

ND - Not Detected at or above adjusted reporting limit.

J - Estimated concentration above the adjusted method detection limit and below the adjusted reporting limit.

MDL - Adjusted Method Detection Limit.

PQL - Practical Quantitation Limit.

RL - Reporting Limit.

S - Surrogate

1,2-Diphenylhydrazine decomposes to and cannot be separated from Azobenzene using Method 8270. The result for each analyte is a combined concentration.

Consistent with EPA guidelines, unrounded data are displayed and have been used to calculate % recovery and RPD values.

LCS(D) - Laboratory Control Sample (Duplicate)

MS(D) - Matrix Spike (Duplicate)

**DUP - Sample Duplicate** 

**RPD** - Relative Percent Difference

NC - Not Calculable

SG - Silica Gel - Clean-Up

U - Indicates the compound was analyzed for, but not detected.

N-Nitrosodiphenylamine decomposes and cannot be separated from Diphenylamine using Method 8270. The result reported for each analyte is a combined concentration.

Pace Analytical is TNI accredited. Contact your Pace PM for the current list of accredited analytes.

TNI - The Nelac Institute

### LABORATORIES

PASI-N Pace Analytical Services - New Orleans

### **BATCH QUALIFIERS**

Batch: MSV/4725

[M5] A matrix spike/matrix spike duplicate was not performed for this batch due to insufficient sample volume.

Batch: GCV/2743

[M5] A matrix spike/matrix spike duplicate was not performed for this batch due to insufficient sample volume.

Batch: GCSV/6291

- [M5] A matrix spike/matrix spike duplicate was not performed for this batch due to insufficient sample volume.
- [1] The LCS yielded elevated recovery due to a large non-diesel peak that eluted in the diesel range. There were no hits in any of the associated samples, nor was this peak present in any of the other runs. The LCS recovery for diesel fell within the acceptance range, with the area contributed by the contaminant eliminated from the calculation. The results were therefore accepted without further corrective action.

### ANALYTE QUALIFIERS

- D4 Sample was diluted due to the presence of high levels of target analytes.
- L0 Analyte recovery in the laboratory control sample (LCS) was outside QC limits.
- L3 Analyte recovery in the laboratory control sample (LCS) exceeded QC limits. Analyte presence below reporting limits in associated samples. Results unaffected by high bias.
- M1 Matrix spike recovery exceeded QC limits. Batch accepted based on laboratory control sample (LCS) recovery.
- S0 Surrogate recovery outside laboratory control limits.
- S2 Surrogate recovery outside laboratory control limits due to matrix interferences (confirmed by similar results from sample re-analysis).



# QUALIFIERS

Project: RCRA RFI-USEPA Pace Project No.: 2035121

## ANALYTE QUALIFIERS

S5

Surrogate recovery outside control limits due to matrix interferences (not confirmed by re-analysis).



# QUALITY CONTROL DATA CROSS REFERENCE TABLE

Project:	RCRA RFI-USEPA
Pace Project No.:	2035121

Lab ID	Sample ID	QC Batch Method	QC Batch	Analytical Method	Analytical Batch
2035121002	WWTP-SB-1-2-3	EPA 3546	OEXT/8727	EPA 8015B Modified	GCSV/6303
2035121003	DUP 1	EPA 3546	OEXT/8727	EPA 8015B Modified	GCSV/6303
2035121007	WWTP-SB-2-4-5	EPA 3546	OEXT/8727	EPA 8015B Modified	GCSV/6303
2035121011	FOL-1-16	EPA 3546	OEXT/8727	EPA 8015B Modified	GCSV/6303
2035121012	FOL-2-16	EPA 3546	OEXT/8727	EPA 8015B Modified	GCSV/6303
2035121001	EB-041116	EPA 3535	OEXT/8686	EPA 8015B Modified	GCSV/6291
2035121006	EB-041216	EPA 3535	OEXT/8686	EPA 8015B Modified	GCSV/6291
2035121009	EB-041316	EPA 3535	OEXT/8686	EPA 8015B Modified	GCSV/6291
2035121002	WWTP-SB-1-2-3	EPA 5035A/5030B	GCV/2740	EPA 8015/8021	GCV/2748
2035121003	DUP 1	EPA 5035A/5030B	GCV/2740	EPA 8015/8021	GCV/2748
2035121007	WWTP-SB-2-4-5	EPA 5035A/5030B	GCV/2740	EPA 8015/8021	GCV/2748
2035121011	FOL-1-16	EPA 5035A/5030B	GCV/2740	EPA 8015/8021	GCV/2748
2035121012	FOL-2-16	EPA 5035A/5030B	GCV/2740	EPA 8015/8021	GCV/2748
2035121001	EB-041116	EPA 8015/8021	GCV/2743		
2035121004	FB-041116	EPA 8015/8021	GCV/2743		
2035121005	TB041116	EPA 8015/8021	GCV/2743		
2035121006	EB-041216	EPA 8015/8021	GCV/2743		
2035121008	FB-041216	EPA 8015/8021	GCV/2743		
2035121009	EB-041316	EPA 8015/8021	GCV/2743		
2035121010	FB-041316	EPA 8015/8021	GCV/2743		
2035121002	WWTP-SB-1-2-3	EPA 5035/5030B	MSV/4736	EPA 8260	MSV/4737
2035121003	DUP 1	EPA 5035/5030B	MSV/4736	EPA 8260	MSV/4737
2035121007	WWTP-SB-2-4-5	EPA 5035/5030B	MSV/4736	EPA 8260	MSV/4737
2035121011	FOL-1-16	EPA 5035/5030B	MSV/4736	EPA 8260	MSV/4737
2035121012	FOL-2-16	EPA 5035/5030B	MSV/4736	EPA 8260	MSV/4737
2035121001	EB-041116	EPA 8260	MSV/4725		
2035121004	FB-041116	EPA 8260	MSV/4725		
2035121005	TB041116	EPA 8260	MSV/4725		
2035121006	EB-041216	EPA 8260	MSV/4725		
2035121008	FB-041216	EPA 8260	MSV/4725		
2035121009	EB-041316	EPA 8260	MSV/4725		
2035121010	FB-041316	EPA 8260	MSV/4725		

	WO#:	2035121	HAIN-OF-CUS Chain-of-Custody is a LE	TODY / Analytical EGAL DOCUMENT. All relevant fie	Request Do	cument i accurately.		
	Section A 2035 121		Se	ection C		Pa	ge: 1	of
	Required Client Information:	Report To: TZL - C	Att	voice Information:			196	8673
	Andress	COPY TOZ AD	<u>el al un ca</u>	ompany Name:			Y	
	Can 105 Um 1-2.191	layable	Ac	ddress:		NPDES GRO		DRINKING WATER
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	Frain-Culdern & article	Project Name: DCOM DC	Re T LISTIDO Pa	eference: ace Project		Site Location Town	pal Dim	$\overline{\boldsymbol{\mathcal{L}}}$
7		Project Number:	$\frac{L - U_{3}BH_{+}}{P^{2}}$	anager: ace Profile #: ///// 8		STATE: P-1	2.	
	Requested Due Date/TAT:	19/12/031	<u> </u>	4990	Requested	Analysis Filtered (Y/N)		
	<u> </u>		<u> </u>		7			nian na shina da sa sa
	Required Client Information MAT	ITIX Codes	DLLECTED	Preservatives	1/A			
	Drinking Water	Water DW 8 0						$\overline{\boldsymbol{\lambda}}$
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F-ALL-Q-020rev.07, 15-May-2007

	Sample Con	dition	Upon Receipt	WO#: 2035121
Urb. Jardines de Guay Calle Mrginal Blq A-10 Guaynabo, PR 00969	(nabo ) )	0		CLIENT: 98-ARCADISPR
Courier:  Pace Courier  Hired Courier	ier 🗆 Fed X		S 🗆 DHL	USPS Customer DOther
Custody Seal on Cooler/Box Present: [s	ee COC]			Custody Seals intact: □Yes □No
Therometer Used: Cooler Temperature: [see COC]	<b>Type of Ice</b> Temp should be a		Blue None Blue None	Samples on ice: [see COC] Date and Initials of person examining contents:
Temp must be measured from Temperature blank wh	nen present		Comments:	
Temperature Blank Present"?		□N/A	1	/
Chain of Custody Present:		□n/a	2	
Chain of Custody Complete:		□n/A	3	
Chain of Custody Relinquished:		⊡n/A	4	
Sampler Name & Signature on COC:	Pres DNo	□n/A	5	
Samples Arrived within Hold Time:		⊡n/A	6	
Sufficient Volume:		□n⁄a	7	
Correct Containers Used:	PYes DNo		8	
Filtered vol. Rec. for Diss. tests	□Yes □No		9	·····
Sample Labels match COC:		□n/A	10	
All containers received within manafacture's precautionary and/or expiration dates.		□n/a	11	
All containers needing chemical preservation haben checked (except VOA, coliform, & O&G).	ave ⊡Yes ∐No		12	
All containers preservation checked found to b compliance with EPA recommendation.	e in ⊡Yes ⊡No		If No, was p 13 If added rec	reserative added?     □Yes   □No ord lot no.:  HNO3 H2SO4
Headspace in VOA Vials ( >6mm):	□Yes □No		14	
Trip Blank Present:			15	

# Client Notification/ Resolution:

Person Contacted:

•

Comments/ Resolution:

Date/Time: \_\_\_\_\_

Sample Condition Upon Rec	ceipt
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Pace Ana	<i>ilytical</i> <sup>*</sup>	1000 Riverbend. Bivd., S St. Rose, LA 70087	suite F			Pro	ject #:	20		
Courier:	Pace Courier	Hired Courier	r 🖌 Fe	d X		rs 🗆	DHL		Customer	Other
Custody Seal or	1 Cooler/Box Pr	resent: [se	e COC]	-	·			Custody	Seals intact:	Yes ⊡No
Therometer Used:	□ Therm Fis □ Therm Fis □ Therm Fis	sher IR 5 sher IR 6 sher IR 7	Туре	of Ice:		let Blue	None	Sam	ples on ice: [see	COC]
Cooler Temp	erature: [see C	:OC] Te	emp shoul	ld be a	ibove fi	reezing to 6	°C	Date and In contents:	itials of person ex	amining
Temp must be me	asured from Ten	nperature blank whe	n present			Comments	5.			<u> </u>
Temperature Bla	ank Present"?		□Yes	□No		1				•
Chain of Custod	y Present:		TYes	No	□n/A	2		. <u></u>		
Chain of Custod	y Complete:		Yes	□No	⊡n/A	3				
Chain of Custod	y Relinquished		<b>⊿</b> Yes	□No	□n/A	4				
Sampler Name	& Signature on	COC:	Yes	□No	⊡n/A	5				
Samples Arrived	l within Hold Ti	me:	Yes	□No	□n/A	6				
Sufficient Volum	e'		Z Yes	□No	□n/a	7				
Correct Contain	ers Used		Yes	□No	□n/A	8				
Filtered vol. Rec	for Diss tests	• • • • • • • • • • • • • • • • • • •	 □Yes			9			- h · ' · · · · · · · · · · · · · · · · ·	
Sample Labels	match $COC$	·	Yes		 N/A	10				
All containers re precautionary ar	ceived within n	nanafacture's dates.	ZYes			11				
All containers ne been checked (e	eeding chemica except VOA, co	l preservation hav	/ê □Yes	□No		12				
All containers pr compliance with	eservation che EPA recomme	cked found to be endation.	in ⊡Yes	No		lf 13 <sup>lf</sup>	No, was p added rec	reserative ac	dded? □Yes □N HNO3 H	lo 2SO4
Headspace in V	OA Vials ( >6m	ım):	□Yes	<b>N</b> N0	□n/A	14				
Trip Blank Prese	ent:		Yes	□No		15			<u> </u>	
Client Notificat	ion/ Resolutio	on:								
Person Contacte	ed:							Date	e/Time:	
Comments/ Res	olution:								<u> </u>	•
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# SAMPLE ACKNOWLEDGMENT

Samples Submitted By:	BBL Caribe / Arcadis PR	Pace Project Manager:	Juan Redondo
Client Project ID:	PUMA TERMINAL MW SAMPLING		Phone (787)720-0319
Client PO#:	None	Pace Analytical Project ID:	2038768
		Samples Received:	June 24, 2016 02:21 PM
		Estimated Completion:	July 11, 2016

CC: Abner Hernandez, Efrain Calderon, Marianela Mercado-Burgos, Sharon Colon

Customer Sample ID	Pace Analytical Lab ID	Matrix	Date/Time Collected	Method
EB-062416	2038768001	Water	06/24/16 07:35	6020 ICPMS Metals Vanadium, Chromium, Arsenic, Lead 7470 Mercury 8015M DRO/ORO Organics 8021 GCV BTEX, MTBE, GRO 8260 MS Volatiles 8270 MSSV Semivolatile Organic Deliwarshia Besland L and 4
88A	2038768002	Water	06/24/16 09:00	6020 ICPMS Metals Vanadium, Chromium, Arsenic, Lead 7470 Mercury 8015M DRO/ORO Organics 8021 GCV BTEX, MTBE, GRO 8260 MS Volatiles 8270 MSSV Semivolatile Organic
18D	2038768003	Water	06/24/16 10:37	6020 ICPMS Metals Vanadium, Chromium, Arsenic, Lead 7470 Mercury 8015M DRO/ORO Organics 8021 GCV BTEX, MTBE, GRO 8260 MS Volatiles 8270 MSSV Semivolatile Organic
P-120	2038768004	Water	06/24/16 12:30	<ul> <li>6020 ICPMS Metals</li> <li>6020 ICPMS Metals</li> <li>Vanadium, Chromium, Arsenic, Lead</li> <li>7470 Mercury</li> <li>8015M DRO/ORO Organics</li> <li>8021 GCV BTEX, MTBE, GRO</li> <li>8260 MS Volatiles</li> <li>8270 MSSV Semivolatile Organic</li> </ul>
FB-062416	2038768005	Water	06/24/16 12:35	8021 GCV BTEX, MTBE, GRO 8260 MS Volatiles
EB-062316	2038768006	Water	06/23/16 12:00	6020 ICPMS Metals Vanadium, Chromium, Arsenic, Lead 7470 Mercury 8015M DRO/ORO Organics 8021 GCV BTEX, MTBE, GRO 8260 MS Volatiles 8270 MSSV Semivolatile Organic
98A	2038768007	Water	06/23/16 13:10	6020 ICPMS Metals Vanadium, Chromium, Arsenic, Lead 7470 Mercury 8015M DRO/ORO Organics 8021 GCV BTEX, MTBE, GRO 8260 MS Volatiles 8270 MSSV Semivolatile Organic

Please contact your project manager if you recognize any discrepancy in this form or have any questions about your project.



# SAMPLE ACKNOWLEDGMENT

Customer Sample ID	Pace Analytical Lab ID	Matrix	Date/Time Collected	Method
99A	2038768008	Water	06/23/16 14:32	6020 ICPMS Metals
				Vanadium, Chromium, Arsenic, Lead
				7470 Mercury
				8015M DRO/ORO Organics
				8021 GCV BTEX, MTBE, GRO
				8260 MS Volatiles
				8270 MSSV Semivolatile Organic
FB-062316	2038768009	Water	06/23/16 14:40	8021 GCV BTEX, MTBE, GRO
				8260 MS Volatiles
TRIP BLANK -062316	2038768010	Water	06/23/16 00:00	8021 GCV BTEX, MTBE, GRO
				8260 MS Volatiles
TRIP BLANK -062416	2038768011	Water	06/24/16 00:00	8021 GCV BTEX, MTBE, GRO
				8260 MS Volatiles

Please contact your project manager if you recognize any discrepancy in this form or have any questions about your project.



# SAMPLE ACKNOWLEDGMENT

# Analyte List

			Reporting			
Customer Sample ID	Method	Compound	Limit Units			
EB-062416	6020 MET ICPMS	Vanadium	0.005 mg/L			
		Chromium	0.001 mg/L			
		Arsenic	0.001 mg/L			
		Lead	0.001 mg/L			
	7470 Mercury	Mercury	0.2 ug/L			
	8015M DRO/ORO Organics	Oil Range Organics (>C28-C40)	0.5 mg/L			
	C	Diesel Range Organic (C10-C28)	0.25 mg/L			
	8021 GCV BTEX, MTBE, GRO	Gasoline Range Organics	50 ug/L			
	8260 MSV Low Level	Acetone	4 ug/L			
		Benzene	0.5 ug/L			
		Bromodichloromethane	0.5  ug/L			
		Bromoform	0.5  ug/L			
		Bromomethane	0.5 ug/L			
		2-Butanone (MEK)	2 ug/I			
		Carbon disulfide	2 ug/L			
		Carbon tetrachloride	0.5 µg/I			
		Chlorobanzana	0.5 ug/L			
		Chloroothono	0.5 ug/L			
		Chloroforma	0.5 ug/L			
		Chloremethere	0.5 ug/L			
			0.5 ug/L			
		1,2-Dibromo-3-chioropropane	2 ug/L			
		Dibromochloromethane	0.5 ug/L			
		1,2-Dibromoethane (EDB)	l ug/L			
		Dichlorodifluoromethane	1 ug/L			
		1,1-Dichloroethane	0.5 ug/L			
		1,2-Dichloroethane	0.5 ug/L			
		1,1-Dichloroethene	0.5 ug/L			
		cis-1,2-Dichloroethene	1 ug/L			
		trans-1,2-Dichloroethene	0.5 ug/L			
		1,2-Dichloropropane	0.5 ug/L			
		cis-1,3-Dichloropropene	0.5 ug/L			
		trans-1,3-Dichloropropene	0.5 ug/L			
		Ethylbenzene	0.5 ug/L			
		2-Hexanone	1 ug/L			
		Isopropylbenzene (Cumene)	1 ug/L			
		Methylene Chloride	0.5 ug/L			
		4-Methyl-2-pentanone (MIBK)	1 ug/L			
		Methyl-tert-butyl ether	0.5 ug/L			
		Styrene	1 ug/L			
		1,1,2,2-Tetrachloroethane	0.5 ug/L			
		Tetrachloroethene	0.5 ug/L			
		Toluene	0.5 ug/L			
		1.1.1-Trichloroethane	0.5 ug/L			
		1.1.2-Trichloroethane	0.5 ug/L			
		Trichloroethene	0.5 ug/L			
		Trichlorofluoromethane	0.5 ng/I			
		Vinvl chloride	0.5 ng/I			
		m&n_Xylene	2 ng/I			
		o Yulene	2 ug/L 1 ug/L			
		U-Aylchic Mathyl agotata	1 ug/L			
		ivietnyi acetate	2  ug/L			

Please contact your project manager if you recognize any discrepancy in this form or have any questions about your project.



# SAMPLE ACKNOWLEDGMENT

# Analyte List

			Reporting	
Customer Sample ID	Method	Compound	Limit	Units
		tert-Butyl Alcohol	200	ug/L
		Ethanol	500	ug/L
	8270 MSSV PAH by SIM SEP	Naphthalene	0.0001	mg/L
		Acenaphthene	0.0001	mg/L
		Fluorene	0.0001	mg/L
		Phenanthrene	0.0001	mg/L
		Anthracene	0.0001	mg/L
		Fluoranthene	0.0001	mg/L
		Pyrene	0.0001	mg/L
		Benzo(a)anthracene	0.0001	mg/L
		Chrysene	0.0001	mg/L
		Benzo(b)fluoranthene	0.0001	mg/L
		Benzo(k)fluoranthene	0.0001	mg/L
		Benzo(a)pyrene	0.0001	mg/L
		Benzo(g,h,i)perylene	0.0001	mg/L
88A	6020 MET ICPMS	Vanadium	0.005	mg/L
		Chromium	0.001	mg/L
		Arsenic	0.001	mg/L
		Lead	0.001	mg/L
	7470 Mercury	Mercury	0.2	ug/L
	8015M DRO/ORO Organics	Oil Range Organics (>C28-C40)	0.5	mg/L
	C	Diesel Range Organic (C10-C28)	0.25	mg/L
	8021 GCV BTEX, MTBE, GRO	Gasoline Range Organics	50	ug/L
	8260 MSV Low Level	Acetone	4	ug/L
		Benzene	0.5	ug/L
		Bromodichloromethane	0.5	ug/L
		Bromoform	0.5	ug/L
		Bromomethane	0.5	ug/L
		2-Butanone (MEK)	2	ug/L
		Carbon disulfide	1	ug/L
		Carbon tetrachloride	0.5	ug/L
		Chlorobenzene	0.5	ug/L
		Chloroethane	0.5	ug/L
		Chloroform	0.5	ug/L
		Chloromethane	0.5	ug/L
		1,2-Dibromo-3-chloropropane	2	ug/L
		Dibromochloromethane	0.5	ug/L
		1,2-Dibromoethane (EDB)	1	ug/L
		Dichlorodifluoromethane	1	ug/L
		1,1-Dichloroethane	0.5	ug/L
		1,2-Dichloroethane	0.5	ug/L
		1,1-Dichloroethene	0.5	ug/L
		cis-1,2-Dichloroethene	1	ug/L
		trans-1,2-Dichloroethene	0.5	ug/L
		1,2-Dichloropropane	0.5	ug/L
		cis-1,3-Dichloropropene	0.5	ug/L
		trans-1,3-Dichloropropene	0.5	ug/L
		Ethylbenzene	0.5	ug/L
		2-Hexanone	1	ug/L
		Isopropylbenzene (Cumene)	1	ug/L

Please contact your project manager if you recognize any discrepancy in this form or have any questions about your project.



# SAMPLE ACKNOWLEDGMENT

# Analyte List

			Reporting	
Customer Sample ID	Method	Compound	Limit	Units
		Methylene Chloride	0.5	ug/L
		4-Methyl-2-pentanone (MIBK)	1	ug/L
		Methyl-tert-butyl ether	0.5	ug/L
		Styrene	1	ug/L
		1,1,2,2-Tetrachloroethane	0.5	ug/L
		Tetrachloroethene	0.5	ug/L
		Toluene	0.5	ug/L
		1,1,1-Trichloroethane	0.5	ug/L
		1,1,2-Trichloroethane	0.5	ug/L
		Trichloroethene	0.5	ug/L
		Trichlorofluoromethane	0.5	ug/L
		Vinvl chloride	0.5	ug/L
		m&p-Xvlene	2	ug/L
		o-Xvlene	1	ug/L
		Methyl acetate	2	ug/L
		tert-Butyl Alcohol	200	ug/L
		Ethanol	500	ug/L
	8270 MSSV PAH by SIM SEP	Naphthalene	0.0001	mg/L
	02701.000 * 1111 09 0111 021	Acenaphthene	0.0001	mg/L
		Fluorene	0.0001	mg/L
		Phenanthrene	0.0001	mg/L mg/L
		Anthracene	0.0001	mg/L mg/I
		Fluoranthene	0.0001	mg/L mg/I
		Pyrene	0.0001	mg/L mg/I
		Benzo(a)anthracene	0.0001	mg/L mg/I
		Chrysene	0.0001	mg/L mg/I
		Benzo(b)fluoranthene	0.0001	mg/L mg/I
		Benzo(k)fluoranthene	0.0001	mg/L mg/I
		Benzo(a)pyrene	0.0001	mg/L mg/I
		Benzo(a h i)pervlene	0.0001	mg/L
18D	6020 MET ICPMS	Vanadium	0.0001	mg/L mg/I
100	0020 WET ICI WIS	Chromium	0.003	mg/L mg/I
		Arsenic	0.001	mg/L mg/I
		Lead	0.001	mg/L mg/I
	7470 Mercury	Mercury	0.001	ng/L
	8015M DPO/OPO Organics	Oil Pange Organics (>C28 C40)	0.2	ug/L mg/I
	8015W DRO/ORO Organics	Diesel Pange Organic (C10 C28)	0.5	mg/L
	8021 COV BTEX MTRE GRO	Gasoline Pange Organics	0.23	ng/L
	8260 MSV Low Level	Acetone	50	ug/L
	8200 WS V LOW LEVEL	Benzene	4	ug/L
		Bromodichloromothana	0.5	ug/L
		Bromoform	0.5	ug/L
		Biomonothene	0.5	ug/L
		2 Dutanona (MEK)	0.5	ug/L
		2-Dutatione (MEK)	2	ug/L ug/I
		Carbon tatrachlorida	1	ug/L
		Chlorohonzono	0.5	ug/L
		Chloroothana	0.5	ug/L
		Chloroform	0.5	ug/L
		Chloromathana	0.5	ug/L
		Chloromethane	0.5	ug/L

Please contact your project manager if you recognize any discrepancy in this form or have any questions about your project.



# SAMPLE ACKNOWLEDGMENT

# Analyte List

			Reporting
Customer Sample ID	Method	Compound	Limit Units
		1,2-Dibromo-3-chloropropane	2 ug/L
		Dibromochloromethane	0.5 ug/L
		1,2-Dibromoethane (EDB)	1 ug/L
		Dichlorodifluoromethane	1 ug/L
		1,1-Dichloroethane	0.5 ug/L
		1,2-Dichloroethane	0.5 ug/L
		1,1-Dichloroethene	0.5 ug/L
		cis-1,2-Dichloroethene	1 ug/L
		trans-1,2-Dichloroethene	0.5 ug/L
		1,2-Dichloropropane	0.5 ug/L
		cis-1,3-Dichloropropene	0.5 ug/L
		trans-1,3-Dichloropropene	0.5 ug/L
		Ethylbenzene	0.5 ug/L
		2-Hexanone	1 ug/L
		Isopropylbenzene (Cumene)	1 ug/L
		Methylene Chloride	0.5 ug/L
		4-Methyl-2-pentanone (MIBK)	1 ug/L
		Methyl-tert-butyl ether	0.5 ug/L
		Styrene	1 ug/L
		1,1,2,2-Tetrachloroethane	0.5 ug/L
		Tetrachloroethene	0.5 ug/L
		Toluene	0.5 ug/L
		1,1,1-Trichloroethane	0.5 ug/L
		1,1,2-Trichloroethane	0.5 ug/L
		Trichloroethene	0.5 ug/L
		Trichlorofluoromethane	0.5 ug/L
		Vinyl chloride	0.5 ug/L
		m&p-Xylene	2 ug/L
		o-Xylene	1 ug/L
		Methyl acetate	2 ug/L
		tert-Butyl Alcohol	200 ug/L
		Ethanol	500 ug/L
	8270 MSSV PAH by SIM SEP	Naphthalene	0.0001 mg/L
		Acenaphthene	0.0001 mg/L
		Fluorene	0.0001 mg/L
		Phenanthrene	0.0001 mg/L
		Anthracene	0.0001 mg/L
		Fluoranthene	0.0001 mg/L
		Pyrene	0.0001 mg/L
		Benzo(a)anthracene	0.0001 mg/L
		Chrysene	0.0001 mg/L
		Benzo(b)fluoranthene	0.0001 mg/L
		Benzo(k)fluoranthene	0.0001 mg/L
		Benzo(a)pyrene	0.0001 mg/L
		Benzo(g,h,i)perylene	0.0001 mg/L
P-120	6020 MET ICPMS	Vanadium	0.005 mg/L
		Chromium	0.001 mg/L
		Arsenic	0.001 mg/L
		Lead	0.001 mg/L
	7470 Mercury	Mercury	0.2 ug/L

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# SAMPLE ACKNOWLEDGMENT

# Analyte List

			Reporting
Customer Sample ID	Method	Compound	Limit Units
	8015M DRO/ORO Organics	Oil Range Organics (>C28-C40)	0.5 mg/L
		Diesel Range Organic (C10-C28)	0.25 mg/L
	8021 GCV BTEX, MTBE, GRO	Gasoline Range Organics	50 ug/L
	8260 MSV Low Level	Acetone	4 ug/L
		Benzene	0.5 ug/L
		Bromodichloromethane	0.5 ug/L
		Bromoform	0.5 ug/L
		Bromomethane	0.5 ug/L
		2-Butanone (MEK)	2 ug/L
		Carbon disulfide	1 ug/L
		Carbon tetrachloride	0.5 ug/L
		Chlorobenzene	0.5 ug/L
		Chloroethane	0.5 ug/L
		Chloroform	0.5 ug/L
		Chloromethane	0.5 ug/L
		1,2-Dibromo-3-chloropropane	2 ug/L
		Dibromochloromethane	0.5 ug/L
		1,2-Dibromoethane (EDB)	1 ug/L
		Dichlorodifluoromethane	1  ug/L
		1.1-Dichloroethane	0.5 ug/L
		1.2-Dichloroethane	0.5 ug/L
		1.1-Dichloroethene	0.5  ug/L
		cis-1.2-Dichloroethene	1  ug/L
		trans-1.2-Dichloroethene	0.5 ug/L
		1.2-Dichloropropane	0.5  µg/L
		cis-1.3-Dichloropropene	0.5  ug/L
		trans-1.3-Dichloropropene	0.5  ug/L
		Ethylbenzene	0.5 ug/L
		2-Hexanone	1 ng/L
		Isopropylbenzene (Cumene)	1 ug/L
		Methylene Chloride	0.5  µg/L
		4-Methyl-2-pentanone (MIBK)	1 ng/L
		Methyl-tert-butyl ether	0.5  ug/L
		Styrene	1 ng/L
		1 1 2 2-Tetrachloroethane	0.5 µg/L
		Tetrachloroethene	0.5  ug/L
		Toluene	0.5 ug/L
		1 1 1-Trichloroethane	0.5 ug/L
		1 1 2-Trichloroethane	0.5 ug/L
		Trichloroethene	0.5 ug/L
		Trichlorofluoromethane	0.5 ug/L
		Vinyl chloride	0.5 ug/L
		m&n-Xylene	2 ug/L
		o-Xylene	2 ug/L 1 ug/L
		Methyl acetate	1 ug/L 2 ug/I
		tert-Butyl Alcohol	2 ug/L 200 ug/L
		Ethanol	500 ug/L
	8770 MCCV DALL by CIM CED	Nanhthalana	0.0001 mg/L
	0210 IVISS V PAR UY SIIVI SEP	A consultance	0.0001 mg/L
		Fluorano	0.0001 mg/L
		riuorene	0.0001 mg/L

Please contact your project manager if you recognize any discrepancy in this form or have any questions about your project.



# SAMPLE ACKNOWLEDGMENT

# Analyte List

		Reporting		
Customer Sample ID	Method	Compound	Limit Units	
		Phenanthrene	0.0001 mg/L	
		Anthracene	0.0001 mg/L	
		Fluoranthene	0.0001 mg/L	
		Pyrene	0.0001 mg/L	
		Benzo(a)anthracene	0.0001 mg/L	
		Chrysene	0.0001 mg/L	
		Benzo(b)fluoranthene	0.0001 mg/L	
		Benzo(k)fluoranthene	0.0001 mg/L	
		Benzo(a)pyrene	0.0001 mg/L	
		Benzo(g,h,i)perylene	0.0001 mg/L	
FB-062416	8021 GCV BTEX, MTBE, GRO	Gasoline Range Organics	50 ug/L	
	8260 MSV Low Level	Acetone	4 ug/L	
		Benzene	0.5 ug/L	
		Bromodichloromethane	0.5 ug/L	
		Bromoform	0.5 ug/L	
		Bromomethane	0.5 ug/L	
		2-Butanone (MEK)	2 ug/L	
		Carbon disulfide	1  ug/L	
		Carbon tetrachloride	0.5 ug/L	
		Chlorobenzene	0.5 ug/L	
		Chloroethane	0.5 ug/L	
		Chloroform	0.5  ug/L	
		Chloromethane	0.5  ug/L	
		1.2-Dibromo-3-chloropropane	2. ng/L	
		Dibromochloromethane	0.5  ug/L	
		1 2-Dibromoethane (EDB)	1 ng/L	
		Dichlorodifluoromethane	1 ug/L	
		1 1-Dichloroethane	0.5  ug/L	
		1 2-Dichloroethane	0.5 ug/L	
		1 1-Dichloroethene	0.5 ug/L	
		cis-1 2-Dichloroethene	1 ug/I	
		trans_1 2-Dichloroethene	0.5  ug/L	
		1 2-Dichloropropage	0.5 ug/L	
		cis-1 3-Dichloropropene	0.5 ug/L	
		trans_1 3-Dichloropropene	0.5 ug/L	
		Ethylbenzene	0.5 ug/L	
		2 Hexanone	1. ug/L	
		Isopropulbanzana (Cumana)	1 ug/L	
		Methylene Chloride		
		4 Mothyl 2 poptopopo (MIPK)	0.5 ug/L	
		4-Methyl-2-pentatione (MIDK)		
		Sturopo	0.5 ug/L	
		1 1 2 2 Totrochloroothono		
		Totrachloroothono	0.5 ug/L	
		Toluene	0.5 ug/L	
		1 1 1 Trichloroothana	0.5 ug/L	
		1,1,1-Inchloroethana	0.5 ug/L	
		1,1,2-Inchoroethane	0.5 ug/L	
		This is the second seco	0.5 ug/L	
			0.5 ug/L	
		vinyl chloride	0.5 ug/L	

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# SAMPLE ACKNOWLEDGMENT

# Analyte List

			Reporting
Customer Sample ID	Method	Compound	Limit Units
		m&p-Xylene	2 ug/L
		o-Xylene	1 ug/L
		Methyl acetate	2 ug/L
		tert-Butyl Alcohol	200 ug/L
		Ethanol	500 ug/L
EB-062316	6020 MET ICPMS	Vanadium	0.005 mg/L
		Chromium	0.001 mg/L
		Arsenic	0.001 mg/L
		Lead	0.001 mg/L
	7470 Mercury	Mercury	0.2 ug/L
	8015M DRO/ORO Organics	Oil Range Organics (>C28-C40)	0.5 mg/L
	Ũ	Diesel Range Organic (C10-C28)	0.25 mg/L
	8021 GCV BTEX, MTBE, GRO	Gasoline Range Organics	50 ug/L
	8260 MSV Low Level	Acetone	4 ug/L
		Benzene	0.5 ug/L
		Bromodichloromethane	0.5 ug/L
		Bromoform	0.5  ug/L
		Bromomethane	0.5  ug/L
		2-Butanone (MEK)	2. ug/L
		Carbon disulfide	1 ug/L
		Carbon tetrachloride	0.5 µg/L
		Chlorobenzene	0.5 ug/L
		Chloroethane	0.5 ug/L
		Chloroform	0.5 ug/L
		Chloromethane	0.5 ug/I
		1 2-Dibromo-3-chloropropane	2 ng/I
		Dibromochloromethane	0.5 µg/I
		1 2-Dibromoethane (FDB)	1 ug/I
		Dichlorodifluoromethane	1 ug/I
		1 1-Dichloroethane	0.5 µg/I
		1 2-Dichloroethane	0.5 ug/L
		1 1-Dichloroethene	0.5 ug/I
		cis-1 2-Dichloroethene	1 ug/I
		trans-1 2-Dichloroethene	0.5 µg/I
		1 2-Dichloropropane	0.5 ug/L
		cis-1 3-Dichloropropene	0.5 ug/L
		trans_1_3_Dichloropropene	0.5 ug/I
		Ethylbenzene	0.5 ug/I
		2-Hevanone	1 ng/I
		Isopropylbenzene (Cumene)	1 ug/L
		Methylene Chloride	0.5  ug/L
		4-Methyl-2-pentanone (MIBK)	1 ng/I
		A Methyl-tert_butyl ether	0.5  ug/L
		Styrene	0.5 ug/L
		1 1 2 2-Tetrachloroethane	0.5  ug/L
		Tetrachloroethene	0.5  ug/L
		Toluene	0.5  ug/L
		1 1 1-Trichloroethane	0.5  ug/L
		1.1.2-Trichloroethane	0.5  ug/L
		Trichloroethene	0.5  ug/L
		11011010culcuc	0.5 ug/L

Please contact your project manager if you recognize any discrepancy in this form or have any questions about your project.


#### SAMPLE ACKNOWLEDGMENT

# Analyte List

			Reporting
Customer Sample ID	Method	Compound	Limit Units
		Trichlorofluoromethane	0.5 ug/L
		Vinyl chloride	0.5 ug/L
		m&p-Xylene	2 ug/L
		o-Xylene	1 ug/L
		Methyl acetate	2 ug/L
		tert-Butyl Alcohol	200 ug/L
		Ethanol	500 ug/L
	8270 MSSV PAH by SIM SEP	Naphthalene	0.0001 mg/L
	-	Acenaphthene	0.0001 mg/L
		Fluorene	0.0001 mg/L
		Phenanthrene	0.0001 mg/L
		Anthracene	0.0001 mg/L
		Fluoranthene	0.0001 mg/L
		Pvrene	0.0001 mg/L
		Benzo(a)anthracene	0.0001  mg/L
		Chrysene	0.0001  mg/L
		Benzo(b)fluoranthene	0.0001  mg/L
		Benzo(k)fluoranthene	0.0001  mg/L
		Benzo(a)pyrene	0.0001 mg/L
		Benzo(g h i)pervlene	0.0001  mg/L
08 4	6020 MET ICPMS	Vanadium	0.005 mg/L
204	0020 MET ICI MS	Chromium	0.005 mg/L
		Arconio	0.001  mg/L
		Ai senic	0.001  mg/L
	7470 Moroury	Moroury	
	2015M DBO/OBO Organias	Oil Banga Organias (> C28 C40)	0.2 ug/L
	8013M DRO/ORO OIganics	Direct Barres Organics (>C28-C40)	0.5 mg/L
	2021 COURTEY MTDE CDO	Casalina Paras Organic (C10-C28)	0.25 mg/L
	8021 GCV BTEX, MTBE, GRO	Gasoline Range Organics	50 ug/L
	8260 MSV Low Level	Acetone	4 ug/L
		Benzene	0.5 ug/L
		Bromodichloromethane	0.5 ug/L
		Bromotorm	0.5 ug/L
		Bromomethane	0.5 ug/L
		2-Butanone (MEK)	2 ug/L
		Carbon disulfide	l ug/L
		Carbon tetrachloride	0.5 ug/L
		Chlorobenzene	0.5 ug/L
		Chloroethane	0.5 ug/L
		Chloroform	0.5 ug/L
		Chloromethane	0.5 ug/L
		1,2-Dibromo-3-chloropropane	2 ug/L
		Dibromochloromethane	0.5 ug/L
		1,2-Dibromoethane (EDB)	1 ug/L
		Dichlorodifluoromethane	1 ug/L
		1,1-Dichloroethane	0.5 ug/L
		1,2-Dichloroethane	0.5 ug/L
		1,1-Dichloroethene	0.5 ug/L
		cis-1,2-Dichloroethene	1 ug/L
		trans-1,2-Dichloroethene	0.5 ug/L
		1,2-Dichloropropane	0.5 ug/L

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# SAMPLE ACKNOWLEDGMENT

# Analyte List

		Reporting		
Customer Sample ID	Method	Compound	Limit	Units
		cis-1,3-Dichloropropene	0.5	ug/L
		trans-1,3-Dichloropropene	0.5	ug/L
		Ethylbenzene	0.5	ug/L
		2-Hexanone	1	ug/L
		Isopropylbenzene (Cumene)	1	ug/L
		Methylene Chloride	0.5	ug/L
		4-Methyl-2-pentanone (MIBK)	1	ug/L
		Methyl-tert-butyl ether	0.5	ug/L
		Styrene	1	ug/L
		1.1.2.2-Tetrachloroethane	0.5	ug/L
		Tetrachloroethene	0.5	ug/L
		Toluene	0.5	ug/L
		1 1 1-Trichloroethane	0.5	ug/L
		1 1 2-Trichloroethane	0.5	ug/L
		Trichloroethene	0.5	ug/L
		Trichlorofluoromethane	0.5	ug/L
		Vinyl chloride	0.5	ug/L
		men Yulana	0.5	ug/L
		o Yulono	2	ug/L
		Mothul acotate	1	ug/L
		Methyl acetate	200	ug/L
		Ether al	200	ug/L
			500	ug/L
	8270 MSSV PAH by SIM SEP	Naphthalene	0.0001	mg/L
		Acenaphthene	0.0001	mg/L
		Fluorene	0.0001	mg/L
		Phenanthrene	0.0001	mg/L
		Anthracene	0.0001	mg/L
		Fluoranthene	0.0001	mg/L
		Pyrene	0.0001	mg/L
		Benzo(a)anthracene	0.0001	mg/L
		Chrysene	0.0001	mg/L
		Benzo(b)fluoranthene	0.0001	mg/L
		Benzo(k)fluoranthene	0.0001	mg/L
		Benzo(a)pyrene	0.0001	mg/L
		Benzo(g,h,i)perylene	0.0001	mg/L
99A	6020 MET ICPMS	Vanadium	0.005	mg/L
		Chromium	0.001	mg/L
		Arsenic	0.001	mg/L
		Lead	0.001	mg/L
	7470 Mercury	Mercury	0.2	ug/L
	8015M DRO/ORO Organics	Oil Range Organics (>C28-C40)	0.5	mg/L
		Diesel Range Organic (C10-C28)	0.25	mg/L
	8021 GCV BTEX, MTBE, GRO	Gasoline Range Organics	50	ug/L
	8260 MSV Low Level	Acetone	4	ug/L
		Benzene	0.5	ug/L
		Bromodichloromethane	0.5	ug/L
		Bromoform	0.5	ug/L
		Bromomethane	0.5	ug/L
		2-Butanone (MEK)	2	ug/L
		Carbon disulfide	- 1	ug/L

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# SAMPLE ACKNOWLEDGMENT

# Analyte List

			Reporting
Customer Sample ID	Method	Compound	Limit Units
		Carbon tetrachloride	0.5 ug/L
		Chlorobenzene	0.5 ug/L
		Chloroethane	0.5 ug/L
		Chloroform	0.5 ug/L
		Chloromethane	0.5 ug/L
		1,2-Dibromo-3-chloropropane	2 ug/L
		Dibromochloromethane	0.5 ug/L
		1,2-Dibromoethane (EDB)	1 ug/L
		Dichlorodifluoromethane	1 ug/L
		1,1-Dichloroethane	0.5 ug/L
		1,2-Dichloroethane	0.5 ug/L
		1,1-Dichloroethene	0.5 ug/L
		cis-1.2-Dichloroethene	1 ug/L
		trans-1.2-Dichloroethene	0.5 ug/L
		1.2-Dichloropropane	0.5 ug/L
		cis-1.3-Dichloropropene	0.5 ug/L
		trans-1.3-Dichloropropene	0.5 ug/L
		Ethylbenzene	0.5  ug/L
		2-Hexanone	1 ug/L
		Isopropylbenzene (Cumene)	1 ug/L
		Methylene Chloride	0.5 µg/L
		4-Methyl-2-pentanone (MIBK)	1 ug/L
		Methyl-tert-butyl ether	0.5  ug/L
		Styrene	1 ug/L
		1 1 2 2-Tetrachloroethane	0.5  ug/L
		Tetrachloroethene	0.5  ug/L
		Toluene	0.5  ug/L
		1 1 1-Trichloroethane	0.5 ug/L
		1 1 2-Trichloroethane	0.5 ug/L
		Trichloroethene	0.5  ug/L
		Trichlorofluoromethane	0.5  ug/L
		Vinyl chloride	0.5  ug/L
		m&n-Xylene	2 ug/L
		o-Xylene	1 ug/L
		Methyl acetate	2 ug/L
		tert-Butyl Alcohol	200 ug/L
		Ethanol	500 ug/L
	8270 MSSV PAH by SIM SEP	Naphthalene	0.0001  mg/L
		Acenaphthene	0.0001  mg/L
		Fluorene	0.0001 mg/L
		Phenanthrene	0.0001 mg/L
		Anthracene	0.0001  mg/L
		Fluoranthene	0.0001  mg/L
		Pyrene	0.0001  mg/L
		Benzo(a)anthracene	0.0001 mg/L
		Chrysene	0.0001 mg/L
		Benzo(b)fluoranthene	0.0001 mg/L
		Benzo(k)fluoranthene	0.0001 mg/L
		Benzo(a)pyrene	0.0001 mg/L
		Ponzo(a h i) norrelano	0.0001 mg/L

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#### SAMPLE ACKNOWLEDGMENT

# Analyte List

			Reporting
Customer Sample ID	Method	Compound	Limit Units
FB-062316	8021 GCV BTEX, MTBE, GRO	Gasoline Range Organics	50 ug/L
	8260 MSV Low Level	Acetone	4 ug/L
		Benzene	0.5 ug/L
		Bromodichloromethane	0.5 ug/L
		Bromoform	0.5 ug/L
		Bromomethane	0.5 ug/L
		2-Butanone (MEK)	2 ug/L
		Carbon disulfide	1 ug/L
		Carbon tetrachloride	0.5 ug/L
		Chlorobenzene	0.5 ug/L
		Chloroethane	0.5 ug/L
		Chloroform	0.5  µg/L
		Chloromethane	0.5  ug/L
		1 2-Dibromo-3-chloropropane	2 ug/L
		Dibromochloromethane	0.5  ug/L
		1 2-Dibromoethane (FDB)	1 ug/I
		Dichlorodifluoromethane	1 ug/L
		1 1 Dichloroethane	0.5  ug/L
		1,1-Dichloroethane	0.5 ug/L
		1,2-Dichloroothane	0.5 ug/L
		ais 1.2 Disklargethang	0.5 ug/L
		trans 1.2 Dichlans than a	1 ug/L
		trans-1,2-Dichloroethene	0.5 ug/L
		1,2-Dichloropropane	0.5 ug/L
		cis-1,3-Dichloropropene	0.5 ug/L
		trans-1,3-Dichloropropene	0.5 ug/L
		Ethylbenzene	0.5 ug/L
		2-Hexanone	1 ug/L
		Isopropylbenzene (Cumene)	1 ug/L
		Methylene Chloride	0.5 ug/L
		4-Methyl-2-pentanone (MIBK)	1 ug/L
		Methyl-tert-butyl ether	0.5 ug/L
		Styrene	1 ug/L
		1,1,2,2-Tetrachloroethane	0.5 ug/L
		Tetrachloroethene	0.5 ug/L
		Toluene	0.5 ug/L
		1,1,1-Trichloroethane	0.5 ug/L
		1,1,2-Trichloroethane	0.5 ug/L
		Trichloroethene	0.5 ug/L
		Trichlorofluoromethane	0.5 ug/L
		Vinyl chloride	0.5 ug/L
		m&p-Xylene	2 ug/L
		o-Xylene	1 ug/L
		Methyl acetate	2 ug/L
		tert-Butyl Alcohol	200 ug/L
		Ethanol	500 ug/L
TRIP BLANK -062316	8021 GCV BTEX, MTBE, GRO	Gasoline Range Organics	50 ug/L
	8260 MSV Low Level	Acetone	4 ug/L
		Benzene	0.5 ug/L
		Bromodichloromethane	0.5 ug/L
		Bromoform	0.5 ug/L

Please contact your project manager if you recognize any discrepancy in this form or have any questions about your project.



# SAMPLE ACKNOWLEDGMENT

# Analyte List

Customer Sample ID         Method         Compound         Unit Units           Bornsmenham         0.5 ugl.         2 gal.           Cathoa disalida         1 agl.           Cathoa disalida         0.5 ugl.           Chino atsalida         0.5 ugl.           Chino atsalida         0.5 ugl.           Chino conschioria         0.5 ugl.           L2-Dhornon-Schioranopane         0.5 ugl.           L2-Dhornon-Schioranopane         0.5 ugl.           L2-Dhornon-Schioranopane         0.5 ugl.           L3-Dhornon-Schioranopane         0.5 ugl.           L3-Dhornon-Schioranopane         0.5 ugl.           L3-Dichorontane				Reporting																																																																																					
Bornomethane         0.5         ug/L           24utanove (MLK)         2         ug/L           24utanove (MLK)         2         ug/L           Carbon disulifié         1         ug/L           Carbon disulifié         1         ug/L           Carbon disulifié         0.5         ug/L           Chioroform         0.5         ug/L           Chioroform         0.5         ug/L           Dibranochioromehane         0.5         ug/L           1.2-Dibranochioromehane         0.5         ug/L           1.3-Dibranochioromehane         0.5         ug/L           1.3-Dibranopopane         0.5         ug/L <th>Customer Sample ID</th> <th>Method</th> <th>Compound</th> <th>Limit Units</th>	Customer Sample ID	Method	Compound	Limit Units																																																																																					
2-Buranone (MEK)       2 ngL         Carbon disalida       1 ngL         Carbon disalida       0.5 ugL         Choroenbane       0.5 ugL         1.3-Dibrome-3-aliopropane       2 ugL         1.3-Dibrome-bane       0.5 ugL </td <td></td> <td></td> <td>Bromomethane</td> <td>0.5 ug/L</td>			Bromomethane	0.5 ug/L																																																																																					
Carbon cisolifici wgl.Carbon cisolific0.5wgl.Choroberazene0.5wgl.Choroberazene0.5wgl.Choroberazene0.5wgl.Choroberazene0.5wgl.1.2-Dibromo-5-choropropane0.5wgl.1.2-Dibromo-5-choropropane0.5wgl.1.2-Dibromo-5-choropropane0.5wgl.1.1-Dichorodithnoromchane0.5wgl.1.1-Dichorodithnoromchane0.5wgl.1.1-Dichorodithnoromchane0.5wgl.1.1-Dichorodithnoromchane0.5wgl.1.1-Dichorotene0.5wgl.1.1-Dichorotene0.5wgl.1.1-Dichorotene0.5wgl.1.1-Dichorotene0.5wgl.1.1-Dichorotene0.5wgl.1.1-Dichorotene0.5wgl.1.1-Dichorotene0.5wgl.1.1-Dichorotene0.5wgl.1.1-Dichorotene0.5wgl.1.1-Dichorotene0.5wgl.1.1-Dichorotene0.5wgl.1.1-Dichorotene0.5wgl.1.1-Dichorotene0.5wgl.1.1.2-Terchorotene1wgl.1.1.2-Terchorotene0.5wgl.1.1.2-Terchorotene0.5wgl.1.1.2-Terchorotene0.5wgl.1.1.1-Terchorotene0.5wgl.1.1.1-Terchorotene0.5wgl.1.1.2-Terchorotene0.5wgl.1.1.2-Terchorotene0.5w			2-Butanone (MEK)	2 ug/L																																																																																					
Carbon ternschörde         0.5 ug/t.           Chlorobenzene         0.5 ug/t.           Chlorobenzene         0.5 ug/t.           Chlorobenzene         0.5 ug/t.           Liz-Dibromo-Schloropropane         2 ug/t.           Liz-Dibromo-Schloropropane         2 ug/t.           Dibromochloromethane         0.5 ug/t.           Liz-Dibromo-Schloropropane         0.5 ug/t.           Liz-Dibromo-Schloropropane         0.5 ug/t.           Liz-Dibromo-Schloropropane         0.5 ug/t.           Liz-Dichlorochtane         0.5 ug/t.           Liz-Dichlorochtane         0.5 ug/t.           Liz-Dichlorochtane         0.5 ug/t.           Liz-Dichlorochtane         0.5 ug/t.           Liz-Dichlorophane         0.5 ug/t.           Hary-Lee-Dichlorophane         0.			Carbon disulfide	1 ug/L																																																																																					
Chiorobenzen       0.5 ugL         Chiorobenzen       0.5 ugL         Chiorobenzen       0.5 ugL         1,2.Dibrone-3-chloropropane       2 ugL         1,2.Dibrone-11       0.5 ugL         1,2.Dibrone-11       1.0.000         1,2.Dibrone-11       0.5 ugL         1,2.Dichlorosethane       0.5 ugL         1.1.2.Tirchlorosethane       0.5 u			Carbon tetrachloride	0.5 ug/L																																																																																					
Chloroethane         0.5 ugL           Chloromethane         0.5 ugL           Chloromethane         0.5 ugL           1,2-Dibronno-3-chloropropane         0.5 ugL           Dirkonno-Shoromethane         0.5 ugL           1,2-Dibronno-Shoromethane         0.5 ugL           1,2-Dibronno-Shoromethane         0.5 ugL           1,1-Dichloroethane         0.5 ugL           1,2-Dichloroethane         0.5 ugL           1,2-Dichloro			Chlorobenzene	0.5 ug/L																																																																																					
Chloroform         0.5 ugL           Chloromethane         0.5 ugL           1.2-Ditromo:-balloropropane         2 ugL           1.2-Ditromo:-balloropropane         2 ugL           1.2-Ditromo:thane         1 ugL           1.2-Ditromo:thane         1 ugL           1.2-Ditromo:thane         0.5 ugL           1.2-Ditromorethane         0.5 ugL           2-Hexanone         1 ugL           1.2-Ditromorethane         0.5 ugL           2-Hexanone         1 ugL           1.2-Ditromorethane         0.5 ugL           2-Hexanone         1 ugL           1.2-Ditromorethane         0.5 ugL           1.2-Ditromorethane         0.5 ugL           1.2-Ditromorethane         0.5 ugL      <			Chloroethane	0.5 ug/L																																																																																					
Chloromethane         0.5 ugL           1,2-bihromo-schloromprome         2 ugA.           Dibromochloromethane         0.5 ugL           1,2-bihromothane         1 ugL           1,1-bichloroethane         0.5 ugL           1,1-bichloropropane         0.5 ugL           1,1,2-bichloropropane         0.5 ugL			Chloroform	0.5 ug/L																																																																																					
1.2-Dibronno-3-chiloropropane         2 ugL           Dibronnochionomethane         0.5 ugL           1.2-Dibronnochiane (EDB)         1 ugL           Dichlorodhionomethane         0.5 ugL           1.2-Dibronnochiane (EDB)         1 ugL           1.2-Dichloroethane         0.5 ugL           1.2-Dichloropropane         0.5 ugL           1.2-Dichloropropane         0.5 ugL           2-Hexanone         1 ugL           Halvyl-archanoe (Cumene)         1 ugL           Helvyl-archanoe (Cumene)         1 ugL           Helvyl-archanoe (MBK)         1 ugL           1.1,2,2-Ternahoroethane         0.5 ugL           1.1,2,2-Ternahoroethane         5 ugL           1.1,2,2-Ternahoroethane         0.5 ugL           1.1,1,2-Trichoroethane         0.5 ug			Chloromethane	0.5 ug/L																																																																																					
Dibromechioromethane         0.5 ugL           1,2-Dibromoethane         1 ugL           Dichorodifuoromethane         1 ugL           1,1-Dichtoroethane         0.5 ugL           1,1-Dichtoroethane			1,2-Dibromo-3-chloropropane	2 ug/L																																																																																					
1.2-Dirbornonthane       1 ug1.         Dichoradifuromethane       0.5 ug1.         1.1-Dichloronethane       0.5 ug1.         1.2-Dichloronethane       1 ug1.         Ethylenzane       1 ug1.         Kethylane Chlorote       1 ug1.         Nethylane Chlorote       1 ug1.         Nethylane Chlorote       1 ug1.         Nethylane Chlorote       5 ug1.         1.1,2-Tetrachloroethane       0.5 ug1.         1.1,2-Tetrachloroethane       0.5 ug1.         1.1,2-Tetrachloroethane       0.5 ug1.         Nichlorothane       0.5 ug1.         Nichlor			Dibromochloromethane	0.5 ug/L																																																																																					
Dichlorodifluoromethane       1 up.1         1,1-Dichloroethane       0.5 ug.1         1,1-Dichloroethane       0.5 ug.1         1,1-Dichloroethane       0.5 ug.1         cis.1-2.Dichloroethene       1 ug.1         trans.1-2.Dichloroethene       0.5 ug.1         1,1-Dichloroethene       0.5 ug.1         1,1-Dichloroethene       0.5 ug.1         1,2-Dichloropropane       0.5 ug.1         1,2-Dichloropropane       0.5 ug.1         1,2-Dichloropropane       0.5 ug.1         1,3-Dichloropropane       0.5 ug.1         2-Hexanone       1 ug.1         1,1-Dichloropropane       0.5 ug.1         2-Hexanone       1 ug.1         1,1,2-Ternatome (MIBK)       1 ug.1         1,1,2-Ternatome (MIBK)       1 ug.1         1,1,2-Ternatome (MIBK)       1 ug.1         1,1,2-Ternatomethane       0.5 ug.1         1,1,2-Ternatomethane       0.5 ug.1         1,1,2-Ternatomethane       0.5 ug.1         1,1,2-Ternatomethane       0.5 ug.1         1,1,1-Trichoroethane       0.5 ug.1         1,1,2-Ternatomethane       0.5 ug.1         1,1,2-Ternatomethane       0.5 ug.1         1,1,2-Ternatomethane       0.5 ug.1			1,2-Dibromoethane (EDB)	1 ug/L																																																																																					
1.1-Dichloroethane       0.5       ugL         1.2-Dichloroethane       0.5       ugL         1.1-Dichloroethene       0.5       ugL         cis1-2-Dichloroethene       0.5       ugL         1.2-Dichloropropane       0.5       ugL         1.2-Dichloropropane       0.5       ugL         cis1-3-Dichloropropane       0.5       ugL         1.2-Dichloropropane       0.5       ugL         1.2-Dichloropropane       0.5       ugL         1.2-Dichloropropane       0.5       ugL         Eithylbenzene       0.5       ugL         2-Hexanon       1       ugL         4-Methyl-Penthanyl (MBK)       1       ugL         Nethylene Choride       0.5       ugL         1.1,2-2-Tetrachloroethane       0.5       ugL         1.1,2-2-Tetrachloroethane       0.5       ugL         1.1,2-2-Tetrachloroethane       0.5       ugL         1.1,1-2-Trichloroethane       0.5       ugL <td></td> <td></td> <td>Dichlorodifluoromethane</td> <td>1 ug/L</td>			Dichlorodifluoromethane	1 ug/L																																																																																					
1.2.Dicklorosethane     0.5     wL       1.1.Dicklorosethane     0.5     wL       cis-1.2.Dicklorosethane     0.5     wL       1.2.Dicklorosethane     0.5     wL       cis-1.3.Dicklorosethane     0.5     wL       Edhylenzene     0.5     wL       2.HExanone     1     wL       Boroprofiberane     0.5     wL       Hertylene     1.12.2.Fertachlorosethane     0.5     wL       1.1.2.2.Fertachlorosethane     0.5     wL       1.1.2.2.Ficklorosethane     0.5     wL       1.1.2.2.			1,1-Dichloroethane	0.5 ug/L																																																																																					
I.1-Dickloroschene     0.5     wL       isi-1.2-Dickloroschene     0.5     wL       I.2-Dickloroschene     0.5     wL       I.2-Dicklorospopan     0.5     wL       isi-1.3-Dicklorospopan     1     wL <td></td> <td></td> <td>1,2-Dichloroethane</td> <td>0.5 ug/L</td>			1,2-Dichloroethane	0.5 ug/L																																																																																					
ris-1.2-Dichloroethene       1       ug/t         trans-1.2-Dichloroothene       0.5       ug/t         1.2-Dichloroothene       0.5       ug/t         cis-1.3-Dichloroothene       0.5       ug/t         cis-1.3-Dichloroothene       0.5       ug/t         cis-1.3-Dichloroothene       0.5       ug/t         Ethylbenzene       0.5       ug/t         2-Hexanone       1       ug/t         1       Isopropylbenzene (Cumene)       1       ug/t         1       Isopropylbenzene (Cumene)       1       ug/t         4-Methyl-2-pentanone (MIBK)       1       ug/t         1       1,2.2-Tetrachoroethane       0.5       ug/t         1       1,2.2-Tetrachoroethane       0.5       ug/t         1       1,2.2-Tetrachoroethane       0.5       ug/t         1       1,1.2-Trichloroethane			1,1-Dichloroethene	0.5 ug/L																																																																																					
TRIP BLANK -062416       8021 GCV BTEX, MTBE, GRO       0.5       ugL         1.2-Dichloropropene       0.5       ugL         1.2-Dichloropropene       0.5       ugL         1.3-Dichloropropene       0.5       ugL         Ethylbenzene       0.5       ugL         2-Hextanone       1       ugL         1.4-Weityl-2-pentanone (MIBK)       1       ugL         Methyl-are-thouryl ether       0.5       ugL         1.1,2.2-Tetrachloroethane       0.5       ugL         1.1,2.2-Tetrachloroethane       0.5       ugL         1.1,2.2-Tetrachloroethane       0.5       ugL         1.1,2.2-Tetrachloroethane       0.5       ugL         1.1,2.3-Tetrachloroethane       0.5       ugL         1.1,2.3-Tetrachloroethane       0.5       ugL         1.1,2.4-Trichloroethane       0.5       ugL         1.1,1-Trichloroethane       0.5       ugL			cis-1,2-Dichloroethene	1 ug/L																																																																																					
1,2-Dichloropropane       0.5       ug/L         cis-1,3-Dichloropropene       0.5       ug/L         Ethylbenzene       1       ug/L         Ethylbenzene       1       ug/L         Isopropylbenzene (Cumene)       1       ug/L         Herthyl-2-pentanone (MIBK)       1       ug/L         Syrene       1       ug/L         Syrene       1       ug/L         1,1,2.7       Trichloroethane       0.5       ug/L         1,1,1.7       1,1,2.2       Trichloroethane       0.5       ug/L         1,1,1.7       Trichloroethane       0.5       ug/L         1,1,1.7       Trichloroethane       0.5       ug/L         o-Xylene       1       ug/L       o-Xylene       1       ug/L         o-Xylene       1       ug/L       o-Xylene       1       ug/L         Richlorofturoromethane       0.5       ug/L       o-Xylene       1       ug/L         Richlorofturoromethane       0.5			trans-1,2-Dichloroethene	0.5 ug/L																																																																																					
cis-1,3-Dichloropropene       0.5       ug/L         trans-1,3-Dichloropropene       0.5       ug/L         Ethylbnezne       1       ug/L         2-Hexanone       1       ug/L         15opropylbenzene (Cumene)       1       ug/L         Methyl-Berchlorothene       0.5       ug/L         4-Methyl-2-pentanone (MIBK)       1       ug/L         1,1,2,2-Tetrachlorothane       0.5       ug/L         1,1,2,2-Tetrachlorothane       0.5       ug/L         1,1,1,2-Trichlorothane       0.5       ug/L         1,1,1,2-Trichlorothane       0.5       ug/L         1,1,1,2-Trichlorothane       0.5       ug/L         1,1,1,2-Trichlorothane       0.5       ug/L         1,1,1-Trichlorothane       0.5       ug/L         1,1,1-Trichlorothane       0.5       ug/L         1,1,1-Trichlorothane       0.5       ug/L         1       Ng/L       1       Ug/L         1       Ug/L       1       Ug/L         1       Ug/L       1       Ug/L         1       Ug/L       1       Ug/L         1       Ug/L       1       Ug/L         1       Ug/L <td< td=""><td></td><td></td><td>1.2-Dichloropropane</td><td>0.5 ug/L</td></td<>			1.2-Dichloropropane	0.5 ug/L																																																																																					
TRIP BLANK -0624168021 GCV BTEX, MTBE, GRO0.5 ug/LTRIP BLANK -0624168021 GCV BTEX, MTBE, GROGaloin Range Organics5 ug/LTRIP BLANK -0624168021 GCV BTEX, MTBE, GROGaloin Range Organics5 ug/LTRIP BLANK -0624168021 GCV BTEX, MTBE, GROGaloin Range Organics5 ug/LTRIP BLANK -0624168021 GCV BTEX, MTBE, GROGaloin Range Organics50 ug/LTRIP BLANK -0624168021 GCV BTEX, MTBE, GROGaloin Range Organics50 ug/LTRIP BLANK -0624168021 GCV BTEX, MTBE, GROGaloin Range Organics50 ug/LTRIP BLANK -0624168021 GCV BTEX, MTBE, GROGaloin Range Organics50 ug/LTRIP BLANK -0624168021 GCV BTEX, MTBE, GROGaloin Range Organics50 ug/LTRIP BLANK -0624168021 GCV BTEX, MTBE, GROGaloin Range Organics50 ug/LTRIP BLANK -0624168021 GCV BTEX, MTBE, GROGaloin Range Organics50 ug/LTRIP BLANK -0624168021 GCV BTEX, MTBE, GROGaloin Range Organics50 ug/LTRIP BLANK -0624168021 GCV BTEX, MTBE, GROGaloin Range Organics50 ug/LTRIP BLANK -0624168021 GCV BTEX, MTBE, GROGaloin Range Organics50 ug/LTRIP BLANK -0624168021 GCV BTEX, MTBE, GROGaloin Range Organics50 ug/LTRIP BLANK -0624168021 GCV BTEX, MTBE, GROGaloin Range Organics50 ug/LTRIP BLANK -0624168021 GCV BTEX, MTBE, GROGaloin Range Organics50 ug/LTRIP BLANK -0624168021 GCV BTEX, MTBE, GROGaloin Range Organics50 ug/L			cis-1,3-Dichloropropene	0.5 ug/L																																																																																					
TRIP BLANK -0C2416     8021 GCV BTEX, MTBE, GRO     1 ug/L       TRIP BLANK -0C2416     8021 GCV BTEX, MTBE, GRO     Galine Range Organics       TRIP BLANK -0C2416     8021 GCV BTEX, MTBE, GRO     Galine Range Organics       TRIP BLANK -0C2416     8021 GCV BTEX, MTBE, GRO     Galine Range Organics       Strene     1 ug/L       Trichloroethane     0.5 ug/L       Benzene     0.5 ug/L       Trichloroethane     0.5 ug/L       Benzene     0.5 ug/L       Benzene     0.5 ug/L       Benzene     0.5 ug/L       Bromodichloromethane     0.5 ug/L			trans-1,3-Dichloropropene	0.5 ug/L																																																																																					
TRIP BLANK -062416       8021 GCV BTEX, MTBE, GRO       1 ug/L         1       Ug/L       1 ug/L         1       Methylenc Chloride       0.5 ug/L         4       Methyl-2-pentianone (MIBK)       1 ug/L         1       Methyl-2-pentianone (MIBK)       1 ug/L         1       1,2,2-Tetrachloroethane       0.5 ug/L         1       1,2,2-Tetrachloroethane       0.5 ug/L         1       1,1,2-Trichloroethane       0.5 ug/L			Ethylbenzene	0.5 ug/L																																																																																					
TRIP BLANK -062416       8021 GCV BTEX, MTRE, GRO       Gasoline Range Organics       1       ug/L         Nethylene Choride       0.5       ug/L         Nethylene Choride       0.5       ug/L         Nethylene Choride       0.5       ug/L         Nethyler-butyl ether       0.5       ug/L         1,1,2,2-Tetrachoroethane       0.5       ug/L         1,1,1-Tichtoroethane       0.5       ug/L         1,1,1-Tichtoroethane       0.5       ug/L         1,1,2-Tetrachoroethane       0.5       ug/L         1,1,2-Trichtoroethane       0.5       ug/L         0-Xylene       1       ug/L         0-Xylene       1       ug/L         Nethylactoh       2       ug/L         0-Xylene       1       ug/L         1       Methylactoh       2       ug/L         1			2-Hexanone	1 ug/L																																																																																					
TRIP BLANK -062416     8021 GCV BTEX, MTBE, GRO     Gasoline Range Organics     50 ug/L       TRIP BLANK -062416     8021 GCV BTEX, MTBE, GRO     Gasoline Range Organics     50 ug/L       TRIP BLANK -062416     8021 GCV BTEX, MTBE, GRO     Gasoline Range Organics     50 ug/L       TRIP BLANK -062416     8021 GCV BTEX, MTBE, GRO     Gasoline Range Organics     50 ug/L       TRIP BLANK -062416     8021 GCV BTEX, MTBE, GRO     Gasoline Range Organics     50 ug/L       TRIP BLANK -062416     8021 GCV BTEX, MTBE, GRO     Gasoline Range Organics     50 ug/L       Benzene     0.5 ug/L     Bromodichoromethane     0.5 ug/L       Carbon disulfide     0.5 ug/L     1.0.2.7.7.0.0.0.0.0.0.0.0.0.0.0.0.0.0.0.0			Isopropylbenzene (Cumene)	1 ug/L																																																																																					
4.Methyl-2-pentanone (MIBK)       1 ug/L         Methyl-tert-butyl ether       0.5 ug/L         Styrene       1 ug/L         I.1,2,2-Tetrachloroethane       0.5 ug/L         Tetrachloroethane       0.5 ug/L         Tetrachloroethane       0.5 ug/L         I.1,1,2,2-Tetrachloroethane       0.5 ug/L         Toluene       0.5 ug/L         1,1,2-Trichloroethane       0.5 ug/L         Trichlorofluoromethane       0.5 ug/L         Trichlorofluoromethane       0.5 ug/L         Winyl chloride       0.5 ug/L         m&p-Xylene       2 ug/L         o-Xylene       1 ug/L         Methyl acetate       2 ug/L         Ethanol       500 ug/L         Ethanol       500 ug/L         Benzene       0.5 ug/L         Benzene       5.0 ug/L         Benzene       5.0 ug/L         Bromodichloromethane       0.5 ug/L         Bromomethane       0.5 ug/L         Bromomethane       0.5 ug/L <t< td=""><td></td><td></td><td>Methylene Chloride</td><td>0.5 ug/L</td></t<>			Methylene Chloride	0.5 ug/L																																																																																					
Methyl-tert-butyl ether0.5ug/LStyrene1ug/L1,1,2,21,1,1,21Tetrachloroethane0.5ug/LTetrachloroethane0.5ug/L1,1,1Trichloroethane0.5ug/L1,1,1Trichloroethane0.5ug/L1,1,1Trichloroethane0.5ug/L1,1,1Trichloroethane0.5ug/L1,1,2Trichloroethane0.5ug/L1Trichloroethane0.5ug/L1Trichloroethane0.5ug/L1Trichloroethane0.5ug/L1Trichloroethane0.5ug/L1Trichloroethane0.5ug/L1Trichlorofthere1ug/LNylene2ug/LEtahol200ug/LEtahol200ug/LEtahol50ug/L8260 MSV Low LevelAcetone48260 MSV Low LevelAcetone48260 MSV Low LevelAcetone48260 MSV Low LevelAcetone58260 MSV Low LevelAcetone <td< td=""><td></td><td></td><td>4-Methyl-2-pentanone (MIBK)</td><td>1 ug/L</td></td<>			4-Methyl-2-pentanone (MIBK)	1 ug/L																																																																																					
TRIP BLANK -062416       8021 GCV BTEX, MTBE, GRO       Actone       4 ug/L         TRIP BLANK -062416       8021 GCV BTEX, MTBE, GRO       Accone       4 ug/L         Bromodichloromethane       0.5 ug/L         Bromodichloromethane       0.5 ug/L         Trichlorofluer       0.5 ug/L         Bromofichloromethane       0.5 ug/L			Methyl-tert-butyl ether	0.5 ug/L																																																																																					
TRIP BLANK -062416       8021 GCV BTEX, MTBE, GRO       Gasoline Range Organics       50       ug/L         TRIP BLANK -062416       8021 GCV BTEX, MTBE, GRO       Gasoline Range Organics       50       ug/L         TRIP BLANK -062416       8021 GCV BTEX, MTBE, GRO       Gasoline Range Organics       50       ug/L         Benzene       0.5       ug/L         Bromoferhane       0.5       ug/L         Bromoferhane       0.5       ug/L         Carbon tsiuffide       1       1         TRIP BLANK -062416       8021 GCV BTEX, MTBE, GRO       Gasoline Range Organics       50         Benzene       0.5       ug/L         Bromoferhane       0.5       ug/L         Bromoferha			Styrene	1  ug/L																																																																																					
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Toluene       0.5 ug/L         1,1,1-Trichloroethane       0.5 ug/L         1,1,2-Trichloroethane       0.5 ug/L         1,1,2-Trichloroethane       0.5 ug/L         Trichloroethene       0.5 ug/L         Trichloroethene       0.5 ug/L         Vinyl chloride       0.5 ug/L         m&p-Xylene       2 ug/L         o-Xylene       1 ug/L         tert-Butyl Alcohol       200 ug/L         Ethanol       000 ug/L         Ethanol       000 ug/L         Benzene       0.5 ug/L         Bromodichloroethane       0.5 ug/L         Bromotichloroethane       0.5 ug/L         Bromotichloroethane       0.5 ug/L         Bromotichloroethane       0.5 ug/L         Bromotichloroethane       0.5 ug/L			Tetrachloroethene	0.5 ug/L																																																																																					
1,1,1-Trichloroethane       0.5 ug/L         1,1,2-Trichloroethane       0.5 ug/L         Trichloroethane       0.5 ug/L         Vinyl chloride       0.5 ug/L         Vinyl chloride       0.5 ug/L         Night chloroethane       0.5 ug/L         Vinyl chloride       0.5 ug/L         Night chloride       2 ug/L         Night chloride       2 ug/L         Night chloride       200 ug/L         Ethanol       200 ug/L         Ethanol       200 ug/L         Benzene       2 ug/L         Bornodichloromethane       0.5 ug/L         Bromodichloromethane       0.5 ug/L         Bromodichloromethane       0.5 ug/L         Bromodichloromethane       0.5 ug/L         Submodified       1 ug/L         Carbon tetrachloride       0.5 ug/L         Carbon tetrachloride       0.5 ug/L         Carbon tetrachloride       0.5 ug/L			Toluene	0.5 ug/L																																																																																					
1,1,2-Trichloroethane       0.5       ug/L         Trichloroethane       0.5       ug/L         Trichloroethane       0.5       ug/L         Vinyl chloride       0.5       ug/L         m&p-Xylene       1       ug/L         -Xylene       1       ug/L         tert-Butyl Alcohol       200       ug/L         Ethanol       500       ug/L         Benzene       50       ug/L         Bromodichloromethane       0.5       ug/L         Bromodichloromethane       0.5       ug/L         Carbon disulfide       500       ug/L         Bromodichloromethane       0.5       ug/L         Bromomethane       0.5       ug/L         Carbon disulfide <t< td=""><td></td><td></td><td>1,1,1-Trichloroethane</td><td>0.5 ug/L</td></t<>			1,1,1-Trichloroethane	0.5 ug/L																																																																																					
Trichloroethene       0.5       ug/L         Trichloroethene       0.5       ug/L         Trichloroethene       0.5       ug/L         Vinyl chloride       0.5       ug/L         m&p-Xylene       2       ug/L         o-Xylene       2       ug/L         Methyl acetate       2       ug/L         tert-Butyl Alcohol       200       ug/L         Ethanol       000       ug/L         S260 MSV Low Level       Acetone       4         Benzene       0.5       ug/L         Bromodichloromethane       0.5       ug/L         Bromodichloromethane       0.5       ug/L         Carbon disulfide       1       ug/L         Carbon disulfide       1       ug/L         Chlorobenzene       0.5       ug/L			1,1,2-Trichloroethane	0.5 ug/L																																																																																					
Trichlorofluoromethane       0.5       ug/L         Vinyl chloride       0.5       ug/L         m&p-Xylene       2       ug/L         o-Xylene       1       ug/L         dethyl acetate       2       ug/L         tert-Butyl Alcohol       200       ug/L         TRIP BLANK -062416       8021 GCV BTEX, MTBE, GRO       Gasoline Range Organics       50       ug/L         Benzene       0.5       ug/L       Benzene       0.5       ug/L         Bromodichloromethane       0.5       ug/L       Bromodichloromethane       0.5       ug/L         Bromodichloromethane       0.5       ug/L       Bromomethane       0.5       ug/L         Carbon tetrachloride       1       ug/L       2       ug/L         Up optimized       2       ug/L       2       ug/L         Up optimized       0.5       ug/L       2       1       ug/L         Up optimized       1       ug/L       2       1       ug/L         Up optimized       1       ug/L       2       1       ug/L         Up optimized       1       ug/L       2       1       ug/L <tr td="">       2       ug/L       2<td></td><td></td><td>Trichloroethene</td><td>0.5 ug/L</td></tr> <tr><td>Vinyl chloride0.5ug/Lm&amp;p-Xylene2ug/Lo-Xylene1ug/LMethyl acetate2ug/Ltert-Butyl Alcohol200ug/LEthanol500ug/LTRIP BLANK -0624168021 GCV BTEX, MTBE, GROGasoline Range Organics50ug/LBenzene0.5ug/LBenzene0.5ug/LBromodichloromethane0.5ug/LBromodichloromethane0.5ug/LBromodichloromethane0.5ug/L2-Butanone (MEK)2ug/LCarbon disulfide1ug/LCarbon tetrachloride0.5ug/LChlorobenzene0.5ug/L</td><td></td><td></td><td>Trichlorofluoromethane</td><td>0.5 ug/L</td></tr> <tr><td>m&amp;p-Xylene2ug/Lo-Xylene1ug/Lo-Xylene2ug/LMethyl acetate2ug/Ltert-Butyl Alcohol200ug/LEthanol500ug/LTRIP BLANK -0624168021 GCV BTEX, MTBE, GROGasoline Range Organics50ug/LBenzene0.5ug/LBenzene0.5ug/LBromodichloromethane0.5ug/LBromodichloromethane0.5ug/LBromodichloromethane0.5ug/LCarbon disulfide1ug/LCarbon tetrachloride0.5ug/LCarbon tetrachloride0.5ug/LChlorobenzene0.5ug/L</td><td></td><td></td><td>Vinvl chloride</td><td>0.5 ug/L</td></tr> <tr><td>o-Xylene 1 ug/L Methyl acetate 2 ug/L tert-Butyl Alcohol 200 ug/L Ethanol 500 ug/L TRIP BLANK -062416 8021 GCV BTEX, MTBE, GRO Gasoline Range Organics 50 ug/L 8260 MSV Low Level Acetone 4 ug/L Benzene 0.5 ug/L Bromodichloromethane 0.5 ug/L Bromoform 0.5 ug/L Bromomethane 0.5 ug/L 2-Butanone (MEK) 2 ug/L Carbon disulfide 1 ug/L Carbon tetrachloride 0.5 ug/L</td><td></td><td></td><td>m&amp;p-Xvlene</td><td>2  ug/L</td></tr> <tr><td>Methyl acetate2ug/Ltert-Butyl Alcohol200ug/LEthanol500ug/LTRIP BLANK -0624168021 GCV BTEX, MTBE, GROGasoline Range Organics50ug/L8260 MSV Low LevelAcetone4ug/LBenzene0.5ug/LBromodichloromethane0.5ug/LBromoform0.5ug/LBromomethane0.5ug/LCarbon disulfide1ug/LCarbon tetrachloride0.5ug/LCarbon tetrachloride0.5ug/LChlorobenzene0.5ug/L</td><td></td><td></td><td>o-Xvlene</td><td>1  ug/L</td></tr> <tr><td>TRIP BLANK -0624168021 GCV BTEX, MTBE, GRO 8260 MSV Low LevelGasoline Range 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8260 MSV Low LevelAcetone4 ug/LBenzene0.5 ug/LBromodichloromethane0.5 ug/LBromoform0.5 ug/LBromomethane0.5 ug/L2-Butanone (MEK)2 ug/LCarbon disulfide1 ug/LCarbon tetrachloride0.5 ug/LChlorobenzene0.5 ug/L	TRIP BLANK -062416	8021 GCV BTEX, MTBE, GRO	Gasoline Range Organics	50 ug/L																																																																																					
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Bromomethane0.5 ug/L2-Butanone (MEK)2 ug/LCarbon disulfide1 ug/LCarbon tetrachloride0.5 ug/LChlorobenzene0.5 ug/L			Bromoform	0.5 ug/L																																																																																					
2-Butanone (MEK)2 ug/LCarbon disulfide1 ug/LCarbon tetrachloride0.5 ug/LChlorobenzene0.5 ug/L			Bromomethane	0.5 ug/L																																																																																					
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Chlorobenzene 0.5 ug/L			Carbon tetrachloride	0.5 ug/L																																																																																					
			Chlorobenzene	0.5 ug/L																																																																																					

Please contact your project manager if you recognize any discrepancy in this form or have any questions about your project.



# SAMPLE ACKNOWLEDGMENT

# Analyte List

			Reporting
Customer Sample ID	Method	Compound	Limit Units
		Chloroethane	0.5 ug/L
		Chloroform	0.5 ug/L
		Chloromethane	0.5 ug/L
		1,2-Dibromo-3-chloropropane	2 ug/L
		Dibromochloromethane	0.5 ug/L
		1,2-Dibromoethane (EDB)	1 ug/L
		Dichlorodifluoromethane	1 ug/L
		1,1-Dichloroethane	0.5 ug/L
		1,2-Dichloroethane	0.5 ug/L
		1,1-Dichloroethene	0.5 ug/L
		cis-1,2-Dichloroethene	1 ug/L
		trans-1,2-Dichloroethene	0.5 ug/L
		1,2-Dichloropropane	0.5 ug/L
		cis-1,3-Dichloropropene	0.5 ug/L
		trans-1,3-Dichloropropene	0.5 ug/L
		Ethylbenzene	0.5 ug/L
		2-Hexanone	1 ug/L
		Isopropylbenzene (Cumene)	1 ug/L
		Methylene Chloride	0.5 ug/L
		4-Methyl-2-pentanone (MIBK)	1 ug/L
		Methyl-tert-butyl ether	0.5 ug/L
		Styrene	1 ug/L
		1,1,2,2-Tetrachloroethane	0.5 ug/L
		Tetrachloroethene	0.5 ug/L
		Toluene	0.5 ug/L
		1,1,1-Trichloroethane	0.5 ug/L
		1,1,2-Trichloroethane	0.5 ug/L
		Trichloroethene	0.5 ug/L
		Trichlorofluoromethane	0.5 ug/L
		Vinyl chloride	0.5 ug/L
		m&p-Xylene	2 ug/L
		o-Xylene	1 ug/L
		Methyl acetate	2 ug/L
		tert-Butyl Alcohol	200 ug/L
		Ethanol	500 ug/L
			6

Please contact your project manager if you recognize any discrepancy in this form or have any questions about your project.



# SAMPLE ACKNOWLEDGMENT

Samples Submitted By:	BBL Caribe / Arcadis PR	Pace Project Manager:	Juan Redondo
Client Project ID:	PUMA TERMINAL MW SAMPLING		Phone (787)720-0319
Client PO#:	None	Pace Analytical Project ID:	
		Samples Received:	Lune 27, 2016 02:22 PM
		Samples Received. June 27, 2016 02:22 P	July 12. 2016

CC: Abner Hernandez, Efrain Calderon, Marianela Mercado-Burgos, Sharon Colon

Customer Sample ID	Pace Analytical Lab ID	Matrix	Date/Time Collected	Method
EB-062716	2038800001	Water	06/27/16 07:44	6020 ICPMS Metals Vanadium, Chromium, Arsenic, Lead 7470 Mercury 8015M DRO/ORO Organics 8021 GCV BTEX, MTBE, GRO 8260 MS Volatiles 8270 MSSV Semivolatile Organic
TRIP BLANK	2038800002	Water	06/27/16 00:00	8021 GCV BTEX, MTBE, GRO 8260 MS Volatiles
AD-4	2038800003	Water	06/27/16 10:28	<ul> <li>6020 ICPMS Metals Vanadium, Chromium, Arsenic, Lead</li> <li>7470 Mercury</li> <li>8015M DRO/ORO Organics</li> <li>8021 GCV BTEX, MTBE, GRO</li> <li>8260 MS Volatiles</li> <li>8270 MSSV Semivolatile Organic</li> </ul>
AD-3	2038800004	Water	06/27/16 11:37	6020 ICPMS Metals Vanadium, Chromium, Arsenic, Lead 7470 Mercury 8015M DRO/ORO Organics 8021 GCV BTEX, MTBE, GRO 8260 MS Volatiles 8270 MSSV Semivolatile Organic
57-A	2038800005	Water	06/27/16 12:42	<ul> <li>6020 ICPMS Metals</li> <li>6020 ICPMS Metals</li> <li>Vanadium, Chromium, Arsenic, Lead</li> <li>7470 Mercury</li> <li>8015M DRO/ORO Organics</li> <li>8021 GCV BTEX, MTBE, GRO</li> <li>8260 MS Volatiles</li> <li>8270 MSSV Semivolatile Organic</li> </ul>
AD-1	2038800006	Water	06/27/16 13:38	<ul> <li>6020 ICPMS Metals Vanadium, Chromium, Arsenic, Lead</li> <li>7470 Mercury</li> <li>8015M DRO/ORO Organics</li> <li>8021 GCV BTEX, MTBE, GRO</li> <li>8260 MS Volatiles</li> <li>8270 MSSV Semivolatile Organic</li> </ul>
FB-062716	2038800007	Water	06/27/16 13:42	8021 GCV BTEX, MTBE, GRO 8260 MS Volatiles
33A	2038800008	Water	06/27/16 09:01	<ul> <li>6020 ICPMS Metals</li> <li>Vanadium, Chromium, Arsenic, Lead</li> <li>7470 Mercury</li> <li>8015M DRO/ORO Organics</li> <li>8021 GCV BTEX, MTBE, GRO</li> <li>8260 MS Volatiles</li> </ul>

Please contact your project manager if you recognize any discrepancy in this form or have any questions about your project.



# SAMPLE ACKNOWLEDGMENT

	Pace Analytical		Date/Time	
Customer Sample ID	Lab ID	Matrix	Collected	Method

8270 MSSV Semivolatile Organic

Please contact your project manager if you recognize any discrepancy in this form or have any questions about your project.



#### SAMPLE ACKNOWLEDGMENT

# Analyte List

			Reporting
Customer Sample ID	Method	Compound	Limit Units
EB-062716	6020 MET ICPMS	Vanadium	0.005 mg/L
		Chromium	0.001 mg/L
		Arsenic	0.001 mg/L
		Lead	0.001 mg/L
	7470 Mercury	Mercury	0.2 ug/L
	8015M DRO/ORO Organics	Oil Range Organics (>C28-C40)	0.5 mg/L
	Ũ	Diesel Range Organic (C10-C28)	0.25 mg/L
	8021 GCV BTEX. MTBE. GRO	Gasoline Range Organics	50 ug/L
	8260 MSV Low Level	Acetone	4  ug/L
		Benzene	0.5 ug/L
		Bromodichloromethane	0.5  ug/L
		Bromoform	0.5 ug/L
		Bromomethane	0.5 ug/I
		2-Butanone (MEK)	2 ug/I
		Carbon disulfide	2 ug/L
		Carbon tetrachloride	0.5 µg/I
		Chlorobenzene	0.5 ug/L
		Chloroothana	0.5 ug/L
		Chloroform	
		Chloremethane	0.5 ug/L
			0.5 ug/L
		1,2-Dibromo-3-chloropropane	2 ug/L
		Dibromochloromethane	0.5 ug/L
		1,2-Dibromoethane (EDB)	l ug/L
		Dichlorodifluoromethane	1 ug/L
		1,1-Dichloroethane	0.5 ug/L
		1,2-Dichloroethane	0.5 ug/L
		1,1-Dichloroethene	0.5 ug/L
		cis-1,2-Dichloroethene	1 ug/L
		trans-1,2-Dichloroethene	0.5 ug/L
		1,2-Dichloropropane	0.5 ug/L
		cis-1,3-Dichloropropene	0.5 ug/L
		trans-1,3-Dichloropropene	0.5 ug/L
		Ethylbenzene	0.5 ug/L
		2-Hexanone	1 ug/L
		Isopropylbenzene (Cumene)	1 ug/L
		Methylene Chloride	0.5 ug/L
		4-Methyl-2-pentanone (MIBK)	1 ug/L
		Methyl-tert-butyl ether	0.5 ug/L
		Styrene	1 ug/L
		1,1,2,2-Tetrachloroethane	0.5 ug/L
		Tetrachloroethene	0.5 ug/L
		Toluene	0.5 ug/L
		1,1,1-Trichloroethane	0.5 ug/L
		1,1,2-Trichloroethane	0.5 ug/L
		Trichloroethene	0.5  ug/L
		Trichlorofluoromethane	0.5 ug/L
		Vinyl chloride	0.5 ug/L
		m&n-Xylene	2 ug/L
		o-Xylene	2 ug/L 1 ug/L
		Methyl acetate	1 ug/L 2 ug/L
			2 U2/L

Please contact your project manager if you recognize any discrepancy in this form or have any questions about your project.



#### SAMPLE ACKNOWLEDGMENT

# Analyte List

			Reporting	
Customer Sample ID	Method	Compound	Limit	Units
		tert-Butyl Alcohol	200	ug/L
		Ethanol	500	ug/L
	8270 MSSV PAH by SIM SEP	Naphthalene	0.0001	mg/L
		Acenaphthene	0.0001	mg/L
		Fluorene	0.0001	mg/L
		Phenanthrene	0.0001	mg/L
		Anthracene	0.0001	mg/L
		Fluoranthene	0.0001	mg/L
		Pyrene	0.0001	mg/L
		Benzo(a)anthracene	0.0001	mg/L
		Chrysene	0.0001	mg/L
		Benzo(b)fluoranthene	0.0001	mg/L
		Benzo(k)fluoranthene	0.0001	mg/L
		Benzo(a)pyrene	0.0001	mg/L
		Benzo(g,h,i)perylene	0.0001	mg/L
TRIP BLANK	8021 GCV BTEX, MTBE, GRO	Gasoline Range Organics	50	ug/L
	8260 MSV Low Level	Acetone	4	ug/L
		Benzene	0.5	ug/L
		Bromodichloromethane	0.5	ug/L
		Bromoform	0.5	ug/L
		Bromomethane	0.5	ug/L
		2-Butanone (MEK)	2	ug/L
		Carbon disulfide	1	ug/L
		Carbon tetrachloride	0.5	ug/L
		Chlorobenzene	0.5	ug/L
		Chloroethane	0.5	ug/L
		Chloroform	0.5	ug/L
		Chloromethane	0.5	ug/L
		1,2-Dibromo-3-chloropropane	2	ug/L
		Dibromochloromethane	0.5	ug/L
		1,2-Dibromoethane (EDB)	1	ug/L
		Dichlorodifluoromethane	1	ug/L
		1,1-Dichloroethane	0.5	ug/L
		1,2-Dichloroethane	0.5	ug/L
		1,1-Dichloroethene	0.5	ug/L
		cis-1,2-Dichloroethene	1	ug/L
		trans-1,2-Dichloroethene	0.5	ug/L
		1,2-Dichloropropane	0.5	ug/L
		cis-1,3-Dichloropropene	0.5	ug/L
		trans-1,3-Dichloropropene	0.5	ug/L
		Ethylbenzene	0.5	ug/L
		2-Hexanone	1	ug/L
		Isopropylbenzene (Cumene)	1	ug/L
		Methylene Chloride	0.5	ug/L
		4-Methyl-2-pentanone (MIBK)	1	ug/L
		Methyl-tert-butyl ether	0.5	ug/L
		Styrene	1	ug/L
		1,1,2,2-Tetrachloroethane	0.5	ug/L
		Tetrachloroethene	0.5	ug/L
		Toluene	0.5	ug/L

Please contact your project manager if you recognize any discrepancy in this form or have any questions about your project.



# SAMPLE ACKNOWLEDGMENT

# Analyte List

			Reporting
Customer Sample ID	Method	Compound	Limit Units
		1,1,1-Trichloroethane	0.5 ug/L
		1,1,2-Trichloroethane	0.5 ug/L
		Trichloroethene	0.5 ug/L
		Trichlorofluoromethane	0.5 ug/L
		Vinyl chloride	0.5 ug/L
		m&p-Xylene	2 ug/L
		o-Xylene	1 ug/L
		Methyl acetate	2 ug/L
		tert-Butyl Alcohol	200 ug/L
		Ethanol	500 ug/L
AD-4	6020 MET ICPMS	Vanadium	0.005 mg/L
		Chromium	0.001 mg/L
		Arsenic	0.001 mg/L
		Lead	0.001 mg/L
	7470 Mercury	Mercury	0.2 ug/L
	8015M DRO/ORO Organics	Oil Range Organics (>C28-C40)	0.5 mg/L
		Diesel Range Organic (C10-C28)	0.25 mg/L
	8021 GCV BTEX, MTBE, GRO	Gasoline Range Organics	50 ug/L
	8260 MSV Low Level	Acetone	4 ug/L
		Benzene	0.5 ug/L
		Bromodichloromethane	0.5 ug/L
		Bromoform	0.5 ug/L
		Bromomethane	0.5 ug/L
		2-Butanone (MEK)	2 ug/L
		Carbon disulfide	1 ug/L
		Carbon tetrachloride	0.5 ug/L
		Chlorobenzene	0.5 ug/L
		Chloroethane	0.5 ug/L
		Chloroform	0.5 ug/L
		Chloromethane	0.5 ug/L
		1,2-Dibromo-3-chloropropane	2 ug/L
		Dibromochloromethane	0.5 ug/L
		1,2-Dibromoethane (EDB)	1 ug/L
		Dichlorodifluoromethane	1 ug/L
		1,1-Dichloroethane	0.5 ug/L
		1,2-Dichloroethane	0.5 ug/L
		1,1-Dichloroethene	0.5 ug/L
		cis-1,2-Dichloroethene	1 ug/L
		trans-1,2-Dichloroethene	0.5 ug/L
		1,2-Dichloropropane	0.5 ug/L
		cis-1,3-Dichloropropene	0.5 ug/L
		trans-1,3-Dichloropropene	0.5 ug/L
		Ethylbenzene	0.5 ug/L
		2-Hexanone	1 ug/L
		Isopropylbenzene (Cumene)	1 ug/L
		Methylene Chloride	0.5 ug/L
		4-Methyl-2-pentanone (MIBK)	1 ug/L
		Methyl-tert-butyl ether	0.5 ug/L
		Styrene	1 ug/L
		1,1,2,2-Tetrachloroethane	0.5 ug/L

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#### SAMPLE ACKNOWLEDGMENT

# Analyte List

			Reporting	
Customer Sample ID	Method	Compound	Limit	Units
		Tetrachloroethene	0.5	ug/L
		Toluene	0.5	ug/L
		1,1,1-Trichloroethane	0.5	ug/L
		1,1,2-Trichloroethane	0.5	ug/L
		Trichloroethene	0.5	ug/L
		Trichlorofluoromethane	0.5	ug/L
		Vinyl chloride	0.5	ug/L
		m&p-Xylene	2	ug/L
		o-Xvlene	1	ug/L
		Methyl acetate	2	ug/L
		tert-Butyl Alcohol	200	ug/L
		Ethanol	500	ug/L
	8270 MSSV PAH by SIM SEP	Nanhthalene	0.0001	mg/I
	0270 MBB V 1741 by Bivi BEI	Acenanbthene	0.0001	mg/L
		Fluorene	0.0001	mg/L mg/I
		Phononthrono	0.0001	mg/L
			0.0001	mg/L
		Anthracene	0.0001	mg/L
		Fluorantnene	0.0001	mg/L
		Pyrene	0.0001	mg/L
		Benzo(a)anthracene	0.0001	mg/L
		Chrysene	0.0001	mg/L
		Benzo(b)fluoranthene	0.0001	mg/L
		Benzo(k)fluoranthene	0.0001	mg/L
		Benzo(a)pyrene	0.0001	mg/L
		Benzo(g,h,i)perylene	0.0001	mg/L
AD-3	6020 MET ICPMS	Vanadium	0.005	mg/L
		Chromium	0.001	mg/L
		Arsenic	0.001	mg/L
		Lead	0.001	mg/L
	7470 Mercury	Mercury	0.2	ug/L
	8015M DRO/ORO Organics	Oil Range Organics (>C28-C40)	0.5	mg/L
		Diesel Range Organic (C10-C28)	0.25	mg/L
	8021 GCV BTEX, MTBE, GRO	Gasoline Range Organics	50	ug/L
	8260 MSV Low Level	Acetone	4	ug/L
		Benzene	0.5	ug/L
		Bromodichloromethane	0.5	ug/L
		Bromoform	0.5	ug/L
		Bromomethane	0.5	ug/L
		2-Butanone (MEK)	2	ug/L
		Carbon disulfide	1	ug/L
		Carbon tetrachloride	0.5	ug/L
		Chlorobenzene	0.5	ug/L
		Chloroethane	0.5	19/L
		Chloroform	0.5	ug/L
		Chloromethane	0.5	ug/L
		1.2-Dibromo-3-chloropropage	0.5	119/L
		Dibromochloromethane	0.5	ug/L
		1.2-Dibromoethane (EDR)	0.5	ug/I
		Dichlorodifluoromethane	1	ug/I
		1 1-Dichloroethane	1	ug/L ug/I
		1,1-Dichloroeulane	0.5	ug/L

Please contact your project manager if you recognize any discrepancy in this form or have any questions about your project.



# SAMPLE ACKNOWLEDGMENT

# Analyte List

			Reporting
Customer Sample ID	Method	Compound	Limit Units
		1,2-Dichloroethane	0.5 ug/L
		1,1-Dichloroethene	0.5 ug/L
		cis-1,2-Dichloroethene	1 ug/L
		trans-1,2-Dichloroethene	0.5 ug/L
		1,2-Dichloropropane	0.5 ug/L
		cis-1,3-Dichloropropene	0.5 ug/L
		trans-1,3-Dichloropropene	0.5 ug/L
		Ethylbenzene	0.5 ug/L
		2-Hexanone	1 ug/L
		Isopropylbenzene (Cumene)	1 ug/L
		Methylene Chloride	0.5 ug/L
		4-Methyl-2-pentanone (MIBK)	1 ug/L
		Methyl-tert-butyl ether	0.5 ug/L
		Styrene	1 ug/L
		1.1.2.2-Tetrachloroethane	0.5 ug/L
		Tetrachloroethene	0.5  ug/L
		Toluene	0.5  ug/L
		1 1 1-Trichloroethane	0.5 ug/L
		1 1 2-Trichloroethane	0.5 ug/I
		Trichloroethene	0.5 ug/L
		Trichlorofluoromethane	0.5 ug/L
		Vinyl chloride	0.5 ug/L
		m&n_Xylene	2 µg/I
		o Xylene	2 ug/L
		Methyl acetate	$\frac{1}{2} ug/L$
		tort Putul Alashal	2 ug/L 200 ug/L
		Ethonol	200 ug/L
	9270 MCCV DAILL CIM CED	Ethanoi	0.0001 m. //
	8270 MSS V PAH by SIM SEP		0.0001 mg/L
		Elverano	0.0001 mg/L
		Pluorene Disas anti-	0.0001 mg/L
			0.0001 mg/L
		Flagmentheme	0.0001 mg/L
		Fluorantnene	0.0001 mg/L
		Pyrene	0.0001 mg/L
		Benzo(a)anthracene	0.0001 mg/L
		Chrysene	0.0001 mg/L
		Benzo(b)fluoranthene	0.0001 mg/L
		Benzo(k)fluoranthene	0.0001 mg/L
		Benzo(a)pyrene	0.0001 mg/L
		Benzo(g,h,1)perylene	0.0001 mg/L
57-A	6020 MET ICPMS	Vanadium	0.005 mg/L
		Chromium	0.001 mg/L
		Arsenic	0.001 mg/L
		Lead	0.001 mg/L
	7470 Mercury	Mercury	0.2 ug/L
	8015M DRO/ORO Organics	Oil Range Organics (>C28-C40)	0.5 mg/L
		Diesel Range Organic (C10-C28)	0.25 mg/L
	8021 GCV BTEX, MTBE, GRO	Gasoline Range Organics	50 ug/L
	8260 MSV Low Level	Acetone	4 ug/L
		Benzene	0.5 ug/L

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# SAMPLE ACKNOWLEDGMENT

# Analyte List

Customer Sample ID	Method	Compound	Reporting Limit Units
		Bromodichloromethane	0.5 ug/L
		Bromoform	0.5 ug/L
		Bromomethane	0.5 ug/L
		2-Butanone (MEK)	2 ug/L
		Carbon disulfide	1 ug/L
		Carbon tetrachloride	0.5 ug/L
		Chlorobenzene	0.5 ug/L
		Chloroethane	0.5 ug/L
		Chloroform	0.5 ug/L
		Chloromethane	0.5 ug/L
		1,2-Dibromo-3-chloropropane	2 ug/L
		Dibromochloromethane	0.5 ug/L
		1.2-Dibromoethane (EDB)	1  ug/L
		Dichlorodifluoromethane	1 ug/L
		1.1-Dichloroethane	0.5 ug/L
		1.2-Dichloroethane	0.5 ug/L
		1.1-Dichloroethene	0.5  ug/L
		cis-1 2-Dichloroethene	1 ug/L
		trans-1 2-Dichloroethene	0.5  ug/L
		1 2-Dichloropropane	0.5 ug/I
		cis-1 3-Dichloropropene	0.5  ug/L
		trans-1 3-Dichloropropene	0.5 ug/L
		Ethylbenzene	0.5 ug/L
		2-Hevanone	1. ug/I
		Isopropylbenzene (Cumene)	1 ug/I
		Methylene Chloride	0.5  ug/L
		4-Methyl-2-pentanone (MIBK)	1 ug/L
		Methyl-tert-butyl ether	0.5  ug/L
		Styrana	0.5 ug/L
		1 1 2 2-Tetrachloroethane	0.5  ug/L
		Tetrachloroethene	0.5  ug/L
		Toluene	0.5  ug/L
		1 1 1 Trichloroethane	0.5 ug/L
		1,1,2 Trichloroethane	0.5 ug/L
		Trichloroethene	0.5 ug/L
		Trichlorofluoromathana	0.5 ug/L
		Vinul ablarida	0.5 ug/L
		winyi chionde	0.5 ug/L
			2 ug/L
		0-Aylene	1 ug/L
		Methyl acetate	2 ug/L
		tert-Butyl Alconol	200 ug/L
		Etnanol	500 ug/L
	8270 MSSV PAH by SIM SEP		0.0001 mg/L
		Acenaphtnene	0.0001 mg/L
		Fluorene	0.0001 mg/L
		Phenanthrene	0.0001 mg/L
		Anthracene	0.0001 mg/L
		Fluoranthene	0.0001 mg/L
		Pyrene	0.0001 mg/L
		Benzo(a)anthracene	0.0001 mg/L

Please contact your project manager if you recognize any discrepancy in this form or have any questions about your project.



# SAMPLE ACKNOWLEDGMENT

# Analyte List

			Reporting
Customer Sample ID	Method	Compound	Limit Units
		Chrysene	0.0001 mg/L
		Benzo(b)fluoranthene	0.0001 mg/L
		Benzo(k)fluoranthene	0.0001 mg/L
		Benzo(a)pyrene	0.0001 mg/L
		Benzo(g,h,i)perylene	0.0001 mg/L
AD-1	6020 MET ICPMS	Vanadium	0.005 mg/L
		Chromium	0.001 mg/L
		Arsenic	0.001 mg/L
		Lead	0.001 mg/L
	7470 Mercury	Mercury	0.2 ug/L
	8015M DRO/ORO Organics	Oil Range Organics (>C28-C40)	0.5 mg/L
	č	Diesel Range Organic (C10-C28)	0.25 mg/L
	8021 GCV BTEX. MTBE. GRO	Gasoline Range Organics	50 ug/L
	8260 MSV Low Level	Acetone	4 ug/L
		Benzene	0.5 ug/L
		Bromodichloromethane	0.5 ug/L
		Bromoform	0.5 ug/L
		Bromomethane	0.5 ug/L
		2-Butanone (MEK)	2. ug/L
		Carbon disulfide	1 ng/L
		Carbon tetrachloride	0.5 µg/L
		Chlorobenzene	0.5 ug/L
		Chloroethane	0.5 ug/L
		Chloroform	0.5 ug/L
		Chloromethane	0.5 ug/L
		1.2 Dibromo 3 chloropropane	0.5 ug/L
		Dibromochloromethane	2 ug/L
		1.2 Dibromosthana (EDP)	0.5 ug/L
		Dichlorodifluoromethana	
		1 1 Dichloroethane	1  ug/L
		1.2 Dichloroethane	0.5 ug/L
		1,2-Dichloroothane	0.5 ug/L
		ais 1.2 Dishloroothono	0.5 ug/L
		trans 1.2 Dichloroethene	1  ug/L
		1.2 Dishlarannana	0.5 ug/L
		i. 1.2 Dichloropropane	0.5 ug/L
		trang 1.2 Dichloropropene	0.5 ug/L
		Ethylhongono	0.5 ug/L
			0.5 ug/L
		2-Hexanone	I ug/L
		Methodana Chlorida	
		Methylene Chloride	0.5 ug/L
		4-Methyl-2-pentanone (MIBK)	
		wietnyi-tert-butyi ether	0.5 ug/L
		Styrene	l ug/L
		1,1,2,2-1etrachloroethane	0.5 ug/L
		Tetrachloroethene	0.5 ug/L
		Ioluene	0.5 ug/L
		1,1,1-Trichloroethane	0.5 ug/L
		1,1,2-Trichloroethane	0.5 ug/L
		Trichloroethene	0.5 ug/L

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# SAMPLE ACKNOWLEDGMENT

# Analyte List

			Reporting
Customer Sample ID	Method	Compound	Limit Units
		Trichlorofluoromethane	0.5 ug/L
		Vinyl chloride	0.5 ug/L
		m&p-Xylene	2 ug/L
		o-Xylene	1 ug/L
		Methyl acetate	2 ug/L
		tert-Butyl Alcohol	200 ug/L
		Ethanol	500 ug/L
	8270 MSSV PAH by SIM SEP	Naphthalene	0.0001 mg/L
	-	Acenaphthene	0.0001 mg/L
		Fluorene	0.0001 mg/L
		Phenanthrene	0.0001 mg/L
		Anthracene	0.0001 mg/L
		Fluoranthene	0.0001 mg/L
		Pyrene	0.0001  mg/L
		Benzo(a)anthracene	0.0001  mg/L
		Chrysene	0.0001  mg/L
		Benzo(b)fluoranthene	0.0001  mg/L
		Benzo(k)fluoranthene	0.0001  mg/L
		Benzo(a)nyrene	0.0001 mg/L
		Benzo(g h i)pervlene	0.0001 mg/L
FR 062716	8021 GCV BTEX MTRE CPO	Gasoline Pange Organics	50. ug/I
10-002/10	8260 MSV Low Level	Acetone	50 ug/L
	8200 MIS V LOW LEVEL	Bonzono	4  ug/L
		Denzene	0.5 ug/L
		Bromoform	0.5 ug/L
		Bromotorm	0.5 ug/L
		Bromometnane	0.5 ug/L
		2-Butanone (MEK)	2 ug/L
		Carbon disulfide	I ug/L
		Carbon tetrachloride	0.5 ug/L
		Chlorobenzene	0.5 ug/L
		Chloroethane	0.5 ug/L
		Chloroform	0.5 ug/L
		Chloromethane	0.5 ug/L
		1,2-Dibromo-3-chloropropane	2 ug/L
		Dibromochloromethane	0.5 ug/L
		1,2-Dibromoethane (EDB)	1 ug/L
		Dichlorodifluoromethane	1 ug/L
		1,1-Dichloroethane	0.5 ug/L
		1,2-Dichloroethane	0.5 ug/L
		1,1-Dichloroethene	0.5 ug/L
		cis-1,2-Dichloroethene	1 ug/L
		trans-1,2-Dichloroethene	0.5 ug/L
		1,2-Dichloropropane	0.5 ug/L
		cis-1,3-Dichloropropene	0.5 ug/L
		trans-1,3-Dichloropropene	0.5 ug/L
		Ethylbenzene	0.5 ug/L
		2-Hexanone	1 ug/L
		Isopropylbenzene (Cumene)	1 ug/L
		Methylene Chloride	0.5 ug/L
		4-Methyl-2-pentanone (MIBK)	1 ug/L

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# SAMPLE ACKNOWLEDGMENT

# Analyte List

			Reporting
Customer Sample ID	Method	Compound	Limit Units
		Methyl-tert-butyl ether	0.5 ug/L
		Styrene	1 ug/L
		1,1,2,2-Tetrachloroethane	0.5 ug/L
		Tetrachloroethene	0.5 ug/L
		Toluene	0.5 ug/L
		1,1,1-Trichloroethane	0.5 ug/L
		1,1,2-Trichloroethane	0.5 ug/L
		Trichloroethene	0.5 ug/L
		Trichlorofluoromethane	0.5 ug/L
		Vinyl chloride	0.5 ug/L
		m&p-Xylene	2 ug/L
		o-Xylene	1 ug/L
		Methyl acetate	2 ug/L
		tert-Butyl Alcohol	200 ug/L
		Ethanol	500 ug/L
33A	6020 MET ICPMS	Vanadium	0.005 mg/L
		Chromium	0.001  mg/L
		Arsenic	0.001  mg/L
		Lead	0.001  mg/L
	7470 Mercury	Mercury	0.2  ug/L
	8015M DRO/ORO Organics	Oil Range Organics (>C28-C40)	0.5  mg/L
	soron DRO/ORO Organies	Diesel Range Organic (C10-C28)	0.25 mg/L
	8021 GCV BTEX MTBE GRO	Gasoline Range Organics	50 µg/I
	8260 MSV Low Level	A cetone	4 ng/L
	3200 MBV LOW LEVEL	Benzene	-4  ug/L
		Bromodichloromethane	0.5 ug/L
		Bromoform	0.5 ug/L
		Bromomothana	0.5 ug/L
		2 Butenone (MEK)	0.5 ug/L
		2-Butanone (MEK)	2  ug/L
		Carbon tatraphlarida	1  ug/L
		Chlorobenzone	0.5 ug/L
		Chloroothana	0.5 ug/L
		Chloroform	0.5  ug/L
		Chloromothene	0.5  ug/L
		1.2 Dikromo 2 oklanomonomo	0.5 ug/L
		Dibrows ship was ship and	2  ug/L
		1.2 Difference (EDD)	0.5 ug/L
		Dishlars diffuserent theme	1 ug/L
		1 1 Dichlamathana	1 ug/L
		1,1-Dichloroethane	0.5 ug/L
		1,2-Dichloroethane	0.5 ug/L
		1,1-Dichloroethene	0.5 ug/L
		cis-1,2-Dichloroethene	I ug/L
		trans-1,2-Dichloroethene	0.5 ug/L
		1,2-Dichloropropane	0.5 ug/L
		cis-1,3-Dichloropropene	0.5 ug/L
		trans-1,3-Dichloropropene	0.5 ug/L
		Ethylbenzene	0.5 ug/L
		2-Hexanone	1 ug/L
		Isopropylbenzene (Cumene)	1 ug/L

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# SAMPLE ACKNOWLEDGMENT

# Analyte List

			Reporting
Customer Sample ID	Method	Compound	Limit Units
		Methylene Chloride	0.5 ug/L
		4-Methyl-2-pentanone (MIBK)	1 ug/L
		Methyl-tert-butyl ether	0.5 ug/L
		Styrene	1 ug/L
		1,1,2,2-Tetrachloroethane	0.5 ug/L
		Tetrachloroethene	0.5 ug/L
		Toluene	0.5 ug/L
		1,1,1-Trichloroethane	0.5 ug/L
		1,1,2-Trichloroethane	0.5 ug/L
		Trichloroethene	0.5 ug/L
		Trichlorofluoromethane	0.5 ug/L
		Vinyl chloride	0.5 ug/L
		m&p-Xylene	2 ug/L
		o-Xylene	1 ug/L
		Methyl acetate	2 ug/L
		tert-Butyl Alcohol	200 ug/L
		Ethanol	500 ug/L
	8270 MSSV PAH by SIM SEP	Naphthalene	0.0001 mg/L
		Acenaphthene	0.0001 mg/L
		Fluorene	0.0001 mg/L
		Phenanthrene	0.0001 mg/L
		Anthracene	0.0001 mg/L
		Fluoranthene	0.0001 mg/L
		Pyrene	0.0001 mg/L
		Benzo(a)anthracene	0.0001 mg/L
		Chrysene	0.0001 mg/L
		Benzo(b)fluoranthene	0.0001 mg/L
		Benzo(k)fluoranthene	0.0001 mg/L
		Benzo(a)pyrene	0.0001 mg/L
		Benzo(g,h,i)perylene	0.0001 mg/L

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# SAMPLE ACKNOWLEDGMENT

Samples Submitted By:	BBL Caribe / Arcadis PR	Pace Project Manager:	Juan Redondo
Client Project ID:	RCRA RFI-USEPA		Phone (787)720-0319
Client PO#:	None		Juan.redondo@paceiabs.com
		Pace Analytical Project ID:	2035121
		Samples Received:	April 13, 2016 01:30 PM
		Estimated Completion:	April 27, 2016

CC: Abner Hernandez, Efrain Calderon, Marianela Mercado-Burgos, Sharon Colon

	Pace Analytical		Date/Time	
Customer Sample ID	Lab ID	Matrix	Collected	Method
EB-041116	2035121001	Water	04/11/16 09:20	8015M DRO/ORO Organics
				8021 GCV BTEX, MTBE, GRO
				8260 MSV
WWTP-SB-1-2-3	2035121002	Solid	04/11/16 10:10	8015M DRO/ORO Organics
				8021 GCV BTEX, MTBE, GRO Med L
				8260 MSV 5035 Prep
DUP 1	2035121003	Solid	04/11/16 00:00	8015M DRO/ORO Organics
				8021 GCV BTEX, MTBE, GRO Med L
				8260 MSV 5035 Prep
FB-041116	2035121004	Water	04/11/16 10:30	8021 GCV BTEX, MTBE, GRO
				8260 MSV
TB041116	2035121005	Water	04/11/16 10:30	8021 GCV BTEX, MTBE, GRO
				8260 MSV
EB-041216	2035121006	Water	04/12/16 08:25	8015M DRO/ORO Organics
				8021 GCV BTEX, MTBE, GRO
				8260 MSV
WWTP-SB-2-4-5	2035121007	Solid	04/12/16 08:51	8015M DRO/ORO Organics
				8021 GCV BTEX, MTBE, GRO Med L
				8260 MSV 5035 Prep
FB-041216	2035121008	Water	04/12/16 09:35	8021 GCV BTEX, MTBE, GRO
				8260 MSV
EB-041316	2035121009	Water	04/13/16 10:15	8015M DRO/ORO Organics
				8021 GCV BTEX, MTBE, GRO
				8260 MSV
FB-041316	2035121010	Water	04/13/16 11:30	8021 GCV BTEX, MTBE, GRO
				8260 MSV
FOL-1-16	2035121011	Solid	04/13/16 10:37	8015M DRO/ORO Organics
				8021 GCV BTEX, MTBE, GRO Med L
				8260 MSV 5035 Prep
FOL-2-16	2035121012	Solid	04/13/16 11:15	8015M DRO/ORO Organics
				8021 GCV BTEX, MTBE, GRO Med L
				8260 MSV 5035 Prep



#### SAMPLE ACKNOWLEDGMENT

# Analyte List

			Reporting
Customer Sample ID	Method	Compound	Limit Units
EB-041116	8015M DRO/ORO Organics	Oil Range Organics (>C28-C40)	500 ug/L
	-	Diesel Range Organic (C10-C28)	250 ug/L
	8021 GCV BTEX, MTBE, GRO	Gasoline Range Organics	50 ug/L
	8260 MSV	Benzene	5 ug/L
		Toluene	5 ug/L
		Ethylbenzene	5 ug/L
		m&p-Xylene	10 ug/L
		o-Xylene	5 ug/L
		Methyl-tert-butyl ether	5 ug/L
		Ethanol	500 ug/L
WWTP-SB-1-2-3	8015M DRO/ORO Organics	Oil Range Organics (>C28-C40)	50000 ug/kg
	C	Diesel Range Organic (C10-C28)	10000 ug/kg
	8021 GCV BTEX, MTBE, GRO Med L	Gasoline Range Organics	2500 ug/kg
	8260 MSV 5035 Low Level	Benzene	5 ug/kg
		Toluene	5 ug/kg
		Ethylbenzene	5 ug/kg
		m&p-Xylene	10 ug/kg
		o-Xylene	5 ug/kg
		Methyl-tert-butyl ether	5 ug/kg
		Ethanol	500 ug/kg
DUP 1	8015M DRO/ORO Organics	Oil Range Organics (>C28-C40)	50000 ug/kg
	er e	Diesel Range Organic (C10-C28)	10000 ug/kg
	8021 GCV BTEX, MTBE, GRO Med L	Gasoline Range Organics	2500 ug/kg
	8260 MSV 5035 Low Level	Benzene	5 ug/kg
		Toluene	5 ug/kg
		Ethylbenzene	5 ug/kg
		m&p-Xvlene	10 ug/kg
		o-Xylene	5 ug/kg
		Methyl-tert-butyl ether	5 ug/kg
		Ethanol	500 ug/kg
FB-041116	8021 GCV BTEX, MTBE, GRO	Gasoline Range Organics	50 ug/L
	8260 MSV	Benzene	5 ug/L
		Toluene	5 ug/L
		Ethylbenzene	5 ug/L
		m&p-Xvlene	10 ug/L
		o-Xvlene	5 ug/L
		Methyl-tert-butyl ether	5 ug/L
		Ethanol	500 ug/L
TB041116	8021 GCV BTEX, MTBE, GRO	Gasoline Range Organics	50 ug/L
	8260 MSV	Benzene	5 ug/L
		Toluene	5 ug/L
		Ethylbenzene	5 ug/L
		m&p-Xvlene	10 ug/L
		o-Xvlene	5 ug/L
		Methyl-tert-butyl ether	5 ug/L
		Ethanol	500 ug/L
EB-041216	8015M DRO/ORO Organics	Oil Range Organics (>C28-C40)	500 ug/L
	<b>0</b>	Diesel Range Organic (C10-C28)	250 ug/L
	8021 GCV BTEX. MTBE, GRO	Gasoline Range Organics	50 ug/L
	8260 MSV	Benzene	5 ug/L

Please contact your project manager if you recognize any discrepancy in this form or have any questions about your project.



# SAMPLE ACKNOWLEDGMENT

# Analyte List

Customer Sample ID         Method         Compound         Units           Totacs         5				Reporting	
FB-041216         8015M DROORO Organics         5007.           WWTP-SB-24-5         8015M DROORO Organics         5018 mape Organics (C10-230)         5000 mg/kg           WWTP-SB-24-5         8015M DROORO Organics         5018 mape Organics (C10-230)         5000 mg/kg           WWTP-SB-24-5         8015M DROORO Organics         5018 mape Organics (C10-230)         5000 mg/kg           B021 OCV BTEX, MTBE, GRO Medl         Gasoline Range Organics         2200 mg/kg           B021 OCV BTEX, MTBE, GRO Medl         Gasoline Range Organics         200 mg/kg           FB-041216         8021 OCV BTEX, MTBE, GRO         Gasoline Range Organics         50 mg/l.           FB-041216         8021 OCV BTEX, MTBE, GRO         Gasoline Range Organics         50 mg/l.           FB-041316         8015M DROORO Organics         Gasoline Range Organics         50 mg/l.           EB-041316         8015M DROORO Organics         Gasoline Range Organics (C10-C28)         50 mg/l.           EB-041316         8015M DROORO Organics         Gasoline Range Organics (C10-C28)         50 mg/l.           EB-041316         8015M DROORO Organics         Gasoline Range Organics (C10-C28)         50 mg/l.           EB-041316         8015M DROORO Organics         Gasoline Range Organics (C10-C28)         50 mg/l.           EB-041316         8015M DROORO Organics </th <th>Customer Sample ID</th> <th>Method</th> <th>Compound</th> <th>Limit</th> <th>Units</th>	Customer Sample ID	Method	Compound	Limit	Units
FB-041216         Sigle         Sigle           NWTP-SB-24-5         B015M DROORO Organics         Ol Range Organics (C10-C28)         Sigle           WWTP-SB-24-5         B015M DROORO Organics         Ol Range Organics (C10-C28)         Sigle           B016M DROORO Organics         Gasoline Range Organics (C10-C28)         Sigle         Sigle           B016M DROORO Organics         Gasoline Range Organics (C10-C28)         Sigle         Sigle           B016M DROORO Organics         Gasoline Range Organics         Sigle         Sigle           FB-041216         MCD CV HTEX, MTBL, GRO         Gasoline Range Organics         Sigle         Sigle           FB-041216         MCD CV HTEX, MTBL, GRO         Gasoline Range Organics (C10-C28)         Sigle         Sigle           FB-041216         MCD COV Droganics         Gasoline Range Organics (C10-C28)         Sigle         Sigle           FB-041216         MCD COV Organics         Gasoline Range Organics (C10-C28)         Sigle         Sigle           FB-041316			Toluene	5	ug/L
wdp.3/prime         indp.3/prime         indp.3/prime         indp.3/prime           WTP-SB-2-4-5         N015M DROORO Organics         indp.3/prime         indp.3/prime         indp.3/prime           WTP-SB-2-4-5         N015M DROORO Organics         indp.3/prime         indp.3/prime         indp.3/prime           8021 GCV BTEX, MTBE, GRO MA         Board Reage Organics (C10-28)         indp.3/prime         indp.3/prime           8200 MSV 5035 Low Low         Board Reage Organics (C10-28)         indp.3/prime         indp.3/prime           8200 MSV 5035 Low Low         Board Reage Organics (C10-28)         indp.3/prime         indp.3/prime           8200 MSV 5035 Low Low         Board Reage Organics (C10-28)         indp.3/prime         indp.3/prime           8200 MSV 5035 Low Low         Board Reage Organics (C10-28)         indp.3/prime         indp.3/prime           8200 MSV 5035 Low Low         Board Reage Organics (C10-28)         indp.3/prime         indp.3/prime           8200 MSV 500			Ethylbenzene	5	ug/L
o-Xiene5 'ug1.Humai5 ug1.Enhanoi500 ug1.Enhanoi500 ug1.Enhanoi500 ug3.Boeal Range Organics (>228.C401)5000 ug4g.820 OK'D BTEX, MTBE, GRO MediGasofine Range Organics (C10-C28)820 OK'D S03 Low LevelRanzene Organics (C10-C28)Ranzene5 ug4g.1000010000 ug4g.1000010000 ug4g.1000010000 ug4g.1000010000 ug4g.1000010000 ug4g.1000010000 ug4g.10000100000 ug4g.10000100000 ug4g.100001000000000000000000000000000000000000			m&p-Xylene	10	ug/L
Meinly-lert.Null effect5yELWMTP-SB-2.4.58015M DRO:ORO Organics018 arge Organics (>C28.C40)5000usk8021 OCV BTEX, MTBE, GRO MEIGalorie Range Organics (>C10.C28.C40)5000usk8200 MSV 5035 Low LevelBaczene5usk8200 MSV 5035 Low LevelBaczene5uskBaczene6uskusk6400 MSV 5035 Low LevelBaczene5usk8200 MSV 5035 Low LevelBaczene5usk8200 MSV 5035 Low LevelBaczene5usk8200 MSVGalorie Range Organics5usk8200 MSVGalorie Range Organics5usk8200 MSVGalorie Range Organics5usk8200 MSVGalorie Range Organics (> C28-C40)5usk8200 MSVGalorie Range Organics (> Galorie Range Organics (> Galo			o-Xylene	5	ug/L
BinandSolo vg/LWWTP-SB-24-58015M DROORO OrganicsOil Range Organics (C28/C40)50000 ug/k8021 GCV BTEX, MTBE, GRO MedlGasofice Range Organics (C10-C28)0000 ug/k8220 GW STEX, MTBE, GRO MedlGasofice Range Organics5 ug/kg8200 MSV 5035 Low LevelBindberazien5 ug/kgBindberazien5 ug/kg000 ug/kgMedy-Vieten5 ug/kg000 ug/kgMedy-Vieten5 ug/kg000 ug/kgBindberazien5 ug/kg000 ug/kg <tr< td=""><td></td><td></td><td>Methyl-tert-butyl ether</td><td>5</td><td>ug/L</td></tr<>			Methyl-tert-butyl ether	5	ug/L
WMTP-SB-2.4-5Ol15M DRO/OR OrganiesOl18 Argo Organies (-C3C-401)5000isk8021 GCV BTEX, MTBE, GRO MailGasoline Range Organies (C10-C28)1000usk8260 MSV 5035 Lov LovelPenzene5usk8260 MSV 5035 Lov LovelFulylberznen5usk840 MSV 5035 Lov LovelFulylberznen5usk840 MSV 5035 Lov LovelFulylberznen5usk840 MSVSoulos5usk840 MSVSoulos5usk840 MSVSoulos5usk850 MSVBenzene5usk8260 MSVBenzene5usk <t< td=""><td></td><td></td><td>Ethanol</td><td>500</td><td>ug/L</td></t<>			Ethanol	500	ug/L
ProvideDiesel Range Organics (C10-C23)1000010078210 MSV 5035 Low LevelBenzee250032908220 MSV 5035 Low LevelBenzee510484104000510484510484104000510484510484104000Machy Jetter Junyi etter510484104000500104845104841040008260 MSV6asoline Range Organics5010411040008260 MSV10400090010411040008260 MSV104000900104110400090010411041104110400090010411041104110400090010411041104110400090010411041104110400090010411041104110410090010411041104110411190010411041104110411190010411041104110411190010411041104110411190110411041104110411190110411041104110411	WWTP-SB-2-4-5	8015M DRO/ORO Organics	Oil Range Organics (>C28-C40)	50000	ug/kg
N021 GCV BTEX, MTEE, GRO Med LGasoline Range Organics20092%Brazene5192%Brazene5192%Billylberazene5192%Billylberazene5192%O'Xylene5192%Billylberazene <t< td=""><td></td><td>ç</td><td>Diesel Range Organic (C10-C28)</td><td>10000</td><td>ug/kg</td></t<>		ç	Diesel Range Organic (C10-C28)	10000	ug/kg
8260 MSV 5035 Low Level     Benzene     5 upkg       Eduyhbenzene     5 upkg       Eduyhbenzene     10 upkg       mkp-Xylene     10 upkg       Sylene     5 upkg       mkp-Xylene     5 upkg       Bhanal     50 upkg       Bhanal     50 upkg       Bhanal     50 upkg       Bhanal     50 upkg       Bhanal     5 upkg		8021 GCV BTEX, MTBE, GRO Med L	Gasoline Range Organics	2500	ug/kg
FB-041216         S012 GCV BTEX, MTBE, GR0         Galine Rage Organics         5         Ug/k           FB-041216         8021 GCV BTEX, MTBE, GR0         Gasoline Rage Organics         5         Ug/L           FB-041216         8021 GCV BTEX, MTBE, GR0         Gasoline Rage Organics         5         Ug/L           FB-041216         8021 GCV BTEX, MTBE, GR0         Gasoline Rage Organics         5         Ug/L           FB-041216         8021 GCV BTEX, MTBE, GR0         Gasoline Rage Organics         5         Ug/L           FB-041216         8021 GCV BTEX, MTBE, GR0         Gasoline Rage Organics (C28-C40)         00         Ug/L           FB-041316         S015M DRO/ORO Organics         OI         Nugl.         -         -           EB-041316         8015M DRO/ORO Organics         OI         Nugl.         -         -           FB-041316         8015M DRO/ORO Organics         OI         Nugl.         - <td></td> <td>8260 MSV 5035 Low Level</td> <td>Benzene</td> <td>5</td> <td>ug/kg</td>		8260 MSV 5035 Low Level	Benzene	5	ug/kg
FB-041216         Still biology and state of the st			Toluene	5	ug/kg
FB-041216         8021 GCV BTEX, MTBE, GRO 8260 MSV         Gasoline Range Organics         9 ugA 0			Ethylbenzene	5	ug/kg
FB-041216\$021 GCV BTEX, MTBE, GRO\$630 ingklFB-041216\$021 GCV BTEX, MTBE, GRO\$600 ingklBenzene\$600 ingkl\$260 MSV\$600 ingkl\$100ene\$1021 </td <td></td> <td></td> <td>m&amp;p-Xylene</td> <td>10</td> <td>ug/kg</td>			m&p-Xylene	10	ug/kg
FB-041216Su2J GCV BTEX, MTBE, GRO BoxoneGasoine Range Organics50ugV controlFB-0412168021 GCV BTEX, MTBE, GRO BoxoneGasoine Range Organics50ugVBoxone5ugVEhylobenzene5ugVEhylobenzene5ugVm&p-Xylene5ugVo-Xylene50ugVo-Xylene50ugVEB-0413168015M DRO/ORO Organics01 Range Organics (>C28-C40)500ugVEB-0413168015M DRO/ORO Organics01 Range Organics (>C28-C40)500ugVEB-0413168015M DRO/ORO Organics01 Range Organics (>C28-C40)500ugVEB-0413168015M DRO/ORO Organics50ugV10EB-0413168021 GCV BTEX, MTBE, GROBarzene5ugVFB-0413168021 GCV BTEX, MTBE, GROGasoine Range Organics50ugVFB-0413168021 GCV BTEX, MTBE, GROGasoine Range Organics50ugVFB-0413168021 GCV BTEX, MTBE, GROGasoine Range Organics50ugVFD-0413168021 GCV BTEX, MTBE, GROGasoine Range Organics5ugVFD-0413168021 GCV BTEX, MTBE, GROGasoine Range Organics5ugVFD-0413168021 GCV BTEX, MTBE, GROGasoine Range Organics5ugVFD-0413168021 GCV BTEX, MTBE, GROGasoine Range Organics5ugVFD-041316901 Magy901ugV10ugVFD-0413169021 GCV BTEX, MTBE,			o-Xvlene	5	ug/kg
Br.041216EthanolS00ug/kgBr.0412168021 GCV BTEX, MTBE, GROGasoline Range Organics5ug/LFB-0412168260 MSVBenzene5ug/LBenzene0ug/LIndury-Sylene0ug/L-Indury-Sylene5ug/L-EB-0413168015M DRO/ORO OrganicsOl Range Organics (C28-C40)500ug/LBenzene5ug/L- <t< td=""><td></td><td></td><td>Methyl-tert-butyl ether</td><td>5</td><td>ug/kg</td></t<>			Methyl-tert-butyl ether	5	ug/kg
FB-041216     8021 GCV BTEX, MTBE, GRO     Gasoline Range Organics     50 ug/L       8260 MSV     Benzene     5 ug/L       Barzene     5 ug/L       Edhythenzene     5 ug/L       Edhythenzene     5 ug/L       mcp-Xylene     10 ug/L       o-Xylene     5 ug/L       EB-041316     8015M DRO/ORO Organics     01 Range Organics (>C28-C40)     500 ug/L       EB-041316     8015M DRO/ORO Organics     01 Range Organics (>C28-C40)     500 ug/L       8021 GCV BTEX, MTBE, GRO     Gasoline Range Organics (>C28-C40)     50 ug/L       8021 GCV BTEX, MTBE, GRO     Gasoline Range Organics     50 ug/L       8021 GCV BTEX, MTBE, GRO     Gasoline Range Organics     50 ug/L       8020 MSV     Benzene     5 ug/L       8020 MSV     Benzene     5 ug/L       BEH-041316     8021 GCV BTEX, MTBE, GRO     Gasoline Range Organics     500 ug/L       FB-041316     8021 GCV BTEX, MTBE, GRO     Gasoline Range Organics     50 ug/L       FB-041316     8021 GCV BTEX, MTBE, GRO     Gasoline Range Organics     50 ug/L       FB-041316     8021 GCV BTEX, MTBE, GRO     Gasoline Range Organics     50 ug/L       FD-041316     8021 GCV BTEX, MTBE, GRO     Gasoline Range Organics     5 ug/L       FD-041316     8021 GCV BTEX, MTBE, GRO     Gasoline Range			Ethanol	500	ug/kg
8260 MSVBenzene5ugLInduene5ug/LEthylbenzene10ug/Le-Xylene10ug/Le-Xylene5ug/Le-Xylene5ug/LEthonol500ug/LEthonol500ug/LEB-0413168015M DRO/ORO Organics0il Range Organics (>C28-C40)500ug/L8021 GCV BTEX, MTBE, GROGasoline Range Organics50ug/L8021 GCV BTEX, MTBE, GROGasoline Range Organics50ug/LFB-0413168021 GCV BTEX, MTBE, GROGasoline Range Organics50ug/LFB-0413168021 GCV BTEX, MTBE, GROGasoline Range Organics50ug/LFD-0413168015M DRO/ORO OrganicsGasoline Range Organics50ug/LFD-0413168015M DRO/ORO OrganicsGasoline Range Organics5ug/LFD-1-168015M DRO/ORO OrganicsOI Range Organics (>C28-C40)50000ug/LFOL-1-168015M DRO/ORO OrganicsOI Range Organi	FB-041216	8021 GCV BTEX, MTBE, GRO	Gasoline Range Organics	50	ug/L
FB-041316       Solution       5       ug/L         EB-041316       8015M DRO/ORO Organics       Oil Range Organics (>C28-C40)       500       ug/L         EB-041316       8015M DRO/ORO Organics       Oil Range Organics (>C28-C40)       500       ug/L         EB-041316       8015M DRO/ORO Organics       Oil Range Organics (>C28-C40)       500       ug/L         EB-041316       8015M DRO/ORO Organics       Oil Range Organics (>C10-C28)       250       ug/L         EB-041316       8015M DRO/ORO Organics       Diesel Range Organics (>C10-C28)       250       ug/L         EB-041316       8021 GCV BTEX, MTBE, GRO       Gaoline Range Organics       5       ug/L         EHylbenzene       5       ug/L       m&p-Xylene       10       ug/L         FB-041316       8021 GCV BTEX, MTBE, GRO       Gasoline Range Organics       50       ug/L         FB-041316       8021 GCV BTEX, MTBE, GRO       Gasoline Range Organics       5       ug/L         FB-041316       8021 GCV BTEX, MTBE, GRO       Gasoline Range Organics       5       ug/L         FB-041316       8021 GCV BTEX, MTBE, GRO       Gasoline Range Organics       5       ug/L         FD-01-16       8015M DRO/ORO Organics       Oil Range Organics (>C28-C40)       0000       ug/		8260 MSV	Benzene	5	ug/L
FB-041316         Single         5         wg/l           m&p-Xylene         10         ug/l           EB-041316         8015M DRO/ORO Organics         IRange Organics (C28-C40)         500         ug/l           EB-041316         8015M DRO/ORO Organics         Gasoline Range Organics (C10-C28)         250         ug/l           EB-041316         8015M DRO/ORO Organics         Gasoline Range Organics (C10-C28)         250         ug/l           EB-041316         8015M DRO/ORO Organics         Gasoline Range Organics         50         ug/l           EB-041316         8015M DRO/ORO Organics         Gasoline Range Organics         50         ug/l           EB-041316         8021 GCV BTEX, MTBE, GRO         Gasoline Range Organics         5         ug/l           FB-041316         8021 GCV BTEX, MTBE, GRO         Gasoline Range Organics         50         ug/l           FB-041316         8021 GCV BTEX, MTBE, GRO         Gasoline Range Organics         50         ug/l           FB-041316         8021 GCV BTEX, MTBE, GRO         Gasoline Range Organics         50         ug/l           FB-041316         8021 GCV BTEX, MTBE, GRO         Gasoline Range Organics         50         ug/l           FD-01-16         8015M DRO/ORO Organics         Gasoline Range Organics (>C28-C40			Toluene	5	ug/L
FB-0413168015M DRO/ORO Organics01ug/LEB-0413168015M DRO/ORO Organics01Range Organics (C28-C40)500ug/LEB-0413168015M DRO/ORO Organics01Range Organics (C20-C28)250ug/L8021 GCV BTEX, MTBE, GROGasoline Range Organics (C10-C28)50ug/L8260 MSVBenzene5ug/L8260 MSVBenzene5ug/L8260 MSVGasoline Range Organics50ug/L8260 MSVBenzene5ug/L8260 MSVBenzene5ug/L8260 MSVGasoline Range Organics50ug/L8260 MSVBenzene5ug/L8260 MSVGasoline Range Organics50ug/L8260 MSVBenzene5ug/L8260 MSVGasoline Range Organics50ug/L8260 MSVBenzene5ug/L8260 MSVGasoline Range Organics5ug/L8260 MSVGasoline Range Organics5ug/L8260 MSVGasoline Range Organics (> C28-C40)500ug/LFOL-1-16\$015M DRO/ORO Organics01Range Organics (> C28-C40)5000ug/LFOL-1-16\$015M DRO/ORO			Ethylbenzene	5	ug/L
FB-041316S015M DRO/ORO OrganicsOR alge Organics (>C28-C40)50 ug/LEB-0413168015M DRO/ORO OrganicsOil Range Organics (>C28-C40)500 ug/LB021 GCV BTEX, MTBE, GROGasoline Range Organics (>C28-C40)500 ug/L8021 GCV BTEX, MTBE, GROGasoline Range Organics (>C10-C28)250 ug/L8260 MSVBeneznee5 ug/LEH/lbeneznee5 ug/LEN/lene5 ug			m&p-Xylene	10	ug/L
FB-041316         5         ug/L           EB-041316         8015M DRO/ORO Organics         0il Range Organics (>C28-C40)         500         ug/L           B021 GCV BTEX, MTBE, GRO         Gasoline Range Organics         50         ug/L           8260 MSV         Benzene         5         ug/L           EH-041316         S021 GCV BTEX, MTBE, GRO         Gasoline Range Organics         5         ug/L           FB-041316         S021 GCV BTEX, MTBE, GRO         Benzene         5         ug/L           Ethylbenzene         5         ug/L         10         ug/L           FB-041316         S021 GCV BTEX, MTBE, GRO         Gasoline Range Organics         50         ug/L           FB-041316         S021 GCV BTEX, MTBE, GRO         Gasoline Range Organics         50         ug/L           FB-041316         S021 GCV BTEX, MTBE, GRO         Benzene         5         ug/L           FB-041316         S021 GCV BTEX, MTBE, GRO         Benzene         5         ug/L           FB-041316         S021 GCV BTEX, MTBE, GRO         Benzene         5         ug/L           FD-01-16         S015M DRO/ORO Organics         Gasoline Range Organics ( <c28-c40)< td="">         S000         ug/L           FOL-1-16         S015M DRO/ORO Organics         <t< td=""><td></td><td></td><td>o-Xylene</td><td>5</td><td>ug/L</td></t<></c28-c40)<>			o-Xylene	5	ug/L
Ethanol         500         ug/t           EB-041316         8015M DRO/ORO Organics         Oil Range Organics (<28.240)			Methyl-tert-butyl ether	5	ug/L
EB-0413168015M DRO/ORO OrganicsOil Range Organics (>C28-C40)500ug/LBe-0413168015M DRO/ORO OrganicsGasoline Range Organics (C10-C28)250ug/L8021 GCV BTEX, MTBE, GROGasoline Range Organics50ug/L8260 MSVBenzene5ug/LEdhylbenzene5ug/L			Ethanol	500	ug/L
Diesel Range Organic (C10-C28)250ug/L8021 GCV BTEX, MTBE, GROGasoline Range Organics50ug/L8260 MSVBenzene5ug/LToluene5ug/LEthylbenzene5ug/Lm&p-Xylene10ug/Lo-Xylene5ug/LEthylbenzene5ug/Lm&p-Xylene0ug/LEthanol500ug/LEthanol500ug/LEthylbenzene5ug/LEthanol500ug/LEthanol500ug/LEthylbenzene5ug/LEthanol500ug/LEthanol500ug/LFB-0413168021 GCV BTEX, MTBE, GROGasoline Range Organics50Benzene5ug/LToluene5ug/LEthylbenzene5ug/LEthylbenzene5ug/LMethyl-tert-butyl ether5ug/LEthanol500ug/LEthanol500ug/LEthanol500ug/LEthanol500ug/LEthanol500ug/LEthanol500ug/LEthanol500ug/LEthanol500ug/LEthanol500ug/LEthanol500ug/LEthanol500ug/LEthanol500ug/LEthanol500ug/LEthanol500ug/LEthanol<	EB-041316	8015M DRO/ORO Organics	Oil Range Organics (>C28-C40)	500	ug/L
8021 GCV BTEX, MTBE, GROGasoline Range Organics50ug/L8260 MSVBenzene5ug/L10luene5ug/Lm&p-Xylene10ug/L-Xylene5ug/L-Xylene5ug/L-Xylene5ug/L-Sylene5ug/L-Xylene5ug/L <trr>-Xylene5ug/L<td></td><td></td><td>Diesel Range Organic (C10-C28)</td><td>250</td><td>ug/L</td></trr>			Diesel Range Organic (C10-C28)	250	ug/L
8260 MSVBenzne5ugL70luene5ugLEthylbenzene5ugLEthylbenzene5ugLm&p-Xylene0ugL-XPene5ugLMethyl-tert-butyl ether5ugLEthanol500ugLFB-0413168021 GCV BTEX, MTBE, GROGasoline Range Organics50ugLFB-0413168021 GCV BTEX, MTBE, GROGasoline Range Organics5ugLFB-0413168021 GCV BTEX, MTBE, GROGasoline Range Organics5ugLFD-1168015M DRO/ORO Organics70ugLFOL-1-168015M DRO/ORO Organics0il Range Organics (>C28-C40)5000ugLFOL-1-168015M DRO/ORO Organics0il Range Organics (>C28-C40)50000ugkgFOL-1-168015M DRO/ORO Organics0il Range Organics (>C28-C40)50000ugkgFOL-1-168015M DRO/ORO Organics0il Range Organics (>C28-C40)50000ugkgFOL-1-168015M DRO/ORO OrganicsGasoline Range Organics550ugkgFOL-1-168015M DRO/ORO Organics101Gasoline Range Organics5500ugkgFOL-1-168015M DRO/ORO Organics101Gasoline Range Organics5500ugkgFOL-1-168015M DRO/ORO Organics1010ugkgFOL-1-168015M DRO/ORO Organics5ugkg10ugkgFOL-1-168015M DRO/ORO Organics5ugkg10ugkgFOL-1-168015M DRO/ORO Or		8021 GCV BTEX, MTBE, GRO	Gasoline Range Organics	50	ug/L
FB-041316         Solve Max         Solve Max         Solve Max         Solve Max           FB-041316         Solve Max         Fduplence         5         ug/L           FB-041316         8021 GCV BTEX, MTBE, GRO         Gasoline Range Organics         50         ug/L           FB-041316         8021 GCV BTEX, MTBE, GRO         Gasoline Range Organics         50         ug/L           FB-041316         8021 GCV BTEX, MTBE, GRO         Gasoline Range Organics         50         ug/L           FB-041316         8021 GCV BTEX, MTBE, GRO         Gasoline Range Organics         50         ug/L           FB-041316         8021 GCV BTEX, MTBE, GRO         Gasoline Range Organics         50         ug/L           FDL-1-16         8015 M DRO/ORO Organics         Gasoline Range Organics (>C28-C40)         5000         ug/k           FOL-1-16         8015 M DRO/ORO Organics         Oil Range Organics (>C28-C40)         50000         ug/k           FOL-1-16         8015 M DRO/ORO Organics         Oil Range Organics (>C28-C40)         5000         ug/k           FOL-1-16         8015 M DRO/ORO Organics         Oil Range Organics (>C10-C28)         10000         ug/k           FOL-1-16         8015 M DRO/ORO Organics         Oil Range Organics (>C10-C28)         10000         ug/k		8260 MSV	Benzene	5	ug/L
F0-L1-16       E0-WT       5       ug/L         F0-L1-16       8021 GCV BTEX, MTBE, GRO       Gasoline Range Organics       5       ug/L         F0-L1-16       8015M DRO/ORO Organics       6       ug/L       10       ug/L         F0-L1-16       8015M DRO/ORO Organics       0       10       ug/L         F0-L1-16 <td< td=""><td></td><td></td><td>Toluene</td><td>5</td><td>ug/L</td></td<>			Toluene	5	ug/L
FB-041316         10         ug/L           FB-041316         8021 GCV BTEX, MTBE, GRO         Gasoline Range Organics         5         ug/L           FB-041316         8021 GCV BTEX, MTBE, GRO         Gasoline Range Organics         5         ug/L           FB-041316         8021 GCV BTEX, MTBE, GRO         Benzene         5         ug/L           FB-041316         8021 GCV BTEX, MTBE, GRO         Benzene         5         ug/L           FD-116         8021 GCV BTEX, MTBE, GRO         Benzene         5         ug/L           FOL-1-16         8015 M DRO/ORO Organics         Image-Xylene         10         ug/L           FOL-1-16         8015 M DRO/ORO Organics         Oil Range Organics (>C28-C40)         5000         ug/R           FOL-1-16         8015 M DRO/ORO Organics         Oil Range Organics (>C28-C40)         50000         ug/R           FOL-1-16         8015 M DRO/ORO Organics         Oil Range Organics (>C28-C40)         50000         ug/R           FOL-1-16         8015 M DRO/ORO Organics         Oil Range Organics (>C28-C40)         50000         ug/R           FOL-1-16         8015 M DRO/ORO Organics         Oil Range Organics (>C28-C40)         50000         ug/R           FOL-1-16         8015 M DRO/ORO Organics         Oil Range Organics (>C			Ethylbenzene	5	ug/L
FB-0413166. Sylene5ug/LFB-0413168021 GCV BTEX, MTBE, GROGasoline Range Organics50ug/LFB-0413168021 GCV BTEX, MTBE, GROBenzene5ug/LFB-0413168021 GCV BTEX, MTBE, GROBenzene5ug/LFD-041316SUSVBenzene5ug/LFD-041316SUSVBenzene5ug/LFD-116SUSVBenzene5ug/LFOL-1-16SUSSUSSUSSUSFOL-1-16SUSSM DRO/ORO OrganicsOil Range Organics (>C28-C40)5000ug/LFOL-1-16SUSSM DRO/ORO OrganicsOil Range Organics (>C28-C40)S0000ug/kgFOL-1-16SUSSM DRO/ORO OrganicsGasoline Range Organics (>C28-C40)S0000ug/kgFOL-1-16SUSSM DRO/ORO OrganicsGasoline Range Organics (>C28-C40)S0000ug/kgFOL-1-16SUSSM DRO/ORO OrganicsGasoline Range Organics (>C10-C28)10000ug/kgFOL-1-16SUSSM DRO/ORO OrganicsGasoline Range Organics (>C28-C40)S0000ug/kgFOL-1-16SUSSM DRO/ORO OrganicsGasoline Range Organics (>C28-C40)S0000ug/kgFOL-1-16SUSSM DRO/ORO OrganicsGasoline Range Organics (>C28-C40)S000ug/kgFOL-1-16SUSSM DRO/ORO OrganicsGasoline Range Organics (>C28-C40)S000ug/kgFOL-1-16SUSSM DRO/ORO OrganicsGasoline Range Organics (>C28-C40)S000ug/kgFOL-1-16SUSSM DRO/ORO OrganicsGUSUSM DRO/ORO <td></td> <td></td> <td>m&amp;p-Xylene</td> <td>10</td> <td>ug/L</td>			m&p-Xylene	10	ug/L
FB-041316       8021 GCV BTEX, MTBE, GRO       Gasoline Range Organics       50       ug/L         FB-041316       8021 GCV BTEX, MTBE, GRO       Gasoline Range Organics       50       ug/L         FB-041316       8021 GCV BTEX, MTBE, GRO       Benzene       5       ug/L         FB-041316       8021 GCV BTEX, MTBE, GRO       Benzene       5       ug/L         FB-041316       8021 GCV BTEX, MTBE, GRO       Benzene       5       ug/L         FB-041316       8050 MSV       Benzene       5       ug/L         FOL-1-16       m&p-Xylene       10       ug/L         FOL-1-16       8015M DRO/ORO Organics       Oil Range Organics (>C28-C40)       5000       ug/k         FOL-1-16       8015M DRO/ORO Organics       Oil Range Organic (C10-C28)       10000       ug/kg         FOL-1-16       8021 GCV BTEX, MTBE, GRO Med L       Gasoline Range Organic (C10-C28)       10000       ug/kg         FOL-1-16       8021 GCV BTEX, MTBE, GRO Med L       Gasoline Range Organics       2500       ug/kg         FOL-1-16       8021 GCV BTEX, MTBE, GRO Med L       Gasoline Range Organics       2500       ug/kg         FOL-1-16       Benzene       5       ug/kg       10       ug/kg         FOL-1-16       Benzene <td></td> <td></td> <td>o-Xylene</td> <td>5</td> <td>ug/L</td>			o-Xylene	5	ug/L
Ethanol500ug/LFB-0413168021 GCV BTEX, MTBE, GROGasoline Range Organics50ug/L8260 MSVBenzene5ug/LToluene5ug/LEthylbenzene5ug/Lm&p-Xylene10ug/LXylene5ug/LEthanol500ug/LFOL-1-168015M DRO/ORO Organics0il Range Organics (>C28-C40)5000ug/RFOL-1-168015M DRO/ORO Organics0il Range Organic (C10-C28)10000ug/RBasel Age Organic (C10-C28)10000ug/R10ug/RFOL-1-168015M DRO/ORO OrganicsGasoline Range Organics (C10-C28)10000ug/RFOL-1-168015M DRO/ORO Organics10000ug/R10ug/RFOL-1-168015M DRO/ORO Organics0il Range Organic (C10-C28)10000ug/RFOL-1-168015M DRO/ORO Organics10000ug/R10ug/RFOL-1-168015M DRO/ORO Organics10000ug/R10ug/RFOL-1-168015M DRO/ORO Organics10000ug/R10ug/RFOL-1-168015M DRO/ORO Organics10000ug/R10ug/RFOL-1-168015M DRO/ORO Organics10ug/R10ug/RFOL-1-168015M DRO/ORO Organics10ug/R10ug/RFOL-1-168015M DRO/ORO Organics10ug/R10ug/RFOL-1-168015M DRO/ORO Organics10ug/R10ug/RFOL-			Methyl-tert-butyl ether	5	ug/L
FB-0413168021 GCV BTEX, MTBE, GROGasoline Range Organics50ug/L8260 MSVBenzene5ug/LToluene5ug/LEthylbenzene5ug/Lm&p-Xylene10ug/L-Xylene5ug/LEthanol50ug/LFOL-1-168015M DRO/ORO OrganicsOil Range Organics (>C28-C40)5000FOL-1-168015M DRO/ORO OrganicsOil Range Organics (>C28-C40)5000FOL-1-168015M DRO/ORO OrganicsOil Range Organics (C10-C28)100008021 GCV BTEX, MTBE, GRO Med LGasoline Range Organics2500ug/kg8021 GCV BTEX, MTBE, GRO Med LBenzene5ug/kg8021 GCV BTEX, MTBE, GRO Med LGasoline Range Organics5000ug/kg70luene5ug/kg10luene5ug/kg8021 GCV BTEX, MTBE, GRO Med LBenzene5ug/kg8021 GCV BTEX, MTBE, GRO Med LGasoline Range Organics5000ug/kg8021 GCV BTEX, MTBE, GRO Med LGasoline Range Organics5ug/kg70luene5ug/kg10ug/kg8020 MSV 5035 Low LevelBenzene5ug/kg8020 MSV 5035 Low Level </td <td></td> <td></td> <td>Ethanol</td> <td>500</td> <td>ug/L</td>			Ethanol	500	ug/L
ReferenceStartReferenceStart8260 MSVBenzeneStartFolueneStartFolueneStartRep-XyleneStartm&p-XyleneStartrefunctionStartFOL-1-168015M DRO/ORO OrganicsOil Range Organics (>C28-C40)S0000FOL-1-168015M DRO/ORO OrganicsOil Range Organics (>C28-C40)S0000ug/kgRenzeneStartDiesel Range Organics (C10-C28)10000ug/kgRoto MSV 5035 Low LevelBenzeneStartug/kgFolueneStartUg/kgTolueneStartRenzeneStartUg/kgUg/kgRoto MSV 5035 Low LevelBenzeneStartRenzeneStartUg/kgRoto MSV 5035 Low LevelBenzeneStartRenzeneStartUg/kgRoto MSV 5035 Low LevelBenzeneStartRenzeneStartUg/kgRoto MSV 5035 Low LevelBenzeneStartRenzeneStartUg/kgRoto MSV 5035 Low LevelBenzeneStartRenzeneStartUg/kgRenzeneStartUg/kgRenzeneStartUg/kgRenzeneStartUg/kgRenzeneStartUg/kgRenzeneStartUg/kgRenzeneStartUg/kgRenzeneStartUg/kgRenzeneStartUg/kgRenzeneStartUg/kgRenzeneStart	FB-041316	8021 GCV BTEX, MTBE, GRO	Gasoline Range Organics	50	ug/L
FOL-1-16Toluene5ug/LFOL-1-168015M DRO/ORO OrganicsOil Range Organics (>C28-C40)5000ug/LFOL-1-168015M DRO/ORO OrganicsOil Range Organics (>C28-C40)50000ug/kgBenzene5000ug/kg10000ug/kgFOL-1-168015M DRO/ORO OrganicsGasoline Range Organics (>C28-C40)50000ug/kgFOL-1-168015M DRO/ORO Organics0il Range Organics (>C28-C40)50000ug/kgFOL-1-168021 GCV BTEX, MTBE, GRO Med LGasoline Range Organics2500ug/kgBenzene5ug/kg10uene5ug/kgFOL-1-16FOL-108021 GCV BTEX, MTBE, GRO Med LEnzene5ug/kgBenzene5ug/kg10uene5ug/kgFOL-108260 MSV 5035 Low LevelBenzene5ug/kgFOL-105ug/kg10uene5ug/kgFOL-105ug/kg10uene5ug/kgFOL-105ug/kg10uene5ug/kgFOL-105ug/kg10ug/kgFOL-105ug/kg10ug/kgFOL-105ug/kg10ug/kgFOL-105ug/kg10ug/kgFOL-105ug/kg10ug/kgFOL-105ug/kg10ug/kgFOL-105ug/kg10ug/kgFOL-105ug/kg10ug/kgFOL-105ug/kg		8260 MSV	Benzene	5	ug/L
FOLLINGFORMUTEFORMUTEFORMUTEEthylbenzene5ug/Lm&p-Xylene10ug/Lo-Xylene5ug/LMethyl-tert-butyl ether5ug/LEthanol500ug/LFOL-1-168015M DRO/ORO OrganicsOil Range Organics (>C28-C40)5000ug/kgBenzene5ug/kg8021 GCV BTEX, MTBE, GRO Med LGasoline Range Organics2500ug/kg8260 MSV 5035 Low LevelBenzene5ug/kgFoluene5ug/kgFoluene5ug/kgMay Sylene10ug/kg			Toluene	5	ug/L
FOL-1-1610ug/LFOL-1-168015M DRO/ORO Organics0il Range Organics (>C28-C40)5000ug/LEthanol500ug/L0il Range Organics (>C28-C40)50000ug/kg8021 GCV BTEX, MTBE, GRO Med LGasoline Range Organics2500ug/kg8260 MSV 5035 Low LevelBenzene5ug/kgFoluene5ug/kg10uene5ug/kg610uene5ug/kg10uene5ug/kg610uene5ug/kg10uene5ug/kg610uene5ug/kg10uene10ug/kg71010ug/kg10ug/kg101010ug/kg10ug/kg10101010ug/kg10ug/kg1110101010ug/kg12141414141413141414141414141414141415141414141414141414141415141414141415141414141416141414141416141414141416141414141417141414141416 <td< td=""><td></td><td></td><td>Ethylbenzene</td><td>5</td><td>ug/L</td></td<>			Ethylbenzene	5	ug/L
FOL-1-168015M DRO/ORO OrganicsO-Xylene5ug/LFOL-1-168015M DRO/ORO OrganicsOil Range Organics (>C28-C40)5000ug/LBenzene500ug/kg8021 GCV BTEX, MTBE, GRO Med LGasoline Range Organics2500ug/kg8260 MSV 5035 Low LevelBenzene5ug/kgFoluene5ug/kg8260 MSV 5035 Low LevelBenzene5ug/kg8260 MSV 5035 Low LevelBenzene5ug/kg <td></td> <td></td> <td>m&amp;p-Xylene</td> <td>10</td> <td>ug/L</td>			m&p-Xylene	10	ug/L
FOL-1-165 ug/LFOL-1-168015M DRO/ORO OrganicsOil Range Organics (>C28-C40)5000 ug/kgDiesel Range Organics (>C28-C40)5000 ug/kg8021 GCV BTEX, MTBE, GRO Med LGasoline Range Organics2500 ug/kg8260 MSV 5035 Low LevelBenzene5 ug/kgFoluene5 ug/kgFoluene5 ug/kg8015 MDRO/ORO Organics1000 ug/kg8021 GCV BTEX, MTBE, GRO Med LBenzene8260 MSV 5035 Low LevelBenzene8260			o-Xylene	5	ug/L
FOL-1-16 8015M DRO/ORO Organics Ethanol 500 ug/L FOL-1-16 8015M DRO/ORO Organics Oil Range Organics (>C28-C40) 5000 ug/kg Diesel Range Organic (C10-C28) 10000 ug/kg 8021 GCV BTEX, MTBE, GRO Med L 8260 MSV 5035 Low Level Benzene 5 ug/kg Toluene 5 ug/kg Ethylbenzene 5 ug/kg m&p-Xylene 10 ug/kg			Methyl-tert-butyl ether	5	ug/L
FOL-1-168015M DRO/ORO OrganicsOil Range Organics (>C28-C40)50000ug/kgDiesel Range Organics (C10-C28)10000ug/kg8021 GCV BTEX, MTBE, GRO Med LGasoline Range Organics2500ug/kg8260 MSV 5035 Low LevelBenzene5ug/kgToluene5ug/kgEthylbenzene5ug/kgm&p-Xylene10ug/kg			Ethanol	500	ug/L
Discrete organitieDifference organitieDifference organitieDifference organitieDissel Range OrganitieDiesel Range Organitie10000ug/kg8021 GCV BTEX, MTBE, GRO Med LGasoline Range Organities2500ug/kg8260 MSV 5035 Low LevelBenzene5ug/kgToluene5ug/kgEthylbenzene5ug/kgm&p-Xylene10ug/kg	FOL-1-16	8015M DRO/ORO Organics	Oil Range Organics (>C28-C40)	50000	ug/kø
8021 GCV BTEX, MTBE, GRO Med LGasoline Range Organics2500 ug/kg8260 MSV 5035 Low LevelBenzene5 ug/kgToluene5 ug/kgEthylbenzene5 ug/kgm&p-Xylene10 ug/kg			Diesel Range Organic (C10-C28)	10000	ug/kg
8260 MSV 5035 Low Level Benzene 5 ug/kg Toluene 5 ug/kg Ethylbenzene 5 ug/kg m&p-Xylene 10 ug/kg		8021 GCV BTEX. MTBE. GRO Med L	Gasoline Range Organics	2500	ug/kg
Toluene     5     ug/kg       Ethylbenzene     5     ug/kg       m&p-Xylene     10     ug/kg		8260 MSV 5035 Low Level	Benzene	_500 5	ug/kg
Ethylbenzene5 ug/kgm&p-Xylene10 ug/kg			Toluene	5	ug/kg
m&p-Xylene 10 ug/kg			Ethylbenzene	5	ug/kg
			m&p-Xvlene	10	ug/kg
o-Xvlene 5 ug/kg			o-Xylene	5	ug/kg

Please contact your project manager if you recognize any discrepancy in this form or have any questions about your project.



# SAMPLE ACKNOWLEDGMENT

# Analyte List

			Reporting
Customer Sample ID	Method	Compound	Limit Units
		Methyl-tert-butyl ether	5 ug/kg
		Ethanol	500 ug/kg
FOL-2-16	8015M DRO/ORO Organics	Oil Range Organics (>C28-C40)	50000 ug/kg
		Diesel Range Organic (C10-C28)	10000 ug/kg
	8021 GCV BTEX, MTBE, GRO Med L	Gasoline Range Organics	2500 ug/kg
	8260 MSV 5035 Low Level	Benzene	5 ug/kg
		Toluene	5 ug/kg
		Ethylbenzene	5 ug/kg
		m&p-Xylene	10 ug/kg
		o-Xylene	5 ug/kg
		Methyl-tert-butyl ether	5 ug/kg
		Ethanol	500 ug/kg



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