FRITO LAY
Vancouver Washington

Hydraulic Lift Area Petroleum Release

Ground Water Monitoring Report
Project Number 13003
Document Number 13003-R

4808 NW Fruit Valley Road
Vancouver, Washington 98660

Submitted To:

Washington Department of Ecology
Olympia, Washington

July 25, 2011

Prepared By:

Environmental Health Management, Inc.
P.O. Box 1746
Lake Oswego, OR 97035

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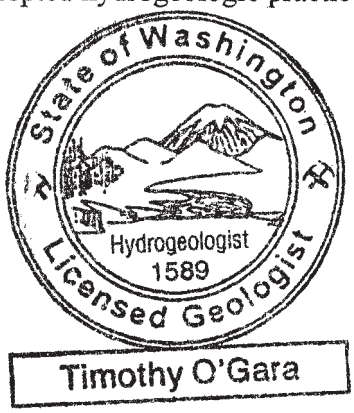
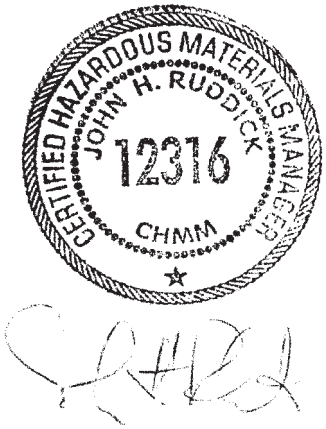
CERTIFICATIONS

This plan has been prepared in accordance with accepted hydrogeologic practices.



Timothy O'Gara, LG, LHg.

This Report has been prepared in accordance with accepted environmental practice.



John H. Ruddick. Ph.D, CHMM

SECTION 1. INTRODUCTION

This report describes the installation and sampling results of two monitoring wells located at Frito Lay's Vancouver, Washington plant site. The wells were located to monitor for potential ground water contamination from a release of petroleum hydrocarbons at the hydraulic lift area. The work was based on a workplan prepared by Environmental Health Management (EHM) and previously submitted to the Washington Department of Ecology (Ecology). The work is being performed under Ecology's Voluntary Cleanup Program (Project # SW1024).

1.1 Site Description

The site location is shown in **Figure 1**. The hydraulic lift area is shown in **Figure 2**. Details regarding the release have been previously reported.

The hydraulic lift is located immediately adjacent to the west side of Frito Lay's manufacturing plant. A pocket of Diesel- and oil-range petroleum was observed in silt beneath the lift to depths less than 5 feet bgs.

Regional ground water flow is to the west northwest.

1.2 Purpose

The purpose of this work is to monitor ground water for potential migration of contaminants from the residual contaminated soil beneath the hydraulic lift. Additional monitoring events will occur at least once every 18 months.

SECTION 2. Monitoring Wells

2.1 Well Locations

Two down-gradient water table wells were located approximately 100 feet west and northwest of the hydraulic lift. The proximity of the lift to the manufacturing plant did not allow the placement of a nearby up-gradient well. The nearest existing up-gradient well is located at 1810 SW 39th (0.4 miles SSE of the lift). The nearest accessible up-gradient well location is east of the plant and traffic center, approximately 500 feet ESE of the lift.

The Frito Lay well locations are shown in **Figure 2**.

2.2 Well Construction

Wells were installed using the push probe method. In relatively soft soils, this method speeds up the installation time and limits the volume of soil cuttings that are produced. Well MW-1 was drilled down to a depth of 34 feet below grade. MW-2 was extended down to 35 feet. Both wells were constructed using 15 feet of 2-inch pre-packed 0.010

slot well casing. Solid casing was used from the top of the well screens to the surface. Two additional feet of 10-20 water washed silica sand was added in the annular space on top of the well screens. The remaining annular space in the well bore was filled with granulated bentonite that was later hydrated from the surface to make a water tight well seal.

Each well was finished at the surface with a flush mount completion so the wells would not interfere with the normal flow of work in the area.

2.3 Lithology

Below the surface gravel layer, well MW-1 encountered a silty clay from 1-7 feet below grade. Below the clay, the formation transitioned into silt and very fine sand from 7-18 feet. The lower portion of the boring from 18 feet to the bottom at 34 feet consisted of a medium to fine volcanic sand.

In MW-2, the upper clay was not detected. Instead the silt and fine sand was found from 1-18 feet below grade. Once again, the formation below the silty sand was a fine to medium volcanic sand.

Copies of the borings logs are presented in the **Appendix**.

2.1 Development

Wells were developed using a submersible pump. Approximately 6 bore volumes of ground water were removed and stored on site in a sealed drum pending receipt of analytical results.

SECTION 3. SAMPLING AND ANALYSIS

3.1 Depth to Water Measurement

Depth to water was measured using a Solinst P6 meter. The depth was measured from the rim of the casing at a mark on its north side. After measurement, a clean disposable 0.5" OD bailer was slowly lowered slightly through the water surface to collect approximately 25 ml of water for inspection for free petroleum (LNAPL).

3.2 Purging

A low flow sampling method was used to collect water samples. Water was withdrawn using a QED MP-SP bladder pump and controller. The pump inlet was adjusted to remain approximately 1 foot below the drawdown surface. The flow rate was adjusted to approximately 3 gallons/hr.

3.3 Sample Collection

Samples were collected directly from the pump discharge tube. The tube was positioned to minimize splashing and turbulence in the sample containers. Particular care was taken during the collection of samples for volatile organic analyses.

The following sample containers were filled with water at each location:
3 unpreserved, one-liter amber glass bottles;
3 HCl-preserved, one-liter amber glass bottles;
6 HCl-preserved, 40-ml VOA vials (filled to zero headspace);
1 HNO_3-preserved, 250 ml plastic bottle.

Between wells, the pump was immersed in distilled water and run for 10 minutes to purge ground water. Then it was disassembled, cleaned, fitted with a new bladder and the discharge tubing replaced prior to lowering it into the next well.

Samples were refrigerated immediately and transported under routine chain of custody.

3.4 Analysis

3.4.1 Field Parameters

Field parameters were monitored prior to sample collection. The follow equipment was used:

Turbidity - Lamotte model 2020e calibrated against 0 and 10 NTU NIST standards.
pH - Cambridge model 9110 calibrated against pH 4.0 and 7.0 buffer solutions.
Temperature - Cambridge model 9110 calibrated against an ASTM liquid thermometer.
Specific Conductance - Cambridge model 9110.
Dissolved Oxygen - Cole Parmer model 5946-75 calibrated against saturated air at ambient temperature.
Oxidation/Reduction Potential - Oakton model 35650-10, internal calibration
Headspace Volatile Organics - RAE model PGM 7320 PID calibrated against zero air and 100 ppm isobutylene.

Parameters were recorded approximately every 15 minutes. Stable readings are shown in **Table 1**.

3.4.2 Chemical Analyses

Samples were analyzed at Specialty Analytical, Inc. in Clackamas, Oregon. Petroleum hydrocarbon fractions were quantified using Ecology method NWTPH-Gx and NWTPH-Dx. Total metals concentrations were determined using EPA method 6010A (ICP) for barium, cadmium, chromium and silver, EPA method 6020 (ICP/MS) for arsenic, lead and selenium and EPA method 7470A for mercury. Polycyclic aromatic hydrocarbons (PAH) were quantified using EPA method 8270SIM. Volatile organics were determined by EPA method 8260B.

3.5 Quality Assurance

One trip blank, consisting of distilled, de-ionized water, was submitted for analysis.

SECTION 4. RESULTS

4.1 Field Parameters

Field parameter stabilized after approximately 1.25 hours of purging. No evidence of contamination (hydrocarbon odor, visible sheen) was observed in the bailed sample or purge water. Stable field parameters are shown in **Table 1**. Results from both wells are comparable, with slightly higher pH and specific conductance values at FL-MW2.

4.2 Chemical Analysis

4.2.1 Data Quality

All samples were extracted and analyzed within method holding limits. Analytical quality control was consistent with method requirements.

Silver, ethylbenzene, gasoline, and several PAHs were detected in analytical method blanks. Of these analytes, 3 PAHs (benzo(b)fluoranthene, benzo(k)fluoranthene and chrysene) were reported in the ground water sample collected at FL-MW1. The detections in the method blank affect these results.

4.2.2 Results

Analytical results are presented in **Table 2**. Petroleum and petroleum-related volatile organic compounds were not detected in either well.

Arsenic, barium and chromium were detected in unfiltered samples at concentrations below MTCA Method A levels. Other metals were not detected.

Three carcinogenic PAHs were reported in sample FL-MW1. The concentrations in the sample were: benzo(b)fluoranthene - 0.0570 µg/L, benzo(k)fluoranthene - 0.0570 µg/L and chrysene - 0.0570 µg/L. PAHs were not detected in FL-MW2.

The detected PAHs were also reported in the method blank (see pg. 14 of the laboratory report). The concentrations in the blank were: benzo(b)fluoranthene - 0.03 µg/L, benzo(k)fluoranthene - 0.02 µg/L and chrysene - 0.02 µg/L.

SECTION 5. DISCUSSION

5.1 Deviations from Plan

The monitoring plan was revised prior to sampling to reflect comments received from Ecology in April 2011. These included additional field parameter measurements, use of low-flow sampling procedures, and total metals analysis.

5.2 Data Quality

The concentrations of 3 cPAHs reported in sample FL-MW-1 were less than 3 times the concentrations observed in the method blank. As such, the reported concentrations may not differ significantly from the blank and should be considered to be non-detections.

5.3 Comparison to MTCA Method A

Comparisons of the analytical results to MTCA Method A cleanup levels are shown in **Table 2**. For the purpose of these comparisons, PAH concentrations were used as reported by the laboratory.
Results were calculated by multiplying the reported concentration (or 50% of the limit of detection for undetected cPAHs) by Ecology's toxicity equivalency factor (TEF) and totaling the results of all 7 Ecology cPAHs. The results are shown in **Table 3**. The calculated value (0.0369) is less than the cleanup value of 0.1.

SECTION 6. CONCLUSIONS & RECOMMENDATIONS

The results of this work do not show conclusive evidence of ground water contamination. Petroleum and associated volatiles were not detected and metals concentrations are consistent with regional background levels. Reported PAHs are suspect due to quality control problems with the analyses and should be regarded as non-detections. All results are below MTCA Method A cleanup levels.

SECTION 7. TABLES

TABLE 1:
Frito-Lay Vancouver
Sample Information

Sample Number	Collection		Sample Type	Description	Stable Field Parameters (units)						
	Date	Time			Turbity	pH	Temp	SC	DO	PID	ORP
					(ntu)	(SU)	(°F)	(µS/cm)	(ppm)	(ppm)	(mV)
FL-MW1	6/29/2011	11:15	Low Flow GW	Monitoring well 1 (South of 2)	0.08	5.35	61.0	2,210	6.1	0	232
FL-MW2	6/29/2011	14:45	Low Flow GW	Monitoring well 2 (North of 2)	0.13	5.68	61.3	2,640	6.1	0	233
FL-0	6/29/2011	15:15	Field Blank	DDI water trip blank	-	-	-	-	-	-	-

TABLE 2:
Frito-Lay Vancouver
Groundwater Analytical Results

Sample ID:	FL-MW1		FL-MW2		FL-0		MTCA - A	
Sample Date:	6/29/2011		6/29/2011		6/29/2011		Cleanup Level	
Petroleum Hydrocarbons (mg/L)								
Gasoline	0.100	U	0.100	U	0.100	U	1.0	
Diesel	0.0777	U	0.0777	U	0.0783	U	0.5	
Lube Oil	0.194	U	0.194	U	0.196	U	0.5	
Volatile Organics (µg/L)								
Benzene	0.300	U	0.300	U	0.300	U	5	
Toluene	1.00	U	1.00	U	1.00	U	1000	
Ethylbenzene	1.00	U	1.00	U	1.00	U	700	
m-,p-Xylene	2.00	U	2.00	U	2.00	U	1000	a
o-Xylene	1.00	U	1.00	U	1.00	U	1000	a
Methyl tert-butyl ether	1.00	U	1.00	U	1.00	U	20	
1,2-Dibromoethane	1.00	U	1.00	U	1.00	U	0.01	
1,2-Dichloroethane	1.00	U	1.00	U	1.00	U	5	
Naphthalene	1.00	U	1.00	U	1.00	U	160	
Metals (total) (µg/L)								
Arsenic	**1.77**		**1.17**				5	
Barium	**33.6**		**34.1**				N/E	
Cadmium	1.00	U	1.00	U			5	
Chromium (total)	**9.80**		**8.30**				50	
Lead	0.100	U	0.100	U			15	
Selenium	1.00	U	1.00	U			N/E	
Silver	0.0100	U	0.0100	U			N/E	
Mercury	0.10	U	0.10	U			2	
Polycyclic Aromatics (µg/L)								
1-Methylnaphthalene	0.0475	U	0.0475	U			160.0	b
2-Methylnaphthalene	0.0475	U	0.0475	U			160.0	b
Acenaphthene	0.0475	U	0.0475	U				
Acenaphthylene	0.0475	U	0.0475	U				
Anthracene	0.0475	U	0.0475	U				
Benzo(a)anthracene	0.0475	U	0.0475	U				
Benzo(a)pyrene	0.0475	U	0.0475	U			0.1	c
Benzo(b)fluoranthene	***0.0570***		0.0475	U				
Benzo(g,h,i)perylene	0.0475	U	0.0475	U				
Benzo(k)fluoranthene	***0.0570***		0.0475	U				
Chrysene	***0.0570***		0.0475	U				
Dibenzo(a,h)anthracene	0.0475	U	0.0475	U				
Fluoranthene	0.0475	U	0.0475	U				
Fluorene	0.0475	U	0.0475	U				
Indeno(1,2,3-cd)pyrene	0.0475	U	0.0475	U				
Naphthalene	0.0475	U	0.0475	U			160.0	b
Phenanthrene	0.0475	U	0.0475	U				
Pyrene	0.0475	U	0.0475	U				

U = Not found at the limit of detection shown

Italics = Detected in Laboratory Method Blank & concentration is < 3x method blank.

Red = Carcinogenic PAH (naphthalene also carcinogenic but not used in TEF calculations)

N/E = Not Established

a = total of m,p and o-xylenes

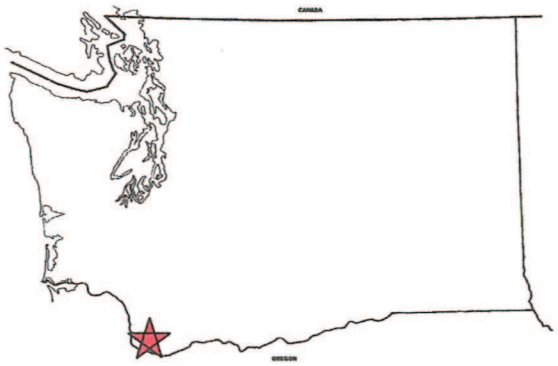
b = total of 1-methylnaphthalene, 2-methylnaphthalene and naphthalene

c = total concentration of all carcinogenic PAHs adjusted by individual toxicity equivalency factors

TABLE 3:
Frito-Lay Vancouver
cPAH MTCA A Calculation

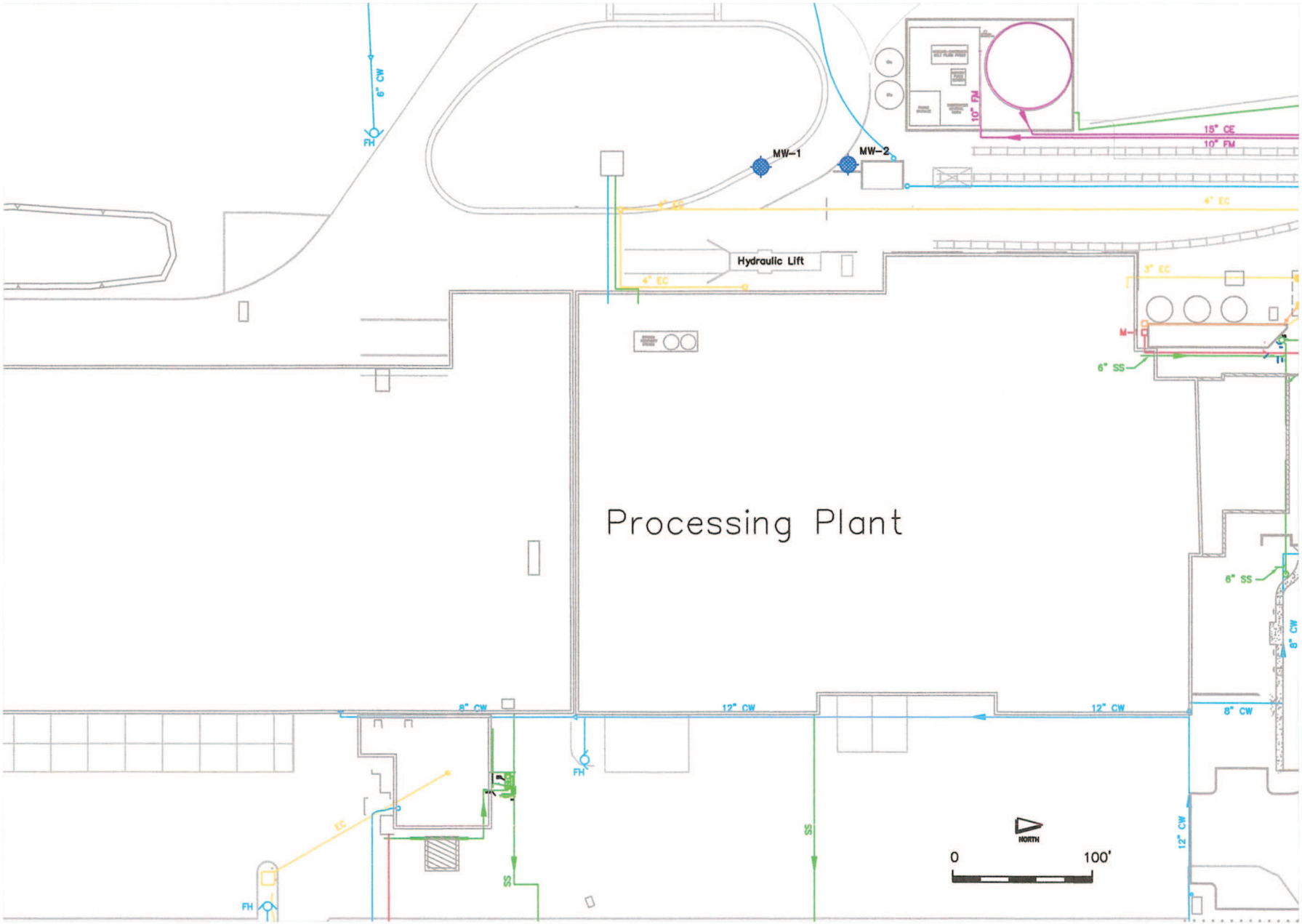
cPAH	Reported Value	TEF	MTCA A Concentration (non-detects at 50% of LOD)
Benzo(a)anthracene	0.0475	0.10	0.0024
Benzo(a)pyrene	0.0475	1.00	0.0238
Benzo(b)fluoranthene	***0.0570***	0.10	0.0029
Benzo(k)fluoranthene	***0.0570***	0.10	0.0029
Chrysene	***0.0570***	0.01	0.0003
Dibenzo(a,h)anthracene	0.0475	0.10	0.0024
Indeno(1,2,3-cd)pyrene	0.0475	0.10	0.0024
		Total	**0.0369**
MTCA Method A cPAH Cleanup Level:			**0.1**

SECTION 8. FIGURES



ENVIRONMENTAL HEALTH MANAGEMENT, Inc PO BOX 1746 Lake Oswego, Oregon 97035 (503) 287-4620	DRAWN BY: KIM APPROVED BY: JHR DATE: 7/20/11 JOB NO.: 13003	FRITO LAY – Vancouver Hydraulic Lift Area Location Map

FIGURE 1



EHM Environmental Health Management, Inc. PO BOX 1746 Lake Oswego, Oregon 97035 (503) 287-4620	Monitoring Well Locations Hydraulic Lift Area	DRAWN BY: JHR APPROVED BY: JHR DATE: 7/22/11 PROJECT NO.: 13003	Frito Lay Vancouver, Washington Groundwater Monitoring	FIGURE 2

SECTION 9. LABORATORY REPORT

Specialty Analytical

11711 SE Capps Road
Clackamas, OR 97015
(503) 607-1331
Fax (503) 607-1336

July 06, 2011

John Ruddick
Environmental Health Management
PO BOX 1746
Lake Oswego, OR 97035

TEL: (503) 287-4620
FAX: (503) 287-4620

RE: Frito Lay Wells / 13003

Order No.: 1106219

Dear John Ruddick:

Specialty Analytical received 3 samples on 6/30/2011 for the analyses presented in the following report.

There were no problems with the analysis and all data for associated QC met EPA or laboratory specifications except where noted in the Case Narrative, or as qualified with flags. Results apply only to the samples analyzed. Without approval of the laboratory, the reproduction of this report is only permitted in its entirety.

If you have any questions regarding these tests, please feel free to call.

Sincerely,

Cindy Hillyard
Project Manager

Technical Review

Specialty Analytical

Date: *06-Jul-11*

CLIENT:	Environmental Health Management	**Client Sample ID:**	FL-MW1
Lab Order:	1106219	**Collection Date:**	6/29/2011 11:15:00 AM
Project:	Frito Lay Wells / 13003		
Lab ID:	1106219-01	**Matrix:**	GROUNDWATER

Analyses	Result	Limit	Qual	Units	DF	Date Analyzed
NWTPH-DX		**NWTPH-DX**				Analyst: **jrp**
Diesel	ND	0.0777		mg/L	1	7/5/2011
Lube Oil	ND	0.194		mg/L	1	7/5/2011
Surr: o-Terphenyl	74.1	50-150		%REC	1	7/5/2011
NWTPH-GX		**NWTPH-GX**				Analyst: **jrp**
Gasoline	ND	100		µg/L	1	7/5/2011
Surr: 4-Bromofluorobenzene	110	50-150		%REC	1	7/5/2011
TOTAL METALS BY ICP		**E6010A**				Analyst: **zau**
Barium	0.0336	0.0100		mg/L	1	7/1/2011 3:14:35 PM
Cadmium	ND	0.00100		mg/L	1	7/1/2011 3:14:35 PM
Chromium	0.00980	0.00500		mg/L	1	7/1/2011 3:14:35 PM
Silver	ND	0.0100		mg/L	1	7/1/2011 3:14:35 PM
TOTAL METALS BY ICP/MS		**SW6020**				Analyst: **zau**
Arsenic	1.77	0.100		µg/L	1	7/1/2011 6:04:00 PM
Lead	ND	0.100		µg/L	1	7/1/2011 6:04:00 PM
Selenium	ND	1.00		µg/L	1	7/1/2011 6:04:00 PM
MERCURY, TOTAL		**E7470A**				Analyst: **zau**
Mercury	ND	0.00010		mg/L	1	7/5/2011
LOW LEVEL PAH BY GC/MS SIM		**8270SIM**				Analyst: **jrp**
1-Methylnaphthalene	ND	0.0475		µg/L	1	7/1/2011 6:48:00 PM
2-Methylnaphthalene	ND	0.0475		µg/L	1	7/1/2011 6:48:00 PM
Acenaphthene	ND	0.0475		µg/L	1	7/1/2011 6:48:00 PM
Acenaphthylene	ND	0.0475		µg/L	1	7/1/2011 6:48:00 PM
Anthracene	ND	0.0475		µg/L	1	7/1/2011 6:48:00 PM
Benz(a)anthracene	ND	0.0475		µg/L	1	7/1/2011 6:48:00 PM
Benzo(a)pyrene	ND	0.0475		µg/L	1	7/1/2011 6:48:00 PM
Benzo(b)fluoranthene	0.0570	0.0475		µg/L	1	7/1/2011 6:48:00 PM
Benzo(g,h,i)perylene	ND	0.0475		µg/L	1	7/1/2011 6:48:00 PM
Benzo(k)fluoranthene	0.0570	0.0475		µg/L	1	7/1/2011 6:48:00 PM
Chrysene	0.0570	0.0475		µg/L	1	7/1/2011 6:48:00 PM
Dibenz(a,h)anthracene	ND	0.0475		µg/L	1	7/1/2011 6:48:00 PM
Fluoranthene	ND	0.0475		µg/L	1	7/1/2011 6:48:00 PM
Fluorene	ND	0.0475		µg/L	1	7/1/2011 6:48:00 PM
Indeno(1,2,3-cd)pyrene	ND	0.0475		µg/L	1	7/1/2011 6:48:00 PM
Naphthalene	ND	0.0475		µg/L	1	7/1/2011 6:48:00 PM
Phenanthrene	ND	0.0475		µg/L	1	7/1/2011 6:48:00 PM
Pyrene	ND	0.0475		µg/L	1	7/1/2011 6:48:00 PM
Surr: 2-Fluorobiphenyl	61.9	18.6-106		%REC	1	7/1/2011 6:48:00 PM
Surr: Nitrobenzene-d5	68.3	17-130		%REC	1	7/1/2011 6:48:00 PM

Specialty Analytical

Date: *06-Jul-11*

CLIENT: Environmental Health Management
Lab Order: 1106219
Project: Frito Lay Wells / 13003
Lab ID: 1106219-01

Client Sample ID: FL-MW1
Collection Date: 6/29/2011 11:15:00 AM
Matrix: GROUNDWATER

Analyses	Result	Limit	Qual	Units	DF	Date Analyzed
LOW LEVEL PAH BY GC/MS SIM		**8270SIM**				Analyst: **jrp**
Surr: p-Terphenyl-d14	73.5	39.6-131		%REC	1	7/1/2011 6:48:00 PM
VOLATILE ORGANICS BY GC/MS		**SW8260B**				Analyst: **kmn**
1,2-Dibromoethane	ND	1.00		µg/L	1	7/5/2011 10:22:00 PM
1,2-Dichloroethane	ND	1.00		µg/L	1	7/5/2011 10:22:00 PM
Benzene	ND	0.300		µg/L	1	7/5/2011 10:22:00 PM
Ethylbenzene	ND	1.00		µg/L	1	7/5/2011 10:22:00 PM
m,p-Xylene	ND	2.00		µg/L	1	7/5/2011 10:22:00 PM
Methyl tert-butyl ether	ND	1.00		µg/L	1	7/5/2011 10:22:00 PM
Naphthalene	ND	1.00		µg/L	1	7/5/2011 10:22:00 PM
o-Xylene	ND	1.00		µg/L	1	7/5/2011 10:22:00 PM
Toluene	ND	1.00		µg/L	1	7/5/2011 10:22:00 PM
Surr: 1,2-Dichloroethane-d4	100	72.2-129		%REC	1	7/5/2011 10:22:00 PM
Surr: 4-Bromofluorobenzene	99.8	73.5-125		%REC	1	7/5/2011 10:22:00 PM
Surr: Dibromofluoromethane	99.4	58.8-148		%REC	1	7/5/2011 10:22:00 PM
Surr: Toluene-d8	104	79.8-137		%REC	1	7/5/2011 10:22:00 PM

Specialty Analytical

Date: *06-Jul-11*

CLIENT: Environmental Health Management
Lab Order: 1106219
Project: Frito Lay Wells / 13003
Lab ID: 1106219-02

Client Sample ID: FL-MW2
Collection Date: 6/29/2011 3:15:00 PM
Matrix: GROUNDWATER

Analyses	Result	Limit	Qual	Units	DF	Date Analyzed
NWTPH-DX		**NWTPH-DX**				Analyst: **jrp**
Diesel	ND	0.0777		mg/L	1	7/5/2011
Lube Oil	ND	0.194		mg/L	1	7/5/2011
Surr: o-Terphenyl	85.3	50-150		%REC	1	7/5/2011
NWTPH-GX		**NWTPH-GX**				Analyst: **jrp**
Gasoline	ND	100		µg/L	1	7/5/2011
Surr: 4-Bromofluorobenzene	110	50-150		%REC	1	7/5/2011
TOTAL METALS BY ICP		**E6010A**				Analyst: **zau**
Barium	0.0341	0.0100		mg/L	1	7/1/2011 3:19:39 PM
Cadmium	ND	0.00100		mg/L	1	7/1/2011 3:19:39 PM
Chromium	0.00830	0.00500		mg/L	1	7/1/2011 3:19:39 PM
Silver	ND	0.0100		mg/L	1	7/1/2011 3:19:39 PM
TOTAL METALS BY ICP/MS		**SW6020**				Analyst: **zau**
Arsenic	1.17	0.100		µg/L	1	7/1/2011 6:11:00 PM
Lead	ND	0.100		µg/L	1	7/1/2011 6:11:00 PM
Selenium	ND	1.00		µg/L	1	7/1/2011 6:11:00 PM
MERCURY, TOTAL		**E7470A**				Analyst: **zau**
Mercury	ND	0.00010		mg/L	1	7/5/2011
LOW LEVEL PAH BY GC/MS SIM		**8270SIM**				Analyst: **jrp**
1-Methylnaphthalene	ND	0.0475		µg/L	1	7/1/2011 7:13:00 PM
2-Methylnaphthalene	ND	0.0475		µg/L	1	7/1/2011 7:13:00 PM
Acenaphthene	ND	0.0475		µg/L	1	7/1/2011 7:13:00 PM
Acenaphthylene	ND	0.0475		µg/L	1	7/1/2011 7:13:00 PM
Anthracene	ND	0.0475		µg/L	1	7/1/2011 7:13:00 PM
Benz(a)anthracene	ND	0.0475		µg/L	1	7/1/2011 7:13:00 PM
Benzo(a)pyrene	ND	0.0475		µg/L	1	7/1/2011 7:13:00 PM
Benzo(b)fluoranthene	ND	0.0475		µg/L	1	7/1/2011 7:13:00 PM
Benzo(g,h,i)perylene	ND	0.0475		µg/L	1	7/1/2011 7:13:00 PM
Benzo(k)fluoranthene	ND	0.0475		µg/L	1	7/1/2011 7:13:00 PM
Chrysene	ND	0.0475		µg/L	1	7/1/2011 7:13:00 PM
Dibenz(a,h)anthracene	ND	0.0475		µg/L	1	7/1/2011 7:13:00 PM
Fluoranthene	ND	0.0475		µg/L	1	7/1/2011 7:13:00 PM
Fluorene	ND	0.0475		µg/L	1	7/1/2011 7:13:00 PM
Indeno(1,2,3-cd)pyrene	ND	0.0475		µg/L	1	7/1/2011 7:13:00 PM
Naphthalene	ND	0.0475		µg/L	1	7/1/2011 7:13:00 PM
Phenanthrene	ND	0.0475		µg/L	1	7/1/2011 7:13:00 PM
Pyrene	ND	0.0475		µg/L	1	7/1/2011 7:13:00 PM
Surr: 2-Fluorobiphenyl	69.3	18.6-106		%REC	1	7/1/2011 7:13:00 PM
Surr: Nitrobenzene-d5	79.6	17-130		%REC	1	7/1/2011 7:13:00 PM

Specialty Analytical

Date: *06-Jul-11*

CLIENT: Environmental Health Management
Lab Order: 1106219
Project: Frito Lay Wells / 13003
Lab ID: 1106219-02

Client Sample ID: FL-MW2
Collection Date: 6/29/2011 3:15:00 PM
Matrix: GROUNDWATER

Analyses	Result	Limit	Qual	Units	DF	Date Analyzed
LOW LEVEL PAH BY GC/MS SIM		**8270SIM**				Analyst: **jrp**
Surr: p-Terphenyl-d14	75.4	39.6-131		%REC	1	7/1/2011 7:13:00 PM
VOLATILE ORGANICS BY GC/MS		**SW8260B**				Analyst: **kmn**
1,2-Dibromoethane	ND	1.00		µg/L	1	7/5/2011 10:56:00 PM
1,2-Dichloroethane	ND	1.00		µg/L	1	7/5/2011 10:56:00 PM
Benzene	ND	0.300		µg/L	1	7/5/2011 10:56:00 PM
Ethylbenzene	ND	1.00		µg/L	1	7/5/2011 10:56:00 PM
m,p-Xylene	ND	2.00		µg/L	1	7/5/2011 10:56:00 PM
Methyl tert-butyl ether	ND	1.00		µg/L	1	7/5/2011 10:56:00 PM
Naphthalene	ND	1.00		µg/L	1	7/5/2011 10:56:00 PM
o-Xylene	ND	1.00		µg/L	1	7/5/2011 10:56:00 PM
Toluene	ND	1.00		µg/L	1	7/5/2011 10:56:00 PM
Surr: 1,2-Dichloroethane-d4	99.7	72.2-129		%REC	1	7/5/2011 10:56:00 PM
Surr: 4-Bromofluorobenzene	101	73.5-125		%REC	1	7/5/2011 10:56:00 PM
Surr: Dibromofluoromethane	99.4	58.8-148		%REC	1	7/5/2011 10:56:00 PM
Surr: Toluene-d8	104	79.8-137		%REC	1	7/5/2011 10:56:00 PM

Specialty Analytical

Date: *06-Jul-11*

CLIENT: Environmental Health Management
Lab Order: 1106219
Project: Frito Lay Wells / 13003
Lab ID: 1106219-03

Client Sample ID: FL-0
Collection Date: 6/29/2011 12:00:00 PM
Matrix: GROUNDWATER

Analyses	Result	Limit	Qual	Units	DF	Date Analyzed
NWTPH-DX		**NWTPH-DX**				Analyst: **jrp**
Diesel	ND	0.0783		mg/L	1	7/5/2011
Lube Oil	ND	0.196		mg/L	1	7/5/2011
Surr: o-Terphenyl	88.0	50-150		%REC	1	7/5/2011
NWTPH-GX		**NWTPH-GX**				Analyst: **jrp**
Gasoline	ND	100		µg/L	1	7/5/2011
Surr: 4-Bromofluorobenzene	110	50-150		%REC	1	7/5/2011
VOLATILE ORGANICS BY GC/MS		**SW8260B**				Analyst: **kmn**
Benzene	ND	0.300		µg/L	1	7/5/2011 11:29:00 PM
Ethylbenzene	ND	1.00		µg/L	1	7/5/2011 11:29:00 PM
m,p-Xylene	ND	2.00		µg/L	1	7/5/2011 11:29:00 PM
Methyl tert-butyl ether	ND	1.00		µg/L	1	7/5/2011 11:29:00 PM
Naphthalene	ND	1.00		µg/L	1	7/5/2011 11:29:00 PM
o-Xylene	ND	1.00		µg/L	1	7/5/2011 11:29:00 PM
Toluene	ND	1.00		µg/L	1	7/5/2011 11:29:00 PM
Surr: 1,2-Dichloroethane-d4	101	72.2-129		%REC	1	7/5/2011 11:29:00 PM
Surr: 4-Bromofluorobenzene	101	73.5-125		%REC	1	7/5/2011 11:29:00 PM
Surr: Dibromofluoromethane	100	58.8-148		%REC	1	7/5/2011 11:29:00 PM
Surr: Toluene-d8	104	79.8-137		%REC	1	7/5/2011 11:29:00 PM

CLIENT: Environmental Health Management
Work Order: 1106219
Project: Frito Lay Wells / 13003

ANALYTICAL QC SUMMARY REPORT

TestCode: 6010_W

Sample ID: **MBLK-28823**	SampType: **MBLK**	TestCode: **6010_W**	Units: **mg/L**	Prep Date: **6/30/2011**	Run ID: **TJA IRIS_110701C**
Client ID: **ZZZZZ**	Batch ID: **28823**	TestNo: **E6010A**		Analysis Date: **7/1/2011**	SeqNo: **761531**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Barium	ND	0.0100									
Cadmium	ND	0.00100									
Chromium	ND	0.00500									
Silver	ND	0.0100									

Sample ID: **LCS-28823**	SampType: **LCS**	TestCode: **6010_W**	Units: **mg/L**	Prep Date: **6/30/2011**	Run ID: **TJA IRIS_110701C**
Client ID: **ZZZZZ**	Batch ID: **28823**	TestNo: **E6010A**		Analysis Date: **7/1/2011**	SeqNo: **761532**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Barium	0.4875	0.0100	0.5	0	97.5	95	111	0	0		
Cadmium	0.0486	0.00100	0.05	0	97.2	91.8	110	0	0		
Chromium	0.2501	0.00500	0.25	0	100	93.9	113	0	0		
Silver	0.4722	0.0100	0.5	0	94.4	87.1	113	0	0		

Sample ID: **A1106214-01CMS**	SampType: **MS**	TestCode: **6010_W**	Units: **mg/L**	Prep Date: **6/30/2011**	Run ID: **TJA IRIS_110701C**
Client ID: **ZZZZZ**	Batch ID: **28823**	TestNo: **E6010A**		Analysis Date: **7/1/2011**	SeqNo: **761536**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Barium	0.8739	0.0100	0.5	0.3586	103	90.7	112	0	0		
Cadmium	0.0487	0.00100	0.05	0	97.4	93.4	110	0	0		
Chromium	0.252	0.00500	0.25	0.0093	97.1	93.4	112	0	0		
Silver	0.4723	0.0100	0.5	0.0039	93.7	90.1	113	0	0		

Sample ID: **A1106214-01CMSD**	SampType: **MSD**	TestCode: **6010_W**	Units: **mg/L**	Prep Date: **6/30/2011**	Run ID: **TJA IRIS_110701C**
Client ID: **ZZZZZ**	Batch ID: **28823**	TestNo: **E6010A**		Analysis Date: **7/1/2011**	SeqNo: **761537**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Barium	0.8871	0.0100	0.5	0.3586	106	90.7	112	0.8739	1.50	20	
Cadmium	0.0498	0.00100	0.05	0	99.6	93.4	110	0.0487	2.23	20	

Qualifiers:
ND - Not Detected at the Reporting Limit
J - Analyte detected below quantitation limits
S - Spike Recovery outside accepted recovery limits
R - RPD outside accepted recovery limits
B - Analyte detected in the associated Method Blank

CLIENT: Environmental Health Management
Work Order: 1106219
Project: Frito Lay Wells / 13003

ANALYTICAL QC SUMMARY REPORT

TestCode: 6010_W

Sample ID: A1106214-01CMSD	SampType: MSD	TestCode: 6010_W	Units: mg/L	Prep Date: 6/30/2011	Run ID: TJA IRIS_110701C
Client ID: ZZZZZ	Batch ID: 28823	TestNo: E6010A		Analysis Date: 7/1/2011	SeqNo: 761537

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Chromium	0.2572	0.00500	0.25	0.0093	99.2	93.4	112	0.252	2.04	20	
Silver	0.4877	0.0100	0.5	0.0039	96.8	90.1	113	0.4723	3.21	20	

Sample ID: A1106214-01CDUP	SampType: DUP	TestCode: 6010_W	Units: mg/L	Prep Date: 6/30/2011	Run ID: TJA IRIS_110701C
Client ID: ZZZZZ	Batch ID: 28823	TestNo: E6010A		Analysis Date: 7/1/2011	SeqNo: 761535

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Barium	0.3762	0.0100	0	0	0	0	0	0.3586	4.79	20	
Cadmium	ND	0.00100	0	0	0	0	0	0	0	20	
Chromium	0.008	0.00500	0	0	0	0	0	0.0093	15.0	20	
Silver	0.0044	0.0100	0	0	0	0	0	0.0039	0	20	J

Sample ID: CCV	SampType: CCV	TestCode: 6010_W	Units: mg/L	Prep Date:	Run ID: TJA IRIS_110701C
Client ID: ZZZZZ	Batch ID: 28823	TestNo: E6010A		Analysis Date: 7/1/2011	SeqNo: 761534

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Barium	0.4837	0.0100	0.5	0	96.7	90	110	0	0		
Cadmium	0.0491	0.00100	0.05	0	98.2	90	110	0	0		
Chromium	0.2547	0.00500	0.25	0	102	90	110	0	0		
Silver	0.5098	0.0100	0.5	0	102	90	110	0	0		

Sample ID: CCV	SampType: CCV	TestCode: 6010_W	Units: mg/L	Prep Date:	Run ID: TJA IRIS_110701C
Client ID: ZZZZZ	Batch ID: 28823	TestNo: E6010A		Analysis Date: 7/1/2011	SeqNo: 761541

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Barium	0.473	0.0100	0.5	0	94.6	90	110	0	0		
Cadmium	0.0488	0.00100	0.05	0	97.6	90	110	0	0		
Chromium	0.2484	0.00500	0.25	0	99.4	90	110	0	0		
Silver	0.4944	0.0100	0.5	0	98.9	90	110	0	0		

Qualifiers:
ND - Not Detected at the Reporting Limit
J - Analyte detected below quantitation limits
S - Spike Recovery outside accepted recovery limits
R - RPD outside accepted recovery limits
B - Analyte detected in the associated Method Blank

CLIENT: Environmental Health Management
Work Order: 1106219
Project: Frito Lay Wells / 13003

ANALYTICAL QC SUMMARY REPORT

TestCode: 6010_W

Sample ID: CCV	SampType: CCV	TestCode: 6010_W	Units: mg/L	Prep Date:	Run ID: TJA IRIS_110701C
Client ID: ZZZZZ	Batch ID: 28823	TestNo: E6010A		Analysis Date: 7/1/2011	SeqNo: 761634

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Barium	0.5304	0.0100	0.5	0	106	90	110	0	0		
Cadmium	0.0516	0.00100	0.05	0	103	90	110	0	0		
Chromium	0.2609	0.00500	0.25	0	104	90	110	0	0		
Silver	0.5014	0.0100	0.5	0	100	90	110	0	0		

Sample ID: CCV	SampType: CCV	TestCode: 6010_W	Units: mg/L	Prep Date:	Run ID: TJA IRIS_110701C
Client ID: ZZZZZ	Batch ID: 28823	TestNo: E6010A		Analysis Date: 7/1/2011	SeqNo: 761637

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Barium	0.508	0.0100	0.5	0	102	90	110	0	0		
Cadmium	0.0506	0.00100	0.05	0	101	90	110	0	0		
Chromium	0.2483	0.00500	0.25	0	99.3	90	110	0	0		
Silver	0.5072	0.0100	0.5	0	101	90	110	0	0		

Sample ID: ICV	SampType: ICV	TestCode: 6010_W	Units: mg/L	Prep Date:	Run ID: TJA IRIS_110701C
Client ID: ZZZZZ	Batch ID: 28823	TestNo: E6010A		Analysis Date: 7/1/2011	SeqNo: 761530

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Barium	0.4887	0.0100	0.5	0	97.7	90	110	0	0		
Cadmium	0.0497	0.00100	0.05	0	99.4	90	110	0	0		
Chromium	0.2509	0.00500	0.25	0	100	90	110	0	0		
Silver	0.5164	0.0100	0.5	0	103	90	110	0	0		

Sample ID: ICV	SampType: ICV	TestCode: 6010_W	Units: mg/L	Prep Date:	Run ID: TJA IRIS_110701C
Client ID: ZZZZZ	Batch ID: 28823	TestNo: E6010A		Analysis Date: 7/1/2011	SeqNo: 761632

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Barium	0.5239	0.0100	0.5	0	105	90	110	0	0		
Cadmium	0.0514	0.00100	0.05	0	103	90	110	0	0		
Chromium	0.2565	0.00500	0.25	0	103	90	110	0	0		
Silver	0.5136	0.0100	0.5	0	103	90	110	0	0		

Qualifiers:
ND - Not Detected at the Reporting Limit
J - Analyte detected below quantitation limits
S - Spike Recovery outside accepted recovery limits
R - RPD outside accepted recovery limits
B - Analyte detected in the associated Method Blank

CLIENT: Environmental Health Management
Work Order: 1106219
Project: Frito Lay Wells / 13003

ANALYTICAL QC SUMMARY REPORT

TestCode: 6020_W

Sample ID: **MBLK-28844**	SampType: **MBLK**	TestCode: **6020_W**	Units: **µg/L**	Prep Date: **7/1/2011**	Run ID: **ICPMS_110701B**
Client ID: **ZZZZZ**	Batch ID: **28844**	TestNo: **SW6020**		Analysis Date: **7/1/2011**	SeqNo: **761667**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Arsenic	ND	0.100									
Lead	ND	0.100									
Selenium	ND	1.00									

Sample ID: **LCS-28844**	SampType: **LCS**	TestCode: **6020_W**	Units: **µg/L**	Prep Date: **7/1/2011**	Run ID: **ICPMS_110701B**
Client ID: **ZZZZZ**	Batch ID: **28844**	TestNo: **SW6020**		Analysis Date: **7/1/2011**	SeqNo: **761668**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Arsenic	46.69	0.100	50	0	93.4	80	120	0	0		
Lead	45.12	0.100	50	0	90.2	80	120	0	0		
Selenium	47.09	1.00	50	0	94.2	80	120	0	0		

Sample ID: **A1107002-01AMS**	SampType: **MS**	TestCode: **6020_W**	Units: **µg/L**	Prep Date: **7/1/2011**	Run ID: **ICPMS_110701B**
Client ID: **ZZZZZ**	Batch ID: **28844**	TestNo: **SW6020**		Analysis Date: **7/1/2011**	SeqNo: **761675**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Arsenic	50.83	0.100	50	0.6798	100	70	130	0	0		
Lead	46.77	0.100	50	1.724	90.1	70	130	0	0		
Selenium	46.38	1.00	50	0	92.8	70	130	0	0		

Sample ID: **A1107002-01AMSD**	SampType: **MSD**	TestCode: **6020_W**	Units: **µg/L**	Prep Date: **7/1/2011**	Run ID: **ICPMS_110701B**
Client ID: **ZZZZZ**	Batch ID: **28844**	TestNo: **SW6020**		Analysis Date: **7/1/2011**	SeqNo: **761676**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Arsenic	50.7	0.100	50	0.6798	100	70	130	50.83	0.256	20	
Lead	47.02	0.100	50	1.724	90.6	70	130	46.77	0.533	20	
Selenium	46.37	1.00	50	0	92.7	70	130	46.38	0.0216	20	

Qualifiers:
ND - Not Detected at the Reporting Limit
J - Analyte detected below quantitation limits
S - Spike Recovery outside accepted recovery limits
R - RPD outside accepted recovery limits
B - Analyte detected in the associated Method Blank

CLIENT: Environmental Health Management
Work Order: 1106219
Project: Frito Lay Wells / 13003

ANALYTICAL QC SUMMARY REPORT

TestCode: 6020_W

Sample ID: A1107002-01ADUP	SampType: DUP	TestCode: 6020_W	Units: µg/L	Prep Date: 7/1/2011	Run ID: ICPMS_110701B
Client ID: ZZZZZ	Batch ID: 28844	TestNo: SW6020		Analysis Date: 7/1/2011	SeqNo: 761674

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Arsenic	0.7424	0.100	0	0	0	0	0	0.6798	8.80	20	
Lead	1.773	0.100	0	0	0	0	0	1.724	2.80	20	
Selenium	ND	1.00	0	0	0	0	0	0	0	20	

Sample ID: CCV	SampType: CCV	TestCode: 6020_W	Units: µg/L	Prep Date:	Run ID: ICPMS_110701B
Client ID: ZZZZZ	Batch ID: 28844	TestNo: SW6020		Analysis Date: 7/1/2011	SeqNo: 761666

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Arsenic	52.32	0.100	50	0	105	90	110	0	0		
Lead	50.1	0.100	50	0	100	90	110	0	0		
Selenium	51.21	1.00	50	0	102	90	110	0	0		

Sample ID: CCV	SampType: CCV	TestCode: 6020_W	Units: µg/L	Prep Date:	Run ID: ICPMS_110701B
Client ID: ZZZZZ	Batch ID: 28844	TestNo: SW6020		Analysis Date: 7/1/2011	SeqNo: 761677

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Arsenic	51.99	0.100	50	0	104	90	110	0	0		
Lead	50.14	0.100	50	0	100	90	110	0	0		
Selenium	52.68	1.00	50	0	105	90	110	0	0		

Sample ID: CCV	SampType: CCV	TestCode: 6020_W	Units: µg/L	Prep Date:	Run ID: ICPMS_110701B
Client ID: ZZZZZ	Batch ID: 28844	TestNo: SW6020		Analysis Date: 7/1/2011	SeqNo: 761681

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Arsenic	52.32	0.100	50	0	105	90	110	0	0		
Lead	54.25	0.100	50	0	108	90	110	0	0		
Selenium	52.7	1.00	50	0	105	90	110	0	0		

Qualifiers:
ND - Not Detected at the Reporting Limit
J - Analyte detected below quantitation limits
S - Spike Recovery outside accepted recovery limits
R - RPD outside accepted recovery limits
B - Analyte detected in the associated Method Blank

CLIENT: Environmental Health Management
Work Order: 1106219
Project: Frito Lay Wells / 13003

ANALYTICAL QC SUMMARY REPORT

TestCode: 6020_W

Sample ID: **ICV**	SampType: **ICV**	TestCode: **6020_W**	Units: **µg/L**	Prep Date:	Run ID: **ICPMS_110701B**
Client ID: **ZZZZZ**	Batch ID: **28844**	TestNo: **SW6020**		Analysis Date: **7/1/2011**	SeqNo: **761665**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Arsenic	51.99	0.100	50	0	104	90	110	0	0		
Lead	51.04	0.100	50	0	102	90	110	0	0		
Selenium	52.99	1.00	50	0	106	90	110	0	0		

Qualifiers:
ND - Not Detected at the Reporting Limit
J - Analyte detected below quantitation limits
S - Spike Recovery outside accepted recovery limits
R - RPD outside accepted recovery limits
B - Analyte detected in the associated Method Blank

CLIENT: Environmental Health Management
Work Order: 1106219
Project: Frito Lay Wells / 13003

ANALYTICAL QC SUMMARY REPORT

TestCode: 8260_W

Sample ID: **MB-28870**	SampType: **MBLK**	TestCode: **8260_W**	Units: **µg/L**	Prep Date: **7/5/2011**	Run ID: **5973L_110705C**
Client ID: **ZZZZZ**	Batch ID: **28870**	TestNo: **SW8260B**		Analysis Date: **7/5/2011**	SeqNo: **762085**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
1,2-Dibromoethane	ND	1.00									
1,2-Dichloroethane	ND	1.00									
Benzene	ND	0.300									
Ethylbenzene	0.12	1.00									J
m,p-Xylene	ND	2.00									
Methyl tert-butyl ether	ND	1.00									
Naphthalene	0.68	1.00									J
o-Xylene	ND	1.00									
Toluene	ND	1.00									
Surr: 1,2-Dichloroethane-d4	99.76	0	100	0	99.8	72.2	129	0	0		
Surr: 4-Bromofluorobenzene	98.77	0	100	0	98.8	73.5	125	0	0		
Surr: Dibromofluoromethane	98.34	0	100	0	98.3	58.8	148	0	0		
Surr: Toluene-d8	103.2	0	100	0	103	79.8	137	0	0		

Sample ID: **LCS-28870**	SampType: **LCS**	TestCode: **8260_W**	Units: **µg/L**	Prep Date: **7/5/2011**	Run ID: **5973L_110705C**
Client ID: **ZZZZZ**	Batch ID: **28870**	TestNo: **SW8260B**		Analysis Date: **7/5/2011**	SeqNo: **762081**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Benzene	40.04	0.300	40	0	100	77.9	125	0	0		
Toluene	40.22	1.00	40	0	101	74.6	119	0	0		

Sample ID: **A1106198-01GMS**	SampType: **MS**	TestCode: **8260_W**	Units: **µg/L**	Prep Date: **7/5/2011**	Run ID: **5973L_110705C**
Client ID: **ZZZZZ**	Batch ID: **28870**	TestNo: **SW8260B**		Analysis Date: **7/5/2011**	SeqNo: **762082**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Benzene	42.81	0.300	40	0	107	71.5	118	0	0		
Toluene	42.84	1.00	40	0	107	79.6	121	0	0		

Qualifiers:
ND - Not Detected at the Reporting Limit
J - Analyte detected below quantitation limits
S - Spike Recovery outside accepted recovery limits
R - RPD outside accepted recovery limits
B - Analyte detected in the associated Method Blank

CLIENT: Environmental Health Management
Work Order: 1106219
Project: Frito Lay Wells / 13003

ANALYTICAL QC SUMMARY REPORT

TestCode: 8260_W

Sample ID: **A1106198-01GMSD**	SampType: **MSD**	TestCode: **8260_W**	Units: **µg/L**	Prep Date: **7/5/2011**	Run ID: **5973L_110705C**
Client ID: **ZZZZZ**	Batch ID: **28870**	TestNo: **SW8260B**		Analysis Date: **7/5/2011**	SeqNo: **762083**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Benzene	41.94	0.300	40	0	105	71.5	118	42.81	2.05	20	
Toluene	41.87	1.00	40	0	105	79.6	121	42.84	2.29	20	

Sample ID: **CCV-28870**	SampType: **CCV**	TestCode: **8260_W**	Units: **µg/L**	Prep Date:	Run ID: **5973L_110705C**
Client ID: **ZZZZZ**	Batch ID: **28870**	TestNo: **SW8260B**		Analysis Date: **7/5/2011**	SeqNo: **762080**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Ethylbenzene	37.06	1.00	40	0	92.6	80	120	0	0		
Toluene	39.3	1.00	40	0	98.2	80	120	0	0		

Qualifiers:
ND - Not Detected at the Reporting Limit
J - Analyte detected below quantitation limits
S - Spike Recovery outside accepted recovery limits
R - RPD outside accepted recovery limits
B - Analyte detected in the associated Method Blank

CLIENT: Environmental Health Management
Work Order: 1106219
Project: Frito Lay Wells / 13003

ANALYTICAL QC SUMMARY REPORT

TestCode: HG_CT

Sample ID: **MB-28854**	SampType: **MBLK**	TestCode: **HG_CT**	Units: **mg/L**	Prep Date: **7/5/2011**	Run ID: **CVAA_110705A**
Client ID: **ZZZZZ**	Batch ID: **28854**	TestNo: **E7470A**		Analysis Date: **7/5/2011**	SeqNo: **761935**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Mercury	ND	0.000100									

Sample ID: **LCS-28854**	SampType: **LCS**	TestCode: **HG_CT**	Units: **mg/L**	Prep Date: **7/5/2011**	Run ID: **CVAA_110705A**
Client ID: **ZZZZZ**	Batch ID: **28854**	TestNo: **E7470A**		Analysis Date: **7/5/2011**	SeqNo: **761934**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Mercury	0.003779	0.000100	0.004	0	94.5	85.4	116	0	0		

Sample ID: **1106219-02DMS**	SampType: **MS**	TestCode: **HG_CT**	Units: **mg/L**	Prep Date: **7/5/2011**	Run ID: **CVAA_110705A**
Client ID: **FL-MW2**	Batch ID: **28854**	TestNo: **E7470A**		Analysis Date: **7/5/2011**	SeqNo: **761931**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Mercury	0.004307	0.000100	0.004	0	108	69.5	125	0	0		

Sample ID: **1106219-02DMSD**	SampType: **MSD**	TestCode: **HG_CT**	Units: **mg/L**	Prep Date: **7/5/2011**	Run ID: **CVAA_110705A**
Client ID: **FL-MW2**	Batch ID: **28854**	TestNo: **E7470A**		Analysis Date: **7/5/2011**	SeqNo: **761932**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Mercury	0.004118	0.000100	0.004	0	103	69.5	125	0.004307	4.49	20	

Sample ID: **1106219-02DDUP**	SampType: **DUP**	TestCode: **HG_CT**	Units: **mg/L**	Prep Date: **7/5/2011**	Run ID: **CVAA_110705A**
Client ID: **FL-MW2**	Batch ID: **28854**	TestNo: **E7470A**		Analysis Date: **7/5/2011**	SeqNo: **761930**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Mercury	ND	0.000100	0	0	0	0	0	0	0	20	

Sample ID: **CCV**	SampType: **CCV**	TestCode: **HG_CT**	Units: **mg/L**	Prep Date:	Run ID: **CVAA_110705A**
Client ID: **ZZZZZ**	Batch ID: **28854**	TestNo: **E7470A**		Analysis Date: **7/5/2011**	SeqNo: **761933**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual

Qualifiers:
ND - Not Detected at the Reporting Limit
J - Analyte detected below quantitation limits
S - Spike Recovery outside accepted recovery limits
R - RPD outside accepted recovery limits
B - Analyte detected in the associated Method Blank

CLIENT: Environmental Health Management
Work Order: 1106219
Project: Frito Lay Wells / 13003

ANALYTICAL QC SUMMARY REPORT

TestCode: HG_CT

Sample ID: **CCV**	SampType: **CCV**	TestCode: **HG_CT**	Units: **mg/L**	Prep Date:	Run ID: **CVAA_110705A**
Client ID: **ZZZZZ**	Batch ID: **28854**	TestNo: **E7470A**		Analysis Date: **7/5/2011**	SeqNo: **761933**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Mercury	0.003819	0.000100	0.004	0	95.5	90	110	0	0		

Qualifiers:
ND - Not Detected at the Reporting Limit
J - Analyte detected below quantitation limits
S - Spike Recovery outside accepted recovery limits
R - RPD outside accepted recovery limits
B - Analyte detected in the associated Method Blank

CLIENT: Environmental Health Management
Work Order: 1106219
Project: Frito Lay Wells / 13003

ANALYTICAL QC SUMMARY REPORT

TestCode: NWTPHDXLL_W

Sample ID: **MB-28828**	SampType: **MBLK**	TestCode: **NWTPHDXLL**	Units: **mg/L**	Prep Date: **6/30/2011**	Run ID: **GC-M_110630B**
Client ID: **ZZZZZ**	Batch ID: **28828**	TestNo: **NWTPH-Dx**		Analysis Date: **6/30/2011**	SeqNo: **761349**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Diesel	ND	0.0800									
Lube Oil	ND	0.200									
Surr: o-Terphenyl	0.1623	0	0.2	0	81.2	50	150	0	0		

Sample ID: **LCS-28828**	SampType: **LCS**	TestCode: **NWTPHDXLL**	Units: **mg/L**	Prep Date: **6/30/2011**	Run ID: **GC-M_110630B**
Client ID: **ZZZZZ**	Batch ID: **28828**	TestNo: **NWTPH-Dx**		Analysis Date: **6/30/2011**	SeqNo: **761350**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Diesel	0.8382	0.0800	1	0	83.8	60.7	121	0	0		
Lube Oil	0.835	0.200	1	0	83.5	64	126	0	0		

Sample ID: **LCSD-28828**	SampType: **LCSD**	TestCode: **NWTPHDXLL**	Units: **mg/L**	Prep Date: **6/30/2011**	Run ID: **GC-M_110630B**
Client ID: **ZZZZZ**	Batch ID: **28828**	TestNo: **NWTPH-Dx**		Analysis Date: **6/30/2011**	SeqNo: **761351**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Diesel	0.8554	0.0800	1	0	85.5	60.7	121	0.8382	2.03	20	
Lube Oil	0.8907	0.200	1	0	89.1	64	126	0.835	6.46	20	

Sample ID: **CCB-28828**	SampType: **CCB**	TestCode: **NWTPHDXLL**	Units: **mg/L**	Prep Date:	Run ID: **GC-M_110630B**
Client ID: **ZZZZZ**	Batch ID: **28828**	TestNo: **NWTPH-Dx**		Analysis Date: **7/5/2011**	SeqNo: **762016**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Diesel	ND	0.0800	0	0	0	0	0	0	0		
Lube Oil	0.07548	0.200	0	0	0	0	0	0	0		
o-Terphenyl	0.2188	0	0.2	0	109	50	150	0	0		

Sample ID: **CCV**	SampType: **CCV**	TestCode: **NWTPHDXLL**	Units: **mg/L**	Prep Date:	Run ID: **GC-M_110630B**
Client ID: **ZZZZZ**	Batch ID: **28828**	TestNo: **NWTPH-Dx**		Analysis Date: **6/30/2011**	SeqNo: **761348**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual

Qualifiers:
ND - Not Detected at the Reporting Limit
J - Analyte detected below quantitation limits
S - Spike Recovery outside accepted recovery limits
R - RPD outside accepted recovery limits
B - Analyte detected in the associated Method Blank

CLIENT: Environmental Health Management
Work Order: 1106219
Project: Frito Lay Wells / 13003

ANALYTICAL QC SUMMARY REPORT

TestCode: NWTPHDXLL_W

Sample ID: CCV	SampType: CCV	TestCode: NWTPHDXLL	Units: mg/L	Prep Date:	Run ID: GC-M_110630B
Client ID: ZZZZZ	Batch ID: 28828	TestNo: NWTPH-Dx		Analysis Date: 6/30/2011	SeqNo: 761348

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Diesel	5.741	0.0800	6.024	0	95.3	85	115	0	0		
Lube Oil	3.058	0.200	3.089	0	99	85	115	0	0		

Sample ID: CCV	SampType: CCV	TestCode: NWTPHDXLL	Units: mg/L	Prep Date:	Run ID: GC-M_110630B
Client ID: ZZZZZ	Batch ID: 28828	TestNo: NWTPH-Dx		Analysis Date: 6/30/2011	SeqNo: 761354

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Diesel	7.645	0.0800	8.032	0	95.2	85	115	0	0		
Lube Oil	4.048	0.200	4.118	0	98.3	85	115	0	0		

Sample ID: CCV	SampType: CCV	TestCode: NWTPHDXLL	Units: mg/L	Prep Date:	Run ID: GC-M_110630B
Client ID: ZZZZZ	Batch ID: 28828	TestNo: NWTPH-Dx		Analysis Date: 7/5/2011	SeqNo: 762015

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Diesel	5.631	0.0800	6.024	0	93.5	85	115	0	0		
Lube Oil	3.151	0.200	3.089	0	102	85	115	0	0		

Sample ID: CCV	SampType: CCV	TestCode: NWTPHDXLL	Units: mg/L	Prep Date:	Run ID: GC-M_110630B
Client ID: ZZZZZ	Batch ID: 28828	TestNo: NWTPH-Dx		Analysis Date: 7/5/2011	SeqNo: 762021

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Diesel	7.386	0.0800	8.032	0	92	85	115	0	0		
Lube Oil	3.863	0.200	4.118	0	93.8	85	115	0	0		

Qualifiers:
ND - Not Detected at the Reporting Limit
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B - Analyte detected in the associated Method Blank

CLIENT: Environmental Health Management
Work Order: 1106219
Project: Frito Lay Wells / 13003

ANALYTICAL QC SUMMARY REPORT

TestCode: NWTPHGX_W

Sample ID: **MB-28859**	SampType: **MBLK**	TestCode: **NWTPHGX_**	Units: **µg/L**	Prep Date: **7/5/2011**	Run ID: **GC-S_110705A**
Client ID: **ZZZZZ**	Batch ID: **28859**	TestNo: **NWTPH-Gx**		Analysis Date: **7/5/2011**	SeqNo: **761879**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Gasoline	38.51	100									J
Surr: 4-Bromofluorobenzene	109	0	100	0	109	50	150	0	0		

Sample ID: **LCS-28859**	SampType: **LCS**	TestCode: **NWTPHGX_**	Units: **µg/L**	Prep Date: **7/5/2011**	Run ID: **GC-S_110705A**
Client ID: **ZZZZZ**	Batch ID: **28859**	TestNo: **NWTPH-Gx**		Analysis Date: **7/5/2011**	SeqNo: **761878**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Gasoline	2017	100	2000	0	101	74.4	128	0	0		

Sample ID: **1106219-03BDUP**	SampType: **DUP**	TestCode: **NWTPHGX_**	Units: **µg/L**	Prep Date: **7/5/2011**	Run ID: **GC-S_110705A**
Client ID: **FL-0**	Batch ID: **28859**	TestNo: **NWTPH-Gx**		Analysis Date: **7/5/2011**	SeqNo: **761887**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Gasoline	ND	100	0	0	0	0	0	0	0	20	

Sample ID: **CCV**	SampType: **CCV**	TestCode: **NWTPHGX_**	Units: **µg/L**	Prep Date:	Run ID: **GC-S_110705A**
Client ID: **ZZZZZ**	Batch ID: **28859**	TestNo: **NWTPH-Gx**		Analysis Date: **7/5/2011**	SeqNo: **761888**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Gasoline	3119	100	3000	0	104	80	120	0	0		

Qualifiers:
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B - Analyte detected in the associated Method Blank

CLIENT: Environmental Health Management
Work Order: 1106219
Project: Frito Lay Wells / 13003

ANALYTICAL QC SUMMARY REPORT

TestCode: PAH_WWA

Sample ID: **MB-28840**	SampType: **MBLK**	TestCode: **PAH_WWA**	Units: **µg/L**	Prep Date: **7/1/2011**	Run ID: **5975Q_110701C**
Client ID: **ZZZZZ**	Batch ID: **28840**	TestNo: **8270SIM**		Analysis Date: **7/1/2011**	SeqNo: **761799**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
1-Methylnaphthalene	ND	0.0500									
2-Methylnaphthalene	ND	0.0500									
Acenaphthene	0.01	0.0500									J
Acenaphthylene	ND	0.0500									
Anthracene	ND	0.0500									
Benz(a)anthracene	0.03	0.0500									J
Benzo(a)pyrene	0.02	0.0500									J
Benzo(b)fluoranthene	0.03	0.0500									J
Benzo(g,h,i)perylene	0.01	0.0500									J
Benzo(k)fluoranthene	0.02	0.0500									J
Chrysene	0.02	0.0500									J
Dibenz(a,h)anthracene	0.01	0.0500									J
Fluoranthene	0.01	0.0500									J
Fluorene	ND	0.0500									
Indeno(1,2,3-cd)pyrene	0.01	0.0500									J
Naphthalene	ND	0.0500									
Phenanthrene	ND	0.0500									
Pyrene	0.01	0.0500									J
Surr: 2-Fluorobiphenyl	58.17	1.00	100	0	58.2	18.6	106	0	0		
Surr: Nitrobenzene-d5	71.1	1.00	100	0	71.1	17	130	0	0		
Surr: p-Terphenyl-d14	74.1	1.00	100	0	74.1	39.6	131	0	0		

Sample ID: **LCS-28840**	SampType: **LCS**	TestCode: **PAH_WWA**	Units: **µg/L**	Prep Date: **7/1/2011**	Run ID: **5975Q_110701C**
Client ID: **ZZZZZ**	Batch ID: **28840**	TestNo: **8270SIM**		Analysis Date: **7/1/2011**	SeqNo: **761797**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Acenaphthene	3.54	0.0500	5	0	70.8	35.1	83.6	0	0		
Benzo(a)pyrene	4	0.0500	5	0	80	23.4	103	0	0		
Benzo(g,h,i)perylene	3.73	0.0500	5	0	74.6	20.8	84.4	0	0		
Chrysene	4.21	0.0500	5	0	84.2	39.1	103	0	0		
Naphthalene	3.29	0.0500	5	0	65.8	25.6	88.8	0	0		

Qualifiers: ND - Not Detected at the Reporting Limit; J - Analyte detected below quantitation limits; S - Spike Recovery outside accepted recovery limits; R - RPD outside accepted recovery limits; B - Analyte detected in the associated Method Blank

CLIENT: Environmental Health Management
Work Order: 1106219
Project: Frito Lay Wells / 13003

ANALYTICAL QC SUMMARY REPORT

TestCode: PAH_WWA

Sample ID: **LCS-28840**	SampType: **LCS**	TestCode: **PAH_WWA**	Units: **µg/L**	Prep Date: **7/1/2011**	Run ID: **5975Q_110701C**
Client ID: **ZZZZZ**	Batch ID: **28840**	TestNo: **8270SIM**		Analysis Date: **7/1/2011**	SeqNo: **761797**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Phenanthrene	3.96	0.0500	5	0	79.2	38.1	92.9	0	0		
Pyrene	4.08	0.0500	5	0	81.6	41.3	101	0	0		

Sample ID: **LCSD-28840**	SampType: **LCSD**	TestCode: **PAH_WWA**	Units: **µg/L**	Prep Date: **7/1/2011**	Run ID: **5975Q_110701C**
Client ID: **ZZZZZ**	Batch ID: **28840**	TestNo: **8270SIM**		Analysis Date: **7/1/2011**	SeqNo: **761798**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Acenaphthene	3.46	0.0500	5	0	69.2	35.1	83.6	3.54	2.29	20	
Benzo(a)pyrene	4.16	0.0500	5	0	83.2	23.4	103	4	3.92	20	
Benzo(g,h,i)perylene	3.64	0.0500	5	0	72.8	20.8	84.4	3.73	2.44	20	
Chrysene	4.08	0.0500	5	0	81.6	39.1	103	4.21	3.14	20	
Naphthalene	3.21	0.0500	5	0	64.2	25.6	88.8	3.29	2.46	20	
Phenanthrene	3.77	0.0500	5	0	75.4	38.1	92.9	3.96	4.92	20	
Pyrene	3.87	0.0500	5	0	77.4	41.3	101	4.08	5.28	20	

Sample ID: **CCV**	SampType: **CCV**	TestCode: **PAH_WWA**	Units: **µg/L**	Prep Date:	Run ID: **5975Q_110701C**
Client ID: **ZZZZZ**	Batch ID: **28840**	TestNo: **8270SIM**		Analysis Date: **7/1/2011**	SeqNo: **761796**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
1-Methylnaphthalene	2.22	0.0500	2	0	111	80	120	0	0		
2-Methylnaphthalene	2.29	0.0500	2	0	114	80	120	0	0		
Acenaphthene	2.17	0.0500	2	0	108	80	120	0	0		
Acenaphthylene	2.38	0.0500	2	0	119	80	120	0	0		
Anthracene	2.19	0.0500	2	0	110	80	120	0	0		
Benz(a)anthracene	2.22	0.0500	2	0	111	80	120	0	0		
Benzo(a)pyrene	2.26	0.0500	2	0	113	80	120	0	0		
Benzo(b)fluoranthene	2.22	0.0500	2	0	111	80	120	0	0		
Benzo(g,h,i)perylene	2.05	0.0500	2	0	103	80	120	0	0		
Benzo(k)fluoranthene	2.1	0.0500	2	0	105	80	120	0	0		
Chrysene	2.16	0.0500	2	0	108	80	120	0	0		
Dibenz(a,h)anthracene	2	0.0500	2	0	100	80	120	0	0		

Qualifiers: ND - Not Detected at the Reporting Limit
J - Analyte detected below quantitation limits
S - Spike Recovery outside accepted recovery limits
R - RPD outside accepted recovery limits
B - Analyte detected in the associated Method Blank

CLIENT: Environmental Health Management
Work Order: 1106219
Project: Frito Lay Wells / 13003

ANALYTICAL QC SUMMARY REPORT

TestCode: PAH_WWA

Sample ID: **CCV**	SampType: **CCV**	TestCode: **PAH_WWA**	Units: **µg/L**	Prep Date:	Run ID: **5975Q_110701C**
Client ID: **ZZZZZ**	Batch ID: **28840**	TestNo: **8270SIM**		Analysis Date: **7/1/2011**	SeqNo: **761796**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Fluoranthene	2.12	0.0500	2	0	106	80	120	0	0		
Fluorene	2.18	0.0500	2	0	109	80	120	0	0		
Indeno(1,2,3-cd)pyrene	2.17	0.0500	2	0	108	80	120	0	0		
Naphthalene	2.16	0.0500	2	0	108	80	120	0	0		
Phenanthrene	2.29	0.0500	2	0	114	80	120	0	0		
Pyrene	2.2	0.0500	2	0	110	80	120	0	0		

Qualifiers:
ND - Not Detected at the Reporting Limit
J - Analyte detected below quantitation limits
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R - RPD outside accepted recovery limits
B - Analyte detected in the associated Method Blank

KEY TO FLAGS

Rev. May 12, 2010

A	This sample contains a Gasoline Range Organic not identified as a specific hydrocarbon product. The result was quantified against gasoline calibration standards
A1	This sample contains a Diesel Range Organic not identified as a specific hydrocarbon product. The result was quantified against diesel calibration standards.
A2	This sample contains a Lube Oil Range Organic not identified as a specific hydrocarbon product. The result was quantified against a lube oil calibration standard.
A3	The result was determined to be Non-Detect based on hydrocarbon pattern recognition. The product was carry-over from another hydrocarbon type.
A4	The product appears to be aged or degraded diesel.
B	The blank exhibited a positive result great than the reporting limit for this compound.
CN	See Case Narrative.
D	Result is based from a dilution.
E	Result exceeds the calibration range for this compound. The result should be considered as estimate.
F	The positive result for this hydrocarbon is due to single component contamination. The product does not match any hydrocarbon in the fuels library.
G	Result may be biased high due to biogenic interferences. Clean up is recommended.
H	Sample was analyzed outside recommended holding time.
HT	At clients request, samples was analyzed outside of recommended holding time.
J	The result for this analyte is between the MDL and the PQL and should be considered as estimated concentration.
K	Diesel result is biased high due to amount of Oil contained in the sample.
L	Diesel result is biased high due to amount of Gasoline contained in the sample.
M	Oil result is biased high due to amount of Diesel contained in the sample.
MC	Sample concentration is greater than 4x the spiked value, the spiked value is considered insignificant.
MI	Result is outside control limits due to matrix interference.
MSA	Value determined by Method of Standard Addition.
O	Laboratory Control Standard (LCS) exceeded laboratory control limits, but meets CCV criteria. Data meets EPA requirements.
Q	Detection levels elevated due to sample matrix.
R	RPD control limits were exceeded.
RF	Duplicate failed due to result being at or near the method-reporting limit.
RP	Matrix spike values exceed established QC limits; post digestion spike is in control.
S	Recovery is outside control limits.
SC	Closing CCV or LCS exceeded high recovery control limits, but associated samples are non-detect. Data meets EPA requirements.
*	The result for this parameter was greater that the maximum contaminant level of the TCLP regulatory limit.

CHAIN OF CUSTODY RECORD

Page 1 of 1

Specialty Analytical
11711 SE Capps Road
Clackamas, OR 97015
Phone: 503-607-1331
Fax: 503-607-1336

Contact Person/Project Manager: John Ruddick
Company: EHM
Address: PO Box 1746
LK OSWEGO, OR 97035
Phone: 503 287 4620 Fax: 503 287 4620
Project No.: 13003 Project Name: FRITO LAY WELLS
Project Site Location OR: ____ WA: X Other: ____
Invoice To: EHM P.O. No.: ____

Collected By:
Signature: John Ruddick
Printed: John Ruddick

Signature: ____
Printed: ____

Turn Around Time
☒ Normal 5-7 Business Days
☐ Rush ____
Specify
Rush Analyses Must Be Scheduled With The Lab In Advance

For Laboratory Use
Lab Job No.: 1106219
Shipped Via: Client
Air Bill No.: ____
Temperature On Receipt ____ °C
Specialty Analytical Containers? Y / N
Specialty Analytical Trip Blanks? Y / N

Date	Time	Sample I.D.	Matrix	No. of Containers	Analyses: RCRA 8 Metals	PAH	BTEX, MTBE, GRO, DRO	NWTPH Dx	EDB / EDC (8260B)						Comments	Lab I.D.
6/29/11	1115	FL-MW1	WATER	13	X	X	X	X	X							
6/29/11	1515	FL-MW2	"	13	X	X	X	X	X							
6/29/11	1200	FL-Ø	"	6			X	X								

Relinquished By:	Date	Time	Received By:	Relinquished By:	Date	Time
John Ruddick	12pm 6/30/11					
Company: EHM			Company:	Company:		

Unless Reclaimed, Samples Will Be Disposed of 60 Days After Receipt.
Samples held beyond 60 days subject to storage fee(s)

Received For Lab By: [signature] Date: 6/30/11 Time: 12:20pm

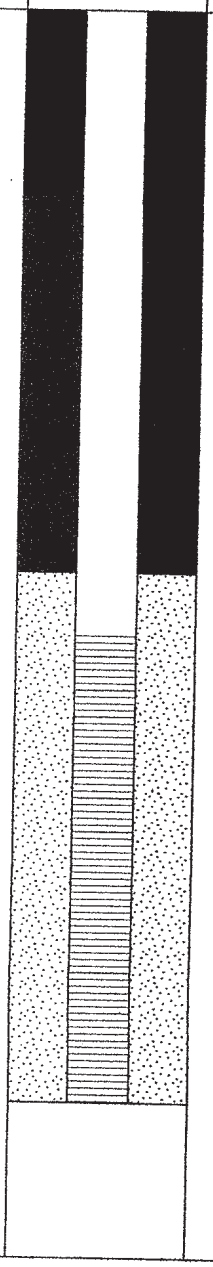
Copies: White-Original Yellow-Project File Pink-Customer Copy

SECTION 10. APPENDIX

BORING LOG

Drill Rig:	Date Drilled: 6-10-11	Logged By:
Boring Dia: Inches	Boring Number: MW-2	Tim O'Gara, Lg, LHg

Sample	Blow Counts	Completion	OVA (ppm)	Depth Feet	Lithology	Description
				5		Gravel and fill ML - Silt with fine Sand, tan
				10		ML - Silt, no sand, tan
				15		
				20		SP - Fine to Medium Sand, grey
				25		
				30		
				35		



Completion Notes:

Flush mount completion

Site:

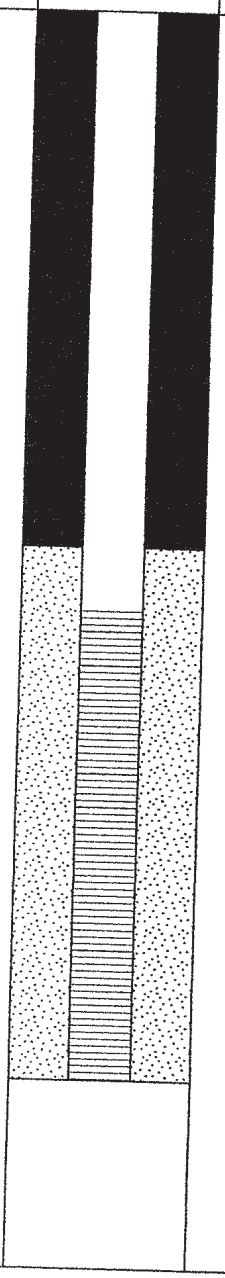
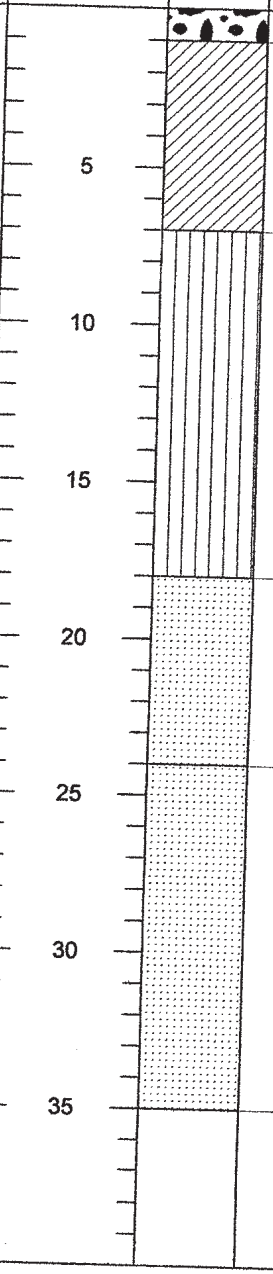
Frito Lay, Vancouver

,

Project No.:

BORING LOG

Drill Rig:		Date Drilled: 6-10-11	Logged By:
Boring Dia:	Inches	Boring Number: MW-1	Tim O'Gara, Lg, LHg

Sample	Blow Counts	Completion	OVA (ppm)	Depth Feet	Lithology	Description
						Gravel and fill CL - Silty Clay, stiff, tan ML - Silt and very fine Sand, tan SP - Medium Sand, grey/black SP - Fine Sand, grey

Completion Notes:

Boring is Flush mount

Site:

Frito Lay, Vancouver

,

Project No.: