RECEIVED
By Alameda County Environmental Health at 11:46 am, Dec 18, 2012

December 13, 2012
624-0908-0043

Paresh Khatri
Hazardous Materials Specialist
Alameda County Department of Environmental Health
1131 Harbor Bay Parkway
Alameda, California 94502-6577
(510) 777-2478

Dear Mr. Khatri:

Subject: **Perjury Statement**
Second Semi-Annual Groundwater Monitoring Report - July 2012

Reference: **RO 0002569**
Earthgrains Baking Companies, Inc.
955 Kennedy Street
Oakland, California 94606

PSC Industrial Outsourcing, LP has submitted this report on behalf of Earthgrains Baking Companies, Inc. I declare to the best of my knowledge at the present time, that the information and/or recommendations contained in the attached document are true and correct.

Respectfully,

PSC INDUSTRIAL OUTSOURCING, LP

Paul Anderson
Project Manager

John R. Carrow, P.G.
Professional Geologist

Earthgrains – Authorized Agent
Gary McKinney
Plant Manager – Oakland Bakery

December 13, 2012
624-0908-0043

Paresh Khatri
Hazardous Materials Specialist
Alameda County Department of Environmental Health
1131 Harbor Bay Parkway
Alameda, California 94502-6577

Dear Mr. Khatri:

Subject: **Second Semi-Annual Groundwater Monitoring Report – January 2012**

Reference: **Earthgrains Baking Companies, Inc.**
955 Kennedy Street
Oakland, California 94606
RO #0002569

On behalf of Earthgrains Baking Companies, Inc. (Earthgrains), PSC Industrial Outsourcing, LP (PSC) is submitting the *Second Semi-Annual Groundwater Monitoring Report - January 2012* for the above-referenced project Site. This document presents the data obtained during the event, which was performed in accordance with Water Resources Control Board Resolution 2009-0042a.

SITE INFORMATION:

Site Location
Earthgrains Baking Companies, Inc.
955 Kennedy Street
Oakland, California 94606
Alameda County
Township 2 South, Range 3 West, Section 7
of the Mount Diablo Baseline and Meridian

Responsible Party
Earthgrains Baking Companies, Inc.
955 Kennedy Street
Oakland, California 94606
Gary McKinney (510) 436-5350
Plant Manager
gmckinney@sl.bbumail.com

Environmental Consultant(s)
PSC Industrial Outsourcing, LP
210 West Sand Bank Road
Columbia, Illinois 62236
Paul Anderson (618) 281-1543
Project Manager
Paul.anderson@pscnow.com

John Carrow, P.G (618) 792-2468
Professional Geologist

Regulatory Agency
Alameda County Department of Environmental Health
Local Oversight Program
1131 Harbor Bay Parkway
Alameda, California 94502-6577
Paresh Khatri (510) 337-9335
Hazardous Materials Specialist
(510) 337-9335
paresh.khatri@acgov.org

SUMMARY OF RECENT PROJECT ACTIVITIES

PSC prepared a *Tier 1 Risk Assessment and Request for No Further Action* in a report submitted to Alameda County Environmental Health (ACEH) on September 17, 2009. ACEH responded to the request in a May 20, 2010 letter to Earthgrains with a directive to perform source removal in the area of the former dispenser island. PSC prepared a *Feasibility Study/Corrective Action Plan* (FS/CAP) in response to the directive and submitted the report to ACEH on July 20, 2010. The FS/CAP proposed removal of soil and groundwater in the source area beneath the dispenser island area and the southern end of the former Truck Wash Building.

ACEH approved the FS/CAP on July 30, 2010. PSC commenced source removal activities in August 2010. PSC submitted the *Corrective Action Completion Report - Source Area Soil and Groundwater Removal Report* (CACR) to ACEH on April 19, 2010. PSC submitted the results of two groundwater-monitoring events performed in the second half of 2010 and the first half of 2011 in the CACR. The groundwater monitoring of the four remaining wells was completed in accordance with the approved FS/CAP. The data presented in the CACR has been used in the updated historical tables for this report. A summary of the Site background, project history, and Conceptual Site Model (CSM) is presented in Attachment A.

PSC received a comment letter on the CACR from ACEH and a directive that required post closure monitoring for the source removal activities. The directive specified that the groundwater monitoring wells should be screened in a permeable zone encountered in the source removal excavation at 10 feet below ground surface (bgs). This would require placing additional wells in the area down gradient of the backfilled source area excavation, which is near the sidewalk and the property boundary. PSC appealed the ACEH directive on the basis that the Site fits the State Water Resource Control Board's (SWRCB) "*Low Threat UST Closure Policy",* dated July 14, 2011. A brief discussion of the rationale for this appeal is presented below.

Since the 2003 release at the dispenser island, PSC and their subcontractors have drilled 57 soil borings, collected 192 soil samples, 49 groundwater grab samples, and numerous groundwater well samples. Based on these investigations, the permeable zone encountered at 10 feet bgs is not laterally continuous across the Site. Geological cross-sections have been prepared based on these borings and submitted in previous reports including the FS/CAP. The cross-sections show the discontinuous nature of this permeable zone. Cross-Section C-C´ shows sandy silts and clayey silts on the west down-gradient side of the source area. A thin layer of sand was encountered in MW-102, which is next to the source area excavation on the down-gradient side, at 9-10 feet bgs, but the soil was only moist. Groundwater or saturated soils were not encountered in the boring until approximately 28 feet bgs. The well was installed with screen placed from 18 to 28 feet bgs. The groundwater rose to 9 feet bgs indicating the deeper water was in semi-confined conditions. These semi-confined conditions have been observed in other borings and wells installed at the Site. Historical water levels and residual TPH-d concentrations in MW-102 have been similar to those found in the cross or up-gradient well MW-104, which is screened from 10 to 25 feet bgs. It is PSC's opinion that residual total petroleum hydrocarbons as diesel (TPH-d) concentrations are at

levels that are considered a low threat and groundwater is not migrating at a rate that would cause these low levels to become a threat in the future.

A conference call/meeting between ACEH, Earthgrains, and PSC took place on September 1, 2011. During that meeting, ACEH requested that two additional wells with screen intervals above the 10-foot bgs depth be installed north and south of MW-102 on the western or down gradient side of the source-area excavation. As previously mentioned, MW-102 was installed with the screen interval at 18 to 28 feet because there were no saturated permeable soils encountered until a depth of approximately 28 feet. PSC restated their opinion that they have provided an accurate estimate of residual hydrocarbons in soil and groundwater beneath the Site and that these residual hydrocarbons constitute a very low threat to human health and the environment. PSC and Earthgrains decided to continue with post closure monitoring of the four wells approved in FS/CAP, however the ACEH directive for additional wells would be appealed to the SWRCB.

CURRENT GROUNDWATER MONITORING EVENT

Blaine Tech Services, Inc. (BTS) performed the semi-annual groundwater-monitoring event on July 17, 2012. The BTS field documents generated during the event are included as Attachment B. Samples were submitted to Kiff Analytical, LLC (Kiff) for laboratory analysis. The laboratory report is included as Attachment C. The current groundwater monitoring activities are summarized below.

Summary of Monitoring Well Conditions – Wells MW-101 through MW-104 were inspected and no conditions requiring corrective actions were noted. The well vaults for MW-102 and MW-104 contained water that accumulated from surface water runoff. The water was removed prior to opening the well caps. Well construction details are presented in Table 1. Total depth measurements are presented in Table 2.

Groundwater Elevation – Wells MW-101 through MW-104 were measured and groundwater elevations were calculated to range from 4.65 to 3.72 feet above mean sea level (MSL). Free product was not observed in any of the wells during this or previous groundwater monitoring events. Groundwater elevations in wells MW-101, MW-103, and MW-104 were approximately 0.3 to 0.4 feet deeper for this event compared to the previous monitoring event. The groundwater level in well MW-102 was 0.84 feet higher for this event compared to the previous monitoring event. Although, it was 0.92 feet deeper than the second semi-annual event performed in 2011. This supports the apparent anomalous groundwater level measured for well MW-102 measured during the January 2012 event. Groundwater elevation measurements are presented on Table 2. Precipitation in the Oakland area for the July 2012 to November 2012 period (2.88 inches) was approximately 97% compared with the same period the previous year (2.96 inches) and was at 78% of the current calculated normal precipitation (3.68 inches), as reported by the National Oceanic and Atmospheric Administration.

PSC has stated its opinion in previous documents that the water encountered at shallower depths in the source area is surface water perched in the gravel-filled excavations, utility conduits, and discontinuous shallow permeable intervals. This water recharges the underlying permeable layers of the shallow aquifer encountered at depths ranging from 19 to 28 feet. During the source area removal, water was observed seeping into the northern end of the excavation. However, saturated soil was not encountered on the southern end of the excavation near MW-102 where soil was excavated to 16 feet bgs.

The water level observed in MW-102 from the January and July 2012 events support the CSM and the opinion of perched groundwater in discontinuous permeable layers at approximately 10 feet. It is PSC's opinion that the reduced precipitation from July 2011 through January 2012 resulted in a decreased hydraulic head from infiltrating surface water in the compacted backfilled excavation. This decreased head along with the absence of saturated permeable layers at shallow depths in MW-102 resulted in a lower water level only observed in MW-102. This effect was not observed in the other monitoring wells located up gradient or cross gradient from the source area excavation. During this current event, the groundwater level in MW-102 is once again consistent with the other three wells.

Groundwater Flow Direction and Gradient – Based on historic groundwater measurements, groundwater generally flows to the west. Groundwater flow for the July 2012 event was towards the west. The approximate gradient was 0.018 foot-per-foot.

Contaminant Concentrations in Groundwater – The analytical results for all four wells contained TPH-d at concentrations ranging from 72 µg/L to 190 µg/L. MW-101, MW-103, and MW-104 had concentrations of TPH-d at 190, 110, and 72 µg/L, respectively. Down-gradient well MW-102 had a TPH-d concentration of 120 µg/L. The duplicate sample collected from MW-102 had a concentration of 170 µg/L. All TPH-d concentrations were less than the environmental screening level (ESL) of 210 µg/L as identified in the San Francisco Bay Regional Water Quality Control Board document *Screening for Environmental Concerns at Sites with Contaminated Soil and Groundwater, Revised May 2008*, *Table F-1b*.

Benzene, toluene, ethylbenzene, and xylenes (BTEX) were not detected in any of the samples collected for this or previous groundwater sampling events. Poly-nuclear aromatic hydrocarbons (PAH) were not detected in any of the samples collected during this or previous groundwater monitoring events. A summary of BTEX and TPH-d laboratory results are presented on Table 3. A summary of PAH laboratory results are presented on Table 4.

PLANNED SITE ACTIVITIES

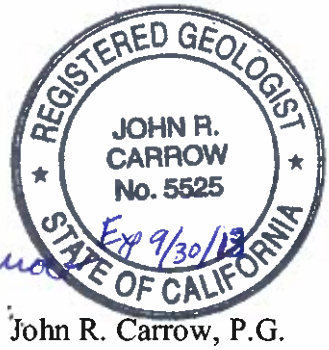
PSC consulted with the SWRCB in 2011. In accordance with the SWRCB policy on petitions for case closure, PSC and Earthgrains submitted another request for closure on October 21, 2011 in lieu of a work plan requested in the directive from the ACEH. Neither Earthgrains nor PSC has received

a response from ACEH or the SWRCB regarding the petition for Closure. In January 2012, the California UST Fund conducted a 5-year review on the LUFT Case. They also concluded that the case should be recommended for closure. PSC will continue to collect the semi-annual post source-area removal groundwater samples from the four groundwater monitoring wells, MW-101 through MW-104 that surround the excavation until directed otherwise.

Earthgrains and PSC are waiting for a reply from the SWRCB or the ACEH on the revised closure request and the recommendation from the California UST Fund. If you have any questions concerning this document, please contact Paul Anderson at (618) 281-1543.

Respectfully,

PSC INDUSTRIAL OUTSOURCING, LP



Paul Anderson
Project Manager

John R. Carrow, P.G.
Professional Geologist

2012_07_SA2 - Semi-Annual GW Monitoring Report.doc

cc: Mr. Gary McKinney – Earthgrains: 955 Kennedy Street, Oakland, CA 94606
Ms. Kacey Fung – Earthgrains: 2055 W. Army Trail Road, Suite 140, Addison, IL 60101
Mr. Christopher Wolfe – Earthgrains: 350 Kiwanis Blvd., West Hazleton, PA 18202

ATTACHMENTS:

TABLE 1 – WELL CONSTRUCTION DATA
TABLE 2 – GROUNDWATER ELEVATION DATA
TABLE 3 – CURRENT AND HISTORIC GROUNDWATER ANALYTICAL DATA BTEX AND TPH-D
TABLE 4 – CURRENT AND HISTORIC GROUNDWATER ANALYTICAL DATA PAHS

FIGURE 1 – SITE LOCATION MAP
FIGURE 2 – SITE MAP
FIGURE 3 - SITE MAP SHOWING GROUNDWATER ELEVATION DATA
FIGURE 4 – SITE MAP SHOWING GROUNDWATER CONCENTRATION DATA TPH-D

ATTACHMENT A – SITE BACKGROUND AND UPDATED CONCEPTUAL SITE MODEL
ATTACHMENT B – BLAINE TECH SERVICES, INC. FIELD REPORT
ATTACHMENT C – KIFF ANALYTICAL, LLC LABORATORY REPORT

Table 1
Well Construction Data

Earthgrains Baking Companies, Inc.
955 Kennedy Street
Oakland, California 94606

Well ID	Well Installation Date	TOC Elevation [1] (feet MSL)	Casing Material	Boring Depth (feet bgs)	Total Well Depth (feet bgs)	Total Well Depth (feet MSL)	Boring Diameter (inches)	Casing Diameter (inches)	Slot Size (inches)	Screened Interval (feet bgs)	Filter Pack Interval (feet bgs)	Filter Pack Sand
MW-101	1/19/2009	13.90	PVC	28.10	28.05	-14.15	8	2	0.010	18-28	16-28	#2/12
MW-102	1/20/2009	14.19	PVC	28.40	28.35	-14.16	8	2	0.010	18-28	16-28	#2/12
MW-103	1/19/2009	13.75	PVC	25.00	24.92	-11.17	8	2	0.010	10-25	8-25	#2/12
MW-104	1/20/2009	13.65	PVC	25.15	25.10	-11.45	8	2	0.010	10-25	8-25	#2/12

Notes:
TOC = top of well casing
1 = well casing elevations surveyed according to NAVD88 datum by PLS Surveys, Inc. on January 28, 2009.
MSL = mean sea level
bgs = below-ground-surface
PVC = polyvinyl chloride (Schedule 40)

Table 2
Groundwater Elevation Data

Earthgrains Baking Companies, Inc.
955 Kennedy Street
Oakland, California 94606

Well ID	Measurement Date	Well TOC Elevation (feet MSL)[1]	Depth to Water From TOC (feet bgs)	Groundwater Elevation (feet MSL)	Total Well Depth (feet bgs)	Total Well Depth (feet MSL)
MW-101	1/26/2009	13.90	8.92	4.98	28.05	-14.15
	4/15/2009	13.90	9.43	4.47	27.85	-13.95
	7/22/2009	13.90	9.62	4.28	27.81	-13.91
	1/28/2010	13.90	7.68	6.22	27.80	-13.90
	8/24/2010	13.90	9.50	4.40	27.70	-13.80
	12/10/2010	13.90	7.68	6.22	27.91	-14.01
	2/02/2011	13.90	8.56	5.34	27.90	-14.00
	7/26/2011	13.90	9.12	4.78	27.85	-13.95
	1/06/2012	13.90	9.10	4.80	27.87	-13.97
	7/17/2012	13.90	9.50	4.40	27.83	-13.93
MW-102	1/26/2009	14.19	9.15	5.04	28.35	-14.16
	4/15/2009	14.19	9.55	4.64	28.21	-14.02
	7/22/2009	14.19	10.02	4.17	28.19	-14.00
	1/28/2010	14.19	9.70	4.49	28.15	-13.96
	8/24/2010	14.19	9.75	4.44	28.15	-13.96
	12/10/2010	14.19	8.16	6.03	28.27	-14.08
	2/02/2011	14.19	9.37	4.82	28.28	-14.09
	7/26/2011	14.19	9.55	4.64	28.14	-13.95
	1/06/2012	14.19	11.31	2.88	28.22	-14.03
	7/17/2012	14.19	10.47	3.72	28.15	-13.96
MW-103	1/26/2009	13.75	8.69	5.06	24.92	-11.17
	4/15/2009	13.75	8.91	4.84	24.74	-10.99
	7/22/2009	13.75	9.18	4.57	24.68	-10.93
	1/28/2010	13.75	7.75	6.00	24.65	-10.90
	8/24/2010	13.75	9.03	4.72	24.20	-10.45
	12/10/2010	13.75	7.67	6.08	24.80	-11.05
	2/02/2011	13.75	8.51	5.24	24.77	-11.02
	7/26/2011	13.75	8.84	4.91	24.70	-10.95
	1/06/2012	13.75	8.80	4.95	24.69	-10.94
	7/17/2012	13.75	9.10	4.65	24.70	-10.95

Table 2
Groundwater Elevation Data

Earthgrains Baking Companies, Inc.
955 Kennedy Street
Oakland, California 94606

Well ID	Measurement Date	Well TOC Elevation (feet MSL)[1]	Depth to Water From TOC (feet bgs)	Groundwater Elevation (feet MSL)	Total Well Depth (feet bgs)	Total Well Depth (feet MSL)
MW-104	1/26/2009	13.65	8.65	5.00	25.00	-11.35
	4/15/2009	13.65	8.87	4.78	24.90	-11.25
	7/22/2009	13.65	9.27	4.38	24.91	-11.26
	1/28/2010	13.65	8.02	5.63	24.90	-11.25
	8/24/2010	13.65	9.00	4.65	24.69	-11.04
	12/10/2010	13.65	7.60	6.05	24.40	-10.75
	2/02/2011	13.65	8.38	5.27	24.94	-11.29
	7/26/2011	13.65	8.84	4.81	24.86	-11.21
	1/06/2012	13.65	8.72	4.93	24.69	-11.04
	7/17/2012	13.65	9.10	4.55	24.85	-11.20
DW-1	1/26/2009	14.05	9.10	4.95	14.60	-0.55
	4/15/2009	14.05	9.23	4.82	14.41	-0.36
	7/22/2009	14.05	9.50	4.55	14.41	-0.36
	1/28/2010	14.05	7.84	6.21	NM	NM
	8/24/2010	14.05	9.00	5.05	14.25	-0.20
	Well permanently destroyed / removed during source area removal activities					

Notes:
TOC = top of well casing
1 = well casing elevations surveyed according to NAVD88 datum by PLS Surveys, Inc. on January 28, 2009.
MSL = mean sea level
bgs = below-ground-surface
NM = not measured
DW-1 = de-watering well

Table 3
Groundwater Analytical Data
(BTEX and TPH-d)

Earthgrains Baking Companies, Inc.
955 Kennedy Street
Oakland, California 94606

Well ID	Sample Collection Date	Parameter Concentration and Associated ESLs (µg/L)				
		Benzene (46)	Toluene (130)	Ethylbenzene (43)	Total Xylenes (100)	TPH-d (210)
MW-101	1/26/2009	<0.50	<0.50	<0.50	<0.50	<50
	4/15/2009	<0.50	<0.50	<0.50	<0.50	<50
	7/22/2009	<0.50	<0.50	<0.50	<0.50	<50
	1/28/2010	<0.50	<0.50	<0.50	<0.50	**64**
	8/24/2010	<0.50	<0.50	<0.50	<0.50	**110**
	12/10/2010	<0.50	<0.50	<0.50	<0.50	**86**
	2/02/2011	<0.50	<0.50	<0.50	<0.50	**61**
	7/26/2011	<0.50	<0.50	<0.50	<0.50	**60**
	1/06/2012	<0.50	<0.50	<0.50	<0.50	**100**
	7/17/2012	<0.50	<0.50	<0.50	<0.50	**190**
MW-102	1/26/2009	<0.50	<0.50	<0.50	<0.50	**160**
	4/15/2009	<0.50	<0.50	<0.50	<0.50	**140**
	7/22/2009	<0.50	<0.50	<0.50	<0.50	**120**
	1/28/2010	<0.50	<0.50	<0.50	<0.50	**54**
	8/24/2010	<0.50	<0.50	<0.50	<0.50	**89**
	12/10/2010	<0.50	<0.50	<0.50	<0.50	**160**
	2/02/2011	<0.50	<0.50	<0.50	<0.50	**110**
	7/26/2011	<0.50	<0.50	<0.50	<0.50	**97**
	1/06/2012	<0.50	<0.50	<0.50	<0.50	**250**
	7/17/2012	<0.50	<0.50	<0.50	<0.50	**120**
MW-103	1/26/2009	<0.50	<0.50	<0.50	<0.50	**80**
	4/15/2009	<0.50	<0.50	<0.50	<0.50	<50
	7/22/2009	<0.50	<0.50	<0.50	<0.50	<50
	1/28/2010	<0.50	<0.50	<0.50	<0.50	**63**
	8/24/2010	<0.50	<0.50	<0.50	<0.50	<50
	12/10/2010	<0.50	<0.50	<0.50	<0.50	<50
	2/02/2011	<0.50	<0.50	<0.50	<0.50	**53**
	7/26/2011	<0.50	<0.50	<0.50	<0.50	**51**
	1/06/2012	<0.50	<0.50	<0.50	<0.50	**60**
	7/17/2012	<0.50	<0.50	<0.50	<0.50	**110**
MW-104	1/26/2009	<0.50	<0.50	<0.50	<0.50	**100**
	4/15/2009	<0.50	<0.50	<0.50	<0.50	**79**
	7/22/2009	<0.50	<0.50	<0.50	<0.50	**97**
	1/28/2010	<0.50	<0.50	<0.50	<0.50	**68**
	8/24/2010	<0.50	<0.50	<0.50	<0.50	**100**
	12/10/2010	<0.50	<0.50	<0.50	<0.50	**84**
	2/02/2011	<0.50	<0.50	<0.50	<0.50	**92**
	7/26/2011	<0.50	<0.50	<0.50	<0.50	**100**
	1/06/2012	<0.50	<0.50	<0.50	<0.50	**79**
	7/17/2012	<0.50	<0.50	<0.50	<0.50	**72**

Table 3
Groundwater Analytical Data
(BTEX and TPH-d)

Earthgrains Baking Companies, Inc.
955 Kennedy Street
Oakland, California 94606

Well ID	Sample Collection Date	Parameter Concentration and Associated ESLs (µg/L)				
		Benzene (46)	Toluene (130)	Ethylbenzene (43)	Total Xylenes (100)	TPH-d (210)
DW-1	1/26/2009	<0.50	<0.50	<0.50	<0.50	**1,200**
	4/15/2009	<0.50	<0.50	<0.50	<0.50	**830**
	7/22/2009	<0.50	<0.50	<0.50	<0.50	**1,000**
	1/28/2010	NS	NS	NS	NS	NS
	8/24/2010	**0.83**	**1.4**	<0.50	**1.0**	**970**
	Well permanently destroyed / removed during source area removal activities					
DUP (DW-1)	1/26/2009	<0.50	<0.50	<0.50	<0.50	**1,200**
DUP (DW-1)	4/15/2009	<0.50	<0.50	<0.50	<0.50	**960**
DUP (DW-1)	7/22/2009	<0.50	<0.50	<0.50	<0.50	**1,100**
DUP (MW-102)	1/28/2010	<0.50	<0.50	<0.50	<0.50	<50
DUP (MW-102)	8/24/2010	<0.50	<0.50	<0.50	<0.50	**140**
DUP (MW-102)	12/10/2010	<0.50	<0.50	<0.50	<0.50	**200**
DUP (MW-102)	2/02/2011	<0.50	<0.50	<0.50	<0.50	**120**
DUP (MW-102)	7/26/2011	<0.50	<0.50	<0.50	<0.50	**110**
DUP (MW-102)	1/06/2012	<0.50	<0.50	<0.50	<0.50	**110**
DUP (MW-102)	7/17/2012	<0.50	<0.50	<0.50	<0.50	**170**
Travel Blank	1/26/2009	<0.50	<0.50	<0.50	<0.50	-
	4/15/2009	<0.50	<0.50	<0.50	<0.50	-
	7/22/2009	<0.50	<0.50	<0.50	<0.50	-
	1/28/2010	<0.50	<0.50	<0.50	<0.50	-
	8/24/2010	<0.50	<0.50	<0.50	<0.50	-
	12/10/2010	<0.50	<0.50	<0.50	<0.50	-
	2/02/2011	<0.50	<0.50	<0.50	<0.50	-
	7/26/2011	<0.50	<0.50	<0.50	<0.50	-
	1/06/2012	<0.50	<0.50	<0.50	<0.50	-
	7/17/2012	<0.50	<0.50	<0.50	<0.50	-

Notes:
µg/L = micrograms-per-liter
ESL = environmental screening level according to ESL Document Table F-1b
TPH-d = total petroleum hydrocarbons quantified as diesel
DW = de-watering well
DUP = field duplicate sample
= Highlighted value exceeds ESL

Table 4
Groundwater Analytical Data
(Poly-Nuclear Aromatic Hydrocarbons)

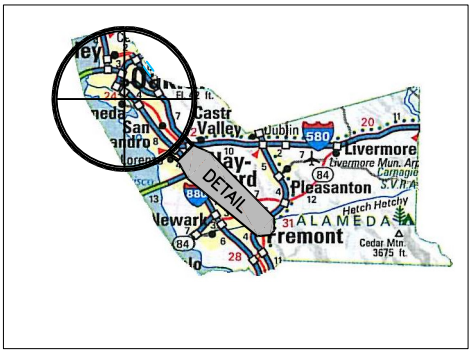
Earthgrains Baking Companies, Inc.
955 Kennedy Street
Oakland, California 94606

Well ID	Sample Collection Date	Parameter Concentration and Associated ESLs (µg/L)															
		Naphthalene (24)	Acenaphthylene (30)	Acenaphthene (23)	Fluorene (39)	Phenanthrene (4.6)	Anthracene (0.73)	Fluoranthene (8.0)	Pyrene (2.0)	Benzo (a) Anthracene (0.027)	Chrysene (0.35)	Benzo (b) Fluoranthene (0.029)	Benzo (k) Fluoranthene (0.40)	Benzo (a) Pyrene (0.014)	Dibenz (a,h) Anthracene (0.25)	Benzo (g,h,i) Perylene (0.10)	Indeno (1,2,3-c,d) Pyrene (0.048)
MW-101	7/22/2009	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<0.20	<1.0	<1.0	<1.0
	1/28/2010	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<0.20	<1.0	<1.0	<1.0
	8/24/2010	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<0.20	<1.0	<1.0	<1.0
	12/10/2010	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<0.20	<1.0	<1.0	<1.0
	2/02/2011	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<0.20	<1.0	<1.0	<1.0
	7/26/2011	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<0.20	<1.0	<1.0	<1.0
	1/06/2012	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<0.20	<1.0	<1.0	<1.0
	7/17/2012	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<0.20	<1.0	<1.0	<1.0
MW-102	7/22/2009	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<0.20	<1.0	<1.0	<1.0
	1/28/2010	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<0.20	<1.0	<1.0	<1.0
	8/24/2010	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<0.20	<1.0	<1.0	<1.0
	12/10/2010	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<0.20	<1.0	<1.0	<1.0
	2/02/2011	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<0.20	<1.0	<1.0	<1.0
	7/26/2011	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<0.20	<1.0	<1.0	<1.0
	1/06/2012	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<0.20	<1.0	<1.0	<1.0
	7/17/2012	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<0.20	<1.0	<1.0	<1.0
MW-103	7/22/2009	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<0.20	<1.0	<1.0	<1.0
	1/28/2010	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<0.20	<1.0	<1.0	<1.0
	8/24/2010	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<0.20	<1.0	<1.0	<1.0
	12/10/2010	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<0.20	<1.0	<1.0	<1.0
	2/02/2011	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<0.20	<1.0	<1.0	<1.0
	7/26/2011	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<0.20	<1.0	<1.0	<1.0
	1/06/2012	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<0.20	<1.0	<1.0	<1.0
	7/17/2012	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<0.20	<1.0	<1.0	<1.0
MW-104	7/22/2009	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<0.20	<1.0	<1.0	<1.0
	1/28/2010	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<0.20	<1.0	<1.0	<1.0
	8/24/2010	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<0.20	<1.0	<1.0	<1.0
	12/10/2010	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<0.20	<1.0	<1.0	<1.0
	2/02/2011	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<0.20	<1.0	<1.0	<1.0
	7/26/2011	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<0.20	<1.0	<1.0	<1.0
	1/06/2012	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<0.20	<1.0	<1.0	<1.0
	7/17/2012	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<0.20	<1.0	<1.0	<1.0
DW-1	7/22/2009	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<0.20	<1.0	<1.0	<1.0
	1/28/2010	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<0.20	<1.0	<1.0	<1.0
	8/24/2010	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<0.20	<1.0	<1.0	<1.0
	12/10/2010	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<0.20	<1.0	<1.0	<1.0
	2/02/2011	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<0.20	<1.0	<1.0	<1.0
	Well permanently destroyed / removed during source area removal activities																
DUP (DW-1)	7/22/2009	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<0.20	<1.0	<1.0	<1.0
DUP (MW-102)	1/28/2010	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<0.20	<1.0	<1.0	<1.0
DUP (MW-102)	8/24/2010	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<0.20	<1.0	<1.0	<1.0
DUP (MW-102)	12/10/2010	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<0.20	<1.0	<1.0	<1.0
DUP (MW-102)	2/02/2011	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<0.20	<1.0	<1.0	<1.0
DUP (MW-102)	7/26/2011	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<0.20	<1.0	<1.0	<1.0
DUP (MW-102)	1/06/2012	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<0.20	<1.0	<1.0	<1.0
DUP (MW-102)	7/17/2012	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<0.20	<1.0	<1.0	<1.0

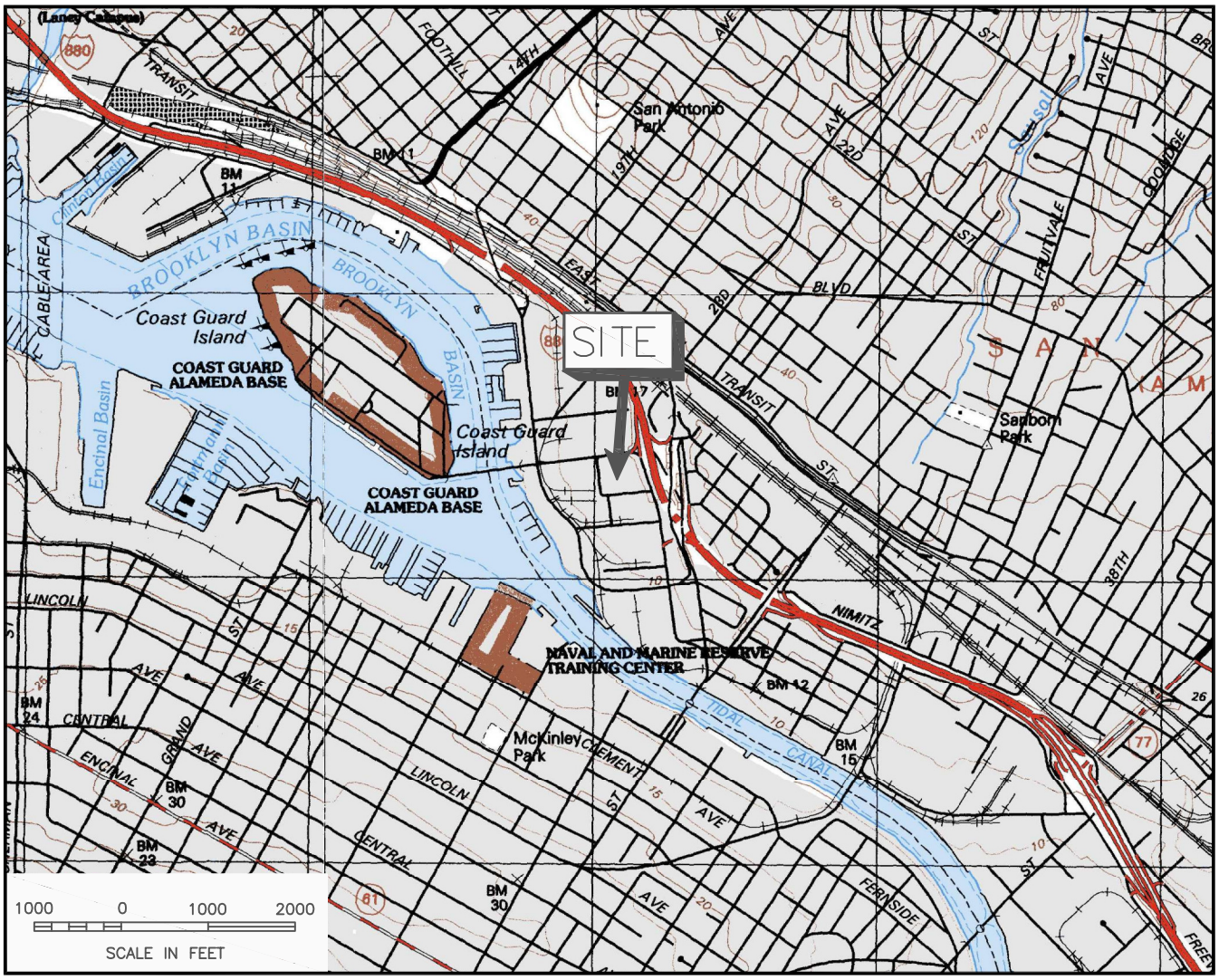
Notes:
µg/L = micrograms-per-liter
ESL = environmental screening level according to ESL Document Table F-1b
TPH-d = total petroleum hydrocarbons quantified as diesel
DW = de-watering well
DUP = field duplicate sample
[ ] = Highlighted value exceeds ESL

CALIFORNIA

ALAMEDA COUNTY



AREA IN DETAIL



Modified from U.S. Geological Survey, Oakland East & West, California, quadrangle, Photorevised 1997 & 1993.

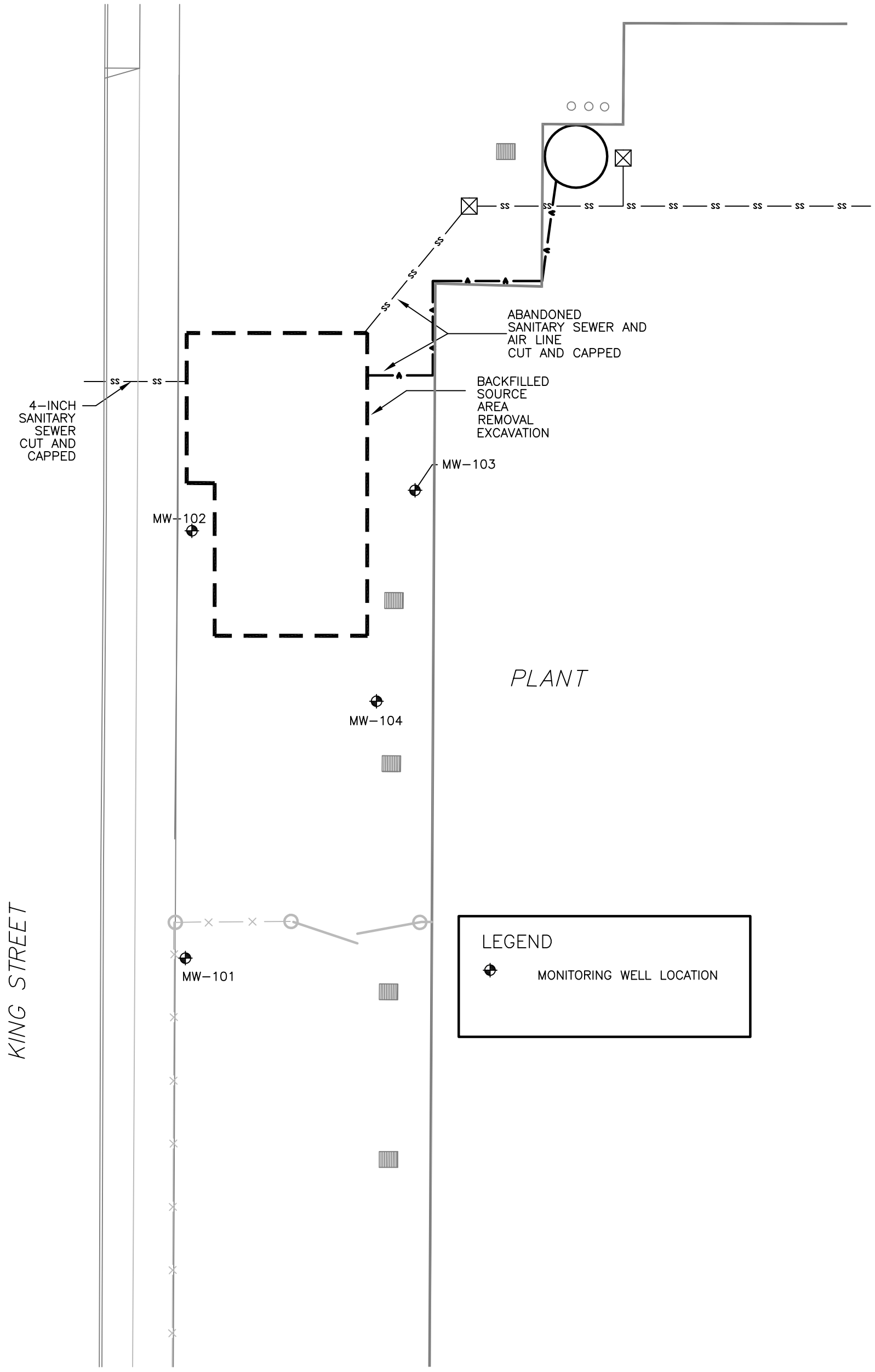
SCALE IS VARIABLE

N

TITLE: SITE LOCATION MAP 955 KENNEDY STREET OAKLAND, CALIFORNIA 94606	DWN: TMM	DES.: JRC	PROJECT NO.: 62402797 EARTHGRAINS OAKLAND, CALIFORNIA
	CHKD:	APPD:	
	DATE: 11/18/08	REV.: 0	FIGURE 1

COL 624\027970-002

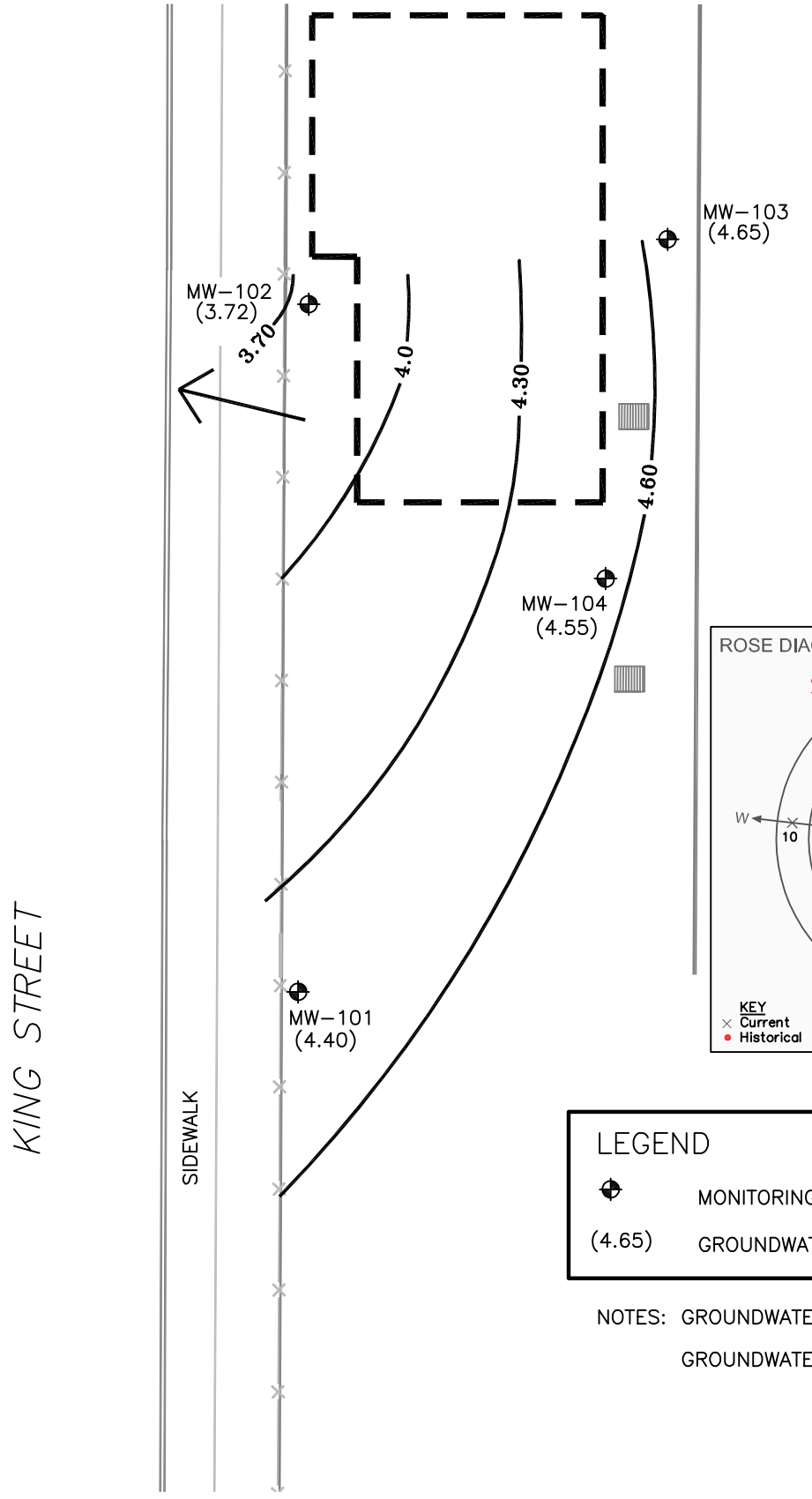
COL. 624\02797B-032



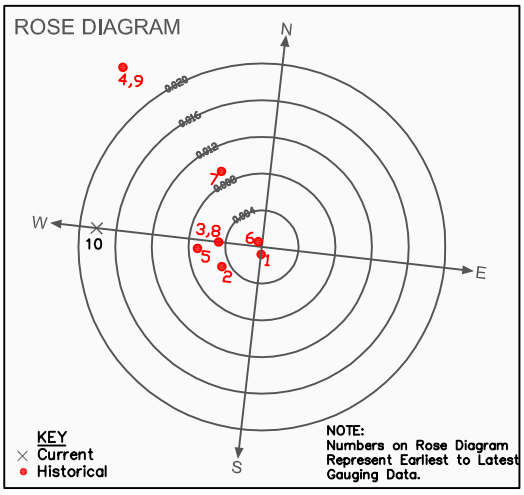
PSC

TITLE:
MONITORING WELL LOCATION MAP
POST SOURCE REMOVAL

DWN:	DES.:	PROJECT NO.: 62402797
TMM	JRC	EARTHGRAINS OAKLAND, CALIFORNIA
CHKD:	APPD:	
DATE: 8/25/11	REV.: 0	FIGURE 2



EVENT #	EVENT DATE
1	1/26/2009
2	4/15/2009
3	7/22/2009
4	1/28/2010
5	8/24/2010
6	12/10/2010
7	2/02/2011
8	7/26/2011
9	1/06/2012
10	7/17/2012



LEGEND

MONITORING WELL LOCATION

(4.65) GROUNDWATER ELEVATION

NOTES: GROUNDWATER GRADIENT = 0.018 FT/FT

GROUNDWATER FLOW = WEST TO NORTHWEST

0 20

FEET

COL 624\02797B-034

PSC

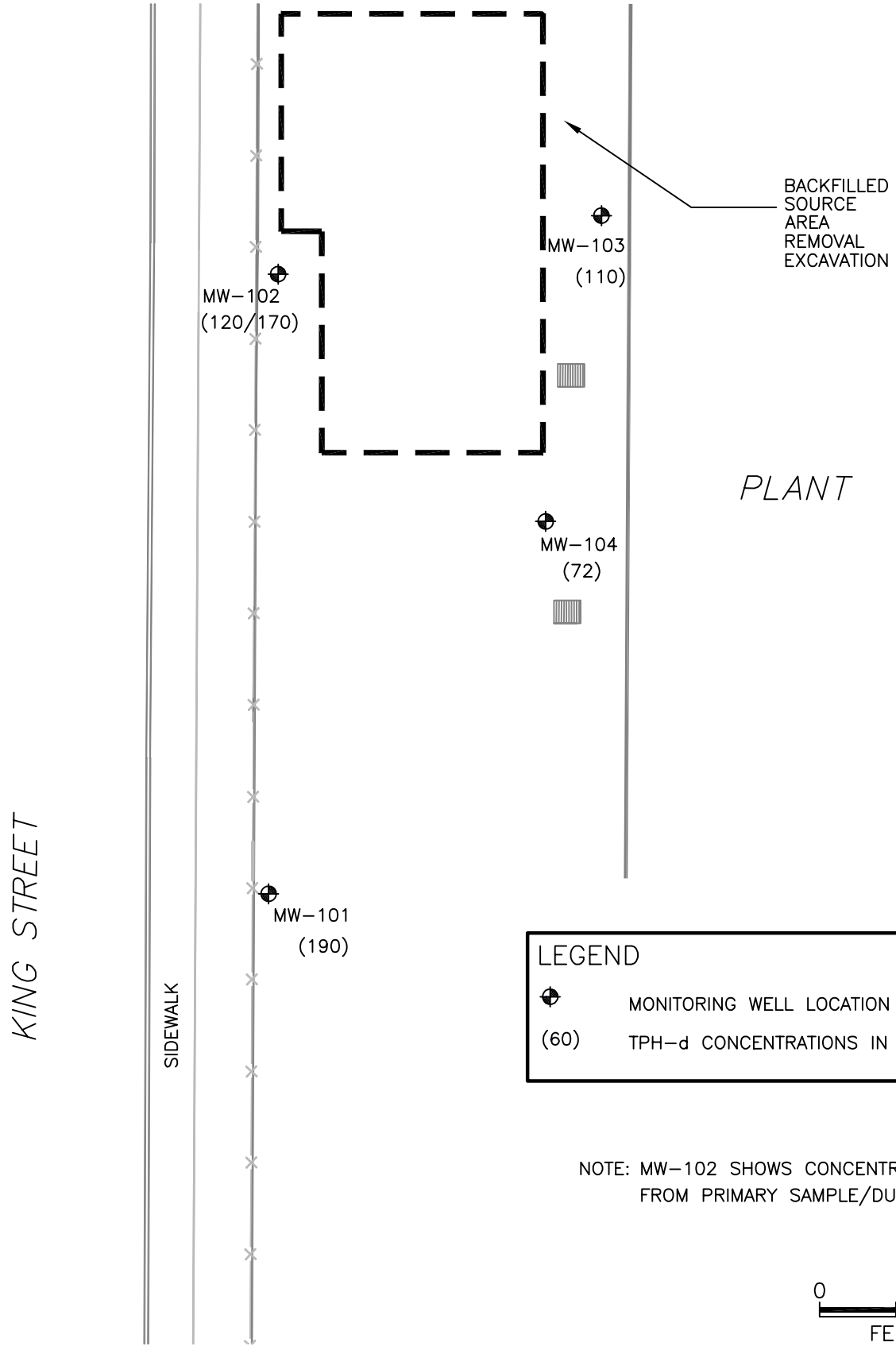
TITLE:

GROUNDWATER ELEVATION
CONTOUR MAP
JULY 17, 2012

DWN:	DES.:
MMK	PA
CHKD:	APPD:
DATE: 07/17/12	REV.: 0

PROJECT NO.: 62409080043
EARTHGRAINS
OAKLAND, CALIFORNIA

FIGURE 3



624\02797B-035
COL

PSC

TITLE:
TPH-d IN GROUNDWATER CONCENTRATION MAP
JULY 17, 2012

DWN:	DES.:
MMK	PA
CHKD:	APPD:
DATE: 07/17/12	REV.: 0

PROJECT NO.: 62402797
EARTHGRAINS
OAKLAND, CALIFORNIA

FIGURE 4

ATTACHMENT A

SITE BACKGROUND
AND
UPDATED CONCEPTUAL SITE MODEL

PSC INDUSTRIAL OUTSOURCING, LP
210 West Sand Bank Road, Columbia, IL 62236
(618) 281-1543 Fax (618) 281-7020

A1 INTRODUCTION AND SITE BACKGROUND

The Site history, geology, hydrogeology, soil and groundwater quality are presented in the following Section A-1. The Conceptual Site Model (CSM) is presented as Section A-2 of this Appendix.

A1.1 Description of Site and Vicinity

The Site occupies approximately five acres of commercial property in Oakland, California. Earthgrains owns and operates a 105,000 square-foot plant consisting of a bakery, product distribution center, and thrift store at the Site. The entire Site is covered with building structures, asphalt, or concrete pavement. An asphalt-paved parking area and driveway border the eastern and western sides of the Site and truck-loading docks are located in the northwestern side of the plant. A stand-alone truck wash building was located west of the plant and a former truck maintenance garage was located in the northwestern corner of the Site. The truck wash building was removed during source area removal operations. The Site is bounded by Dennison Street to the north, Frederick Street to the south, Kennedy Street to the east, and King Street to the west. Surrounding properties to the north, south, and west of the Site are mainly industrial and commercial businesses. Interstate 880 is located east of Kennedy Street. The Site Location Map is presented as **Figure 1** within the main document's Figure's section.

The Site is located within an incorporated area of the City of Oakland and the municipal water provider is the East Bay Municipal Utility District (EBMUD). Treated surface water from the Mokelumne River watershed and rainfall from the East Bay watershed is combined to supply water to EBMUD customers. The underground utilities near the former UST system and the source of the release have been changed since the source removal. The sanitary sewer lateral that exited the building on the west side and connected to the sanitary sewer beneath King Street was removed with the truck wash building. The water, air, and electric underground utilities have been cut, removed, and capped. The sanitary sewer was capped near the western property boundary near a natural gas pipeline that travels parallel to King Street.

A1.2 Site History

The Earthgrains facility (formerly Kilpatrick's Bakeries, Inc.) was constructed in the late 1960s and has operated as a bakery and product distribution center. Earthgrains installed and operated eight UST systems at the Site from 1967 to 2005 for fleet operations and back-up oven fuel storage. Subsurface investigations and groundwater monitoring were performed at the Site from 1989 through 1996 for a previous unauthorized release from a diesel UST system. Earthgrains received environmental case closure in 1996 following submittal of a Tier 1 Risk Assessment report to the Alameda County Department of Environmental Health (ACEH). Residual petroleum hydrocarbons were left in soil at the Site when closure was granted.

Earthgrains reported an additional unauthorized diesel UST system release at the Site in 2003 following the discovery of petroleum hydrocarbons during product piping modifications at a diesel pump island. Since the Tier 1 Risk Assessment report indicated that residual petroleum hydrocarbons remained in soil near the 2003 diesel UST system release area, the exact source of the petroleum hydrocarbons was undetermined. Investigation and corrective action since 2005 was conducted under RO#0002569.

A1.3 UST System Closures

Earthgrains operated eight UST systems at the Site from 1967 to 2005. The locations of the UST systems are shown on Figure 2 of the FS/CAP. Earthgrains performed the following UST activities:

- Four 10,000-gallon diesel UST systems were installed in a shared tank excavation in 1977, south of the truck wash building as a back-up fuel supply system for the ovens in the plant. The four diesel UST systems were removed for permanent closure on October 11, 1989. During the UST closure activities, 384 tons of diesel-impacted soil were excavated and removed for off-site disposal and the former UST excavation was backfilled with clean, imported pea gravel.

- One 10,000-gallon gasoline, one 10,000-gallon diesel, and one 350-gallon waste oil UST system was installed south of the former truck maintenance garage during 1967. The gasoline and diesel tanks shared a common excavation and were removed for permanent closure on December 12, 1990. The waste oil UST system was removed for permanent closure on January 28, 1991 and approximately 25 cubic-yards of petroleum-impacted material was excavated and removed for off-site disposal. The UST excavations were then backfilled with clean, imported granular material.

- One 10,000-gallon diesel UST system was installed in January 1991 to replace the former diesel UST system removed southeast of the truck maintenance garage in December 1990. Earthgrains removed the original pump island on the 10,000-gallon diesel UST system and installed a new diesel dispensing system south of the truck wash building in 1995.

- Earthgrains upgraded the product dispensing system in April 2003 in order to comply with new under-dispenser containment requirements. Additional diesel fuel-contaminated soil was discovered at that time and the diesel UST system was removed for permanent closure on March 9, 2005. Based upon the UST closure assessment data, Earthgrains submitted an unauthorized UST release (leak) report for the Site to the Oakland Fire Department on April 15, 2005. This was the last UST system operated by Earthgrains at the Site.

A1.4 Historic Environmental Investigations

A historical unauthorized release of diesel fuel was reported in 1989 following UST system closure. Historic subsurface investigation and corrective action were performed from 1989 through 1996 for this release. These historical environmental investigations assessed soil and groundwater quality. Soil and groundwater samples were analyzed for total petroleum hydrocarbons (TPH) as gasoline (g), diesel (d), and motor oil (mo); benzene, toluene, ethylbenzene, and total xylenes (BTEX); volatile organic compounds (VOC); and poly-cyclic aromatic hydrocarbons (PAHs). Historical soil sample locations, soil analytical data, and groundwater data are presented in the FS/CAP. The historic environmental investigation activities at the Site are summarized below:

1992 Site Investigation

PSC, formerly Burlington Environmental, Inc., performed a Site investigation in August 1992 to assess the lateral and vertical extent of petroleum hydrocarbons in soil and groundwater from the 1989 diesel UST system release. PSC installed five groundwater-monitoring wells (MW-1 through MW-5) at the Site and performed quarterly groundwater monitoring from August 1992 to December 1994.

1995 Tier 1 Risk Assessment

Groundwater samples collected and analyzed from the quarterly monitoring events performed between 1992 and 1994 detected concentrations of chlorinated and non-chlorinated solvents. PSC submitted a Tier 1 Risk Assessment report for the Site in July 1995 prepared in accordance with the American Society of Testing and Materials (ASTM) Risk Based Corrective Action procedures and Emergency Standard Guide for Risk-Based Corrective Action Applied at Petroleum Release Sites ES 38-94. The report presented evidence that solvent concentrations in groundwater found in the investigation were derived from an off-site source. The ACEH agreed with the assessment report findings and closed the environmental case in March 1996. PSC abandoned the five groundwater-monitoring wells at the Site in March 1996 and Earthgrains received environmental case closure on April 17, 1996.

2003 Release

Earthgrains reported an additional unauthorized diesel UST system release at the Site in 2003 following the discovery of petroleum hydrocarbons during product piping modifications at a diesel pump island. Since the 1995 Tier 1 Risk Assessment report indicated that residual petroleum hydrocarbons remained in soil near the 2003 diesel UST system release area, the exact source of the petroleum hydrocarbons was undetermined.

Detailed investigations performed in 2006 and 2007 indicate that subsurface soils at the Site consist of silt and clay to a depth of approximately 20 feet bgs, where a sand and gravel layer is typically first encountered. Groundwater in this permeable layer is under semi-confined conditions. The report stated that perched water is encountered in the gravel backfill material of the former shared diesel UST excavation and shallow silty-sand layers above 20 feet bgs at the Site.

2006 Soil and Groundwater Quality Investigation

On behalf of PSC, ETIC Engineering, Inc. (ETIC) performed a soil and groundwater quality investigation at the Site in September 2006 to further evaluate residual petroleum hydrocarbons remaining in the subsurface following the unauthorized diesel UST system release in April 2005. ETIC drilled 40 borings and submitted 131 soil and 38 groundwater grab samples for laboratory analyses.

Diesel was the primary chemical detected in soil and groundwater grab samples collected and analyzed during this Site investigation. The highest concentrations of TPH-d detected in soil were from samples collected in the vicinity of the former diesel pump island located south of the truck wash building and along the southern end of the former diesel product piping trench. The highest concentrations of TPH-d detected in soil samples were collected at depths of less than 16 feet bgs. Concentrations of TPH-d were also detected in soil samples collected south of the former truck maintenance garage in the northwest corner of the Site.

2007 Remedial Investigation

ETIC performed a remedial investigation at the Site in March 2007 to assess the lateral and vertical extent of subsurface diesel contamination in preparation for remediation. ETIC drilled an additional 12 soil borings and collected 61 soil and 11 groundwater grab samples for laboratory analyses. The highest TPH-d concentrations detected in soil samples were collected at depths from 8.5 to 15.5 feet bgs. Concentrations of BTEX were not detected in any of the soil samples collected during this remedial investigation.

2009 Groundwater Investigation

PSC submitted a *Groundwater-Monitoring Well Installation Plan* dated November 18, 2008 and a *Groundwater-Monitoring Well Installation Plan Addendum* dated January 9, 2009 to the ACEH. The purpose for performing a groundwater investigation at the Site was to provide additional soil and groundwater data for a feasibility study/remedial evaluation (FS/RE) to evaluate source removal by excavation. Information from the 2009 groundwater investigation is presented in Section 2 of this report. The well installation plan and addendum were approved by the ACEH in January 2009.

Appendix A

Soils encountered in the borings consisted of a few feet of fill material overlying silty and sandy clay. Sand, gravelly sand, and clayey gravel were encountered in the soil borings for MW-102, MW-103, and MW-104. Saturated soil was typically encountered at approximately 20 feet bgs. Layers of saturated soil were encountered at shallower depths in MW-103 and MW-104. Selected soil samples were submitted for laboratory analysis of TPH-d, and BTEX.

Four two-inch diameter groundwater-monitoring wells (MW-101 through MW-104) and one six-inch diameter dewatering well (DW-1) were installed at the Site. MW-103 was installed northeast of the former diesel pump island in a hydraulically up-gradient location and the remaining three monitoring wells were installed west, southwest, and southeast of the former diesel pump island. DW-1 was installed in granular backfill material at the northern end of the former shared excavation for the back-up oven fuel tanks. This six-inch diameter well was constructed with Schedule 40 PVC casing and 10 feet of 0.020-inch slotted PVC well screen to a total depth of 15 feet bgs.

The analytical reports for soil samples indicate that TPH-d concentrations exceeded the Environmental Screening Levels (ESL) for leaching to groundwater in soil samples from MW-104 (8.5-10) and DW-1 (8.5-10) and the groundwater ESL in the groundwater sample collected from DW-1. ACEH indicated that soil concentrations in well DW-1 might be indicative of light non-aqueous liquids (LNAPLs). However, PSC has routinely checked all monitoring wells including DW-1 and have found no LNAPLs or free phase petroleum product.

Groundwater sample results from January indicated concentrations of TPH-d in MW-102, MW-103, and MW-104. These concentrations did not exceed the groundwater ESL of 210 µg/L. The sample from DW-1 had a TPH-d concentration of 1,200 µg/L. Laboratory analytical data indicate that BTEX concentrations were not detected in any of the soil or groundwater samples collected. Results of soil bulk density ranged from 1.5 to 1.9 g/cm^3, which is typical of a silty clay. Total organic carbon numbers ranged from 1,050 to 2,900 mg/kg.

PSC performed a modified pump test on DW-1 to determine the volume of water and the rate of removal required to dewater the area around the former diesel pump island. Gregg Drilling and Engineering (Gregg) installed a submersible pump in DW-1 and pumped the dewatering well at the highest sustainable flow rate. Gregg was only able to maintain a pumping rate of less than one gallon-per-minute in the dewatering well for a period of seven hours. PSC measured a water-level drawdown of approximately two feet in DW-1 during the seven-hour pump test event.

In order to assess the hydraulic connection between perched water in the former shared diesel UST excavation with the permeable zone screened in the monitoring wells, PSC placed pressure transducers near the bottom of each monitoring well. The pressure transducer measured the change in water pressure and calculated the water column height during the test. The transducers were connected to a Hermit 3000 Data Logger and the electronic components interfaced with a laptop computer using Win-Situ software. PSC measured a water-level drawdown of

approximately one foot in MW-102 during the test. MW-102 is located about 15 feet northwest of DW-1. PSC observed minimal changes to the water levels in MW-101, MW-103, and MW-104 during the pump test, but these fluctuations could be attributed to changes in barometric pressure. This pump test indicated that there is a limited hydraulic connection between the groundwater in the former excavation and the groundwater encountered in the monitoring wells.

After completion of the well development and pump test, PSC conducted slug testing on the monitoring wells to assess hydraulic conductivity of the shallow aquifer. Pressure transducers were placed near the bottom in each well and connected to the Hermit 3000 data logger. Rising and falling water level data were recorded on a laptop computer. A 1-inch diameter by 3-foot long solid slug was lowered into the water column. The rise and fall of the water level were measured until it had stabilized. The slug was removed and the fall and rise of the rebounding water table were measured.

Data from the slug tests were analyzed using AQTESOLV™, commercially available solution software for hydraulic conductivity and pump tests. Water level and time data are plotted using the software. A Bouwer-Rice solution for confined aquifers was used to match a tangent line to the slope of the data. The results of the solution are presented as hydraulic conductivity in cm/sec. Not all of the slug test data were usable. Five results of slug in/slug out data provided useful curves that could be matched to the selected solution. An average hydraulic conductivity of 5.2×10^{-4} cm/sec was estimated from the slug test.

A1.5 Historic Groundwater Monitoring

Groundwater monitoring was performed at the Site from August 1992 to December 1994 and groundwater samples were collected for laboratory analyses from historic wells MW-1 through MW-5. Concentrations of TPH-g and TPH-mo were detected in groundwater samples collected from MW-2 and MW-4. Chlorinated and non-chlorinated solvent compounds were also detected in groundwater samples from MW-4, but a risk assessment determined that the concentrations were derived from an off-site source. Earthgrains received environmental case closure from the ACEH in April 1996. These wells have been closed and abandoned.

No free-phase petroleum hydrocarbons were detected in the wells during the historic groundwater-monitoring events at the Site. Water level measurements obtained from the monitoring events indicated that groundwater flowed beneath the Site in a west-southwest direction at a hydraulic gradient of approximately 0.005 to 0.01 foot-per-linear foot (ft/ft).

PSC subcontracted Blaine Tech Services, Inc. (BTS) to perform April and July 2009 and January 2010 quarterly groundwater-monitoring events at the Site. BTS collected groundwater samples from the five active wells (MW-101 through MW-104 and DW-1) on April 15 and July 22, 2009 and January 28, 2010. Samples were submitted to Kiff for analyses of TPH-d, BTEX, and PAHs.

The analytical data for the historical groundwater monitoring events are summarized in the FS/CAP.

Kiff analytical data indicates that TPH-d concentrations exceeded the ESL for groundwater in samples collected from DW-1. However, this well is screened in groundwater in the former UST excavation. TPH-d concentrations in well MW-102 ranged from 160 to 120 µg/L from January to July 2009. TPH-d concentrations in well MW-104 ranged from 100 to 97 µg/L from January to July 2009. TPH-d concentrations were 80 µg/L in well MW-103 after the installation, but were not detected in the last two sampling events. PAHs and BTEX concentrations were not detected in any of the groundwater samples collected during the two quarterly monitoring events. PAHs were not detected in the July sampling event.

A1.6 Tier 1 Risk Assessment

PSC conducted a Tier 1 Risk Assessment in accordance with *"Screening for Environmental Concerns at Sites with Contaminated Soil and Groundwater, Interim Final, November 2007, (Revised May 2008)"* (SFBRWQCB ESL Guidance Document). PSC submitted their "*Tier 1 Risk Assessment and No Further Action Request* report, on September 17, 2009. As the title indicates, based on the minimal risk to human health, safety and the environment, PSC requested that ACEH require no further action. ACEH disagreed that the site was ready for "no further action" based on elevated concentrations of TPH-d in shallow soil and groundwater in the source area. The following is a summary list of the ACEH comments and required actions presented in the letter.

- Based on the analytical data and reported groundwater flow direction, the extent of dissolved phase hydrocarbons in the deeper water-bearing unit appears adequately characterized at this time.
- The shallow water-bearing unit, referred by PSC as "perched water", appears impacted with TPH-d and was omitted from any risk evaluation.
- Historical concentrations of TPH-d have been detected as high as 8,300 mg/kg in soil and as high as 3,500,000 µg/L in groundwater.
- Although naphthalene was not detected in the most recent groundwater sample event, it is not clear whether naphthalene analysis was conducted during previous site characterizations since naphthalene analysis is not included in the historical analytical data tables.
- Based on the analytical data, significant residual source area appears to exist in shallow soil and groundwater and corrective action was warranted.

A1.7 FS/CAP, Source Removal, and CACR

ACEH required the submittal of a FS/CAP prepared in accordance with Title 23, California Code of Regulations, Section 2725. PSC prepared and submitted a FS/CAP on July 16, 2010. Because of the nature of diesel contamination and subsurface conditions, the report compared only two remedial alternatives. PSC concluded that dewatering and excavation of soil in the source area was the most effective remedy. The corrective action plan included de-watering the shallow saturated zone using well DW-1. The FS/CAP proposed removal of soil and groundwater in the source area beneath the dispenser island area and the southern end of the former Truck Wash Building. ACEH approved the FS/CAP on July 30, 2010.

PSC commenced source removal activities in August 2010 and completed the activities in November 2010. The CAP for source removal included excavating TPH-d contaminated soil in an approximately 1,800-ft^2 area around the former dispenser island to a depth of 12 feet bgs. The CAP included dewatering activities, the removal of the former Truck Wash Building, the settling tank, and the utilities supplying the building. Observations in the field expanded the excavation slightly. A total of 1,224 tons of soil contaminated with TPH-d were removed from the excavation. PSC estimated that a volume of 20,500 cubic feet or 755 cubic yards of soil was removed.

Samples of contaminated soils, that were later removed, were collected in order to verify the necessity of source removal. Soil samples were also collected around the perimeter of the excavation at the depth near the shallow permeable zone and where the highest staining and odor were observed. Three of the 17 confirmation soil samples had detectable concentrations of TPH-d, all of which were below the leaching to groundwater ESL.

PSC submitted the Corrective Action Completion Report - Source Area Soil and Groundwater Removal Report (CACR) to ACEH on April 19, 2010. PSC submitted the results of two groundwater-monitoring events performed in the second half of 2010 and the first half of 2011 in the CACR. The groundwater monitoring of the four remaining wells was completed in accordance with the approved FS/CAP. The data presented in the CACR has been used in the updated historical tables for this report.

PSC received a comment letter on the CACR from ACEH and a directive that required post closure monitoring for the source removal activities. The directive specified that the groundwater monitoring wells should be screened in a permeable zone encountered in the source removal excavation at 10 feet below ground surface (bgs). This would require placing additional wells in the area down gradient of the backfilled source area excavation, which is near the sidewalk and the property boundary. PSC appealed the ACEH directive on the basis that the Site fits the State Water Resource Control Board's (SWRCB) "Low Threat UST Closure Policy", dated July 14, 2011.

A2 SUMMARY OF REVISED CONCEPTUAL SITE MODEL

PSC has presented a conceptual model of the Site in previous documents. Based on a discussion regarding the update of the California LUFT Manual, Version 2, October 4, 2010, PSC has revised the CSM. The objective of the CSM is to provide a current opinion on the following:

- an understanding of the origin, nature, and lateral and vertical extent of contamination;
- potential contaminant fate and transport processes and pathways;
- potential human and environmental receptors that may be impacted by contamination associated with the Site;
- additional data needed to draw reasonable conclusions regarding the source(s), pathways, and receptors; and
- an evaluation of the risk to human health, safety and the environment posed by the LUFT Site.

The components of an effective CSM include maps, cross-sections, tables, charts, and boring logs. These components are included in this and previous reports and work plans prepared for the Site. The following sections of this report are a summary of the CSM as presented in previous reports with additional information from the completed corrective action supporting or clarifying the opinions presented in the previous CSM.

A2.1 Land Use and Environmental Setting

The Site has been a commercial/industrial property since the late 1960s. The current use of the Site is a bakery and bakery product distribution center. The Site is covered by either pavement or structures. Based on its close proximity to Interstate 880 and San Francisco Bay, the Site will likely remain a commercial/industrial property for the near future.

Surface water or storm water from the western side of the Site flows to a storm sewer located about 20-feet west of and parallel to the bakery building. Water in this storm sewer flows north where it empties into a concrete storm-water sewer beneath and parallel to Dennison Street. An additional storm drain is located approximately 25 feet west of the Site beneath King Street. The storm-water sewer along King Street flows north and intersects a second storm-water sewer that travels beneath and parallel to Dennison Street, approximately 60 feet northwest of the property. This storm water sewer flows west to Embarcadero Street and Brooklyn Basin. Based on the lateral and vertical extent of contamination in soil and groundwater, impact to storm water or surface waters from the release on Site has not occurred.

A2.2Local Geology and Hydrogeology

The Site is located in the East Bay Plain Sub-basin of the Santa Clara Valley Groundwater Basin. The East Bay Plain Sub-basin aquifer system consists of unconsolidated deposits from the Quaternary age. These deposits include the early Pleistocene Santa Clara Formation, the late Pleistocene Alameda Formation, the early Holocene Temescal Formation, and artificial fill. The cumulative thickness of the unconsolidated deposits is approximately 1,000 feet.

Historical soil boring logs indicate that the predominant soil types beneath the Site consist primarily of clay and silty clay. During source removal corrective action in October and November 2010, soil consisted predominately of silty clays. A one to two foot thick layer of sand and gravel was encountered at depths ranging from 11 to 14 feet bgs. Silty clay was encountered beneath this sand layer.

Historical drilling activities performed across the Site indicated that groundwater was encountered within a sand and gravel layer located at depths of 18 to 26 feet bgs. Groundwater appeared to be in a semi-confined condition and groundwater levels stabilized at approximately 9 feet bgs. Previously, PSC believed that a large area of perched water, near the former shared diesel UST excavation south of the former Truck Wash Building was recharging the shallow permeable zones at 18 feet bgs. Sand and gravel encountered at 11 to 14 feet bgs in the source removal excavation appeared to be native soil. This soil was saturated. This observation indicates that the first occurrence of groundwater beneath the Site is in this sandy material encountered as shallow as 9 feet bgs. Based on boring logs across the Site the permeable sands do not appear to be laterally continuous across the Site.

Groundwater flow direction at the Site is generally toward the west-southwest with a hydraulic gradient ranging from approximately 0.005 to 0.01 ft/ft. An average hydraulic conductivity of 5.02×10^{-4} cm/sec was obtained from the results of slug testing. Using this hydraulic conductivity, a hydraulic gradient of 0.005 ft/ft and a porosity of 35, the linear velocity of groundwater is estimated to be 7.6 ft/year. This estimate is conservative and the distance traveled by a particle of groundwater should be much less than 7.6 feet a year. The distance a contaminated groundwater plume will travel in a year requires additional parameters for the contaminant such as solubility and natural attenuation parameters for the soil. Only TPH-d, which is a mixture and has no specific chemical properties like solubility, has been detected in groundwater. Therefore, fate and transport modeling has not been completed.

A2.3Sources of Contamination

The primary source area for the current unauthorized diesel release at the Site is the former diesel pump island located south of the former Truck Wash Building. An additional source of contamination is the former diesel fuel UST located adjacent to the former Truck Repair Building which was located north of the Truck Wash Building. Source areas are shown in numerous previous reports.

Based on observations from the source area removal, diesel fuel released from the dispenser pumps migrated along the east foundation of the Truck Wash Building. The former excavation from the four diesel fuel USTs removed in 1990 was actually located further north than previously reported. This excavation, backfilled with granular material, was located immediately west of the dispenser island, beneath the southern end of the Truck Wash Building. Diesel fuel appears to have migrated along the foundation of the building into the granular backfill of the former UST excavation beneath the building. Storm water infiltration through the pavement in this area has leached contamination into shallow groundwater.

A2.4 Chemical-of-Concern and Affected Media

Soil and groundwater analytical data from investigations and corrective actions at the Site indicate that the chemical-of-concern is TPH-d. No BTEX or PAH concentrations were detected in groundwater samples collected in July 2009. Contamination is encountered in saturated and unsaturated soil. Groundwater at a depth of approximately 10 feet bgs and shallow groundwater at a depth of approximately 18 feet bgs is impacted by TPH-d. There is a potential for surface water impact in the granular backfill installed in the trenches of the storm water and sanitary sewer utilities.

A2.5 Extent of Petroleum Hydrocarbons

Subsurface investigations performed in 2006, 2007, and 2009 included: drilling 57 soil borings and collecting 192 soil samples; 49 groundwater grab samples; and 15 groundwater well samples. The soil and groundwater samples were analyzed for TPH-d and other appropriate contaminants-of-concern. The following sections present a summary of those investigations and a comparison to SFBRWQCB ESL Guidance Document.

A2.5.1 Selection of Appropriate ESLs

The Site has been a bakery and product distribution center since the late 1960s and will likely remain a commercial/industrial property in the future. Although some properties in the Site vicinity have been converted to residential buildings and public use areas, the plant is not suitable for this use without major renovations or demolition. Therefore, PSC believes that the ESL selections for commercial/industrial properties were appropriate for the Site. PSC compared TPH-d concentration in shallow soil (<3 meters) and unsaturated deeper soil (>3 meters) at the Site to both the residential and commercial/industrial ESL to assess the need for environmental land-use restrictions on the property. PSC used the residential ESL for estimating the mass of residual hydrocarbons in soil.

PSC also compared TPH-d concentrations in shallow soil to the ESL for direct exposure of industrial workers. Because the Site is completely covered by asphalt or concrete pavement or structures, PSC believes that a less stringent direct exposure ESL for construction workers in trenches would be more appropriate for the Site.

Groundwater in the vicinity of the Site is listed as suitable for beneficial use on the SFBRWQCB Basin Plan. However, in PSC's opinion, groundwater beneath the Site and vicinity is not suitable for drinking water due to the yield of the shallow aquifer. Deeper aquifers beneath the Site are not suitable for drinking water due to the close proximity of San Francisco Bay and a potential for salt-water intrusion. Therefore, PSC selected the appropriate ESL for sites where groundwater is not a current or potential drinking water resource for comparison to the soil and groundwater concentrations at the Site.

Analytical data for TPH include chromatograms that are characterized as gasoline, diesel fuel, or motor oil based on the elution time and the pattern of peaks. Concentrations characterized by a laboratory analyst as either motor oil or gasoline could be from diesel fuel contamination. TPH-d was the most frequently detected contaminant in soil or groundwater at the Site. The groundwater ESL of 210 µg/L for TPH-d was selected for comparison to groundwater concentrations at the Site.

A2.5.2Comparison of Results to ESLs

PSC compared soil sample data collected from 1989 through 2009 to the appropriate ESL selections listed in Section 2.5.1 of PSC's Tier 1 Risk Assessment. The comparison of shallow soil data and unsaturated deep soil is summarized in the CACR, as well as sample locations where TPH-d concentrations exceeded the ESL.

Based on soil analytical data from 275 soil samples (83 prior to 2006 and 192 after 2006) collected at the Site, only one sample (16TP-1) collected in 1990 exceeded the final ESL for benzene at a concentration of 0.15 mg/kg. As previously reported, two soil samples collected in 1990 (16TP-1 and 15NTW) exceeded the final ESL for TPH-mo at 1,300 mg/kg and 2,700 mg/kg, respectively. A review of the UST Closure Report revealed that these samples were waste characterization samples. This area was later excavated and disposed. Only one soil sample (E-29) exceeded the final residential ESL for TPH-g at 140 mg/kg. This sample was excavated and disposed of during the 2010 source area removal.

Nine shallow and 20 deep soil samples exceeded the final ESL for residential properties where groundwater is not a current or potential drinking water resource. The final ESLs presented for TPH-d in the ESL Document were based on contaminants in soil leaching to groundwater. Minimal groundwater contamination has been detected in the recent quarterly monitoring events. Soil sample locations near these groundwater-monitoring wells have exceeded the ESL for soil leaching to groundwater. This indicates that contaminants have not leached to groundwater in concentrations that result in groundwater contamination exceeding the groundwater ESLs.

The extent of TPH-d in soil was delineated and the results were compared with the residential and commercial ESLs of 100 and 180 mg/kg, respectively for non-drinking water sites. Historical soil sample analytical data are summarized on Tables 1D and 1E of the CACR. Historical groundwater analytical data for well samples is presented in Table 2D and 2E of the

CACR. TPH-d concentrations in historic soil samples and groundwater well samples from July 22, 2009 are shown on geologic cross-sections in Figures 5 and 6 of the CACR.

A2.6 Contaminant Fate and Transport

TPH-d contamination in soil existed in the source areas at depths between 2 and 10 feet bgs. The soil in this depth interval at the Site is typically silt and clay. TPH-d concentrations in soil are a secondary source of contamination of groundwater at the Site. As previously discussed, a permeable saturated sand and gravel layer was observed during the source area removal. Diesel fuel appears to have migrated along the former Truck Wash Building foundation and impacted the granular backfill of the former diesel fuel UST excavation. This contamination has leached to groundwater and the granular backfill in this excavation is regarded as a secondary source. This primary and secondary source of contamination has been removed by excavation and disposal as described in this report.

PSC's previous CSM was based on the opinion that storm water infiltrating the pavement has been impacted by diesel fuel in the source areas. Storm water was thought to migrate through granular material in the sub base of the pavement and the backfill of the sanitary sewer. Contaminated storm water in the backfill of the settling tank and sanitary sewer has apparently migrated along the sewer line and contaminated soil beneath King Street. Observations made during the source removal revealed misconceptions in this model. The granular saturated soils encountered at approximately 9 to 10 feet bgs in the excavation was impacted by contaminants migrating along the footing of the Truck Wash Building. This contamination then migrated to the granular backfill material in the former excavation of the four diesel fuel USTs. This excavation was closer to the source than previously reported. This contamination leached to the groundwater in the shallow permeable zone at 10 feet bgs. Based on boring logs, this zone is laterally discontinuous across the Site. This may explain isolated soil contamination found beneath King Street.

The storm water sewers located along the western side of the plant and beneath King Street could also be a conduit for contaminant migration. However, depth of these utilities near the source areas is only 3-4 feet deep. Based on shallow soil samples near the on-site storm sewers, there is less of a potential for these to be a migration pathway.

Groundwater beneath the Site is encountered in semi-confined conditions. Shallow groundwater was encountered at approximately 10 feet bgs in some borings and in the former UST system excavations. The primary transport mechanisms for residual contamination in the shallow aquifer are advection, adsorption, desorption, and volatilization. Laboratory analytical data from historic subsurface investigations indicate that both saturated soil and groundwater are affected in the shallow aquifer and adsorption and desorption between the two phases could be occurring. Residual petroleum-hydrocarbon contamination around the former diesel pump island and waste oil UST excavation may have migrated with groundwater through advection. It may also be possible that TPH-d contamination has migrated from the former diesel pump island source area

through the shallow groundwater in the shared excavation of the former oven fuel tanks. Minor groundwater contamination in wells MW-101 through MW-104 is likely the result of this contaminant transport.

Volatilization of petroleum-hydrocarbon constituents from soil and groundwater into vapor can result in migration to the ground surface or into buildings. However, based on the low volatility of diesel and the clay nature of the soil, contaminant transport through this migration pathway has less of a potential to be complete.

A2.7 Potential Exposure Pathways and Receptors

Potential exposure pathways and receptors at the Site and nearby properties were evaluated based on current and potential future use. The Site is currently an active commercial and industrial property with nearby land used for commercial, industrial, and residential purposes. The plant and retail store occupy approximately 90 percent of the Site and both have concrete floors. The remaining surfaces at the Site are paved with either asphalt or concrete.

Potentially complete exposure pathways and receptors were identified for the Site using the following criteria:

- A point of potential contact with impacted medium (referred to as the exposure point); and
- An exposure route at the point of contact (inhalation, ingestion, or dermal contact).

Site-specific, potentially complete exposure pathways and potential receptors are summarized below:

- Inhalation of chemicals volatilizing from soil or groundwater to indoor or outdoor air (residential, commercial, or industrial receptors);
- Inhalation of volatiles, dermal contact, or incidental ingestion of contaminated soil or groundwater through excavation (industrial or construction workers);
- Ingestion of or dermal contact with contaminated groundwater from a potential current or future water supply well (residential, commercial, or industrial receptors); and
- Dermal contact with or incidental ingestion of contaminated surface water (residential, commercial, or industrial receptors or construction workers).

The vapor-intrusion pathway from impacted soil and/or groundwater to outdoor or indoor air is potentially complete. However, diesel contamination is not very volatile and the soil beneath the Site is silty clay. In addition, the bakery building and buildings near the Site have elevated slabs.

The nearest receptors are the bakery plant, which has an elevated floor slab on the west side of the building. Soil vapor intrusion into this building is not likely to occur. The completion of this potential exposure pathway is not very likely. Based upon analytical data from historical subsurface investigations and soil vapor intrusion surveys from similar sites, PSC believes that a soil-vapor intrusion study is unnecessary to evaluate the potential health risks associated with exposure via inhalation of volatiles from the subsurface.

Based on the presence of paved surfaces at the Site, industrial workers, and occupants will not be subjected to direct exposure (ingestion and/or dermal contact) with residual petroleum-hydrocarbon constituents in near surface or subsurface soil for current land use at the Site. However, construction workers could have direct exposure to residual contamination in near surface and subsurface soil, if excavation occurs in the future.

Potential exposure by ingestion and/or dermal contact with impacted groundwater at the Site is minimal considering the Site is serviced by the EBMUD. Two abandoned public water supply wells (PRW1 and PRW2) are located northeast of the Site within 2,000 feet. One of the wells is located approximately 700 feet north-northeast and the other water well is approximately 1,400 feet east-northeast of the Site. Both abandoned water supply wells are hydraulically up gradient of the Site. Environmental Data Resources (EDR) records do not indicate any active water supply or irrigation wells within the search radius. The future installation of shallow water-producing wells within the contaminant plume could create a direct and complete exposure pathway. However, the probability of a water supply well installed in an industrial area this close to the Brooklyn Basin is very low.

If contaminated groundwater discharge to surface water occurs, then a potentially complete exposure pathway for off-site receptors and/or construction workers could exist. Based upon a sensitive receptor survey, the closest surface water body to the Site is the Brooklyn Basin within the Oakland Estuary located approximately 800 feet southwest and down gradient of the Site. An unnamed creek flows into the Brooklyn Basin about 1,800 feet northwest of the Site. Wetlands were identified on the EDR figures within 2,000 feet of the Site and generally correspond to the margins of the estuary. There is a potential for surface water impact from storm water sewers, however based on sample results near the sewer (E-45 and E-46) concentrations exceeding ESLs are limited to a small area. Discharge of contaminated groundwater to surface water at levels that exceed the ESL for marine habitats is unlikely.

Construction workers may have direct exposure to residual contamination in groundwater, if excavation and/or dewatering activities occur at the Site in the future. There is also a potential construction-worker exposure risk for excavation work on utilities beneath King Street. It is PSC's opinion that source removal and natural attenuation should significantly reduce the potential exposure.

A2.8 Residual Petroleum Hydrocarbons in Soil

In previous reports, PSC compared historic shallow and deep soil sample analytical data to the ESL for gross contamination of commercial/industrial properties where groundwater is not a current or potential drinking water resource. Samples that exceeded the ESL were generally in the primary source area of former diesel pump island with the exception of E-49 in King Street. PSC also compared analytical data with the ESL for shallow and deep soil for residential and commercial/industrial properties where groundwater is not a current or potential drinking water resource. Summaries of these comparisons are presented in the Tier 1 Risk Assessment and Request for Closure.

Based on extrapolation of TPH-d concentrations in soil at the Site, areas with concentrations exceeding the gross contamination ESL include approximately 600-700 ft^2 at the former diesel pump island and approximately 100-150 ft^2 located near E-49 in King Street. In addition to the primary source area, residual petroleum-hydrocarbon concentrations above the final ESL are encountered in a 8,200 ft^2 area that includes the former diesel pump island, shared diesel UST excavation, and former 350-gallon waste oil UST excavation.

PSC originally estimated the extent of residual petroleum hydrocarbons in soil (pre-source removal) above ESLs to be an area of approximately 7,600 ft^2 near the former diesel pump island and shared diesel UST excavation. This area extends west into King Street. PSC estimated a second area of approximately 600 ft^2 near the former 350-gallon waste oil UST excavation located near the southwest corner of the former Truck Maintenance Garage. Using a thickness of 17 feet and average concentrations of samples exceeding the ESLs, PSC estimated approximately 5,782 Kg of TPH-d in soil.

PSC has revised these (pre-source area removal) estimates to include all samples collected in areas that are delineated by the samples exceeding the ESLs. The original estimate was biased high because samples with trace amounts of contaminants or samples with no detectable contaminants were not included in the average concentration in those areas. In addition, samples previously used in the average were samples originally collected before over excavation of soil in 1990 and 1991. A review of the UST removal reports indicate these source area soils were subsequently removed. In addition, the unit weight of soil was revised based on data from the source removal. The revised estimate of 3,382 Kg was based on all samples collected in three areas including a small area (50 ft^2), a medium sized area around the former Truck Maintenance Garage (1,500 ft^2), and a large area around the diesel fuel dispenser island stretching out into King Street (6,400 ft^2). This revised mass estimate is presented in Table 3A of the CACR**.**

PSC calculated the mass of TPH-d removed during the source area removal using the unit weight of soil calculated by weigh tickets and the dimensions of the excavation together with the concentrations of all soil samples collected in the mass removed. This resulted in approximately 1,552 Kg of TPH-d removed. This mass estimate is presented in Table 3B of the CACR.

The area of residual hydrocarbons in the three areas (post-source area removal) was then calculated using the three areas and subtracting the volume of source area soil removed. This resulted in an estimate of only 748 Kg of TPH-d. These three estimates do not balance out due to the significant reduction in the average concentrations used. PSC believes a good estimate of residual TPH-d is a range of between 748 kg and 1,800 kg of TPH-d. The post source removal mass estimate is presented on Table 3C of the CACR. Input parameters for each estimate are presented in Table 5 of the CACR.

A2.9 Residual Petroleum Hydrocarbons in Groundwater

Groundwater grab samples collected from open boreholes during historic Site investigations are not representative of groundwater quality and could have residual petroleum hydrocarbons in suspended sediments. Based on this opinion, concentrations of TPH-d in groundwater grab samples were not included in the ESL comparisons. However, these groundwater grab samples were used to estimate the area where residual hydrocarbons are found. Groundwater is encountered in semi-confined conditions at a depth of approximately 10 feet in the source area and 20 feet bgs over most of the Site. The rise in water levels after encountering the permeable zone at the Site indicates an upward vertical gradient on groundwater. A total thickness of 20 feet for groundwater was used for the mass estimates.

PSC originally used groundwater samples from a single groundwater monitoring event. Based on the opinion that residual hydrocarbons may be remaining near areas where grab samples were collected, the area of impact was estimated in a larger area. Average concentrations in the wells in these areas were used. This resulted in an estimate of 0.55 Kg of TPH-d in groundwater.

The groundwater analytical data from the post source area removal indicates that TPH-d concentrations in groundwater samples from the monitoring wells were below the ESL of 210 µg/L for sites where groundwater is not a current or potential drinking water resource. Concentrations of BTEX or PAHs were not detected in any groundwater samples analyzed from the semi-annual groundwater-monitoring events. A concentration of TPH-d of 250 µg/L exceeded the 210 µg/L ESL in well MW-102 during January 6, 2012 sampling event. However, a duplicate sample collected and analyzed, had a concentration of 110 µg/L. This is a relative percent difference (RPD) of 78%, indicating a quality control issue. Consideration of this RPD and the historical concentrations of TPH-d in well MW-102 indicate the 250 µg/L result is biased high.

A3 REFERENCES

ASTM (American Society for Testing and Materials), 2000. Standard Practice for Description and Identification of Soils (Visual-Manual Procedure), ASTM, West Conshohocken, Pennsylvania.

ACHCSA (Alameda County Health Care Services Agency), 2003. Notice of Responsibility, RO #0002569, Sara Lee Bakery Group, 955 Kennedy Street, Oakland, CA 94606, August 19, 2003.

ACHCSA, 2006. Approval Letter for Work Plan Addendum for Soil and Groundwater Quality Investigation, RO #0002569, Earthgrains Baking Companies, Inc., 955 Kennedy Street, Oakland, CA 94606, August 25, 2006.

ACHCSA-Donna Drogos, 2007. Electronic Mail Correspondence Regarding Approval of Remedial Investigation Work Plan, RO #0002569, Earthgrains Baking Companies, Inc., 955 Kennedy Street, Oakland, CA 94606, April 4, 2007.

Burlington (Burlington Environmental Inc.), 1993. Soil and Groundwater Investigation Report, 955 Kennedy Street, Oakland, California, Burlington Environmental Project No. CTI106/412, January 5, 1993.

Burlington, 1995. Fourth Quarter 1994 Groundwater Monitoring Report and Request for UST Case Closure, 955 Kennedy Street, Oakland, California, Burlington Environmental Project No. 121382/125971, January 19, 1995.

DWR (Department of Water Resources), 2003. California's Groundwater, Bulletin 118, Update 2003, San Francisco Bay Hydrologic Region, Santa Clara Valley Groundwater Basin, East Bay Plain Subbasin, DWR, Sacramento, California.

ETIC Engineering Inc., 2006a. Work Plan for Soil and Groundwater Quality Investigation, Earthgrains Baking Companies, Inc., 955 Kennedy Street, Oakland, California 94606, RO# 0002569, April 14, 2006.

ETIC (ETIC Engineering Inc.), 2006b. Work Plan Addendum for Soil and Groundwater Quality Investigation, Earthgrains Baking Companies, Inc., 955 Kennedy Street, Oakland, California 94606, RO# 0002569, August 11, 2006.

ETIC, 2006c. Electronic mail correspondence, ETIC to Mr. Don Hwang of ACHCSA, Regarding Earthgrains Baking Companies, Inc., 955 Kennedy Street, Oakland, California 94606, RO# 0002569, August 25, 2006.

ETIC, 2006d. Soil and Groundwater Quality Investigation Report, Earthgrains Baking Companies, Inc., 955 Kennedy Street, Oakland, California 94606, RO# 0002569, December 21, 2006.

ETIC, 2007. Remedial Investigation Work Plan, Earthgrains Baking Companies, Inc., 955 Kennedy Street, Oakland, California 94606, RO# 0002569, February 8, 2007.

ETIC, 2008. Sensitive Receptor Survey, Earthgrains Baking Companies, Inc., 955 Kennedy Street, Oakland, California 94606, RO# 0002569, June 20, 2008.

HydroSolve, Inc., 2000. AQTESOLV for Windows: User's Guide, 2303 Horseferry Court, Reston, Virginia 20191, July 24, 2000.

Mathes (John Mathes & Associates, Inc.), 1990. Draft Site Assessment Work Plan, 955 Kennedy Street, Oakland, California, John Mathes & Associates Project No. 121382/4002, February 1990.

Mathes, 1991. Underground Storage Tank Closure and Installation Report, 955 Kennedy Street, Oakland, California, John Mathes & Associates Project No. 121382/5810, June 7, 1991.

PSC (Philip Environmental Services Corporation), 1995a. Well Destruction Report, Earthgrains Baking Companies, Inc., 955 Kennedy Street, Oakland, California, PSC Project No. CTI106/125971, July 7, 1995.

PSC, 1995b. Tier 1 Risk Assessment, Earthgrains Baking Companies, Inc., 955 Kennedy Street, Oakland, California, PSC Project No. 121382/125971, July 25, 1995.

PSC, 1996. Notification of Well Abandonment, Earthgrains Baking Companies, Inc., 955 Kennedy Street, Oakland, California, PSC Project No. CTI106/125971.7052, April 4, 1996.

PSC, 2005. UST System Closure Report, Earthgrains Baking Companies, Inc., 955 Kennedy Street, Oakland, California, PSC Project No. 62402797, April 15, 2005.

PSC, 2008. Groundwater Monitoring Well Installation Plan, Earthgrains Baking Companies, Inc., 955 Kennedy Street, Oakland, California, PSC Project No. 62402797, November 18, 2008

Appendix A

PSC, 2009. Tier I Risk Assessment and No Further Action Request Report, Earthgrains Baking Companies, Inc., 955 Kennedy Street, Oakland, California, PSC Project No. 62402797, September 17, 2009

PSC, 2010. Feasibility Study / Corrective Action Plan, Earthgrains Baking Companies, Inc., 955 Kennedy Street, Oakland, California, PSC Project No. 62402797, July 20, 2010

PSC, 2011. Corrective Action Completion Report, Earthgrains Baking Companies, Inc., 955 Kennedy Street, Oakland, California, PSC Project No. 62402797, April 19, 2011

SFBRWQCB (San Francisco Bay Regional Water Quality Control Board), 2005. Screening for Environmental Concerns at Sites with Contaminated Soil and Groundwater, Volume 1: Summary Tier 1 Lookup Tables, Interim Final, February 2005.

Sowers, Janet M., 2000. Creek and Watershed Map of Oakland and Berkeley. The Oakland Museum of California.

Appendix A

ATTACHMENT B

BLAINE TECH SERVICES, INC.
FIELD REPORT

PSC INDUSTRIAL OUTSOURCING, LP
210 West Sand Bank Road, Columbia, IL 62236
(618) 281-1543 Fax (618) 281-7020

WELL GAUGING DATA

Project # 120717-nw1 Date 7/17/12 Client PSC

Site 955 Kennedy St., Oakland CA

Well ID	Time	Well Size (in.)	Sheen / Odor	Depth to Immiscible Liquid (ft.)	Thickness of Immiscible Liquid (ft.)	Volume of Immiscibles Removed (ml)	Depth to water (ft.)	Depth to well bottom (ft.)	Survey Point: TOB or TOC	Notes
MW-101	0817	2					9.50	27.83		
MW-102	0827	2					10.47	28.15		
MW-103	0834	2					9.10	24.70		
MW-104	0841	2					9.10	24.85		

WELLHEAD INSPECTION CHECKLIST

Client PSC Date 7/17/12

Site Address 955 Kennedy St., Oakland CA

Job Number 120717-DW1 Technician Daniel Allen

Well ID	Well Inspected - No Corrective Action Required	Water Bailed From Wellbox	Wellbox Components Cleaned	Cap Replaced	Lock Replaced	Other Action Taken (explain below)	Well Not Inspected (explain below)	Repair Order Submitted
MW-101	X							
MW-102	X	X						
MW-103	X							
MW-104	X	X						

NOTES:

WELL MONITORING DATA SHEET

Project #: 120717-DW1	Client: PSC
Sampler: DW	Date: 7/17/12
Well I.D.: MW-101	Well Diameter: (2) 3 4 6 8 ___
Total Well Depth (TD): 27.83	Depth to Water (DTW): 9.50
Depth to Free Product: ___	Thickness of Free Product (feet): ___
Referenced to: (PVC) Grade	D.O. Meter (if req'd): YSI HACH
DTW with 80% Recharge [(Height of Water Column x 0.20) + DTW]: 13.17	

Purge Method: Bailer; (Disposable Bailer); Positive Air Displacement; Electric Submersible; Waterra; Peristaltic; Extraction Pump; Other ___

Sampling Method: Bailer; (Disposable Bailer); Extraction Port; Dedicated Tubing; Other: ___

3.0 (Gals.) X 3 = 9.0 Gals.
1 Case Volume | Specified Volumes | Calculated Volume

Well Diameter	Multiplier	Well Diameter	Multiplier
1"	0.04	4"	0.65
2"	0.16	6"	1.47
3"	0.37	Other	radius^2 * 0.163

Time	Temp (°F or (°C))	pH	Cond. (mS or (µS))	Turbidity (NTUs)	Gals. Removed	Observations
0903	19.0	6.82	1386	92	3.0	
0907	19.2	6.69	1303	85	6.0	
0911	19.3	6.63	1286	68	9.0	

Did well dewater? Yes (No) Gallons actually evacuated: 9.0

Sampling Date: 7/17/12 Sampling Time: 0915 Depth to Water: 11.23

Sample I.D.: MW-101 Laboratory: (Kiff) CalScience Other ___

Analyzed for: TPH-G BTEX MTBE TPH-D Oxygenates (5) Other: SEE COC

EB I.D. (if applicable): @ Time Duplicate I.D. (if applicable):

Analyzed for: TPH-G BTEX MTBE TPH-D Oxygenates (5) Other:

D.O. (if req'd):	Pre-purge:	mg/L	Post-purge:	mg/L
O.R.P. (if req'd):	Pre-purge:	mV	Post-purge:	mV

WELL MONITORING DATA SHEET

Project #: 120717-MW1	Client: PSC
Sampler: DW	Date: 7/17/12
Well I.D.: MW-102	Well Diameter: (2) 3 4 6 8 ___
Total Well Depth (TD): 28.15	Depth to Water (DTW): 10.47
Depth to Free Product: ___	Thickness of Free Product (feet): ___
Referenced to: (PVC) Grade	D.O. Meter (if req'd): YSI HACH
DTW with 80% Recharge [(Height of Water Column x 0.20) + DTW]: 14.01	

Purge Method: Bailer; (Disposable Bailer); Positive Air Displacement; Electric Submersible; Waterra; Peristaltic; Extraction Pump; Other ___

Sampling Method: Bailer; (Disposable Bailer); Extraction Port; Dedicated Tubing; Other: ___

2.8 (Gals.) X	3	= 8.4 Gals.
1 Case Volume	Specified Volumes	Calculated Volume

Well Diameter	Multiplier	Well Diameter	Multiplier
1"	0.04	4"	0.65
2"	0.16	6"	1.47
3"	0.37	Other	radius² * 0.163

Time	Temp (°F or (°C))	pH	Cond. (mS or (µS))	Turbidity (NTUs)	Gals. Removed	Observations
0942	18.4	7.01	1444	306	2.8	
0949	18.5	6.77	1475	520	5.6	
0954	18.5	6.75	1433	714	8.4	

Did well dewater? Yes (No) Gallons actually evacuated: 8.4

Sampling Date: 7/17/12 Sampling Time: 1005 Depth to Water: 13.71

Sample I.D.: MW-102 Laboratory: (Kiff) CalScience Other ___

Analyzed for: TPH-G BTEX MTBE TPH-D Oxygenates (5) Other: SEE COC

EB I.D. (if applicable): @ Time Duplicate I.D. (if applicable): DUPLICATE @ 1155

Analyzed for: TPH-G BTEX MTBE TPH-D Oxygenates (5) Other:

D.O. (if req'd):	Pre-purge:	mg/L	Post-purge:	mg/L
O.R.P. (if req'd):	Pre-purge:	mV	Post-purge:	mV

WELL MONITORING DATA SHEET

Project #: 120717-Dw1	Client: PSC
Sampler: DW	Date: 7/17/12
Well I.D.: MW-103	Well Diameter: (2) 3 4 6 8 ___
Total Well Depth (TD): 24.70	Depth to Water (DTW): 9.10
Depth to Free Product: ___	Thickness of Free Product (feet): ___
Referenced to: (PVC) Grade	D.O. Meter (if req'd): YSI HACH
DTW with 80% Recharge [(Height of Water Column x 0.20) + DTW]: 12.22	

Purge Method: Bailer; (Disposable Bailer); Positive Air Displacement; Electric Submersible; Waterra; Peristaltic; Extraction Pump; Other ___

Sampling Method: Bailer; (Disposable Bailer); Extraction Port; Dedicated Tubing; Other: ___

2.5 (Gals.) X 3 = 7.5 Gals.
1 Case Volume | Specified Volumes | Calculated Volume

Well Diameter	Multiplier	Well Diameter	Multiplier
1"	0.04	4"	0.65
2"	0.16	6"	1.47
3"	0.37	Other	radius^2 * 0.163

Time	Temp (°F or (°C))	pH	Cond. (mS or (µS))	Turbidity (NTUs)	Gals. Removed	Observations
1026	18.0	7.29	774.8	71000	2.5	
1031	18.0	6.87	783.7	71000	5.0	
1035	18.1	6.81	809.6	71000	7.5	

Did well dewater? Yes (No) Gallons actually evacuated: 7.5 (DW)

Sampling Date: 7/17/12 Sampling Time: 1040 Depth to Water: 9.13

Sample I.D.: MW-103 Laboratory: (Kiff) CalScience Other ___

Analyzed for: TPH-G BTEX MTBE TPH-D Oxygenates (5) Other: SEE COC

EB I.D. (if applicable): @ Time Duplicate I.D. (if applicable):

Analyzed for: TPH-G BTEX MTBE TPH-D Oxygenates (5) Other:

D.O. (if req'd):	Pre-purge:	mg/L	Post-purge:	mg/L
O.R.P. (if req'd):	Pre-purge:	mV	Post-purge:	mV

WELL MONITORING DATA SHEET

Project #: 120717-DW1	Client: PSC
Sampler: DW	Date: 7/17/12
Well I.D.: MW-104	Well Diameter: (2) 3 4 6 8 ___
Total Well Depth (TD): 24.85	Depth to Water (DTW): 9.10
Depth to Free Product: ___	Thickness of Free Product (feet): ___
Referenced to: (PVC) Grade	D.O. Meter (if req'd): YSI HACH
DTW with 80% Recharge [(Height of Water Column x 0.20) + DTW]: 12.25	

Purge Method: Bailer; (Disposable Bailer); Positive Air Displacement; Electric Submersible; Waterra; Peristaltic; Extraction Pump; Other ___

Sampling Method: Bailer; (Disposable Bailer); Extraction Port; Dedicated Tubing; Other: ___

2.5 (Gals.) X	3	= 7.5 Gals.
1 Case Volume	Specified Volumes	Calculated Volume

Well Diameter	Multiplier	Well Diameter	Multiplier
1"	0.04	4"	0.65
2"	0.16	6"	1.47
3"	0.37	Other	radius^2 * 0.163

Time	Temp (°F or (°C))	pH	Cond. (mS or (µS))	Turbidity (NTUs)	Gals. Removed	Observations
1056	18.2	7.20	653.1	71000	2.5	
1100	18.4	6.75	712.9	71000	5.0	
1104	18.5	6.74	757.5	71000	7.5	

Did well dewater? Yes (No) Gallons actually evacuated: 7.5

Sampling Date: 7/17/12 Sampling Time: 1110 Depth to Water: 9.90

Sample I.D.: MW-104 Laboratory: (Kiff) CalScience Other ___

Analyzed for: TPH-G BTEX MTBE TPH-D Oxygenates (5) Other: SEE COC

EB I.D. (if applicable): @ Time Duplicate I.D. (if applicable):

Analyzed for: TPH-G BTEX MTBE TPH-D Oxygenates (5) Other:

D.O. (if req'd):	Pre-purge:	mg/L	Post-purge:	mg/L
O.R.P. (if req'd):	Pre-purge:	mV	Post-purge:	mV

BLAINE
TECH SERVICES, INC.

1680 ROGERS AVENUE
SAN JOSE, CALIFORNIA 95112-1105
FAX (408) 573-7771
PHONE (408) 573-0555

CHAIN OF CUSTODY BTS # 120717-DW1

CLIENT: PSC

SITE: Earthgrains Baking Companies, Inc.
955 Kennedy St.
Oakland, CA

CONDUCT ANALYSIS TO DETECT

LAB: KIFF DHS #

ALL ANALYSES MUST MEET SPECIFICATIONS AND DETECTION LIMITS SET BY CALIFORNIA DHS AND
☐ EPA ☐ RWQCB REGION ____
☐ LIA
☐ OTHER

SPECIAL INSTRUCTIONS

Invoice & Report to: PSC Attn: Paul Anderson
210 West Sand Bank Rd. Columbia, IL 62236
PSC Project # Confirm w/Paul Anderson
panderson@pscnow.com
Ph. 618-281-1543

SAMPLE I.D.	DATE	TIME	MATRIX S=SOIL W=H_2O	CONTAINERS TOTAL	C = COMPOSITE ALL CONTAINERS	BTEX (8260B)	TPH-d (8015M)	PAH's (8310)	ADD'L INFORMATION	STATUS	CONDITION	LAB SAMPLE #
MW-101	7/17/12	0915	W	7		X	X	X				
MW-102	7/17/12	1005	W	7		X	X	X				
MW-103	7/17/12	1040	W	7		X	X	X				
MW-104	7/17/12	1110	W	7		X	X	X				
DUPLICATE	7/17/12	1155	W	7		X	X	X				
TB	7/17/12	0820	W	2		X						

SAMPLING COMPLETED DATE: 7/17/12 TIME:
SAMPLING PERFORMED BY: Daniel Allen

RESULTS NEEDED NO LATER THAN: Standard TAT

RELEASED BY	DATE	TIME	RECEIVED BY	DATE	TIME
Daniel Allen	7/17/12	1415	Daniel Allen	7/17/12	1415
(Sample Custody)	7/18/12	1415	Harold Brewer Kiff	07/18/12	1415

SHIPPED VIA | DATE SENT | TIME SENT | COOLER #

TEST EQUIPMENT CALIBRATION LOG

PROJECT NAME PSCE Earthgrains				PROJECT NUMBER 120717-DW1			
EQUIPMENT NAME	EQUIPMENT NUMBER	DATE/TIME OF TEST	STANDARDS USED	EQUIPMENT READING	CALIBRATED TO: OR WITHIN 10%:	TEMP. C°	INITIALS
Ultrameter II	62128898	7/17/12@ 0850	ph 7.00 10.00 4.00	7.00 10.00 4.00	Yes	19	DW
			3900 us/cm	3900	Yes	19	DW

Appendix A

ATTACHMENT C

KIFF ANALYTICAL, LLC
LABORATORY REPORT

PSC INDUSTRIAL OUTSOURCING, LP
210 West Sand Bank Road, Columbia, IL 62236
(618) 281-1543 Fax (618) 281-7020

KIFF Analytical LLC

Report Number : 81964
Date : 07/24/2012

Laboratory Results

Paul Anderson
Philip Services Corp
210 W Sand Bank Road
Columbia, IL 62236

Subject : 6 Water Samples
Project Name : Earthgrains Baking Companies, Inc.
Project Number : 120717-DW1

Dear Mr. Anderson,

Chemical analysis of the samples referenced above has been completed. Summaries of the data are contained on the following pages. Sample(s) were received under documented chain-of-custody. US EPA protocols for sample storage and preservation were followed. Testing procedures comply with the 2003 NELAC and TNI 2009 standards. Laboratory results relate only to the samples tested. This report may be freely reproduced in full, but may only be reproduced in part with the express permission of Kiff Analytical, LLC. Kiff Analytical, LLC is certified by the State of California under the National Environmental Laboratory Accreditation Program (NELAP), lab # 08263CA. If you have any questions regarding procedures or results, please call me at 530-297-4800.

Sincerely,

Troy G. Turpen

Troy Turpen

KIFF Analytical LLC

Report Number : 81964
Date : 07/24/2012

Project Name : **Earthgrains Baking Companies, Inc.**
Project Number : **120717-DW1**

Sample : **MW-101** Matrix : Water Lab Number : 81964-01
Sample Date :07/17/2012

Parameter	Measured Value	Method Reporting Limit	Units	Analysis Method	Date/Time Analyzed
Benzene	< 0.50	0.50	ug/L	EPA 8260B	07/24/12 00:47
Toluene	< 0.50	0.50	ug/L	EPA 8260B	07/24/12 00:47
Ethylbenzene	< 0.50	0.50	ug/L	EPA 8260B	07/24/12 00:47
Total Xylenes	< 0.50	0.50	ug/L	EPA 8260B	07/24/12 00:47
1,2-Dichloroethane-d4 (Surr)	101		% Recovery	EPA 8260B	07/24/12 00:47
Toluene - d8 (Surr)	98.7		% Recovery	EPA 8260B	07/24/12 00:47
TPH as Diesel	**190**	50	ug/L	M EPA 8015	07/23/12 21:59
Octacosane (Diesel Surrogate)	118		% Recovery	M EPA 8015	07/23/12 21:59

KIFF Analytical LLC

Report Number : 81964
Date : 07/24/2012

Project Name : **Earthgrains Baking Companies, Inc.**
Project Number : **120717-DW1**

Sample : **MW-102** Matrix : Water Lab Number : 81964-02
Sample Date :07/17/2012

Parameter	Measured Value	Method Reporting Limit	Units	Analysis Method	Date/Time Analyzed
Benzene	< 0.50	0.50	ug/L	EPA 8260B	07/24/12 01:05
Toluene	< 0.50	0.50	ug/L	EPA 8260B	07/24/12 01:05
Ethylbenzene	< 0.50	0.50	ug/L	EPA 8260B	07/24/12 01:05
Total Xylenes	< 0.50	0.50	ug/L	EPA 8260B	07/24/12 01:05
1,2-Dichloroethane-d4 (Surr)	99.9		% Recovery	EPA 8260B	07/24/12 01:05
Toluene - d8 (Surr)	100		% Recovery	EPA 8260B	07/24/12 01:05
TPH as Diesel	**120**	50	ug/L	M EPA 8015	07/23/12 22:34
Octacosane (Diesel Surrogate)	108		% Recovery	M EPA 8015	07/23/12 22:34

KIFF Analytical LLC

Report Number : 81964
Date : 07/24/2012

Project Name : **Earthgrains Baking Companies, Inc.**
Project Number : **120717-DW1**

Sample : **MW-103** Matrix : Water Lab Number : 81964-03
Sample Date :07/17/2012

Parameter	Measured Value	Method Reporting Limit	Units	Analysis Method	Date/Time Analyzed
Benzene	< 0.50	0.50	ug/L	EPA 8260B	07/24/12 01:39
Toluene	< 0.50	0.50	ug/L	EPA 8260B	07/24/12 01:39
Ethylbenzene	< 0.50	0.50	ug/L	EPA 8260B	07/24/12 01:39
Total Xylenes	< 0.50	0.50	ug/L	EPA 8260B	07/24/12 01:39
1,2-Dichloroethane-d4 (Surr)	99.6		% Recovery	EPA 8260B	07/24/12 01:39
Toluene - d8 (Surr)	100		% Recovery	EPA 8260B	07/24/12 01:39
TPH as Diesel	**110**	50	ug/L	M EPA 8015	07/23/12 23:08
(Note: Discrete peaks in Diesel range, atypical for Diesel Fuel.)					
Octacosane (Diesel Surrogate)	110		% Recovery	M EPA 8015	07/23/12 23:08

KIFF Analytical LLC

Report Number : 81964
Date : 07/24/2012

Project Name : **Earthgrains Baking Companies, Inc.**
Project Number : **120717-DW1**

Sample : **MW-104** Matrix : Water Lab Number : 81964-04
Sample Date :07/17/2012

Parameter	Measured Value	Method Reporting Limit	Units	Analysis Method	Date/Time Analyzed
Benzene	< 0.50	0.50	ug/L	EPA 8260B	07/24/12 01:07
Toluene	< 0.50	0.50	ug/L	EPA 8260B	07/24/12 01:07
Ethylbenzene	< 0.50	0.50	ug/L	EPA 8260B	07/24/12 01:07
Total Xylenes	< 0.50	0.50	ug/L	EPA 8260B	07/24/12 01:07
1,2-Dichloroethane-d4 (Surr)	101		% Recovery	EPA 8260B	07/24/12 01:07
Toluene - d8 (Surr)	104		% Recovery	EPA 8260B	07/24/12 01:07
TPH as Diesel	**72**	50	ug/L	M EPA 8015	07/23/12 23:43
Octacosane (Diesel Surrogate)	109		% Recovery	M EPA 8015	07/23/12 23:43

KIFF Analytical LLC

Report Number : 81964
Date : 07/24/2012

Project Name : **Earthgrains Baking Companies, Inc.**
Project Number : **120717-DW1**

Sample : **DUPLICATE** Matrix : Water Lab Number : 81964-05
Sample Date :07/17/2012

Parameter	Measured Value	Method Reporting Limit	Units	Analysis Method	Date/Time Analyzed
Benzene	< 0.50	0.50	ug/L	EPA 8260B	07/24/12 01:20
Toluene	< 0.50	0.50	ug/L	EPA 8260B	07/24/12 01:20
Ethylbenzene	< 0.50	0.50	ug/L	EPA 8260B	07/24/12 01:20
Total Xylenes	< 0.50	0.50	ug/L	EPA 8260B	07/24/12 01:20
1,2-Dichloroethane-d4 (Surr)	101		% Recovery	EPA 8260B	07/24/12 01:20
Toluene - d8 (Surr)	98.6		% Recovery	EPA 8260B	07/24/12 01:20
TPH as Diesel	**170**	50	ug/L	M EPA 8015	07/24/12 00:17
Octacosane (Diesel Surrogate)	104		% Recovery	M EPA 8015	07/24/12 00:17

KIFF Analytical LLC

Report Number : 81964
Date : 07/24/2012

Project Name : **Earthgrains Baking Companies, Inc.**
Project Number : **120717-DW1**

Sample : **TB** Matrix : Water Lab Number : 81964-06
Sample Date :07/17/2012

Parameter	Measured Value	Method Reporting Limit	Units	Analysis Method	Date/Time Analyzed
Benzene	< 0.50	0.50	ug/L	EPA 8260B	07/23/12 22:29
Toluene	< 0.50	0.50	ug/L	EPA 8260B	07/23/12 22:29
Ethylbenzene	< 0.50	0.50	ug/L	EPA 8260B	07/23/12 22:29
Total Xylenes	< 0.50	0.50	ug/L	EPA 8260B	07/23/12 22:29
1,2-Dichloroethane-d4 (Surr)	102		% Recovery	EPA 8260B	07/23/12 22:29
Toluene - d8 (Surr)	105		% Recovery	EPA 8260B	07/23/12 22:29

Report Number : 81964

Date : 07/24/2012

QC Report : Method Blank Data

Project Name : **Earthgrains Baking Companies, Inc.**

Project Number : **120717-DW1**

Parameter	Measured Value	Method Reporting Limit	Units	Analysis Method	Date Analyzed
TPH as Diesel	< 50	50	ug/L	M EPA 8015	07/23/2012
Octacosane (Diesel Surrogate)	98.0		%	M EPA 8015	07/23/2012
Benzene	< 0.50	0.50	ug/L	EPA 8260B	07/23/2012
Ethylbenzene	< 0.50	0.50	ug/L	EPA 8260B	07/23/2012
Toluene	< 0.50	0.50	ug/L	EPA 8260B	07/23/2012
Total Xylenes	< 0.50	0.50	ug/L	EPA 8260B	07/23/2012
1,2-Dichloroethane-d4 (Surr)	102		%	EPA 8260B	07/23/2012
Toluene - d8 (Surr)	106		%	EPA 8260B	07/23/2012
Benzene	< 0.50	0.50	ug/L	EPA 8260B	07/23/2012
Ethylbenzene	< 0.50	0.50	ug/L	EPA 8260B	07/23/2012
Toluene	< 0.50	0.50	ug/L	EPA 8260B	07/23/2012
Total Xylenes	< 0.50	0.50	ug/L	EPA 8260B	07/23/2012
1,2-Dichloroethane-d4 (Surr)	101		%	EPA 8260B	07/23/2012
Toluene - d8 (Surr)	97.1		%	EPA 8260B	07/23/2012
Benzene	< 0.50	0.50	ug/L	EPA 8260B	07/23/2012
Ethylbenzene	< 0.50	0.50	ug/L	EPA 8260B	07/23/2012
Toluene	< 0.50	0.50	ug/L	EPA 8260B	07/23/2012
Total Xylenes	< 0.50	0.50	ug/L	EPA 8260B	07/23/2012
1,2-Dichloroethane-d4 (Surr)	100		%	EPA 8260B	07/23/2012
Toluene - d8 (Surr)	99.4		%	EPA 8260B	07/23/2012

Parameter	Measured Value	Method Reporting Limit	Units	Analysis Method	Date Analyzed

KIFF ANALYTICAL, LLC

2795 2nd Street, Suite 300 Davis, CA 95618 530-297-4800

Report Number : 81964

QC Report : Matrix Spike/ Matrix Spike Duplicate

Date : 07/24/2012

Project Name : **Earthgrains Baking Companies, Inc.**

Project Number : **120717-DW1**

Parameter	Spiked Sample	Sample Value	Spike Level	Spike Dup. Level	Spiked Sample Value	Duplicate Spiked Sample Value	Units	Analysis Method	Date Analyzed	Spiked Sample Percent Recov.	Duplicate Spiked Sample Percent Recov.	Relative Percent Diff.	Spiked Sample Percent Recov. Limit	Relative Percent Diff. Limit
TPH as Diesel														
	BLANK	<50	1000	1000	1090	1080	ug/L	M EPA 8015	7/23/12	109	108	0.869	70-130	25
Benzene														
	81989-03	1.9	40.0	40.0	40.0	39.2	ug/L	EPA 8260B	7/23/12	95.2	93.3	2.07	80-120	25
Ethylbenzene														
	81989-03	3.0	40.0	40.0	44.9	44.7	ug/L	EPA 8260B	7/23/12	105	104	0.524	80-120	25
P + M Xylene														
	81989-03	33	40.0	40.0	76.4	75.1	ug/L	EPA 8260B	7/23/12	109	106	3.05	76.8-120	25
Toluene														
	81989-03	2.1	40.0	40.0	43.9	42.9	ug/L	EPA 8260B	7/23/12	104	102	2.39	80-120	25
Benzene														
	81989-04	1.0	40.0	40.0	39.2	38.6	ug/L	EPA 8260B	7/23/12	95.5	94.0	1.57	80-120	25
Ethylbenzene														
	81989-04	1.4	40.0	40.0	40.2	39.1	ug/L	EPA 8260B	7/23/12	96.8	94.1	2.85	80-120	25
P + M Xylene														
	81989-04	16	40.0	40.0	54.9	54.0	ug/L	EPA 8260B	7/23/12	95.8	93.6	2.32	76.8-120	25
Toluene														
	81989-04	1.1	40.0	40.0	38.8	38.1	ug/L	EPA 8260B	7/23/12	94.1	92.3	1.88	80-120	25

KIFF ANALYTICAL, LLC

2795 2nd Street, Suite 300 Davis, CA 95618 530-297-4800

Report Number : 81964

QC Report : Matrix Spike/ Matrix Spike Duplicate

Date : 07/24/2012

Project Name : **Earthgrains Baking Companies, Inc.**

Project Number : **120717-DW1**

Parameter	Spiked Sample	Sample Value	Spike Level	Spike Dup. Level	Spiked Sample Value	Duplicate Spiked Sample Value	Units	Analysis Method	Date Analyzed	Spiked Sample Percent Recov.	Duplicate Spiked Sample Percent Recov.	Relative Percent Diff.	Spiked Sample Percent Recov. Limit	Relative Percent Diff. Limit
Benzene														
	81989-05	<0.50	40.0	40.0	41.4	39.5	ug/L	EPA 8260B	7/23/12	104	98.8	4.66	80-120	25
Ethylbenzene														
	81989-05	<0.50	40.0	40.0	40.5	39.4	ug/L	EPA 8260B	7/23/12	101	98.4	2.84	80-120	25
P + M Xylene														
	81989-05	<0.50	40.0	40.0	40.3	39.3	ug/L	EPA 8260B	7/23/12	101	98.2	2.50	76.8-120	25
Toluene														
	81989-05	<0.50	40.0	40.0	41.4	39.7	ug/L	EPA 8260B	7/23/12	103	99.2	4.24	80-120	25

KIFF ANALYTICAL, LLC

2795 2nd Street, Suite 300 Davis, CA 95618 530-297-4800

QC Report : Laboratory Control Sample (LCS)

Project Name : **Earthgrains Baking Companies, Inc.**

Project Number : **120717-DW1**

Parameter	Spike Level	Units	Analysis Method	Date Analyzed	LCS Percent Recov.	LCS Percent Recov. Limit
Benzene	39.9	ug/L	EPA 8260B	7/23/12	94.0	80-120
Ethylbenzene	39.9	ug/L	EPA 8260B	7/23/12	102	80-120
P + M Xylene	39.9	ug/L	EPA 8260B	7/23/12	105	76.8-120
Toluene	39.9	ug/L	EPA 8260B	7/23/12	102	80-120
Benzene	39.8	ug/L	EPA 8260B	7/23/12	95.7	80-120
Ethylbenzene	39.8	ug/L	EPA 8260B	7/23/12	98.6	80-120
P + M Xylene	39.8	ug/L	EPA 8260B	7/23/12	98.5	76.8-120
Toluene	39.8	ug/L	EPA 8260B	7/23/12	94.3	80-120
Benzene	40.1	ug/L	EPA 8260B	7/23/12	102	80-120
Ethylbenzene	40.1	ug/L	EPA 8260B	7/23/12	100	80-120
P + M Xylene	40.1	ug/L	EPA 8260B	7/23/12	99.4	76.8-120
Toluene	40.1	ug/L	EPA 8260B	7/23/12	102	80-120

KIFF ANALYTICAL, LLC
2795 2nd Street, Suite 300 Davis, CA 95618 530-297-4800

BLAINE
TECH SERVICES, INC.

1680 ROGERS AVENUE
SAN JOSE, CALIFORNIA 95112-1105
FAX (408) 573-7771
PHONE (408) 573-0555

CHAIN OF CUSTODY BTS # 120717-DW1

CLIENT: PSC

SITE: Earthgrains Baking Companies, Inc.
955 Kennedy St.
Oakland, CA

CONDUCT ANALYSIS TO DETECT

LAB: KIFF 81964 DHS #

ALL ANALYSES MUST MEET SPECIFICATIONS AND DETECTION LIMITS SET BY CALIFORNIA DHS AND
☐ EPA ☐ RWQCB REGION _____
☐ LIA
☐ OTHER

SPECIAL INSTRUCTIONS

Invoice & Report to: PSC Attn: Paul Anderson
210 West Sand Bank Rd. Columbia, IL 62236
PSC Project # Confirm w/Paul Anderson
panderson@pscnow.com
Ph. 618-281-1543

SAMPLE I.D.	DATE	TIME	MATRIX S= SOIL W=H_2O	CONTAINERS TOTAL	C = COMPOSITE ALL CONTAINERS	BTEX (8260B)	TPH-d (8015M)	PAH's (8310)	ADD'L INFORMATION	STATUS	CONDITION	LAB SAMPLE #
MW-101	7/17/12	0915	W	7		X	X	X				01
MW-102	7/17/12	1005	W	7		X	X	X				02
MW-103	7/17/12	1040	W	7		X	X	X				03
MW-104	7/17/12	1110	W	7		X	X	X				04
DUPLICATE	7/17/12	1155	W	7		X	X	X				05
TB	7/17/12	0820	W	2		X						06

SAMPLING COMPLETED DATE 7/17/12 TIME

SAMPLING PERFORMED BY Daniel Allen

RESULTS NEEDED NO LATER THAN Standard TAT

RELEASED BY	DATE	TIME	RECEIVED BY	DATE	TIME
[signature]	7/17/12	1415	[signature]	7/17/12	1415
[signature] (Sample Custody)	7/18/12	1415	[signature] Kiff	07/18/12	1415

SHIPPED VIA | DATE SENT | TIME SENT | COOLER #

KIFF Analytical LLC

SAMPLE RECEIPT CHECKLIST

RECEIVER Initials

SRG#: 81964 Date: 071912

Project ID: Earthgrains Baking Companies, Inc.

Method of Receipt: ☒ Courier ☐ Over-the-counter ☐ Shipper

COC Inspection

Is COC present?	☒ Yes	☐ No	
Custody seals on shipping container?	☐ Intact	☐ Broken ☐ Not present	☒ N/A
Is COC Signed by Relinquisher? ☒ Yes ☐ No Dated?	☒ Yes	☐ No	
Is sampler name legibly indicated on COC?	☒ Yes	☐ No	
Is analysis or hold requested for all samples?	☒ Yes	☐ No	
Is the turnaround time indicated on COC?	☒ Yes	☐ No	
Is COC free of whiteout and uninitialed cross-outs?	☒ Yes	☐ No, Whiteout ☐ No, Cross-outs	

Sample Inspection

Coolant Present: 1.8 ☒ Yes ☐ No (includes water)

Temperature °C 1.8 Therm. ID# IR-4 Initial GMS Date/Time 071912 0755 ☐ N/A

Are there custody seals on sample containers?	☐ Intact	☐ Broken	☒ Not present
Do containers match COC? ☒ Yes ☐ No ☐ No, COC lists absent sample(s)		☐ No, Extra sample(s) present	
Are there samples matrices other than soil, water, air or carbon?	☐ Yes	☒ No	
Are any sample containers broken, leaking or damaged?	☐ Yes	☒ No	
Are preservatives indicated? ☒ Yes, on sample containers	☐ Yes, on COC	☐ Not indicated	☐ N/A
Are preservatives correct for analyses requested?	☒ Yes	☐ No	☐ N/A
Are samples within holding time for analyses requested?	☒ Yes	☐ No	
Are the correct sample containers used for the analyses requested?	☒ Yes	☐ No	
Is there sufficient sample to perform testing?	☒ Yes	☐ No	

Does any sample contain product, have strong odor or are otherwise suspected to be hot? ☐ Yes ☒ No

Receipt Details

Matrix WA	Container type Voa	# of containers received 25
Matrix WA	Container type Glass	# of containers received 10
Matrix	Container type	# of containers received

Date and Time Sample Put into Temp Storage Date: 071912 Time: 0805

Quicklog

Are the Sample ID's indicated:	☐ On COC	☐ On sample container(s)	☒ On Both	☐ Not indicated
If Sample ID's are listed on both COC and containers, do they all match?	☒ Yes	☐ No		☐ N/A
Is the Project ID indicated:	☐ On COC	☐ On sample container(s)	☒ On Both	☐ Not indicated
If project ID is listed on both COC and containers, do they all match?	☒ Yes	☐ No		☐ N/A
Are the sample collection dates indicated:	☐ On COC	☐ On sample container(s)	☒ On Both	☐ Not indicated
If collection dates are listed on both COC and containers, do they all match?	☒ Yes	☐ No		☐ N/A
Are the sample collection times indicated:	☐ On COC	☐ On sample container(s)	☒ On Both	☐ Not indicated
If collection times are listed on both COC and containers, do they all match?	☒ Yes	☐ No		☐ N/A

COMMENTS:

Leaders in Analytical Science and Service

KIFF Analytical LLC

Subcontract Laboratory Report Attachments

2795 Second Street, Suite 300 Davis, CA 95618
tel 530.297.4800 fax 530.297.4808
www.kiffanalytical.com

Calscience Environmental Laboratories, Inc.

CALSCIENCE

WORK ORDER NUMBER: 12-07-1194

The difference is service

AIR | SOIL | WATER | MARINE CHEMISTRY

Analytical Report For

Client: Kiff Analytical

Client Project Name: Earthgrains Baking Companies, Inc.

Attention: Joel Kiff
2795 2nd Street, Suite 300
Davis, CA 95618-6505

Amanda Porter

Approved for release on 07/26/2012 by:
Amanda Porter
Project Manager

ResultLink

Email your PM

Calscience Environmental Laboratories, Inc. (Calscience) certifies that the test results provided in this report meet all NELAC requirements for parameters for which accreditation is required or available. Any exceptions to NELAC requirements are noted in the case narrative. The original report of subcontracted analyses, if any, is attached to this report. The results in this report are limited to the sample(s) tested and any reproduction thereof must be made in its entirety. The client or recipient of this report is specifically prohibited from making material changes to said report and, to the extent that such changes are made, Calscience is not responsible, legally or otherwise. The client or recipient agrees to indemnify Calscience for any defense to any litigation which may arise.

Calscience Environmental Laboratories, Inc.

Contents

Client Project Name: Earthgrains Baking Companies, Inc.
Work Order Number: 12-07-1194

Calscience Environmental Laboratories, Inc.

Analytical Report

ACCREDITED IN ACCORDANCE WITH nelac

Kiff Analytical
2795 2nd Street, Suite 300
Davis, CA 95618-6505

Date Received: 07/20/12
Work Order No: 12-07-1194
Preparation: EPA 3510C
Method: EPA 8310
Units: ug/L

Project: Earthgrains Baking Companies, Inc.

Client Sample Number	Lab Sample Number	Date/Time Collected	Matrix	Instrument	Date Prepared	Date/Time Analyzed	QC Batch ID
MW-101	**12-07-1194-1-A**	**07/17/12 09:15**	**Aqueous**	**HPLC 5**	**07/23/12**	**07/25/12 03:23**	**120723L05**

Parameter	Result	RL	DF	Qual	Parameter	Result	RL	DF	Qual
Naphthalene	ND	1.0	1		Benzo (a) Anthracene	ND	1.0	1	
Acenaphthylene	ND	1.0	1		Chrysene	ND	1.0	1	
Acenaphthene	ND	1.0	1		Benzo (b) Fluoranthene	ND	1.0	1	
Fluorene	ND	1.0	1		Benzo (k) Fluoranthene	ND	1.0	1	
Phenanthrene	ND	1.0	1		Benzo (a) Pyrene	ND	0.20	1	
Anthracene	ND	1.0	1		Dibenz (a,h) Anthracene	ND	1.0	1	
Fluoranthene	ND	1.0	1		Benzo (g,h,i) Perylene	ND	1.0	1	
Pyrene	ND	1.0	1		Indeno (1,2,3-c,d) Pyrene	ND	1.0	1	

Surrogates:	REC (%)	Control Limits	Qual
Decafluorobiphenyl	29	16-100	

MW-102	12-07-1194-2-A	07/17/12 10:05	Aqueous	HPLC 5	07/23/12	07/25/12 03:55	120723L05

Parameter	Result	RL	DF	Qual	Parameter	Result	RL	DF	Qual
Naphthalene	ND	1.0	1		Benzo (a) Anthracene	ND	1.0	1	
Acenaphthylene	ND	1.0	1		Chrysene	ND	1.0	1	
Acenaphthene	ND	1.0	1		Benzo (b) Fluoranthene	ND	1.0	1	
Fluorene	ND	1.0	1		Benzo (k) Fluoranthene	ND	1.0	1	
Phenanthrene	ND	1.0	1		Benzo (a) Pyrene	ND	0.20	1	
Anthracene	ND	1.0	1		Dibenz (a,h) Anthracene	ND	1.0	1	
Fluoranthene	ND	1.0	1		Benzo (g,h,i) Perylene	ND	1.0	1	
Pyrene	ND	1.0	1		Indeno (1,2,3-c,d) Pyrene	ND	1.0	1	

Surrogates:	REC (%)	Control Limits	Qual
Decafluorobiphenyl	47	16-100	

MW-103	12-07-1194-3-A	07/17/12 10:40	Aqueous	HPLC 5	07/23/12	07/25/12 04:28	120723L05

Parameter	Result	RL	DF	Qual	Parameter	Result	RL	DF	Qual
Naphthalene	ND	1.0	1		Benzo (a) Anthracene	ND	1.0	1	
Acenaphthylene	ND	1.0	1		Chrysene	ND	1.0	1	
Acenaphthene	ND	1.0	1		Benzo (b) Fluoranthene	ND	1.0	1	
Fluorene	ND	1.0	1		Benzo (k) Fluoranthene	ND	1.0	1	
Phenanthrene	ND	1.0	1		Benzo (a) Pyrene	ND	0.20	1	
Anthracene	ND	1.0	1		Dibenz (a,h) Anthracene	ND	1.0	1	
Fluoranthene	ND	1.0	1		Benzo (g,h,i) Perylene	ND	1.0	1	
Pyrene	ND	1.0	1		Indeno (1,2,3-c,d) Pyrene	ND	1.0	1	

Surrogates:	REC (%)	Control Limits	Qual
Decafluorobiphenyl	35	16-100	

Return to Contents

RL - Reporting Limit , DF - Dilution Factor , Qual - Qualifiers

Calscience Environmental Laboratories, Inc.

Analytical Report

ACCREDITED IN ACCORDANCE WITH nelac

Kiff Analytical
2795 2nd Street, Suite 300
Davis, CA 95618-6505

Date Received: 07/20/12
Work Order No: 12-07-1194
Preparation: EPA 3510C
Method: EPA 8310
Units: ug/L

Project: Earthgrains Baking Companies, Inc.

Client Sample Number	Lab Sample Number	Date/Time Collected	Matrix	Instrument	Date Prepared	Date/Time Analyzed	QC Batch ID
MW-104	**12-07-1194-4-A**	**07/17/12 11:10**	**Aqueous**	**HPLC 5**	**07/23/12**	**07/25/12 05:01**	**120723L05**

Parameter	Result	RL	DF	Qual	Parameter	Result	RL	DF	Qual
Naphthalene	ND	1.0	1		Benzo (a) Anthracene	ND	1.0	1	
Acenaphthylene	ND	1.0	1		Chrysene	ND	1.0	1	
Acenaphthene	ND	1.0	1		Benzo (b) Fluoranthene	ND	1.0	1	
Fluorene	ND	1.0	1		Benzo (k) Fluoranthene	ND	1.0	1	
Phenanthrene	ND	1.0	1		Benzo (a) Pyrene	ND	0.20	1	
Anthracene	ND	1.0	1		Dibenz (a,h) Anthracene	ND	1.0	1	
Fluoranthene	ND	1.0	1		Benzo (g,h,i) Perylene	ND	1.0	1	
Pyrene	ND	1.0	1		Indeno (1,2,3-c,d) Pyrene	ND	1.0	1	

Surrogates:	REC (%)	Control Limits	Qual
Decafluorobiphenyl	40	16-100	

DUPLICATE	12-07-1194-5-A	07/17/12 11:55	Aqueous	HPLC 5	07/23/12	07/25/12 05:33	120723L05

Parameter	Result	RL	DF	Qual	Parameter	Result	RL	DF	Qual
Naphthalene	ND	1.0	1		Benzo (a) Anthracene	ND	1.0	1	
Acenaphthylene	ND	1.0	1		Chrysene	ND	1.0	1	
Acenaphthene	ND	1.0	1		Benzo (b) Fluoranthene	ND	1.0	1	
Fluorene	ND	1.0	1		Benzo (k) Fluoranthene	ND	1.0	1	
Phenanthrene	ND	1.0	1		Benzo (a) Pyrene	ND	0.20	1	
Anthracene	ND	1.0	1		Dibenz (a,h) Anthracene	ND	1.0	1	
Fluoranthene	ND	1.0	1		Benzo (g,h,i) Perylene	ND	1.0	1	
Pyrene	ND	1.0	1		Indeno (1,2,3-c,d) Pyrene	ND	1.0	1	

Surrogates:	REC (%)	Control Limits	Qual
Decafluorobiphenyl	48	16-100	

Method Blank	099-07-003-1,859	N/A	Aqueous	HPLC 5	07/23/12	07/25/12 02:50	120723L05

Parameter	Result	RL	DF	Qual	Parameter	Result	RL	DF	Qual
Naphthalene	ND	1.0	1		Benzo (a) Anthracene	ND	1.0	1	
Acenaphthylene	ND	1.0	1		Chrysene	ND	1.0	1	
Acenaphthene	ND	1.0	1		Benzo (b) Fluoranthene	ND	1.0	1	
Fluorene	ND	1.0	1		Benzo (k) Fluoranthene	ND	1.0	1	
Phenanthrene	ND	1.0	1		Benzo (a) Pyrene	ND	0.20	1	
Anthracene	ND	1.0	1		Dibenz (a,h) Anthracene	ND	1.0	1	
Fluoranthene	ND	1.0	1		Benzo (g,h,i) Perylene	ND	1.0	1	
Pyrene	ND	1.0	1		Indeno (1,2,3-c,d) Pyrene	ND	1.0	1	

Surrogates:	REC (%)	Control Limits	Qual
Decafluorobiphenyl	40	16-100	

RL - Reporting Limit , DF - Dilution Factor , Qual - Qualifiers

Return to Contents

Calscience Environmental Laboratories, Inc.

Quality Control - LCS/LCS Duplicate

ACCREDITED IN ACCORDANCE WITH nelac

Kiff Analytical
2795 2nd Street, Suite 300
Davis, CA 95618-6505

Date Received: N/A
Work Order No: 12-07-1194
Preparation: EPA 3510C
Method: EPA 8310

Project: Earthgrains Baking Companies, Inc.

Quality Control Sample ID	Matrix	Instrument	Date Prepared	Date Analyzed	LCS/LCSD Batch Number
099-07-003-1,859	**Aqueous**	**HPLC 5**	**07/23/12**	**07/25/12**	**120723L05**

Parameter	SPIKE ADDED	LCS CONC	LCS %REC	LCSD CONC	LCSD %REC	%REC CL	ME_CL	RPD	RPD CL	Qualifiers
Naphthalene	2.000	1.923	96	1.983	99	26-170	2-194	3	0-21	
Acenaphthylene	2.000	1.284	64	1.310	66	49-133	35-147	2	0-23	
Acenaphthene	2.000	1.070	54	1.067	53	49-133	35-147	0	0-20	
Fluorene	2.000	1.393	70	1.414	71	56-134	43-147	2	0-17	
Phenanthrene	2.000	1.478	74	1.488	74	59-131	47-143	1	0-18	
Anthracene	2.000	1.420	71	1.417	71	58-136	45-149	0	0-19	
Fluoranthene	2.000	1.561	78	1.612	81	60-132	48-144	3	0-19	
Pyrene	2.000	1.550	78	1.586	79	65-125	55-135	2	0-21	
Benzo (a) Anthracene	2.000	1.712	86	1.736	87	65-137	53-149	1	0-21	
Chrysene	2.000	1.736	87	1.747	87	65-143	52-156	1	0-21	
Benzo (b) Fluoranthene	2.000	1.732	87	1.744	87	67-139	55-151	1	0-22	
Benzo (k) Fluoranthene	2.000	1.714	86	1.744	87	68-140	56-152	2	0-22	
Benzo (a) Pyrene	2.000	1.390	70	1.327	66	62-134	50-146	5	0-22	
Dibenz (a,h) Anthracene	2.000	1.822	91	1.810	91	66-138	54-150	1	0-28	
Benzo (g,h,i) Perylene	2.000	1.624	81	1.674	84	66-138	54-150	3	0-21	
Indeno (1,2,3-c,d) Pyrene	2.000	1.865	93	1.876	94	63-135	51-147	1	0-22	

Total number of LCS compounds : 16
Total number of ME compounds : 0
Total number of ME compounds allowed : 1
LCS ME CL validation result : Pass

Return to Contents

RPD - Relative Percent Difference , CL - Control Limit

Calscience Environmental Laboratories, Inc.

Glossary of Terms and Qualifiers

ACCREDITED IN ACCORDANCE WITH nelac

Work Order Number: 12-07-1194

Qualifier	Definition
*	See applicable analysis comment.
<	Less than the indicated value.
>	Greater than the indicated value.
1	Surrogate compound recovery was out of control due to a required sample dilution. Therefore, the sample data was reported without further clarification.
2	Surrogate compound recovery was out of control due to matrix interference. The associated method blank surrogate spike compound was in control and, therefore, the sample data was reported without further clarification.
3	Recovery of the Matrix Spike (MS) or Matrix Spike Duplicate (MSD) compound was out of control due to matrix interference. The associated LCS and/or LCSD was in control and, therefore, the sample data was reported without further clarification.
4	The MS/MSD RPD was out of control due to matrix interference. The LCS/LCSD RPD was in control and, therefore, the sample data was reported without further clarification.
5	The PDS/PDSD or PES/PESD associated with this batch of samples was out of control due to a matrix interference effect. The associated batch LCS/LCSD was in control and, hence, the associated sample data was reported without further clarification.
6	Surrogate recovery below the acceptance limit.
7	Surrogate recovery above the acceptance limit.
B	Analyte was present in the associated method blank.
BU	Sample analyzed after holding time expired.
E	Concentration exceeds the calibration range.
ET	Sample was extracted past end of recommended max. holding time.
HD	The chromatographic pattern was inconsistent with the profile of the reference fuel standard.
HDH	The sample chromatographic pattern for TPH matches the chromatographic pattern of the specified standard but heavier hydrocarbons were also present (or detected).
HDL	The sample chromatographic pattern for TPH matches the chromatographic pattern of the specified standard but lighter hydrocarbons were also present (or detected).
J	Analyte was detected at a concentration below the reporting limit and above the laboratory method detection limit. Reported value is estimated.
ME	LCS/LCSD Recovery Percentage is within Marginal Exceedance (ME) Control Limit range.
ND	Parameter not detected at the indicated reporting limit.
Q	Spike recovery and RPD control limits do not apply resulting from the parameter concentration in the sample exceeding the spike concentration by a factor of four or greater.
SG	The sample extract was subjected to Silica Gel treatment prior to analysis.
X	% Recovery and/or RPD out-of-range.
Z	Analyte presence was not confirmed by second column or GC/MS analysis.

Solid - Unless otherwise indicated, solid sample data is reported on a wet weight basis, not corrected for % moisture. All QC results are reported on a wet weight basis.
MPN - Most Probable Number

Return to Contents

KIFF Analytical LLC
2795 Second Street, Suite 300
Davis, CA 95618
Lab: 530.297.4800
Fax: 530.297.4808

Calscience
7440 Lincoln Way
Garden Grove, CA 92841-1427
714-895-5494

12-07-1194

COC No. **81964** Page 1 of 1

Chain-of-Custody Record and Analysis Request

Project Contact (Hardcopy or PDF to): Scott Forbes

Company/Address: Kiff Analytical

Phone No.: 530-297-4800 | FAX No.: 530-297-4808

Project Number: 120717-DW1 | P.O. No.: 81964

Project Name: Earthgrains Baking Companies, Inc.

Project Address:

EDF Report? NO

Recommended but not mandatory to complete this section:

Sampling Company Log Code:

Global ID: T0600177342

Deliverables to (Email Address): inbox@kiffanalytical.com

Sample Designation	Sampling Date	Sampling Time	Container / Preservative: 1-L Amber None	Matrix: Water	Analysis Request: PNAs by EPA 8310	TAT: 4-Days	For Lab Use Only
MW-101	07/17/12	09:15	2	X	X	X	1
MW-102	07/17/12	10:05	2	X	X	X	2
MW-103	07/17/12	10:40	2	X	X	X	3
MW-104	07/17/12	11:10	2	X	X	X	4
DUPLICATE	07/17/12	11:55	2	X	X	X	5

Relinquished by: Kiff Analytical	Date 071912	Time 1900	Received by:	Remarks:
Relinquished by:	Date	Time	Received by:	
Relinquished by: ONTRAC	Date 7/20/12	Time 09:40	Received by Laboratory:	Bill to: Accounts Payable

Return to Contents

OnTrac
On Time Delivery For Less

800.334.5000
ontrac.com

1194

Date Printed 7/19/2012

Tracking#D10010494246303

Shipped From:
KIFF ANALYTICAL
2795 2ND STREET 300
DAVIS, CA 95616

Sent By: SAMPLE RECEIVING
Phone#: (530)297-4800
wgt(lbs): 1
Reference: SUB SRG SAMPLES
Reference 2:

Ship To Company:	*Service:* **S**
CALSCIENCE ENVIRONMENTAL **7440 LINCOLN WAY** **GARDEN GROVE, CA 92841** **RECEIVING (714)895-5494** **B10207210772**	*Sort Code:* **ORG** *Special Services:* **Signature Required**

Return to Contents

Calscience Environmental Laboratories, Inc.

WORK ORDER #: 12-07-11 1 9 4

SAMPLE RECEIPT FORM

Cooler 1 of 1

CLIENT: KIFT DATE: 07/20/12

TEMPERATURE: Thermometer ID: SC2 (Criteria: 0.0 °C – 6.0 °C, not frozen)

Temperature 1.4 °C - 0.3 °C (CF) = 1.1 °C ☑ Blank ☐ Sample

☐ Sample(s) outside temperature criteria (PM/APM contacted by: _____).

☐ Sample(s) outside temperature criteria but received on ice/chilled on same day of sampling.

☐ **Received at ambient temperature, placed on ice for transport by Courier.**

Ambient Temperature: ☐ Air ☐ Filter Initial: RS

CUSTODY SEALS INTACT:

☑ Cooler ☐_____ ☐ No (Not Intact) ☐ Not Present ☐ N/A Initial: RS

☐ Sample ☐_____ ☐ No (Not Intact) ☑ Not Present Initial: RS

SAMPLE CONDITION:	Yes	No	N/A
Chain-Of-Custody (COC) document(s) received with samples	☑	☐	☐
COC document(s) received complete	☑	☐	☐
☐ Collection date/time, matrix, and/or # of containers logged in based on sample labels.			
☐ No analysis requested. ☐ Not relinquished. ☐ No date/time relinquished.			
Sampler's name indicated on COC	☐	☐	☑
Sample container label(s) consistent with COC	☑	☐	☐
Sample container(s) intact and good condition	☑	☐	☐
Proper containers and sufficient volume for analyses requested	☑	☐	☐
Analyses received within holding time	☑	☐	☐
pH / Res. Chlorine / Diss. Sulfide / Diss. Oxygen received within 24 hours	☐	☐	☑
Proper preservation noted on COC or sample container	☑	☐	☐
☐ Unpreserved vials received for Volatiles analysis			
Volatile analysis container(s) free of headspace	☐	☐	☑
Tedlar bag(s) free of condensation	☐	☐	☑

CONTAINER TYPE:

Solid: ☐4ozCGJ ☐8ozCGJ ☐16ozCGJ ☐Sleeve (_____) ☐EnCores® ☐TerraCores® ☐_____

Water: ☐VOA ☐VOA**h** ☐VOA**na$_2$** ☐125AGB ☐125AGB**h** ☐125AGB**p** ☑1AGB (2) ☐1AGB**na$_2$** ☐1AGB**s**

☐500AGB ☐500AGJ ☐500AGJ**s** ☐250AGB ☐250CGB ☐250CGB**s** ☐1PB ☐1PB**na** ☐500PB

☐250PB ☐250PB**n** ☐125PB ☐125PB**znna** ☐100PJ ☐100PJ**na$_2$** ☐_____ ☐_____ ☐_____

Air: ☐Tedlar® ☐Summa® **Other:** ☐_____ **Trip Blank Lot#:**_____ **Labeled/Checked by:** JW

Container: **C:** Clear **A:** Amber **P:** Plastic **G:** Glass **J:** Jar **B:** Bottle **Z:** Ziploc/Resealable Bag **E:** Envelope **Reviewed by:** DC

Preservative: **h:** HCL **n:** HNO_3 **na$_2$:**$Na_2S_2O_3$ **na:** NaOH **p:** H_3PO_4 **s:** H_2SO_4 **u:** Ultra-pure **znna:** $ZnAc_2$+NaOH **f:** Filtered **Scanned by:** _____

Return to Contents