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Alameda County Environmental Health

2008 GROUNDWATER MONITORING REPORT

OWENS-BROCKWAY
GLASS CONTAINER FACILITY
OAKLAND, CALIFORNIA



A Report Prepared for:

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2008 GROUNDWATER MONITORING REPORT

OWENS-BROCKWAY GLASS CONTAINER FACILITY, OAKLAND, CALIFORNIA

December 22, 2008

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1.0 EXECUTIVE SUMMARY

The Owens-Brockway glass manufacturing facility is located at 3600 Alameda Avenue in Oakland, California. The site is located to the north of the Oakland Estuary with Fruitvale Avenue to the west, a Home Depot to the east and residences to the north. Onsite facilities include the operating glass manufacturing plant, warehouses, offices and two former underground fuel storage tank areas.

Two underground fuel storage tank (UST) areas existed at the Oakland plant. The first UST area was located on the west side of the plant and included three fuel oil USTs. Impacts by fuel oil to the subsurface were observed when the associated USTs were removed. The second UST area was located near the central part of the plant adjacent to the compressor building. Originally there were four USTs in this area. When they were removed and replaced by two new USTs, a gasoline release to the subsurface was observed.

CKG compiled all the historic data for the site and completed a Cone Penetration Test (CPT) subsurface investigation and installed one offsite monitoring well. This data was used to refine our understanding of the distribution of petroleum hydrocarbons at the site and to evaluate the UST releases with respect to potential closure. A round of groundwater monitoring also was completed to comply with regulatory requirements and to evaluate the existence and distribution of the various types of petroleum hydrocarbons potentially present on and off site.

The recent groundwater monitoring, as well as a review of historic data, shows that the petroleum hydrocarbon plumes at the site are stable and have attenuated substantially over time. The fuel oil release appears to extend only slightly off site. CKG recommends that Owens-Brockway submit this report to the Alameda County Health Agency.

2.0 INTRODUCTION

The following report presents the results and conclusions of the annual of groundwater monitoring in 2008. The work was performed in general accordance with CKG's proposal dated November 15, 2002 with slight modifications as discussed below.

2.1 SITE DESCRIPTION

The Owens-Brockway glass manufacturing facility is located at 3600 Alameda Avenue in Oakland, California, (Plate 1). The site is located to the north of the Oakland Estuary with Fruitvale Avenue to the west, a former retail center to the east and residences to the north. Onsite facilities include the operating glass manufacturing plant, warehouses, offices and two former underground fuel storage tank areas, (Plate 2).

Fuel Oil USTs

One UST site was located on the west side of the plant and included three former USTs, which were used to contain fuel oil. At the time these USTs were removed it was discovered that fuel oil had been released to the subsurface. Owens-Brockway excavated impacted soil at the time the USTs were removed. Floating product associated with the fuel oil release exists and past efforts to remove it have been unsuccessful. This lack of success is mainly due to the clay rich nature of the subsurface and the viscosity of the product. Groundwater monitoring has been ongoing sporadically for the last 16 years. A Geoprobe™ investigation completed in 1999 by Kennedy/Jenks Consultants included collecting groundwater samples from five locations off-site in the downgradient direction. Three of these samples were found to contain petroleum hydrocarbons. This petroleum hydrocarbon was identified to be Stoddard solvent, not fuel oil.

Gasoline USTs

The second UST area was located near the central part of the plant adjacent to the compressor building. Originally there were four USTs in the area. When they were removed and replaced by two new USTs a gasoline release to the subsurface was observed. Owens-Brockway excavated impacted soil at the time the USTs were removed. Groundwater monitoring has shown that the gasoline release has attenuated naturally.

3.0 GROUNDWATER MONITORING

3.1 GROUNDWATER GRADIENT

Depth to groundwater measurements were made on October 17, 2007, before the monitoring wells were sampled. Depth to static ground water was measured from a marked location at the top of the PVC casing. The depth of water was then subtracted from the elevation of the top of the well casing to provide a ground water elevation for each monitoring well. Plate 2 shows groundwater elevations and the interpreted groundwater flow direction. Based on the data measured on October 17 the groundwater flow direction is generally to the south. This groundwater flow direction has been observed in past monitoring events. Monitoring well construction details are presented in Table 1. Depth to water measurements and groundwater elevations are summarized in Table 2. Well sampling and purge logs are contained in Appendix A.

3.2 WELL SAMPLING

On October 21, 2008 a round of groundwater sampling in the monitoring wells was performed. Floating product was observed in MW-2. Sheen was observed in MW-6 and MW-17 but they were sampled anyway. MW-9, which is located in the middle of the loading ramp, could not be safely accessed.

The wells were sampled using the following protocol.

- The depth-to-water was measured using a conductivity-based water level indicator.
- The volume of water standing in each well was calculated by subtracting the depth-to-water measurement from the total depth of the well, and multiplying by the appropriate volume conversion factor.
- A minimum of three well volumes of water was purged from each well using a centrifugal pump. The pump was decontaminated prior to use in each well by washing with TSP and rinsing with distilled water. Fresh tubing was used for each well
- Physical parameters of pH and temperature were monitored for stability during purging.

- Sample bottles, provided by the analytical laboratory were filled from a new clean disposable bailer at each well.
- Samples were immediately labeled and placed in an iced sample container. The samples
 were picked up by the analytical laboratory, under chain-of-custody control the following
 day.

3.3 CHEMICAL ANALYSIS

Groundwater samples were submitted under chain-of-custody to McCampbell Analytical Laboratory in Pacheco, California. McCampbell is a laboratory certified with the California Department of Health Services under the California Environmental Laboratory Accreditation Program (ELAP) for the requested analyses. The analytical program was completed in general accordance with CKG's proposal dated November 15, 2002. The chemical analyses performed include the following:

- Total Petroleum Hydrocarbons quantified as diesel, (TPHd,) motor oil (TPHmo) and gasoline (TPHg) by Modified EPA Method 8015 and;
- Benzene, Toluene, Ethylbenzene, xylenes, and MTBE by EPA Method 8020

3.4 INVESTIGATION DERIVED WASTES (IDW)

Investigation derived wastes (IDW) were generated during the investigation and included purge water. Purge water was placed into the on-site oil/water separator system.

4.0 FINDINGS

The following describes the results of the annual groundwater monitoring at the Owens-Brockway Glass Container facility in Oakland, California. Comparisons are made between the data and appropriate regulatory standards and risk based screening levels where they are available. Groundwater sample results are presented in Table 3. Analytical laboratory reports are included in Appendix B. Sample locations and pertinent data are presented on Plates 3 and 4.

4.1 SUMMARY OF GROUNDWATER RESULTS

4.1.1 Fuel Oil Release Area (MW-1, MW-2, MW-5, MW-6, MW-7, MW-8, MW-10, MW-19)

Petroleum hydrocarbons quantified as diesel/fuel oil, were detected in all of the water samples collected as summarized in Table 3. Diesel concentrations are shown and contoured on Plate 3. Detected TPHd concentrations in groundwater range from 200 to 82,000 µg/l. Absorbent socks are installed in MW-2, MW-5, MW-6, MW-7. Owens-Brockway regularly changes the socks, but may need to increase the frequency at MW-2. The estimated outline of the product plume is illustrated on Plate 3. In general the overall size of the product plume is the same as has been observed over the last 18 years of monitoring.

4.1.2 Gasoline Release Area (MW-13, MW-15, MW-16, MW17, MW-20)

Petroleum hydrocarbons quantified as gasoline, were detected in one water sample as summarized in Table 3. TPHg was detected in MW-17 at 3,300 μ g/l which was lower than observed over the last few years. This detection illustrates the very limited area where gasoline remains in the subsurface at the site. TPH quantified as diesel/motor oil was detected at MW-17 at 330,000 μ g/l which was lower than that observed in 2007.

5.0 CONCLUSIONS AND RECOMMENDATIONS

On the basis of the annual monitoring the following conclusions and recommendations can be made:

5.1 CONCLUSIONS

The recent groundwater monitoring, as well as a review of historic data, shows that the petroleum hydrocarbon plumes at the site are stable and have attenuated substantially over time. The fuel oil release appears to extend only slightly off site.

5.2 **RECOMMENDATIONS**

CKG recommends that Owens-Brockway submit this report to the Alameda County Health Agency. CKG Environmental submitted a revised schedule to prepare a Site Conceptual Model (SCM) by March 2009. CKG will proceed with the scheduled work.

6.0 REFERENCES

California Regional Water Quality Control Board – San Francisco Bay region, Order No 99-045, 1999

CKG Environmental, Inc. 2006 Groundwater Monitoring Report, Owens-Brockway Glass Container Facility, Oakland, California December 17, 2007.

CKG Environmental, Inc. 2006 Groundwater Monitoring Report, Owens-Brockway Glass Container Facility, Oakland, California January 12, 2006.

CKG Environmental, Inc. 2005 Groundwater Monitoring Report, Owens-Brockway Glass Container Facility, Oakland, California November 29, 2005.

CKG Environmental, Inc. 2005, Work Plan to Prepare a Site Conceptual Model, Owens-Brockway Glass Container Facility, Oakland, California. April 6, 2005.

CKG Environmental, Inc. 2004 Groundwater Monitoring Report, Owens-Brockway Glass Container Facility, Oakland, California April 29, 2004.

CKG Environmental, Inc. Summary of Remediation History and Groundwater Impact by Petroleum Hydrocarbons, Owens-Brockway Glass Container Facility, 3600 Alameda Avenue, Oakland, California. April 4, 2003.

CKG Environmental, Inc. Work Plan to Install One Monitoring Well and Assess the Distribution of Petroleum Hydrocarbons, Owens-Brockway Glass Container Facility, Oakland, California, April 22, 2003.

CKG Environmental, Inc. Data Compilation and Closure Report Underground Fuel Storage Tank Locations, Owens-Brockway Glass Container Facility, Oakland, California, November 4, 2003.

Exeltech, Soil and Groundwater Contamination Investigation for Owens-Illinois Glass Container Division, 3600 Alameda Avenue, Oakland, California, December 1986.

Exeltech, Soil and Groundwater Contamination Investigation for Owens-Illinois Glass Container Division, 3600 Alameda Avenue, Oakland, California, February 1987.

Kennedy/Jenks, Consultants. Groundwater investigation Report, Owens-Brockway Glass Containers, February 16, 1999.

Kennedy/Jenks, Consultants. Annual Groundwater Monitoring Report, Owens-Brockway Glass Containers, January 21, 2003.

7.0 LIMITATIONS

CKG Environmental, Inc. prepared this report in accordance with generally accepted standards of care, which exist in Northern California at this time. It should be recognized that definition and evaluation of geologic and environmental conditions is a difficult and an inexact science.

Conclusions and recommendations presented in this report are based on the results of the scope of work presented in our proposal dated November 15, 2002. This scope of work includes groundwater sampling at total of 10 wells, and quantitative analysis of groundwater samples conducted by McCampbell Analytical. Only work described herein was performed. As such CKG cannot render opinions on issues not resulting directly from the work performed.

Judgments leading to conclusions and recommendations are generally made with incomplete knowledge of the subsurface conditions present. More extensive studies, including additional subsurface investigations, may be performed to reduce uncertainties. If the client wishes to reduce the uncertainties of this investigation, CKG should be notified for additional consultation. No warranty, expressed or implied, is made.

This report may be used only by the client and only for the purposes stated, within a reasonable time from its issuance. Land use, site conditions (both onsite and offsite) or other factors may change over time, and additional work may be required with the passage of time. Any party other than the client who wishes to use this report shall notify CKG of such intended use. Based on the intended use of the report, CKG may require that additional work be performed and that an updated report be issued. Non-compliance with any of these requirements by the client or anyone else will release CKG from any liability resulting from the use of this report by any unauthorized party.

	Table 1 Summary of Well Construction Details											
Well Number	Date Installed	Top of Casing Elelvation ^(a)	Top of Screen ^(b)	Screen Length	Well Depth ^(c)	Casing Diameter (inches)	Comments					
MW-1	9/12/1986	16.02	8	21	29	2						
MW-2	12-Sep-86	17.11	10	20	30	2	_					
MW-3	12-Sep-86	15.46	10	20	39	2	Destroyed					
MW-4	12-Sep-86	16.02	8.5	20	28.5	2						
MW-5	12-Sep-86	16.19	8.5	20	28.5	2						
MW-6	12-Sep-86	17.48	12.5	16	28.5	2						
MW-7	12-Sep-86	16.11	12.5	11	23.5	2						
MW-8	12-Sep-86	16.57	15	13.5	28.5	2						
MW-9	12-Sep-86	7.33 ^(d)	5	10	20	2						
MW-10	12-Sep-86	15.96	10	15	25	2						
MW-11	12-Sep-86	13.99	10	20	30	2						
MW-12	12-Sep-86	13.83	11	15	26	2						
MW-13	12-Sep-86	13.98	9.5	15	24.5	2						
MW-14	12-Sep-86	14.78	10	15	25	2	Destroyed					
MW-15	12-Sep-86	15.16	9.5	20	29.5	2						
MW-16	12-Sep-86	13.48	10	14.5	24.5	2						
MW-17	12-Sep-86	14.17	9.5	15	24.5	2						
MW-18	12-Sep-86	14.89	9	15	24	2	Destroyed					
MW-19	01-May-03	NA	10	15	25	2						
MW-20	01-Dec-00	12.74	6.9	15	21.9	2						
R-1	1987	NM ^(e)	NA ^(f)	NA	24	36	Destroyed					
R-2	1989	NM	NA	NA	NA	12	Destroyed					

⁽a) Top of casing elevation (TOCE) except where noted; measured in feet above US Coast and Geodetic Datum (mean sea level). Elevations measured by Exceltech in 1986, and by PLS Surveys for MW-20 in 2000.

⁽b) Depth to top of screened interval (feet below top of casing)

⁽c) Depth to bottom of screened interval (feet below top of casing)

⁽d) Well casing was not measured for this well; well is located beneath forklift ramp and this measurement is the ground surface elevation in MSL.

⁽e) NM = Not measured

⁽f) NA = Not available

Table 2 Groundwater Depths and Elevation October 21, 2008

		Top of Casing		Groundwater
Well Number	Date Installed	Elelvation ^(a)	Depth to Water	Elevation
MW-1	9/12/1986	16.02	9.46	6.56
MW-2	12-Sep-86	17.11	13.92	3.19
MW-4	12-Sep-86	16.02	NM	
MW-5	12-Sep-86	16.19	12.80	3.39
MW-6	12-Sep-86	17.48	14.53	2.95
MW-7	12-Sep-86	16.11	12.77	3.34
MW-8	12-Sep-86	16.57	10.23	6.34
MW-9	12-Sep-86	7.33 ^(d)	NM	
MW-10	12-Sep-86	15.96	11.02	4.94
MW-11	12-Sep-86	13.99	NM	
MW-12	12-Sep-86	13.83	NM	
MW-13	12-Sep-86	13.98	10.68	3.3
MW-15	12-Sep-86	15.16	11.90	3.26
MW-16	12-Sep-86	13.48	9.51	3.97
MW-17	12-Sep-86	14.17	9.70	4.47
MW-19	01-May-03	NA	12.28	
MW-20	01-Dec-00	12.74	8.94	3.8

⁽a) Top of casing elevation (TOCE) except where noted; measured in feet above US Coast and Geodetic Datum (mean sea level). Elevations measured by Exceltech in 1986, and by PLS Surveys for MW-20 in 2000.

⁽d) Well casing was not measured for this well; well is located beneath forklift ramp and this measurement is the ground surface elevation in MSL.

⁽e) NM = Not measured

⁽f) NA = Not available

Table 3 Summary of Groundwater Analytical Results	
Owens-Brockway Glass Container Facility, Oakland, CA	

MW-1	Date	В	T	E	X	TPHd	TPHg	TOG/TPHmo
	9/23/1986	<10	<10	NA	<10	<.01	<.01	25,000
	4/9/1987	<10	<10	NA	<10	<.01	NA	NA
	9/16/1987	not accessib	le					
	12/1/1987	not accessib	le					
	3/7/1988	not accessib	ole					
	6/8/1988	not accessib	ole					
	9/14/1988	not accessib	le					
	9/16/1997	<0.5	<0.5	<0.5	<0.5	190 ^(a)	<50	NA
	11/2/1998	<0.5	<0.5	<0.5	<0.5	160 ^(a)	<50	NA
	12/11/2001	not accessib	le					
	12/6/2002	<0.5	<0.5	<0.5	<0.5	69 ^(a)	<50	NA
	3/15/2004	not accessib	le					
	6/30/2005	not accessib	ole					
	10/19/2006	<0.5	<0.5	<0.5	<0.5	5400	120	3300
	10/17/2007	not accessib	le					
	10/21/2008	<0.5	<0.5	<0.5	<0.5	2000	69	1300
MW-2	4/9/1987	floating prod	luct					
	9/16/1987	floating prod	luct					
	12/1/1987	floating prod	luct					
	3/7/1988	floating prod	luct					
	6/8/1988	floating prod	luct					
	9/14/1988	floating prod	luct					
	9/16/1997	floating prod	luct					
	11/2/1998	floating prod	luct					
	12/11/2001	floating prod	luct					
		floating prod						
	3/15/2004	floating prod	luct					
	6/30/2005		<0.5	<0.5	<0.5	1,600,000	2900	1,200,000
	9/11/2006		4.4	19	60	830,000	13000 ^(b)	530,000
	10/17/2007	floating prod	luct (1.25 fee	t)				
	10/21/2008	floating prod	luct					
MW-3	9/23/1986	<10	<10	NA	<10	NA	<10	18
	4/9/1987	BDL	BDL	NA	BDL	NA	370	NA
	9/16/1987	floating prod	luct					
	12/1/1987	floating prod	luct					
	3/7/1988	NA	NA	NA	NA	190,000	NA	NA
	6/8/1988	NA	NA	NA	NA	16,000	NA	NA
	9/14/1988	floating prod	luct					
		Destroyed						
	<u> </u>							

NOTES

 $\begin{tabular}{lll} TPH-g-Total Petroleum Hydrocarbons as Gasoline in ug/l & B-Benzene in ug/l & X-Xylenes in ug/l & T-Total Petroleum Hydrocarbons as Diesel in ug/l & T-Toluene in ug/l & E-Thylbenzene in ug/l & E-Thylb$

TOG - Total Oil and Grease in ug/l

TPHmo - Total Petroleum Hydrocarbons as Motor Oil ug/l (after 2004)

BDL - Below detection limit NA - Not analyzed

- (a) Quantified as diesel but chromatogram did not match diesel pattern
- (b) Quantified as gasoline but chromatogram did not match gasoline pattern

	Date	В	T	E	X	TPHd	TPHg	TOG
MW-4	9/23/1986	<5	<5	NA	<5	NA	20	7,200
	4/9/1987	BDL	BDL	NA	BDL	NA	BDL	NA
	9/16/1987	BDL	BDL	NA	BDL	660	1.3	NA
	12/1/1987	BDL	BDL	NA	8.9	100	BDL	NA
	3/7/1988	BDL	BDL	NA	BDL	BDL	BDL	NA
	6/8/1988	BDL	BDL	NA	BDL	BDL	BDL	NA
	9/14/1988	BDL	BDL	NA	BDL	100	BDL	NA
		Destroyed						
MW-5	10/3/1986	<5	<5	NA	6.6	NA	1400	24,000
	4/9/1987	<5	<5	NA	<5	NA	54	NA
	9/16/1987	NA	NA	NA	NA	960	NA	NA
	12/1/1987	NA	NA	NA	NA	2000	NA	NA
	3/9/1988	NA	NA	NA	NA	<50	NA	NA
	6/8/1988	NA	NA	NA	NA	12,000	NA	NA
	9/14/1988	NA	NA	NA	NA	6,300	NA	NA
	9/16/1997	<0.5	<0.5	<0.5	<0.5	11,600	<50	NA
	11/2/1998	floating prod	uct					
	12/6/2000	<0.5	<0.5	< 0.5	<0.5	11,700 ^(a)	1000	NA
	12/12/2001	<0.5	<0.5	<0.5	<0.5	10,000 ^(a)	360 ^(b)	NA
	12/6/2002	<0.5	<0.5	<0.5	<0.5	5,200 ^(a)	150 ^(b)	NA
	3/15/2004	<0.5	<0.5	<0.5	<0.5	46,000 ^(a)	180 ^(b)	NA
	6/30/2005	<0.5	<0.5	<0.5	<0.5	34,000	100	26,000
	9/11/2006	<0.5	<0.5	<0.5	<0.5	45,000	300 ^(a)	33,000
	10/17/2007	<0.5	<0.5	<0.5	<0.5	34,000	120	31,000
	10/21/2008	<0.5	<0.5	<0.5	<0.5	13,000	150	11,000
MW-6	4/9/1987	floating prod	uct					
	9/16/1987	NA	NA	NA	NA	400,000	NA	NA
	12/1/1987	NA	NA	NA	NA	30,000	NA	NA
	3/7/1988	NA	NA	NA	NA	9,800	NA	NA
	6/8/1988	NA	NA	NA	NA	63,000	NA	NA
	9/14/1988	NA	NA	NA	NA	140,000	NA	NA
	9/16/1997	floating prod	uct					
		floating prod						
		floating prod						
		floating prod						
		floating prod						
	6/30/2005	<0.5	<0.5	<0.5	<0.5	270,000	300	200,000
	9/11/2006	<0.5	<0.5	<0.5	<0.5	100,000	700 ^(a)	77,000
	10/17/2007	<1	<1	<1	11.00	290,000	3400	190,000
	10/21/2008	<1	<1	<1	<1	38,000	330	28,000

NOTES:

TPH-g - Total Petroleum Hydrocarbons as Gasoline in ug/l B - Benzene in ug/l X - Xylenes in ug/l TPH-d - Total Petroleum Hydrocarbons as Diesel in ug/l T - Toluene in ug/l E - Thylbenzene in ug/l

TOG - Total Oil and Grease in ug/l

TPHmo - Total Petroleum Hydrocarbons as Motor Oil ug/l (after 2004)

BDL - Below detection limit NA - Not analyzed

(a) - Quantified as diesel but chromatogram did not match diesel pattern

(b) - Quantified as gasoline but chromatogram did not match gasoline pattern Copyright CKG Environmental, Inc., Owens-Brockway Oakland, Groundwater Monitoring Report

	Date	В	T	E	X	TPHd	TPHg	TOG
MW-7	10/3/1986	<5	<5	NA	<5	NA	260	8,000
	4/9/1987	floating prod	uct					
	9/16/1987	NA	NA	NA	NA	790,000	NA	NA
	12/1/1987	NA	NA	NA	NA	5,300	NA	NA
	3/9/1988	NA	NA	NA	NA	<50	NA	NA
	6/9/1988	NA	NA	NA	NA	12,000	NA	NA
	9/14/1988	NA	NA	NA	NA	67,000	NA	NA
	9/16/1997	<0.5	<0.5	<0.5	<0.5	37,000 ^(a)	850	NA
	11/2/1998	floating prod	uct					
	12/6/2000	<5	<.05	<.05	1.90	3,580 ^(a)	540	NA
	12/12/2001	<1	<1	<1	<1	12,600 ^(a)	1200 ^(b)	NA
	12/6/2002	<0.5	<0.5	<0.5	<0.5	27,600 ^(a)	480 ^(b)	NA
	3/15/2004	<0.5	<0.5	0.57	1.10	170,000 ^(a)	890 ^(b)	NA
	6/30/2005	<.05	<.05	3.1	<.05	290,000	3000	150,000
	9/11/2006	<5	<5	<5	<5	310,000	6600 ^(a)	150,000
	10/17/2007	<1	<1	<1	2.70	330,000	1900	190,000
	10/21/2008	<1	<1	<1	<1	82,000	1100	43,000
MW-8	10/23/1986	<0.2	<0.2	NA	<1	NA	1300	14,000
	4/9/1987	<0.5	<0.2	NA	<1	NA	73	NA
		floating prod						
	12/1/1987	NA	NA	NA	NA	630	NA	NA
	3/9/1988	NA	NA	NA	NA	2,600	NA	NA
	6/9/1988	NA	NA	NA	NA	1,700	NA	NA
	9/14/1988	NA	NA	NA	NA	150	NA	NA
		floating prod				(-)		
	9/16/1997	< 0.5	<0.5	<0.5	<0.5	290 ^(a)	<50	NA
	11/2/1998	<0.5	<0.5	<0.5	<0.5	1,300 ^(a)	<50	NA
	12/6/2000	<0.5	<0.5	<0.5	<0.5	160 ^(a)	<50	NA
	12/12/2001	<0.5	<0.5	<0.5	<0.5	<50	<50	NA
	12/5/2002	<0.5	<0.5	<0.5	<0.5	170 ^(a)	55 ^(b)	NA
	3/15/2004	<0.5	<0.5	<0.5	<0.5	3,000 ^(a)	320 ^(b)	NA
	6/30/2005	<0.5	<0.5	<0.5	<0.5	4,600	1100	1,400
	9/11/2006	<0.5	<0.5	<0.5	2.1	1800	1200	760
	10/17/2007	<0.5	<0.5	<0.5	<0.5	1,300	390	2,100
	10/21/2008	<0.5	<0.5	<0.5	<0.5	380	74	470

NOTES:

TOG - Total Oil and Grease in ug/l

TPHmo - Total Petroleum Hydrocarbons as Motor Oil ug/l (after 2004)

BDL - Below detection limit NA - Not analyzed

(a) - Quantified as diesel but chromatogram did not match diesel pattern

	Date	В	T	E	X	TPHd	TPHg	TOG
MW-9	4/9/1987	floating prod	uct					
	9/16/1987	NA	NA	NA	NA	1,300	NA	NA
	12/1/1987	NA	NA	NA	NA	18,000	NA	NA
	3/9/1988	NA	NA	NA	NA	47,000	NA	NA
	6/8/1988	floating prod	uct					
	9/14/1988	floating prod	uct					
	9/16/1997	<13	<13	<13	18.00	28,000 ^(a)	6000	NA
	11/2/1998	floating prod	uct					
	12/6/2000	<5	<.5	<.5	<.5	102,000 ^(a)	790	NA
	12/12/2001	innaccessibl	е					
	12/5/2002	innaccessibl	е					
	3/15/2004	innaccessibl	е					
		innaccessib						
		innaccessib						
		innaccessib						
	10/21/2008	innaccessib	ole					
MW-10	10/23/1986	<0.2	<0.2	NA	<0.2	NA	380	7,200
	4/9/1987	<0.2	<0.2	NA	<0.2	NA	300	NA
	9/16/1987	NA	NA	NA	NA	3,800	NA	NA
	12/1/1987	NA	NA	NA	NA	590	NA	NA
	3/8/1988	NA	NA	NA	NA	<50	NA	NA
	6/8/1988	NA	NA	NA	NA	3,800	NA	NA
	9/14/1988	NA	NA	NA	NA	570	NA	NA
	9/16/1997	<0.5	<0.5	<0.5	<0.5	1,300 ^(a)	<50	NA
	11/2/1998	<0.5	<0.5	<0.5	<0.5	1400 ^(a)	<50	NA
	12/6/2000	<0.5	<0.5	<0.5	0.70	730 ^(a)	150	NA
	12/11/2001	<0.5	<0.5	<0.5	<0.5	630 ^(a)	210 ^(b)	NA
	12/5/2002	<0.5	<0.5	<0.5	<0.5	840 ^(a)	210 ^(b)	NA
	3/15/2004	<0.5	<0.5	<0.5	0.8	2,500 ^(a)	160 ^(b)	NA
	6/30/2005	<0.5	<0.5	<0.5	<0.5	2900	140	2300
	9/11/2006	<0.5	<0.5	<0.5	0.81	3400	270	2600
	10/17/2007	<0.5	<0.5	<0.5	<0.5	1700	140	1500
	10/21/2008	<0.5	<0.5	<0.5	<0.5	2300	240	1500
MW-11	9/23/1986	<0.4	<0.4	NA	1.4	NA	<8	1,200
	4/9/1987	BDL	BDL	NA	BDL	NA	BDL	NA
	9/16/1987	BDL	BDL	NA	BDL	NA	BDL	NA
	12/1/1987	0.8	BDL	NA	10	NA	BDL	NA
	3/7/1988	BDL	BDL	NA	BDL	BDL	BDL	NA
	6/8/1988	BDL	BDL	NA	BDL	BDL	BDL	NA
	9/14/1988	BDL	BDL	NA	BDL	100,000	BDL	NA
		Destroyed						

NOTES:

TOG - Total Oil and Grease in ug/l TPHmo - Total Petroleum Hydrocarbons as Motor Oil ug/l (after 2004)

BDL - Below detection limit NA - Not analyzed

(a) - Quantified as diesel but chromatogram did not match diesel pattern

(b) - Quantified as gasoline but chromatogram did not match gasoline pattern Copyright CKG Environmental, Inc., Owens-Brockway Oakland, Groundwater Monitoring Report

	Date	В	T	E	X	TPHd	TPHg	TOG
MW-12	9/23/1986	0.49	1	NA	1.3	NA	100	2,500
	4/9/1987	BDL	BDL	NA	BDL	NA	BDL	NA
	9/16/1987	BDL	BDL	NA	BDL	NA	BDL	NA
	12/1/1987	BDL	BDL	NA	13	NA	BDL	NA
	3/7/1988	BDL	BDL	NA	BDL	BDL	BDL	NA
	6/8/1988	BDL	BDL	NA	BDL	BDL	BDL	NA
	9/14/1988	BDL	BDL	NA	BDL	120	BDL	NA
	6/30/2005	Destroyed						
MW-13	12/24/1986	<0.2	<0.9	NA	<0.9	NA	<10	57,000
	4/9/1987	<5	<5	NA	<5	NA	<10	NA
	9/16/1987	<5	<5	NA	<5	NA	<10	NA
	12/1/1987	1.6	<5	NA	12	NA	<10	NA
	3/8/1988	<5	<5	NA	<5	<50	7.7	NA
	6/8/1988	<5	<5	NA	<5	<50	<10	NA
	9/14/1988	<5	<5	NA	<5	130	<10	NA
	9/16/1997	<5	<5	<5	<5	120 ^(a)	<50	NA
	11/2/1998	<5	<5	<5	<5	120 ^(a)	<50	NA
	12/6/2000	<0.5	< 0.5	<0.5	<0.5	200 ^(a)	<50	NA
	12/11/2001	<0.5	< 0.5	<0.5	<0.5	91 ^{(a)\}	<50	NA
	12/5/2002	<0.5	<0.5	<0.5	<0.5	190 ^(a)	<50	NA
	3/15/2004	<0.5	<0.5	<0.5	<0.5	<50	<50	NA
	6/30/2005	<1.0	<1.0	<1.0	<1.0	56	<50	<250
	9/11/2006	<0.5	< 0.5	<0.5	<0.5	<50	<50	<250
	10/17/2007	<0.5	< 0.5	<0.5	<0.5	<50	<50	<250
	10/21/2008	<0.5	<0.5	<0.5	<0.5	<50	<50	<250
MW-14	9/23/1986	<0.4	<0.2	NA	<0.2	NA	<8	3,200
	4/9/1987	BDL	BDL	NA	BDL	NA	BDL	NA
	9/16/1987	BDL	BDL	NA	BDL	56	1.7	NA
	12/1/1987	1.2	4	NA	10	66	BDL	NA
	3/7/1988	BDL	BDL	NA	BDL	BDL	20	NA
	6/8/1988	inaccessible						
	9/14/1988	inaccessible						
		Destroyed						

NOTES

TOG - Total Oil and Grease in ug/l TPHmo - Total Petroleum Hydrocarbons as Motor Oil ug/l (after 2004)

BDL - Below detection limit NA - Not analyzed

(a) - Quantified as diesel but chromatogram did not match diesel pattern

	Date	В	T	E	X	TPHd	TPHg	TOG
MW-15	12/24/1986	<0.2	<0.9	NA	9.20	NA	120	1,600
	4/9/1987	<5	<5	NA	<5	NA	<0.5	NA
	9/16/1987	<5	<5	NA	<5	<100	8.4	NA
	12/1/1987	3.30	0.84	NA	14	NA	<0.5	NA
	3/8/1988	0.80	<5	NA	<5	<100	90	NA
	6/9/1988	<5	<5	NA	<5	<100	53	NA
	9/14/1988	NA	NA	NA	NA	100	NA	NA
	9/16/1997	<0.5	<0.5	<0.5	<0.5	127 ^(a)	<50	NA
	11/2/1998	< 0.5	<0.5	<0.5	<0.5	340 ^(a)	<50	NA
	12/6/2000	< 0.5	<0.5	<0.5	<0.5	400 ^(a)	<50	NA
	12/11/2001	< 0.5	<0.5	<0.5	<0.5	290 ^(a)	<50	NA
	12/5/2002	<0.5	<0.5	<0.5	<0.5	440 ^(a)	<50	NA
	3/15/2004	<0.5	<0.5	<0.5	<0.5	<50	<50	NA
	6/30/2005	< 0.5	<0.5	<0.5	<0.5	240	<50	360
	9/11/2006	< 0.5	<0.5	<0.5	<0.5	56	<50	<250
	10/17/2007	< 0.5	<0.5	<0.5	<0.5	<50	<50	<250
	10/21/2008	<0.5	<0.5	<0.5	<0.5	<50	<50	<250
MW-16	12/24/1986	<0.2	<0.9	NA	<.9	NA	<10	1,200
	4/9/1987	<5	<5	NA	<5	NA	<.5	NA
	9/16/1987	<5	<5	NA	<5	64	<.5	NA
	12/1/1987	1.00	0.37	NA	9.1	150	120	NA
	3/7/1988	0.50	<5	NA	<5	<100	10	NA
	6/8/1988	<5	<5	NA	<5	<100	<0.5	NA
	9/14/1988	<5	<5	NA	<5	190	<0.5	NA
		floating prod	uct			()		
	12/6/2000	<0.5	<0.5	<0.5	<0.5	97 ^(a)	<50	NA
	12/11/2001	<0.5	<0.5	<0.5	<0.5	<50	<50	NA
	12/5/2002	<0.5	<0.5	<0.5	<0.5	51 ^(a)	<50	NA
	3/15/2004	<0.5	<0.5	<0.5	<0.5	63	<50	NA
	6/30/2005	<0.5	<0.5	<0.5	<0.5	66	<50	<250
	9/11/2006	< 0.5	<0.5	<0.5	<0.5	140	<50	550
	10/17/2007	< 0.5	<0.5	<0.5	<0.5	92	<50	290
	10/21/2008	< 0.5	<0.5	<0.5	<0.5	76	<50	<250

NOTES:

TOG - Total Oil and Grease in ug/l

TPHmo - Total Petroleum Hydrocarbons as Motor Oil ug/l (after 2004)

BDL - Below detection limit NA - Not analyzed

(a) - Quantified as diesel but chromatogram did not match diesel pattern

	Date	В	T	E	X	TPHd	TPHg	TOG
MW-17	12/24/1986	5	1.20	NA	14.00	NA	240	2,400
	4/9/1987	<5	<5	NA	<5	NA	< 0.5	NA
	9/16/1987	<5	<5	NA	0.55	680	44	NA
	12/1/1987	7.80	2.40	NA	28	1,300	540	NA
	3/8/1988	83.00	<5	NA	46	3,800	4300	NA
	6/8/1988	innaccessible	е					
	9/14/1988	<0.5	<0.5	<0.5	<0.5	64,000	54000	NA
	9/16/1997	<0.5	<0.5	<0.5	<0.5	119,600 ^(a)	1900	NA
	11/2/1998	<0.5	< 0.5	<0.5	0.60	16,000 ^(a)	<50	NA
	12/6/2000	<0.5	< 0.5	<0.5	<0.5	47,800 ^(a)	340	NA
	12/11/2001	<10	<10	<10	<10	101,000 ^(a)	5300 ^(b)	NA
	12/5/2002	<0.5	< 0.5	<0.5	<0.5	71,000 ^(a)	700 ^(b)	NA
	3/15/2004	2.1	0.71	<0.5	1.5	660,000 ^(a)	1400 ^(b)	NA
	6/30/2005	<0.5	2.4	<0.5	1.1	1,600,000	1700	NA
	9/11/2006	<2.5	36	9.50	79	2,300,000	26,000	810,000
re-test	10/19/2006	5.90	<1.0	<1.0	3.7	1,100,000	1,600	480,000
	10/17/2007	<2.5	<2.5	<2.5	<2.5	710,000	4,400	270,000
	10/21/2008	<2.5	<2.5	<2.5	<2.5	330,000	3,300	130,000
MW-18	9/23/1986	<0.3	<0.3	NA	0.99	NA	<20	1,600
	4/9/1987	BDL	BDL	NA	BDL	NA	BDL	NA
	9/16/1987	BDL	BDL	NA	BDL	480	BDL	NA
	12/1/1987	BDL	BDL	NA	6.6	180	BDL	NA
	3/7/1988	BDL	BDL	NA	BDL	BDL	BDL	NA
	6/8/1988	BDL	BDL	NA	BDL	BDL	BDL	NA
	9/14/1988	BDL	BDL	NA	BDL	190	BDL	NA
		Destroyed						
MW-19	6/23/2004	<0.5	<0.5	<0.5	<0.5	1,100	480	NA
	3/15/2004	<0.5	< 0.5	<0.5	<0.5	1,100 ^(a)	330 ^(b)	NA
	6/30/2005	<0.5	<0.5	1.5	4.5	1700	840	350
	9/18/2006	<0.5	<0.5	<0.5	0.83	890	280	280
	10/17/2007	<0.5	<0.5	<0.5	0.61	1200	880	<250
	10/21/2008	<0.5	<0.5	<0.5	<0.5	300	340	<250

NOTES:

TPH-g - Total Petroleum Hydrocarbons as Gasoline in ug/l

TPH-d - Total Petroleum Hydrocarbons as Diesel in ug/l

T - Toluene in ug/l

E - Thylbenzene in ug/l

TOG - Total Oil and Grease in ug/l

TPHmo - Total Petroleum Hydrocarbons as Motor Oil ug/l (after 2004)

BDL - Below detection limit NA - Not analyzed

(a) - Quantified as diesel but chromatogram did not match diesel pattern

MW-20

Date	В	T	E	X	TPHd	TPHg	TOG
12/11/2000	<0.5	<0.5	<0.5	<0.5	110 ^(a)	<50	NA
4/6/2001	<0.5	<0.5	<0.5	<0.5	57 ^(a)	<50	NA
7/6/2001	<0.5	<0.5	<0.5	<0.5	120 ^(a)	<50	NA
9/19/2001	<0.5	<0.5	<0.5	<0.5	160 ^(a)	<50	NA
12/11/2001	<0.5	<0.5	<0.5	<0.5	82 ^(a)	86 ^(b)	NA
2/6/2002	<0.5	<0.5	<0.5	<0.5	85 ^(a)	<50	NA
3/15/2004	< 0.5	<0.5	<0.5	<0.5	<0.5	<50	NA
6/30/2005	<0.5	<0.5	<0.5	<0.5	<500	<50	NA
9/11/2006	<0.5	<0.5	<0.5	<0.5	<50	<50	<250
10/17/2007	<0.5	<0.5	<0.5	<0.5	<50	<50	<250
10/21/2008	<0.5	<0.5	<0.5	<0.5	<50	<50	<250

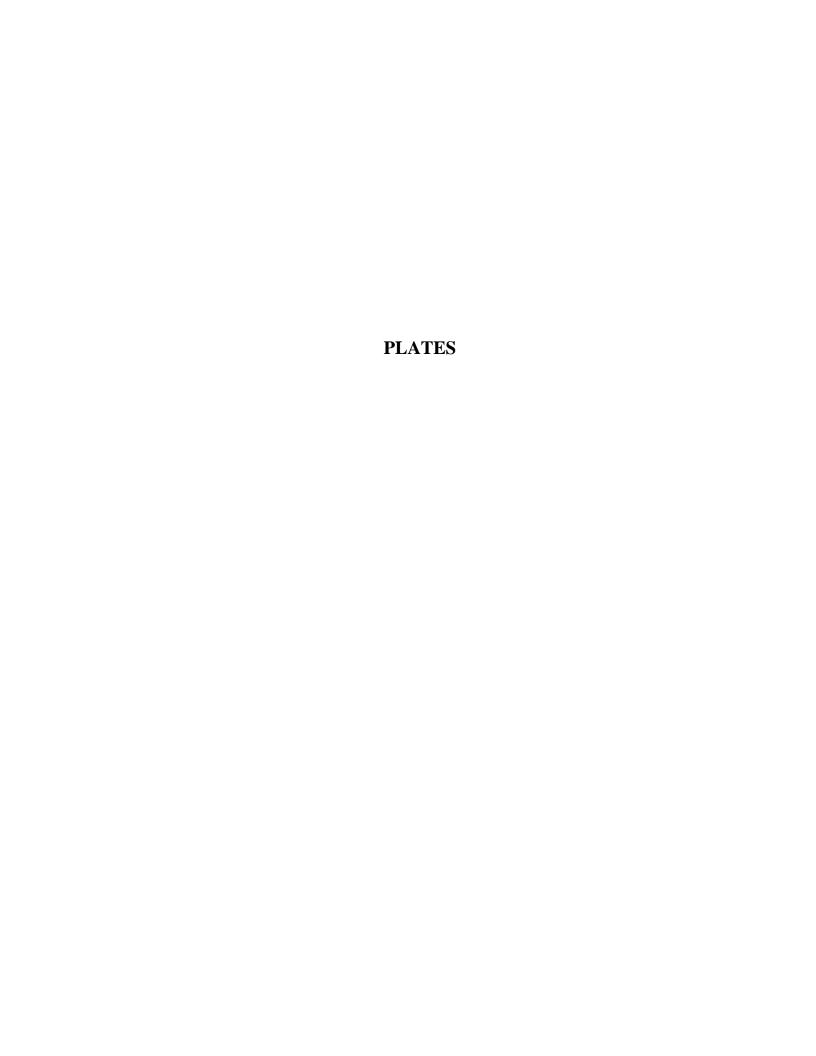
NOTES:

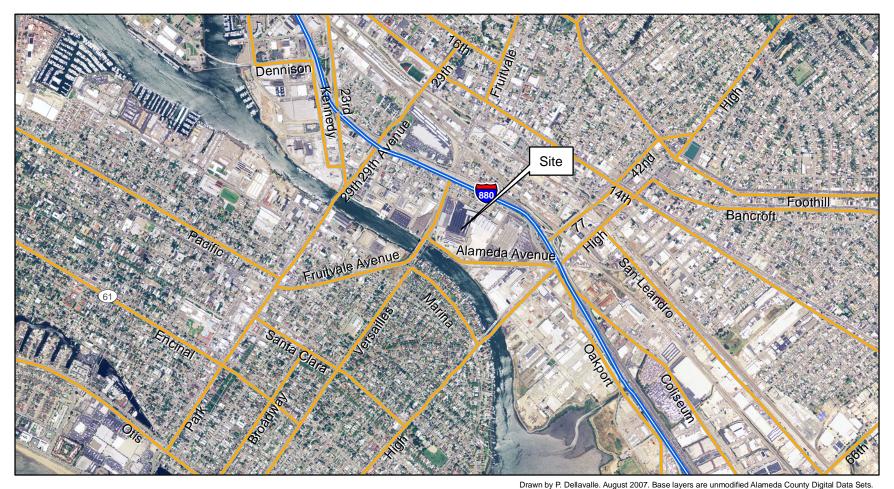
TOG - Total Oil and Grease in ug/l

TPHmo - Total Petroleum Hydrocarbons as Motor Oil ug/l (after 2004)

BDL - Below detection limit NA - Not analyzed

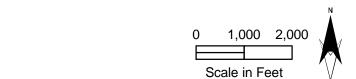
(a) - Quantified as diesel but chromatogram did not match diesel pattern





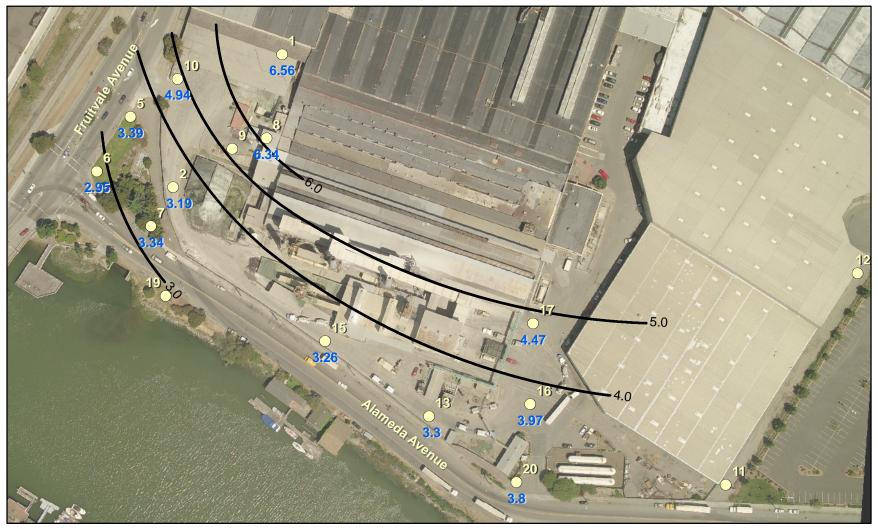




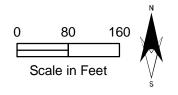




Site Location Map Owens-Brockway Glass Container Facility 22302 Hathaway Avenue, Hayward, California



Drawn by P. Dellavalle. December 2008. Base layers are unmodified Pictometry Digital Data Sets.



EXPLANATION

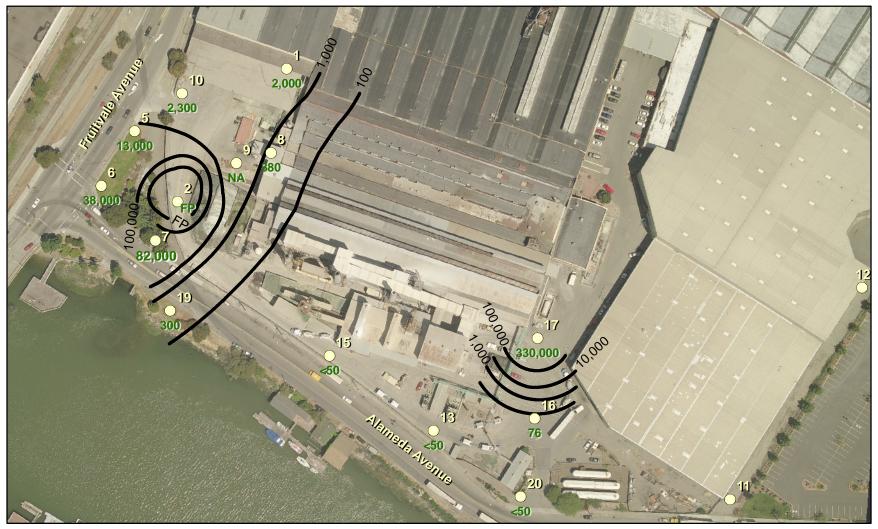
Monitoring Wells

3.97 Groundwater Elevations

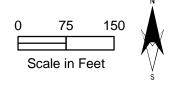
Lines of Equal Groundwater Elvations



Groundwater Elevation Contour Map October 21, 2008 Owens-Brockway Glass Container Facility 3600 Alameda Avenue, Oakland California



Drawn by P. Dellavalle. December 2008. Base layers are unmodified Pictometry Digital Data Sets.



CKG Environmental, Inc.

EXPLANATION

Monitoring Wells

3,000 TPHd result (ug/L)

Fuel Oil Contours

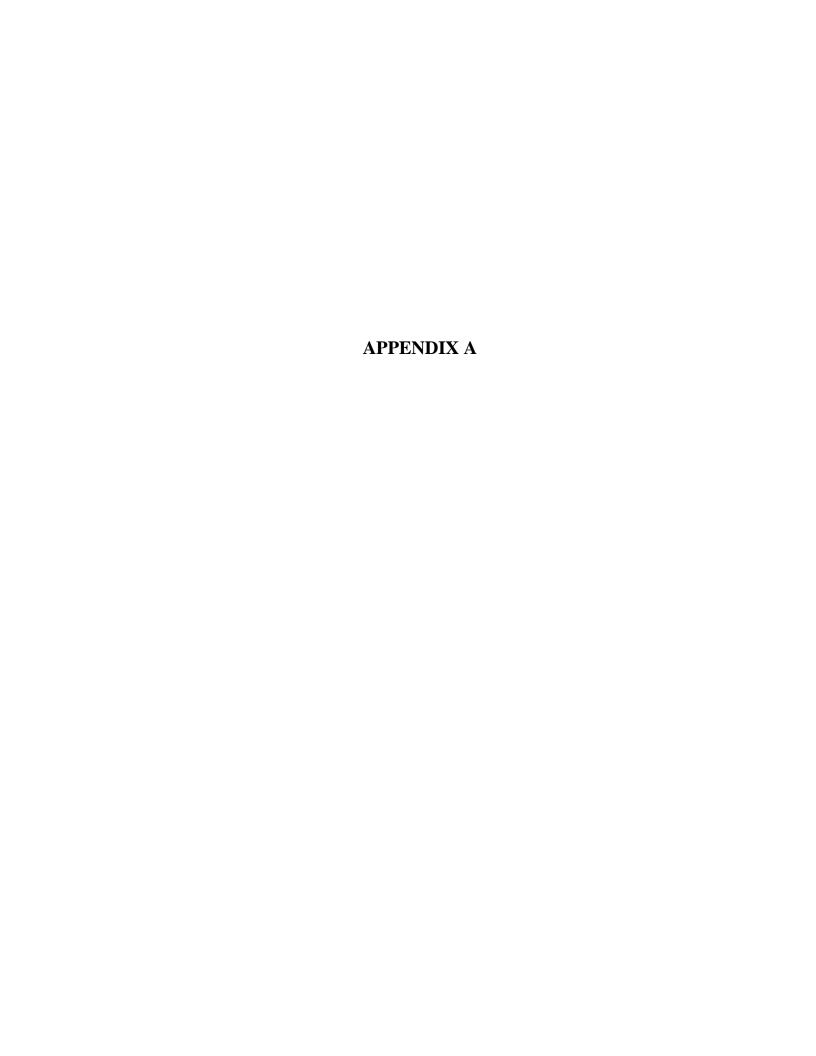
NA Not Analysed

FP Floating Product

Fuel Oil Distribution Map October 21, 2008 Owens-Brockway Glass Container Facility 3600 Alameda Avenue, Oakland California

PLATE

3



WELLHEAD INSPECTION CHECKLIST

Page ____ of ____

Date 10/21	108	Client	CKG					
Site Address	3600 AI	ameda	Al	Daleli	rust			
	081021-m				chnician	Mile	eN	WALES -
Well ID	Well Inspected - No Corrective Action Required	Water Bailed From Wellbox	Wellbox Components Cleaned	Cap Replaced	Debris Removed From Wellbox	Lock Replaced	Other Action Taken (explain below)	Well Not Inspected (explain below)
MW-1	×							
MW-2	X			٨				
<i>и</i> ш-5	X							
' MW - 5	X							
MW-7	X							
MW - 8	X							
MW-10		Crack	12 WC	11 Lic	- Secu	reat 1	his time	
MW-13	X							
mw-15	X		,					
MW-16		Missing	2/2 la	lis				
MW-17	X							
WW-19	X							
MW-20	X	M,55.	ing 1/	iz bol	15			
			.					
NOTES:								
							. :	
					······································			

WELL GAUGING DATA

Date Of Chem Date	Project # _	D81021-MN1	Date	10/21/08	Client	CK-6	
-------------------	-------------	------------	------	----------	--------	------	--

Site OWENS DAKLAND 3600

					· · · · · · · · · · · · · · · · · · ·		+4				
		Well		Depth to	Thickness of	Immiscibles			Survey Point:		
Well ID	Time	Size (in.)	Sheen / Odor	t	Immiscible Liquid (ft.)		Depth to water (ft.)	Depth to well bottom (ft.)	TOB or	Notes	
MW-1	08491	2		NA	NA	NA	946	28.93			
MW-Z*	0957	2		12.018	.96	NA	13.92	•		iels	/
MW-5	1104	2	· ·	NA	NA-	WA	12.80	22.75		18/5	
NW-6*	1057	2		as	NA	NA	14.53	25.76		10/s	
MW-7*	1052	て		NA	NA	NA	12.77	22.30		iP/s]
MW-8	0937	マ		NA	NA	NA	1023	21.25		7	7
MW-10	0930	2		NA	NÅ.	NA 1	11.02	19.05	A. P.		٦
MW-13	1010	2	-	NA	NA	NA	10.68	20.05			
WW-15	1005	2		NA	NA	NA	11.90	28.70]^
MW-16th	1026	2		NA	NA	NA	9.51	20.45		irls	
MW-17	loza	2		NA	NA	NA	9.70	19.65		10	
MW-19	1500	r		NA	NA.	NA	12.28	24.90			
MW-20	1032	2		NA	NA	24	894	21.75			
1	1 1 pr 4	i.			ý.		en e	**************************************	**************************************		
ener			tspH	Sock	12 L	Jerc,	Gaused	w/interla	u pr	ree	
	Y		KK Gi	used in	1 enter	lace p.	re.				
-		***									

Project#:	081021-	MNI		Client:	CKG	0 360	o Al	ameda Are.		
Sampler:	Mike A	<i>l</i>		Date:	10/2	1/08				
Well I.D.:	HW-1			Well D	iameter	: ② 3	4	6 8		
Total Well I	Depth (TD): 28.	.93	Depth to Water (DTW): 4.46						
Depth to Fre	ee Product			Thickness of Free Product (feet):						
Referenced	to:	(PVC)	Grade	D.O. Meter (if req'd): YSI HACH						
DTW with 8	30% Recha	arge [(H	leight of Water	Column	n x 0.20)) + DTW]] :			
	Bailer Disposable Ba Positive Air D Electric Subm	Displaceme		_	Well Diamete		Other:	Bailer Disposable Bailer Extraction Port Dedicated Tubing Multiplier		
3.1 (C 1 Case Volume		3 fied Volum	$= \frac{9.3}{\text{Calculated Vo}}$	_ Gals. olume	1" 2" 3"	0.04 0.16 0.37	4" 6" Other	0.65 1.47 radius ² * 0.163		
Time	Temp (°F or ©)	рН	Cond. (mS or (LS))	1	oidity TUs)	Gals. Rei	noved	Observations		
859	17.2	6.9	644	59	5	3.1		Brown Tent		
\$903	17.2	7.1	690	36	6	6.2		Light Brown Trut		
908	17,2	7.1	702	20	9	9.3		Cleuring		
			-		: ,					
Did well de	water?	Yes (No.	Gallons	s actuall	y evacua	ted:	9.3		
Sampling D	ate: 10/2/	08	Sampling Time	e: 🎞	3913	Depth to	Wate	r:		
Sample I.D.	: MW-1			Labora	tory:	Kiff Ca	IScience	Other McCambell		
Analyzed fo	or: TPH-G	BTEX	мтве (ТРН-D	Oxygena	ites (5)	Other: 7	PH	Δ.		
EB I.D. (if a	applicable)):	@ Time	Duplica	ate I.D.	(if applic	able):			
Analyzed fo	or: TPH-G	BTEX	МТВЕ ТРН-D	Oxygena	ates (5)	Other:	***************************************			
D.O. (if req	'd): Pi	e-purge:		mg/L	Р	'ost-purge:	· · · · · · · · · · · · · · · · · · ·	mg/		
O.R.P. (if re	eg'd): Pr	e-purge:		mV	Р	'ost-purge:		mV		

W LL MONITORING DATA SHE.

Project #: 081021-MN1	Client: CKG @ 3600 Alameda Are.					
Sampler: Mike N	Date: 10/21/08					
Well I.D.: HW-2	Well Diameter: 2 3 4 6 8					
Total Well Depth (TD):	Depth to Water (DTW): 13.92					
Depth to Free Product: 12.98	Thickness of Free Product (feet): 96					
Referenced to: PVC Grade	D.O. Meter (if req'd): YSI HACH					
DTW with 80% Recharge [(Height of Water	r Column x 0.20) + DTW]:					
Purge Method: Bailer Disposable Bailer Positive Air Displacement Extrace Electric Submersible Other	Waterra Sampling Method: Bailer Peristaltic ction Pump Extraction Port Dedicated Tubing Other: Well Diameter Multiplier Well Diameter Multiplier					
(Gals.) X = Calculated Volumes Calculated Volum	Gals. Olume 1" 0.04 4" 0.65 2" 0.16 6" 1.47 3" 0.37 Other radius ** 0.163					
Temp Cond. Time (°F or °C) pH (mS or μS)	Turbidity (NTUs) Gals. Removed Observations					
No Sample due to S	Pit in well					
Did well dewater? Yes No	Gallons actually evacuated:					
Sampling Date: 10/2/08 Sampling Time	e: Depth to Water:					
Sample I.D.: MW-	Laboratory: Kiff CalScience Other McCampbell					
Analyzed for: TPH-GOBTEX MTBE TPH-D	Oxygenates (5) Other: Phan					
EB I.D. (if applicable):	Duplicate I.D. (if applicable):					
Analyzed for: TPH-G RTEX 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					

W. LL MONITORING DATA SHI

Project #:	081021-	-MNI		Client:	: CKG	0 34	00 A	lameda	Ave.	
Sampler:	Mike A	U		Date: 10/21/08						
Well I.D.:	MW-S	in the second		Well Diameter: 2 3 4 6 8						
Total Well	Depth (TD)): 22	.75	Depth to Water (DTW): 12.80						
Depth to F	ree Product	¢:		Thickr	Thickness of Free Product (feet):					
Referenced	l to:	(PVC)	Grade	D.O. N	Meter (if	req'd):		YSI	НАСН	
DTW with	leight of Water	· Colum	n x 0.20)) + DTV	/]:					
Purge Method:	₩Disposable B Positive Air I Electric Subn	Displaceme nersible	ent Extrac Other	Waterra Peristaltic etion Pump			g Method: Other: Well I 4"	₩Disp Ex Ded ————	Bailer posable Bailer traction Port icated Tubing fultiplier .65	
1 Case Volume	(Gals.) X Speci	S ified Volum	$\frac{=}{\text{nes}} = \frac{4.8}{\text{Calculated Vo}}$	_ Gals. olume	2" 3"	0.16 0.37	6" Other	1.	.47 adius ² * 0.163	
Time	Temp	рН	Cond. (mS or (LS)		bidity TUs)	Gals. Re	emoved	Ob	servations	
1222	20.3	7.5	1175	>10	00	1.6		Grey		
1224	189	7.2	1194	>10	שטט	3.7	2	Duk	grez	
1224	186	7. (1700	ン	(000)	4.3	5	Derk	grey	
							· · · · · · · · · · · · · · · · · · ·		<u> </u>	
Did well de	water?	Yes (Ño)	 Gallon	s actuall	ly evacua	ated:	4.8		
Sampling I)ate: 10/24	08	Sampling Time	e: 123	30	Depth to	o Wate	r:		
Sample I.D	: MW-5			Labora	tory:	Kiff C	alScience	: Other	McCanpbell	
Analyzed for	or: TPH-GC	SBTEX	МТВЕ ТРН- D	Oxygen	ates (5)	Other:	TPHM	A	Manager Control of the Control of th	
EB I.D. (if	applicable)	:	@ Time	Duplic	ate I.D. ((if applic	· · · · · · · · · · · · · · · · · · ·	- 52	***************************************	
Analyzed for	or: TPH-G	ВТЕХ	MTBE TPH-D	Oxygena	, ,	Other:	**************************************			
D.O. (if req	ا'd): Pr	e-purge:	1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1	mg/L	P	ost-purge			mg/L	
O.R.P. (if re	eq'd): Pr	e-purge:		mV	P	ost-purge:			mV	

W LL MONITORING DATA SHE

Project #:	081021-	-MNI		Clunt:	CKG	D 3/400 Al			
Sampler:	Mike A	1		Date:	10/2	2 3600 AL	ameda Ane.		
Well I.D.:	HW-6	÷		Well D	oian.	0 2	ameda Are.		
Total Well	Depth (TD): 25.	76	Well Dian. er: 2 3 4 6 8 Depth to Wate. DTW): 14.53					
Depth to Fr	ee Product	•		Thickness of Free					
Referenced	to:	PVC	Grade	D.O. M	leter (if	req'd)	:		
DTW with	80% Recha	arge [(H	eight of Water			· V			
Purge Method:	Bailer			Waterra		Sampling Methoc			
#Disposable Bailer Peristaltic Positive Air Displacement Extraction Pump Electric Submersible Other Other: Well Diameter Multiplier Well Diameter Multip. 1" 0.04 4" 0.65									
1.8 (0	Gals.) X	3	= 5.4	Gals.	2"	0.16 6"	1.47		
l Case Volume		fied Volum	es Calculated Vo	_	3"	0.37 Other	radius ² * 0.163		
Time	Temp	рН	Cond. (mS or (a'S))		oidity ΓUs)	Gals. Removed	Observations		
1259	20.3	7.7	656	710	משי	1.8	Grey, Sheen		
1301	19.2	7.2	920	710	ಲ ರ	3.6	Grey, Sheen		
1304	19.0	7.1	1002	710	00	5.4	Guly, Sheen		
		·							
Did well de	water?	Yes (No	Gallon	s actuall;	y evacuated:	5.4		
Sampling D	ate: 10/21/	08	Sampling Time	e: 151	0	Depth to Wate	r:		
Sample I.D.	: MW-6	>		Labora	tory:	Kiff CalScience	Other McCampbell		
Analyzed fo	r: TPH-G	SBTEX	МТВЕ ТРН- D	Oxygena	ates (5)	Other: The	٨		
EB I.D. (if a	pplicable)		@ Time	Duplica	ate I.D. ((if applicable):			
Analyzed fo	r: TPH-G	BTEX	MTBE TPH-D	Oxygena	ates (5)	Other:			
D.O. (if req'	d): Pr	e-purge:	e	mg _{/L}	P	ost-purge:	mg/ _L		
O.R.P. (if re	q'd): Pr	e-purge:		mV	P	ost-purge:	mV		

W LL MONITORING DATA SHE

Project #:	081021	-MNI		Client	cks	@ 3600 A	lameda Ame.			
Sampler:	Mike A			Date:	10/	21/08				
Well I.D.:	MW-7			Well I	Diameter	r: 2 3 4	6 8			
Total Well	Depth (TD)): ZZ.	30	Depth	to Wate	er (DTW): 12.	77			
Depth to Fi	ree Produc			Thickness of Free Product (feet):						
Referenced	l to:	PVC	Grade	D.O. Meter (if req'd): YSI HACH						
DTW with	80% Rech	arge [(H	eight of Water	Colum	n x 0.20) + DTW]:				
Purge Method:	Disposable B Positive Air I Electric Subn	Displaceme	other	Waterra Peristaltic ction Pump Gals.		Other: Other: Ot	➤Disposable Bailer Extraction Port Dedicated Tubing			
l Case Volume	,	fied Volum	<u> </u>		3"	0.37 Other	radius ² * 0.163			
Time	Temp (°F or 9C)	рН	Cond. (mS or (aS)	(N	bidity ΓUs)	Gals. Removed	Observations			
1202	4	7.3	1185	 	5	1.5	Lish+ Every			
1205	21.2	7.2	1196	20	000	3.6	Dark Grey			
1207	20.9	7.2	1225	>1	600	4.5	Dark Grey			

Did well de	water?	Yes (No	 Gallon	s actual]	 ly evacuated:	4.5			
Sampling D	Pate: 10/21/	08	Sampling Tim	e: 121	D	Depth to Wate				
Sample I.D	: MW - 7	7		Labora	tory:	Kiff CalScience	e Other McCambell			
Analyzed fo	Or: TPH-G	BTEX	мтве (ТРН-D	Oxygen	ates (5)	Other: THA	Α.			
EB I.D. (if	applicable)	•	@ Time	Duplic	ate I.D.	(if applicable):				
Analyzed fo	or: TPH-G	BTEX	MTBE TPH-D	Oxygena		Other:				
D.O. (if req	'd): Pr	e-purge:		mg/L	P	ost-purge:	mg/ _L			
O.R.P. (if re	eq'd): Pr	e-purge:		mV	P	ost-purge:	mV			

W _L MONITORING DATA SHE

Project #:	081021	-MNI		Client:	CKG	@ 3600	Al	ameda	- Are.
Sampler:	Mike A	<u> </u>		Date:	10/	21/08			
Well I.D.:	MW-8			Well D	iameter		4	6 8	
Total Well	Depth (TD)): Z1:	25	Depth	to Wate	r (DTW): 7	0:2	3	
Depth to Fi	ee Product			Thickn	ess of F	ree Product	t (fee	et):	
Referenced	to:	PVC	Grade		leter (if			YSI	НАСН
DTW with	80% Rech	arge [(H	leight of Water	Colum	n x 0.20) + DTW]:			
Purge Method:	Bailer MDisposable B Positive Air I Electric Subn	ailer Displaceme nersible	ent Extrac Other	Waterra Peristaltic ction Pump	<u>Well Diamet</u> e 1"	Sampling Me	Other: Well D 4"	➤Disp Ex Ded ———————————————————————————————————	Bailer posable Bailer traction Port licated Tubing fultiplier
1.8 (I I Case Volume	Gals.) X Speci) fied Volun	$= \underbrace{5.4}_{\text{nes}}$	_ Gals. olume	2" 3"	0.16	6" Other		.47 adius ² * 0.163
Time 1255	Temp (°F or 🕝	рН	Cond. (mS or as)	(N)	oidity (TUs)	Gals. Remo	oved	1	oservations
	18-8	7.69	1312	>(७८		1-8		milky	white
1300	19.1	7.17	1088	7106		3.6		1	—
	(1.0	1.00	1037			5-4			
Did well de	water?	Yes (No	Gallons	actuall	J y evacuated	 i: ភ	· W	
Sampling D	ate: 10/21	08	Sampling Time	***************************************		Depth to W			
Sample I.D.	: MW-8			Labora	tory:	Kiff CalSc			McCampbell
Analyzed fo	or: TPH-G	BTEX	МТВЕ ТРН- D	Oxygena	ites (5)		Ha		
EB I.D. (if a			(a) Time			(if applicab		0	
Analyzed fo		BTEX	MTBE TPH-D	Oxygena		Other:	/ ·	70-4	
D.O. (if req	'd): Pr	e-purge:		mg/L		ost-purge:			mg/L
O.R.P. (if re	ea'd): Pr	e-nurge:		mV		Ost-nurge			mV

W LL MONITORING DATA SHE .

Data					
Date: 10/3	21/08				
Well Diameter	: 2 3 4	6 8			
Depth to Water (DTW): 11.02					
Thickness of F	ree Product (fe	et):			
D.O. Meter (if req'd): YSI HACH					
Column x 0.20) + DTW]:					
Waterra Peristaltic tion Pump Well Diamete	Sampling Method Other	➤Disposable Bailer Extraction Port Dedicated Tubing			
Gals. 1"	0.04 4" 0.16 6"	0.65 1.47			
lume 3"	0.37 Other	radius ² * 0.163			
Turbidity (NTUs)	Gals. Removed	Observations			
		grey			
Coo/<	3.1	1			
	<u> </u>				
Gallons actuall	y evacuated: र	q			
Laboratory:	Kiff CalScience				
Oxygenates (5)	Other: TPL				
	() (() ()	<u>ga</u>			
Oxygenates (5)	Other:				
mg/L P	ost-purge:	mg/L			
mV P	ost-purge:	mV			
	Depth to Wate Thickness of F D.O. Meter (if Column x 0.20 Waterra Peristaltic tion Pump Gals. Turbidity (NTUs) 1" 2" 3" Turbidity (NTUs) Column x 0.20 Waterra Peristaltic tion Pump Turbidity (NTUs) Column x 0.20 Well Diamete 1" 2" 3" Turbidity (NTUs) Column x 0.20 Well Diamete 1" 2" 3" Column x 0.20 Well Diamete 1" 2" 3" Column x 0.20 Well Diamete 1" 2" 3" Column x 0.20 United the column of the colu	Depth to Water (DTW): //. Thickness of Free Product (fe D.O. Meter (if req'd): Column x 0.20) + DTW]: Waterra Sampling Method Peristaltic ion Pump Other Other Other Turbidity (NTUs) Gals. Removed 1" 0.04 4" 4" 4" 4" 4" 6" 6" 6" 6" 6" 6" 6" 6" 6" 6" 6" 6" 6"			

W LL MONITORING DATA SHE

									
Project #:	081021	-MNI		Client	: CKG	O 360	no Al	ameda	Are.
Sampler:	Mike A	V		Date:	10/2	21/08			
Well I.D.:	MW-13	}		Well I	Diameter	: 2 3	4	6 8	
Total Well	Depth (TD)): 20.,	05	Depth	to Wate	r (DTW):	10.	68	
Depth to Fr	ee Product	t.		Thickness of Free Product (feet):					
Referenced	to:	PVC	Grade	D.O. Meter (if req'd): YSI HACH					
DTW with	80% Rech	arge [(H	leight of Water	Colum	n x 0.20) + DTW]:		
Purge Method:	Bailer Control Control Bailer Control Bailer Bai	ailer Displaceme nersible		Waterra Peristaltio ction Pump Gals.	Well Diamete	Sampling er Multiplier 0.04 0.16	Method: Other:	Extr Dedic ————————————————————————————————————	7
l Case Volume	Speci	fied Volum	nes Calculated Vo	olume	3"	0.37	Other	rad	lius ² * 0.163
Time	Temp (°F or °C)	рН	Cond. (mS or ps)	1	bidity TUs)	Gals. Re	moved	Obs	ervations
(344	21.4	7.90	877.4	19	<i>11</i>	1.5	•	byou	√ 1
1350	213	7.52	809.7	2/6	00	3			
1356	21.4	1,53	802.6	700)O	4.5)	4	•
Did well de	water?	Yes	(NO)	Gallon	s actuall	y evacua	ted:vf_	<u> </u>	
Sampling D	ate: 10/24	08	Sampling Time	e: ।५७३	J	Depth to	Water	1;	
Sample I.D.	: MW-1	3		Labora		Kiff Cal	Science	Other /	McCambell
Analyzed fo	or: TPH-G	SBTEX	мтве (РН-D	Oxygen	ates (5)	Other: 7	PHM	A	
EB I.D. (if a	applicable)	•	@ Time	Duplic	ate I.D.	(if applica		- NA	
Analyzed fo	or: TPH-G	BTEX	MTBE TPH-D	Oxygen	ates (5)	Other:			
D.O. (if req	'd): Pı	e-purge:		mg/L	Р	ost-purge:			nig/L
O.R.P. (if re	ea'd): Pr	e-purge:		mV	Р	ost-purge:			ınıV

W LL MONITORING DATA SHE

Project #:	081021	-MN		Client:	CkG	@ 3600 A	lameda Ane.
Sampler:	Mike	<u> </u>		Date:	10/	21/08	
Well I.D.:	MW-15			Well Dia			6 8
Total Well	Depth (TI)):Z8, ⁻	70	Depth to	Wate	er (DTW): (1.	90
Depth to F	ree Produc	t:				Free Product (fe	
Referenced		(PVC)	Grade	D.O. Met		····	YSI HACH
DTW with	80% Rech	arge [(H	Height of Water				11.1011
Purge Method:	Bailer Disposable E Positive Air Electric Subr	Bailer Displaceme nersible	ent Extra Other	Waterra Peristaltic ction Pump	ll Diamete	Sampling Method Othe Multiplier Well 0.04 4"	➤Disposable Bailer Extraction Port Dedicated Tubing
l Case Volume	Gals.) X Spec	S fied Volum			3"	0.16 6" 0.37 Othe	1.47 er radius ² * 0.163
Time	Temp (°F or ©)	рН	Cond. (mS or uS)	Turbid:	•	Gals. Removed	Observations
1332	20.2	7.62	1659	>1000)	2,7	-1.0 :
	well	lewat				•	5 9
1415	20.5	7.39	1832	406	M. I.	Contra	
		•					
D'1 11 1							
Did well de	8	.	No		ctuall	y evacuated:	3.2
Sampling D	ate: 10/21/	08	Sampling Tim	e:1415		Depth to Wate	er: 12-20
Sample I.D.	: MW-	15		Laborator	y:	Kiff CalScienc	e Other McCampbell
Analyzed fo	Or: TPH-G	BTEX	мтве (PH-D	Oxygenates	(5)	Other: THA	1 Λ
EB I.D. (if a	applicable)	:	@ Time	Duplicate	I.D. ((if applicable):	
Analyzed fo	or: TPH-G	ВТЕХ	MTBE TPH-D	Oxygenates	(5)	Other:	
D.O. (if req	'd): Pr	e-purge:		mg/L	P	ost-purge:	mg/L
O.R.P. (if re	eg'd): Pr	e-purge:		mV	P,	ost-nurge:	mV

W L MONITORING DATA SHE

		· · · · · · · · · · · · · · · · · · ·				CORIE.				
Project #:	081021	-MN		Client:	CKG	@ 3600 A	lameda Are.			
Sampler:	Mike A	<u> </u>		Date:	10/2	21/08				
Well I.D.:	HW-16	>		Well Dia	ameter	: 2 3 4	6 8			
Total Well	Depth (TD): 20.	45	Depth to	Water	r (DTW): 9.	57			
Depth to Fr	ee Product			Thicknes	ss of F	ree Product (fe	et):			
Referenced	to:	(PVC)	Grade	D.O. Me			YSI HACH			
DTW with	80% Recha	arge [(H	Height of Water							
Purge Method:		ailer Displaceme		Waterra Peristaltic ction Pump	ell Diamete	Sampling Method Other	➤Disposable Bailer Extraction Port Dedicated Tubing : Diameter Multiplier			
1.8 (0 1 Case Volume		3 fied Volun	$= \underbrace{5.4}_{\text{classified Volumes}}$	_ Gals. olume	2" 3"	0.04 4" 0.16 6" 0.37 Other	0.65 1.47 rradius ² * 0.163			
Time	Temp	рН	Cond. (mS or (S))	Turbic (NTU	-	Gals. Removed	Observations			
1407	23.4	7.3	778	700	7 0	1.8	Brown, Clovely			
14 10	23.0	7.3	769	7100	n	3.6	Brown, clovely			
1413	22.8	7.2	771	700	100	5.4	Brown, Clovely			
	×									
Did well de	water?	Yes	(No)	Gallons a	ctuall	y evacuated:	5.4			
Sampling D	ate: 10/21/	08	Sampling Time	e: 14 17		Depth to Wate	r:			
Sample I.D.	: MW-11	ϱ		Laborato	ry:	Kiff CalScience	e Other McCambell			
Analyzed fo	or: TPH-GC	BTEX	МТВЕ ТРН- D	Oxygenate	s (5)	Other: This				
EB I.D. (if a	pplicable)	•	@ Time	Duplicate	e I.D. ((if applicable):	1			
Analyzed fo	r: TPH-G	BTEX	MTBE TPH-D	Oxygenate	s (5)	Other:				
D.O. (if req'	d): Pro	e-purge:		mg/L	Po	ost-purge:	mg/L			
O.R.P. (if re	g'd): Pro	e-purge:		mV						

Blaine Tech Services, Inc. 1680 Rogers Ave., San Jose, CA 95112 (800) 545-7558



W _L MONITORING DATA SHE

						-			
Project #:	081021	-MN1		Client:	CKG	@ 360	OA	lameda Ave.	
Sampler:	Mike A	V		Date:	10/	21/08			
Well I.D.:	HW-1	7		Well D		: (2) 3	4	6 8	_
Total Well	Depth (TD)): 19.6	, S	Depth 1	to Wate	r (DTW):	G.	70	
Depth to Fr	,				-+	ree Produ	***************************************		
Referenced	to:	PVC	Grade		leter (if		(20	YSI HACH	
DTW with	80% Rech	arge [(H	leight of Water			<u> </u>			
Purge Method:	Bailer *Disposable B Positive Air I Electric Subn Gals.) X	ailer Displaceme nersible	ent Extra Other = 4.8	Waterra Peristaltic ction Pump Gals.	Well Diamete 1" 2" 3"	Sampling N	Method: Other:	Extraction Port Dedicated Tubing Diameter Multiplier 0.65 1.47	
Time	Temp	pH	Cond. (mS or (LLS)	Turb (NT		Gals. Ren	noved	Observations	
1380	22.8	7.4	1230	700	סד	1.6		Grey, Sheen	
1332	22.3	7.0	1234	50	cvo	3.2		Grey, Sheen	
1334	22.4	7.(1190	711	000	4.8		Grey, Sheen Grey, Sheen	

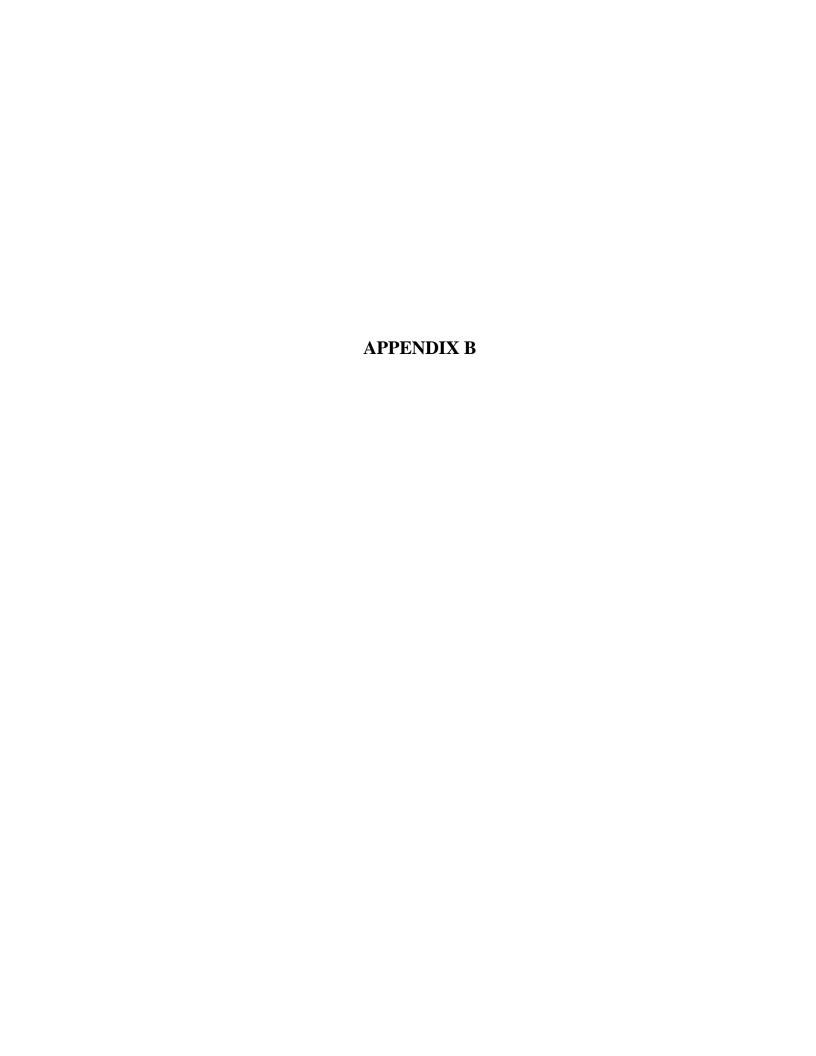
Did well de	water?	Yes (ÑÒ	 Gallons	actuall	y evacuate	ed:	4.8	
Sampling D	ate: 10/21/	08	Sampling Tim	e: 134	6	Depth to	Water		
Sample I.D.	: MW-1	7		Laborat	ory:	Kiff CalS	Science	Other McCampbell	-
Analyzed fo	r: TPH-G	SBTEX	мтве (ГРН-D	Oxygena	tes (5)	Other:	PH.	A	
EB I.D. (if a	pplicable)		@ Time	Duplica	te I.D. ((if applical	ble):	<u> </u>	
Analyzed fo	r: TPH-G	BTEX	MTBE TPH-D	Oxygena		Other:	,		
D.O. (if req'	d): Pr	e-purge:		mg/L	Po	ost-purge:		ing /	/ _L
O.R.P. (if re	g'd): Pro	e-purge:		mV	Po	ost-purge:		ını ^v	

W LL MONITORING DATA SHE

Project #:	081021.	-MNI		Client: CKG	@ 3600 A	ameda Are.						
Sampler:	Mike A			Date: 10/	21/08							
Well I.D.:	HW-1	i i		Well Diameter: 2 3 4 6 8								
Total Well	Depth (TD); Z4.	90	Depth to Water (DTW): 12.28								
Depth to Fr	ee Product	•		Thickness of I	Thickness of Free Product (feet):							
Referenced	to:	(PVC)	Grade	D.O. Meter (if req'd): YSI HACH								
DTW with	80% Rech	arge [(H	leight of Water	Column x 0.20)) + DTW]:							
Purge Method:	Bailer Control Control Bailer Control Control Bailer Ba	ailer Displaceme	ent Extrac Other	Waterra Peristaltic tion Pump Well Diame 1" 2" 3"	Sampling Method:	Extraction Port Dedicated Tubing						
Time	Temp (°F or °C)	рН	Cond. (mS or (LS)	Turbidity (NTUs)	Gals. Removed	Observations						
1512	20.8	7.4	1551	251	2-0	Stighthy Cloudy						
1515	20.2	7.1	1496	147	4-0	Cleur						
1518	20.1	7.1	1508	79	6-0	Clear,						
	-	. Dag			The state of the s							
8	APPEN IN THE STATE OF THE STATE		·			, .						
Did well de	water?	Yes (No	Gallons actual	ly evacuated:	6.0						
Sampling D	ate: 10/21/	08	Sampling Time	e: 1523	Depth to Wate	r:						
Sample I.D.	: MW -12	Ì		Laboratory:	Kiff CalScience	Other McCambell						
Analyzed fo	TPH-G	SBTEX	мтве (ТРН-D	Oxygenates (5)	Other: The	A						
E B I.D. (if a	ipplicable)		@ Time	Duplicate I.D.	(if applicable):	*						
Analyzed fo	or: TPH-G	BTEX	MTBE TPH-D	Oxygenates (5)	Other:							
D.O. (if req	'd): Pr	e-purge:		mg/L I	Post-purge:	^{mg} /L						
O.R.P. (if re	eg'd): Pr	e-purge:		mV I	Post-purge:	ınıV						

W _L MONITORING DATA SHE

Project #:	081021:	-mN1	-	Client:	CKG	@ 36	oo Al	ameda Are.
Sampler:	081021. Mike 1	V		Date:		21/08		
Well I.D.:	MW-20		()	Well D	***************************************		4	6 8
Total Well			75~			er (DTW)		
Depth to F						Free Prod		
Referenced	····	(PVC)	Grade			req'd):	101 (166	YSI HACH
DTW with	80% Rech	arge [(H	eight of Water			· · · · · · · · · · · · · · · · · · ·	 7.	101 IIIICII
Purge Method:	Bailer Disposable B Positive Air I Electric Subn Gals.) X	ailer Displaceme nersible	ont Extrac O ther	Waterra Peristaltic ction Pump	Well Diamet 1" 2" 3"	Sampling	Method: Other:	Bailer Disposable Bailer Extraction Port Dedicated Tubing Multiplier 0.65 1.47 radius² * 0.163
Time	Temp (°F or 🏖	рН	Cond. (mS or FS)	Turb (NT	-	Gals. Re	moved	Observations
1416	1-16	7.45	9485	160	0	2-1		
1422	21-1	7.29	973.5	>100	0	Ч.	2.	
1428	209	7.30	975-9	> ° Ot	90	63		
			•					
Did well de	ewater?	Yes (N ₀	Gallons	actuall	ly evacua	ted: G	2=3
Sampling I	Date: 10/21/	08	Sampling Tim	e: (434		Depth to) Water	·:
Sample I.D	: MW-2	0		Laborat	ory:	Kiff Ca	lScience	Other McCambel/
Analyzed fo	Or: TPH-G	BTEX	MTBE (TPH-D	Oxygena	tes (5)	Other: 7	PH	Δ
EB I.D. (if	applicable)	:	(i) Time	Duplica	te I.D.	(if applic	able):	
Analyzed fo	or: TPH-G	BTEX	MTBE TPH-D	Oxygena	tes (5)	Other:	***************************************	
D.O. (if req	(d): Pr	e-purge:		mg/L	P	ost-purge:		^{mg} / _[
O.R.P. (if r	ea'd): Pr	e-purge:		mV	p	ost-nurge.		m V



McCampbell Analytical, Inc.

1534 Willow Pass Road, Pittsburg, CA 94565-1701 Web: www.mccampbell.com E-mail: main@mccampbell.com Telephone: 877-252-9262 Fax: 925-252-9269

CKG Environmental	Client Project ID: #081021-MN1; Owens	Date Sampled: 10/21/08
808 Zinfandel Lane	Brockway Glass Plant, Oakland	Date Received: 10/22/08
St. Helena, CA 94574	Client Contact: Christina Kennedy	Date Reported: 10/29/08
Su Treiena, CII / 15/1	Client P.O.:	Date Completed: 10/29/08

WorkOrder: 0810577

October 29, 2008

Dear	Chri	stina:

Enclosed within are:

- 1) The results of the 12 analyzed samples from your project: #081021-MN1; Owens Brockway Gla
- 2) A QC report for the above samples,
- 3) A copy of the chain of custody, and
- 4) An invoice for analytical services.

All analyses were completed satisfactorily and all QC samples were found to be within our control limits.

If you have any questions or concerns, please feel free to give me a call. Thank you for choosing

McCampbell Analytical Laboratories for your analytical needs.

Best regards,

Angela Rydelius Laboratory Manager

McCampbell Analytical, Inc.

0810577

BLAI	NE	PAN			ERS AVENU			CON	DUCT	ANALYSIS	TO DE	TECT		LAB	McCampbe		DHS#
TECH SER				FAX	IIA 95112-110 (408) 573-77 (408) 573-05	71								ALL ANALYSES MUST BY CALIFORNIA DHS	MEET SPECIFICAND	ATIONS AND DE	
HAIN OF CUS	TODY	BTS#	081	021-	MNI	S			0.					☐ LIA ☐ OTHER			
LIENT	CKG Er					CONTAINERS	21)	dn	an up					SPECIAL INSTRUCTION	NS		
ITE	Owens I	Brockwa	ay Glas	s Plan	t	ONTA	(8015/8021)	clean	l clean					Invoice and Repo	rt to : CKG E	nvironmental	i .
	3600 Al	ameda A	Avenue			ALLO		gel	ca gel					808 Zinfindel Lar			
	Oakland,	CA					LEX	w/silica	w/silica					Attn: Christina K			
			MATRIX N=H ^z 0 M=H ^z 0		ITAINERS	= COMPOSITE	TPHg / BTEX	TPHd w/s	TPHmo w					Dissolved produc Please provide ED			7-6
AMPLE I.D.	10/21/08	TIME 0913	W	TOTAL	3HCL USIA	O		L	×					ADD'L INFORMATIO	N STATUS	CONDITION	LAB SAMPLE #
W-5	1	1230		1	1 HCL Amber		X	~	×								
W-6	+	1310					X	X	X								
4w-7		1210					Y	X	V								
IW-8		1312					X	Y	X					2			
4W-10		1326					X	У	X			105	3	0			
UW-13		1402					Y	X	χ			GOO	D CON	IDITION APPRO	PRIATE		
MW-15		1415					X	X	X			0.00				+	
MW-16		1417					X	X	X			PRB	SERVA	TION			
MW-17	4	1340	4	4	4		X	X	K			*					
AMPLING OMPLETED	DATE 10/21/08	TIME 1570	SAMPLII PERFOR		Y Mich								1	RESULTS NEEDED NO LATER THAN	Per Client		
LEASED BY	>					DAT	E /21/		TIME	30	RECE	WED I	3Y	(Sample Cost	dien)	DATE 19/21/0	TIME 163
LEASED BY	my	- /3	Campie	· Ca	(vaivois	DATI	rela		TIME		RECE	INED B	BY ,	Carter		DATE	TIME
ELEASED BY	wh Can	1				DATE 10-0	E 22-08		163	5	RECE			al of		DATE 10/24	TIME
HIPPED VIA						DATE	E SEN	Т	TIME	SENT	COOL	ER#					

BLAINE SAN JOSE, CALIFORNIA 95112-1105		CON	DUCT	ALYSIS TO DETECT	LAB McCampbell DHS#
TECH SERVICES, INC. PHONE (408) 573-0555 CHAIN OF CUSTODY					ALL ANALYSES MUST MEET SPECIFICATIONS AND DETECTION LIMITS S BY CALIFORNIA DHS AND EPA
BTS # OS/021-MN/	=	dı	dn ı		SPECIAL INSTRUCTIONS
CKG Environmental Owens Brockway Glass Plant	(8015/8021)	gel clean up	clean		
		l cle	gel		Invoice and Report to : CKG Environmental
3600 Alameda Avenue	1 14		ica		808 Zinfindel Lane, St Helena, CA 94574
Oakland, CA	BTEX	w/silica	w/silica		Attn: Christina Kennedy
		/w ÞI	TPHmo		Dissolved product in samples MW-2 and MW-6 Please provide EDF and PDF of results
SAMPLE I.D. DATE TIME 5 TOTAL 5	4	TPHd	TPE		ADD'L INFORMATION STATUS CONDITION LAB SAMPLE #
MW-19 1523 W 4 3166 WA	X	X	X		
MW-20 10/21/08 1434 W & 4	X	X	X		
	_				
SAMPLING DATE TIME SAMPLING PERFORMED BY MICHIA	IN	nobe	c/a		RESULTS NEEDED NO LATER THAN Per Client
PELEASED BY	TE /21/	58	TIME TIME	RECEIVED	Sangle Costadian DATE TIME
on the (Sample Custown) 10	Izzla	8	13		out but 10/22/08 1330
Denk Carte 10.	TE -22-00	9	TIME		
SHIPPED VIA DA	TE SEN	T	TIME	NT COOLER#	

McCampbell Analytical, Inc.

1534 Willow Pass Rd (925) 252-9262

CHAIN-OF-CUSTODY RECORD

Page 1 of 1

Pittsburg, CA 94565-1701 WorkOrder: 0810577 ClientCode: CKGS WriteOn ✓ EDF Excel Fax ✓ Email HardCopy ThirdParty J-flag Report to: Bill to: Requested TAT: 5 davs Christina Kennedy Email: ckennedy@geologist.com Accounts Payable CKG Environmental CKG Environmental cc: Date Received: 10/22/2008 808 Zinfandel Lane PO: 808 Zinfandel Lane St. Helena, CA 94574 ProjectNo: #081021-MN1; Owens Brockway Glass St. Helena, CA 94574 Date Printed: 10/22/2008 Plant, Oakland (707) 967-8080 FAX (707) 967-8080 Requested Tests (See legend below) Collection Date Hold 10 12 Lah ID Client ID Matrix 0810577-001 MW-1 Water 10/21/2008 9:13 В Α Α 0810577-002 MW-5 В Water 10/21/2008 12:30 Α 0810577-003 MW-6 Water 10/21/2008 13:10 Α 0810577-004 MW-7 10/21/2008 12:10 Α Water 0810577-005 MW-8 Water 10/21/2008 13:12 В Α 0810577-006 MW-10 10/21/2008 13:26 В Α Water 0810577-007 MW-13 Water 10/21/2008 14:02 В Α 0810577-008 MW-15 Water 10/21/2008 14:15 В Α 0810577-009 MW-16 Water 10/21/2008 14:17 В Α 0810577-010 MW-17 10/21/2008 13:40 В Water Α 0810577-011 MW-19 10/21/2008 15:23 В Water Α В 0810577-012 MW-20 Water 10/21/2008 14:34 Test Legend: 2 5 G-MBTEX W PREDF REPORT 3 TPH(DMO)WSG_W 7 6 8 10 12 Prepared by: Ana Venegas

Comments:

Sample Receipt Checklist

Client Name:	CKG Environmen	ntal				Date a	and Time Received:	10/22/08 7	:50:27 PM
Project Name:	#081021-MN1; O	wens Brockway G	lass	Plant, O	akl	Check	klist completed and re	eviewed by:	Ana Venegas
WorkOrder N°:	0810577	Matrix Water				Carrie	er: Derik Cartan (N	MAI Courier)	
		<u>Chain</u>	of Cu	stody (C	(30)	Informa	ation		
Chain of custody	present?		Yes	V		No \square			
Chain of custody	signed when relinqu	ished and received?	Yes	V		No 🗆			
Chain of custody	agrees with sample	labels?	Yes	✓		No 🗌			
Sample IDs noted	by Client on COC?		Yes	V		No 🗆			
Date and Time of	collection noted by C	lient on COC?	Yes	✓		No 🗆			
Sampler's name r	noted on COC?		Yes	✓		No 🗆			
		Sa	ample	Receipt	Info	rmation	<u>1</u>		
Custody seals int	tact on shipping conta	ainer/cooler?	Yes			No 🗆		NA 🔽	
Shipping containe	er/cooler in good cond	dition?	Yes	V		No \square			
Samples in prope	er containers/bottles?		Yes	~		No 🗆			
Sample containe	rs intact?		Yes	✓		No 🗆			
Sufficient sample	volume for indicated	test?	Yes	✓		No 🗌			
		Sample Preser	vatio	n and Ho	old Ti	me (HT) Information		
All samples recei	ved within holding tim	ne?	Yes	✓		No 🗌			
Container/Temp E	Blank temperature		Coole	er Temp:	3°C			NA \square	
Water - VOA vial	ls have zero headspa	ice / no bubbles?	Yes	✓		No \square	No VOA vials subm	itted	
Sample labels ch	necked for correct pre	eservation?	Yes	~		No 🗌			
TTLC Metal - pH	acceptable upon rece	ipt (pH<2)?	Yes			No 🗆		NA 🗹	
Samples Receive	ed on Ice?		Yes	✓		No 🗆			
		(Ice Type	e: WE	TICE))				
* NOTE: If the "N	lo" box is checked, s	ee comments below.							
	======	======		===		==	======		======
Client contacted:		Date contact	ed:				Contacted	by:	
Comments:									



CKG Environmental	Client Project ID: #081021-MN1; Owens Brockway Glass Plant, Oakland	Date Sampled: 10/21/08
808 Zinfandel Lane	Owens Brockway Glass Flant, Oakland	Date Received: 10/22/08
	Client Contact: Christina Kennedy	Date Extracted: 10/24/08-10/28/08
St. Helena, CA 94574	Client P.O.:	Date Analyzed 10/24/08-10/28/08

Gasoline Range (C6-C12) Volatile Hydrocarbons as Gasoline with BTEX and MTBE*

Extraction method: SW5030B Analytical methods: SW8021B/8015Cm Work Order: 0810577

Extraction method: SW3030B Analytical methods: SW8021B/8015Cm Work O									ier: Uor	J311
Lab ID	Client ID	Matrix	TPH(g)	MTBE	Benzene	Toluene	Ethylbenzene	Xylenes	DF	% SS
001B	MW-1	W	69,d7,b6		ND	ND	ND	ND	1	90
002B	MW-5	W	150,d7,b6		ND	ND	ND	ND	1	92
003B	MW-6	W	330,d7,b6,b1		ND<1.0	ND<1.0	ND<1.0	ND<1.0	2	91
004B	MW-7	W	1100,d7,b6,b1		ND<5.0	ND<5.0	ND<5.0	ND<5.0	10	90
005B	MW-8	W	74,b1		ND	ND	ND	ND	1	92
006B	MW-10	W	240,d7,b6,b1		ND	ND	ND	ND	1	94
007B	MW-13	W	ND,b1		ND	ND	ND	ND	1	93
008B	MW-15	W	ND		ND	ND	ND	ND	1	98
009B	MW-16	W	ND		ND	ND	ND	ND	1	93
010B	MW-17	W	3300,d7,b6		ND<2.5	ND<2.5	ND<2.5	ND<2.5	5	109
011B	MW-19	W	340,d7		ND	ND	ND	ND	1	96
012B	MW-20	W	ND,b6		ND	ND	ND	ND	1	98
_	rting Limit for DF =1;	W	50	5	0.5	0.5	0.5	0.5	μ	g/L
	eans not detected at or ve the reporting limit	S	1.0	0.05	0.005	0.005	0.005	0.005	mg	g/Kg

water and vapor samples and all TCLP & SPLP extracts are reported in ug/L, soil/sludge/soild samples in mg/kg, wipe samples in µg/wip	e,
roduct/oil/non-aqueous liquid samples in mg/L.	

[#] cluttered chromatogram; sample peak coelutes with surrogate peak.

- b1) aqueous sample that contains greater than ~1 vol. % sediment
- b6) lighter than water immiscible sheen/product is present
- d7) strongly aged gasoline or diesel range compounds are significant in the TPH(g) chromatogram



⁺The following descriptions of the TPH chromatogram are cursory in nature and McCampbell Analytical is not responsible for their interpretation:

CKG Environmental	Client Project ID: #081021-MN1; Owens	Date Sampled: 10/21/08
808 Zinfandel Lane	Brockway Glass Plant, Oakland	Date Received: 10/22/08
	Client Contact: Christina Kennedy	Date Extracted: 10/22/08
St. Helena, CA 94574	Client P.O.:	Date Analyzed: 10/25/08-10/29/08

Total Extractable Petroleum Hydrocarbons with Silica Gel Clean-Up*

Extraction method: SW3.	510C/3630C	Analytical	l methods: SW8015B	W	Work Order: 0810577			
Lab ID	Client ID	Matrix	TPH-Diesel (C10-C23)	TPH-Motor Oil (C18-C36)	DF	% SS		
0810577-001A	MW-1	W	2000,e2,e7,e4,b6	1300	1	107		
0810577-002A	MW-5	W	13,000,e3,e7,b6	11,000	20	107		
0810577-003A	MW-6	W	38,000,e3,e7,b6,b1	28,000	20	110		
0810577-004A	MW-7	W	82,000,e8,e7,b6,b1	43,000	50	105		
0810577-005A	MW-8	W	380,e7,e2,b1	470	1	111		
0810577-006A	MW-10	W	2300,e2,e7,b6,b1	1500	1	106		
0810577-007A	MW-13	W	ND,b1	ND	1	107		
0810577-008A	MW-15	W	ND	ND	1	104		
0810577-009A	MW-16	W	76,e2	ND	1	110		
0810577-010A	MW-17	W	330,000,e1,b6	130,000	100	95		
0810577-011A	MW-19	W	300,e4,e2	ND	1	106		
0810577-012A	MW-20	W	ND,b6	ND	1	107		

Reporting Limit for DF =1;	W	50	250	μg/L
ND means not detected at or above the reporting limit	S	NA	NA	mg/Kg
above the reporting innit				

^{*} water samples are reported in μ g/L, wipe samples in μ g/wipe, soil/solid/sludge samples in mg/kg, product/oil/non-aqueous liquid samples in mg/L, and all DISTLC / STLC / SPLP / TCLP extracts are reported in μ g/L.

- #) cluttered chromatogram resulting in coeluted surrogate and sample peaks, or; surrogate peak is on elevated baseline, or; surrogate has been diminished by dilution of original extract; &) low or no surrogate due to matrix interference.
- +The following descriptions of the TPH chromatogram are cursory in nature and McCampbell Analytical is not responsible for their interpretation:
- b1) aqueous sample that contains greater than ~1 vol. % sediment
- b6) lighter than water immiscible sheen/product is present
- e1) unmodified or weakly modified diesel is significant
- e2) diesel range compounds are significant; no recognizable pattern
- e3) aged diesel is significant
- e4) gasoline range compounds are significant.
- e7) oil range compounds are significant
- e8) kerosene/kerosene range/jet fuel range

QC SUMMARY REPORT FOR SW8021B/8015Cm

W.O. Sample Matrix: Water QC Matrix: Water BatchID: 39075 WorkOrder 0810577

EPA Method SW8021B/8015Cm	Extra	tion SW	5030B	Spiked Sample ID: 0810572-015A								
Analyte	Sample	Spiked	MS	MSD	MS-MSD	LCS	LCSD	LCS-LCSD	Acce	eptance	Criteria (%)	
Allalyte	μg/L	μg/L	% Rec.	% Rec.	% RPD	% Rec.	% Rec.	% RPD	MS / MSD	RPD	LCS/LCSD	RPD
TPH(btex ^f)	ND	60	100	99.7	0.586	91	88.8	2.48	70 - 130	20	70 - 130	20
MTBE	ND	10	97.6	96.8	0.784	81.5	77.4	5.07	70 - 130	20	70 - 130	20
Benzene	ND	10	91.6	89	2.87	79.7	78.4	1.54	70 - 130	20	70 - 130	20
Toluene	ND	10	92.5	88.6	4.26	78.4	75.7	3.47	70 - 130	20	70 - 130	20
Ethylbenzene	ND	10	96.8	93.2	3.77	79.8	77.2	3.32	70 - 130	20	70 - 130	20
Xylenes	ND	30	108	104	3.86	79.2	75.6	4.59	70 - 130	20	70 - 130	20
%SS:	112	10	94	92	2.25	111	105	5.27	70 - 130	20	70 - 130	20

All target compounds in the Method Blank of this extraction batch were ND less than the method RL with the following exceptions: NONE

BATCH 39075 SUMMARY

Lab ID	Date Sampled	Date Extracted	Date Analyzed	Lab ID	Date Sampled	Date Extracted	Date Analyzed
0810577-001B	10/21/08 9:13 AM	10/28/08	10/28/08 11:51 PM	0810577-002B	10/21/08 12:30 PM	10/25/08	10/25/08 10:47 AM
0810577-003B	10/21/08 1:10 PM	10/25/08	10/25/08 11:21 AM	0810577-004B	10/21/08 12:10 PM	10/25/08	10/25/08 12:28 PM
0810577-005B	10/21/08 1:12 PM	10/28/08	10/28/08 4:36 AM	0810577-006B	10/21/08 1:26 PM	10/24/08	10/24/08 8:22 PM
0810577-007B	10/21/08 2:02 PM	10/24/08	10/24/08 6:57 AM	0810577-008B	10/21/08 2:15 PM	10/24/08	10/24/08 7:30 PM
0810577-009B	10/21/08 2:17 PM	10/24/08	10/24/08 7:31 AM	0810577-010B	10/21/08 1:40 PM	10/27/08	10/27/08 7:10 PM
0810577-011B	10/21/08 3:23 PM	10/24/08	10/24/08 4:59 PM				

MS = Matrix Spike; MSD = Matrix Spike Duplicate; LCS = Laboratory Control Sample; LCSD = Laboratory Control Sample Duplicate; RPD = Relative Percent Deviation.

% Recovery = 100 * (MS-Sample) / (Amount Spiked); RPD = 100 * (MS - MSD) / ((MS + MSD) / 2).

MS / MSD spike recoveries and / or %RPD may fall outside of laboratory acceptance criteria due to one or more of the following reasons: a) the sample is inhomogenous AND contains significant concentrations of analyte relative to the amount spiked, or b) the spiked sample's matrix interferes with the spike recovery.

£ TPH(btex) = sum of BTEX areas from the FID.

cluttered chromatogram; sample peak coelutes with surrogate peak.

N/A = not enough sample to perform matrix spike and matrix spike duplicate.

NR = matrix interference and/or analyte concentration in sample exceeds spike amount for soil matrix or exceeds 2x spike amount for water matrix or sample diluted due to high matrix or analyte content, or inconsistency in sample containers.

QA/QC Officer

QC SUMMARY REPORT FOR SW8021B/8015Cm

W.O. Sample Matrix: Water QC Matrix: Water BatchID: 39078 WorkOrder 0810577

EPA Method SW8021B/8015Cm	Spiked Sample ID: 0810577-012B											
Analyte	Sample	Spiked	MS	MSD	MS-MSD	LCS	LCSD	LCS-LCSD	Acce	eptance	Criteria (%)	
Allalyte	μg/L	μg/L	% Rec.	% Rec.	% RPD	% Rec.	% Rec.	% RPD	MS / MSD	RPD	LCS/LCSD	RPD
TPH(btex [£]	ND	60	95.8	99.5	3.76	105	97.3	7.66	70 - 130	20	70 - 130	20
MTBE	ND	10	101	96.8	4.03	103	104	0.515	70 - 130	20	70 - 130	20
Benzene	ND	10	91.1	87.6	3.94	89.2	89.4	0.223	70 - 130	20	70 - 130	20
Toluene	ND	10	102	98.2	3.50	101	99.9	0.660	70 - 130	20	70 - 130	20
Ethylbenzene	ND	10	100	96.8	3.66	99.9	98.6	1.31	70 - 130	20	70 - 130	20
Xylenes	ND	30	110	107	2.46	110	109	0.386	70 - 130	20	70 - 130	20
%SS:	98	10	101	96	4.45	95	95	0	70 - 130	20	70 - 130	20

All target compounds in the Method Blank of this extraction batch were ND less than the method RL with the following exceptions: NONE

BATCH 39078 SUMMARY

Lab ID	Date Sampled	Date Extracted	Date Analyzed	Lab ID	Date Sampled	Date Extracted	Date Analyzed
0810577-012B	10/21/08 2:34 PM	1 10/24/08	10/24/08 5:29 PM				

MS = Matrix Spike; MSD = Matrix Spike Duplicate; LCS = Laboratory Control Sample; LCSD = Laboratory Control Sample Duplicate; RPD = Relative Percent Deviation.

% Recovery = 100 * (MS-Sample) / (Amount Spiked); RPD = 100 * (MS - MSD) / ((MS + MSD) / 2).

MS / MSD spike recoveries and / or %RPD may fall outside of laboratory acceptance criteria due to one or more of the following reasons: a) the sample is inhomogenous AND contains significant concentrations of analyte relative to the amount spiked, or b) the spiked sample's matrix interferes with the spike recovery.

£ TPH(btex) = sum of BTEX areas from the FID.

cluttered chromatogram; sample peak coelutes with surrogate peak.

N/A = not enough sample to perform matrix spike and matrix spike duplicate.

NR = matrix interference and/or analyte concentration in sample exceeds spike amount for soil matrix or exceeds 2x spike amount for water matrix or sample diluted due to high matrix or analyte content, or inconsistency in sample containers.

QA/QC Officer

1534 Willow Pass Road, Pittsburg, CA 94565-1701 Web: www.mccampbell.com E-mail: main@mccampbell.com

Telephone: 877-252-9262 Fax: 925-252-9269

QC SUMMARY REPORT FOR SW8015B

QC Matrix: Water BatchID: 39074 WorkOrder: 0810577 W.O. Sample Matrix: Water

EPA Method: SW8015B Extraction: SW3510C/3630C									Spiked Sample ID: N/A				
Analyte	Sample	Spiked	MS	MSD	MS-MSD	LCS	LCSD	LCS-LCSD	Acc	eptance	Criteria (%)		
7 thatyte	μg/L	μg/L	% Rec.	% Rec.	% RPD	% Rec.	% Rec.	% RPD	MS / MSD	RPD	LCS/LCSD	RPD	
TPH-Diesel (C10-C23)	N/A	1000	N/A	N/A	N/A	110	110	0	N/A	N/A	70 - 130	30	
%SS:	N/A	2500	N/A	N/A	N/A	111	114	2.86	N/A	N/A	70 - 130	20	

All target compounds in the Method Blank of this extraction batch were ND less than the method RL with the following exceptions: NONE

BATCH 39074 SUMMARY

Lab ID	Date Sampled	Date Extracted	Date Analyzed	Lab ID	Date Sampled	Date Extracted	Date Analyzed
0810577-001A	10/21/08 9:13 AM	10/22/08	10/26/08 11:05 AM	0810577-002A	10/21/08 12:30 PM	10/22/08	10/26/08 2:37 PM
0810577-003A	10/21/08 1:10 PM	10/22/08	10/28/08 6:59 AM	0810577-004A	10/21/08 12:10 PM	10/22/08	10/28/08 5:52 AM
0810577-005A	10/21/08 1:12 PM	10/22/08	10/26/08 8:47 AM	0810577-006A	10/21/08 1:26 PM	10/22/08	10/29/08 12:43 PM
0810577-007A	10/21/08 2:02 PM	10/22/08	10/26/08 11:05 AM	0810577-008A	10/21/08 2:15 PM	10/22/08	10/26/08 8:47 AM
0810577-009A	10/21/08 2:17 PM	10/22/08	10/26/08 12:15 PM	0810577-010A	10/21/08 1:40 PM	10/22/08	10/28/08 4:47 AM
0810577-011A	10/21/08 3:23 PM	10/22/08	10/26/08 9:56 AM	0810577-012A	10/21/08 2:34 PM	10/22/08	10/25/08 10:32 PM

MS = Matrix Spike; MSD = Matrix Spike Duplicate; LCS = Laboratory Control Sample; LCSD = Laboratory Control Sample Duplicate; RPD = Relative Percent Deviation.

% Recovery = 100 * (MS-Sample) / (Amount Spiked); RPD = <math>100 * (MS - MSD) / ((MS + MSD) / 2).

MS / MSD spike recoveries and / or %RPD may fall outside of laboratory acceptance criteria due to one or more of the following reasons: a) the sample is inhomogenous AND contains significant concentrations of analyte relative to the amount spiked, or b) the spiked sample's matrix interferes with the spike recovery.

N/A = not enough sample to perform matrix spike and matrix spike duplicate.

NR = analyte concentration in sample exceeds spike amount for soil matrix or exceeds 2x spike amount for water matrix or sample diluted due to high matrix or analyte content.

