## **RECEIVED**

By Alameda County Environmental Health 2:08 pm, Nov 01, 2016



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October 26, 2016

Ms. Kit Soo Alameda County Health Care Services Environmental Health Services 1131 Harbor Bay Parkway Alameda, CA 94502-6577

Subject:

RO0000289

PROJECT CLOSEOUT REPORT, BIOBARRIER INSTALLATION

OWENS-BROCKWAY GLASS CONTAINER FACILITY. 3600 ALAMEDA AVENUE, OAKLAND, CALIFORNIA.

Dear Ms. Soo:

Owens-Brockway Glass Container Corporation is pleased to submit the attached Project Closeout Report for the Biobarrier Installation at the above site.

I declare under penalty of perjury that the information and recommendations contained in the attached report are true and correct to the best of my knowledge.

If you need further information, feel free to call me at (567) 336-8682.

Sincerely,

Mark Tussing.

Manager, Environmental Affairs



October 26, 2016

Ms. Kit Soo County of Alameda Health Care Services Agency Environmental Health Department 1131 Harbor Bay Parkway, Suite 250 Alameda, CA 94502-6577

Subject: RO0289

TRANSMITTAL OF PROJECT CLOSEOUT REPORT BIOBARRIER INSTALLATION, OWENS-BROCKWAY GLASS CONTAINER FACILITY, OAKLAND, CALIFORNIA.

Dear Ms. Soo:

CKG Environmental, Inc. (CKG) is pleased to transmit this project closeout report describing the installation of the biobarrier at the closed Owens-Brockway Glass Container facility at 3600 Alameda Avenue in Oakland, California. The biobarrier was installed to provide a groundwater treatment trench to reduce petroleum hydrocarbon concentrations in groundwater as it migrates offsite to the south. The biobarrier was installed in accordance with CKG's *Groundwater Treatment Biobarrier Design*, dated August 13, 2014 and approved in a September 4, 2014 letter from the Alameda County Department of Environmental Health (ACDEH).

#### **SUMMARY**

CKG subcontracted with Sierra West Consultants Inc. to design and oversee construction of the biobarrier. The wells were installed in December 2015 with trenches installed in February 2016 followed by piping and electrical connections through May 2016. Initial startup was on. July 20, 2016.

After some initial issues with the equipment producing too much heat and requiring a heat exchange system being installed, the biobarrier has been operating continuously since start up. Air flow rates to each well have been optimized and weekly inspections occur to assure smooth operation of the system

The first post biobarrier groundwater monitoring event is scheduled for November 10, 2016 and will continue with quarterly events as specified in the design. A summary of biobarrier performance will be included in the quarterly monitoring report.

## **LIMITATIONS**

CKG performed the scope of work in a manner consistent with the standards of care and skill normally exercised by members of the profession practicing under similar conditions in the geographic vicinity and at the time the services were performed. No warranty or guarantee expressed or implied is part of the services offered in this report.

If you need further information or would like more details regarding this report please feel free to call me at (707) 967-8080.

Sincerely,

CKG ENVIRONMENTAL, INC.

Christina J. Kennedy Principal

Attachment

Sierra West Consultants, October 18, 2016, Final Construction Closeout Report, Biobarrier Groundwater Treatment Project.



Final Construction Closeout Report

Biobarrier Groundwater Treatment Project October 2016

Owens-Brockway Glass Container Corporation 3600 Alameda Ave Oakland, California

Submitted to:

CKG Environmental, Inc.
October 18 2016

Submitted by:



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- 7. Biobarrier Cross-Section
- 8. Well Development Field Forms
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- 13. Disposal Documentation

## 1.0 Introduction

Sierra West Consultants, Inc. (Sierra West) is pleased to provide this construction closeout report for the Owens-Brockway Biobarrier Groundwater Treatment Project. This section provides a brief project description, identifies the project team, includes project related permits, and outlines the project activities. **Section 2** of this report summarizes the main construction milestones for the project. As-built drawings are included in **Appendix 1**. Project team members' contact info, permits, daily construction observation reports, laboratory analytical reports, boring logs and well DWR reports, well development field forms, well survey report, photographs, and disposal documentation are also included in the Appendices.

## 1.1 Project Description

The project site is the former Owens-Brockway Glass Container Corporation at 3600 Alameda Ave., Oakland, CA (Site). Property redevelopment is anticipated after existing structures are removed and the environmental cleanup is completed to acceptable levels.

The primary constituents of concern (CoCs) are total petroleum hydrocarbons (TPHs) in soil and shallow groundwater. The TPHs are primarily heavy-end hydrocarbons from aged fuel oils. The primary objective of the air injection wells is to remove TPH compounds from the surrounding soil and groundwater, and create a biobarrier to prevent the downgradient migration of the compounds from the Site.

The system includes three monitoring wells (MW), 20 air injection wells (IW), air supply and instrumentation and controls conduits to each well, and a cargo shed to house an air compressor, automated control panel, and appurtenant equipment. Project activities were conducted in accordance with the *Revised Corrective Action Plan-Targeted Excavations and Groundwater Treatment Trench*, dated January 17, 2014, and *Invitation to Bid and Project Documents for Groundwater Treatment Biobarrier Project*, dated October, 2015

## 1.2 Project Team

Owens-Brockway Glass Container Corporation (Owens-Brockway) is the project Owner and CKG Environmental, Inc. (CKG) is the lead environmental consultant and project manager. Sierra West is the remediation design engineer and provided construction management support to CKG. Engineering/Remediation Resource Group (ERRG) provided construction services. Additional support services were provided by: Direct Traffic Control, Inc. for traffic control services, Enprobe Environmental Direct Push & Drilling Services, Inc. (Enprobe) for monitoring well drilling and installation, Cascade Drilling L.P. (Cascade) for injection well drilling and installation, Calcon Systems, Inc. (Calcon) for electrical wiring and cargo shed installation, PG&E for main power supply connection services, Subtronic Corporation (Subtronic) for utility locates, Rockridge Geotechnical for compaction tests, Testing Engineers Inc. for concrete tests (Testing Engineers), McCampbell Analytical, Inc. for soil and groundwater testing, Bay Area Concrete Recycling for concrete and asphalt recycling, and Kettleman Hill Landfill for soil disposal. Contact information is included in **Appendix 2**.

## 1.3 Permits

Encroachment, obstruction, excavation, building, and electrical permits were obtained from the City of Oakland prior to beginning drilling and construction activities. For the installation of the cargo shed, a recycling plan, created online through Green Halo Systems, Inc. was also submitted to the City of Oakland. Well drilling permits were obtained from Alameda County for the monitoring wells and air injection wells. Copies of the permits are included in **Appendix 3**.

## 1.4 Schedule

Pre-construction investigation activities began on August 2015. The monitoring wells and air injection wells were installed in December 2015. Construction activities began in February 2016 and were completed in March 2016. PG&E completed the electrical power supply design in April 2016 and the installation has not been scheduled. Final inspections and start-up activities were conducted following the PG&E electrical connection. The table below provides a summary of general milestone completion dates.

Table 1: Schedule of Milestone Project Activities

Milestone	Completion Date
Pre-Construction Investigation	August 26, 2015
Monitoring Well Drilling	December 8, 2015
Air Injection Well Drilling	December 12, 2015
Trenching	February 12, 2016
Well Vaults Installation	February 16, 2016
Conduit Installation	February 19, 2016
Backfill and Landscaping	February 25, 2016
Cargo Shed Placement	March 4, 2016
Electrical Connection by PG&E	July 14, 2016
Final Inspection	July 18, 2016
Initial Startup	July 20, 2016

TBD = To Be Determined

## 2. Scope of Work

Field activities for pre-construction investigation and major construction milestones are presented below. Analytical testing results and other results are also included. Daily construction observation reports are included in **Appendix 4**.

## 2.1 Pre-Construction Investigation

On August 24 through August 26, 2015, Sierra West collected soil samples and soil lithology data from 6 soil borings (B-42 through B-47). B-42 was located near the former subsurface brick-lined oil bunker (near MW-2R), and was intended to assess the vertical extents of impacts in that area. B-43 through B-47 were located along the southern boundary of the property, and were located along the proposed biobarrier air injection well transect. Soil lithology data collected from B-43 through B-47 were used to help finalize the design of the biobarrier air injection wells.

Subtronic performed utility locates along the extents of the biobarrier, prior to well drilling activities. The borings were drilled by Enprobe Environmental Direct Push & Drilling Services (Enprobe), a California licensed drilling contractor (C-57 license No. 777007). The upper five feet of each boring was advanced using 2-inch diameter hand auger equipment. The remainder of each boring was then advanced using dual-tube direct push Geoprobe<sup>TM</sup> equipment with a 2-1/8-inch outer core barrel diameter, and inner core liners having a diameter of approximately 1-3/4 inches. Soil cores were recovered in acetate liners with approximate 5-foot lengths. Each boring was advanced to a total depth of 50 feet below ground surface (bgs) to assess the vertical extent of impacts in the former asphalt refinery area. Grab groundwater samples were collected from the borings, and were analyzed by McCampbell Analytical for TPHg, TPHd, and TPHmo by USEPA Method 8015. The laboratory report for the groundwater samples is included in **Appendix 5**. Boring logs are included in **Appendix 6**. Following their completion, each boring was

backfilled with neat cement grout and completed at the surface with concrete. The table below provides a summary of the highest constituent concentrations detected from each boring.

Table 2: Pre-Construction Investigation Groundwater Constituent Concentration Summary

<b>Boring ID</b>	Units	<b>TPH-Gasoline</b>	<b>TPH-Diesel</b>	<b>TPH-Motor Oil</b>
B-42	μg/L	16,000	990,000	550,000
B-43	μg/L	140	560	320
B-44	μg/L	760	2,300	660
B-45	μg/L	17,000	890,000	660,000
B-46	μg/L	150	1,300	1,000
B-47	μg/L	ND	1,100	3,400

 $\mu g/L = microgram per liter$ 

ND = Non-detect.

The soil lithology and constituent concentration information obtained from the soil borings were used by the project team to develop a geologic cross-section along the proposed biobarrier alignment (**Appendix** 7). The cross-section was used to define the most efficient placement of air injection wells and injection screen intervals.

## 2.2 Monitoring Well and Air Injection Well Installations

On September 10 and 11, 2015, three monitoring wells, MW-2R, MW-3R, and MW-21, were installed by Enprobe. MW-2R was over-drilled and reinstalled on December 8, 2015 to modify the screen interval. MW-2R and MW-3R were installed as replacement wells for MW-2 and MW-3 respectively. MW-21 was installed in the sidewalk across the street on Alameda Avenue. Direct Traffic Control provided pedestrian safety and traffic control while installing MW-21.

### 2.2.1 Well Drilling and Construction

The upper five feet of each boring was advanced using 2-inch diameter hand auger equipment. The remainder of each boring was then drilled using truck mounted hollow stem auger drilling equipment and 8-inch diameter augers. The table below summarizes the well characteristics. Locations of the three wells are shown on Sheet C1, **Appendix 1**. Copies of the California Department of Water Resources (DWR) reports and boring and well construction logs are included in **Appendix 6**.

**Table 3: Monitoring Well Characteristics** 

Well ID	Total Depth (ft)	Screen Interval (ft. bgs)
MW-2R	23	18 to 23
MW-3R	22	17 to 22
MW-21	30	15 to 30

December 7 through December 12, 2015, 20 air injection wells were installed by Cascade. The location of the wells is shown in Sheet C1, **Appendix 1**. Copies of DWR reports and boring and well construction logs are included in **Appendix 6**.

The upper five feet of each boring was advanced using 2-inch diameter hand auger and air-knife equipment. The remainder of each boring was then advanced using 8-inch diameter hollow stem auger equipment. Each well was constructed using 2-inch diameter Schedule 40 PVC and injection screens were constructed using 3 feet of 0.020-inch machine slotted PVC. The top of the wells were completed

approximately one to two feet bgs, and prior to leaving the site, the surface of each borehole was temporarily covered with steel plates.

On December 12, 2015, while drilling IW-2B, the hollow stem auger struck the top of a concrete storm drain approximately 5 feet bgs. The auger was immediately removed and the borehole was backfilled with the original soil material. The City of Oakland Public Works Department was notified, and Sierra West, with CKG, updated the Site plan drawings to show the approximate location of the storm drain. The storm drain was repaired on February 11, 2016, during trenching activities. Additional details of the repair activities are provided in Section 2.3.

## 2.2.2 Well Development

The monitoring and air injection wells were developed by surging over the length of the screened interval and purging groundwater from the well using a bailer and centrifugal pump. Approximately 10 to 20 gallons, or 10 casing volumes, were removed from each well. In some cases, such as MW-2R, additional casing volumes were purged to reduce the turbidity of extracted groundwater to the extent practical. Copies of the well development field forms are included in **Appendix 8**.

## 2.2.3 Well Survey

Kier and Wright Civil Engineers and Surveyors, Inc. surveyed the monitoring and air injection wells, and the corners of the cargo shed. The latitude, longitude, and top-of-casing measurements were based on the California State Coordinate System, Zone II (NAD83). Surveying will be consistent with GeoTracker requirements. An updated Site plan drawing is included in **Appendix 1**.

## 2.3 Trenching and Well Vault Installation

On February 1, 2016, Subtronic located buried utilities in the vicinity of the proposed trenching area. The utilities of concern were a water pipeline near IW-8 and an electrical conduit between IW-11 and IW-12. ERRG began trenching activities on February 1, 2016, and continued through February 12, 2016.

The asphalt and concrete paved areas were saw-cut and removed. In most areas, the asphalt and/or concrete thickness was approximately 10 inches. Removed asphalt and concrete materials were separated on site and later recycled at Bay Area Concrete Recycling.

A backhoe was used to excavate the trench to the dimensions shown on Sheet C3, **Appendix 1**. The following areas were hand excavated to avoid hitting buried utilities:

- Trench area under property fence between IW-5 and IW-6A
- Trench area between IW-7 and IW-8
- Trench area between IW-11 and IW-12
- Trench area near IW-13

The water pipeline and electrical conduit were not encountered while excavating the trench. It is likely that the underground utilities are located deeper than the bottom of the trench.

At the end of each day, ERRG protected the trenched areas inside the property by using delineators and caution tape. The trenched areas in the landscaped outside of the Owens-Brockway property were protected by a temporary fence that was locked at the end of each day.

ERRG installed the well vaults on February 4, 2016, and continued through February 16, 2016. Three holes were drilled through the bottom of each well vault to provide drainage. The well vaults were set on top of a four to six-inch layer of gravel, as shown on Sheet C3 in **Appendix 1**.

On February 11, 2016, ERRG repaired the storm drain that was damaged while drilling IW-2B (See Section 2.2.1). A rectangular area was excavated around IW-2B to between four to five feet bgs, with sloped sidewalls, to expose the storm drain. The damaged portion was a drilled hole approximately nine inches in diameter and 25 inches deep (approximate thickness of storm drain cement wall). A wooden plug was placed at the bottom of the hole and rebar was drilled into sides of the hole. The hole was then filled with cement. For added protection, a steel plate was bolted to the surface of the storm drain. The excavated area was then backfilled with the original soil. The soil was compacted using a jumping-jack compactor (wacker) in 1-foot lifts.

The City of Oakland was notified of the repairs and the inspector in charge requested that pictures be taken to provide proof that the storm drain has been repaired. After the repair work was completed, pictures were sent to the inspector via email. Pictures are included in **Appendix 9**.

## 2.4 Conduit and Instrumentation Installation, and Pressure Tests

ERRG began installing the air supply and instrumentation and controls conduits along the trench and through the well vaults on February 5, 2016, and continued through February 19, 2016. High-density polyethylene (HDPE) pipe was used for the air supply conduit and Schedule 80 PVC pipe was used for the instrumentation and controls conduit. From IW-1A to IW-5 (landscaped area), 2-inch PVC piping was used, and from IW-6A to IW-17(paved areas), 3-inch PVC piping was used. The pipe and conduits were placed on approximately one to two inches of sand bedding, and backfilled with sand to within 8 inches below the original grade.

Initially, ERRG used brass compression fittings to transition from the 2-inch HDPE air supply conduit to the 0.5-inch galvanized piping inside the well vaults (Sheet C3, **Appendix 1**). On February 10, 2016, ERRG performed a pressure test and several compression fittings slipped and became disconnected from the HDPE air supply piping. Sierra West, with ERRG and CKG, decided to forego the compression fittings and use welded HDPE fittings (See **Appendix 9** for pictures). On February 23, 2016, ERRG completed installation of the piping, conduits and fittings in the well vaults, and a successful pressure test was conducted for approximately 30 minutes at 76 psi.

## 2.5 Cargo Shed Installation

On February 16, 2016 through March 4, 2016, ERRG constructed the cargo shed foundation and installed the cargo shed at the Site (Sheet C2 and C3, **Appendix 1**). ERRG compacted imported aggregate base (AB) fill material to create a solid foundation for the concrete slab. To verify proper compaction, Rockridge Geotechnical performed compaction tests at two points at the surface of the compacted AB material. Both tests showed 98% compaction, which exceeded the 95% compaction requirement.

Prior to pouring the concrete for the foundation slab, the City of Oakland building inspector visited the site and approved the conduit layout coming up into the slab and the foundation forms and rebar layout. The inspector requested that ERRG install a 20-foot ufer (for electrical grounding purposes) and take pictures of it prior to the pour. On February 23, 2016, ERRG installed the ufer and poured approximately 3.5 cubic yards of concrete to construct the foundation slab. Testing Engineers performed a slump test, observed the concrete pour, and collected 5 concrete cylinders for tests. The concrete cylinders were left on Site to cure and were picked up the next day. The 28-day concrete break test result was 4,610 pounds per square inch (psi). Concrete test results are included in **Appendix 10**. The concrete pad surface was completed with a broom finish.

On March 4, 2016, the cargo shed arrived at the Site and ERRG set the shed onto the pad. The corners of the building were secured to the concrete pad using anchor bolts (Sheet C3, **Appendix 1**).

## 2.6 Trench Backfilling and Landscaping

ERRG began backfilling the excavated areas on February 17, 2016, and continued through February 25, 2016. Backfilling in the trenched areas and around the well vaults was completed as shown on Sheet C3, **Appendix 1**. The AB surface was sloped away from the well vault lids, as shown on the drawings, to help divert stormwater away from the well vaults to the extent practical.

In the landscaped area outside of the property (IW-1A through IW-5), the existing topsoil was replaced to the extent practical. Creeping red fescue seed was evenly spread out in the surrounding area, and then covered with approximately one to two inches of clean imported topsoil. A copy of the seed product tag is included in **Appendix 4**. For added security, tamper proof bolts were installed on well vaults IW-1A through IW-5 and the IW-4 pullbox.

The old fill material around the cargo shed, pullbox, and IW-6A through IW-7 was graded and compacted. One to two inches of gravel was placed and compacted around the cargo shed, pull box, and IW-6A through IW-7.

## 2.7 Electrical Wiring and PG&E Power Drop

On March 2, 2016 through March 16, 2016, Calcon connected the wiring for the instrumentation and controls equipment inside each well vault to the main control panel at the cargo shed. Calcon also installed a weatherhead on the cargo shed for the PG&E power drop connection. On March 9, 2016, an electrical inspector from the City of Oakland inspected and approved the weatherhead and electrical panel connections. A green sticker was placed on the meter box and PG&E was notified of City approval.

PG&E completed the power drop and electrical connection to the cargo shed container on July 14, 2016. Two power poles were installed: one outside the Owens-Brockway property along Alameda Ave, and another pole inside the property, approximately 120 feet away from the cargo shed container. Locations of the two power poles are shown on Sheet C1, **Appendix 1**. A copy of PG&E's construction drawing that includes a design plan and construction notes is included in **Appendix 11**.

## 3. Final Inspection

On March 8, 2016, Sierra West and ERRG conducted a preliminary inspection and created a punch-list for ERRG to complete prior to the final inspection and initial startup. The items on the punch-list are as follows:

- Add more AB material to areas around the well vaults and along the trench that have settled
  due to vehicle traffic. Ensure that the AB material slopes away from the well vaults to the
  extent practical.
- Soil in the landscaped area should also be sloped away from the well vaults.
- If the seeding in the landscaped area has not started to grow, ERRG should plant more seed and consider installing a temporary fence around the landscaped area to keep out pedestrian traffic.

ERRG completed the punch-list items on July 18, 2016 to the satisfaction of Owens-Brockway, CKG and Sierra West. A final inspection was conducted, completion of punch-list items was confirmed, and the system was cleared for startup.

## 4. Initial Startup and Heat Exchanger Installation

On July 19, 2016 through July 20, 2016, Sierra West and Calcon conducted an initial startup of the system. The objective of the startup was to assess the maximum flow rate to each well, while monitoring the change in groundwater elevation at nearby monitoring wells. Each air injection well was operated independently, while running the air compressor at the highest pressure achievable. The air supply flow rates and pressures at the compressor and air injection wells were monitored and recorded (**Appendix 11**).

The startup results indicate that several wells share similar characteristics in terms of flow rate and pressure. Sierra West used the results to create well groupings to maximize the efficiency of the system. During the startup tests, injecting air into wells 1B, 2A, 5, and 6A caused groundwater to rise to the top of the well casing. This is an indication that flowrate to these wells should be limited, or throttled using the manual ball valves in each well vault. Well groupings for current, normal, operations are also included in **Appendix 11**.

During the startup test, it was observed that the inline flowmeter at the outlet side of the compressor would regularly display an error message. After troubleshooting the flowmeter, it was determined that the compressor was causing a temperature rise in the air that was too high for the flowmeter. Therefore, Sierra West and Calcon decided to install an air-heat exchanger immediately after the compressor outlet, prior to the flowmeter. While Calcon was acquiring the heat exchanger, the system operated with the flowmeter electrical wiring disconnected.

On August 16, 2016, Calcon installed the heat exchanger (Sheet C2, **Appendix 1**). Photos are included in **Appendix 9**. The heat exchanger reduced the discharge air temperature from approximately 160+ °F to 80 °F. The flowmeter was reconnected and resumed normal operation.

## 5. Waste Characterization and Disposal

Approximately 220 cubic yards of soil were generated during well drilling, trenching, and cargo shed foundation construction activities. Sierra West collected an 8-point composite soil sample to profile the excavated material. The sample was sent to McCampbell Analytical, Inc. in Pittsburg, California, and was analyzed for the following compounds:

- Total petroleum hydrocarbons as gasoline, diesel, and motor oil (TPHg, TPHd, TPHmo) by the U.S. Environmental Protection Agency (EPA) Method 8015;
- Volatile organic compounds (VOCs) by EPA Method 8260;
- Benzene, toluene, ethylbenzene, and xylenes (BTEX) by EPA Method 8021;
- Methyl tertiary butyl ether (MTBE) by EPA Method; and
- CAM 17 metals by EPA Method 6020.

Initial lab analytical results showed a total lead concentration of 210 milligrams per kilogram (mg/kg), which is above the Toxicity Characteristic Leaching Procedure (TCLP) screening limit of 100 mg/kg for non-hazardous waste. As a result, a Soluble Threshold Limit Concentration (STLC) and TCLP test were conducted. Results indicated an STLC of 6 milligrams per liter (mg/L) and a TCLP concentration of 0.2 mg/L. Based on the TCLP results, the excavated material was classified as non-Resource Conservation and Recovery Act (RCRA) hazardous waste and disposed of at the Kettleman Hills Landfill Facility in Kettleman City, California. Laboratory results are included in **Appendix 5**. A copy of the disposal tickets is included in **Appendix 13**.

Approximately 15 cubic yards each of asphalt and concrete were taken to Bay Area Concrete Recycling in Oakland, California. A copy of the recycling tickets is included in **Appendix 13**.

General construction debris was disposed of on Site in large trash bins, provided by Owens-Brockway.

## 6. Daily Recordkeeping and Reporting

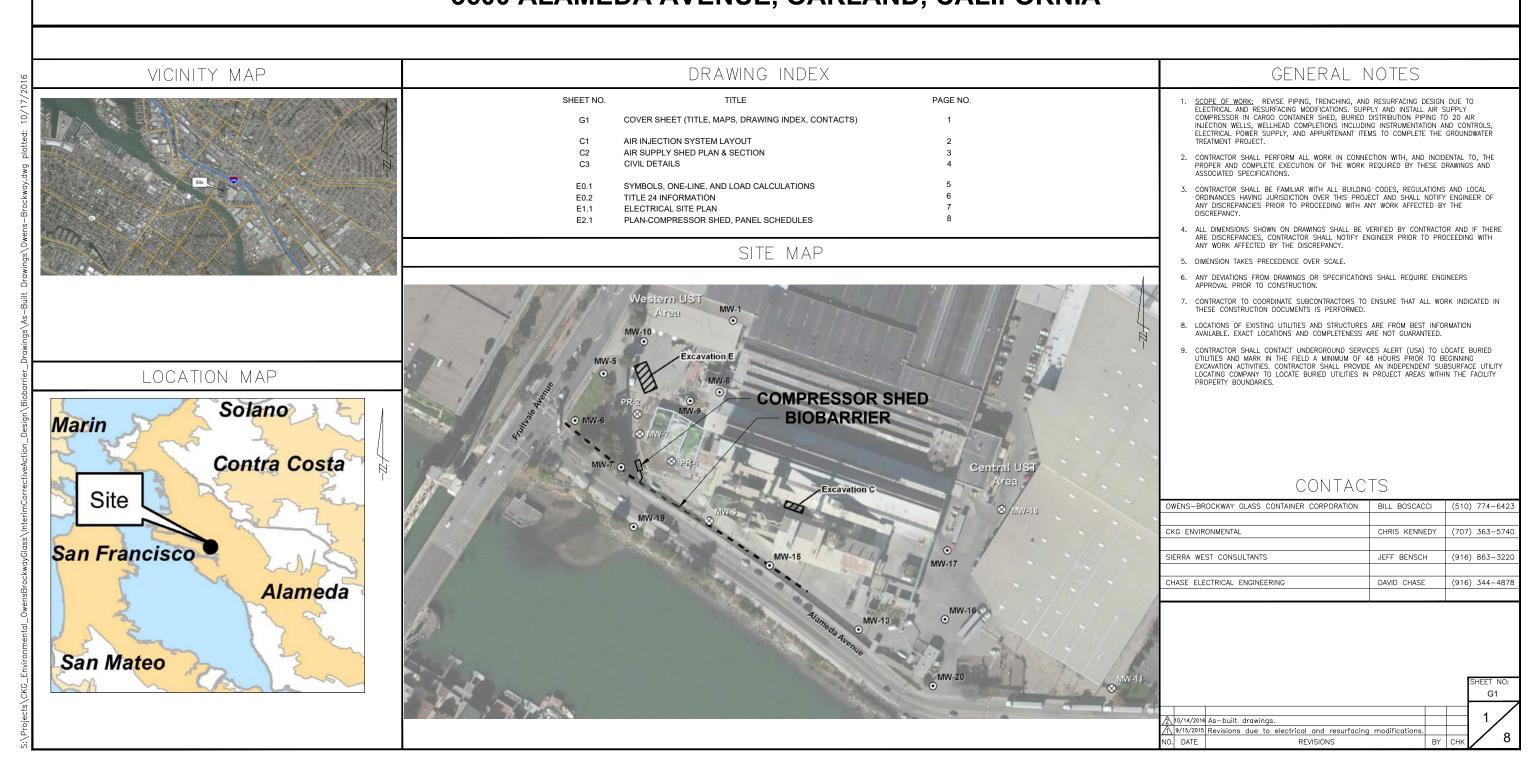
Sierra West kept a daily report of construction activities at the site. Information provided in these reports includes the site's weather conditions during the day, the personnel and visitors on site, main equipment used, as well as description of construction activities. Weekly project progress reports with pictures were emailed to CKG. The daily reports are provided in **Appendix 4**. Relevant pictures of construction activities are provided in **Appendix 9**.

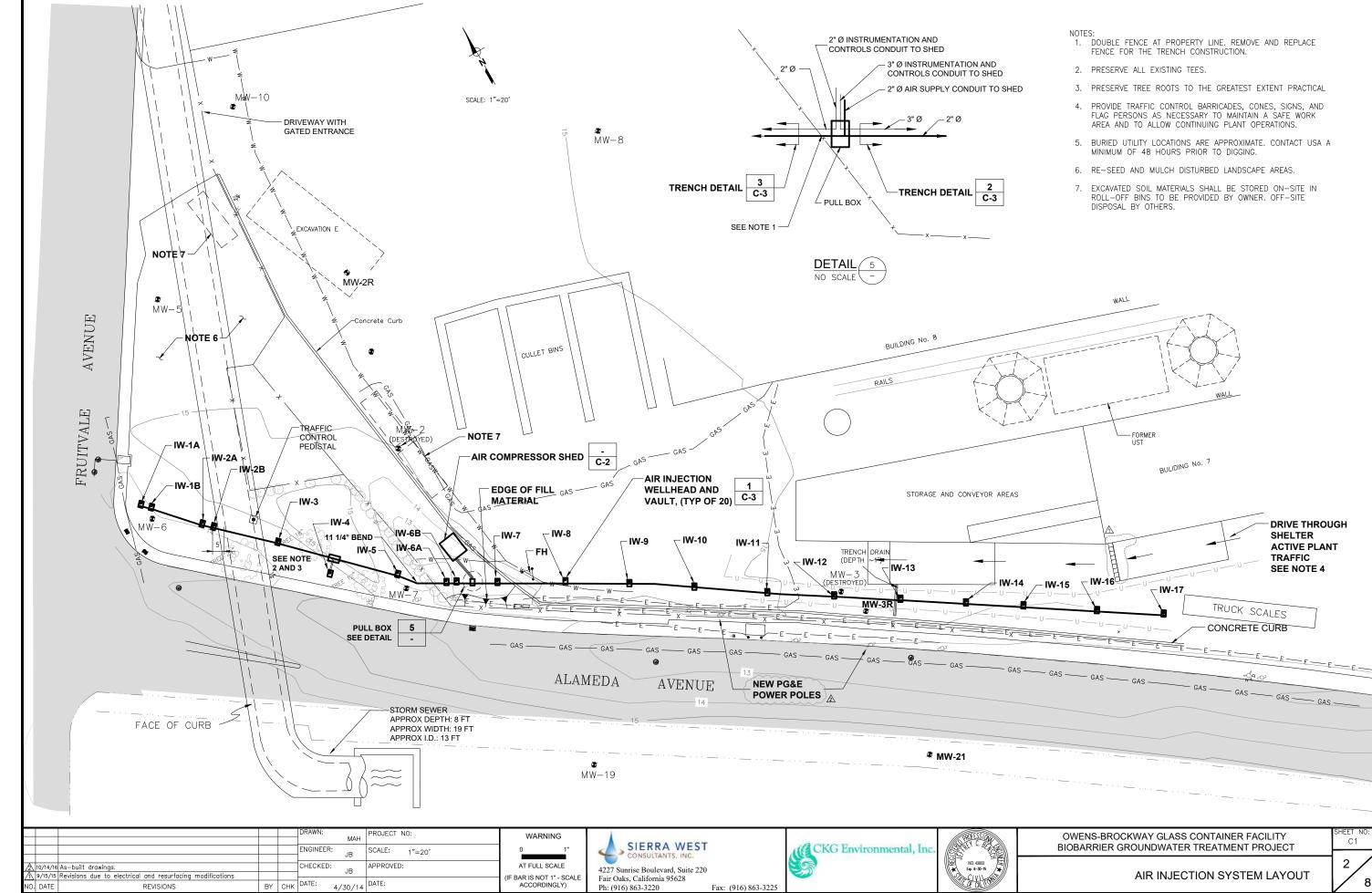


# **BIOBARRIER GROUNDWATER TREATMENT PROJECT**

May 2016 (1) (2)

# ENVIRONMENTAL REMEDIATION FOR OWENS-BROCKWAY GLASS CONTAINER CORPORATION 3600 ALAMEDA AVENUE, OAKLAND, CALIFORNIA

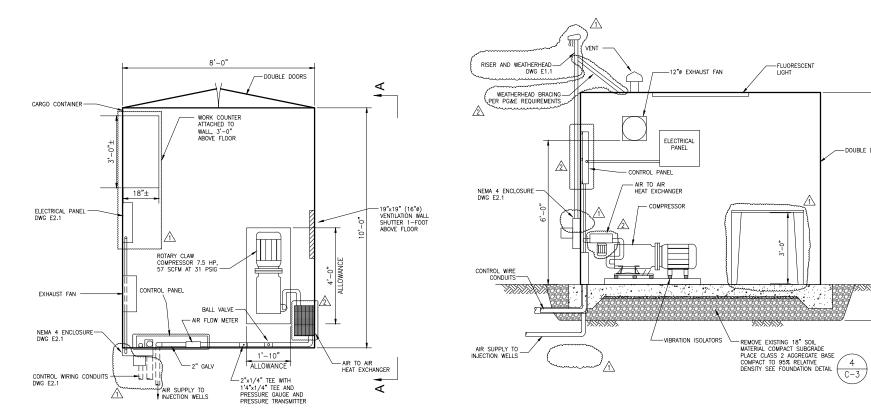




Ph: (916) 863-3220

Fax: (916) 863-3225

BY CHK DATE:



AIR SUPPLY SHED PLAN SCALE: 1/2"=1'-0"

SECTION A-A SCALE: 1/2"=1'-0"

					DRAWN:		PROJECT NO:	
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$\Lambda$	9/15/15	Revisions due to electrical and resurfacing modifications						(IF BA
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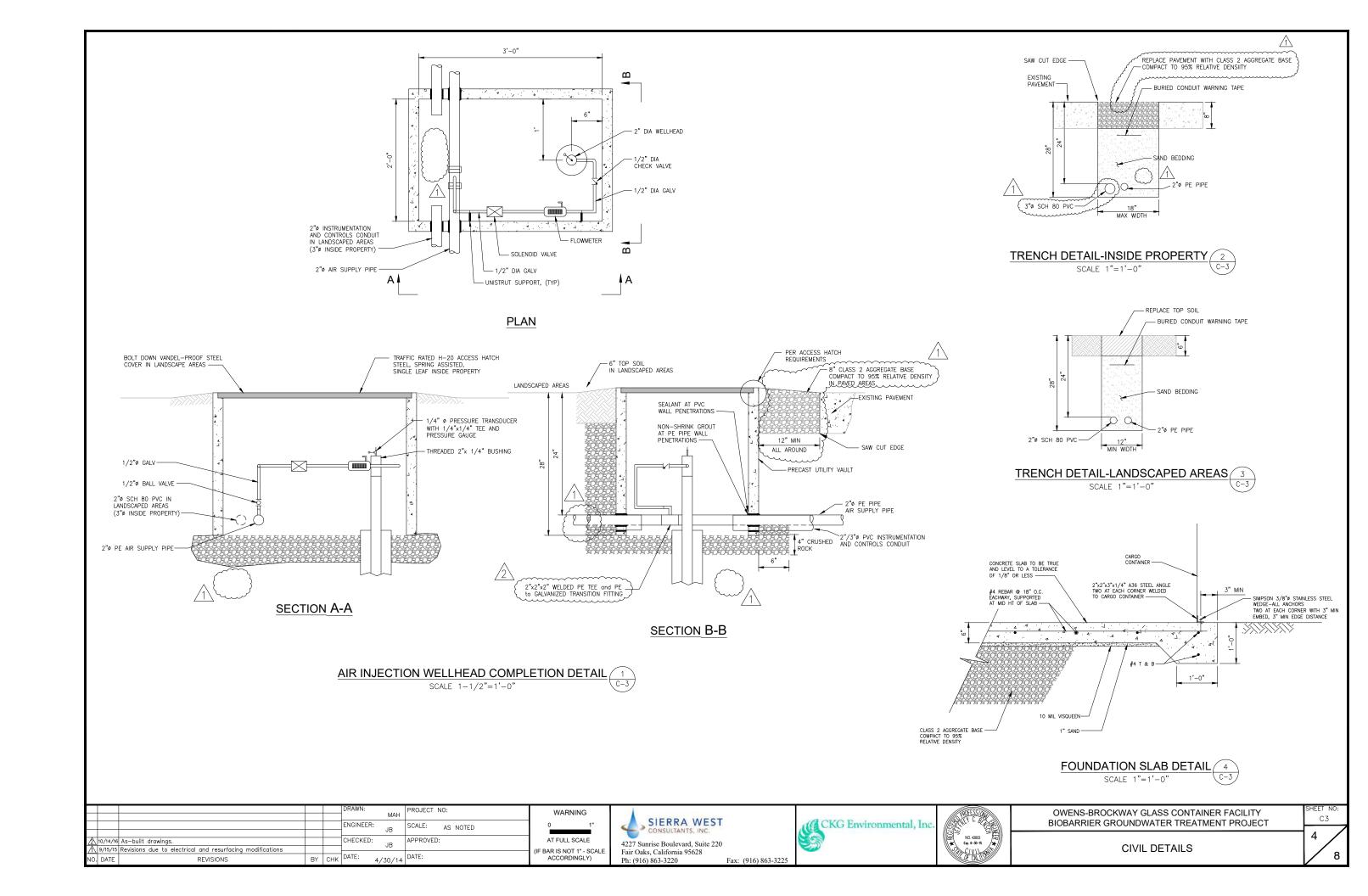


- DOUBLE DOORS



OWENS-BROCKWAY GLASS CONTAINER FACILITY
BIOBARRIER GROUNDWATER TREATMENT PROJECT

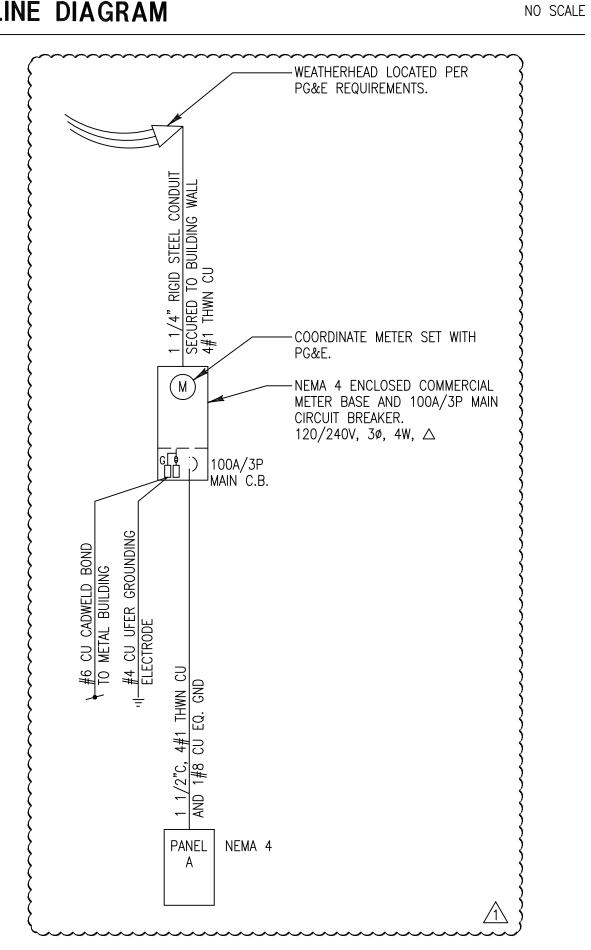
C2 3



# LOAD CALCULATIONS

120/240V LOAD— PANEL A: LIGHTING FIXTURE: VENTILATION FAN: RECEPTACLES: CONTROL PANEL: COMPRESSOR MOTOR: 25% LARGEST MOTOR: TOTAL (KVA)	55W x 125% = 165W x 125% = (2) x 180W x 100% = 850W x 125% = = = =	206.3 W 360.0 W	13,300.0 W }
AMPERES:		7.1 A	
MINIMUM SERVICE AMPACITY:			7.1 A 47.1 A
PROVIDE 100A, 120/240V, 3	Ø, 4W △ SERVICE		كرسس

# ONE-LINE DIAGRAM



# **ELECTRICAL SYMBOLS**

SYMBOL	DESCRIPTION
0	FLUORESCENT LIGHTING FIXTURE- SUSPENDED OR SURFACE MOUNTED
$\rightleftharpoons$	DUPLEX RECEPTACLE OUTLET 20A, 125V, +15" TO BOTTOM OF BOX (B.O.B.)
<b>(</b>	JUNCTION BOX
\$	SINGLE POLE TOGGLE SWITCH, 20A, 120-277V AT +48" CL OF TOGGLE
\$ a	SUBSCRIPT DENOTES OUTLET OR FIXTURE CONTROLED @ +48" CL OF TOGGLE
	MAIN SWITCHBOARD
	LIGHTING OR DISTRIBUTION PANELBOARD
	TERMINAL CABINET
타 마	SAFETY SWITCH - HP RATED - FUSED - NON-FUSED
$\Diamond$	MOTOR - M P & S
$\otimes$	EXHAUST FAN - M P & S
AC 1	MECHANICAL EQUIPMENT I.D. TAG - M P & S
<u></u>	DUCT TYPE SMOKE DETECTOR, COORDINATE WITH MP&S.
	CIRCUIT CONCEALED IN CEILING OR WALL, EXPOSED IN SERVICE AREAS
	CIRCUIT CONCEALED IN FLOOR OR UNDERGROUND
	HOMERUN TO PANELBOARD
	DENOTES # OF #12 WIRES, NO MARKS= 2#12, 1/2"C,
~~~~	INDICATES FLEX CONDUIT
B.O.B. C CL EM G G GFI/GFCI MP&S TTB MSB NL PNL (E) (N) (R) UON MTC WP	BOTTOM OF J-BOX CONDUIT CENTER LINE EMERGENCY BATTERY BACKUP GROUND GROUND FAULT CIRCUIT INTERRUPTER SEE MECHANICAL PLANS & SPECIFICATIONS TELEPHONE TERMINAL BOARD MAIN SWITCHBOARD NIGHT LIGHT - UNSWITCHED PANELBOARD EXISTING NEW EXISTING TO BE REMOVED OR RELOCATED UNLESS OTHERWISE NOTED EMPTY CONDUIT WITH 1#12 PULL WIRE WEATHERPROOF - WHILE IN USE IN WET LOCATIONS WHERE APPLIED TO RECEPTACLES

CHASE ELECTRICAL ENGINEERING

5710 GARFIELD AVE. SUITE C SACRAMENTO, CA. 95841 (916) 344-4878

1					DRAWN: SDB	PROJECT NO: 2143258	WARNING
+					ENGINEER:		1"
+					DMC	SCALE: AS NOTED	
1	10/14/16	AS-BUILT DRAWINGS			CHECKED:	APPROVED:	AT FULL SCALE
			DMC/SDB	DMC	DMC		(IF BAR IS NOT 1" - SCALE
	DATE	REVISIONS	BY	CHK	DATE: 09/19/14	DATE:	ACCORDINGLY)







OWENS-BROCKWAY GLASS CONTAINER FACILITY BIOBARRIER GROUNDWATER TREATMENT PROJECT SHEET NO:
E0.1

ELECTRICAL SYMBOLS, ONE-LINE DIAGRAM, AND LOAD CALCULATIONS

STATE OF CALIFORNIA
ELECTRICAL POWER DISTRIBUTION
CEC-NRCC-ELC-01-E (REVISED 12/13 C.E.E.)

CALIFORNIA ENERGY COMMISSION				
CERTIFICATE OF COMPLIANCE	NRCC-ELC-01-E			
ELECTRICAL POWER DISTRIBUTION	(Page 5 of 9)			
PROJECT NAME OWENS_BROCKWAY CLASS CONTAINED EACH ITY BIOBARRIER	DATE 00/20/14			

Table 130.5-B - MINIMUM REQUIREMENTS FOR SEPARATION OF ELECTRICAL LOAD  Table 130.5-B sets the upper limit on how many load(s) of each type can be supplied by each feeder. A feeder may not supply loads of more than one type unless the service is rated at 50 kVA or less. For instance, on the fifth row of the table, one feeder on a service >50 kVA could be used to supply all the plug loads on a floor of a building, provided that there are no areas in which more than 25kVA of plug load is supplied to a space less than 5000sf							
Lighting including exit and egress lighting and exterior ighting	Not required	All lighting in aggregate	All lighting disaggregated by floor, type or area	All lighting disaggregated by floor, type or area			
HVAC systems and components including chillers, fans, heaters, furnaces, package units, cooling towers, and circulation pumps associated with HVAC	Not required	All HVAC in aggregate	All HVAC in aggregate and each HVAC load rated at least 50 kVA	All HVAC in aggregate and each HVAC load rated at least 50kVA			
Domestic and service water system pumps and related systems and components	Not required	All loads in aggregate	All loads in aggregate	All loads in aggregate			
Plug load including appliances rated less than 25 kVA	Not required	All plug load in aggregate Groups of plug loads exceeding 25 kVA connected load in an area less than 5000 sf	All plug load separated by floor, type or area Groups of plug loads exceeding 25 kVA connected load in an area less than 5000 sf	All plug loads separated by floor, type or area. All groups of plug loads exceeding 25 kVA connected load in an area less than 5000 sf			
Elevators, escalators, moving walks, and transit systems	Not required	All loads in aggregate	All loads in aggregate	All loads in aggregate			
Other individual non-HVAC loads or appliances rated 25kVA or greater	Not required	All	Each	Each			
industrial and commercial load centers 25 kVA or greater including theorical lighting installations and commercial kitchens	Not required	All	Each	Each			
Renewable power source (net or total)	Each group	Each group	Each group	Each group			
oads associated with enewable power source	Not required	All loads in aggregate	All loads in aggregate	All loads in aggregate			
Charging stations for electric vehicles	All loads in gagregate	All loads in aggregate	All loads in aggregate	All loads in aggregate			

CA BUILDING ENERGY EFFICIENCY STANDARDS - 2013 NONRESIDENTIAL COMPLIANCE

STATE OF CALIFORNIA

ELECTRICAL POWER DISTRIBUTION

CEC-NRCC-ELC-01-E (REVISED 12/13 C.E.E.)

CERTIFICATE OF COMPLIANCE	NRCC-ELC-01-E
ELECTRICAL POWER DISTRIBUTION	(Page 4 of 9)
PROJECT NAME OWENS-BROCKWAY GLASS CONTAINER FACILITY BIOBARRIER	DATE 09/29/14

Switchboard, motor control center, panelboard or subpanel	Electrical Service that supplies that switchboard or panel	Electrical Service Rating	Fid Inspe	eld ecto
A	В	c		>
			s	
Designation/Location in Building/Description	Designation/Location in Building/Description	kVA	Pass	Ē
				Е
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				15
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R— rent transformers have been attached to individual branch	h circuits and loads throughout the building, and a permane egree of disaggregated measurement as required by the sta	nt ndarde		
usurement system is installed that allows an equivalent of	egree or assuggregated measurement as required by the sta	nuurus.		ΙC

STATE OF CALIFORNIA **ELECTRICAL POWER DISTRIBUTION** CEC-NRCC-ELC-01-E (REVISED 12/13 C.E.E.)

DIFORMIX ENERGY COMMISSION		CALIF
CERTIFICATE OF COMPLIANCE	NRCC-ELC-01-E	
ELECTRICAL POWER DISTRIBUTION	(Page 3 of 9)	EL
ROJECT NAME OWENS-BROCKWAY GLASS CONTAINER FACILITY BIOBARRIER	DATE 09/29/14	PRO

	` '
PROJECT NAME OWENS-BROCKWAY GLASS CONTAINER FACILITY BIOBARRIER	DATE 09/29/14
B. Disaggregation of Electrical Circuits	
☐ Each newly installed switchboard, panel, and motor control center (in both existing and newly constructed buildings) if disaggregated according to the requirements of Table 130.5–B, shown on the next page.	s required to be

☐ Individual branch circuits, taps or disconnects that require overcurrent protection devices rated 60A or greater are exempt.
As an alternative, current transformers can be added for individual branch circuits and loads throughout the building, and a permai measurement system can be installed. In this case, disaggregated wiring would not be required as long as the metering system allow the equivalent disaggregated measurements.
☐ Fill out a separate line for each switchboard, motor control center, panelboard and subpanel.

STATE OF CALIFORNIA
ELECTRICAL POWER DISTRIBUTION
CEC-NRCC-ELC-01-E (REVISED 12/13 C.E.E.)

CERTIFICATE OF COMPLIANCE	NRCC-ELC-01-E
ELECTRICAL POWER DISTRIBUTION	(Page 2 of 9)
PROJECT NAME OWENS-BROCKWAY GLASS CONTAINER FACILITY BIOBARRIER	DATE 09/29/14

A. Electrical Service Metering Each newly installed electrical service (in both existing and newly constructed buildings) is required to be metered, as set out in Table 130.5-A, which is reproduced below.

Electrical Service Schedule	Electrical Service Rating	Metering Capabilities (check all that are present)			Field Inspector		
A	В	C	D	E	F	•	G.
Designation/Location in Building/Description	kVA	Instantaneous (at the time) kW demand	Historical Peak Demand (kW)	Resettable kWn	kWh per Rate Period	Pass	<u>[5]</u>

Table 130.5-A MINIMUM REQUIREMENTS FOR METERING OF ELECTRICAL LOAD

		More than 50 kVA	More than 250 kVA	
		and less than or	and less than or	More th
Meter Rating (kVA)	50 kVA or less	egual to 250 kVA	equal to 1000 kVA	1000 kV
Instantaneous (at the				
time) kW demand				
Historical Peak Demand				
(kW)	Not Required	Not Required		
Resettable kWh				
kWh per Rate Period	Not Required	Not Required	Not Required	

STATE OF CALIFORNIA **ELECTRICAL POWER DISTRIBUTION**CEC-NRCC-ELC-01-E (REVISED 12/13 C.E.E.)

CERTIFICATE OF COMPLIANCE	NRCC-ELC-01-E
ELECTRICAL POWER DISTRIBUTION	(Page 1 of 9)
PROJECT NAME OWENS-BROCKWAY GLASS CONTAINER FACILITY BIOBARRIER	DATE 09/29/14

PROJECT ADDRESS CLIMATE ZONE 3 Conditioned Floor Area: N/A Unconditioned Floor Area: 80 SQ. FT General Information RELOCATABLE PUBLIC SCHOOL

☑ UNCONDITIONED SPACES

Documentation	Author's Declaration Statement				
1. I Certify that	this Certificate of Compliance document	ation is accurate and complete.			
DOCUMENTATION AUTI	HOR NAME: DAVID M. CHASE	SIGNATURE			
COMPANY:	CHASE ELECTRICAL ENGINEERING		09/29/14		
ADDRESS:	5710 GARFIELD AVE, STE C				
CITY/STATE/ZIP	SACRAMENTO, CA, 95841		PHONE: (916)344-4878		

# RESPONSIBLE PERSON'S DECLARATION STATEMENT

I certify the following under penalty of perjury, under the laws of the State of California:

1. The information provided on this Certificate of Compliance is true and correct. I am eligible under Division 3 of the Business and Professions Code to accept responsibility for the building design or system design identified on this Certificate of Compliance (responsible designer).

CONDITIONED SPACES

☐ NEW CONSTRUCTION ☐ ADDITION

- 3. The energy features and performance specifications, materials, components, and manufactured devices for the building design or system design identified on this Certificate of Compliance conform to the requirements of Title 24, Part 1 and Part 6 of the California Code of Regulations.
- 4. The building design features or system design features identified on this Certificate of Compliance are consistent with the information provided on other applicable compliance documents, worksheets, calculations, plans and specifications submitted to the enforcement agency for approval with this building permit application
- 5. I will ensure that a completed signed of this Certificate of Compliance shall be made available with the building permit(s) issued for the building, and made available to the enforcement agency for all applicable inspection. I understand that a completed signed copy of this Certificate Compliance is required to be included with the documentation the builder provides to the building owner at accurage.

Certificate Compliance	is required to be included with the documentati	on the builder provides	to the building	owner at occupancy.
RESPONSIBLE DESIGNER N	AME:	SIGNATURE		
	DAVID M. CHASE			
COMPANY:	CHASE ELECTRICAL ENGINEERING			09/29/14
ADDRESS:	5710 GARFIELD AVE, STE C			LICENSE #: E-9532
CITY/STATE/ZIP	SACRAMENTO, CA, 95841			PHONE: (916)344-4878
•				

## STATE OF CALIFORNIA ELECTRICAL POWER DISTRIBUTION

STATE OF CALIFORNIA ELECTRICAL POWER DISTRIBUTION CEC-NRCC-ELC-01-E (REVISED 12/13 C.E.E.) CALIFORNIA ENERGY COMMISSION		STATE OF CALIFORNIA  ELECTRICAL POWER DISTRIBUTION  CCC-NCC-ELC-01-E (REVISED 12/13 C.E.E.) CALIFORNIA EMERGY COMMISSION
CERTIFICATE OF COMPLIANCE	NRCC-ELC-01-E	CERTIFICATE OF COMPLIANCE
ELECTRICAL POWER DISTRIBUTION	(Page 9 of 9)	ELECTRICAL POWER DISTRIBUTION
PROJECT NAME OWENCE DECOMMAN OF ACC. CONTAINED FACILITY DIOPARCIES	DATE 00 /00 /14	PROJECT NAME OWENCE DECOMMAN OF ACC. CONTAINED TA

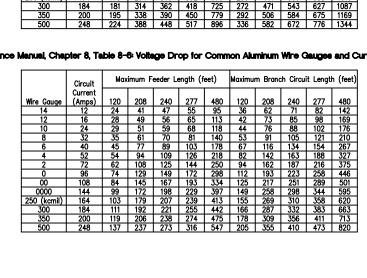
PROJECT NAME OWENS-BROCKWAY GLASS CONTAINER FACILITY BIOBARRIER	DATE 09/29/
D. Circuit Controls for 120-Volt Receptacles	
☐ Controlled 120 volt receptacles shall be provided, as required by Section 130.5(d) of the Standards.	
In open office areas, controlled circuit receptacles are not required if, at time of final permit, workstations are ins workstation is equipped with an occupant sensing control that is permanently mounted in each workstation, and with hardwired, nonresidential-rated power strip. Plug-in strips and other plug-in devices that incorporate an occupant not be used for this exception.	nich controls a

-F	sceptacles that are only for the following purposes are exempt: Receptacles specifically for refrigerators and water dispensers in kitchenettes. Receptacles located a minimum of six feet above the floor that are specifically for clocks. Receptacles for network copiers, fax machines, A/V and data equipment other than personal computers in copy rooms.		
			ield ecto
		Pass	<u>:</u>
1.	At least one controlled receptacle is installed within 6 feet of each uncontrolled receptacle, or split—wired duplex receptacles are installed, that have one controlled and one uncontrolled receptacle. This applies in all of the following spaces:  • Private offices, open office areas • Receptions and lobbies • Conference rooms • Kitchenettes in office spaces • Copy room		⊏
2.	Electric circuits serving controlled receptacles are equipped with automatic shut-OFF controls following the requirements prescribed in Section 130.1(c)1 through 5 (in many cases this will mean that the receptacles are connected to the same automatic shut-OFF system as the general lighting of the space).	-	С
3.	Controlled receptacles shall have a permanent marking to differentiate them from uncontrolled receptacles.	-	┌
4.	For open office areas, controlled circuits shall be provided and marked to support installation and configuration of office furniture with receptacles that comply with Section 130.1(a) 130.5(d)1, 2, and 3.	-	
5.	For hotel and motel guest rooms at least one—half of the 120—volt receptacles in each guest room are controlled receptacles that comply with Section 130.5(d)1, 2, and 3 (see numbers 1, 2 and 3 above). Electric circuits serving controlled receptacles have captive card key controls, occupancy sensing controls, or automatic controls such that, no longer than 30 minutes after guest room has been vacated, power is switched off.		
6.	Plug-in strips and other plug-in devices that incorporate an occupant sensor are not used to comply with any of these requirements.		⊏

# ELECTRICAL POWER DISTRIBUTION PROJECT NAME OWENS-BROCKWAY GLASS CONTAINER FACILITY BIOBARRIER C. Voltage Drop (continued) Compliance Manual, Chapter 8, Table 8-5: Voltage Drop for Common Copper Wire Gauges and Current Loads Maximum Feeder Length (feet) Maximum Branch Circuit Length (feet)

CA BUILDING ENERGY EFFICIENCY STANDARDS - 2013 NONRESIDENTIAL COMPLIANCE

Compliance Manual, Chapter 8, Table 8-6: Voltage Drop for Common Aluminum Wire Gauges and Current Loads Maximum Feeder Length (feet) Maximum Branch Circuit Length (feet)



Fax: (916) 863-3225

# STATE OF CALIFORNIA ELECTRICAL POWER DISTRIBUTION CEC-NRCC-ELC-01-E (REVISED 12/13 C.E.E.)

NRCC-ELC-01-E

(Page 8 of 9) DATE 09/29/14

DECEMBER 2013 CA BUILDING ENERGY EFFICIENCY STANDARDS - 2013 NONRESIDENTIAL COMPLIANCE

CERTIFICATE OF COMPLIANCE	NRCC-ELC-01-E
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PROJECT NAME OWENS-BROCKWAY GLASS CONTAINER FACILITY BIOBARRIER	DATE 09/29/14

	inpedito manda, onaptor	o, labe o⊤z⊹ lypicalira	ctors for Voltage Drop Calculations
Load Type	Default Power Factor at 120 Volts	Default Power Factor at 277 Volts	Clarifying Notes
Fluorescent Lighting	0.95	0.95	
Compact Fluorescent Lighting	0.9 (hardwired) 0.5 (GU-24)	0.9 (hardwired) 0.3 (GU-24)	NPF magnetic ballasts use GU-24 values
LED Lighitng	0.7	0.5	May be higher if specifications call for high power factor drivers

Incandescent			
Lighting	1.0	1.0	
HID Lighting	0.9	0.9	May be lower if NPF ballasts are specified
HVAC Packages	0.85	0.9	
Other Motors <5 hp	0.8	0.8	
Other Motors >5 hp	0.85	0.85	
Kitchen Equipment	0.9	NA	
Receptacles	0.6	NA	For dedicated receptacles, may be rated according to the load
Electric Heating including Hot Water	1.0	1.0	
Other	0.85	0.85	

STATE OF CALIFORNIA POWER DISTRIBUTION

DECEMBER 2013 CA BUILDING ENERGY EFFICIENCY STANDARDS - 2013 NONRESIDENTIAL COMPLIANCE

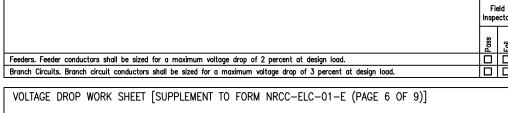
CEC-NRCC-ELC-01-E (REVISED 12/13 C.E.E.) CALIFORNIA ENERGY COMMISSION	
CERTIFICATE OF COMPLIANCE	NRCC-ELC-01-E
ELECTRICAL POWER DISTRIBUTION	(Page 6 of 9)
PROJECT NAME OWENS-BROCKWAY GLASS CONTAINER FACILITY BIOBARRIER	DATE 09/29/14

Ċ	<b>Voltag</b>	e Dro	op				
	Attach	voltage	drop	worksheet	to	this	for

☐ Field inspector has discretion to approve the worksheets; the tables shown below in this section are advisory only Feeder conductors and branch circuits that are dedicated to emergency services are exempt from these requirements ☐ To calculate branch circuit length, the approximate centroid of the load may be used if the actual conductor length is not known

☐ When calculating branch circuit loads, receptacle loads may be derated using a load factor 75%

☐ An advisory table of typical power factors is shown below. Advisory tables of typical maximum feeder and branch circuit lengths are shown on the following page. Table assume 1.0 power factor and that the circuit current is 80% of the rated value.



 $VD = \frac{I \times L \times (CIRCUIT \ FACTOR^*) \times OHMS/KLF}{1000 \times \# \ CONDUCTORS/PHASE} *CIRCUIT \ FACTOR = 1.73(30) \ AND \ 2(10)$ 

1-WAY
CIRCUIT
LENGTH WIRE COND/OHMS/VOLTS % 

CHASE ELECTRICAL **ENGINEERING** 

NOTE: ALL WIRE TYPES ARE COPPER

5710 GARFIELD AVE. SUITE C SACRAMENTO, CA. 95841 (916) 344-4878

PROJECT NO: SDB 2143258 DMC AS NOTED CHECKED: APPROVED: 10/14/16 AS-BUILT DRAWINGS DMC/SDB DMC DATE: 09/19/14 DATE: 10/5/15 REVISED TO ACCEPT PG&E SERVICE NO. DATE REVISIONS

WARNING SIERRA WEST CONSULTANTS, INC. AT FULL SCALE 4227 Sunrise Boulevard, Suite 220 (IF BAR IS NOT 1" - SCALE Fair Oaks, California 95628

Ph: (916) 863-3220

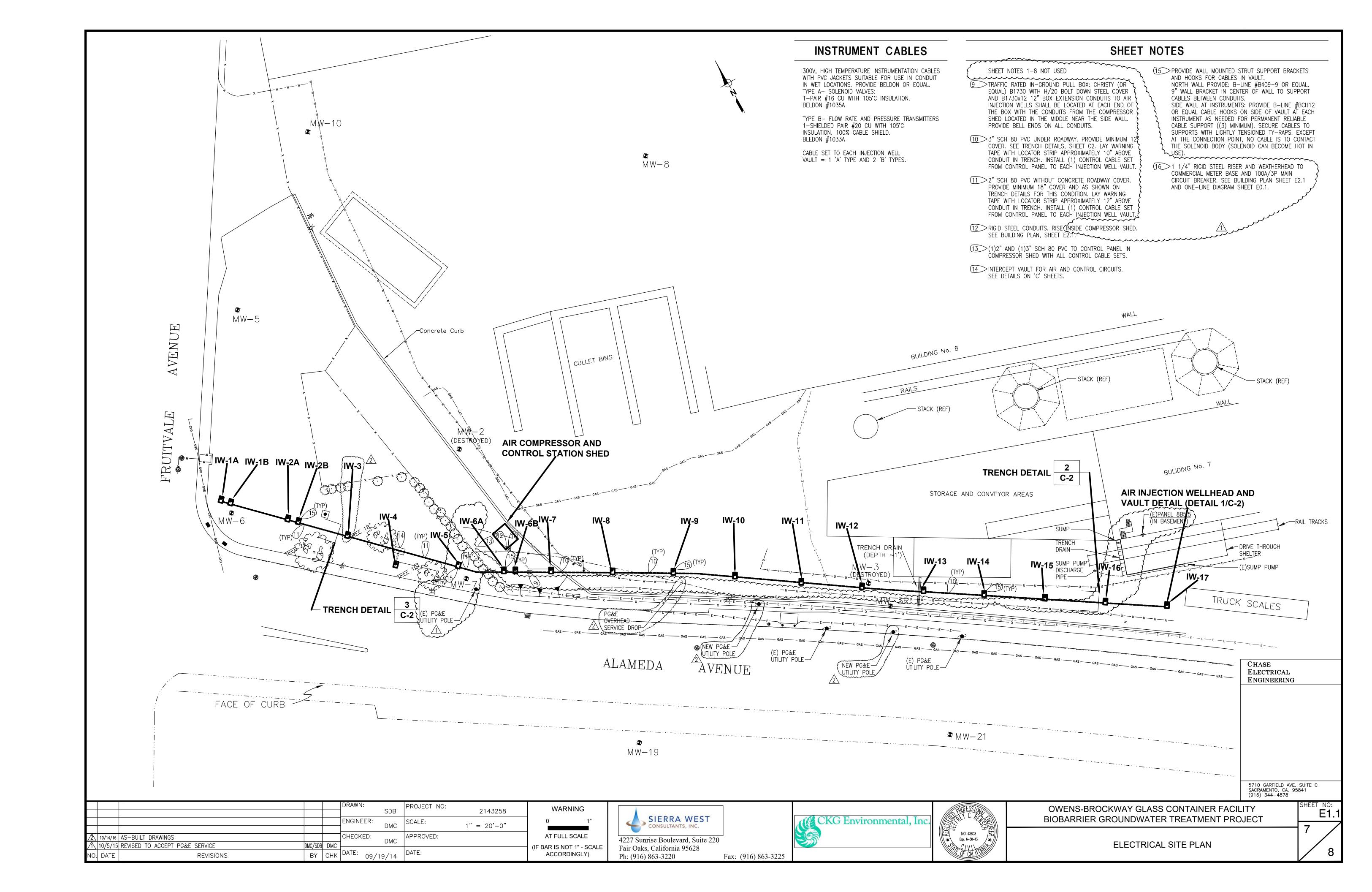
ACCORDINGLY)

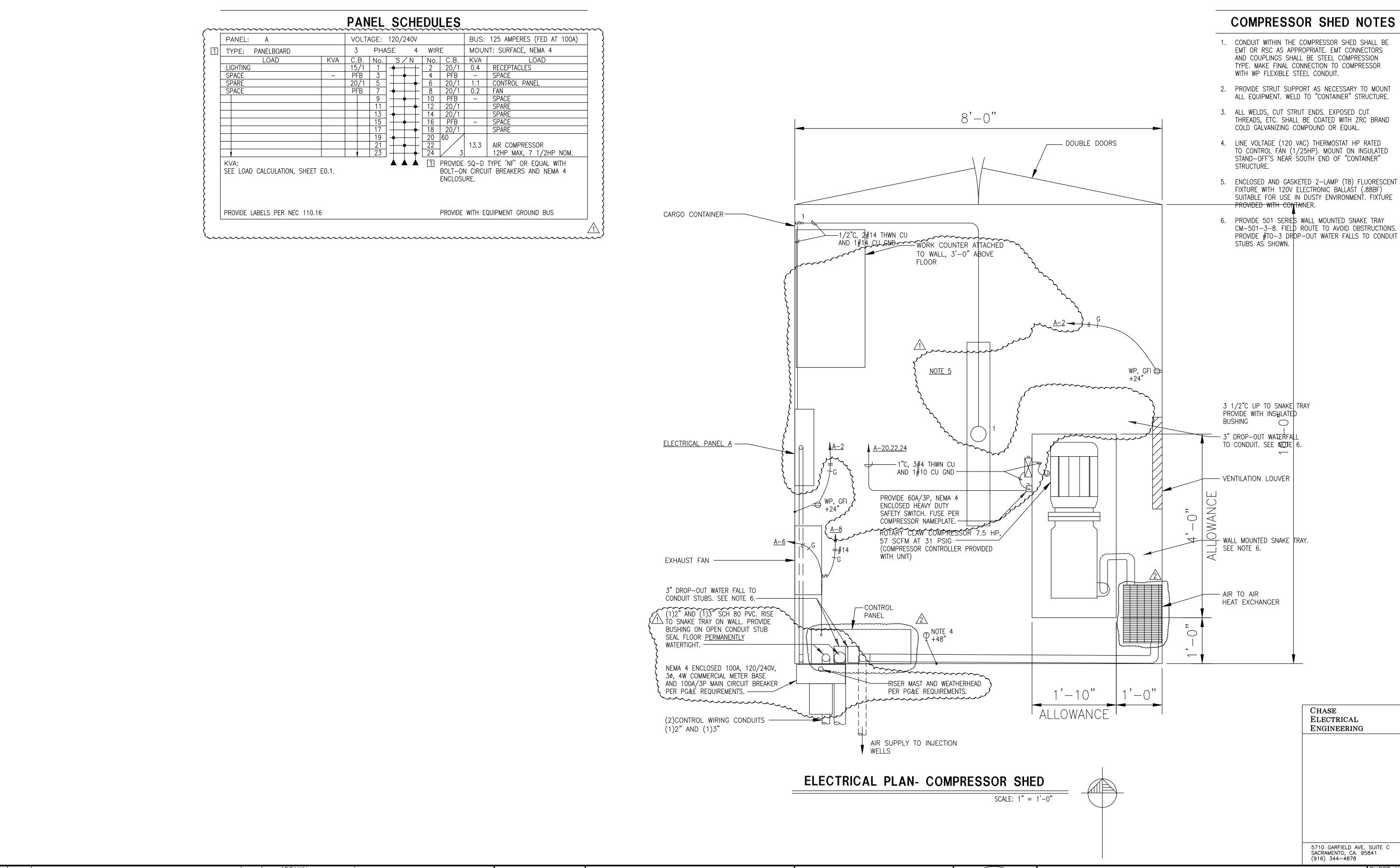




OWENS-BROCKWAY GLASS CONTAINER FACILITY BIOBARRIER GROUNDWATER TREATMENT PROJECT

TITLE 24 INFORMATION





PROJECT NO: WARNING 2143258 SDB **ENGINEER:** SCALE: DMC 1" = 1'-0"AT FULL SCALE 10/14/16 AS-BUILT DRAWINGS CHECKED: APPROVED: 10/5/15 REVISED TO ACCEPT PG&E SERVICE DMC/SDB DMC IF BAR IS NOT 1" - SCALE BY CHK DATE: 09/19/14 ACCORDINGLY) IO. DATE REVISIONS



Fax: (916) 863-3225

Ph: (916) 863-3220

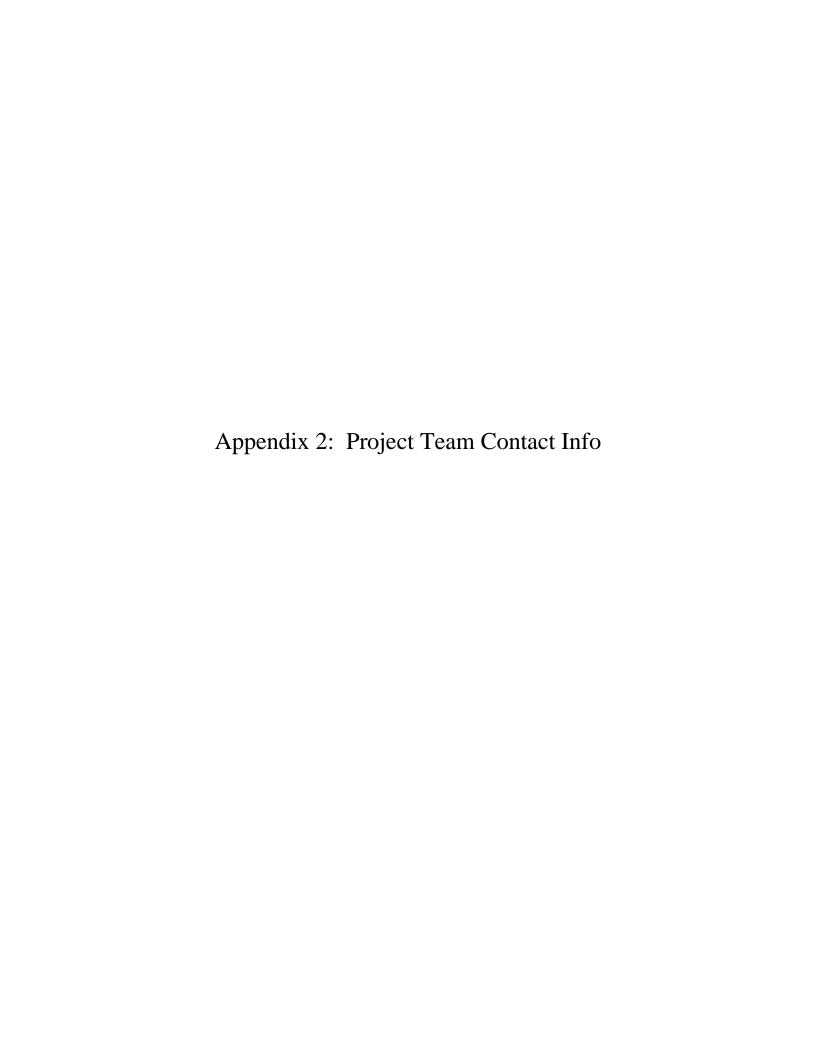




OWENS-BROCKWAY GLASS CONTAINER FACILITY BIOBARRIER GROUNDWATER TREATMENT PROJECT

ELECTRICAL PLAN- COMPRESSOR SHED PANEL SCHEDULES

SHEET NO: E2.



## **Project Team Contacts List**

- 1. Owens-Brockway O: (567) 336-5000
- 2. Christina Kennedy

CKG Environmental, Inc. O: (707) 967-8080

M: (707) 363-5740

3. Jeffrey C. Bensch, P.E. Sierra West Consultants, Inc.

O: (916) 863-3220

M: (916) 207-5706\

4. Mike Babst

Engineering/Remediation Resource Group

O: (415) 395-9974

M: (925) 639-1267

5. Enprobe Environmental Direct Push & Drilling Services, Inc.

O: (530) 693-0219

6. Cascade Drilling L.P.

O: (510) 478-0858

7. Calcon Systems, Inc.

O: (925) 277-0665

8. Carla Kendall

Pacific Gas and Electric Company

O: (510) 437-2133

M: (510) 385-6228

9. Rockridge Geotechnical

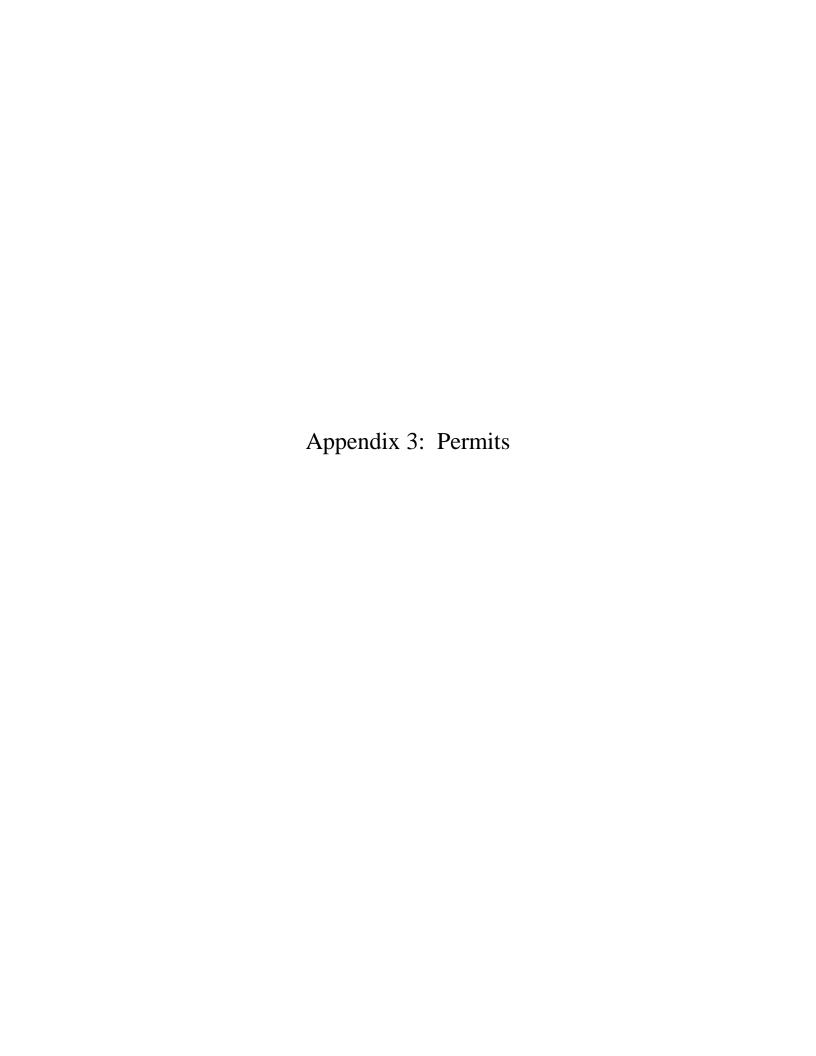
O: (510) 420-5738

10. Testing Engineers, Inc.

O: (510) 504-4183

11. McCampbell Analytical, Inc.

O: (925) 252-9262



## CITY OF OAKLAND



DALZIEL BUILDING • 250 FRANK H. OGAWA PLAZA, SUITE 2340 • OAKLAND, CALIFORNIA 94612-2031

Community and Economic Development Agency Building Services Division

(510) 238-3381 FAX (510) 238-2959 TDD (510) 238-3254

March 4, 2015

Owens Brockway Glass Container, Inc. c/o Yousuf Kaleem, Staff Engineer, Sierra-West Consultants, Inc. One Michael Owens Way Perrysburg, Ohio 43551-2999

RE: 3600 Alameda Avenue, ENMI14167, indenture agreement

Dear property owner:

The indenture agreement to allow installation of one monitoring well MW-21 on Alameda Ave and injection wells IW-1A, -2A, -1B, -2B at intersection of Fruitvale and Alameda Ave. Also include two existing monitoring wells MW-6 on Fruitvale Ave side and MW-19 on Alameda Ave side which may have been permitted under ENMI03008 is enclosed. Before the agreement becomes effective, the person(s) having the legal authority to do so, must sign and properly notarize this original document with a legible notary acknowledgement slip, and then return the document to this office to the attention of Chris Bacina for recordation with the County of Alameda.

There are fees due in the amount of \$438.35. Please arrange to pay the amount as soon as possible. See invoice on reverse side.

If you have any questions, please call Chris Bacina at 510-238-3759.

Sincerely,

David Harlan

Engineering Manager

Planning and Building Department

Enclosure

No Fee Dec		
	ment Pursuant To Government	nt Code Section 6103
recording re		
when record		
Dalziel Admi	gineering Services inistration Building Plaza - 2nd Floor 94612 gineer	
		space above for City of Oakland's use only
	INI	DENTURE AGREEMENT
Address 3600	0 Alameda Avenue	permit no. ENMI 14167
parcel no. 03	3 -2250-011-04	authorities Municipal Code Section 12.08.080
description	-2A, -1B, -2B at intersection	nonitoring well MW-21 on Alameda Ave and injection wells IW-1A, n of Fruitvale and Alameda Ave. Also include two existing monitoring Ave side and MW-19 on Alameda Ave side which may have been 08.
attached he requirement owner agrees A and to co	reto, and limiting the estate and restrictions set forth by and between themselomply with these conditions.	ranted, for an indeterminate period of time, the revocable permit ary encroachment described above and delineated in Exhibit C, use, exercise, and operation of the encroachment with the in Exhibit A, attached hereto, and the associated permit. The wes to be bound by the general and special conditions in Exhibit ons faithfully and fully at all times. The conditions of this ll equally bind all agents, heirs, successors, and assigns of the
	ACKNOWLI	EDGEMENT OF PROPERTY OWNER
	(	Notarization of signature required)
	Owens-Brockway	Glass Container Inc., a Delaware corporation
SignatureOwe	ens-Brockway Glass Container	Inc. Date Mar. 5, 2015
Print Name	Mign Leonard Base Bill Bascacc	Title EHS Director
		ATTACHMENTS
	Conditions of encroachment Description of privately own	
CITY OF OA	AKLAND	
a municipal co		date
DEBORAH SA City Engineer	ANDERCOCK	DAVID HARLAN Engineering Manager Planning and Building Department

## EXHIBIT A

## Conditions for an Encroachment in the Public Right-of-Way

address 3600 Alameda Avenue

parcel no. 033 -2250-011-04

permittee OWENS-BROCKWAY GLASS CONTAINER INC.

permit no. ENMI 14167

## General conditions of the encroachment

- 1. This agreement may be voided and the associated permit for an encroachment may be revoked at any time and for any reason, at the sole discretion of the City Administrator or his or her designee, or the associated permit may be suspended at any time, at the sole discretion of the City Engineer, upon failure of the permittee to comply fully and continuously with each and all of the general and special conditions set forth herein and in the associated permit.
- 2. The property owner and permittee hereby disclaim any right, title, or interest in or to any portion of the public right-of-way, including the sidewalk and street, and agree that the encroachment is granted for indeterminate period of time and that the use and occupancy by the permittee of the public right-of-way is temporary and does not constitute an abandonment, whether expressed or implied, by the City of Oakland of any of its rights associated with the statutory and customary purpose and use of and operations in the public right-of-way.
- 3. The permittee agrees to indemnify and save harmless the City of Oakland, its officers, agents, employees, and volunteers, and each of them, from any suits, claims, or actions brought by any person or persons, corporations, or other entities for on account of any bodily injury, disease, or illness, including death, damage to property, real or personal, or damages of any nature, however caused, and regardless of responsibility for negligence, arising in any manner out of the construction of or installation of a private improvement itself or sustained as result of its construction or installation or resulting from the permittee's failure to maintain, repair, remove and/or reconstruct the private improvement.
- 4. The permittee shall maintain fully in force and effect at all times that the encroachment occupies the public right-of-way good and sufficient public liability insurance in a face amount not less than \$300,000.00 for each occurrence, and property damage insurance in a face amount not less than \$50,000.00 for each occurrence, both including contractual liability, insuring the City of Oakland, its officers, agents, employees, and volunteers against any and all claims arising out of the existence of the encroachment in the public right-of-way, as respects liabilities assume under this permit, and that a certificate of such insurance and subsequent notices of the renewal thereof, shall be filed with the City Engineer of the City of Oakland, and that such certificate shall state that the insurance coverage shall not be canceled or be permitted to lapse without thirty calendar (30) days written notice to the City Engineer. The permittee also agree that the City of Oakland may review the type and amount of insurance required of the permittee annually and may require the permittee to increase the amount of and/or change the type of insurance coverage required.
- 5. The permittee shall be solely and fully liable and responsible for the repair, replacement, removal, reconstruction, and maintenance of any portion or all of the private improvements constructed or installed in the public right-of-way, whether by the cause, neglect, or negligence of the permittee or others and for the associated costs and expenses necessary to restore or remove the encroachment to the satisfaction of the City Engineer and shall not allow the encroachment to become a blight or a menace or a hazard to the health and safety of the general public.
- 6. The permittee acknowledge and agree that the encroachment is out of the ordinary and does not

comply with City of Oakland standard installations. The permittee further acknowledge and agree that the City of Oakland and public utility agencies will periodically conduct work in the public right-of-way, including excavation, trenching, and relocation of its facilities, all of which may damage the encroachment. Permittee further acknowledge and agree that the City and public utility agencies take no responsibility for repair or replacement of the encroachment which may be damaged by the City or its contractors or public utility agencies or their contractors. Permittee further acknowledge and agree that upon notification by and to the satisfaction of the City Engineer, permittee shall immediately repair, replace, or remove, at the sole expense of the permittee, all damages to the encroachment that are directly or indirectly attributable to work by the City or its contractors or public utility agencies or their contractors.

- 7. Permittee shall remain liable for and shall immediately reimburse the City of Oakland for all costs, fee assessments, penalties, and accruing interest associated with the City's notification and subsequent abatement action for required maintenance, repairs, or removal, whether in whole or in part, of the encroachment or of damaged City infrastructure made necessary by the failure, whether direct or indirect, of the permittee to monitor the encroachment effectively and accomplish preventative, remedial, or restorative work expeditiously. The City reserves the unqualified right to collect all monies unpaid through any combination of available statutory remedies, including recordation of Prospective Liens and Priority Liens/ Special Assessments with the Alameda County Recorder, inclusion of non-reimbursed amounts by the Alameda County Assessor with the annual assessment of the general levy, and awards of judgments by a court of competent jurisdiction.
- 8. Upon revocation of the encroachment permit, permittee shall immediately, completely, and permanently remove the encroachment from the public right-of-way and restore the public right-of-way to its original conditions existing before the construction or installation of the encroachment, to the satisfaction of the City Engineer and all at the sole expense of the permittee.
- 9. This agreement and the associated permit for an encroachment shall become effective upon filing of this agreement with the Alameda County Recorder for recordation as an encumbrance of the property and its title.

## · Special conditions of the encroachment

- 10. That said permittee shall obtain excavation permit(s) prior to construction and separate excavation permit(s) prior to the removal of the monitoring wells.
- 11. That said permittee shall provide to the City of Oakland an AS BUILT plan showing the actual location of the monitoring wells and the results of all data collected from the monitoring wells.
- 12. That said permittee shall remove the monitoring wells and repair any damage to the street area in accordance with City standards two (2) years after construction or as soon as monitoring is complete.
- 13. That said permittee shall notify the Planning and Building Department, Engineering Services Division after the monitoring wells are removed and the street area restored to initiate the procedure to rescind the minor encroachment permit.
- 14. That the monitoring wells' cover installed within the sidewalk area shall have a skid-proof surface.
- 15. That the monitoring wells' casting and cover shall be iron and shall meet H-20 load rating. The cover shall be secured with a minimum of two stainless steel bolts. Bolts and cover shall be mounted flush with the surrounding surface. For sidewalk installations, a pre-cast concrete utility box and non-skid cover may be needed in conjunction with the bolted cast iron cover with City

approval.

- 16. That said permittee acknowledges that the City makes no representations or warranties as to the conditions beneath said encroachment. By accepting this revocable permit, permittee agrees that it will use the encroachment area at its own risk, is responsible for the proper coordination of its activities with all other permittee, underground utilities, contractors, or workmen operating, within the encroachment area and for the safety of itself and any of its personnel in connection with its entry under this revocable permit.
- 17. That said permittee acknowledges that the City is unaware of the existence of any hazardous substances beneath the encroachment area, and permittee hereby waives and fully releases and forever discharges the City and its officers, directors, employees, agents, servants, representatives, assigns and successors from any and all claims, demands, liabilities, damages, actions, causes of action, penalties, fines, liens, judgments, costs, or expenses whatsoever (including, without limitation, attorneys' fees and costs), whether direct or indirect, known or unknown, foreseen or unforeseen, that may arise out of or in any way connected with the physical condition or required remediation of the excavation area of any law or regulation applicable thereto, including, without limitation, the Comprehensive Environmental Response, Compensation and Liability Act of 1980, as amended (42 U.S.C. Sections 9601 et seq.), the Resource Conservation and Recovery Act of 1976 (42 U.S.C. Section 466 et seq.), the Safe Drinking Water Act (14 U.S.C. Sections 1401, 1450), the Hazardous Waste Control Law (California Health and Safety Code Sections 25100 et seq.), the Porter-Cologne Water Quality Control Act (California Health and Safety Code Section 13000 et seq.), the Hazardous Substance Account Act (California Health and Safety Code Sections 253000 et seq.), and the Safe Drinking Water and Toxic Enforcement Act (California Health and Safety Code Section 25249.5 et seq.).
- 18. That said permittee further acknowledges that it understands and agrees that it hereby expressly waives all rights and benefits which it now has or in the future may have, under and by virtue of the terms of California Civil Code Section 1542, which reads as follows: "A GENERAL RELEASE DOES NOT EXTEND TO CLAIMS WHICH THE CREDITOR DOES NOT KNOW OR SUSPECT TO EXIST IN HIS FAVOR AT THE TIME OF EXECUTING THE RELEASE, WHICH IF KNOWN BY HIM MUST HAVE MATERIALLY AFFECTED HIS SETTLEMENT WITH THE DEBTOR."
- 19. That said permittee recognizes that by waiving the provisions of this section, permittee will not be able to make any claims for damages that may exist, and to which, if known, would materially affect its decision to agree to these encroachment terms and conditions, regardless of whether permittee's lack of knowledge is the result of ignorance, oversight, error, negligence, or any other cause.
- 20. (a) That said permittee, by the acceptance of this revocable permit, agrees and promises to indemnify, defend, and hold harmless the City of Oakland, its officers, agents, and employees, to the maximum extent permitted by law, from any and all claims, demands, liabilities damages, actions, causes of action, penalties, fines, liens, judgments, costs, or expenses whatsoever (including, without limitation, attorneys' fees and costs; collectively referred to as "claims", whether direct or indirect, known or unknown, foreseen or unforeseen, to the extent that such claims were either (1) caused by the permittee, its agents, employees, contractors or representatives, or, (2) in the case of environmental contamination, the claim is a result of environmental contamination that emanates or emanated from 3600 Alameda Avenue, Oakland, California site, or was otherwise caused by the permittee, its agents, employees, contractors or representatives.

- (b) That, if any contamination is discovered below or in the immediate vicinity of the encroachment, and the contaminants found are of the type used, housed, stored, processed or sold on or from 3600 Alameda Avenue, Oakland, California site, such shall amount to a rebuttable presumption that the contamination below, or in the immediate vicinity of, the encroachment was caused by the permittee, its agents, employees, contractors or representatives.
- (c) That said permittee shall comply with all applicable federal, state, county and local laws, rules, and regulations governing the installation, maintenance, operation and abatement of the encroachment.
- 21. That said Minor Encroachment Permit and Agreement shall take effect when all the conditions hereinabove set forth shall have been complied with to the satisfaction of the City Engineer, and shall become null and void upon the failure of the permittee to comply with all conditions.
- 22. That said permittee understands that a rescission of this agreement will be needed to complete this agreement at some future date when monitoring is completed and wells are removed. Additional permitting will be required.
- 23. That said Indenture Agreement alone does not allow work to be done which requires inspection. Permittee to obtain any and all required permits before beginning work.
- 24. The City, at its sole discretion and at future date not yet determined, may impose additional and continuing fees as prescribed in the Master Fee Schedule for use and occupancy of the public right-of-way.

## EXHIBIT B

## Description of the Private Property Abutting the Encroachment

address 3600 Alameda Avenue deed no. 2001-325929

parcel no. <u>033 -2250-011-04</u> recorded <u>August 30, 2001</u>

CITY OF OAKLAND

#### PARCEL 1.

LOTS 5, 6, 7, 8, 9, 10, 11, 12, 13, 14, 15, 16, 17, 18, 19, 20, 21, 22, 23, 24, 25, 28 IN SUBDIVISION G OF "FRUITVALE TERMINAL TRACT, BROOKLYN TOWNSHIP, ALAMBDA COUNTY", PER MAP FILED DECEMBER 7, 1895, IN BOOK 15 OF MAPS, PAGE 41.

#### PARCEL 2:

LOTS 12, 13, 18, SUBDIVISION F OF "FRUITVALE TERMINAL TRACT, BROOKLYN TOWNSHIP, ALAMEDA COUNTY", PER MAP FILED DECEMBER 7, 1895, IN BOOK 15 OF MAPS, PAGE 41.

#### PARCEL 3:

LOTS 11, 12, 13, 14, 15, 16, 23, 24 OF "ELMWOOD PARK, PRUITVALE, ALAMEDA COUNTY", PER MAP FILED JULY 23, 1906, IN BOOK 21 OF MAPS, PAGE 42.

#### PARCEL 4:

THE SOUTHWESTERN TWENTY-FIVE FEET OF LOT NUMBERED 2 AND THE NORTHEASTERN TWENTY-FIVE FEET OF LOT NUMBERED 3. BOTH MEASUREMENTS ON 36TH AVENUE, IN BLOCK NUMBERED 728, AS SAID LOTS AND BLOCK ARE DELINEATED AND SO DESIGNATED UPON THAT CERTAIN MAP ENTITLED, "C. C. CLAY'S SUBDIVISION OF BLOCK NO. 772 AND FRACTIONAL BLOCKS 728, 734, 747, 751, 752, 753, 754 AND 776 OF THE LEVY AND LANE TRACT AT FRUIT VALE, BROOKLYN TOWNSHIP, ALAMEDA CO., CAL., MARCH 1889" - FILED MARCH 11, 1889, IN BOOK 11 OF MAPS, AT PAGE 59, IN THE OFFICE OF THE COUNTY RECORDER OF ALAMEDA COUNTY.

#### PARCEL 5.

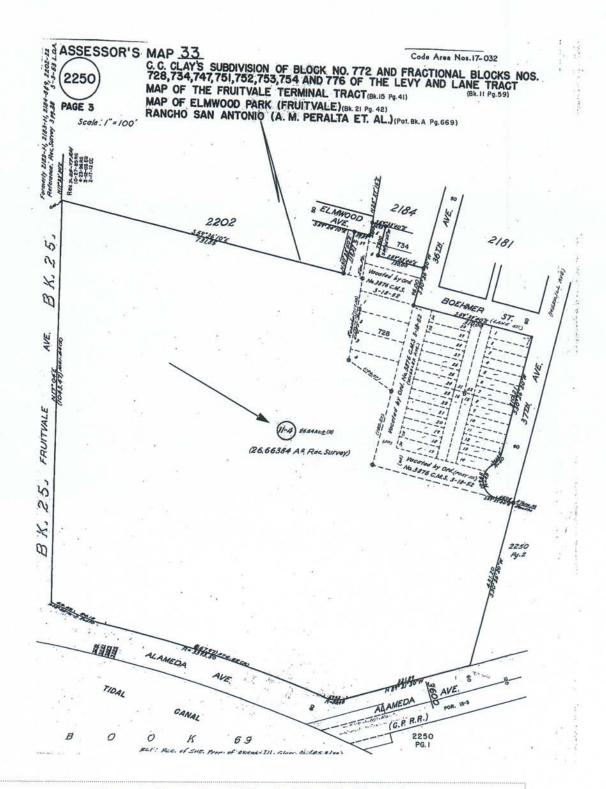
BEGINNING AT A POINT ON THE NORTHWESTERN LINE OF 36TH AVENUE, FORMERLY LANE STREET, AS SAID AVENUE IS SHOWN ON THE MAP HEREIN REFERRED TO, DISTANT THEREON MORTHRASTERLY 147 FEET FROM THE INTERSECTION THEREOF WITH THE NORTHEASTERN LINE OF BOBHMER STREET, FORMERLY LANE STREET, AS SAID STREET HOW EXISTS; THENCE NORTHEASTERLY ALONG SAID LINE OF 36TH AVENUE, 34 FEET; THENCE AT RIGHT ANGLES NORTHWESTERLY 120 FEET; THENCE AT RIGHT ANGLES SOUTHWESTERLY 34 FEET, THENCE AT RIGHT ANGLES BASTERLY 120 FEET TO THE POINT OF BEGINNING.

BEING PORTIONS OF LOTS 3 AND 4 IN BLOCK 734, AS SAID LOTS AND BLOCK ARE SHOWN ON THE MAP OF "C. C. CLAY'S SUBDIVISION OF BLOCK 772 AND FRACTIONAL BLOCKS NOS. 728, 734, 747, 751, 752, 753, 754 AND 776 OF THE LEVY AND LANE TRACT, AT FRUITVALE, BROOKLYN TOWNSHIP", ETC., FILED MARCH 11, 1889, IN BOOK 11 OF MAPS, PAGE 59, IN THE OFFICE OF THE COUNTY RECORDER OF ALAMEDA COUNTY.

Legal description continues through from Parcel 5, above, to Parcel 36.

A more legible copy is available at the Office of the City Engineer, City of Oakland, 250 Frank Ogawa Plaza, 2nd floor.

## EXHIBIT B (continued)



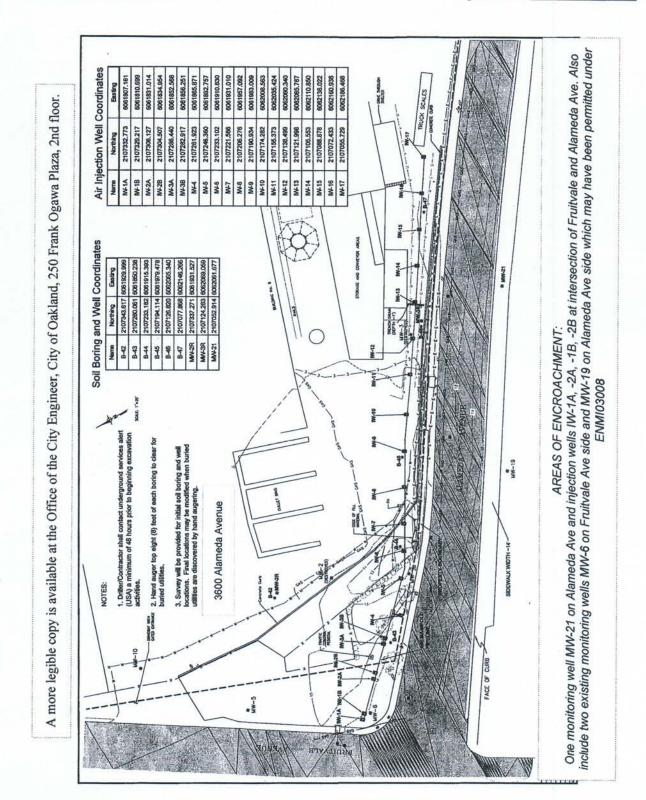
A more legible copy is available at the Office of the City Engineer, City of Oakland, 250 Frank Ogawa Plaza, 2nd floor.

## **EXHIBIT C**

## Limits Of The Encroachment In The Public Right-Of-Way

address 2700 23rd Avenue

parcel no. 026 -0793-031-00



A notary public or other officer completing this certificate verifies only the identity of the individual who signed the document to which this certificate is attached, and not the truthfulness, accuracy, or validity of that document. State of California County of Alamona On 5th Mances 2015 before me, MURSHAD BOBBY KHAN NOTARY PUBLIC

Date

Here Insert Name and Title of the Officer Here Insert Name and Title of the Officer personally appeared WILLIAM LEONARD BOSCACCI I Name(s) of Signer(s) who proved to me on the basis of satisfactory evidence to be the person(s) whose name(s) is/are subscribed to the within instrument and acknowledged to me that he/she/they executed the same in his/her/their authorized capacity(ies), and that by his/her/their signature(s) on the instrument the person(s), or the entity upon behalf of which the person(s) acted, executed the instrument. I certify under PENALTY OF PERJURY under the laws of the State of California that the foregoing paragraph is true and correct. WITNESS my hand and official seal. NOTARY PUBLIC - CALIFORNIA ALAMEDA COUNTY Signature of Notary Public MY COMM. EXPIRES MAY 17, 2016 Place Notary Seal Above OPTIONAL . Though this section is optional, completing this information can deter alteration of the document or fraudulent reattachment of this form to an unintended document. **Description of Attached Document** Title or Type of Document: INDESTUDE AGREEMENT Document Date: 5th MARCH 2015 Number of Pages: 8-/EIGHT Signer(s) Other Than Named Above: Capacity(ies) Claimed by Signer(s) Signer's Name: WILLIAM L'EDNAND BUSCACCIII Signer's Name: ☐ Corporate Officer — Title(s): \_\_\_\_ ☐ Corporate Officer — Title(s): ☐ Partner — ☐ Limited ☐ General ☐ Partner — ☐ Limited ☐ General X Individual Attorney in Fact Individual ☐ Attorney in Fact Trustee ☐ Guardian or Conservator Trustee ☐ Guardian or Conservator Other: Other: Signer Is Representing: Signer Is Representing:



JOB SITE

## CITY OF OAKLAND

250 FRANK H. OGAWA PLAZA - 2ND FLOOR - OAKLAND, CA 94612

Planning and Building Department	
riaming and building Department	
www.oaklandnet.com	

PH: 510-238-3891 FAX: 510-238-2263

TDD: 510-238-3254

Permit No:

OB1500845

Obstruction

Filed Date: 8/24/2015

Job Site:

3600 ALAMEDA AVE

Schedule Inspection by calling: 510-238-3444

Parcel No:

033 225001104

District:

Block 5

Project Description:

Excavate & install five monitoring wells: MW-21; and injection wells IW-1A, -2A, -1B, -2B at

intersection of Fruitvale and Alameda Ave. on Alameda Ave; see site plan.

Permit valid 90 days.

Contact: Yousuf Kaleem; (408) 239-9659.

Separate Obstruction permit required to reserve/block parking lane.

Set up PWA PRE-CON prior to start work: 510-238-3651.

Background: Petition to allow one monitoring well MW-21 on Alameda Ave and injection wells IW-1A, -2A, -1B, -2B at intersection of Fruitvale and Alameda Ave. Also include two existing monitoring wells MW-6 on Fruitvale Ave side, MW-19 on Alameda Ave side which may have

been permitted under ENMI03008.

**Related Permits:** 

X1500468 OB1500222

Name	Applicant	Address	Phone	License #
OWENS BROCKWAY GLASS		ONE MICHAEL OWENS WAY		

Sidewalk as described

CONTAINER INC

DEDDYCRUBE OU

CONTAINENTING

PERRYSBURG, OH

Contractor-

SIERRA WEST CONSULTANTS

4227 SUNRISE BLVD SUITE 220 FAIR

(916) 863-3220

863096

Employee:

Owner:

INC

OAKS, CA

PERMIT DETAILS: Building/Public Use/Activity/Obstructions

**Work Information** 

Start Date: 09/14/2015 End Date: 09/14/2015

Technology Enhancement Fee

Obstruction Permit Type:

Short Term (Max 14 Days)

09/14/2015 Number of Meters (Metered Area):

Length Of Obstruction (Unmetered Area): 50

TOTAL FEES TO BE PAID AT FILING: \$119.34

Application Fee \$70.00

\$70.00 F \$5.46

Records Management Fee

\$9.88 Short Term Permits

\$34.00

Plans Checked By	Date	Permit Issued By	Date 8-24
		Finalized By	Date

Permits for which no major inspection has been approved within 180 days shall expire by limitation. No refund more than 180 days after expiration or final



# CITY OF OAKLAND

## 250 FRANK H. OGAWA PLAZA . 2ND FLOOR . OAKLAND, CA 94612

Planning and Building Department www.oaklandnet.com

Sept 14

PH: 510-238-3891 FAX: 510-238-2263 TDD: 510-238-3254

Permit No:

OB1500222

Obstruction

Filed Date: 3/5/2015

Job Site:

3600 ALAMEDA AVE

Schedule Inspection by calling: 510-238-3444

Parcel No:

033 225001104

District:

**Project Description:** 

Block 50' sidewalk for monitoring well MW-21 on Alameda Ave; see site plan.

Contact: Yousuf Kaleem; (408) 239-9659.

Set up PWA PRE-CON prior to start work: 510-238-3651.

Background: Petition to allow one monitoring well MW-21 on Alameda Ave and injection wells IW-1A, -2A, -1B, -2B at intersection of Fruitvale and Alameda Ave. Also include two existing monitoring wells MW-6 on Fruitvale Ave side, MW-19 on Alameda Ave side which may have

been permitted under ENMI03008.

**Related Permits:** 

X1500468

	Name	Applicant	Address	Phone	License #
Owner:	OWENS BROCKWAY GLASS		ONE MICHAEL OWENS WAY		
	CONTAINER INC		PERRYSBURG, OH		
Contractor-	SIERRA WEST CONSULTANT	5 X	4227 SUNRISE BLVD SUITE 220 FAIR	(916) 863-3220	863096
Employee:	INC		OAKS, CA		

PERMIT DETAILS: Building/Public Use/Activity/Obstructions

Work Information

Start Date: 04/06/2015

Obstruction Permit Type:

Short Term (Max 14 Days)

End Date: 04/06/2015

Number of Meters (Metered Area):

Length Of Obstruction (Unmetered Area):

TOTAL FEES TO BE PAID AT FILING: \$121.06

Application Fee

Plans Checked By

\$71.00

Records Management Fee

\$10.02 **Short Term Permits**  \$34.50

Technology Enhancement Fee

\$5.54

Permit Issued By

Date

Finalized By

Date



## CITY OF OAKLAND



# 250 FRANK H. OGAWA PLAZA . 2ND FLOOR . OAKLAND, CA 94612

Planning and	Building	Department
www.oakland	net.com	

PH: 510-238-3891 FAX: 510-238-2263 TDD: 510-238-3254

Permit No:

X1500468

Excavation

Filed Date: 3/5/2015

Job Site:

3600 ALAMEDA AVE

Schedule Inspection by calling: 510-238-3444

Parcel No:

033 225001104

District:

**Project Description:** 

Excavate & install five monitoring wells: MW-21; and injection wells IW-1A, -2A, -1B, -2B at

intersection of Fruitvale and Alameda Ave. on Alameda Ave; see site plan.

Permit valid 90 days.

Contact: Yousuf Kaleem; (408) 239-9659.

Separate Obstruction permit required to reserve/block parking lane.

Set up PWA PRE-CON prior to start work: 510-238-3651.

Background: Petition to allow one monitoring well MW-21 on Alameda Ave and injection wells IW-1A, -2A, -1B, -2B at intersection of Fruitvale and Alameda Ave. Also include two existing monitoring wells MW-6 on Fruitvale Ave side, MW-19 on Alameda Ave side which may have

been permitted under ENMI03008.

**Related Permits:** 

ENMI14167 OB1500222

Owner: OWENS BROCKWAY GLASS ONE MICHAEL OWENS WAY	Trouble april
CONTAINER INC PERRYSBURG, OH	
Contractor- SIERRA WEST CONSULTANTS X 4227 SUNRISE BLVD SUITE 220 FAIR (916) 863-3220 86	53096
Employee: INC OAKS, CA	

PERMIT DETAILS: Building/Public Infrastructure/Excavation/NA

General Information

Excavation Type: Private Party Date Street Last Resurfaced:

Special Paving Detail Required:

Tree Removal Involved:

Worker's Compensation Company Name:

Holiday Restriction (Nov 1 - Jan 1):

Worker's Compensation Policy #:

Limited Operation Area (7AM-9AM) And (4PM-6PM):

**Key Dates** 

Approximate Start Date: Approximate End Date:

TOTAL FEES TO BE PAID AT FIL	ING: \$0.00	oplision	
Plans Checked By	Date	Permit Issued By	Date 8.24-15
		Finalized By	Date



## CITY OF OAKLAND

# 250 FRANK H. OGAWA PLAZA - 2ND FLOOR - OAKLAND, CA 94612

Planning and Building Department www.oaklandnet.com

PH: 510-238-3891 FAX: 510-238-2263

TDD: 510-238-3254

Permit No:

B1600031

Non-Residential Building - New

Filed Date: 1/5/2016

Job Site:

3600 ALAMEDA AVE

Schedule Inspection by calling: 510-238-3444

Parcel No: District: 033 225001104

Project Description:

Construct new 8'x10' storage shed as part of a Biobarrier groundwater treatment project for site

remediation. The shed will house mechanical/electrical equipment as part of the monitoring

wells

**Related Permits:** 

Construction And Demolition

Tracking

ZW1600007

	Name	Applicant	Address	Phone	License #
Owner:	OWENS BROCKWAY GLASS CONTAINER INC		ONE MICHAEL OWENS WAY PERRYSBURG, OH		
Contractor:	SIERRA WEST CONSULTANTS		4227 SUNRISE BLVD SUITE 220 FAIR OAKS, CA	(916) 863-3220	863096
Contractor- Employee:	Yousuf Kaleem	X	4227 SUNRISE BLVD SUITE 220 FAIR OAKS, CA	(916) 863-3220	

PERMIT DETAILS:	Building/Non-Residential/Building/New				
<b>General Informatio</b>	n				
Green Code Checklist	::0	Sets Of Plans:	3 R	eport - Soil/Geotech:	
Surveys:		Structural Calculations:	: 2 E	nergy Calculations (T24):	2
<b>Building Informatio</b>	n				
Building Use:	Miscellaneous Structure	Number Of Stories:	Fi	re Sprinklers:	
Occupancy Group:	U Utility / Miscellaneous Structure	Number Of Units:	FI	oor Area (sq ft):	
Construction Type:	X-X To Be Determined	No. of Bedrooms:	C	onditioned Floor Area (sq ft):	
Work Information			0	ccupied Floor Area (Non-Res)(sq ft):	
Job Value:	\$94,131.00				
TOTAL FEES TO BE F Overtime Plan Check a Processing	PAID AT FILING: \$1,075.78 nd \$937.50 Records Manage	ement Fee	\$89.06	Technology Enhancement Fee	\$49.22
Plans Checked By	Date	Pe	ermit Issued	1 ву	Date 1-27-16
Special Inspections Special Inspection	<u>Comments</u>		Finalized	дву	Date

Electronic CDSR due prior to final inspection.



Permits for which no major inspection has been approved within 180 days shall expire by limitation. No refund more than 180 days after expiration or final.



# CITY OF OAKLAND

## 250 FRANK H. OGAWA PLAZA . 2ND FLOOR . OAKLAND, CA 94612

Planning and Building Department www.oaklandnet.com

PH: 510-238-3891

FAX: 510-238-2263

TDD: 510-238-3254

Permit No:

E1600310

Non-Residential Electrical - New

Filed Date: 2/1/2016

Job Site:

3600 ALAMEDA AVE

Schedule Inspection by calling: 510-238-3444

Parcel No:

el No: 033 225001104

District:

Owner:

Contractor:

Contractor-Employee:

Project Description:

TEMP POWER for new 8'x10' storage shed construction as part of a Biobarrier groundwater

treatment project for site remediation. The shed will house mechanical/electrical equipment

as part of the monitoring wells.

Related Permits:

B1600031

Name	Applicant	Address	Filone	License #
OWENS BROCKWAY GLASS		ONE MICHAEL OWENS WAY		
CONTAINER INC		PERRYSBURG, OH		
CALCON SYSTEMS INC		12919 ALCOSTA BOULEVARD STE 9 SAN RAMON, CA	(925) 277-0665	508284
Charles Phillips	Х	12919 ALCOSTA BOULEVARD STE 9 SAN RAMON, CA	(925) 277-0665	

PERMIT DETAILS:	Building/Non-Resid	dential/Electrica	/New			
General Information						A
PGE Application Number:			Sets Of Plans:	Т	itle 24 Energy Calc for Electrical Heat	ter:
Occupancy Group:		Calculations:	Т	itle 24 Energy Calc for Lighting:		
Description of Proposed V	Vork					
SERVICE (TEMP.)			Quantity: 1			CONTRACT OF THE
CIRCUIT / FEEDER			Quantity: 1			
MOTORS HP (\$263 max)			Quantity: 1			
TOTAL FEES TO BE PAID A	T FILING: \$206.55					
Application Fee	\$70.00	Inspection		\$110.00	Records Management Fee	\$17.10
Technology Enhancement Fee	\$9.45			Printer (Mount		
Plans Checked By	Date		Pern	Date 2/1/16		
		The same	44	Finalized	ву	Date



Permits for which no major inspection has been approved within 180 days shall expire by limitation. No refund more than 180 days after expiration or final.



CITY OF OAKLAND

Permit No: E1600310

Parcel No: 033 225001104

Job Site: 3600 ALAMEDA AVE

Page 2 of 2

#### LICENSED CONTRACTOR'S DECLARATION

I hereby affirm under penalty of perjury that I am licensed under provisions of Chapter 9 (commencing with Section 7000) of Division 3 of the Business and Professions Code, and my license is in full force and effect.

#### CONSTRUCTION LENDING AGENCY DECLARATION

I hereby affirm under penalty of perjury that there is a construction lending agency for the performance of the work for which this permit is issued (Section 8172, Civil Code).

Lender's Name	
Branch Designation	
Lender's Address	

#### WORKERS' COMPENSATION DECLARATION

WARNING: FAILURE TO SECURE WORKERS' COMPENSATION COVERAGE IS UNLAWFUL, AND SHALL SUBJECT AN EMPLOYER TO CRIMINAL PENALTIES AND CIVIL FINES UP TO ONE HUNDRED THOUSAND DOLLARS (\$100,000), IN ADDITION TO THE COST OF COMPENSATION, DAMAGES AS PROVIDED FOR IN SECTION 3706 OF THE LABOR CODE, INTEREST, AND ATTORNEY'S FEES.

I hereby affirm under penalty of perjury one of the following declarations:

	1	have	e a	nd	will	ma	intair	a	CE	ertifica	ate of	. (	conse	nt	to	self-in:	sure
for	e V	vorke	rs'	co	mpen	sati	on,	issu	ied	by	the	D	irecto	or	of	Indus	trial
Rela	tic	ns a	35	t	provid	ed	for	by	Sec	ction	3700 c	of	the	La	bor	Code,	for
the	pe	rform	anc	e of	the w	ork	for w	hich	thi	s per	mit is is	ssu	ed.				

	have	and v	vill main	tain	worker	rs' cor	npen	sation	insurance,	as
require	d by	Section	3700 of	the	Labor	Code,	for	the	performance	of
the wor	k for v	which this	permit is	issue	d.					

☐ 1 cer	tify tha	t, in	the p	erforma	nce of	the	work	for	which	this
permit is	issued,	1 sha	ll not	emplo	y any	perso	n in	any	manne	so
as to I										
California,	and	agree	that,	if I	should	becc	me	subje	ct to	the
workers'	comper	sation	provi	sions	of Se	ction	3700	of	the L	abor
Code, I sha	II forthw	ith com	oly with	those	provision	ıs.				

#### RRP ACKNOWLEDGMENT

EPA's Lead Renovation, Repair and Painting Rule (RRP Rule) requires that firms performing renovation, repair, and painting projects that disturb lead-based paint in homes, child care facilities and pre-schools built before 1978 have their firm certified by EPA or use certified renovators who are trained by EPA-approved training providers and follow lead-safe work practices. As the contractor preparing to do work on a Pre-1978

building, I have read the explanation of the RRP Rule and will ensure that any paint disturbing work will be done by or supervised by an RRP certified individual(s). Failure to follow this rule may result in enforcement action by the EPA. For additional information on complying with lead safety requirements, contact the Alameda County Healthy Homes Department at (510) 567-8280 or 1-800-253-2372 or visit http://www.achhd.org.

#### HAZARDOUS MATERIALS DECLARATION

I hereby affirm that the intended occupancy \( \subseteq \text{WILL} \) \( \subseteq \text{WILL NOT} \)

use, handle or store any hazardous, or acutely hazardous, materials. (Checking "WILL" acknowledges that Sections 25505, 25533, and 25534 of the Health and Safety Code, as well as filing instructions were made available to you).

I HEREBY CERTIFY THE FOLLOWING: That I have read this document, that the above information is correct; and that I have truthfully affirmed all applicable declarations contained in this document. I agree to comply with all city and county ordinances and state laws relating to building construction, and hereby authorize representatives of this city to enter upon the above-mentioned property for inspection purposes.

I hereby agree to save, defend, indemnify and keep harmless the City of Oakland and its officials, officers, employees, representatives, agents, and volunteers from all actions, claims, demands, litigation, or proceedings, including those for attorneys' fees, against the City in consequence of the granting of this permit or from the use or occupancy of the public right-of-way, public easement, or any sidewalk, street or sub-sidewalk or otherwise by virtue thereof, and will in all things strictly comply with the conditions under which this permit is granted I further certify that I am the owner of the property involved in this permit or that I am fully authorized by the owner to access the property and perform the work authorized by this permit.

Name	
Signature	
☐ Contractor, or ☐Contractor's Agent	Date

NOTICE: No activities related to the approved work, including storage/use of materials, is allowed within the public right-of-way without an encroachment permit. Dust control measures shall be used throughout all phases of construction.

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of-way Il be				



399 Elmhurst Street Hayward, CA 94544-1395 Telephone: (510)670-6633 Fax:(510)782-1939

Permit Numbers: W2015-0220 to W2015-0223 Application Approved on: 03/17/2015 By jamesy Permits Valid from 10/07/2015 to 10/07/2015

Application Id: 1425605622951 City of Project Site: Oakland

Site Location: 3600 Alameda Ave, Oakland CA 94601

**Project Start Date:** 04/06/2015 Completion Date: 04/10/2015

Contact Steve Miller at (510) 670-5517 or stevem@acpwa.org Assigned Inspector:

Extension Start Date: 10/07/2015 Extension End Date: 10/07/2015 Extension Count: Extended By: priest

Sierra West Consultants Inc. - jeff Bensch Phone: 916-863-3220 Applicant:

4227 Sunrise Boulevard Suite 220, Fair Oaks, CA 95628

Bill Boscacci Owens Brockway Glass Container **Property Owner:** Phone: 510-436-2166

3600 Alameda Ave, Oakland, CA 94601

Client: Chris Kennedy Phone: 707-363-5740 P.O. Box 246, St. Helena, CA 94574

Contact: Yousuf Kaleem Phone: 916-863-3220

Cell: 408-239-9659

**Total Due:** \$1456.00

Receipt Number: WR2015-0114 **Total Amount Paid:** \$1456.00 **PAID IN FULL** Payer Name : Sierra West Consultants, Inc. Paid By: CHECK

#### **Works Requesting Permits:**

Borehole(s) for Investigation-Environmental/Monitorinig Study - 6 Boreholes

Driller: EnProbe - Lic #: 777007 - Method: DP Work Total: \$265.00

#### **Specifications**

Permit	Issued Dt	Expire Dt	#	<b>Hole Diam</b>	Max Depth
Number			Boreholes		
W2015-	03/17/2015	07/05/2015	6	1.50 in.	50.00 ft
0220					

#### **Specific Work Permit Conditions**

- 1. Backfill bore hole by tremie with cement grout or cement grout/sand mixture. Upper two-three feet replaced in kind or with compacted cuttings. All cuttings remaining or unused shall be containerized and hauled off site. The containers shall be clearly labeled to the ownership of the container and labeled hazardous or non-hazardous.
- 2. Boreholes shall not be left open for a period of more than 24 hours. All boreholes left open more than 24 hours will need approval from Alameda County Public Works Agency, Water Resources Section. All boreholes shall be backfilled according to permit destruction requirements and all concrete material and asphalt material shall be to Caltrans Spec or County/City Codes. No borehole(s) shall be left in a manner to act as a conduit at any time.
- 3. Permittee shall assume entire responsibility for all activities and uses under this permit and shall indemnify, defend and save the Alameda County Public Works Agency, its officers, agents, and employees free and harmless from any and all expense, cost, liability in connection with or resulting from the exercise of this Permit including, but not limited to, properly damage, personal injury and wrongful death.
- 4. Applicant shall contact assigned inspector listed on the top of the permit at least five (5) working days prior to starting, once the permit has been approved. Confirm the scheduled date(s) at least 24 hours prior to drilling.
- 5. Copy of approved drilling permit must be on site at all times. Failure to present or show proof of the approved permit

application on site shall result in a fine of \$500.00.

#### 6. NOTE:

Under California laws, the owner/operator are responsible for reporting the contamination to the governmental regulatory agencies under Section 25295(a). The owner/operator is liable for civil penalties under Section 25299(a)(4) and criminal penalties under Section 25299(d) for failure to report a leak. The owner/operator is liable for civil penalties under Section 25299(b)(4) for knowing failure to ensure compliance with the law by the operator. These penalty provisions do not apply to a potential buyer.

- 7. Prior to any drilling activities onto any public right-of-ways, it shall be the applicants responsibilities to contact and coordinate a Underground Service Alert (USA), obtain encroachment permit(s), excavation permit(s) or any other permits required for that City or to the County and follow all City or County Ordinances. It shall also be the applicants responsibilities to provide to the Cities or to Alameda County a Traffic Safety Plan for any lane closures or detours planned. No work shall begin until all the permits and requirements have been approved or obtained.
- 8. Permit is valid only for the purpose specified herein. No changes in construction procedures, as described on this permit application. Boreholes shall not be converted to monitoring wells, without a permit application process.

Well Construction-Monitoring-Monitoring - 3 Wells

Driller: EnProbe - Lic #: 777007 - Method: hstem Work Total: \$1191.00

#### **Specifications**

Permit #	Issued Date	Expire Date	Owner Well Id	Hole Diam.	Casing Diam.	Seal Depth	Max. Depth
W2015- 0221	03/17/2015	07/05/2015	MW-21	8.00 in.	2.00 in.	19.00 ft	30.00 ft
W2015- 0222	03/17/2015	07/05/2015	MW-2R	8.00 in.	2.00 in.	19.00 ft	30.00 ft
W2015-	03/17/2015	07/05/2015	MW-3R	8.00 in.	2.00 in.	19.00 ft	30.00 ft

#### **Specific Work Permit Conditions**

- 1. Permittee shall assume entire responsibility for all activities and uses under this permit and shall indemnify, defend and save the Alameda County Public Works Agency, its officers, agents, and employees free and harmless from any and all expense, cost, liability in connection with or resulting from the exercise of this Permit including, but not limited to, properly damage, personal injury and wrongful death.
- 2. Permittee, permittee's contractors, consultants or agents shall be responsible to assure that all material or waters generated during drilling, boring destruction, and/or other activities associated with this Permit will be safely handled, properly managed, and disposed of according to all applicable federal, state, and local statutes regulating such. In no case shall these materials and/or waters be allowed to enter, or potentially enter, on or off-site storm sewers, dry wells, or waterways or be allowed to move off the property where work is being completed.
- 3. Prior to any drilling activities, it shall be the applicant's responsibility to contact and coordinate an Underground Service Alert (USA), obtain encroachment permit(s), excavation permit(s) or any other permits or agreements required for that Federal, State, County or City, and follow all City or County Ordinances. No work shall begin until all the permits and requirements have been approved or obtained. It shall also be the applicants responsibilities to provide to the Cities or to Alameda County an Traffic Safety Plan for any lane closures or detours planned. No work shall begin until all the permits and requirements have been approved or obtained.

- 4. Compliance with the well-sealing specifications shall not exempt the well-sealing contractor from complying with appropriate State reporting-requirements related to well construction or destruction (Sections 13750 through 13755 (Division 7, Chapter 10, Article 3) of the California Water Code). Contractor must complete State DWR Form 188 and mail original to the Alameda County Public Works Agency, Water Resources Section, within 60 days. Include permit number and site map.
- 5. Applicant shall submit the copies of the approved encroachment permit to this office within 10 days.
- 6. Applicant shall contact assigned inspector listed on the top of the permit at least five (5) working days prior to starting, once the permit has been approved. Confirm the scheduled date(s) at least 24 hours prior to drilling.
- 7. Wells shall have a Christy box or similar structure with a locking cap or cover. Well(s) shall be kept locked at all times. Well(s) that become damaged by traffic or construction shall be repaired in a timely manner or destroyed immediately (through permit process). No well(s) shall be left in a manner to act as a conduit at any time.
- 8. Minimum surface seal thickness is two inches of cement grout placed by tremie.
- 9. Minimum seal (Neat Cement seal) depth for monitoring wells is 5 feet below ground surface(BGS) or the maximum depth practicable or 20 feet.
- 10. Copy of approved drilling permit must be on site at all times. Failure to present or show proof of the approved permit application on site shall result in a fine of \$500.00.



399 Elmhurst Street Hayward, CA 94544-1395 Telephone: (510)670-6633 Fax:(510)782-1939

Application Approved on: 08/27/2015 By jamesy Permit Numbers: W2015-0813 Permits Valid from 09/14/2015 to 09/18/2015

Application Id: 1440180154995 City of Project Site:Oakland

Site Location: 3600 Alameda Ave

Oakland, CA 94601

**Project Start Date:** 09/14/2015 **Completion Date:**09/18/2015 **Contact Lindsay Furuyama at (925) 956-2311 or Lfuruyama@groundzonees.com** 

Applicant: Sierra West Consultants, Inc - Yousuf Kaleem Phone: 916-863-3220

4227 Sunrise Boulevard Suite 220, Fair Oaks, CA 95628

Property Owner: Bill Boscacci, Owens Brockway Glass Container Phone: 510-436-2166

Inc.

3600 Alameda Ave, Oakland, CA 94601

Client: Chris Kennedy Phone: 707-363-5740 P.O. Box 246, St. Helena, CA 94574

Contact: Yousuf Kaleem Phone: 916-863-3220

**Cell**: 408-239-9659

Total Due: \$265.00

Receipt Number: WR2015-0429 Total Amount Paid: \$265.00

Payer Name : Jeffrey C Bensch Paid By: VISA PAID IN FULL

#### **Works Requesting Permits:**

Remediation Well Construction-Injection - 20 Wells

Driller: EnProbe - Lic #: 777007 - Method: hstem Work Total: \$265.00

#### **Specifications**

Permit #	Issued Date	Expire Date	Owner Well Id	Hole Diam.	Casing Diam.	Seal Depth	Max. Depth
W2015- 0813	08/27/2015	12/13/2015	IW-10	8.00 in.	2.00 in.	10.00 ft	20.00 ft
W2015- 0813	08/27/2015	12/13/2015	IW-11	8.00 in.	2.00 in.	10.00 ft	20.00 ft
W2015- 0813	08/27/2015	12/13/2015	IW-12	8.00 in.	2.00 in.	10.00 ft	20.00 ft
W2015- 0813	08/27/2015	12/13/2015	IW-13	8.00 in.	2.00 in.	10.00 ft	20.00 ft
W2015- 0813	08/27/2015	12/13/2015	IW-14	8.00 in.	2.00 in.	10.00 ft	20.00 ft
W2015- 0813	08/27/2015	12/13/2015	IW-15	8.00 in.	2.00 in.	10.00 ft	20.00 ft
W2015- 0813	08/27/2015	12/13/2015	IW-16	8.00 in.	2.00 in.	10.00 ft	20.00 ft
W2015- 0813	08/27/2015	12/13/2015	IW-17	8.00 in.	2.00 in.	10.00 ft	20.00 ft
W2015- 0813	08/27/2015	12/13/2015	IW-1A	8.00 in.	2.00 in.	10.00 ft	20.00 ft
W2015- 0813	08/27/2015	12/13/2015	IW-1B	8.00 in.	2.00 in.	18.00 ft	28.00 ft
W2015- 0813	08/27/2015	12/13/2015	IW-2A	8.00 in.	2.00 in.	10.00 ft	20.00 ft
W2015- 0813	08/27/2015	12/13/2015	IW-2B	8.00 in.	2.00 in.	18.00 ft	28.00 ft
W2015-	08/27/2015	12/13/2015	IW-3A	8.00 in.	2.00 in.	10.00 ft	20.00 ft

0813							
W2015- 0813	08/27/2015	12/13/2015	IW-3B	8.00 in.	2.00 in.	18.00 ft	28.00 ft
W2015- 0813	08/27/2015	12/13/2015	IW-4	8.00 in.	2.00 in.	10.00 ft	20.00 ft
W2015- 0813	08/27/2015	12/13/2015	IW-5	8.00 in.	2.00 in.	10.00 ft	20.00 ft
W2015- 0813	08/27/2015	12/13/2015	IW-6	8.00 in.	2.00 in.	10.00 ft	20.00 ft
W2015- 0813	08/27/2015	12/13/2015	IW-7	8.00 in.	2.00 in.	10.00 ft	20.00 ft
W2015- 0813	08/27/2015	12/13/2015	IW-8	8.00 in.	2.00 in.	10.00 ft	20.00 ft
W2015- 0813	08/27/2015	12/13/2015	IW-9	8.00 in.	2.00 in.	10.00 ft	20.00 ft

#### **Specific Work Permit Conditions**

- 1. Permittee shall assume entire responsibility for all activities and uses under this permit and shall indemnify, defend and save the Alameda County Public Works Agency, its officers, agents, and employees free and harmless from any and all expense, cost, liability in connection with or resulting from the exercise of this Permit including, but not limited to, properly damage, personal injury and wrongful death.
- 2. Permittee, permittee's contractors, consultants or agents shall be responsible to assure that all material or waters generated during drilling, boring destruction, and/or other activities associated with this Permit will be safely handled, properly managed, and disposed of according to all applicable federal, state, and local statutes regulating such. In no case shall these materials and/or waters be allowed to enter, or potentially enter, on or off-site storm sewers, dry wells, or waterways or be allowed to move off the property where work is being completed.
- 3. Compliance with the well-sealing specifications shall not exempt the well-sealing contractor from complying with appropriate State reporting-requirements related to well construction or destruction (Sections 13750 through 13755 (Division 7, Chapter 10, Article 3) of the California Water Code). Contractor must complete State DWR Form 188 and mail original to the Alameda County Public Works Agency, Water Resources Section, within 60 days. Include permit number and site map.
- 4. Applicant shall submit the copies of the approved encroachment permit to this office within 10 days.
- 5. Applicant shall contact assigned inspector listed on the top of the permit at least five (5) working days prior to starting, once the permit has been approved. Confirm the scheduled date(s) at least 24 hours prior to drilling.
- 6. Wells shall have a Christy box or similar structure with a locking cap or cover. Well(s) shall be kept locked at all times. Well(s) that become damaged by traffic or construction shall be repaired in a timely manner or destroyed immediately (through permit process). No well(s) shall be left in a manner to act as a conduit at any time.
- 7. Minimum seal depth (Neat Cement Seal) is 2 feet below ground surface (BGS).
- 8. Minimum surface seal thickness is two inches of cement grout placed by tremie.
- 9. Copy of approved drilling permit must be on site at all times. Failure to present or show proof of the approved permit application on site shall result in a fine of \$500.00.
- 10. Electronic Reporting Regulations (Chapter 30, Division 3 of Title 23 & Division 3 of Title 27, CCR) require electronic submission of any report or data required by a regulatory agency from a cleanup site. Submission dates are set by a Regional Water Board or by a regulatory agency. Once a report/data is successfully uploaded, as required, you have met

the reporting requirement (i.e. the compliance measure for electronic submittals is the actual upload itself). The upload date should be on or prior to the regulatory due date.

11. Prior to any drilling activities onto any public right-of-ways, it shall be the applicants responsibilities to contact and coordinate a Underground Service Alert (USA), obtain encroachment permit(s), excavation permit(s) or any other permits required for that City or to the County and follow all City or County Ordinances. It shall also be the applicants responsibilities to provide to the Cities or to Alameda County a Traffic Safety Plan for any lane closures or detours planned. No work shall begin until all the permits and requirements have been approved or obtained.

Appendix 4:	Daily Constructi	on Observation Repo	orts



# SIERRA WEST CONSULTANTS DAILY TAILGATE SAFETY MEETING

Project: Grandwater Brobe Project: Information Reviewed:			. Dy	Yournf K.
Daily Work Scope  Emergency Response	0	First Aid Kit Location	0	Personal Protective Equipment
- Tresponse	0	Fire Extinguisher Location	0	Slips Trips & Falls
Site Evacuation Meeting Point HASP Location	0	Eye Wash Station Location	0	Open Pits and Excavations
Directions to Hospital	0	Decontamination Procedures Noise Hazards	0	Heat and Cold Stress
MSDS's	0		0	Pinch Points
Permits and Compliance	0	Orderly Site Housekeeping Traffic Control	0	Overhead and Subsurface Utilitie
Stop Work Authority	0	Vehicle Safety	0	Site Security
Buddy System	O	Backing Up and Spotters	0	Biological Hazards Allergies and Medical Conditions
Site Hazards	0	Securing Loads / Cargo	0	Dust and Vapor Control
Chemicals of Concern at the Site				

Name	Signature	Company
Mike Babst	1/12	ERRG
Stew O. Jan	3	Epan
Steven Hoeft	Les AD	Ender
OFSHE CHAUZ	Alex	Eggi
Israel (havez	Ingel Oles	EKRG
Komino Thise	Charles .	CAL West
Bethany Dragger	Harry	Subpressie Corp
9	l P O	

Conduct a Daily Tailgate Safety Meeting prior to each day's site activities. Follow up on any noted items.

Project: Foundwater Biobernier	Owner:	Owens brock	way
Engineer: Silla West		2/1/16	U
Contractor: ERRG		of	
Day: Meather: Gunny			
On-Site Observer: Yourn't Kaleem	Arrival: 7:00	Departure:	3:30
Visitors:			
Work Force: Personnel, Company  Buttonics		Commer	nts
Beth, Subtanics FRRG. 6 man crew			
SHETTA West Teft / Yours of	I man crew		
, icit / yens and			
Equipment:  Sawcrutter for concrete  249D CAT w/drill attachment  350 John Doere			
Activities			
7-715AM: Met with whim and	ERRG		
715-745: H35 meeting			
Subtronics arrived on site @ 8:10	An	ry.	
Constructed 6'x 5' wooden fro	une (+1' for AB n	neuterial on s	ides) for
Cach well voralt. Used frame to 1	nork out boults f	or sawcuttin	4
Water live/Electric live hugs curb, then cr	isses trenched ar	ea towards	building
Vater approx 2' deep Electric approx 2.5-3' Leep			0
guranouis finished a 11:00 Avr			
Began Site champe 1345	approx 30" Did	not hit we	uter line.
Calcon visited size around 2:30 PM ju	est to supe site		



## FIELD SAFETY BRIEFING ATTENDANCE SHEET

Site Name: Buens-Brockway	Date: 2/2//6		
Project: Grow Luager Brobarrier	Presented By: Yousuf K		

# Topics / Information Reviewed:

000 BBB000	Daily Work Scope Emergency Response HASP Location Directions to Hospital Stop Work Authority Buddy System Site Hazards		First Aid Kit Location Fire Extinguisher Location Eye Wash Station Location Noise Hazards Orderly Site Housekeeping Traffic Control Vehicle Safety Backing Up and Spotters	Ø0	Personal Protective Equipment Slips Trips & Falls Heat and Cold Stress Site Security Biological Hazards Allergies and Medical Conditions Dust and Vapor Control
------------	------------------------------------------------------------------------------------------------------------------------------------------	--	----------------------------------------------------------------------------------------------------------------------------------------------------------------------------	----	-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------

Chemicals of Concern at the Site:

Specific Precautions for Today's Activities: Raining Excavation Precautions

Name	Signature	Company
Steven Hoeft	Slo 2 Ast	ERRG
Mike Bahst		EKRA
Stem Andge	Earl	ERK C EKK C
Israel Chaver	Enst Chy	EKKG
VII-e com	bin	Kelle
onduct a Daily Tailgate Safety Meeting p		

Conduct a Daily Tailgate Safety Meeting prior to each day's site activities. Follow up on any noted items.

On Day #1 – Review Health and Safety Plan and have each person sign-off confirming their understanding of the plan.

Project: Biobassier Owner	: Ovens-Brok	Celvery
Facilities (1)	: 2/2/16	0
Contractor 500 c	of	
Day: Tree Weather: Cloudy / Ruing Temp:		
On-Site Observer: Yoursel Koheem Arrival: 7:00	_ Departure:	3:15
Visitors:		
Work Force: Personnel, Company  FRG - 5 mm c eeu	Comme	ents
Equipment:		
Buchton 249 D Cat 3550 John Deere		
20 30 to the page		
Activities		
7:00 Arrived on-site		
Began tearing up asphalt near IW-17 area Backfill material (and) on site		
Buck give is open. Waiting as new soil Bin		
Buck gute is open. Waiting an rew soil Bin Spil bin arrived, ready to excavate trench PE/PVC pige arrived on sire		
Concrete Asphalt area: 240' length x 20" width x 28". Virults area: 5' x 6' x 37" deep approx 10" of asphe	depth avg 10	" of asphalt/concrete
Approx 12" of PVE from IW-17 broke do see seem live		
Greet) 19" to top of pipe 29" to from 1 W-16 ( f	o the right) if	facing
underneath.	J . J	

## FIELD OBSERVATIONS



lient:	Date: 2/2//6			W	T	F	S	S
	Location:							
bserver:	Weather:							
escription:								F
Collected 4-point comp sample G	or 12+ bin (55 6	21 -1	100		N	Co		TI
renched up to IW-15	100	4 01	110	JC ZNO	- S	110	101	1
Fund beolding loads, 4 one load	Lapprox 23 tous							
greats 1								
Tavel load: 3								
		- Colores						
			_					
36				-				
					-			
				-	-			
					-	-		-
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						-		
		+						
								- 1



# SIERRA WEST CONSULTANTS DAILY TAILGATE SAFETY MEETING

Topics / Information Reviewed:				
O Daily Work Scope	0	First Aid Kit Location	0	Personal Protective Equipment
D Emergency Response	O	Dittinguisiter Ecounion	0	Slips Trips & Falls
Site Evacuation Meeting Point	0	-j - ' Hour Dimitor Doublion	0	Open Pits and Excavations
HASP Location	0	Decontamination Procedures	O	Heat and Cold Stress
Directions to Hospital	0	Noise Hazards	0	Pinch Points
MSDS's	0	Orderly Site Housekeeping	O	Overhead and Subsurface Utilitie
Permits and Compliance	0	Traffic Control	0	Site Security
O Stop Work Authority	0	· childre builty	O	Biological Hazards
D Buddy System	0	- managop and oponers	O	Allergies and Medical Condition
O Site Hazards	0	Securing Loads / Cargo	O	Dust and Vapor Control
	e:			
Chemicals of Concern at the Site  Specific Precautions for Today's		ities:		
Chemicals of Concern at the Site		ities: Signature		Company
Chemicals of Concern at the Site				

Conduct a Daily Tailgate Safety Meeting prior to each day's site activities. Follow up on any noted items.

Project: B Groundwater Biobassies	Owner: Owens-Brochway
Engineer: Sierra West	Date: 2/3//6
Contractor: ERRG	Page: of
Day: wed Weather:	Temp: Conditions: Clear
On-Site Observer: Yousuf Kaleem Visitors:	Arrival: 6:45 Am Departure: 3:30
Work Force: Personnel, Company  ERRG - 6 man avers	Comments
Equipment:	
Rotchammer to drill through vault boxes	5
A - Alicitic -	
Activities 6:45-7 Am: Safety Meeting Soil starring to smell past Ibe 15	
Soil starting to smell past Ilut 15	
Started laying down much and gran Vaults and trashic rated lides acrived or	n site. Pedestrian lids will arrive near was
Collected sumples from two hins (4-pe	oint sumples) and consider piched up @ 12:45
Began drilling and knowling out her in	silewalls and bottom at well would boxes
6"x9.5" knockouts on each side of	to IW-B. Did not break drain
The state of the s	yant F tox conducts



# FIELD SAFETY BRIEFING ATTENDANCE SHEET

Site Name: Overs-Brockwa	7	Date: 2/4/	16
Project: Biobassier Groundu	ator Treatment	Presented By:	Yousuf K.
Topics / Information Reviewed	:		
Daily Work Scope O Emergency Response O HASP Location O Directions to Hospital Stop Work Authority Buddy System Site Hazards O O	O First Aid Kit Locati O Fire Extinguisher L O Eye Wash Station I O Noise Hazards Orderly Site House Traffic Control Vehicle Safety Backing Up and Sp	ocation Ø ocation O ocation O ocation O ocation O ocation O	Personal Protective Equipment Slips Trips & Falls Heat and Cold Stress Site Security Biological Hazards Allergies and Medical Conditions Dust and Vapor Control
Chemicals of Concern at the Si	te:		

Specific Precautions for Today's Activities:	ye	protection	when	dilling	through	vaults	
	0			0	0		

Name	Signature	Company
Stran Onlyno	AM	Clerces
Ches of offers		Kide
Isaal Chaver	Loud Chang	EKRG
Fernando Loze	9 2	ERRG
Mike Bubst	1/12	ERRG
Steven Hoeft	Alex Hout	ERRG
	V	
Conduct a Daily Tailgate Safety Martin		

Conduct a Daily Tailgate Safety Meeting prior to each day's site activities. Follow up on any noted items.

On Day #1 – Review Health and Safety Plan and have each person sign-off confirming their understanding of the plan.

Project: Biobarrier Groundwater Treatment	Owner:	Owens-Brock	eway
Engineer: Sierra West	Date:	2/4/16	
Contractor: ERRG		of	
Day: Thur Weather:			
On-Site Observer: Yousuf Kaleem	Arrival: 6:30	Departure:	
Visitors:			
Work Force: Personnel, Company  FRRG - Gman www		Comme	nts
Equipment:			
Activities			
6:45-7:00 Am sofery meeting			
began chipping excess grout from injes	tion wells prior	to placing var	e les
Takes just a few minutes to place us	ults, takes longe	to make	sure
everything is level.			
(a p) if ever needed.	bottom of each	well want to	allow drainage
Shave from waste management is C Began assembling fittings inside of	vault (starting for	com tee fit	ing)-will add
Did not assemble filtings inside vault, i	ust seperately	y on the si	de

## FIELD OBSERVATIONS



Project: Date: 2/24/16 M T W T F	
Client:  Date: 2   2   16   M   T   W   T   F    Location:	SS
Observer: Weather:	
Description:	
Did not find conduits between IN-11 3 IN-12. Did find 7" diameter	
metal object busied 25.5" below grade did not dig out due to port connection to water or efectric line 24 from IN-12 3 6 from IW-11 To havis Browns.  Trendred to IW-10  Placed years to IW-12	PATEN
solved out PE tubing to allow it to unaud	
ripped up concrete to IW-9	



## FIELD SAFETY BRIEFING ATTENDANCE SHEET

Site Name: Owens-Brow	kway	Date: 2/5//	6
Project: Groundwater	Bis bussies	Presented By: _	Yousut Kaleen

# Topics / Information Reviewed:

Ø.	Daily Work Scope	0	First Aid Kit Location	0	Downand Dustanting End
0	Emergency Response	0	Fire Extinguisher Location		Personal Protective Equipment
0	HASP Location	Õ	Eye Wash Station Location	0	Slips Trips & Falls
0	Directions to Hospital	0	Noise Hazards	0	Heat and Cold Stress
0	Stop Work Authority	0		0	Site Security
0	Buddy System	0	Orderly Site Housekeeping	0	Biological Hazards
0	Site Hazards	0	Traffic Control	0	Allergies and Medical Conditions
0	Site riazarus	O	Vehicle Safety	0	Dust and Vapor Control
355		O	Backing Up and Spotters	0	
0		0		0	
		0		0	

Chemicals of Concern at the Site:

Specific Precautions for Today's Activities:

S. A.A.	ERRG ERRG RANGE
mase . Met	ERRG
Marie	RINEL
P.M.	Burg
120	ene
nul Chus	ERRS
	nul Chez

Conduct a Daily Tailgate Safety Meeting prior to each day's site activities. Follow up on any noted items.

On Day #1 – Review Health and Safety Plan and have each person sign-off confirming their understanding of the plan.

Project: Groundwater Biolemier	Ov	vner: Overs-Brat	eway
Engineer: Sierra West		Date: 2/5//8	
Contractor: _ERRG		age: of	
Day: Fri Weather:		Conditions:	
On-Site Observer: Yours Kabeen Visitors:		Departure:	3.30 8m
Work Force: Personnel, Company		Comme	ents
ERRG-6 man crew			
Equipment:			
Activities			
Share's chail (WM rep) Gick Growted up and clay pipest austion clay pipe was roughly 25" bys			
cut down weird cast iron strump ne yesterday while trenching out dos aproper depth.	on to 28"	IW-12 that was	tours
fragress: Vaults in to IW-8, PV	sign to	tw-12	



## FIELD SAFETY BRIEFING ATTENDANCE SHEET

Site	Name: Owens-B	rockway	Date:	2/8/	16
Proj	ect: Ground water	Biokaller	Prese	nted By:	Yougut Kaleen
Top	ics / Information Rev	iewed:			
O H O II O S O H	Daily Work Scope Emergency Response HASP Location Directions to Hospital Stop Work Authority Buddy System Site Hazards	0 0 0 0 0 0 0	First Aid Kit Location Fire Extinguisher Location Eye Wash Station Location Noise Hazards Orderly Site Housekeeping Traffic Control Vehicle Safety Backing Up and Spotters	000000000000000000000000000000000000000	Personal Protective Equipment Slips Trips & Falls Heat and Cold Stress Site Security Biological Hazards Allergies and Medical Conditions Dust and Vapor Control

Specific Precautions for Today's Activities:

Chemicals of Concern at the Site:

Name	Signature	Company
Steven Hoeft	Alexander Het	ERRG
Steven Hoeft Torael Chaver Offer Offeria	Finel Ches	ERRG ERRG ERRG
OFFIC OFFAIRE	don	Ex96

Conduct a Daily Tailgate Safety Meeting prior to each day's site activities. Follow up on any noted items.

On Day #1 – Review Health and Safety Plan and have each person sign-off confirming their understanding of the plan.

Project: Groundwater Biobarrier	Owner:	OvensBrodway
Engineer: Serra West		2/8/16
Contractor: _ERRG-		of
Day: Mon Weather:		
On-Site Observer: Yousuf Kalsom	Arrival: 6:45	Departure: 3:00
Visitors:		
Work Force: Personnel, Company  FRRG-3		Comments
ERRG- 3 man eren		
Equipment:		
		101
Activities		
Activities  Steve on site as oversight today  Plus is to just witch up on gh	umbing	
Progress: Worked on inside fortures		and PVC pipe all the
ways to fill agen (+W-8)		
Lefts site easty to pickup comp	paction jumping	jack.
	8	



# FIELD SAFETY BRIEFING ATTENDANCE SHEET

Site Name: Overs-Brock way

Date: 2-9-16

Project: Biobarries

Presented By: Yournet K

## Topics / Information Reviewed:

O	Daily Work Scope	O	First Aid Kit Location	0	Personal Protective Equipment
O	Emergency Response	O	Fire Extinguisher Location	0	Slips Trips & Falls
O	HASP Location	0	Eye Wash Station Location	0	Heat and Cold Stress
0	Directions to Hospital	O	Noise Hazards	0	Site Security
0	Stop Work Authority	0	Orderly Site Housekeeping	0	Biological Hazards
0	Buddy System	O	Traffic Control	0	Allergies and Medical Conditions
0	Site Hazards	0	Vehicle Safety	0	Dust and Vapor Control
0		0	Backing Up and Spotters	0	
0		O		0	
		O		0	

Chemicals of Concern at the Site:

Specific Precautions for Today's Activities:

Name	Signature	Company
Store Person	An	FREG
Stone Polar	OH	Events
Steven Hoeft	Sto D. Mat	ERREY
Fornando Loza	San 1	5RRG
Israel Chauez	Ludde R	ERRE
	8	
		0

Conduct a Daily Tailgate Safety Meeting prior to each day's site activities. Follow up on any noted items.

On Day #1 – Review Health and Safety Plan and have each person sign-off confirming their understanding of the plan.

Project: 600	undwater Biobarrier	Owner:	Ovens-Brockway	
Engineer: Ser	Ta West		2-9-16	
Contractor:	ERRG		of	
Day: Tue	Weather:		Conditions:	
On-Site Observer:	Yougut Kateem	Arrival: 6:50	Departure:	
Visitors:				
Work Force:	Personnel, Company		Comments	
Equipment: Backhoe and	scraper attachment for gr	uding conquires area		
Activities				
Storm Drain	reply most likely on Al	mer or friday this	Jeek.	
		Apri	e Has ( Declare . Nos, e	
Thur 1:30.			heads up before back	filling 1
bet up Gormus Long Fruitvale way from str	ater BMPs today. Gilt fen ave. Fabric and gravel by eets.	us along alameda ave ys cool two storm de	and straw watthes	erl.
began grading	for concrete gad. Will be	15' away from tren	h and lixa	
Left vm for Ly Conduit	needs to be inspected	ling building ferming before placing as	inspection y fill	
	,	1 0	/	

## FIELD OBSERVATIONS



Client:  Observer:  Description:  Desput trending in but fill area bin came @ 2 pm. was late due to bin former winds. Will have another bin tomerow by 6:50 pm.  Concrete facting @ fence line 31" deep will have to case though.	Project:	Date: 2/9//6 M T W T F S S
Description:  began trending in buddfill area. Bin came @ 2 pm. was late due to broken winch. Will have another bin tomorrow by 6:30 pm.  Concrete footing @ fence line 31" deep. will have to core through.	Client:	
began trending in but fill area. Bin came @ 2 pm. was late due to broken winch. Will have another bin tomorrow by 6:30 km.  Concrete footing @ fence line 31" deep. will have to core through.	Observer:	Weather:
began trending in but fill area. Bin came @ 2 pm. was late due to broken winch. Will have another bin tomorrow by 6:30 fm. Concrete footing @ fence line 31" deep will have to care through.	Description:	I .
	begun trending in backfill area. Bin a broppen winch. Will have another bin to Concrete footing @ fence line 31"	motion by 6:30 km  deep. will have to core through.



## FIELD SAFETY BRIEFING ATTENDANCE SHEET

Site Name: Owers Brockway
Project: Groundwater Biobarrier

Date: 2/10/16

Presented By: Yough Kaleem

## Topics / Information Reviewed:

M					
Ø,	Daily Work Scope	0	First Aid Kit Location	0	Personal Protective Equipment
0	<b>Emergency Response</b>	O	Fire Extinguisher Location	0	Slips Trips & Falls
0	HASP Location	O	Eye Wash Station Location	0	Heat and Cold Stress
0	Directions to Hospital	0	Noise Hazards	0	Site Security
O	Stop Work Authority	0	Orderly Site Housekeeping	0	Biological Hazards
O	Buddy System	O	Traffic Control	0	Allergies and Medical Condition
O	Site Hazards	0	Vehicle Safety	0	Dust and Vapor Control
0		0	Backing Up and Spotters	0	Bust and Vapor Control
O		0	g -p speniers	Õ	
		0		O	

Chemicals of Concern at the Site:

Specific Precautions for Today's Activities:

Name	Signature	Company
X302 1 Vans	Ann	1016
exacl Chavez	Jul Clay	ERKC ERKC
Steven Hoeft	Sto l. Dut	ERRG
ernando Low	ha	TRKG
lan Dodge	Carry	Ehres
	0 . ()	
	The state of the s	

Conduct a Daily Tailgate Safety Meeting prior to each day's site activities. Follow up on any noted items. On Day #1 - Review Health and Safety Plan and have each person sign-off confirming their understanding of the plan.

Project: Ground u		Owner:	Ovens-Brockway
Engineer: Sierra We	est		2/10/16
Contractor: EKRG			of
Day:	Weather:		Conditions:
On-Site Observer:		Arrival:	Departure:
Visitors:			
Work Force: Pe	rsonnel, Company		Comments
KKAU - 8 man (1)	ew		
Equipment:			
	aching on fill area		
	U		
Activities	ektidu a da a		
privildvine @10	chridge geo.com (s	ewig.	
	5 to IW-8 and	pressure tested. Q	>50 psi, compression
Contacted Mielled Welled PE toes.	and PE pipe stips for recommendation	ons. Steve is work	ing on quote for
deep Grading Wi	l'be done la de is taken from higher Curb beight	and pullbox. Trence ter. Voults @ 3; n top of russ @ t avg: 5,5	a deep and trench
Title be			



## FIELD SAFETY BRIEFING ATTENDANCE SHEET

Site Name:	Date:
Project:	Presented By:
Topics / Information Reviewed:  O Daily Work Scope O Emergency Response O HASP Location O Directions to Hospital O Stop Work Authority O Buddy System O Site Hazards O Chemicals of Concern at the Site:  Specific Precautions for Today's A	O First Aid Kit Location O Fire Extinguisher Location O Eye Wash Station Location O Noise Hazards O Orderly Site Housekeeping O Traffic Control O Vehicle Safety O Backing Up and Spotters O O O O O O O O O O O O O O O O O O O

Name	Signature	Company
Steven D-Igran	ANA	trah
Steven Hoeft	Also C. Ast	ERRG
F. LOZA	ens	
F. Lozs	+ 2	7 45126 tre6
	0	
Conduct a Daily Tailgate Safety Meeting pri		

Conduct a Daily Tailgate Safety Meeting prior to each day's site activities. Follow up on any noted items.

On Day #1 – Review Health and Safety Plan and have each person sign-off confirming their understanding of the plan.

Project: Groundwater Bioburrier	Owner	231 Owens-Brackwa
Engineer: Gierra West		2/11/16
Contractor: ERRG		of
Day: Thur Weather:		Conditions:
On-Site Observer:	Arrival:	Departure:
Visitors:		
Dave Building Inspector		
Work Force: Personnel, Company		Comments
ERRG- 4 man crew		
Equipment:		
Tumper compactor		
Activities  David Building To composit will be		1. 1 0n /F. 1
David Building Inspector) will be David Longstrage Stom Prain) suice	I to take fice	een 11-1 Pm (Jason)  2 3 enul
1(:45 Am Butling inspector checked	•	
container and give approval to a	continue!	cordination to excise
Repaired storm drain. Found	traffic control c	unduit 4' deep and
9" dian hole in cement. Hole is		ow grade.
repaired by drilling holes inside to	y a postom of	- have and powered
storn drain, Backfilled and congre	10 place Bolted pla	the to surface of
I well	Top of worth St.	ofm drain
1	9" of cement	
A Holes		



Project:	Date: 2/11/16 M T W T F S S
Client:	Location:
Observer:	Weather:
Description:	
Twisted part of PVC for traffic Cut PVC and replaced w/3" pix through pipe by cutting a shit through to seal.	control conduit
Cut PVK and replaced w/3" eigh	e PVC pipe. fluxed wire
through pipe by cutting a shit through	oh PVC. Then used pipe clamps
to seal.	
Began tradicio area to prepare	for trenching.
Graded outside area to prepare Began trenching outside in landsa y'y' from curb, there is a 1"	per area.
5" bgs.	metal fife (probably abandoned)
0	

Project: <u>Groundwater Bris burnier</u>	Owner:	Overs Bro	ock-wa.
Engineer: Sierra West	Date:	2-12-16	0
Contractor: ERRC		t of	
Day: Fri Weather:			
On-Site Observer:	Arrival:	Departure:	
Visitors:  Jest Sierra Wess  Adam Rockridge Georechnical			
Work Force: Personnel, Company		Comme	nts
	ν		
Equipment:			
Activities  5 term Dagon  Jerael Charer			
Steven Hopft	RA Crew		
We want all lids slightly above , Found an irrigation (?) I'm pipe	grade	1. 1	1.61.4.1
Plan Drawing	24" bgs . 1.5"	diam, anghe	sugary.

Project: Ground	water Biobarrier		Owner: /	wens-Bi	iaknay
Engineer: Sieww W	est		Date:	2/16/16	September 17 has
Contractor: ERRG	Jaglianger				
	Weather:				ns:
On-Site Observer:	200	Arrival:		Departu	re:
Visitors:					
Kutie, Rockridge	Geo				
Work Force: P	ersonnel, Company	Fr. w		Com	nments
ERRG-5 man ar	ens			0011	imone
		1	- L	n kinist	A 34 39 K
	1.00			- V	
Equipment: Trumping Jack & Co	compaction like for fusing pipe	5			
Activities					
DOMEST STOCK STATE	was day-off				
Placed remaining	sucraments to pickup wells and Pullbox ed 5°2" section of	,		ext to Iu	2-2A
1 Sections	dire				
TW-2A vant por	X				
took Ave dept	se fill majerial: n of foundation: epth to founda	2	retian, L	1% above	optimal misture

Flip page please

concrete puda area Katie tested AB fill. 98% compaction 0 = Test points New IPS PE fittings and pipe arrivel. began welding tees and assembling fittings inside IW-IA/IB.

### DAILY OBSERVATION FORM

Project: Groundwater Bisbarrier	Owner:	Owens-Brockway
Engineer: Sierra West		2/17/16
Contractor: ERRG		1 of 2
Day: Weather:		Conditions: Very Windy
On-Site Observer: Yourn't Kdeen	Arrival: 7:00	Departure: 3:30
Visitors:		
Calcon		
Work Force: Personnel, Company		Comments
ERRG-5 man creek		
Equipment:		
Activities		
Colcon come to check out instrument	Nation to see hu	they need to wive
TILL "The STLL " TCLP mg,	4	
Lead: 1000 5 5		
Lab Amelytical Report Info: WO: 160		77) 252-9262
	T1437-87	
	73617-55 + with 1-day	TAT
	0	
Placed plustic sheeting over cargo foundat wattles around AB and opened stocks	iles.	tion. Placed Straw
broke asphalt and concrete into smaller p	ieces	



Project:	Date: 2/17//6 M T W T F S S
Client:	Location:
Observer:	Weather:
	Weather:  wilding firtings inside well vanit.  up to IV-4.  led in bin.



# FIELD SAFETY BRIEFING ATTENDANCE SHEET

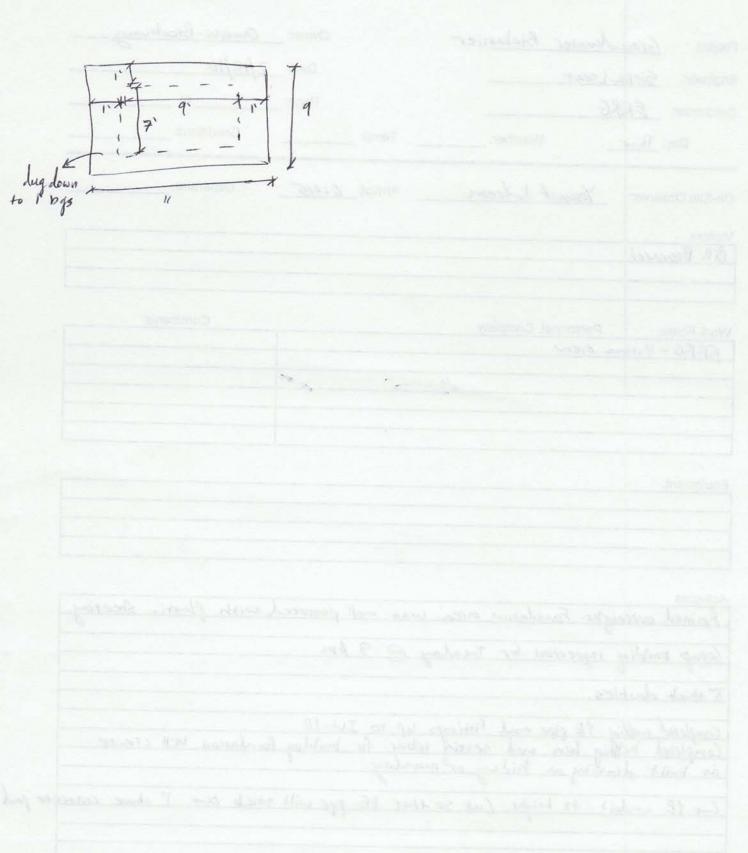
Si	te Name: Owens-Brockway			Date:	2/18/16
Pr	oject: Groundwater Biobarrier			Presen	ted By:
То	ppics / Information Reviewed:				
Ø	Daily Work Scope	0	First Aid Kit Location	0	Personal Protective Equipment
0	Emergency Response	0	Fire Extinguisher Location	O	Slips Trips & Falls
0	HASP Location	O	Eye Wash Station Location	0	Heat and Cold Stress
0	Directions to Hospital	O	Noise Hazards	0	Site Security
0	Stop Work Authority	O	Orderly Site Housekeeping	0	Biological Hazards
0	Buddy System	O	Traffic Control	0	Allergies and Medical Conditions
0	Site Hazards	0	Vehicle Safety	0	Dust and Vapor Control
0		O	Backing Up and Spotters	O	
O		O		0	
		O		O	
Ch	emicals of Concern at the Site:	Tota	Petroleum Hydrocarbons	Free Dr	advat in same leastions
Du	st and vehicle emissions when v	vork	ing inside buildings.	, Tree Tr	oddet in some locations.
Sp	ecific Precautions for Today's A	ctivi	ities:		

Signature	Company
X1	exercis
Approx	FRRI.
Jenel Chry	EKRG HO16
De la	F 316
	Janus Chry

Conduct a Daily Tailgate Safety Meeting prior to each day's site activities. Follow up on any noted items.

On Day #1 – Review Health and Safety Plan and have each person sign-off confirming their understanding of the plan.

Project: Groundwater Biobarrier	Owner:	Owens-Brocking	
Engineer: Sierra West	Date:	2/18/16	
Contractor: ERRG		of	
Day: Thur Weather: T		Conditions:	
On-Site Observer: Yought Kaleem Ar	rrival: 6:45	Departure:	= Balgal
Visitors: Bill Bosacci			da ,
Work Force: Personnel, Company  ERRG - 4 man crew		Comments	
Equipment:			
Activities Rained overnight. Foundation area was Setup building ingrection for Tuesday @		with plastic she	eting.
B" thick cloobies. Completed udding PE gipe and fittings up to	TW-10		
	for building four	Lation Will creat	e
Cut PE conduit to height. Cut so that P	E pipe will stic	k out 1' above	consider pad
		SIERRA W.	'EST





#### FIELD SAFETY BRIEFING ATTENDANCE SHEET

Site Name: Owens-Brockway			Date:	2/19/16
Project: Groundwater Biobarrier			Presen	ted By:
Topics / Information Reviewed:				
O Daily Work Scope O Emergency Response O HASP Location O Directions to Hospital O Stop Work Authority O Buddy System O Site Hazards O	O Fin O Ey O No O Or O Tra	rst Aid Kit Location re Extinguisher Location ve Wash Station Location bise Hazards rderly Site Housekeeping affic Control chicle Safety acking Up and Spotters	0 0 0 0 0 0 0 0 0 0	Personal Protective Equipment Slips Trips & Falls Heat and Cold Stress Site Security Biological Hazards Allergies and Medical Conditions Dust and Vapor Control

Chemicals of Concern at the Site: Total Petroleum Hydrocarbons, Free Product in some locations. Dust and vehicle emissions when working inside buildings.

Specific Precautions for Today's Activities:

Name	Signature	Company
S. Dog	414	Great
Steven Hoeft	Sto C. Ast	ERRG
OCHANEZ	Ton	F 9506
I Chaver	I wel cha	FRRG ERRG
F. LOZA	322	ERRG
	V 0	

Conduct a Daily Tailgate Safety Meeting prior to each day's site activities. Follow up on any noted items.

On Day #1 – Review Health and Safety Plan and have each person sign-off confirming their understanding of the plan.

Project: <u>Groundwater Bioburner</u>	Owner:	Owens-Bro	ockway
Engineer: <u>Gjerra</u> West		2/19/16	
Contractor: ERRG		of	
Day: _Kr Weather:			
On-Site Observer: Yourset Kaleem	Arrival: 7:00	Departure:	3:30
/isitors:			
Vork Force: Personnel, Company  ERRG-5 nmn view		Comme	ents
equipment:			
ctivities			
Central Concrete - Oakland			
HQ IN ST. 408-293-6272, 86	66-404-1000 ex	4.6	
escheduled inspection for morday	for building found	asion John	
thris will schedule w/ Test America	for concepts cylin	dess and sku	up test on
fill welds and yoult fittings are completed as fill material a	eted. Unistrut still		be installed
Enhire trench area has been be	ekfilled W/sand	except for a	asea
would IW-5. Sail is too wet to be	chfillso ERRG wi	Il writ for i	t to dry
Gravel has been plued around van	It boxes up to I	W-10,	
ERRG will order those gravel and	AD Material.	SIER	RA WEST



#### FIELD SAFETY BRIEFING ATTENDANCE SHEET

Site Name: Owens-Brockway

Date: 2/22/16

Project: Groundwater Biobarrier

Presented By: Yougut Kakeen

Topics / Information Reviewed:

O	Daily Work Scope	0	First Aid Kit Location	0	Personal Protective Equipment
0	Emergency Response	0	Fire Extinguisher Location	0	Slips Trips & Falls
0	HASP Location	0	Eye Wash Station Location	0	Heat and Cold Stress
0	Directions to Hospital	0	Noise Hazards	0	Site Security
0	Stop Work Authority	0	Orderly Site Housekeeping	0	Biological Hazards
0	Buddy System	0	Traffic Control	0	Allergies and Medical Conditions
0	Site Hazards	0	Vehicle Safety	0	Dust and Vapor Control
0		0	Backing Up and Spotters	O	Dust and Vapor Control
0		0	S - F F	0	
		O		O	

Chemicals of Concern at the Site: Total Petroleum Hydrocarbons, Free Product in some locations. Dust and vehicle emissions when working inside buildings.

Specific Precautions for Today's Activities:

Name	Signature	Company
F. LOZA	h n	ERKG
Jose MEIBOZA	Jose a weignes	ERRG
O-CHONEZ	digit	E8-26
Tsrael Chaver	Just Class	ERRG
Stem Delgen	The state of the s	EP16
. ,		
Conduct a Daily Tailant Safet Mari		

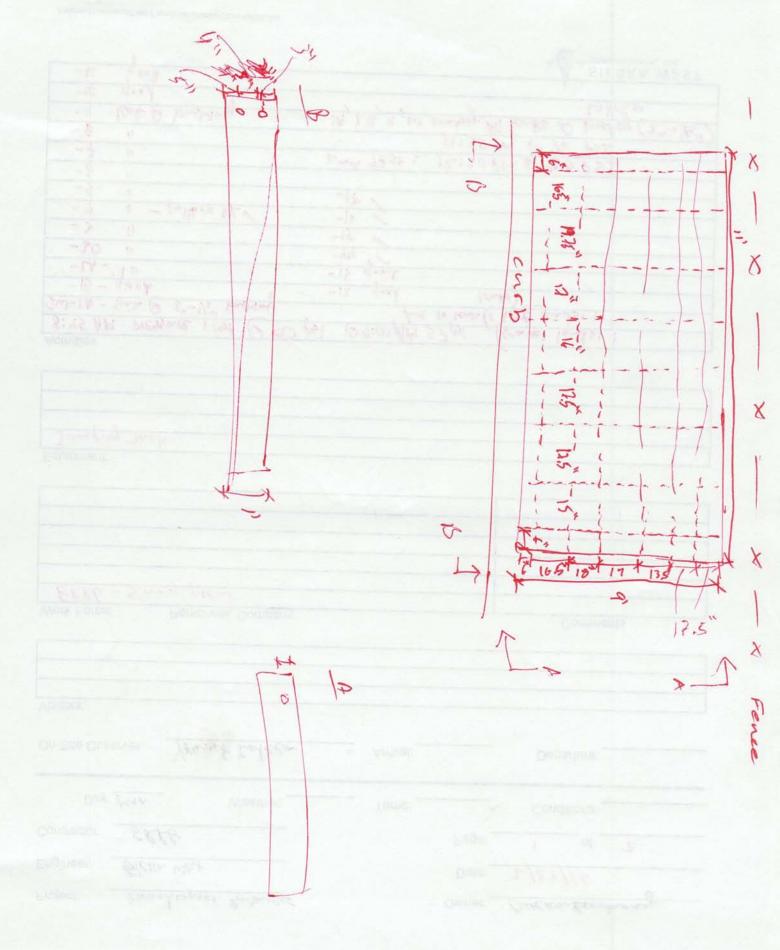
Conduct a Daily Tailgate Safety Meeting prior to each day's site activities. Follow up on any noted items.

On Day #1 – Review Health and Safety Plan and have each person sign-off confirming their understanding of the plan.

Project: <u>Grandwater</u> Bioburries	Owner: Owens-Brockway
Engineer: Biewwww.	Date: 2/22/16
Contractor:ERFG	Page: of
Day: Mar Weather:	Temp: Conditions:
On-Site Observer: Yourset Kaleen	Arrival: Departure:
Visitors:	
Work Force: Personnel, Company	Comments
ERRG - 5 man clew	
	The state of the s
Equipment:  Jumping Tack	
Activities	
8:45 AM pressure + 15+ @ 50 gsi ( iw-14 - reak @ 2"-1/2" bushim	
-13 - good 0 -12	
-2A - 14 -13	good
-3 11 -16	
-9 4 - pullbox OK -16	1,
-9 4 -13	
-7 " Lad	Test: 12:20PM @ 80 PSI
-9 "	12:35 PM @ 70 PSI
-9 lak @ bushing 1A, 7	LB a 10 loursing. All leades @ bushing (2"-12")
Lopp N-	Lobrass
	SIERRA WEST



	1/of 2			
Project:	Date: 2/22/16 M T W T F S S			
Client:	Location:			
Observer:	Weather:			
Description:				
Loaded up converte reperately for how Londed up asymptote and hashed off	ling. Ail not mix with appliedt			
By Compacted Sand slightly to 8" bys +	then compacted AB. AB went lower			
@ least 1" during compaction. Added me	ere AB and recompacted.			
Began to grout inside well mults inc	hudred iron hook areas @ bottom.			
Building incor clas (Dave) approved from				
Building inspector (Pave) approved forms to add 20' ufer. ERRG will insport, pour dessence Pour de wants me to take and weep pi	tall sometions merring stier to			
pour lave dessence Pour d	oes not need inspection have inst			
wants me to take and keep pi	cs of user install.			
tosic by thea from lesting try	neers and scheduled concrete			
Spoke WErica from Testing Engineers and scheduled concrete tesses for tomorrow @ 10 Am.				
Rest of the lads arrived (pedestrian landing)				
the second secon				
Toparoil: I load				



Project:	Grandw.	ater Biobarnier		0445	6 4	
		sest		Owner: _	Owens-Brockway	
				Date: _	2/23/16	
	ERKG			Page: _	1 of 2	
Day	Tue_	Weather:	Temp:		Conditions:	
On-Site Obs	erver:		Arrival:		Departure:	
Visitors:						
Glenn,	Pesting Try	irees				
	-					
Work Force:	Pers	onnel, Company			Comments	
2140						
						-
Equipment:						
Activities						_
Cargo Shed	Foundation	on: Installed 2	d lifer, took	pictu	res	7
CONTE	Sump: 9	ers and left on a				
7	10000	reeded during	building inspe	up tor	uestow.	
Fernished co	1 1	contrae	tion joints. B	room F	inish	+
		locations I along				
Pressure Te	st: 12:05	5 PM 76 PSI ->	7188I @ 12	:2681	M. No visible leaks	+
or hissing		V Replaced pre	viously leaking	bushin	gs w/galvanizel bush	ung)
Began setti	ing concret	e vaults inside pr	operty. Pall box	o form	shed container was	-
or I lively	) lower	so ERRG built	a a cala in		bring lid to proper elev.	
cines more	a bot when	opened to ERR	& will bolt	don		
Jank.			772-1	- Albu	SIERRA WEST	te
					CONSULTANTS, INC.	



Zuf 2 Project: Date: 2/23/16 MT WT F S S Client: Location: Observer: Weather: Description:



#### FIELD SAFETY BRIEFING ATTENDANCE SHEET

Date: 2/24/16

Presented By: Yougut Kaleem Site Name: Owens-Brockway

Project: Groundwater Biobarrier

### Topics / Information Reviewed:

000000000	Daily Work Scope Emergency Response HASP Location Directions to Hospital Stop Work Authority Buddy System Site Hazards	0 0 0 0 0 0 0	First Aid Kit Location Fire Extinguisher Location Eye Wash Station Location Noise Hazards Orderly Site Housekeeping Traffic Control Vehicle Safety Backing Up and Spotters	000000000000000000000000000000000000000	Personal Protective Equipment Slips Trips & Falls Heat and Cold Stress Site Security Biological Hazards Allergies and Medical Conditions Dust and Vapor Control
-----------	------------------------------------------------------------------------------------------------------------------------------------------	---------------------------------	----------------------------------------------------------------------------------------------------------------------------------------------------------------------------	-----------------------------------------	-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------

Chemicals of Concern at the Site: Total Petroleum Hydrocarbons, Free Product in some locations. Dust and vehicle emissions when working inside buildings.

Specific Precautions for Today's Activities:

Signature	Company
an	Euro 6
\$ Q. Ast	ERRG
100	ERRY
Jese 6 jupines	ERRA
and Ohos	ERRC
7	
	\$62.AA

Conduct a Daily Tailgate Safety Meeting prior to each day's site activities. Follow up on any noted items. On Day #1 - Review Health and Safety Plan and have each person sign-off confirming their understanding of the plan.

Project: Iroundwater Biobarrier	Owner:	Owens - Bro	kway
Engineer: Sterra West		2/24/16	0
Contractor: ENYC		of	
Day: Weather:			
On-Site Observer:	Arrival:	Departure:	
Visitors:			
Mas k Tussing			
Work Force: Personnel, Company		Comme	nts
ERRG - of man crew			
Equipment:			
Electric Welder			
Activities			
Vault boxes and Languages is selded	vashers to inside	- lip (long sid	e) of lide
Added grout around lids to provide	M MASTINI	•	
The Evened out existing soil in lanse	used wrea and	added a f	ew
patches of sand to areas that were a seed and covered with approx 1"-2"	of chean import	ed to proil. On	d fescure
completed unistrut installation in all ve	rest tamorni		9 010
Chris and Mark Tussing visited site. Rep hex bolts with special screndriver.	wested tamper gr	pot bolts. ER	RG ordered
Concrete pad looks good! No crucks, he	riolically sprays	ed with wat	er to
allow proper curing. Testing Engineers can emerime after hunch.	me to print up	concrete as	Cylinders RA WEST
and the second s		CONSULT	ANTS, INC.

Project: Groundwater biobernier	0	wner: Owens-Brockway
Engineer: Sterra West		Date: 2-25-16
Contractor: ERRF		Page: of
Day: Two Weather:		Conditions:
On-Site Observer: Yougut Kaleem	Arrival:	Departure:
Visitors:		
Ville		
Mark Tussing		
EDUC		Comments
Equipment:  Jack Jumping Jack  Rake		
Activities  (onepeted AB compaction all the wa  1/2" elevation difference between vaul	y to surface.	. Maintained at least a try surface. Sloped AB material
array from lids as vest as possible		0
Spread extra gravel around concrete f	rad area to 1	minging te mud tracking.
In the lauscaped area, seeding is complete. graded. Lids are left at least 1" also	we existing grade	f togsoil was added and
Win checked out the resurfacing progress as	ed was pleased	
(alson will come next week. EKRG will do		bilize tomorrow.
		SIERRA WEST CONSULTANTS, INC.

533 Fawthorne Place, Livermore, CA 94550 (925) 373-4417

Lot # MF15-069

SPECIES: Creeping Red Fescue JOB: ERRG

NOTES:

TOTAL GERM HARD

91

91

PURITY

Pure Seed Uncertified Boreal 98.57

0.00 No Noxious Weed in CA TESTED: 11/15 Origin OR WEED: 2/18/17

CROP: 0.00 INERT: 1.43

NET WT: 10.0 Lbs SELL BY:

Project: Ground water Biobarrier	Owner:	Owens- Riockway
Engineer: Sierra West		3/2/16
contractor: ERRG/Calain	Page: _	of
Day: <u>wed</u> Weather:	Temp:	Conditions:
n-Site Observer:	Arrival: 6:50	Departure: 4:00 PM
sitors:		
ork Force: Personnel, Company		Comments
RRG-Super steve and steve		
quipment: P Step bit to drill holes in splice b	aces	
tivities		
alcon arrived on size @ 7:45 Am eld tailgate neeting		
Wheel wires for IW-11 - IW-17 and	IW- Faul IW-8. Pan	Lout of wire. New
is active on Friday. used and installed weather boxes invide w		
		1 40 17.
stop was low on buttery, forgot charge	4 . (	
		SIERRA WEST



### FIELD SAFETY BRIEFING ATTENDANCE SHEET

Site Name: Owens-Brockway	Date: 3/3/14
Project: Groundwater Biobarrier	Presented By: Yousut Kokeen

### Topics / Information Reviewed:

Daily Work Scope Emergency Response HASP Location Directions to Hospital Stop Work Authority Buddy System Site Hazards	O First Aid Kit Location O Fire Extinguisher Location O Eye Wash Station Location O Noise Hazards O Orderly Site Housekeeping O Traffic Control O Vehicle Safety O Backing Up and Spotters O	O Personal Protective Equipment O Slips Trips & Falls O Heat and Cold Stress O Site Security O Biological Hazards O Allergies and Medical Conditions O Dust and Vapor Control O
	HASP Location Directions to Hospital Stop Work Authority Buddy System	Emergency Response HASP Location Directions to Hospital Stop Work Authority Buddy System Site Hazards O Fire Extinguisher Location O Eye Wash Station Location Orderly Site Housekeeping Orderly Site Housekeeping O Traffic Control Vehicle Safety O Backing Up and Spotters

Chemicals of Concern at the Site: Total Petroleum Hydrocarbons, Free Product in some locations. Dust and vehicle emissions when working inside buildings.

Specific Precautions for Today's Activities:

Name	Signature	Company
ESSEL MAGAT	2-	CALCON
5. Duly	SPA	Finh
Churles Phillips To	EL KSI	Cala
		I WILL
onduct a Daily Tailgate Safety Meeting prior		

Conduct a Daily Tailgate Safety Meeting prior to each day's site activities. Follow up on any noted items.

On Day #1 – Review Health and Safety Plan and have each person sign-off confirming their understanding of the plan.

Project: Grovedwater Biobarnier Own	er: Ovens-Brookway
	te: 3/3/16
Contract CO 21 /c :	e:of
Day: Thur Weather: Slight Rain Temp:	Conditions:
On-Site Observer: Yousut Kaleem Arrival: 6:45	
/isitors:	
Vork Force: Personnel Comment	
Vork Force: Personnel, Company	Comments
Colcon - 2 man crew 5 RRG - Sugrer steve	
quipment:	
tivities  The container will have no ramp. Agreed between eft a message with Mave (building inspector) to fi	er Calon, EKRG 3 Sierra We
lectrical inspection needs to happen after southful	Adjust pge morallo
oness for rolay: installed boxes in outside well boxes where well vanish boxes. Called it a day @ n PM may no more wire. Wire will be shipped of tommore	n' because there
	SIERRA WEST



#### FIELD SAFETY BRIEFING ATTENDANCE SHEET

Site Name: Owens-Brockway	Date: 3/4/16
D C	

Project: Groundwater Biobarrier

Presented By: Yousut Kaleen

### Topics / Information Reviewed:

00000000000000000000000000000000000000	Daily Work Scope Emergency Response HASP Location Directions to Hospital Stop Work Authority Buddy System Site Hazards	O First Aid Kit Location O Fire Extinguisher Location O Eye Wash Station Location O Noise Hazards O Orderly Site Housekeeping O Traffic Control Vehicle Safety Backing Up and Spotters O O O  Personal Protective Equipment Slips Trips & Falls Heat and Cold Stress Site Security O Biological Hazards O Allergies and Medical Conditions O Dust and Vapor Control O O
----------------------------------------	------------------------------------------------------------------------------------------------------------------------------------------	-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------

Chemicals of Concern at the Site: Total Petroleum Hydrocarbons, Free Product in some locations. Dust and vehicle emissions when working inside buildings.

Specific Precautions for Today's Activities: Lifting Cargo Container

Name	Signature	Company
ESSEL MAGAV	6 -	
harles Phillips	Il. Rhe	Calcan
Steven Hoeft	Ato C MA	- ERRG
( . D-Ja	50	CANO
Esse opposes		Each
		- KACG
nduct a Daily Tailgate Safety Meeting p	rior to each day's site activities. P. U.	

Conduct a Daily Tailgate Safety Meeting prior to each day's site activities. Follow up on any noted items.

On Day #1 – Review Health and Safety Plan and have each person sign-off confirming their understanding of the plan.

Project: <u>Groundwater Blobargier</u>	Owner:	Owens - Brockway
Engineer: Sierra West		3/4/16
Contractor: ERRG/Calcon	Page: _	of
Day: Fri Weather: Rin	Temp:	Conditions: Rain
On-Site Observer: Yough Kaleem	Arrival: 7:/5	Departure: 5:30
Visitors: Truci, PUE		
Work Force: Personnel, Company  ERRG- 2 man crew		Comments
Calion- 2 man crew		
Equipment: Forhlift to raise and set cargo contain	iner	
Activities  Traci visited give to lack @ potential Building arrived @ around 1:15 pm. se  3" from edge of concrete pad. Bolted down @ comers 2 and gill and grimled off excess bolt thread. Built wooden from and placed below	e boles on each	h course. corner. Swel
Set Inspections for Tuesday @ 10-netime.		ctor will come @ this
Calcon ran out of wive again. One van Weatherhead was installed and connected.	It box ownide property	1 has not been wived.
		SIERRA WEST CONSULTANTS, INC.

Appendix 5: Laboratory Analytical Reports



# McCampbell Analytical, Inc.

"When Quality Counts"

## **Analytical Report**

**WorkOrder:** 1508935

**Report Created for:** Sierra West Consultants, Inc.

4227 Sunrise Blvd., Ste. 220

Fair Oaks, CA 95628

**Project Contact:** Jeff Bensch

**Project P.O.:** 

**Project Name:** Owen's Brockway

**Project Received:** 08/26/2015

Analytical Report reviewed & approved for release on 09/02/2015 by:

Angela Rydelius,

Laboratory Manager

The report shall not be reproduced except in full, without the written approval of the laboratory. The analytical results relate only to the items tested. Results reported conform to the most current NELAP standards, where applicable, unless otherwise stated in the case narrative.



1534 Willow Pass Rd. Pittsburg, CA 94565 ♦ TEL: (877) 252-9262 ♦ FAX: (925) 252-9269 ♦ www.mccampbell.com NELAP: 4033ORELAP ♦ ELAP: 1644 ♦ ISO/IEC: 17025:2005 ♦ WSDE: C972-11 ♦ ADEC: UST-098 ♦ UCMR3

#### **Glossary of Terms & Qualifier Definitions**

**Client:** Sierra West Consultants, Inc.

**Project:** Owen's Brockway

**WorkOrder:** 1508935

#### **Glossary Abbreviation**

95% Interval 95% Confident Interval

DF Dilution Factor

DI WET (DISTLC) Waste Extraction Test using DI water

DISS Dissolved (direct analysis of 0.45 µm filtered and acidified water sample)

DUP Duplicate

EDL Estimated Detection Limit

ITEF International Toxicity Equivalence Factor

LCS Laboratory Control Sample

MB Method Blank

MB % Rec % Recovery of Surrogate in Method Blank, if applicable

MDL Method Detection Limit

ML Minimum Level of Quantitation

MS Matrix Spike

MSD Matrix Spike Duplicate

N/A Not Applicable

ND Not detected at or above the indicated MDL or RL

NR Data Not Reported due to matrix interference or insufficient sample amount.

PF Prep Factor

RD Relative Difference

RL Reporting Limit (The RL is the lowest calibration standard in a multipoint calibration.)

RPD Relative Percent Deviation
RRT Relative Retention Time

SPK Val Spike Value

SPKRef Val Spike Reference Value

SPLP Synthetic Precipitation Leachate Procedure
TCLP Toxicity Characteristic Leachate Procedure

TEQ Toxicity Equivalents

WET (STLC) Waste Extraction Test (Soluble Threshold Limit Concentration)

### **Glossary of Terms & Qualifier Definitions**

**Client:** Sierra West Consultants, Inc.

**Project:** Owen's Brockway

**WorkOrder:** 1508935

#### **Analytical Qualifiers**

b	analyte detected in the associated Method Blank and in the sample
b1	aqueous sample that contains greater than ~1 vol. % sediment
b6	lighter than water immiscible sheen/product is present
d1	weakly modified or unmodified gasoline is significant
d7	strongly aged gasoline or diesel range compounds are significant in the TPH(g) chromatogram
d9	no recognizable pattern
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
e11/e4	stoddard solvent/mineral spirit (?); and/or gasoline range compounds are significant.

### **Analytical Report**

Client:Sierra West Consultants, Inc.WorkOrder:1508935Date Received:8/26/15 21:15Extraction Method:SW5030B

**Date Prepared:** 8/31/15-9/1/15 **Analytical Method:** SW8021B/8015Bm

Project: Owen's Brockway Unit: μg/L

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

Client ID	Lab ID Matrix	<b>Date Collected Instrument</b>	Batch ID
B-42-GW-21'	1508935-001A Water	08/24/2015 15:50 GC19	109640
<u>Analytes</u>	<u>Result</u>	<u>RL</u> <u>DF</u>	Date Analyzed
TPH(g)	2200	250 5	08/31/2015 13:15
MTBE		25 5	08/31/2015 13:15
Benzene		2.5 5	08/31/2015 13:15
Toluene		2.5 5	08/31/2015 13:15
Ethylbenzene		2.5 5	08/31/2015 13:15
Xylenes		2.5 5	08/31/2015 13:15
<u>Surrogates</u>	REC (%)	<u>Limits</u>	
aaa-TFT	96	70-130	08/31/2015 13:15
Analyst(s): CA		Analytical Comments: d7,d9,b1	

Client ID	Lab ID M	atrix Dat	e Collected Instrument	Batch ID
B-42-GW-41'	1508935-002A Wa	ater 08/2	4/2015 16:50 GC19	109640
<u>Analytes</u>	Result	<u>RL</u>	<u>DF</u>	Date Analyzed
TPH(g)	16,000	1000	0 20	08/31/2015 13:46
MTBE		100	20	08/31/2015 13:46
Benzene		10	20	08/31/2015 13:46
Toluene		10	20	08/31/2015 13:46
Ethylbenzene		10	20	08/31/2015 13:46
Xylenes		10	20	08/31/2015 13:46
Surrogates	<u>REC (%)</u>	<u>Limi</u>	<u>ts</u>	
aaa-TFT	117	70-1	30	08/31/2015 13:46
Analyst(s): CA		Analytical (	Comments: d1,b1	

### **Analytical Report**

Client:Sierra West Consultants, Inc.WorkOrder:1508935Date Received:8/26/15 21:15Extraction Method:SW5030B

**Date Prepared:** 8/31/15-9/1/15 **Analytical Method:** SW8021B/8015Bm

Project: Owen's Brockway Unit: μg/L

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

Client ID	Lab ID	Matrix	Date Co	ollected Instrument	Batch ID
B-43-GW-20'	1508935-003A Water		08/24/2015 11:30 GC19		109640
Analytes	<u>Result</u>		<u>RL</u>	<u>DF</u>	Date Analyzed
TPH(g)	140		50	1	09/01/2015 02:37
MTBE			5.0	1	09/01/2015 02:37
Benzene			0.50	1	09/01/2015 02:37
Toluene			0.50	1	09/01/2015 02:37
Ethylbenzene			0.50	1	09/01/2015 02:37
Xylenes			0.50	1	09/01/2015 02:37
<u>Surrogates</u>	<u>REC (%)</u>		<u>Limits</u>		
aaa-TFT	86		70-130		09/01/2015 02:37
<b>A 1 1 1 1 1 1 1 1 1 1</b>					

Analyst(s): CA Analytical Comments: d7,b1

Client ID	Lab ID	Matrix	Date C	ollected Instrument	Batch ID
B-44-GW-20'	1508935-004A Water		08/26/2015 08:45 GC19		109640
<u>Analytes</u>	Result		<u>RL</u>	<u>DF</u>	Date Analyzed
TPH(g)	760		50	1	09/01/2015 03:07
MTBE			5.0	1	09/01/2015 03:07
Benzene			0.50	1	09/01/2015 03:07
Toluene			0.50	1	09/01/2015 03:07
Ethylbenzene			0.50	1	09/01/2015 03:07
Xylenes			0.50	1	09/01/2015 03:07
Surrogates	<u>REC (%)</u>		<u>Limits</u>		
aaa-TFT	81		70-130		09/01/2015 03:07
Analyst(s): CA			Analytical Com	ments: d7,b1	

### **Analytical Report**

Client:Sierra West Consultants, Inc.WorkOrder:1508935Date Received:8/26/15 21:15Extraction Method:SW5030B

**Date Prepared:** 8/31/15-9/1/15 **Analytical Method:** SW8021B/8015Bm

Project: Owen's Brockway Unit:  $\mu g/L$ 

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

Client ID	Lab ID Matrix	<b>Date Collected Instrument</b>	Batch ID
B-44-GW-35'	1508935-005A Water	08/26/2015 09:40 GC19	109640
Analytes	<u>Result</u>	<u>RL</u> <u>DF</u>	Date Analyzed
TPH(g)	ND	50 1	09/01/2015 04:37
MTBE		5.0 1	09/01/2015 04:37
Benzene		0.50 1	09/01/2015 04:37
Toluene		0.50 1	09/01/2015 04:37
Ethylbenzene		0.50 1	09/01/2015 04:37
Xylenes		0.50 1	09/01/2015 04:37
<u>Surrogates</u>	<u>REC (%)</u>	<u>Limits</u>	
aaa-TFT	89	70-130	09/01/2015 04:37
Analyst(s): CA		Analytical Comments: b1	

Client ID Lah ID Matrix Date Collected Instrument Ratch ID

Client ID	Lab ID	Matrix	Date C	ollected Instrument	Batch ID
B-45-GW-18'	1508935-006A	Water	08/25/20	015 10:20 GC19	109640
<u>Analytes</u>	Result		<u>RL</u>	<u>DF</u>	Date Analyzed
TPH(g)	17,000		250	5	09/01/2015 00:37
MTBE			25	5	09/01/2015 00:37
Benzene			2.5	5	09/01/2015 00:37
Toluene			2.5	5	09/01/2015 00:37
Ethylbenzene			2.5	5	09/01/2015 00:37
Xylenes			2.5	5	09/01/2015 00:37
<u>Surrogates</u>	<u>REC (%)</u>		<u>Limits</u>		
aaa-TFT	99		70-130		09/01/2015 00:37
Analyst(s): CA			Analytical Com	ments: d7,d9,b1	

### **Analytical Report**

Client:Sierra West Consultants, Inc.WorkOrder:1508935Date Received:8/26/15 21:15Extraction Method:SW5030B

**Date Prepared:** 8/31/15-9/1/15 **Analytical Method:** SW8021B/8015Bm

Project: Owen's Brockway Unit: μg/L

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

Client ID	Lab ID Matrix	<b>Date Collected Instrument</b>	Batch ID
G-46-GW-18'	1508935-007A Water	08/25/2015 12:50 GC19	109640
<u>Analytes</u>	<u>Result</u>	<u>RL</u> <u>DF</u>	Date Analyzed
TPH(g)	150	50 1	09/01/2015 01:37
MTBE		5.0 1	09/01/2015 01:37
Benzene		0.50 1	09/01/2015 01:37
Toluene		0.50 1	09/01/2015 01:37
Ethylbenzene		0.50 1	09/01/2015 01:37
Xylenes		0.50 1	09/01/2015 01:37
<u>Surrogates</u>	<u>REC (%)</u>	<u>Limits</u>	
aaa-TFT	83	70-130	09/01/2015 01:37
Analyst(s): CA		Analytical Comments: d7,b1	

Client ID	Lab ID Matrix	<b>Date Collected Instrument</b>	Batch ID
B-46-GW-32'	1508935-008A Water	08/25/2015 14:00 GC19	109640
Analytes	<u>Result</u>	<u>RL</u> <u>DF</u>	Date Analyzed
TPH(g)	ND	50 1	09/01/2015 02:07
MTBE		5.0 1	09/01/2015 02:07
Benzene		0.50 1	09/01/2015 02:07
Toluene		0.50 1	09/01/2015 02:07
Ethylbenzene		0.50 1	09/01/2015 02:07
Xylenes		0.50 1	09/01/2015 02:07
Surrogates	<u>REC (%)</u>	<u>Limits</u>	
aaa-TFT	89	70-130	09/01/2015 02:07
Analyst(s): CA		Analytical Comments: b1	

### **Analytical Report**

Client:Sierra West Consultants, Inc.WorkOrder:1508935Date Received:8/26/15 21:15Extraction Method:SW5030B

**Date Prepared:** 8/31/15-9/1/15 **Analytical Method:** SW8021B/8015Bm

Project: Owen's Brockway Unit:  $\mu g/L$ 

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

Client ID	Lab ID Matrix	Date Collected Instrument	Batch ID	
B-47-GW-18'	1508935-009A Water	08/26/2015 12:30 GC19	109640	
<u>Analytes</u>	Result	<u>RL</u> <u>DF</u>	Date Analyzed	
TPH(g)	ND	50 1	08/31/2015 05:29	
MTBE		5.0 1	08/31/2015 05:29	
Benzene		0.50 1	08/31/2015 05:29	
Toluene		0.50 1	08/31/2015 05:29	
Ethylbenzene		0.50 1	08/31/2015 05:29	
Xylenes		0.50 1	08/31/2015 05:29	
<u>Surrogates</u>	REC (%)	<u>Limits</u>		
aaa-TFT	91	70-130	08/31/2015 05:29	
Analyst(s). IA		Analytical Commenter 14		

Analyst(s): IA Analytical Comments: b1

Client ID	Lab ID M	<b>Iatrix</b>	Date C	ollected Instrument	Batch ID
B-47-GW-33'	1508935-010A Water		08/26/20	15 13:15 GC19	109640
<u>Analytes</u>	<u>Result</u>		<u>RL</u>	<u>DF</u>	Date Analyzed
TPH(g)	ND		50	1	08/31/2015 06:28
MTBE			5.0	1	08/31/2015 06:28
Benzene			0.50	1	08/31/2015 06:28
Toluene			0.50	1	08/31/2015 06:28
Ethylbenzene			0.50	1	08/31/2015 06:28
Xylenes			0.50	1	08/31/2015 06:28
Surrogates	<u>REC (%)</u>		<u>Limits</u>		
aaa-TFT	94		70-130		08/31/2015 06:28
Analyst(s): IA		<u>A</u>	nalytical Com	ments: b1	

### **Analytical Report**

**Client:** Sierra West Consultants, Inc.

**Date Received:** 8/26/15 21:15

**Date Prepared:** 8/26/15

**Project:** Owen's Brockway

**WorkOrder:** 1508935

**Extraction Method:** SW3510C

**Analytical Method:** SW8015B

**Unit:**  $\mu g/L$ 

Total Extractable Petroleum Hydrocarbons w/out SG Clean-Up							
Client ID	Lab ID	Matrix	Date Collected Instrument	Batch ID			
B-42-GW-21'	1508935-001A	Water	08/24/2015 15:50 GC31A	109521			
<u>Analytes</u>	Result		<u>RL</u> <u>DF</u>	Date Analyzed			
TPH-Diesel (C10-C23)	840,000		25,000 100	08/28/2015 00:47			
TPH-Motor Oil (C18-C36)	550,000		120,000 100	08/28/2015 00:47			
Surrogates	REC (%)		<u>Limits</u>				
C9	90		70-130	08/28/2015 00:47			
Analyst(s): TK			Analytical Comments: e4,e7,e2,b6,b1				
Client ID	Lab ID	Matrix	Date Collected Instrument	Batch ID			
B-42-GW-41'	1508935-002A	Water	08/24/2015 16:50 GC31A	109521			
<u>Analytes</u>	Result		<u>RL</u> <u>DF</u>	Date Analyzed			
TPH-Diesel (C10-C23)	990,000		12,000 50	08/27/2015 19:57			
TPH-Motor Oil (C18-C36)	510,000		62,000 50	08/27/2015 19:57			
Surrogates	REC (%)		<u>Limits</u>				
C9	97		70-130	08/27/2015 19:57			
			Analytical Comments: e4,e7,e2,b6,b1				

Client ID	Lab ID	Matrix	Date Co	ollected Instrument	Batch ID
B-43-GW-20'	1508935-003A	Water	08/24/20	15 11:30 GC11B	109521
<u>Analytes</u>	Result		<u>RL</u>	<u>DF</u>	Date Analyzed
TPH-Diesel (C10-C23)	560		50	1	08/27/2015 19:41
TPH-Motor Oil (C18-C36)	320		250	1	08/27/2015 19:41
<u>Surrogates</u>	REC (%)		<u>Limits</u>		
C9	111		70-130		08/27/2015 19:41
Analyst(s): TK			Analytical Comr	ments: e3,e8,b1	

### **Analytical Report**

**Client:** Sierra West Consultants, Inc.

**Date Received:** 8/26/15 21:15

**Date Prepared:** 8/26/15

**Project:** Owen's Brockway

**WorkOrder:** 1508935

**Extraction Method:** SW3510C **Analytical Method:** SW8015B

**Unit:** μg/L

<b>Total Extractable</b>	Petroleum	Hydrocarbons	w/out SG	Clean-Un
I Ottal Linki actualic	I cu oicuiii	II I GI OCGI DOIID	m/out DO	Cicuii Cp

Client ID	Lab ID	Matrix	Date C	Collected Instrument	Batch ID
B-44-GW-20'	-20' 1508935-004A Water 08/26/2015 08:45 GC11B		109521		
<u>Analytes</u>	Result		<u>RL</u>	<u>DF</u>	Date Analyzed
TPH-Diesel (C10-C23)	2300		50	1	08/27/2015 17:22
TPH-Motor Oil (C18-C36)	660		250	1	08/27/2015 17:22
Surrogates	REC (%)		<u>Limits</u>		
C9	112		70-130		08/27/2015 17:22
Analyst(s): TK			Analytical Com	monto: 011/04 02 b1	

Analyst(s): TK Analytical Comments: e11/e4,e2,b1

Client ID	Lab ID	Matrix	Date C	ollected Instrument	Batch ID
B-44-GW-35'	1508935-005A	Water	08/26/20	015 09:40 GC9a	109521
<u>Analytes</u>	Result		<u>RL</u>	<u>DF</u>	Date Analyzed
TPH-Diesel (C10-C23)	360		50	1	08/27/2015 14:04
TPH-Motor Oil (C18-C36)	360		250	1	08/27/2015 14:04
Surrogates	REC (%)		<u>Limits</u>		
C9	107		70-130		08/27/2015 14:04

Analyst(s): TK Analystical Comments: e3,e8,e7,b1

Client ID	Lab ID	Matrix	Date Co	llected Instrument	Batch ID
B-45-GW-18'	1508935-006A	Water	08/25/201	5 10:20 GC31A	109521
<u>Analytes</u>	Result		<u>RL</u>	<u>DF</u>	Date Analyzed
TPH-Diesel (C10-C23)	890,000		25,000	100	08/27/2015 22:23
TPH-Motor Oil (C18-C36)	660,000		120,000	100	08/27/2015 22:23
<u>Surrogates</u>	<u>REC (%)</u>		<u>Limits</u>		
C9	92		70-130		08/27/2015 22:23
Analyst(s): TK			Analytical Comm	ents: e4,e7,e2,b6,b1	

### **Analytical Report**

**Client:** Sierra West Consultants, Inc.

**Date Received:** 8/26/15 21:15

**Date Prepared:** 8/26/15

**Project:** Owen's Brockway

**WorkOrder:** 1508935

**Extraction Method:** SW3510C **Analytical Method:** SW8015B

**Unit:** μg/L

#### Total Extractable Petroleum Hydrocarbons w/out SG Clean-Up

Client ID	Lab ID	Matrix	Date C	ollected Instrument	Batch ID
G-46-GW-18'	1508935-007A	Water	08/25/20	015 12:50 GC11A	109521
<u>Analytes</u>	Result		<u>RL</u>	<u>DF</u>	Date Analyzed
TPH-Diesel (C10-C23)	1300		50	1	08/31/2015 13:34
TPH-Motor Oil (C18-C36)	1000		250	1	08/31/2015 13:34
Surrogates	<u>REC (%)</u>		<u>Limits</u>		
C9	121		70-130		08/31/2015 13:34
Analyst(s): TK			Analytical Com	monts: o2 o2 h1	

Analyst(s): TK Analystical Comments: e3,e8,b1

Client ID	Lab ID	Matrix	Date C	ollected Instrument	Batch ID
B-46-GW-32'	1508935-008A	Water	08/25/20	015 14:00 GC9a	109521
<u>Analytes</u>	Result		<u>RL</u>	<u>DF</u>	Date Analyzed
TPH-Diesel (C10-C23)	220		50	1	08/27/2015 16:00
TPH-Motor Oil (C18-C36)	290		250	1	08/27/2015 16:00
Surrogates	REC (%)		<u>Limits</u>		
C9	102		70-130		08/27/2015 16:00

Analyst(s): TK Analystical Comments: e3,e8,e7,b1

Client ID	Lab ID	Matrix	Date C	ollected Instrument	<b>Batch ID</b>
B-47-GW-18'	1508935-009A	Water	08/26/20	015 12:30 GC6B	109521
<u>Analytes</u>	Result		<u>RL</u>	<u>DF</u>	Date Analyzed
TPH-Diesel (C10-C23)	350		50	1	08/28/2015 18:46
TPH-Motor Oil (C18-C36)	320		250	1	08/28/2015 18:46
<u>Surrogates</u>	<u>REC (%)</u>		<u>Limits</u>		
C9	108		70-130		08/28/2015 18:46
Analyst(s): TK			Analytical Com	ments: e3,b1	

### **Analytical Report**

Client: Sierra West Consultants, Inc.

**Date Received:** 8/26/15 21:15

**Date Prepared:** 8/26/15

**Project:** Owen's Brockway

**WorkOrder:** 1508935

**Extraction Method:** SW3510C **Analytical Method:** SW8015B

Unit:  $\mu g/L$ 

#### Total Extractable Petroleum Hydrocarbons w/out SG Clean-Up

Client ID	Lab ID	Matrix	Date Co	ollected Instrument	Batch ID
B-47-GW-33'	1508935-010A	Water	08/26/201	15 13:15 GC11A	109521
<u>Analytes</u>	<u>Result</u>		<u>RL</u>	<u>DF</u>	<u>Date Analyzed</u>
TPH-Diesel (C10-C23)	1100		50	1	08/28/2015 09:53
TPH-Motor Oil (C18-C36)	3400		250	1	08/28/2015 09:53
<u>Surrogates</u>	<u>REC (%)</u>		<u>Limits</u>		
C9	113		70-130		08/28/2015 09:53
Analyst(s): TK			Analytical Comn	nents: e7,e2,b1	

### **Quality Control Report**

Client: Sierra West Consultants, Inc.

**Date Prepared:** 8/30/15 **Date Analyzed:** 8/30/15

**Instrument:** GC19

Matrix: Water

**Project:** Owen's Brockway

**WorkOrder:** 1508935

**BatchID:** 109640

**Extraction Method:** SW5030B

**Analytical Method:** SW8021B/8015Bm

Unit:  $\mu g/L$ 

Sample ID: MB/LCS-109640

1508935-001AMS/MSD

QC	C Summary	Report 1	for SW	8021B/8	015Bm
----	-----------	----------	--------	---------	-------

Analyte	MB Result	LCS Result	RL	SPK Val	MB SS %REC	LCS %REC	LCS Limits
TPH(btex)	ND	51.6	40	60	-	86	70-130
MTBE	ND	10.9	5.0	10	-	109	70-130
Benzene	ND	11.6	0.50	10	-	116	70-130
Toluene	ND	11.6	0.50	10	-	116	70-130
Ethylbenzene	ND	11.8	0.50	10	-	118	70-130
Xylenes	ND	38.1	0.50	30	-	127	70-130

#### **Surrogate Recovery**

aaa-TFT 8.91 8.90 10 89 89 70-130

Analyte	MS Result	MSD Result	SPK Val	SPKRef Val	MS %REC	MSD %REC	MS/MSD Limits	RPD	RPD Limit
TPH(btex)	NR	NR		530	NR	NR	-	NR	
MTBE	NR	NR		ND<25	NR	NR	-	NR	
Benzene	NR	NR		ND<2.5	NR	NR	-	NR	
Toluene	NR	NR		ND<2.5	NR	NR	-	NR	
Ethylbenzene	NR	NR		ND<2.5	NR	NR	-	NR	
Xylenes	NR	NR		7.9	NR	NR	-	NR	
Surrogate Recovery									
aaa-TFT	NR	NR			NR	NR	-	NR	

QA/QC Officer

# **Quality Control Report**

Client: Sierra West Consultants, Inc. WorkOrder: 1508935

Date Prepared: 8/26/15

BatchID: 109521

Pote Applying 1 8/27/15

Extraction Method: SW25100

Date Analyzed:8/27/15Extraction Method:SW3510CInstrument:GC11B, GC2AAnalytical Method:SW8015B

Matrix: Water Unit:  $\mu g/L$ 

**Project:** Owen's Brockway Sample ID: MB/LCS-109521

QC Report for SW8015B w/out SG Clean-Up												
Analyte	MB Result	LCS Result	RL	SPK Val	MB SS %REC	LCS %REC	LCS Limits					
TPH-Diesel (C10-C23)	ND	1030	50	1000	-	103	61-157					
TPH-Motor Oil (C18-C36)	ND	-	250	-	-	-	-					
Surrogate Recovery												
C9	679	623		625	109	100	65-122					

1534 Willow Pass Rd Pittsburg, CA 94565-1701 (925) 252-9262

# CHAIN-OF-CUSTODY RECORD

Page 1 of 1

WorkOrder:	1508935	ClientCode:	SWFO
WOLKOTUCE.	1500/55	Chemicouc.	BILLO

	☐ WaterTrax	WriteOn	EDF	Excel	EQuIS	<b>✓</b> Email	HardCopy	ThirdParty	☐ J-flag
Report to:				Bill	to:		Req	uested TAT:	5 days;
Jeff Bensch Sierra West Consultants, Inc. 4227 Sunrise Blvd., Ste. 220 Fair Oaks, CA 95628 (916) 863-3220 FAX: (916) 863-3225	cc/3rd Party: Ck PO: ProjectNo: O	ensch@sierra-v kennedy@geold wen's Brockway	ogist.com;		Accounts Paya CKG Environmo 308 Zinfindel La St. Helena, CA	ental ane		e Received: e Printed:	08/26/2015 08/26/2015

					Requested Tests (See legend below)											
Lab ID	Client ID	Matrix	<b>Collection Date</b>	Hold	1	2	3	4	5	6	7	8	9	10	11	12
1508935-001	B-42-GW-21'	Water	8/24/2015 15:50		Α	Α										
1508935-002	B-42-GW-41'	Water	8/24/2015 16:50		Α	Α										
1508935-003	B-43-GW-20'	Water	8/24/2015 11:30		Α	Α										
1508935-004	B-44-GW-20'	Water	8/26/2015 8:45		Α	Α										
1508935-005	B-44-GW-35'	Water	8/26/2015 9:40		Α	Α										
1508935-006	B-45-GW-18'	Water	8/25/2015 10:20		Α	Α										
1508935-007	G-46-GW-18'	Water	8/25/2015 12:50		Α	Α										
1508935-008	B-46-GW-32'	Water	8/25/2015 14:00		Α	Α										
1508935-009	B-47-GW-18'	Water	8/26/2015 12:30		Α	Α										
1508935-010	B-47-GW-33'	Water	8/26/2015 13:15		A	Α										

#### Test Legend:

1	G-MBTEX_W	2 TPH(DMO)	)_W 3	4	
5		6	7	8	
9		10	11	12	

The following SampIDs: 001A, 002A, 003A, 004A, 005A, 006A, 007A, 008A, 009A, 010A contain testgroup.

#### **Comments:**

NOTE: Soil samples are discarded 60 days after results are reported unless other arrangements are made (Water samples are 30 days).

Hazardous samples will be returned to client or disposed of at client expense.

Prepared by: Jena Alfaro



"When Quality Counts"

1534 Willow Pass Road, Pittsburg, CA 94565-1701 Toll Free Telephone: (877) 252-9262 / Fax: (925) 252-9269 http://www.mccampbell.com / E-mail: main@mccampbell.com

#### **WORK ORDER SUMMARY**

Client Name:SIERRA WEST CONSULTANTS, INC.QC Level:LEVEL 2Work Order:1508935Project:Owen's BrockwayClient Contact:Jeff BenschDate Received:8/26/2015

Comments: Contact's Email: jbensch@sierra-west.net

		WaterTrax	WriteOn EDF	Excel	]Fax <b>☑</b> Email	HardC	opyThirdPar	ty 🗀 .	J-flag
Lab ID	Client ID	Matrix	Test Name	Containers /Composites	Bottle & Preservative	De- chlorinated	Collection Date & Time	TAT	Sediment Hold SubOut Content
1508935-001A	B-42-GW-21'	Water	Multi-Range TPH(g,d,mo)	4	VOA w/ HCl & 2-aVOA		8/24/2015 15:50	5 days	25%+
1508935-002A	B-42-GW-41'	Water	Multi-Range TPH(g,d,mo)	4	VOA w/ HCl & 2-aVOA		8/24/2015 16:50	5 days	25%+
1508935-003A	B-43-GW-20'	Water	Multi-Range TPH(g,d,mo)	4	VOA w/ HCl & 2-aVOA		8/24/2015 11:30	5 days	5%+
1508935-004A	B-44-GW-20'	Water	Multi-Range TPH(g,d,mo)	4	VOA w/ HCl & 2-aVOA		8/26/2015 8:45	5 days	10%+
1508935-005A	B-44-GW-35'	Water	Multi-Range TPH(g,d,mo)	4	VOA w/ HCl & 2-aVOA		8/26/2015 9:40	5 days	10%+
1508935-006A	B-45-GW-18'	Water	Multi-Range TPH(g,d,mo)	4	VOA w/ HCl & 2-aVOA		8/25/2015 10:20	5 days	10%+
1508935-007A	G-46-GW-18'	Water	Multi-Range TPH(g,d,mo)	4	VOA w/ HCl & 2-aVOA		8/25/2015 12:50	5 days	10%+
1508935-008A	B-46-GW-32'	Water	Multi-Range TPH(g,d,mo)	4	VOA w/ HCl & 2-aVOA		8/25/2015 14:00	5 days	10%+
1508935-009A	B-47-GW-18'	Water	Multi-Range TPH(g,d,mo)	4	VOA w/ HCl & 2-aVOA		8/26/2015 12:30	5 days	10%+
1508935-010A	B-47-GW-33'	Water	Multi-Range TPH(g,d,mo)	4	VOA w/ HCl & 2-aVOA		8/26/2015 13:15	5 days	25%+

NOTES: - STLC and TCLP extractions require 2 days to complete; therefore, all TATs begin after the extraction is completed (i.e., One-day TAT yields results in 3 days from sample submission).

- MAI assumes that all material present in the provided sampling container is considered part of the sample - MAI does not exclude any material from the sample prior to sample preparation unless requested in writing by the client.

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		SAMI	LING				M	[AT]	RIX			,		SERV	1000	Gas (8021/8015) MTBE	19)	Total Petroleum Oil & Grease (1664 / 5520 E/B&F)	Total Petroleum Hydrocarbons (418.1)	EPA 505/ 608 / 8081 (CI Pesticides)	EPA 608 / 8082 PCB's; Aroclors / Congeners	EPA 507 / 8141 (NP Pesticides)	515 / 8151 (Acidic Cl Herbicides)	EPA 524.2 / 624 / 8260 (VOCs)	525.2 / 625 / 8270 (SVOCs)	8270 SIM / 8310 (PAHs / PNAs)	CAM 17 Metals (200.8 / 6020)***	LUFT 5 Metals (200.8 / 6020)***	Metals (200.8 / 6020)***	Lab to Filter sample for Dissolved metals analysis					
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	Name	Date	Time	nts	Pu	e W	king	Vate			a e	ا۔ا	251		L	30 %	as D	Pet F	Pet	205/	809	507	515	524.	525.	827	171	rs.	ls (2)	o Fil				- 1	
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### **Sample Receipt Checklist**

Client Name:	Sierra West Consul	tants, Inc.			Date and 1	ime Received:	8/26/2015 9:15:09 PM
Project Name:	Owen's Brockway				LogIn Revi	ewed by:	Jena Alfaro
WorkOrder №:	1508935	Matrix: Water			Carrier:	Client Drop-In	
		Chain of C	ustody	/ (COC) I	nformation		
Chain of custody	present?		Yes	<b>✓</b>	No 🗌		
Chain of custody	signed when relinquis	shed and received?	Yes	<b>✓</b>	No 🗌		
Chain of custody	agrees with sample l	abels?	Yes	<b>✓</b>	No $\square$		
Sample IDs note	d by Client on COC?		Yes	<b>✓</b>	No 🗌		
Date and Time of	f collection noted by C	Client on COC?	Yes	•	No 🗌		
Sampler's name	noted on COC?		Yes	<b>✓</b>	No 🗌		
		<u>Sampl</u>	e Rece	eipt Infori	mation		
Custody seals int	tact on shipping conta	-	Yes		No 🗌		NA 🗸
Shipping containe	er/cooler in good cond	dition?	Yes	•	No 🗌		
Samples in prope	er containers/bottles?		Yes	<b>✓</b>	No 🗌		
Sample containe	rs intact?		Yes	<b>✓</b>	No 🗌		
Sufficient sample	volume for indicated	test?	Yes	<b>✓</b>	No 🗌		
		Sample Preservation	on and	Hold Tin	ne (HT) Info	<u>rmation</u>	
All samples recei	ived within holding tim	ne?	Yes	<b>✓</b>	No 🗌		
Sample/Temp Bla	ank temperature			Temp:	1°C		NA 🗌
Water - VOA vial	s have zero headspa	ce / no bubbles?	Yes	•	No 🗌		NA 🗆
Sample labels ch	necked for correct pres	servation?	Yes	•	No 🗌		
pH acceptable up	oon receipt (Metal: <2	; 522: <4; 218.7: >8)?	Yes		No 🗌		NA 🗹
Samples Receive	ed on Ice?		Yes	✓	No 🗆		
		(Ice Type	e: WE	TICE	)		
UCMR3 Samples Total Chlorine	_	upon receipt for EPA 522?	Yes		No 🗌		NA <b>✓</b>
	ested and acceptable	upon receipt for EPA 218.7,			No 🗌		NA 🗹
* NOTE: If the "N	lo" box is checked, se	ee comments below.					
Comments:	======						



"When Quality Counts"

# **Analytical Report**

**WorkOrder:** 1602126 **Amended:** 02/17/2016

**Report Created for:** Sierra West Consultants, Inc.

4227 Sunrise Blvd., Ste. 220

Fair Oaks, CA 95628

**Project Contact:** Jeff Bensch

**Project P.O.:** 

**Project Name:** Biobarrier Groundwater Treatment

**Project Received:** 02/03/2016

Analytical Report reviewed & approved for release on 02/05/2016 by:

Angela Rydelius,

Laboratory Manager

The report shall not be reproduced except in full, without the written approval of the laboratory. The analytical results relate only to the items tested. Results reported conform to the most current NELAP standards, where applicable, unless otherwise stated in the case narrative.



### **Glossary of Terms & Qualifier Definitions**

Client: Sierra West Consultants, Inc.

Project: Biobarrier Groundwater Treatment

**WorkOrder:** 1602126

#### **Glossary Abbreviation**

95% Interval 95% Confident Interval

DF Dilution Factor

DI WET (DISTLC) Waste Extraction Test using DI water

DISS Dissolved (direct analysis of 0.45 µm filtered and acidified water sample)

DLT Dilution Test
DUP Duplicate

EDL Estimated Detection Limit

ITEF International Toxicity Equivalence Factor

LCS Laboratory Control Sample

MB Method Blank

MB % Rec % Recovery of Surrogate in Method Blank, if applicable

MDL Method Detection Limit

ML Minimum Level of Quantitation

MS Matrix Spike

MSD Matrix Spike Duplicate

N/A Not Applicable

ND Not detected at or above the indicated MDL or RL

NR Data Not Reported due to matrix interference or insufficient sample amount.

PDS Post Digestion Spike

PDSD Post Digestion Spike Duplicate

PF Prep Factor

RD Relative Difference

RL Reporting Limit (The RL is the lowest calibration standard in a multipoint calibration.)

RPD Relative Percent Deviation
RRT Relative Retention Time

SPK Val Spike Value

SPKRef Val Spike Reference Value

SPLP Synthetic Precipitation Leachate Procedure

ST Sorbent Tube

TCLP Toxicity Characteristic Leachate Procedure

TEQ Toxicity Equivalents

WET (STLC) Waste Extraction Test (Soluble Threshold Limit Concentration)

#### **Analytical Qualifiers**

d7 strongly aged gasoline or diesel range compounds are significant in the TPH(g) chromatogram

e2 diesel range compounds are significant; no recognizable pattern

e7 oil range compounds are significant

### **Glossary of Terms & Qualifier Definitions**

**Client:** Sierra West Consultants, Inc.

**Project:** Biobarrier Groundwater Treatment

**WorkOrder:** 1602126

#### **Quality Control Qualifiers**

F1 MS/MSD recovery and/or RPD is out of acceptance criteria; LCS validated the prep batch.

F2 LCS recovery for this compound is outside of acceptance limits.

F8 MS/MSD recovery and/or RPD was out of acceptance criteria; PDS validated the prep batch. If PDS recovery

was out of acceptance criteria, DLT validated the prep batch.

1602126



# **Analytical Report**

Client: Sierra West Consultants, Inc. WorkOrder:

Date Received:2/3/16 15:48Extraction Method:SW5030BDate Prepared:2/3/16Analytical Method:SW8260B

Project: Biobarrier Groundwater Treatment Unit: mg/kg

### Volatile Organics by P&T and GC/MS (Basic Target List)

PT3617-55   1602126-001A   Soil   02/02/2016 14:15   GC10   116151	Client ID	Lab ID	Matrix	Date Co	ollected Instrument	Batch ID
Acetone	PT3617-55	1602126-001A	Soil	02/02/20	16 14:15 GC10	116151
tert-Amyl methyl ether (TAME)         ND         0.0050         1         02/04/2016 09:12           Benzene         ND         0.0050         1         02/04/2016 09:12           Bromoehorzene         ND         0.0050         1         02/04/2016 09:12           Bromochloromethane         ND         0.0050         1         02/04/2016 09:12           Bromodichloromethane         ND         0.0050         1         02/04/2016 09:12           Bromofform         ND         0.0050         1         02/04/2016 09:12           Bromodichloromethane         ND         0.0050         1         02/04/2016 09:12           Bromodichloromethane         ND         0.0050         1         02/04/2016 09:12           Bromomethane         ND         0.0050         1         02/04/2016 09:12           Butyl Jenzene         ND         0.0050         1	<u>Analytes</u>	Result		<u>RL</u>	<u>DF</u>	<u>Date Analyzed</u>
Benzene         ND         0.0050         1         02/04/2016 09:12           Bromobenzene         ND         0.0050         1         02/04/2016 09:12           Bromochloromethane         ND         0.0050         1         02/04/2016 09:12           Bromochloromethane         ND         0.0050         1         02/04/2016 09:12           Bromoferm         ND         0.0050         1         02/04/2016 09:12           Bromomethane         ND         0.0050         1         02/04/2016 09:12           Butyl benzene         ND         0.0050         1         02/04/2016 09:12           Be-Butyl benzene         ND         0.0050         1         02/04/2016 09:12	Acetone	ND		0.10	1	02/04/2016 09:12
Bromobenzene   ND	tert-Amyl methyl ether (TAME)	ND		0.0050	1	02/04/2016 09:12
Bromochloromethane	Benzene	ND		0.0050	1	02/04/2016 09:12
Bromodichloromethane         ND         0.0050         1         02/04/2016 09:12           Bromoform         ND         0.0050         1         0.204/2016 09:12           Bromomethane         ND         0.0050         1         0.204/2016 09:12           Z-Butanone (MEK)         ND         0.020         1         0.204/2016 09:12           L-Butyl alcohol (TBA)         ND         0.050         1         0.204/2016 09:12           L-Butyl benzene         ND         0.0550         1         0.204/2016 09:12           sec-Butyl benzene         ND         0.0050         1         0.204/2016 09:12           sec-Butyl benzene         ND         0.0050         1         0.204/2016 09:12           Carbon Disulfide         ND         0.0050         1         0.204/2016 09:12           Carbon Disulfide         ND         0.0050         1         0.204/2016 09:12           Carbon Tetrachloride         ND         0.0050         1         0.204/2016 09:12           Chlorodenzene         ND         0.0050         1         0.204/2016 09:12           Chlorodenzene         ND         0.0050         1         0.204/2016 09:12           Chloroderme         ND         0.0050         1 <td>Bromobenzene</td> <td>ND</td> <td></td> <td>0.0050</td> <td>1</td> <td>02/04/2016 09:12</td>	Bromobenzene	ND		0.0050	1	02/04/2016 09:12
Bromoform   ND	Bromochloromethane	ND		0.0050	1	02/04/2016 09:12
Bromomethane   ND	Bromodichloromethane	ND		0.0050	1	02/04/2016 09:12
2-Butanone (MEK)         ND         0.020         1         02/04/2016 09:12           t-Butyl alcohol (TBA)         ND         0.050         1         02/04/2016 09:12           n-Butyl benzene         ND         0.0050         1         02/04/2016 09:12           sec-Butyl benzene         ND         0.0050         1         02/04/2016 09:12           tert-Butyl benzene         ND         0.0050         1         02/04/2016 09:12           Carbon Disulfide         ND         0.0050         1         02/04/2016 09:12           Carbon Disulfide         ND         0.0050         1         02/04/2016 09:12           Chlorothere         ND         0.0050         1         02/04/2016 09:12           Chlorothane         ND         0.0050         1         02/04/2016 09:12           Chlorothane         ND         0.0050         1         02/04/2016 09:12           Chlorothane         ND         0.0050         1         02/04/2016 09:12           2-Chlorotoluene         ND         0.0050         1         02/04/2016 09:12           2-Chlorotoluene         ND         0.0050         1         02/04/2016 09:12           2-Chlorotoluene         ND         0.0050         1	Bromoform	ND		0.0050	1	02/04/2016 09:12
E-Butyl alcohol (TBA)	Bromomethane	ND		0.0050	1	02/04/2016 09:12
n-Butyl benzene         ND         0.0050         1         02/04/2016 09:12           sec-Butyl benzene         ND         0.0050         1         02/04/2016 09:12           terf-Butyl benzene         ND         0.0050         1         02/04/2016 09:12           Carbon Disulfide         ND         0.0050         1         02/04/2016 09:12           Carbon Disulfide         ND         0.0050         1         02/04/2016 09:12           Chlorobenzene         ND         0.0050         1         02/04/2016 09:12           Chlorobenzene         ND         0.0050         1         02/04/2016 09:12           Chloroform         ND         0.0050         1         02/04/2016 09:12           Chloromethane         ND         0.0050         1         02/04/2016 09:12           2-Chlorotoluene         ND         0.0050         1         02/04/2016 09:12           4-Chiorotoluene         ND         0.0050         1         02/04/2016 09:12           4-Chiorotoluene         ND         0.0050         1         02/04/2016 09:12           1/2-Dibromochloromethane         ND         0.0050         1         02/04/2016 09:12           1/2-Dibromochloromethane         ND         0.0040	2-Butanone (MEK)	ND		0.020	1	02/04/2016 09:12
Sec-Butyl benzene   ND	t-Butyl alcohol (TBA)	ND		0.050	1	02/04/2016 09:12
tert-Butyl benzene         ND         0.0050         1         02/04/2016 09:12           Carbon Disulfide         ND         0.0050         1         02/04/2016 09:12           Carbon Tetrachloride         ND         0.0050         1         02/04/2016 09:12           Chlorobenzene         ND         0.0050         1         02/04/2016 09:12           Chlorotethane         ND         0.0050         1         02/04/2016 09:12           Chlorotorm         ND         0.0050         1         02/04/2016 09:12           Chlorotoluene         ND         0.0050         1         02/04/2016 09:12           2-Chlorotoluene         ND         0.0050         1         02/04/2016 09:12           4-Chlorotoluene         ND         0.0050         1         02/04/2016 09:12           4-Chlorotoluene         ND         0.0050         1         02/04/2016 09:12           1,2-Dibromochloromethane         ND         0.0050         1         02/04/2016 09:12           1,2-Dibromochloromethane         ND         0.0040         1         02/04/2016 09:12           1,2-Dibromochloromethane (EDB)         ND         0.0040         1         02/04/2016 09:12           1,2-Dibromochloromethane         ND	n-Butyl benzene	ND		0.0050	1	02/04/2016 09:12
Carbon Disulfide         ND         0.0050         1         02/04/2016 09:12           Carbon Tetrachloride         ND         0.0050         1         02/04/2016 09:12           Chlorobenzene         ND         0.0050         1         02/04/2016 09:12           Chloroethane         ND         0.0050         1         02/04/2016 09:12           Chloroform         ND         0.0050         1         02/04/2016 09:12           Chloromethane         ND         0.0050         1         02/04/2016 09:12           2-Chlorotoluene         ND         0.0050         1         02/04/2016 09:12           4-Chlorotoluene         ND         0.0050         1         02/04/2016 09:12           4-Chlorotoluene         ND         0.0050         1         02/04/2016 09:12           4-Chlorotoluene         ND         0.0050         1         02/04/2016 09:12           1/2-Dibromoethane         ND         0.0050         1         02/04/2016 09:12           1/2-Dibromoethane (EDB)         ND         0.0040         1         02/04/2016 09:12           1/2-Dibromoethane         ND         0.0050         1         02/04/2016 09:12           1/2-Dibrorobenzene         ND         0.0050	sec-Butyl benzene	ND		0.0050	1	02/04/2016 09:12
Carbon Tetrachloride         ND         0.0050         1         02/04/2016 09:12           Chlorobenzene         ND         0.0050         1         02/04/2016 09:12           Chloroethane         ND         0.0050         1         02/04/2016 09:12           Chloroform         ND         0.0050         1         02/04/2016 09:12           Chloromethane         ND         0.0050         1         02/04/2016 09:12           2-Chlorotoluene         ND         0.0050         1         02/04/2016 09:12           4-Chlorotoluene         ND         0.0050         1         02/04/2016 09:12           Jibromochloromethane         ND         0.0050         1         02/04/2016 09:12           1,2-Dibromodhane         ND         0.0050         1         02/04/2016 09:12           1,2-Dibromoethane (EDB)         ND         0.0040         1         02/04/2016 09:12           1,2-Dichlorobenzene         ND         0.0050         1         02/04/2016 09:12           1,2-Dichlorobenzene         ND         0.0050         1         02/04/2016 09:12           1,4-Dichlorobenzene         ND         0.0050         1         02/04/2016 09:12           1,4-Dichlorobenzene         ND         0.0050 <td>tert-Butyl benzene</td> <td>ND</td> <td></td> <td>0.0050</td> <td>1</td> <td>02/04/2016 09:12</td>	tert-Butyl benzene	ND		0.0050	1	02/04/2016 09:12
Chlorobenzene         ND         0.0050         1         02/04/2016 09:12           Chloroethane         ND         0.0050         1         02/04/2016 09:12           Chloroform         ND         0.0050         1         02/04/2016 09:12           Chlorothane         ND         0.0050         1         02/04/2016 09:12           2-Chlorotoluene         ND         0.0050         1         02/04/2016 09:12           4-Chlorotoluene         ND         0.0050         1         02/04/2016 09:12           4-Chlorotoluene         ND         0.0050         1         02/04/2016 09:12           1-2-Dibromo-3-chloropropane         ND         0.0050         1         02/04/2016 09:12           1,2-Dibromo-4-chloropropane         ND         0.0040         1         02/04/2016 09:12           1,2-Dibromo-brachtane (EDB)         ND         0.0040         1         02/04/2016 09:12           1,2-Dichlorobenzene         ND         0.0050         1         02/04/2016 09:12           1,2-Dichlorobenzene         ND         0.0050         1         02/04/2016 09:12           1,3-Dichlorobenzene         ND         0.0050         1         02/04/2016 09:12           1,1-Dichloroethane         ND	Carbon Disulfide	ND		0.0050	1	02/04/2016 09:12
Chloroethane         ND         0.0050         1         02/04/2016 09:12           Chloroform         ND         0.0050         1         02/04/2016 09:12           Chloromethane         ND         0.0050         1         02/04/2016 09:12           2-Chlorotoluene         ND         0.0050         1         02/04/2016 09:12           4-Chlorotoluene         ND         0.0050         1         02/04/2016 09:12           4-Chlorotoluene         ND         0.0050         1         02/04/2016 09:12           Dibromochloromethane         ND         0.0050         1         02/04/2016 09:12           1,2-Dibromo-3-chloropropane         ND         0.0040         1         02/04/2016 09:12           1,2-Dibromoethane (EDB)         ND         0.0040         1         02/04/2016 09:12           Dibromoethane (EDB)         ND         0.0050         1         02/04/2016 09:12           1,2-Dichlorobenzene         ND         0.0050         1         02/04/2016 09:12           1,3-Dichlorobenzene         ND         0.0050         1         02/04/2016 09:12           1,4-Dichlorobenzene         ND         0.0050         1         02/04/2016 09:12           1,1-Dichloroethane         ND <td< td=""><td>Carbon Tetrachloride</td><td>ND</td><td></td><td>0.0050</td><td>1</td><td>02/04/2016 09:12</td></td<>	Carbon Tetrachloride	ND		0.0050	1	02/04/2016 09:12
Chloroform         ND         0.0050         1         02/04/2016 09:12           Chloromethane         ND         0.0050         1         02/04/2016 09:12           2-Chlorotoluene         ND         0.0050         1         02/04/2016 09:12           4-Chlorotoluene         ND         0.0050         1         02/04/2016 09:12           1-Chlorotoluene         ND         0.0050         1         02/04/2016 09:12           1-2-Dibromochloromethane         ND         0.0050         1         02/04/2016 09:12           1,2-Dibromoethane (EDB)         ND         0.0040         1         02/04/2016 09:12           1,2-Dibromoethane         ND         0.0050         1         02/04/2016 09:12           1,2-Dichlorobenzene         ND         0.0050         1         02/04/2016 09:12           1,3-Dichlorobenzene         ND         0.0050         1         02/04/2016 09:12           1,4-Dichlorobenzene         ND         0.0050         1         02/04/2016 09:12           1,1-Dichlorodifluoromethane         ND         0.0050         1         02/04/2016 09:12           1,1-Dichloroethane         ND         0.0050         1         02/04/2016 09:12           1,2-Dichloroethane         ND	Chlorobenzene	ND		0.0050	1	02/04/2016 09:12
Chloromethane         ND         0.0050         1         02/04/2016 09:12           2-Chlorotoluene         ND         0.0050         1         02/04/2016 09:12           4-Chlorotoluene         ND         0.0050         1         02/04/2016 09:12           1,2-Dibromochloromethane         ND         0.0050         1         02/04/2016 09:12           1,2-Dibromo-3-chloropropane         ND         0.0040         1         02/04/2016 09:12           1,2-Dibromoethane (EDB)         ND         0.0040         1         02/04/2016 09:12           1,2-Dibromoethane (EDB)         ND         0.0050         1         02/04/2016 09:12           1,2-Dichlorobenzene         ND         0.0050         1         02/04/2016 09:12           1,3-Dichlorobenzene         ND         0.0050         1         02/04/2016 09:12           1,4-Dichlorobenzene         ND         0.0050         1         02/04/2016 09:12           1,1-Dichloroethane         ND         0.0050         1         02/04/2016 09:12           1,1-Dichloroethane         ND         0.0050         1         02/04/2016 09:12           1,1-Dichloroethane         ND         0.0050         1         02/04/2016 09:12           1,1-Dichloroethene	Chloroethane	ND		0.0050	1	02/04/2016 09:12
2-Chlorotoluene         ND         0.0050         1         02/04/2016 09:12           4-Chlorotoluene         ND         0.0050         1         02/04/2016 09:12           Dibromochloromethane         ND         0.0050         1         02/04/2016 09:12           1,2-Dibromo-3-chloropropane         ND         0.0040         1         02/04/2016 09:12           1,2-Dibromoethane (EDB)         ND         0.0040         1         02/04/2016 09:12           1,2-Dibromoethane         ND         0.0050         1         02/04/2016 09:12           1,2-Dichlorobenzene         ND         0.0050         1         02/04/2016 09:12           1,3-Dichlorobenzene         ND         0.0050         1         02/04/2016 09:12           1,4-Dichlorobenzene         ND         0.0050         1         02/04/2016 09:12           1,1-Dichloroethane         ND         0.0050         1         02/04/2016 09:12           1,1-Dichloroethane         ND         0.0050         1         02/04/2016 09:12           1,1-Dichloroethane         ND         0.0040         1         02/04/2016 09:12           1,1-Dichloroethene         ND         0.0050         1         02/04/2016 09:12           1,1-Dichloroethene <td< td=""><td>Chloroform</td><td>ND</td><td></td><td>0.0050</td><td>1</td><td>02/04/2016 09:12</td></td<>	Chloroform	ND		0.0050	1	02/04/2016 09:12
4-Chlorotoluene         ND         0.0050         1         02/04/2016 09:12           Dibromochloromethane         ND         0.0050         1         02/04/2016 09:12           1,2-Dibromo-3-chloropropane         ND         0.0040         1         02/04/2016 09:12           1,2-Dibromoethane (EDB)         ND         0.0040         1         02/04/2016 09:12           1,2-Dibromomethane         ND         0.0050         1         02/04/2016 09:12           1,2-Dichlorobenzene         ND         0.0050         1         02/04/2016 09:12           1,3-Dichlorobenzene         ND         0.0050         1         02/04/2016 09:12           1,4-Dichlorobenzene         ND         0.0050         1         02/04/2016 09:12           1,1-Dichloroethane         ND         0.0050         1         02/04/2016 09:12           1,1-Dichloroethane         ND         0.0050         1         02/04/2016 09:12           1,1-Dichloroethane         ND         0.0040         1         02/04/2016 09:12           1,1-Dichloroethene         ND         0.0050         1         02/04/2016 09:12           1,1-Dichloroethene         ND         0.0050         1         02/04/2016 09:12           cis-1,2-Dichloroethene	Chloromethane	ND		0.0050	1	02/04/2016 09:12
Dibromochloromethane         ND         0.0050         1         02/04/2016 09:12           1,2-Dibromo-3-chloropropane         ND         0.0040         1         02/04/2016 09:12           1,2-Dibromoethane (EDB)         ND         0.0040         1         02/04/2016 09:12           Dibromomethane         ND         0.0050         1         02/04/2016 09:12           1,2-Dichlorobenzene         ND         0.0050         1         02/04/2016 09:12           1,3-Dichlorobenzene         ND         0.0050         1         02/04/2016 09:12           1,4-Dichlorobenzene         ND         0.0050         1         02/04/2016 09:12           1,1-Dichloromethane         ND         0.0050         1         02/04/2016 09:12           1,2-Dichloroethane (1,2-DCA)         ND         0.0050         1         02/04/2016 09:12           1,1-Dichloroethene         ND         0.0050         1         02/04/2016 09:12           1,2-Dichloroethene         ND         0.0050         1         02/04/2016 09:12           trans-1,2-Dichloroethene         ND         0.0050         1         02/04/2016 09:12           trans-1,2-Dichloroethene         ND         0.0050         1         02/04/2016 09:12           1,2-Dichl	2-Chlorotoluene	ND		0.0050	1	02/04/2016 09:12
1,2-Dibromo-3-chloropropane         ND         0.0040         1         02/04/2016 09:12           1,2-Dibromoethane (EDB)         ND         0.0040         1         02/04/2016 09:12           Dibromomethane         ND         0.0050         1         02/04/2016 09:12           1,2-Dichlorobenzene         ND         0.0050         1         02/04/2016 09:12           1,3-Dichlorobenzene         ND         0.0050         1         02/04/2016 09:12           1,4-Dichlorobenzene         ND         0.0050         1         02/04/2016 09:12           Dichlorodifluoromethane         ND         0.0050         1         02/04/2016 09:12           1,1-Dichloroethane         ND         0.0050         1         02/04/2016 09:12           1,2-Dichloroethane (1,2-DCA)         ND         0.0040         1         02/04/2016 09:12           1,1-Dichloroethene         ND         0.0050         1         02/04/2016 09:12           cis-1,2-Dichloroethene         ND         0.0050         1         02/04/2016 09:12           trans-1,2-Dichloroethene         ND         0.0050         1         02/04/2016 09:12           1,2-Dichloropropane         ND         0.0050         1         02/04/2016 09:12           1,3-Dich	4-Chlorotoluene	ND		0.0050	1	02/04/2016 09:12
1,2-Dibromoethane (EDB)         ND         0.0040         1         02/04/2016 09:12           Dibromomethane         ND         0.0050         1         02/04/2016 09:12           1,2-Dichlorobenzene         ND         0.0050         1         02/04/2016 09:12           1,3-Dichlorobenzene         ND         0.0050         1         02/04/2016 09:12           1,4-Dichlorobenzene         ND         0.0050         1         02/04/2016 09:12           Dichlorodifluoromethane         ND         0.0050         1         02/04/2016 09:12           1,1-Dichloroethane         ND         0.0050         1         02/04/2016 09:12           1,2-Dichloroethane (1,2-DCA)         ND         0.0040         1         02/04/2016 09:12           1,1-Dichloroethene         ND         0.0050         1         02/04/2016 09:12           cis-1,2-Dichloroethene         ND         0.0050         1         02/04/2016 09:12           trans-1,2-Dichloroethene         ND         0.0050         1         02/04/2016 09:12           1,2-Dichloropropane         ND         0.0050         1         02/04/2016 09:12           1,3-Dichloropropane         ND         0.0050         1         02/04/2016 09:12	Dibromochloromethane	ND		0.0050	1	02/04/2016 09:12
Dibromomethane         ND         0.0050         1         02/04/2016 09:12           1,2-Dichlorobenzene         ND         0.0050         1         02/04/2016 09:12           1,3-Dichlorobenzene         ND         0.0050         1         02/04/2016 09:12           1,4-Dichlorobenzene         ND         0.0050         1         02/04/2016 09:12           Dichlorodifluoromethane         ND         0.0050         1         02/04/2016 09:12           1,1-Dichloroethane         ND         0.0050         1         02/04/2016 09:12           1,2-Dichloroethane (1,2-DCA)         ND         0.0040         1         02/04/2016 09:12           1,1-Dichloroethene         ND         0.0050         1         02/04/2016 09:12           cis-1,2-Dichloroethene         ND         0.0050         1         02/04/2016 09:12           trans-1,2-Dichloroethene         ND         0.0050         1         02/04/2016 09:12           1,2-Dichloropropane         ND         0.0050         1         02/04/2016 09:12           1,3-Dichloropropane         ND         0.0050         1         02/04/2016 09:12	1,2-Dibromo-3-chloropropane	ND		0.0040	1	02/04/2016 09:12
1,2-Dichlorobenzene         ND         0.0050         1         02/04/2016 09:12           1,3-Dichlorobenzene         ND         0.0050         1         02/04/2016 09:12           1,4-Dichlorobenzene         ND         0.0050         1         02/04/2016 09:12           Dichlorodifluoromethane         ND         0.0050         1         02/04/2016 09:12           1,1-Dichloroethane         ND         0.0050         1         02/04/2016 09:12           1,2-Dichloroethane (1,2-DCA)         ND         0.0040         1         02/04/2016 09:12           1,1-Dichloroethene         ND         0.0050         1         02/04/2016 09:12           cis-1,2-Dichloroethene         ND         0.0050         1         02/04/2016 09:12           trans-1,2-Dichloroethene         ND         0.0050         1         02/04/2016 09:12           1,2-Dichloropropane         ND         0.0050         1         02/04/2016 09:12           1,3-Dichloropropane         ND         0.0050         1         02/04/2016 09:12	1,2-Dibromoethane (EDB)	ND		0.0040	1	02/04/2016 09:12
1,3-Dichlorobenzene         ND         0.0050         1         02/04/2016 09:12           1,4-Dichlorobenzene         ND         0.0050         1         02/04/2016 09:12           Dichlorodifluoromethane         ND         0.0050         1         02/04/2016 09:12           1,1-Dichloroethane         ND         0.0050         1         02/04/2016 09:12           1,2-Dichloroethane (1,2-DCA)         ND         0.0040         1         02/04/2016 09:12           1,1-Dichloroethene         ND         0.0050         1         02/04/2016 09:12           cis-1,2-Dichloroethene         ND         0.0050         1         02/04/2016 09:12           trans-1,2-Dichloroethene         ND         0.0050         1         02/04/2016 09:12           1,2-Dichloropropane         ND         0.0050         1         02/04/2016 09:12           1,3-Dichloropropane         ND         0.0050         1         02/04/2016 09:12	Dibromomethane	ND		0.0050	1	02/04/2016 09:12
1,4-Dichlorobenzene         ND         0.0050         1         02/04/2016 09:12           Dichlorodifluoromethane         ND         0.0050         1         02/04/2016 09:12           1,1-Dichloroethane         ND         0.0050         1         02/04/2016 09:12           1,2-Dichloroethane (1,2-DCA)         ND         0.0040         1         02/04/2016 09:12           1,1-Dichloroethene         ND         0.0050         1         02/04/2016 09:12           cis-1,2-Dichloroethene         ND         0.0050         1         02/04/2016 09:12           trans-1,2-Dichloroethene         ND         0.0050         1         02/04/2016 09:12           1,2-Dichloropropane         ND         0.0050         1         02/04/2016 09:12           1,3-Dichloropropane         ND         0.0050         1         02/04/2016 09:12	1,2-Dichlorobenzene	ND		0.0050	1	02/04/2016 09:12
Dichlorodifluoromethane         ND         0.0050         1         02/04/2016 09:12           1,1-Dichloroethane         ND         0.0050         1         02/04/2016 09:12           1,2-Dichloroethane (1,2-DCA)         ND         0.0040         1         02/04/2016 09:12           1,1-Dichloroethene         ND         0.0050         1         02/04/2016 09:12           cis-1,2-Dichloroethene         ND         0.0050         1         02/04/2016 09:12           trans-1,2-Dichloroethene         ND         0.0050         1         02/04/2016 09:12           1,2-Dichloropropane         ND         0.0050         1         02/04/2016 09:12           1,3-Dichloropropane         ND         0.0050         1         02/04/2016 09:12	1,3-Dichlorobenzene	ND		0.0050	1	02/04/2016 09:12
1,1-Dichloroethane         ND         0.0050         1         02/04/2016 09:12           1,2-Dichloroethane (1,2-DCA)         ND         0.0040         1         02/04/2016 09:12           1,1-Dichloroethene         ND         0.0050         1         02/04/2016 09:12           cis-1,2-Dichloroethene         ND         0.0050         1         02/04/2016 09:12           trans-1,2-Dichloroethene         ND         0.0050         1         02/04/2016 09:12           1,2-Dichloropropane         ND         0.0050         1         02/04/2016 09:12           1,3-Dichloropropane         ND         0.0050         1         02/04/2016 09:12	1,4-Dichlorobenzene	ND		0.0050	1	02/04/2016 09:12
1,2-Dichloroethane (1,2-DCA)       ND       0.0040       1       02/04/2016 09:12         1,1-Dichloroethene       ND       0.0050       1       02/04/2016 09:12         cis-1,2-Dichloroethene       ND       0.0050       1       02/04/2016 09:12         trans-1,2-Dichloroethene       ND       0.0050       1       02/04/2016 09:12         1,2-Dichloropropane       ND       0.0050       1       02/04/2016 09:12         1,3-Dichloropropane       ND       0.0050       1       02/04/2016 09:12	Dichlorodifluoromethane	ND		0.0050	1	02/04/2016 09:12
1,1-Dichloroethene         ND         0.0050         1         02/04/2016 09:12           cis-1,2-Dichloroethene         ND         0.0050         1         02/04/2016 09:12           trans-1,2-Dichloroethene         ND         0.0050         1         02/04/2016 09:12           1,2-Dichloropropane         ND         0.0050         1         02/04/2016 09:12           1,3-Dichloropropane         ND         0.0050         1         02/04/2016 09:12	1,1-Dichloroethane	ND		0.0050	1	02/04/2016 09:12
cis-1,2-Dichloroethene         ND         0.0050         1         02/04/2016 09:12           trans-1,2-Dichloroethene         ND         0.0050         1         02/04/2016 09:12           1,2-Dichloropropane         ND         0.0050         1         02/04/2016 09:12           1,3-Dichloropropane         ND         0.0050         1         02/04/2016 09:12	1,2-Dichloroethane (1,2-DCA)	ND		0.0040	1	02/04/2016 09:12
trans-1,2-Dichloroethene         ND         0.0050         1         02/04/2016 09:12           1,2-Dichloropropane         ND         0.0050         1         02/04/2016 09:12           1,3-Dichloropropane         ND         0.0050         1         02/04/2016 09:12	1,1-Dichloroethene	ND		0.0050	1	02/04/2016 09:12
1,2-Dichloropropane         ND         0.0050         1         02/04/2016 09:12           1,3-Dichloropropane         ND         0.0050         1         02/04/2016 09:12	cis-1,2-Dichloroethene	ND		0.0050	1	02/04/2016 09:12
1,3-Dichloropropane         ND         0.0050         1         02/04/2016 09:12	trans-1,2-Dichloroethene	ND		0.0050	1	02/04/2016 09:12
1,3-Dichloropropane         ND         0.0050         1         02/04/2016 09:12	1,2-Dichloropropane	ND		0.0050	1	02/04/2016 09:12
2,2-Dichloropropane         ND         0.0050         1         02/04/2016 09:12		ND		0.0050	1	02/04/2016 09:12
	2,2-Dichloropropane	ND		0.0050	1	02/04/2016 09:12

(Cont.)



# **Analytical Report**

Client: Sierra West Consultants, Inc.

**Date Received:** 2/3/16 15:48

**Date Prepared:** 2/3/16

**Project:** Biobarrier Groundwater Treatment

**WorkOrder:** 1602126

**Extraction Method:** SW5030B

**Analytical Method: SW8260B** 

**Unit:** mg/kg

### Volatile Organics by P&T and GC/MS (Basic Target List)

Client ID	Lab ID	Matrix	Date Colle	ected Instrument	Batch ID
PT3617-55	1602126-001A	Soil	02/02/2016	14:15 GC10	116151
<u>Analytes</u>	<u>Result</u>		<u>RL</u>	<u>DF</u>	Date Analyzed
1,1-Dichloropropene	ND		0.0050	1	02/04/2016 09:12
cis-1,3-Dichloropropene	ND		0.0050	1	02/04/2016 09:12
trans-1,3-Dichloropropene	ND		0.0050	1	02/04/2016 09:12
Diisopropyl ether (DIPE)	ND		0.0050	1	02/04/2016 09:12
Ethylbenzene	ND		0.0050	1	02/04/2016 09:12
Ethyl tert-butyl ether (ETBE)	ND		0.0050	1	02/04/2016 09:12
Freon 113	ND		0.0050	1	02/04/2016 09:12
Hexachlorobutadiene	ND		0.0050	1	02/04/2016 09:12
Hexachloroethane	ND		0.0050	1	02/04/2016 09:12
2-Hexanone	ND		0.0050	1	02/04/2016 09:12
Isopropylbenzene	ND		0.0050	1	02/04/2016 09:12
4-Isopropyl toluene	ND		0.0050	1	02/04/2016 09:12
Methyl-t-butyl ether (MTBE)	ND		0.0050	1	02/04/2016 09:12
Methylene chloride	ND		0.0050	1	02/04/2016 09:12
4-Methyl-2-pentanone (MIBK)	ND		0.0050	1	02/04/2016 09:12
Naphthalene	0.018		0.0050	1	02/04/2016 09:12
n-Propyl benzene	ND		0.0050	1	02/04/2016 09:12
Styrene	ND		0.0050	1	02/04/2016 09:12
1,1,1,2-Tetrachloroethane	ND		0.0050	1	02/04/2016 09:12
1,1,2,2-Tetrachloroethane	ND		0.0050	1	02/04/2016 09:12
Tetrachloroethene	ND		0.0050	1	02/04/2016 09:12
Toluene	ND		0.0050	1	02/04/2016 09:12
1,2,3-Trichlorobenzene	ND		0.0050	1	02/04/2016 09:12
1,2,4-Trichlorobenzene	ND		0.0050	1	02/04/2016 09:12
1,1,1-Trichloroethane	ND		0.0050	1	02/04/2016 09:12
1,1,2-Trichloroethane	ND		0.0050	1	02/04/2016 09:12
Trichloroethene	ND		0.0050	1	02/04/2016 09:12
Trichlorofluoromethane	ND		0.0050	1	02/04/2016 09:12
1,2,3-Trichloropropane	ND		0.0050	1	02/04/2016 09:12
1,2,4-Trimethylbenzene	ND		0.0050	1	02/04/2016 09:12
1,3,5-Trimethylbenzene	ND		0.0050	1	02/04/2016 09:12
Vinyl Chloride	ND		0.0050	1	02/04/2016 09:12
Xylenes, Total	ND		0.0050	1	02/04/2016 09:12

# **Analytical Report**

Client:Sierra West Consultants, Inc.WorkOrder:1602126Date Received:2/3/16 15:48Extraction Method:SW5030BDate Prepared:2/3/16Analytical Method:SW8260B

Project: Biobarrier Groundwater Treatment Unit: mg/kg

### Volatile Organics by P&T and GC/MS (Basic Target List)

Client ID	Lab ID Matrix	<b>Date Collected Instrument</b>	Batch ID	
PT3617-55	1602126-001A Soil	02/02/2016 14:15 GC10	116151	
<u>Analytes</u>	Result	<u>RL</u> <u>DF</u>	Date Analyzed	
<u>Surrogates</u>	<u>REC (%)</u>	<u>Limits</u>		
Dibromofluoromethane	106	70-130	02/04/2016 09:12	
Toluene-d8	125	70-130	02/04/2016 09:12	
4-BFB	96	70-130	02/04/2016 09:12	
Benzene-d6	106	60-140	02/04/2016 09:12	
Ethylbenzene-d10	119	60-140	02/04/2016 09:12	
1,2-DCB-d4	93	60-140	02/04/2016 09:12	

# **Analytical Report**

**Client:** Sierra West Consultants, Inc.

**Date Received:** 2/3/16 15:48

**Date Prepared:** 2/3/16

**Project:** Biobarrier Groundwater Treatment

**WorkOrder:** 1602126

**Extraction Method:** SW5030B

**Analytical Method:** SW8260B

**Unit:** mg/kg

### Volatile Organics by P&T and GC/MS (Basic Target List)

Client ID	Lab ID	Matrix	Date Col	lected Instrument	Batch ID
PT1437-87	1602126-002A	Soil	02/03/2016	6 17:40 GC10	116151
<u>Analytes</u>	Result		<u>RL</u>	<u>DF</u>	<u>Date Analyzed</u>
Acetone	0.11		0.10	1	02/04/2016 09:52
tert-Amyl methyl ether (TAME)	ND		0.0050	1	02/04/2016 09:52
Benzene	ND		0.0050	1	02/04/2016 09:52
Bromobenzene	ND		0.0050	1	02/04/2016 09:52
Bromochloromethane	ND		0.0050	1	02/04/2016 09:52
Bromodichloromethane	ND		0.0050	1	02/04/2016 09:52
Bromoform	ND		0.0050	1	02/04/2016 09:52
Bromomethane	ND		0.0050	1	02/04/2016 09:52
2-Butanone (MEK)	ND		0.020	1	02/04/2016 09:52
t-Butyl alcohol (TBA)	ND		0.050	1	02/04/2016 09:52
n-Butyl benzene	ND		0.0050	1	02/04/2016 09:52
sec-Butyl benzene	ND		0.0050	1	02/04/2016 09:52
tert-Butyl benzene	ND		0.0050	1	02/04/2016 09:52
Carbon Disulfide	ND		0.0050	1	02/04/2016 09:52
Carbon Tetrachloride	ND		0.0050	1	02/04/2016 09:52
Chlorobenzene	ND		0.0050	1	02/04/2016 09:52
Chloroethane	ND		0.0050	1	02/04/2016 09:52
Chloroform	ND		0.0050	1	02/04/2016 09:52
Chloromethane	ND		0.0050	1	02/04/2016 09:52
2-Chlorotoluene	ND		0.0050	1	02/04/2016 09:52
4-Chlorotoluene	ND		0.0050	1	02/04/2016 09:52
Dibromochloromethane	ND		0.0050	1	02/04/2016 09:52
1,2-Dibromo-3-chloropropane	ND		0.0040	1	02/04/2016 09:52
1,2-Dibromoethane (EDB)	ND		0.0040	1	02/04/2016 09:52
Dibromomethane	ND		0.0050	1	02/04/2016 09:52
1,2-Dichlorobenzene	ND		0.0050	1	02/04/2016 09:52
1,3-Dichlorobenzene	ND		0.0050	1	02/04/2016 09:52
1,4-Dichlorobenzene	ND		0.0050	1	02/04/2016 09:52
Dichlorodifluoromethane	ND		0.0050	1	02/04/2016 09:52
1,1-Dichloroethane	ND		0.0050	1	02/04/2016 09:52
1,2-Dichloroethane (1,2-DCA)	ND		0.0040	1	02/04/2016 09:52
1,1-Dichloroethene	ND		0.0050	1	02/04/2016 09:52
cis-1,2-Dichloroethene	ND		0.0050	1	02/04/2016 09:52
trans-1,2-Dichloroethene	ND		0.0050	1	02/04/2016 09:52
1,2-Dichloropropane	ND		0.0050	1	02/04/2016 09:52
1,3-Dichloropropane	ND		0.0050	1	02/04/2016 09:52
2,2-Dichloropropane	ND		0.0050	1	02/04/2016 09:52

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Angela Rydelius, Lab Manager

# **Analytical Report**

Client: Sierra West Consultants, Inc.

**Date Received:** 2/3/16 15:48

**Date Prepared:** 2/3/16

**Project:** Biobarrier Groundwater Treatment

**WorkOrder:** 1602126

**Extraction Method:** SW5030B

**Analytical Method: SW8260B** 

**Unit:** mg/kg

### Volatile Organics by P&T and GC/MS (Basic Target List)

Client ID	Lab ID	Matrix	Date Col	lected Instrument	Batch ID
PT1437-87	1602126-002 <i>A</i>	A Soil	02/03/2016	6 17:40 GC10	116151
<u>Analytes</u>	<u>Result</u>		<u>RL</u>	<u>DF</u>	<u>Date Analyzed</u>
1,1-Dichloropropene	ND		0.0050	1	02/04/2016 09:52
cis-1,3-Dichloropropene	ND		0.0050	1	02/04/2016 09:52
trans-1,3-Dichloropropene	ND		0.0050	1	02/04/2016 09:52
Diisopropyl ether (DIPE)	ND		0.0050	1	02/04/2016 09:52
Ethylbenzene	ND		0.0050	1	02/04/2016 09:52
Ethyl tert-butyl ether (ETBE)	ND		0.0050	1	02/04/2016 09:52
Freon 113	ND		0.0050	1	02/04/2016 09:52
Hexachlorobutadiene	ND		0.0050	1	02/04/2016 09:52
Hexachloroethane	ND		0.0050	1	02/04/2016 09:52
2-Hexanone	ND		0.0050	1	02/04/2016 09:52
Isopropylbenzene	ND		0.0050	1	02/04/2016 09:52
4-Isopropyl toluene	ND		0.0050	1	02/04/2016 09:52
Methyl-t-butyl ether (MTBE)	ND		0.0050	1	02/04/2016 09:52
Methylene chloride	ND		0.0050	1	02/04/2016 09:52
4-Methyl-2-pentanone (MIBK)	ND		0.0050	1	02/04/2016 09:52
Naphthalene	ND		0.0050	1	02/04/2016 09:52
n-Propyl benzene	ND		0.0050	1	02/04/2016 09:52
Styrene	ND		0.0050	1	02/04/2016 09:52
1,1,1,2-Tetrachloroethane	ND		0.0050	1	02/04/2016 09:52
1,1,2,2-Tetrachloroethane	ND		0.0050	1	02/04/2016 09:52
Tetrachloroethene	ND		0.0050	1	02/04/2016 09:52
Toluene	ND		0.0050	1	02/04/2016 09:52
1,2,3-Trichlorobenzene	ND		0.0050	1	02/04/2016 09:52
1,2,4-Trichlorobenzene	ND		0.0050	1	02/04/2016 09:52
1,1,1-Trichloroethane	ND		0.0050	1	02/04/2016 09:52
1,1,2-Trichloroethane	ND		0.0050	1	02/04/2016 09:52
Trichloroethene	ND		0.0050	1	02/04/2016 09:52
Trichlorofluoromethane	ND		0.0050	1	02/04/2016 09:52
1,2,3-Trichloropropane	ND		0.0050	1	02/04/2016 09:52
1,2,4-Trimethylbenzene	0.0080		0.0050	1	02/04/2016 09:52
1,3,5-Trimethylbenzene	ND		0.0050	1	02/04/2016 09:52
Vinyl Chloride	ND		0.0050	1	02/04/2016 09:52
Xylenes, Total	ND		0.0050	1	02/04/2016 09:52

**Date Prepared:** 2/3/16

1534 Willow Pass Road, Pittsburg, CA 94565-1701 Toll Free Telephone: (877) 252-9262 / Fax: (925) 252-9269 http://www.mccampbell.com / E-mail: main@mccampbell.com

**Analytical Method: SW8260B** 

# **Analytical Report**

Client:Sierra West Consultants, Inc.WorkOrder:1602126Date Received:2/3/16 15:48Extraction Method:SW5030B

**Project:** Biobarrier Groundwater Treatment **Unit:** mg/kg

#### Volatile Organics by P&T and GC/MS (Basic Target List)

Client ID	Lab ID	Matrix	Date Co	ollected Instrument	Batch ID
PT1437-87	1602126-002A	Soil	02/03/20	16 17:40 GC10	116151
<u>Analytes</u>	<u>Result</u>		<u>RL</u>	<u>DF</u>	Date Analyzed
<u>Surrogates</u>	<u>REC (%)</u>		<u>Limits</u>		
Dibromofluoromethane	108		70-130		02/04/2016 09:52
Toluene-d8	125		70-130		02/04/2016 09:52
4-BFB	98		70-130		02/04/2016 09:52
Benzene-d6	110		60-140		02/04/2016 09:52
Ethylbenzene-d10	122		60-140		02/04/2016 09:52
1,2-DCB-d4	94		60-140		02/04/2016 09:52

# **Analytical Report**

**Client:** Sierra West Consultants, Inc.

**Date Received:** 2/3/16 15:48

**Date Prepared:** 2/3/16

**Project:** Biobarrier Groundwater Treatment

**WorkOrder:** 1602126

**Extraction Method:** SW3050B

**Analytical Method:** SW6020

**Unit:** mg/Kg

#### CAM / CCR 17 Metals

Client ID	Lab ID	Matrix	Date Co	ollected Instrument	Batch ID
PT3617-55	1602126-001A	Soil	02/02/201	16 14:15 ICP-MS3	116201
<u>Analytes</u>	Result		<u>RL</u>	<u>DF</u>	Date Analyzed
Antimony	2.2		0.50	1	02/04/2016 15:36
Arsenic	7.5		0.50	1	02/04/2016 15:36
Barium	200		5.0	1	02/04/2016 15:36
Beryllium	ND		0.50	1	02/04/2016 15:36
Cadmium	0.37		0.25	1	02/04/2016 15:36
Chromium	49		0.50	1	02/04/2016 15:36
Cobalt	8.8		0.50	1	02/04/2016 15:36
Copper	53		0.50	1	02/04/2016 15:36
Lead	210		0.50	1	02/04/2016 15:36
Mercury	0.27		0.050	1	02/04/2016 15:36
Molybdenum	ND		0.50	1	02/04/2016 15:36
Nickel	52		0.50	1	02/04/2016 15:36
Selenium	0.54		0.50	1	02/04/2016 15:36
Silver	ND		0.50	1	02/04/2016 15:36
Thallium	ND		0.50	1	02/04/2016 15:36
Vanadium	34		0.50	1	02/04/2016 15:36
Zinc	230		5.0	1	02/04/2016 15:36
Surrogates	<u>REC (%)</u>		<u>Limits</u>		
Terbium	100		70-130		02/04/2016 15:36
Analyst(s): DVH					

# **Analytical Report**

**Client:** Sierra West Consultants, Inc.

**Date Received:** 2/3/16 15:48

**Date Prepared:** 2/3/16

**Project:** Biobarrier Groundwater Treatment

**WorkOrder:** 1602126

**Extraction Method:** SW3050B

**Analytical Method:** SW6020

**Unit:** mg/Kg

#### **CAM / CCR 17 Metals**

Client ID	Lab ID	Matrix	Date Co	ollected Instrument	Batch ID
PT1437-87	1602126-002A	Soil	02/03/201	16 17:40 ICP-MS3	116201
<u>Analytes</u>	Result		<u>RL</u>	<u>DF</u>	Date Analyzed
Antimony	2.3		0.50	1	02/04/2016 15:55
Arsenic	8.6		0.50	1	02/04/2016 15:55
Barium	220		5.0	1	02/04/2016 15:55
Beryllium	ND		0.50	1	02/04/2016 15:55
Cadmium	0.29		0.25	1	02/04/2016 15:55
Chromium	47		0.50	1	02/04/2016 15:55
Cobalt	9.8		0.50	1	02/04/2016 15:55
Copper	40		0.50	1	02/04/2016 15:55
Lead	120		0.50	1	02/04/2016 15:55
Mercury	0.44		0.050	1	02/04/2016 15:55
Molybdenum	ND		0.50	1	02/04/2016 15:55
Nickel	60		0.50	1	02/04/2016 15:55
Selenium	ND		0.50	1	02/04/2016 15:55
Silver	ND		0.50	1	02/04/2016 15:55
Thallium	ND		0.50	1	02/04/2016 15:55
Vanadium	54		0.50	1	02/04/2016 15:55
Zinc	180		5.0	1	02/04/2016 15:55
Surrogates	REC (%)		<u>Limits</u>		
Terbium	104		70-130		02/04/2016 15:55
Analyst(s): DVH					

# **Analytical Report**

Client: Sierra West Consultants, Inc. WorkOrder: 1602126

Date Received: 2/3/16 15:48

Extraction Method: SW5030B

**Date Prepared:** 2/3/16 **Analytical Method:** SW8021B/8015Bm

**Project:** Biobarrier Groundwater Treatment Unit: mg/Kg

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

Client ID	Lab ID Matrix Date Collected Instrument		Batch ID			
PT3617-55	1602126-001A	Soil	02/02/201	6 14:15 GC19	116152	
Analytes	<u>Result</u>		<u>RL</u>	<u>DF</u>	Date Analyzed	
TPH(g)	1.0		1.0	1	02/04/2016 16:58	
MTBE	ND		0.050	1	02/04/2016 16:58	
Benzene	ND		0.0050	1	02/04/2016 16:58	
Toluene	ND		0.0050	1	02/04/2016 16:58	
Ethylbenzene	ND		0.0050	1	02/04/2016 16:58	
Xylenes	ND		0.015	1	02/04/2016 16:58	
<u>Surrogates</u>	REC (%)		<u>Limits</u>			
2-Fluorotoluene	104		70-130		02/04/2016 16:58	
Δnalvet(e)· IΔ			Analytical Comp	nents: d7		

Analyst(s): IA Analytical Comments: d7

Client ID	Lab ID Mat	rix Date Collected Instrument	Batch ID			
PT1437-87	1602126-002A Soil	02/03/2016 17:40 GC19	116152			
Analytes	Result	<u>RL</u> <u>DF</u>	Date Analyzed			
TPH(g)	2.9	1.0 1	02/04/2016 17:59			
MTBE	ND	0.050 1	02/04/2016 17:59			
Benzene	ND	0.0050 1	02/04/2016 17:59			
Toluene	ND	0.0050 1	02/04/2016 17:59			
Ethylbenzene	ND	0.0050 1	02/04/2016 17:59			
Xylenes	0.022	0.015 1	02/04/2016 17:59			
<u>Surrogates</u>	<u>REC (%)</u>	<u>Limits</u>				
2-Fluorotoluene	106	70-130	02/04/2016 17:59			
Analyst(s): IA	Analytical Comments: d7					

# **Analytical Report**

**Client:** Sierra West Consultants, Inc.

**Date Received:** 2/3/16 15:48

**Date Prepared:** 2/3/16

**Project:** Biobarrier Groundwater Treatment

**WorkOrder:** 1602126

**Extraction Method:** SW3550B

**Analytical Method:** SW8015B

**Unit:** mg/Kg

Client ID	Lab ID	Matrix	Date C	ollected Instrument	Batch ID
PT3617-55	1602126-001A	Soil	02/02/20	016 14:15 GC2A	116217
<u>Analytes</u>	Result		<u>RL</u>	<u>DF</u>	Date Analyzed
TPH-Diesel (C10-C23)	100		100	100	02/04/2016 02:34
TPH-Motor Oil (C18-C36)	1500		500	100	02/04/2016 02:34
<u>Surrogates</u>	<u>REC (%)</u>		<u>Limits</u>		
C9	100		70-130		02/04/2016 02:34
Analyst(s): TK			Analytical Com	ments: e7,e2	

			-		
Client ID	Lab ID	Matrix	Date Co	ollected Instrument	Batch ID
PT1437-87	1602126-002A	Soil	02/03/20	16 17:40 GC9b	116217
<u>Analytes</u>	<u>Result</u>		<u>RL</u>	<u>DF</u>	Date Analyzed
TPH-Diesel (C10-C23)	530		100	100	02/04/2016 08:02
TPH-Motor Oil (C18-C36)	2600		500	100	02/04/2016 08:02
Surrogates	<u>REC (%)</u>		<u>Limits</u>		
C9	96		70-130		02/04/2016 08:02
Analyst(s): TK			Analytical Com	ments: e7,e2	

# **Quality Control Report**

**Client:** Sierra West Consultants, Inc.

**Date Prepared:** 2/2/16

**Date Analyzed:** 2/2/16 - 2/3/16 **Instrument:** GC16, GC18

Matrix: Soil

**Project:** Biobarrier Groundwater Treatment

**WorkOrder:** 1602126 **BatchID:** 116151

**Extraction Method:** SW5030B

**Analytical Method:** SW8260B

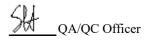
**Unit:** mg/kg

Sample ID: MB/LCS-116151

1602093-001AMS/MSD

#### QC Summary Report for SW8260B

Analyte	MB Result	LCS Result	RL	SPK Val	MB SS %REC	LCS %REC	LCS Limits
Acetone	ND	-	0.10	-	-	-	-
tert-Amyl methyl ether (TAME)	ND	0.0601	0.0050	0.050	-	120, F2	53-116
Benzene	ND	0.0567	0.0050	0.050	-	113	63-137
Bromobenzene	ND	-	0.0050	-	-	-	-
Bromochloromethane	ND	-	0.0050	-	-	-	-
Bromodichloromethane	ND	-	0.0050	-	-	-	-
Bromoform	ND	-	0.0050	-	-	-	-
Bromomethane	ND	-	0.0050	-	-	-	-
2-Butanone (MEK)	ND	-	0.020	-	-	-	-
t-Butyl alcohol (TBA)	ND	0.242	0.050	0.20	-	121	41-135
n-Butyl benzene	ND	-	0.0050	-	-	-	-
sec-Butyl benzene	ND	-	0.0050	-	-	-	-
tert-Butyl benzene	ND	-	0.0050	-	-	-	-
Carbon Disulfide	ND	-	0.0050	-	-	-	-
Carbon Tetrachloride	ND	-	0.0050	-	-	-	-
Chlorobenzene	ND	0.0521	0.0050	0.050	-	104	77-121
Chloroethane	ND	-	0.0050	-	-	-	-
Chloroform	ND	-	0.0050	-	-	-	-
Chloromethane	ND	-	0.0050	-	-	-	-
2-Chlorotoluene	ND	-	0.0050	-	-	-	-
4-Chlorotoluene	ND	-	0.0050	-	-	-	-
Dibromochloromethane	ND	-	0.0050	-	-	-	-
1,2-Dibromo-3-chloropropane	ND	-	0.0040	-	-	-	-
1,2-Dibromoethane (EDB)	ND	0.0540	0.0040	0.050	-	108	67-119
Dibromomethane	ND	-	0.0050	-	-	-	-
1,2-Dichlorobenzene	ND	-	0.0050	-	-	-	-
1,3-Dichlorobenzene	ND	-	0.0050	-	-	-	-
1,4-Dichlorobenzene	ND	-	0.0050	-	-	-	-
Dichlorodifluoromethane	ND	-	0.0050	-	-	-	-
1,1-Dichloroethane	ND	-	0.0050	-	-	-	-
1,2-Dichloroethane (1,2-DCA)	ND	0.0596	0.0040	0.050	-	119	58-135
1,1-Dichloroethene	ND	0.0512	0.0050	0.050	-	102	42-145
cis-1,2-Dichloroethene	ND	-	0.0050	-	-	-	-
trans-1,2-Dichloroethene	ND	-	0.0050	-	-	-	-
1,2-Dichloropropane	ND	-	0.0050	-	-	-	-
1,3-Dichloropropane	ND	-	0.0050	-	-	-	-
2,2-Dichloropropane	ND	-	0.0050	-	-	-	-



# **Quality Control Report**

**Client:** Sierra West Consultants, Inc.

**Date Prepared:** 2/2/16

**Date Analyzed:** 2/2/16 - 2/3/16 **Instrument:** GC16, GC18

Matrix: Soil

**Project:** Biobarrier Groundwater Treatment

**WorkOrder:** 1602126 **BatchID:** 116151

**Extraction Method:** SW5030B **Analytical Method:** SW8260B

**Unit:** mg/kg

Sample ID: MB/LCS-116151

1602093-001AMS/MSD

#### **QC Summary Report for SW8260B**

	QC Sulli	nary Keport i	01 5 W 0200D				
Analyte	MB Result	LCS Result	RL	SPK Val	MB SS %REC	LCS %REC	LCS Limits
1,1-Dichloropropene	ND	-	0.0050	-	-	-	-
cis-1,3-Dichloropropene	ND	-	0.0050	-	-	-	-
trans-1,3-Dichloropropene	ND	-	0.0050	-	-	-	-
Diisopropyl ether (DIPE)	ND	0.0605	0.0050	0.050	-	121	52-129
Ethylbenzene	ND	-	0.0050	-	-	-	-
Ethyl tert-butyl ether (ETBE)	ND	0.0611	0.0050	0.050	-	122	53-125
Freon 113	ND	-	0.0050	-	-	-	-
Hexachlorobutadiene	ND	-	0.0050	-	-	-	-
Hexachloroethane	ND	-	0.0050	-	-	-	-
2-Hexanone	ND	-	0.0050	-	-	-	-
Isopropylbenzene	ND	-	0.0050	-	-	-	-
4-Isopropyl toluene	ND	-	0.0050	-	-	-	-
Methyl-t-butyl ether (MTBE)	ND	0.0589	0.0050	0.050	-	118	58-122
Methylene chloride	ND	-	0.0050	-	-	-	-
4-Methyl-2-pentanone (MIBK)	ND	-	0.0050	-	-	-	-
Naphthalene	ND	-	0.0050	-	-	-	-
n-Propyl benzene	ND	-	0.0050	-	-	-	-
Styrene	ND	-	0.0050	-	-	-	-
1,1,1,2-Tetrachloroethane	ND	-	0.0050	-	-	-	-
1,1,2,2-Tetrachloroethane	ND	-	0.0050	-	-	-	-
Tetrachloroethene	ND	-	0.0050	-	-	-	-
Toluene	ND	0.0509	0.0050	0.050	-	102	76-130
1,2,3-Trichlorobenzene	ND	-	0.0050	-	-	-	-
1,2,4-Trichlorobenzene	ND	-	0.0050	-	-	-	-
1,1,1-Trichloroethane	ND	-	0.0050	-	-	-	-
1,1,2-Trichloroethane	ND	-	0.0050	-	-	-	-
Trichloroethene	ND	0.0546	0.0050	0.050	-	109	72-132
Trichlorofluoromethane	ND	-	0.0050	-	-	-	-
1,2,3-Trichloropropane	ND	-	0.0050	-	-	-	-
1,2,4-Trimethylbenzene	ND	-	0.0050	-	-	-	-
1,3,5-Trimethylbenzene	ND	-	0.0050	-	-	-	-
Vinyl Chloride	ND	-	0.0050	-	-	-	-
Xylenes, Total	ND	-	0.0050	-	-	-	-



# **Quality Control Report**

**Client:** Sierra West Consultants, Inc.

**Date Prepared:** 2/2/16

**Date Analyzed:** 2/2/16 - 2/3/16 **Instrument:** GC16, GC18

Matrix: Soil

Ethylbenzene-d10

1,2-DCB-d4

**Project:** Biobarrier Groundwater Treatment

**WorkOrder:** 1602126 **BatchID:** 116151

**Extraction Method:** SW5030B

**Analytical Method:** SW8260B

**Unit:** mg/kg

Sample ID: MB/LCS-116151

0.10

0.10

115

70

110

104

60-140

60-140

1602093-001AMS/MSD

QC Summary Report for SW8260B									
Analyte	MB Result	LCS Result	RL	SPK Val	MB SS %REC	LCS %REC	LCS Limits		
Surrogate Recovery									
Dibromofluoromethane	0.126	0.152		0.12	101	122	70-130		
Toluene-d8	0.157	0.133		0.12	125	106	70-130		
4-BFB	0.0133	0.0122		0.012	106	98	70-130		
Benzene-d6	0.105	0.117		0.10	105	117	60-140		

0.110

0.104

0.115

0.0704

Analyte	MS Result	MSD Result	SPK Val	SPKRef Val	MS %REC	MSD %REC	MS/MSD Limits	RPD	RPD Limit
tert-Amyl methyl ether (TAME)	0.0577	0.0562	0.050	ND	115	112	70-130	2.53	20
Benzene	0.0540	0.0529	0.050	ND	108	106	70-130	1.97	20
t-Butyl alcohol (TBA)	0.227	0.228	0.20	ND	114	114	70-130	0	20
Chlorobenzene	0.0504	0.0491	0.050	ND	101	98	70-130	2.63	20
1,2-Dibromoethane (EDB)	0.0517	0.0512	0.050	ND	103	102	70-130	0.899	20
1,2-Dichloroethane (1,2-DCA)	0.0555	0.0545	0.050	ND	111	109	70-130	1.85	20
1,1-Dichloroethene	0.0491	0.0477	0.050	ND	98	95	70-130	2.88	20
Diisopropyl ether (DIPE)	0.0576	0.0565	0.050	ND	115	113	70-130	1.90	20
Ethyl tert-butyl ether (ETBE)	0.0581	0.0572	0.050	ND	116	114	70-130	1.53	20
Methyl-t-butyl ether (MTBE)	0.0551	0.0540	0.050	ND	110	108	70-130	2.05	20
Toluene	0.0488	0.0473	0.050	ND	98	95	70-130	3.04	20
Trichloroethene	0.0519	0.0506	0.050	ND	104	101	70-130	2.41	20
Surrogate Recovery									
Dibromofluoromethane	0.151	0.150	0.12		121	120	70-130	0.666	20
Toluene-d8	0.133	0.134	0.12		107	107	70-130	0	20
4-BFB	0.0123	0.0122	0.012		98	97	70-130	1.09	20
Benzene-d6	0.111	0.110	0.10		111	110	60-140	1.03	20
Ethylbenzene-d10	0.105	0.105	0.10		105	105	60-140	0	20
1,2-DCB-d4	0.0993	0.0981	0.10		99	98	60-140	1.20	20

# **Quality Control Report**

Client:Sierra West Consultants, Inc.WorkOrder:1602126Date Prepared:2/3/16BatchID:116201Date Analyzed:2/3/16Extraction Method:SW3050B

Instrument:ICP-MS2Analytical Method:SW6020Matrix:SoilUnit:mg/Kg

**Project:** Biobarrier Groundwater Treatment **Sample ID:** MB/LCS-116201

1602120-009AMS/MSD 1602120-009APDS

#### **QC Summary Report for Metals**

		<u> </u>					
Analyte	MB Result	LCS Result	RL	SPK Val	MB SS %REC	LCS %REC	LCS Limits
Antimony	ND	50.5	0.50	50	-	101	75-125
Arsenic	ND	51.8	0.50	50	-	104	75-125
Barium	ND	516	5.0	500	-	103	75-125
Beryllium	ND	52.6	0.50	50	-	105	75-125
Cadmium	ND	52.2	0.25	50	-	104	75-125
Chromium	ND	52.4	0.50	50	-	105	75-125
Cobalt	ND	52.5	0.50	50	-	105	75-125
Copper	ND	53.7	0.50	50	-	107	75-125
Lead	ND	51.8	0.50	50	-	104	75-125
Mercury	ND	1.17	0.050	1.25	-	94	75-125
Molybdenum	ND	48.1	0.50	50	-	96	75-125
Nickel	ND	53.0	0.50	50	-	106	75-125
Selenium	ND	53.5	0.50	50	-	107	75-125
Silver	ND	51.1	0.50	50	-	102	75-125
Thallium	ND	49.7	0.50	50	-	99	75-125
Vanadium	ND	52.1	0.50	50	-	104	75-125
Zinc	ND	543	5.0	500	-	109	75-125
Surrogate Recovery							
Terbium	509	514		500	102	103	70-130

# **Quality Control Report**

Client: Sierra West Consultants, Inc.

**Date Prepared:** 2/3/16 **Date Analyzed:** 2/3/16 **Instrument:** ICP-MS2

Matrix: Soil

**Project:** Biobarrier Groundwater Treatment

**WorkOrder:** 1602126 **BatchID:** 116201

**Extraction Method:** SW3050B **Analytical Method:** SW6020

Sample ID: MB/LCS-116201

mg/Kg

1602120-009AMS/MSD 1602120-009APDS

#### **QC Summary Report for Metals**

Unit:

	Q o bu		срогого	31 1/100015					
Analyte	MS Result	MSD Result	SPK Val	SPKRef Val	MS %REC	MSD %REC	MS/MSD Limits	RPD	RPD Limit
Antimony	51.0	48.9	50	ND	101	97	75-125	4.19	20
Arsenic	53.6	52.0	50	3.226	101	98	75-125	2.94	20
Barium	667	682	500	168.9	100	103	75-125	2.12	20
Beryllium	53.6	51.2	50	0.5197	106	101	75-125	4.70	20
Cadmium	51.7	49.5	50	ND	103	99	75-125	4.21	20
Chromium	106	108	50	65.76	80	84	75-125	2.06	20
Cobalt	55.4	54.3	50	10.63	90	87	75-125	2.04	20
Copper	68.8	66.5	50	20.56	97	92	75-125	3.53	20
Lead	66.1	65.0	50	18.21	96	94	75-125	1.66	20
Mercury	1.30	1.22	1.25	0.1172	94	89	75-125	5.64	20
Molybdenum	48.8	46.8	50	ND	97	93	75-125	4.18	20
Nickel	113	117	50	90.00	45,F8	55,F8	75-125	4.00	20
Selenium	53.5	50.7	50	ND	107	101	75-125	5.53	20
Silver	50.8	48.7	50	ND	101	97	75-125	4.30	20
Thallium	49.9	47.8	50	ND	100	95	75-125	4.28	20
Vanadium	90.8	89.8	50	42.12	97	95	75-125	1.13	20
Zinc	578	553	500	54.57	105	100	75-125	4.44	20
Surrogate Recovery									
Terbium	521	498	500		104	100	70-130	4.53	20
Analyte	PDS Result		SPK Val	SPKRef Val	PDS %REC		PDS Limits		
Nickel	150		50	90.00	119		80-120		

# **Quality Control Report**

Client: Sierra West Consultants, Inc. WorkOrder: 1602126

Date Prepared: 2/2/16

BatchID: 116152

Date Analyzed: 2/3/16Extraction Method: SW5030BInstrument: GC3Analytical Method: SW8021B/8015Bm

Matrix: Soil Unit: mg/Kg

**Project:** Biobarrier Groundwater Treatment **Sample ID:** MB/LCS-116152

1602087-001AMS/MSD

#### QC Summary Report for SW8021B/8015Bm

Analyte	MB Result	LCS Result	RL	SPK Val	MB SS %REC	LCS %REC	LCS Limits
TPH(btex)	ND	0.608	0.40	0.60	-	101	70-130
MTBE	ND	0.0850	0.050	0.10	-	85	70-130
Benzene	ND	0.0965	0.0050	0.10	-	97	70-130
Toluene	ND	0.0995	0.0050	0.10	-	100	70-130
Ethylbenzene	ND	0.100	0.0050	0.10	-	100	70-130
Xylenes	ND	0.306	0.015	0.30	-	102	70-130

#### **Surrogate Recovery**

2-Fluorotoluene 0.106 0.102 0.10 106 102 70-130

Analyte	MS Result	MSD Result	SPK Val	SPKRef Val	MS %REC	MSD %REC	MS/MSD Limits	RPD	RPD Limit
TPH(btex)	0.415	0.440	0.60	ND	69,F1	73	70-130	6.00	20
MTBE	0.0692	0.0622	0.10	ND	69,F1	62,F1	70-130	10.6	20
Benzene	0.0575	0.0619	0.10	ND	58,F1	62,F1	70-130	7.36	20
Toluene	0.0685	0.0724	0.10	ND	68,F1	72	70-130	5.54	20
Ethylbenzene	0.0759	0.0802	0.10	ND	74	78	70-130	5.52	20
Xylenes	0.242	0.262	0.30	ND	81	87	70-130	7.89	20
Surrogate Recovery									
2-Fluorotoluene	0.0853	0.0895	0.10		85	90	70-130	4.83	20

NR

NR

### **Quality Control Report**

Client:Sierra West Consultants, Inc.WorkOrder:1602126Date Prepared:2/3/16BatchID:116217Date Analyzed:2/4/16Extraction Method:SW3550BInstrument:GC9aAnalytical Method:SW8015B

Matrix: Soil Unit: mg/Kg

NR

NR

**Project:** Biobarrier Groundwater Treatment Sample ID: MB/LCS-116217

1602126-001AMS/MSD

#### QC Report for SW8015B w/out SG Clean-Up Analyte MB **LCS** RL SPK MB SS LCS LCS %REC %REC Result Result Val Limits TPH-Diesel (C10-C23) ND 41.2 1.0 40 103 70-130 TPH-Motor Oil (C18-C36) ND 5.0 **Surrogate Recovery** 20.4 20.4 25 82 82 70-130 C9 Analyte MS MSD **SPK SPKRef** MS **MSD** MS/MSD RPD RPD %REC Result Result Val Val %REC Limits Limit NR NR TPH-Diesel (C10-C23) NR 100 NR NR **Surrogate Recovery**

NR

C9

1534 Willow Pass Rd Pittsburg, CA 94565-1701 (925) 252-9262

# CHAIN-OF-CUSTODY RECORD

Page 1 of 1

2 days;

02/03/2016

WorkOrder: 1602126 ClientCode: SWFO

WaterTrax	WriteOn	EDF	Excel	■ EQuIS	<b>∡</b> Email	☐HardCopy	ThirdParty	☐J-fla
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Report to: Bill to: Requested TAT:

Jeff Bensch Email: jbensch@sierra-west.net Jeff Bensch

Sierra West Consultants, Inc. cc/3rd Party: ykaleem@Sierra-West.net; Sierra West Consultants, Inc.

4227 Sunrise Blvd., Ste. 220 PO: 4227 Sunrise Blvd., Ste. 220 Date Received:

				Requested Tests (See legend below)												
Lab ID	Client ID	Matrix	<b>Collection Date</b>	Hold	1	2	3	4	5	6	7	8	9	10	11	12
1602126-001	PT3617-55	Soil	2/2/2016 14:15		Α	Α	Α	Α								
1602126-002	PT1437-87	Soil	2/3/2016 17:40		Α	Α	Α	Α								

#### Test Legend:

1	8260B_S	2 CAM17MS_TTLC_S	G-MBTEX_S	4	TPH(DMO)_S
5		6	7	8	
9		10	1	12	2

Prepared by: Briana Cutino

#### **Comments:**

NOTE: Soil samples are discarded 60 days after results are reported unless other arrangements are made (Water samples are 30 days).

Hazardous samples will be returned to client or disposed of at client expense.



"When Quality Counts"

1534 Willow Pass Road, Pittsburg, CA 94565-1701 Toll Free Telephone: (877) 252-9262 / Fax: (925) 252-9269 http://www.mccampbell.com / E-mail: main@mccampbell.com

#### **WORK ORDER SUMMARY**

Client Name:	SIERRA WEST CONSULTANTS, INC.	QC Level: LEVEL 2	Work Order:	1602126
Project:	Biobarrier Groundwater Treatment	Client Contact: Jeff Bensch	Date Logged:	2/3/2016

Comments: Contact's Email: jbensch@sierra-west.net

Lab ID Client ID		WaterTrax	WriteOn	EDF	Excel	Fax <b>∠</b> Email	HardC	opyThirdPart	у 🗀	J-flag
Lab ID	Client ID	Matrix	Test Name		Containers /Composites	Bottle & Preservative	De- chlorinated	Collection Date & Time	TAT	Sediment Hold SubOut Content
1602126-001A	PT3617-55	Soil	SW8015B (Die	esel & Motor Oil)	4 / (4:1)	4OZ GJ		2/2/2016 14:15	2 days	
			SW8021B/801	5Bm (G/MBTEX)					2 days	
			SW6020 (CAN	<i>I</i> 17)					2 days	
			SW8260B (VC	OCs)					2 days	
1602126-002A	PT1437-87	Soil	SW8015B (Die	esel & Motor Oil)	4 / (4:1)	4OZ GJ		2/3/2016 17:40	2 days	
			SW8021B/801	5Bm (G/MBTEX)					2 days	
			SW6020 (CAN	<i>I</i> 17)					2 days	
			SW8260B (VC	OCs)					2 days	

NOTES: - STLC and TCLP extractions require 2 days to complete; therefore, all TATs begin after the extraction is completed (i.e., One-day TAT yields results in 3 days from sample submission).

- MAI assumes that all material present in the provided sampling container is considered part of the sample - MAI does not exclude any material from the sample prior to sample preparation unless requested in writing by the client.



"When Quality Counts"

# **Analytical Report**

WorkOrder: 1602126 A

**Report Created for:** Sierra West Consultants, Inc.

4227 Sunrise Blvd., Ste. 220

Fair Oaks, CA 95628

**Project Contact:** Jeff Bensch

**Project P.O.:** 

Biobarrier Groundwater Treatment **Project Name:** 

**Project Received:** 02/03/2016

Analytical Report reviewed & approved for release on 02/22/2016 by:

Angela Rydelius,

Laboratory Manager

The report shall not be reproduced except in full, without the written approval of the laboratory. The analytical results relate only to the items tested. Results reported conform to the most current NELAP standards, where applicable, unless otherwise stated in the case narrative.



### **Glossary of Terms & Qualifier Definitions**

Client: Sierra West Consultants, Inc.

Project: Richard Groundwater Treatment

**Project:** Biobarrier Groundwater Treatment

WorkOrder: 1602126

#### **Glossary Abbreviation**

95% Interval 95% Confident Interval

DF Dilution Factor

DI WET (DISTLC) Waste Extraction Test using DI water

DISS Dissolved (direct analysis of 0.45 µm filtered and acidified water sample)

DLT Dilution Test
DUP Duplicate

EDL Estimated Detection Limit

ITEF International Toxicity Equivalence Factor

LCS Laboratory Control Sample

MB Method Blank

MB % Rec % Recovery of Surrogate in Method Blank, if applicable

MDL Method Detection Limit

ML Minimum Level of Quantitation

MS Matrix Spike

MSD Matrix Spike Duplicate

N/A Not Applicable

ND Not detected at or above the indicated MDL or RL

NR Data Not Reported due to matrix interference or insufficient sample amount.

PDS Post Digestion Spike

PDSD Post Digestion Spike Duplicate

PF Prep Factor

RD Relative Difference

RL Reporting Limit (The RL is the lowest calibration standard in a multipoint calibration.)

RPD Relative Percent Deviation
RRT Relative Retention Time

SPK Val Spike Value

SPKRef Val Spike Reference Value

SPLP Synthetic Precipitation Leachate Procedure

ST Sorbent Tube

TCLP Toxicity Characteristic Leachate Procedure

TEQ Toxicity Equivalents

WET (STLC) Waste Extraction Test (Soluble Threshold Limit Concentration)

#### **Analytical Qualifiers**

d7 strongly aged gasoline or diesel range compounds are significant in the TPH(g) chromatogram

e2 diesel range compounds are significant; no recognizable pattern

e7 oil range compounds are significant

### **Glossary of Terms & Qualifier Definitions**

**Client:** Sierra West Consultants, Inc.

**Project:** Biobarrier Groundwater Treatment

**WorkOrder:** 1602126

#### **Quality Control Qualifiers**

F1 MS/MSD recovery and/or RPD is out of acceptance criteria; LCS validated the prep batch.

F2 LCS recovery for this compound is outside of acceptance limits.

F8 MS/MSD recovery and/or RPD was out of acceptance criteria; PDS validated the prep batch. If PDS recovery

was out of acceptance criteria, DLT validated the prep batch.

# **Analytical Report**

Client:Sierra West Consultants, Inc.WorkOrder:1602126Date Received:2/3/16 15:48Extraction Method:CA Title 22Date Prepared:2/17/16Analytical Method:SW6020Project:Biobarrier Groundwater TreatmentUnit:mg/L

#### **STLC Metals**

Client ID	Lab ID M	Iatrix	Date Col	lected Instrument	Batch ID
PT3617-55&PT1437-87	1602126-003A So	oil	02/03/201	6 ICP-MS3	116846
<u>Analytes</u>	Result		<u>RL</u>	<u>DF</u>	Date Analyzed
Lead	6.0		0.10	1	02/22/2016 15:44

Analyst(s): BBO

\_Angela Rydelius, Lab Manager

### **Quality Control Report**

Client:Sierra West Consultants, Inc.WorkOrder:1602126Date Prepared:2/17/16BatchID:116846Date Analyzed:2/22/16Extraction Method:CA Title 22Instrument:ICP-MS3Analytical Method:SW6020

Matrix: Soil Unit: mg/L

**Project:** Biobarrier Groundwater Treatment **Sample ID:** MB/LCS-116846

#### 

Analyte MB SS LCS LCS Val %REC %REC Result Result Limits ND 10.6 0.10 10 106 75-125 Lead

1534 Willow Pass Rd Pittsburg, CA 94565-1701 (925) 252-9262

# CHAIN-OF-CUSTODY RECORD

Page 1 of

WorkOrder: 1602126 A ClientCode: SWFO

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Report to:						В	Bill to:				R	equest	ted TAT	:	1 day;	
		cc/3rd Party:	jbensch@sierra ykaleem@Sieri Gobarrier Grou		4227 5	West C	onsultants, Inc Blvd., Ste. 220 95628		D	ate Ro ate Lo ate Ao		02/03/2016 02/03/2016 02/17/2016				
			Requested T									d belov				
Lab ID	Client ID		Matrix	Collection Date	Hold	1	2	3	4 5	6	7	8	9	10	11	12
1602126-003	PT3617-55&PT143	7-87	Soil	2/3/2016		Α										
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#### Test Legend:

1 PBMS_STLC_S	2	3	4
5	6	7	8
9	10	11	12

**Project Manager:** 

Prepared by: Briana Cutino

Add-On Prepared By: Maria Venegas

Comments: Comp of sample 001 & 002 for STLC Pb on Rush TAT 2/17/16.

NOTE: Soil samples are discarded 60 days after results are reported unless other arrangements are made (Water samples are 30 days).

Hazardous samples will be returned to client or disposed of at client expense.



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#### **WORK ORDER SUMMARY**

Client Name:SIERRA WEST CONSULTANTS, INC.QC Level:LEVEL 2Work Order:1602126Project:Gobarrier Groundwater TreatmentClient Contact:Jeff BenschDate Logged:2/3/2016

Comments: Comp of sample 001 & 002 for STLC Pb on Rush TAT 2/17/16. Contact's Email: jbensch@sierra-west.net Date Add-On: 2/17/2016

Lab ID	Client ID	Matrix	Test Name	Containers /Composites	Bottle & Preservative	Collection Date & Time	TAT	Sediment Hold SubOut Content
1602126-003A	PT3617-55&PT1437-87	Soil	SW6020 (Lead) (STLC)	8 / (8:1)	4OZ GJ	2/3/2016	1 day*	

NOTES: - STLC and TCLP extractions require 2 days to complete; therefore, all TATs begin after the extraction is completed (i.e., One-day TAT yields results in 3 days from sample submission).

- MAI assumes that all material present in the provided sampling container is considered part of the sample - MAI does not exclude any material from the sample prior to sample preparation unless requested in writing by the client.

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SAMPLE ID	Location/ Field Point Name	Date	Time	# Containers	Ground Water	Waste Water	Drinking Water	Sea Water	Soil	Air	Sludge	Other	нсг	HNO3	Other	BTEX & TPH as G	TPH as Diesel (8015)	Total Petroleum Oil & Grease (1664 / 5520 E/B&F)	Total Petroleum Hy	EPA 505/ 608 / 8081 (CI Pesticides)	EPA 608 / 8082 PCB's; Aroclors / Congeners	EPA 507 / 8141 (NP Pesticides)	EPA 515 / 8151 (Acidic Cl Herbicides)	EPA 524.2 / 624 / 8260 (VOCs)	EPA 525.2 / 625 / 8270 (SVOCs)	EPA 8270 SIM / 8310 (PAHs / PNAs)	CAM 17 Metals (200.8 / 6020)***	LUFT 5 Metals (200.8 / 6020)***	Metals (200.8 / 6020)***	Lab to Filter sample for Dissolved metals analysis	TPH maps 0	85000	STUCPO		
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# McCampbell Analytical, Inc.

"When Quality Counts"

# **Analytical Report**

**WorkOrder:** 1602126 B

**Report Created for:** Sierra West Consultants, Inc.

4227 Sunrise Blvd., Ste. 220

Fair Oaks, CA 95628

**Project Contact:** Jeff Bensch

**Project P.O.:** 

**Project Name:** Biobarrier Groundwater Treatment

**Project Received:** 02/03/2016

Analytical Report reviewed & approved for release on 02/29/2016 by:

Angela Rydelius,

Laboratory Manager

The report shall not be reproduced except in full, without the written approval of the laboratory. The analytical results relate only to the items tested. Results reported conform to the most current NELAP standards, where applicable, unless otherwise stated in the case narrative.



### McCampbell Analytical, Inc. "When Quality Counts"

### **Glossary of Terms & Qualifier Definitions**

**Client:** Sierra West Consultants, Inc. **Project: Biobarrier Groundwater Treatment** 

WorkOrder: 1602126

#### **Glossary Abbreviation**

95% Confident Interval 95% Interval

DF **Dilution Factor** 

DI WET (DISTLC) Waste Extraction Test using DI water

Dissolved (direct analysis of 0.45 µm filtered and acidified water sample) DISS

DLT **Dilution Test Duplicate** DUP

**Estimated Detection Limit EDL** 

International Toxicity Equivalence Factor **ITEF** 

LCS Laboratory Control Sample

Method Blank MB

% Recovery of Surrogate in Method Blank, if applicable MB % Rec

MDL Method Detection Limit

Minimum Level of Quantitation ML

MS Matrix Spike

**MSD** Matrix Spike Duplicate

N/A Not Applicable

Not detected at or above the indicated MDL or RL ND

NR Data Not Reported due to matrix interference or insufficient sample amount.

**PDS** Post Digestion Spike

**PDSD** Post Digestion Spike Duplicate

PF Prep Factor

RD Relative Difference

Reporting Limit (The RL is the lowest calibration standard in a multipoint calibration.) RL

**RPD** Relative Percent Deviation Relative Retention Time **RRT** 

SPK Val Spike Value

SPKRef Val Spike Reference Value

**SPLP** Synthetic Precipitation Leachate Procedure

ST Sorbent Tube

**TCLP** Toxicity Characteristic Leachate Procedure

**TEQ Toxicity Equivalents** 

WET (STLC) Waste Extraction Test (Soluble Threshold Limit Concentration)

#### **Analytical Qualifiers**

d7 strongly aged gasoline or diesel range compounds are significant in the TPH(g) chromatogram

diesel range compounds are significant; no recognizable pattern e2

oil range compounds are significant e7

### **Glossary of Terms & Qualifier Definitions**

**Client:** Sierra West Consultants, Inc.

**Project:** Biobarrier Groundwater Treatment

**WorkOrder:** 1602126

#### **Quality Control Qualifiers**

F1 MS/MSD recovery and/or RPD is out of acceptance criteria; LCS validated the prep batch.

F2 LCS recovery for this compound is outside of acceptance limits.

F8 MS/MSD recovery and/or RPD was out of acceptance criteria; PDS validated the prep batch. If PDS recovery

was out of acceptance criteria, DLT validated the prep batch.

### **Analytical Report**

Client: Sierra West Consultants, Inc. WorkOrder: 1602126

Date Prepared:2/26/16Analytical Method:SW6020Project:Biobarrier Groundwater TreatmentUnit:mg/L

#### **TCLP Metals**

Client ID	Lab ID	Matrix	Date Co	ollected Instrument	Batch ID
PT3617-55&PT1437-87	1602126-003A	Soil	02/03/20	16 ICP-MS2	117309
<u>Analytes</u>	Result		<u>RL</u>	<u>DF</u>	Date Analyzed
Lead	0.20		0.10	1	02/29/2016 12:38

Analyst(s): AC

1602126

117309

### **Quality Control Report**

Client: Sierra West Consultants, Inc. WorkOrder:

Date Prepared: 2/26/16

BatchID:

**Date Analyzed:** 2/29/16 **Extraction Method:** SW1311/SW3010

Instrument:ICP-MS2Analytical Method:SW6020Matrix:SoilUnit:mg/L

**Project:** Biobarrier Groundwater Treatment **Sample ID:** MB/LCS-117309

1602126-003AMS/MSD

#### **QC Summary Report for Metals (TCLP)**

Analyte	MB Result	LCS Result	RL	SPK Val	MB SS %REC	LCS %REC	LCS Limits
Lead	ND	10.8	0.10	10	-	108	75-125

Analyte	MS Result	MSD Result	SPK Val	SPKRef Val	MS %REC	MSD %REC	MS/MSD Limits	RPD	RPD Limit
Lead	11.0	10.9	10	0.1992	108	107	75-125	1.48	20

### McCampbell Analytical, Inc.

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## CHAIN-OF-CUSTODY RECORD

Page 1 of

WorkOrder: 1602126 B ClientCode: SWFO

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Test Legend:

1	PBMS_TCLP_S	2	3	4
5		6	7	8
9		10	11	12

**Project Manager:** 

Prepared by: Briana Cutino

Add-On Prepared By: Maria Venegas

Comments: Comp of sample 001 & 002 for STLC Pb on Rush TAT 2/17/16. TCLP Pb added 2/26/16 1day TAT.

NOTE: Soil samples are discarded 60 days after results are reported unless other arrangements are made (Water samples are 30 days).

Hazardous samples will be returned to client or disposed of at client expense.



**Project:** 

**Comments:** 

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#### **WORK ORDER SUMMARY**

Client Name: SIERRA WEST CONSULTANTS, INC. QC Level: LEVEL 2

**Work Order:** 1602126

Biobarrier Groundwater Treatment Client Contact: Jeff Bensch

**Date Logged:** 2/3/2016

Comp of sample 001 & 002 for STLC Pb on Rush TAT 2/17/16.

**Date Add-On:** 2/26/2016

TCLP Pb added 2/26/16 1day TAT.

Lab ID **Client ID** Matrix **Test Name** Containers **Bottle & Preservative Collection Date** TAT Sediment Hold SubOut /Composites & Time Content PT3617-55&PT1437-87 8 / (8:1) 4OZ GJ 2/3/2016 1602126-003A Soil SW6020 (Lead) (TCLP) 1 day\*

Contact's Email: jbensch@sierra-west.net

NOTES: - STLC and TCLP extractions require 2 days to complete; therefore, all TATs begin after the extraction is completed (i.e., One-day TAT yields results in 3 days from sample submission).

- MAI assumes that all material present in the provided sampling container is considered part of the sample - MAI does not exclude any material from the sample prior to sample preparation unless requested in writing by the client.

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# McCampbell Analytical, Inc.

CHAIN OF CUSTODY RECORD

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••• If metals are request	ed for water s	amples an	nd the wate	r type	is not	speci	fled o	n the	chain	of cus	tody,	then	MAI	will de	efault	to me	etals	by E20	0.8.																
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# McCampbell Analytical, Inc.

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oumpier signatur	-		PLING				M	ATI	RIX					THO		Gas (8021/	,	& Gre	drocarl	(CI Pe	's; Ar	Pestici	idic CI	O(V) 09	70 (SV	10 (PA)	.8 / 60	.8 / 602	***	for Di	611 E				
SAMPLE ID	Location/ Field Point Name	Date	Time	# Containers	Ground Water	Waste Water	Drinking Water	Sea Water	Soil	Air	Sludge	Other	нсг	HNO,	Other	BTEX & TPH as Ga	TPH as Diesel (8015)	Total Petroleum Oil & Grease (1664 / 5520 E/B&F)	Total Petroleum Hydrocarbons (418.1)	EPA 505/ 608 / 8081 (CI Pesticides)	EPA 608 / 8082 PCB's; Aroclors / Congeners	EPA 507 / 8141 (NP Pesticides)	EPA 515 / 8151 (Acidic Cl Herbicides)	EPA 524.2 / 624 / 8260 (VOCs)	EPA 525.2 / 625 / 8270 (SVOCs)	EPA 8270 SIM / 8310 (PAHs / PNAs)	CAM 17 Metals (200.8 / 6020)***	LUFT 5 Metals (200.8 / 6020)***	Metals (200.8 / 6020) ***	Lab to Filter sample for Dissolved metals analysis	TPH MADE 6	8500b			
DT3612-55	Bin PT	2/2/1/	14.15	4					×		$\neg$	$\top$		$\neg$	$\neg$	X	S										X				×	×	$\neg$	$\neg$	┪
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### **Sample Receipt Checklist**

Client Name:	Sierra West Consultants, Inc.			Date and Time Received:	2/3/2016 15:15
Project Name: WorkOrder №:	Biobarrier Groundwater Treatment  1602126 Matrix: Soil			Date Logged: Received by:	2/3/2016 Briana Cutino
Carrier:	Bernie Cummins (MAI Courier)			Logged by:	Briana Cutino
	Chain of C	ustod	(COC)	<u>Information</u>	
Chain of custody	present?	Yes	✓	No 🗌	
Chain of custody	signed when relinquished and received?	Yes	✓	No 🗌	
Chain of custody	agrees with sample labels?	Yes	✓	No 🗆	
Sample IDs note	d by Client on COC?	Yes	✓	No 🗆	
Date and Time o	f collection noted by Client on COC?	Yes	<b>✓</b>	No 🗆	
Sampler's name	noted on COC?	Yes	•	No 🗆	
	Sampl	e Rece	eipt Info	<u>rmation</u>	
Custody seals in	tact on shipping container/cooler?	Yes		No 🗌	NA 🗹
Shipping contain	er/cooler in good condition?	Yes	•	No 🗌	
Samples in prope	er containers/bottles?	Yes	<b>✓</b>	No 🗌	
Sample containe	ers intact?	Yes	<b>✓</b>	No 🗆	
Sufficient sample	e volume for indicated test?	Yes	•	No 🗆	
	Sample Preservation	on and	Hold Ti	me (HT) Information	
All samples rece	ived within holding time?	Yes	<b>✓</b>	No 🗆	
Sample/Temp BI	ank temperature		Temp	: 2°C	NA 🗆
Water - VOA vial	ls have zero headspace / no bubbles?	Yes		No 🗆	NA 🗹
Sample labels ch	necked for correct preservation?	Yes	•	No 🗌	
pH acceptable up	pon receipt (Metal: <2; 522: <4; 218.7: >8)?	Yes		No 🗆	NA 🗹
Samples Receive		Yes	•	No 🗆	
	(Ice Type	e: WE	TICE	)	
UCMR3 Samples	s: tested and acceptable upon receipt for EPA 522?	Voc		No 🗆	NA 🗹
Free Chlorine t 300.1, 537, 539	tested and acceptable upon receipt for EPA 218.7, 9?	Yes		No 🗌	NA 🗹
* NOTE: If the "N	lo" box is checked, see comments below.				
Comments:					

Appendix 6: Boring Logs and Well DWR Reports



PROJECT	NAN	ΛE:		Owen's I	Brockwa	y Glass Container Facility	LOG OF BORING:		B-42	
SITE ADD	RES	S:		3600 Alame		9	BOREHOLE DIAM. (in):		2-1/8"	
DATE STA DATE COI DRILLING	MPLE	TED								
DEPTH (Feet)	Sample Interval	Recovery (%)	PID (ppm)	SAMPLE NUMBER	USCS		DESCRIPTION			DEPTH (Feet)
0	~					CONCRETE			11	0
   _ 5	HAND AUGER		0.2 0.2 0.4 0.9		MLS	sand, fine- to coarse-grained, sub grained with max size of 1-inch.	0% silt, black (10YR 2/1), dry, very sti -angular to sub-rounded. 15% grave		11	5
L _			1.0			@6' - Strong hydrocarbon odor.			7'	
10	Direct Push	100%	1.5 179.5 248.0 180.0		CL	SILTY CLAY: 80% clay, 20% s low-plasticity. Strong hydrocarbor	ilt, dark greenish gray (GLEY1 4/5G`n odor.	(), moist, medium-stiff,		
-	Direct Push	100%	32.7 19.2 30.7 32.8		SC	CLAYEY SAND: 60% sand. da	ark greenish gray (GLEY1 4/5GY), m	oist, dense, fine- to	14'	
15  	Direct Push	NR 70%	106.8 37.1 28.7 38.0			· ·	ub-rounded, poorly graded. 40% clay		ı	15 _
20 	Direct Push	NR	38.2 36.7	B-42-GW-21'		@20.5' to 22.0' - Soil becomes we	et. Free product present.		23'	20 _
	Dire	80%	13.1		CL	• •	wn (10YR 5/4), moist, very stiff, med	ium plasticity. Moderate		
		L	26.2		GC	hydrocarbon odor.  CLAYEY GRAVEL w/SAND:	40% gravel, greenish gray (GLEY1		4.5	
25  	Direct Push	100%	16.9 27.5 41.7 0.2		SC	dense, fine-grained, sub-angular, grained, poorly graded. 25% clay  CLAYEY SAND: 70% sand, ve medium-grained, sub-angular to s Moderate hydrocarbon odor.	40% gravel, greenish gray (GLEY1 with max gravel size of 1/4-inch. 40%, 10% silt. Moderate hydrocarbon odery dark greenish gray (GLEY1 3/100 ub-rounded, poorly graded. 30% claysh brown (10YR 5/4), moist, mediumski	% sand, fine- to coarse- or. GY), wet, dense, fine- to y, low-plasticity.	28'	25 — — —
30	Direct Push	NR	0.1 47.9		SM	sand, fine-grained, sub-angular, p SILTY SAND w/GRAVEL: 55	oorly graded. Very slight hydrocarbo i% sand, dark greenish gray (GLEY1 ar, poorly graded. 15% gravel, fine-g	n odor. 4/5GY), moist, dense,	30'	30
		80%	3.3		CL	Description on next page.				



PROJEC1	T NAN	ЛE:		Owen's E	Brockwa	ay Glass Container Facility	LOG OF BORING:	B	42	
SITE ADD	DRES	S:		3600 Alame Oakland, Ca		9	BOREHOLE DIAM. (in):	2-1	/8"	
DATE STA DATE CO DRILLING	MPLE	ETED				e (2-1/8" OD Casing) ples (1-3/4" diameter)	DRILLER/COMPANY: GEOLOGIST/ENGINEER:	Josh Zwenke Enprobe C-57 #777007 B. Whalen, P.G. #9009 Sierra West Consultants	Inc.	
DEPTH (Feet)	Sample Interval	Recovery (%)	PID (ppm)	SAMPLE	USCS SYMBOL		DESCRIPTION			DEPTH (Feet)
33 _ 35 35	Direct Push Direct Push	80%	0.1 0.0 0.1 0.0 3.4 2.4 0.3		CL	CLAY: 90% clay, 10% silt, yello odor.	wish brown (10YR 5/4), moist, very st	iff. No hydrocarbon		33 35
40	Direct Push	100%	261.0 415.0 412.9	B-42-GW-41'	SM	medium-dense, fine- to coare-gra gravel, fine-grained with max size odor. Free product present.	is% sand, very dark greenish gray (GLI ined, sub-angular to sub-rounded, poor of 1/4-inch. 20% silt, non-plastic. Verish gray (GLEY1 6/10GY), moist, non-plastic ish gray (GLEY1 6/10GY), moist, non-p	orly graded. 15% ery strong hydrocarbon		40
45 — — — —	Direct Push	100%	9.7 9.7 17.0 3.4		MLS	sub-angular, poorly graded. 30%  CLAY: 90% clay, 10% silt, gree	rn (10YR 5/3), wet, medium-dense, fin silt, 10% clay, non-plastic. Moderate nish gray (GLEY1 5/5G), moist, stiff, n	hydrocarbon odor.		45  
55						- First water bearing zone en - Second water be Soil boring was backfi	nated Boring at 50' - Target Depth Act ncountered between 20.5' - 22.0'. Fre earing zone encountered between 40.3 Illed with neat cement grout using trem with concrete patch to match surround	hieved se product present. 5' - 42.0' nie methods.		55



PROJECT	NAN	ЛE:		Owen's l	Brockwa	ay Glass Container Facility	LOG OF BORING:	В	-43	
SITE ADD	RES	S:		3600 Alame Oakland, C		9	BOREHOLE DIAM. (in):	2-	·1/8"	
DATE STA DATE CO DRILLING	MPLI	ETED				e (2-1/8" OD Casing) ples (1-3/4" diameter)	DRILLER/COMPANY:  GEOLOGIST/ENGINEER:	Josh Zwenke Enprobe C-57 #777007 B. Whalen, P.G. #9009 Sierra West Consultant	s, Inc.	
0 DEPTH (Feet)	h Direct Push ◀ HAND AUGER Sample Interval	Recovery (%)	(mdd) QId  0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0	SAMPLE	SON M CL	SILT w/SAND: 85% silt, dark be fine-grained, sub-rounded, poorly  CLAY: 85% clay, 15% silt, very  SILT: 90% clay, light brownish ge fine-grained, sub-rounded, poorly	DESCRIPTION  brown (10YR 3/3), dry, medium-stiff, regraded. Tree roots / organics present dark brown (10YR 2/2), dry, stiff, low gray (10YR 6/2), dry, medium-stiff, no graded.  YR 5/3) Soil becomes moist. No sar	non-plastic. 15% sand, nt in shallow soils.  r-plasticity.	s, inc.	0 DEPTH (Feet)
15	Direct Push	100% NR	0.0 0.5 14.1		CLS		o silt, grayish brown (10YR 5/2), mois I, sub-rounded, poorly graded. Slight	hydrocarbon odor.		15
 	Direct Push	80%	53.6 48.7 130.7 196.2		SP	moist, medium-dense, fine- to me 25% silt, 10% clay, non-plastic. N		inded, poorly graded.		 
20  	Direct Push	100%	38.6 8.8 0.5 0.1 0.0	B-43-GW-20'	CLS	SANDY CLAY: 50% clay, 30%	et. Free product present. Strong hyd o silt, yellowish brown (10YR 5/4), mo e-grained, sub-angular to sub-rounde	ist, medium-stiff,	<u>2</u>	20  
25 	Direct Push Direct Push	NR 50%	0.0 0.0 0.1 0.0 0.0		GM CL	sub-angular, with max size of 1/4-30% silt, non-plastic. No hydroca	dark gray (10YR 4/1), moist, medium inch. 30% sand, fine- to coarse-grain rbon odor. wn (10YR 5/4), moist, stiff, medium-p	ned, poorly graded.		25



PROJECT NAME:	Owen's Brockwa	y Glass Container Facility	LOG OF BORING:	B	43
SITE ADDRESS:	3600 Alameda Avenue Oakland, California		BOREHOLE DIAM. (in):	2-1	/8"
DATE STARTED: DATE COMPLETED: DRILLING METHOD:	24-Aug-15 24-Aug-15 Direct Push, Dual Tube Continuous Core Sam	·	DRILLER/COMPANY:  GEOLOGIST/ENGINEER:	Josh Zwenke Enprobe C-57 #777007 B. Whalen, P.G. #9009 Sierra West Consultants,	Inc.
DEPTH (Feet) Sample Interval Recovery (%) PID (ppm)	SAMPLE NUMBER USCS SYMBOL		DESCRIPTION		DEPTH (Feet)
33	CL	to coarse-grained. 10% gravel, figraded. No hydrocarbon odor.  @46' - no gravel present in soils.  CLAY: 90% clay, 10% silt, gray hydrocarbon odor.  Geologist Term  - First water beat - Second water beat -	clay, gray (10YR 6/1), stiff, moist, non ine-grained, sub-rounded, with max si rish brown (10YR 5/2), very stiff, moist inated Boring at 50' - Target Depth Acaring zone encountered between 20.0' earing zone encountered between 43. cond water bearing zone was unrecovipment becoming stuck in boring. filled with neat cement grout using trer with concrete patch to match surround	t, medium-plasticity. No  thieved  2 - 22.0'.  yerable due to drilling mie methods.	33 _ 35 _ 35 _ 35 _ 36 _ 36 _ 36 _ 36 _



PROJECT	NAN	ΛE:		Owen's I	Brockwa	ay Glass Container Facility	LOG OF BORING:	В-	44	
SITE ADD	RES	S:		3600 Alame Oakland, C		BOREHOLE DIAW. (III). 2-1/				
DATE STA DATE COI DRILLING	MPLE	TED				e (2-1/8" OD Casing) ples (1-3/4" diameter)	DRILLER/COMPANY:  GEOLOGIST/ENGINEER:	Josh Zwenke Enprobe C-57 #777007 B. Whalen, P.G. #9009 Sierra West Consultants	, Inc.	
DEPTH (Feet)	Sample Interval	Recovery (%)	PID (ppm)	SAMPLE NUMBER	USCS SYMBOL		DESCRIPTION			DEPTH (Feet)
5	Direct Push   ◆ HAND AUGER	NR 40%	0.0 0.0 0.0 0.0 0.0		CL ML	fine-grained, sub-rounded, poorly  CLAY w/SAND: 85% clay, ver hydrocarbon odor.  @ 5' to 7' 20% fine- to coarse-gra	y dark gray (10YR 3/1), damp, stiff, nined gravels present in soils.	3.5' nedium-plasticity. No		0   _ 5 
10	Direct Push Direct Push	NR 80%	0.0 0.0 0.0 0.0 6.3 2,342 749.4		SP		<b>/SILT:</b> 85% sand, greenish gray (G rrained, sub-angular, poorly graded.		-	15
20	Direct Push	NR 70%	183.6 52.5 4.2 89.0 2.3	B-44-GW-20'	MLS	grained, sub-angular, poorly grad	5Y 4/3), wet, soft, non-plastic. 30% s ded. Strong hydrocarbon odor. 95% sand, dark greenish gray (GLEY ular, poorly graded. 5% silt, non-plas	23'(1 4/10Y), wet, loose,	-	20  
25	Direct Push Direct Push	100% NR	6.7 6.1 6.3 7.9 3.8		CL	27' - Increasing silt/clay content.  CLAY w/SAND: 65% clay, 209 sand, fine- to medium-grained, su hydrocarbon odor.	% silt, brown (10YR 5/3), moist, stiff, ib-angular to sub-rounded, poorly gra	ded. Moderate	-	25
	Dir	80%	0.0				orly graded. 30% clay, low-plasticity.			



PROJEC1	T NAN	ΛE:		Owen's E	Brockwa	y Glass Container Facility	LOG OF BORING:	B-4	14
SITE ADD	DRES	S:		3600 Alame Oakland, Ca		Э	BOREHOLE DIAM. (in):	2-1	/8"
DATE STA DATE CO DRILLING	MPLE	ETED				e (2-1/8" OD Casing) ples (1-3/4" diameter)	DRILLER/COMPANY:  GEOLOGIST/ENGINEER:	Josh Zwenke Enprobe C-57 #777007 B. Whalen, P.G. #9009 Sierra West Consultants,	Inc.
S DEPTH (Feet)	Sample Interval	Recovery (%)	(mdd) <b>QId</b> 5.0	SAMPLE	USCS SYMBOL	POORLY GRADED SAND w.	DESCRIPTION  /CLAY: 85% sand, dark yellowish b	rown (10YR 4/4), loose,	33 DEPTH (Feet)
35  	Direct Push Direct Push	80% NR 50%	0.3 11.2 1.2 0.0		CL	plastic. No hydrocarbon odor.	r-angular to sub-rounded, poorly grad	38'	35
40	Direct Push	NR 80%	0.0 0.0 0.0 0.0	B-44-GW-41'	CL	CLAY w/SAND: 55% clay, 30% sand, fine- to coarse-grained, sub	% silt, gray (10YR 6/1), moist, very sti -angular. No hydrocarbon odor.	43' ff, low-plasticity. 15%	40
45  	Direct Push	100%	0.0 0.0 0.0 0.0 0.0		MLS CL	plasticity. 25% sand, fine- to coar rounded, with max gravel size of	0% silt, 20% clay, grayish brown (10Y rse-grained. 15% gravel, fine-grained 1/4-inch. Poorly graded. rn (10YR 5/6), moist, very stiff, mediu	d, sub-angular to sub-	45
50						- First water bearing zone er - Second water be Soil boring was backfi	nated Boring at 50' - Target Depth Ad ncountered between 19.5' - 28.5'. Fre earing zone encountered between 33 Illed with neat cement grout using trend d with native soil to match surrounding	ee product present. .0' - 38.0' mie methods.	50



PROJECT	NAN	ЛE:		Owen's I	Brockwa	ay Glass Container Facility	LOG OF BORING:	E	-45		
SITE ADD	RES	S:		3600 Alame		•	BOREHOLE DIAM. (in):	2	-1/8"		
DATE STA	MPLI	ETED				e (2-1/8" OD Casing) ples (1-3/4" diameter)	DRILLER/COMPANY:  GEOLOGIST/ENGINEER:	Josh Zwenke Enprobe C-57 #777007 B. Whalen, P.G. #9009 Sierra West Consultan			== 
	I		l			I			1		=
DEPTH (Feet)	Sample Interval	Recovery (%)	PID (ppm)	SAMPLE NUMBER	USCS		DESCRIPTION			DEPTH (Feet)	· · · · · · · · · · · · · · · · · · ·
0	r		0.0			CONCRETE			4.	0	$\overline{}$
 	◆ HAND AUGER		0.0 0.0 0.0 0.0		ML		ark grayish brown (10YR 3/2), damp -angular to sub-rounded, poorly grad /4-inch. No hydrocarbon odor.	•	<u>1'</u>		-
_ 5 _	۔	NR								_ 5	, _
	Direct Push	60%	0.0						ı		4
10			0.0								_
-	Direct Push	NR							ı	IF.	$\exists$
	Direc	40%	0.0		GS	-	, gray (10YR 5/1), moist, dense, fine- e of 1/4-inch. 20% sand, fine- to coal				$\exists$
15		NR	273.6		SM	SILTY SAND: 80% sand, dark	greenish gray (GLEY1 4/5GY), moist o sub-rounded, poorly graded. 20% s			15	5
	Direct Push	80%	63 412.4	B-45-GW-18'		nyurocarbon ouor.			ı		
20			348.1		SG SM	dense, fine- to medium-grained, s	50% sand, dark greenish gray (GLEY ub-angular to sub-rounded, poorly gr	aded. 25% gravel, fine-		20	
-	Push	NR				SILTY SAND: 80% sand, dark	/4-inch. 15% silt, non-plastic. Strong greenish gray (GLEY1 4/5GY), wet,	medium-dense, fine- to	ı		
	Direct Push	60%			CLS	hydrocarbon odor.	ub-rounded, poorly graded. 20% silt.	2	4'		
25		NR	2.9		CLS		wish brown (10YR 5/4), moist, stiff, n sub-rounded. Slight hydrocarbon oc			25	5
	Direct Push	80%	18.5 3.4 27.5 1.4							E	
30	Direct Push	100%	2.0		CLS	to coarse-grained, sub-angular to	% sand, yellowish brown (10YR 5/4) sub-rounded. 15% gravel, fine- to coded. 20% silt, non-plastic. Very sligh	parse-grained, with max	1'	30	0 —



PROJECT	NAN	ЛЕ:		Owen's l	Brockwa	y Glass Container Facility	LOG OF BORING:	B-	45	
SITE ADD	RES	S:		3600 Alame Oakland, C		·	BOREHOLE DIAM. (in):	2-	1/8"	
DATE STA DATE CO DRILLING	MPLI	ETED				e (2-1/8" OD Casing) oles (1-3/4" diameter)	DRILLER/COMPANY: GEOLOGIST/ENGINEER:	Josh Zwenke Enprobe C-57 #777007 B. Whalen, P.G. #9009 Sierra West Consultants	, Inc.	
35	Direct Push Direct Push Direct Push Direct Push Direct Push	100% Secondary (%)	(wdd) Gla  1.7  1.2  0.3  0.0  0.0  0.0  0.0  0.0  0.0  0			CLAY: 100% clay, grayish brown hydrocarbon odor.  SANDY CLAY w/GRAVEL: 6 medium-plasticity. 20% sand, fin graded. 15% gravel, fine-grained 15% gravel, fine-grained 15% gravel fine-grained 15% clay; 100% clay, brown (10YF odor.  Geologist Terminal First water bear - Saturated soils encountered Soil boring was backfired.	DESCRIPTION  on (10YR 5/2), moist, very stiff, medium (10YR 5/2), moist, very stiff, medium (10YR 5/2), moist, very stiff, medium (10YR 5/2), moist, with max gravel size of 1/4-inch. Not (10YR 5/3), moist, very stiff, medium-plastic (10YR 5/3), moist,	m-plasticity. No  medium-stiff, moist, sub-rounded, poorly or hydrocarbon odor.  47' city. No hydrocarbon  50' chieved  2 - 24.0'. roduced to collect a	, Inc. (tee4) H (Lee4) — 33 — 35 — 40 — 45 — 50 — 55 — 60 — 60	



PROJECT	NAN	ΛE:		Owen's I	Brockwa	ay Glass Container Facility	LOG OF BORING:	B-	46	
SITE ADD	RES	S:		3600 Alame Oakland, Ca		9	BOREHOLE DIAM. (in):	2-	1/8"	
DATE STA DATE CO DRILLING	MPLI	ETED				e (2-1/8" OD Casing) ples (1-3/4" diameter)	DRILLER/COMPANY:  GEOLOGIST/ENGINEER:	Josh Zwenke Enprobe C-57 #777007 B. Whalen, P.G. #9009 Sierra West Consultants	, Inc.	
DEPTH (Feet)	Sample Interval	Recovery (%)	PID (ppm)	SAMPLE NUMBER	USCS SYMBOL		DESCRIPTION			DEPTH (Feet)
5	Direct Push   ◆ HAND AUGER	100%	0.0 0.0 0.0 0.0 0.0 2.0 0.7 0.0 0.0		SP ML	25% sand, fine- to medium-graine hydrocarbon odor.  POORLY GRADED SAND w. to medium-grained, sub-angular tropic max gravel size of 1/4-inch. 10%		ly graded. Slight  3' 2/1), damp, dense, fine-gravel, fine-grained, with con odor.		5
	sh Direct Push	100%	0.0 0.0 0.0 0.0 0.0 118.6 43.4		CL SP	plasticity. 10% sand, fine- to coal gravel size of 1/4-inch. No hydrod POORLY GRADED SAND w.	grayish brown (10YR 4/2), moist, me rse-grained, sub-angular. 5% gravel, carbon odor. /SILT: 85% sand, very dark gray (G grained, sub-angular to sub-rounded,	fine-grained with max  15.5'  GLEY1 3/N), moist.		
20	Direct Push	100%	49 0.0 0.0 0.0	B-46-GW-18'	ML SP	non-plastic. Moderate hydrocarbo SILT: 70% silt, 30% clay, yellow POORLY GRADED SAND w.	on odor. rish brown (10YR 5/6), moist, soft, low /SILT: 85% sand, very dark gray (G grained, sub-angular to sub-rounded,	v-plasticity. 18.5° BLEY1 3/N), wet,	ı	20
	Direct Push	100%	0.0 0.0 0.0 0.0		CL	CLAY: 60% clay, 40% silt, grayi	ish brown (10YR 5/2), moist, stiff, low	22' /-plasticity.		
25  	Direct Push	100%	0.0 0.0 0.0 0.0 0.0		GM		0% gravel, brown (10YR 5/3), wet, medded, with max gravel size of 1/4-inch. 0% silt, non-plastic.			25 
30 	Direct Push	NR 80%	2.0 2.0 1.7	B-46-GW-32'	CL	Continued on page 2		32.5'		30 



SITE ADDRESS: 3800 Alamoda Avanua   BOREHOLE DIAM. (in): 2-1/8*	PROJECT	NAN	ΛE:		Owen's I	Brockwa	y Glass Container Facility	LOG OF BORING:	B-	46	
DATE COMPLETED: 26-Aug. 15  DRILLING METHOD: Detail Tube: (2-18° OD Casing) GEOLOGIST/ENSINEER: 8. Western P.C. 80008 Sterra West Consultants. Inc.	SITE ADD	RES	S:					BOREHOLE DIAM. (in):	2-	1/8"	
33   \$\frac{1}{4} \frac{1}{4}	DATE CO	MPLE	ETED:		25-Aug-15 Direct Push				Enprobe C-57 #777007 B. Whalen, P.G. #9009	s, Inc.	
hydrocarbon odor:    Age   Son   Column   Calcal   Calcal	DEPTH (Feet)	Sample Interval	Recovery (%)	PID (ppm)	SAMPLE NUMBER	USCS		DESCRIPTION			DEPTH (Feet)
F -	33 _ 35 35	Direct Push Direct Push Direct Push	100%	0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0		CLS	SANDY CLAY: 75% clay, brows sand, fine- to medium-grained, su SANDY CLAY w/GRAVEL: 5 plasticity. 25% sand, fine- to coar grained, with max gravel size of 1.  CLAY: 80% clay, 20% silt, graying a silt of the coar grained.  @ 47' - density increases to very smedium.  Geologist Terming - First water bear - Second water bear - Second water bear - Second was backfirst.	In (10YR 5/2), moist, medium-stiff, medium-stiff, medium-stiff, medium-stiff, medium-stiff, medium-stiff, medium-stiff, medium-angular, poorly graded. No hydrocarbon odor.  Ish brown (10YR 5/3), moist, medium-stiff. Clay content increases to 100%.  In the description of the stiff. Clay content increases to 100%.  In the stiff. Clay content increases to 100%.  In the stiff of the stiff of the stiff. Target Depth Active of the stiff. Clay content increases to 100%.  In the stiff of the stiff of the stiff of the stiff. Target Depth Active of the stiff of the stiff. Target Depth Active of the stiff of the stiff of the stiff. Target Depth Active of the stiff of the	dium-plasticity. 25% arbon odor.  40 edium-stiff, medium-ed. 20% gravel, fine-  44 stiff, low-plasticity.  Plasticity changes to  50 nieved  - 22.0'. D' - 32.5' nie methods.		33 _ 35 35 40



PROJECT	T NAN	ИE:		Owen's I	Brockwa	ay Glass Container Facility	LOG OF BORING:	B-4	17
SITE ADD	DRES	S:		3600 Alame Oakland, Ca		9	BOREHOLE DIAM. (in):	2-1	/8"
DATE STA DATE CO DRILLING	MPLI	ETED				e (2-1/8" OD Casing) ples (1-3/4" diameter)	DRILLER/COMPANY: GEOLOGIST/ENGINEER:	Josh Zwenke Enprobe C-57 #777007 B. Whalen, P.G. #9009 Sierra West Consultants,	Inc.
DEPTH (Feet)	Sample Interval	Recovery (%)	PID (ppm)	SAMPLE	USCS SYMBOL		DESCRIPTION		DEPTH (Feet)
0   _ 5	ush ← HAND AUGER		6.2 3.5 1.2 1.5 0.0		MLS	plastic. 20% sand, fine- to mediu odor.	ay, very dark gray (10YR 3/1), damp, m-grained, sub-angular, poorly grade	d. Slight hydrocarbon	0 
10	Direct Push Direct Push	100%	0.0 0.0 0.0 0.0 0.0		CL		rn (10YR 5/3), damp, stiff, medium-pla	12.5'	
15	Push Dir		0.0 0.0 0.0 0.0		SP	fine-grained, sub-angular, poorly POORLY GRADED SAND: 9		noist, medium-dense, lastic. No hydrocarbon	15
	Direct	100% NR	0.0 0.0 0.0	B-47-GW-18'	CL SP	fine-grained, sub-angular. No hyd POORLY GRADED SAND:	(10YR 5/2), wet, medium-stiff, mediudrocarbon odor.  90% sand, grayish brown (10YR 5/2), ular, poorly graded. 10% clay, non-pl	wet, medium-dense,	20
25	ish Direct Push	60% NR	0.0 0.0 0.0		CL	CLAY: 80% clay, 20% silt, gray	ish brown (10YR 5/2), moist, medium		25
30	Direct Push Direct Push	80% NR 60%	0.0 0.0 0.0		CLS	dense, fine- to coarse-grained, su grained, with max gravel size of 1	50% sand, dark yellowish brown (10 lb-angular to sub-rounded, poorly gra/4-inch. 30% clay, non-plastic.  yellowish brown (10YR 4/6), moist, s	ded. 20% gravel, fine- 29.5'	30



PROJECT	NAN	ЛE:		Owen's E	Brockwa	y Glass Container Facility	LOG OF BORING:	B-	47	
SITE ADD	RES	S:		3600 Alame Oakland, Ca		9	BOREHOLE DIAM. (in):	2-	/8"	
DATE STA DATE CO DRILLING	MPLI	ETED:				e (2-1/8" OD Casing) ples (1-3/4" diameter)	DRILLER/COMPANY:  GEOLOGIST/ENGINEER:	Josh Zwenke Enprobe C-57 #777007 B. Whalen, P.G. #9009 Sierra West Consultants	Inc.	
33	Direct Push Sample Interval	Recovery (%)	0.0 0.0	B-47-GW-33'	USCS O SYMBOL	fine- to coarse-grained, sub-angul with max gravel size of 1/4-inch. SANDY CLAY w/GRAVEL: 5	DESCRIPTION  60% sand, dark yellowish brown (10\) ar to sub-rounded, poorly graded. 25 15% clay, low-plasticity.  0% clay, 10% silt, brown (10\text{YR 4/3}), barse-grained, sub-angular, poorly gra	5% gravel, fine-grained, 34.5 wet, medium-dense,		33 DEPTH (Feet)
40	Direct Push	60%	0.0 0.0 0.0 0.0		GC CLS	grained, with max gravel size of 1.  CLAYEY GRAVEL: 60% grave grained, sub-angular, with max gr	/4-inch. No hydrocarbon odor.  el, yellowish brown (10YR 5/4), wet, navel size of 1/4-inch. 20% sand, fine-	39.5' nedium-dense, fine-		40
	Direct Push	100%	0.0 0.0 0.0 0.0		CL	plasticity. 25% sand, fine- to coar gravel, fine-grained, with max gravel.	low-plasticity.  5% clay, yellowish brown (10YR 5/6), se-grained, sub-angular to sub-round vel size of 1/4-inch. No hydrocarbon (25/3), moist, stiff, medium-plasticity.	led, poorly graded. 20% odor.		
 	Direct Push	100%	0.0 0.0 0.0 0.0					50'		
50						- First water bear - Second water be Soil boring was backfii	nated Boring at 50' - Target Depth Acting zone encountered between 17.5' saring zone encountered between 33.0 lled with neat cement grout using trem d with native soil to match surrounding	- 22.0'. 0' - 39.5' nie methods.		50



PROJECT	ΓNΑN	ЛЕ:		Owen's l	Brockwa	y Glass Container Facility	LOG OF BORING:	MV	/-2R						
SITE ADD				3600 Alame	eda Avenue		BOREHOLE DIAM. (in):	8"							
DATE STA	MPLI	ETED		10-Sep-15 8-Dec-15			DRILLER/COMPANY:	Josh Zwenke Enprobe C-57 #777007							
DRILLING	ME	НОО	-			e (2-1/8" OD Casing) ples (1-3/4" diameter)	GEOLOGIST/ENGINEER:	B. Whalen, P.G. #9009 Sierra West Consultants,	Inc.						
DEPTH (Feet)	Sample Interval	Recovery (%)	PID (ppm)	SAMPLE	USCS		DESCRIPTION		DEPTH (Feet)	טבר ווו (י פפי,					
0	α					CONCRETE		1'		<del></del>					
  	▲ HAND AUGER				MLS	non-plastic. 35% sand, fine- to co	CONCRETE  SANDY SILT w/GRAVEL: 45% silt, dark yellowish brown (10YR 3/4), damp, medium-stiff, non-plastic. 35% sand, fine- to coarse-grained, sub-angular to sub-rounded, poorly graded. 20% gravel, fine- to coarse-grained, with max gravel size of 3/4-inch. No hydrocarbon odor.								
$\vdash$ $$ $\dashv$		NR						´ –							
 	Direct Push	70%			MLS	SANDY SILT: 65% silt, strong sand, fine- to medium-grained, su material from excavation.		_ _ _							
10  	Direct Push	NR 50%								0 — — —					
15		NR							15	5					
 	Direct Push	70%			SG	dense, fine- to coarse-grained, an	50% sand, very dark greenish gray (G Igular to sub-rounded, poorly graded. Iize of 1/2-inch. 20% silt, non-plastic.	30% gravel, fine- to		_ _ _					
20		NR						21'	20	0					
	Direct Push				ML		clay, greenish gray (GLEY1 6/10GY), I, sub-angular, poorly graded. Strong	wet, medium-stiff, low-		_					
_	Dire	80%			CL	CLAY: 90% clay, 10% silt, yellowish brown (10YR 5/4), moist, very stiff, medium-plasticity.									
25		NR			CLS	SANDY CLAY: 65% clay, brow	vn (10YR 4/3), moist, stiff, low-plastic unded, poorly graded. Slight hydroca		25	5_					
  	Direct Push	80%			ML		clay, yellowish brown (10YR 5/4), moi m-grained, sub-angular, poorly grade			<u>-</u>					
30	Direct Push	100%			CLS	Continued on following page		32*	30	0 _					



PROJECT	ΓΝΑΝ	ЛЕ:		Owen's	Brockwa	y Glass Container Facility	LOG OF BORING:	MV	V-2R						
SITE ADD				3600 Alame Oakland, C	eda Avenu		BOREHOLE DIAM. (in):	8"							
DATE STA DATE CO DRILLING	MPLI	ETED:				e (2-1/8" OD Casing) ples (1-3/4" diameter)	DRILLER/COMPANY:  GEOLOGIST/ENGINEER:	Josh Zwenke Enprobe C-57 #777007 B. Whalen, P.G. #9009 Sierra West Consultants	Inc.						
DEPTH (Feet)	Sample Interval	Recovery (%)	PID (ppm)	SAMPLE	USCS		DESCRIPTION  SANDY CLAY w/GRAVEL: 50% clay, 10% silt, yellowish brown (10YR 5/6), moist, very								
33 35	Direct Push Direct Push	60% NR			CLS	SANDY CLAY w/GRAVEL: 50% clay, 10% silt, yellowish brown (10YR 5/6), moist, very stiff, low-plasticity. 25% sand, fine- to coarse-grained, sub-angular to sub-rounded, poorly graded. 15% gravel, fine-grained, with max gravel size of 1/4-inch. No hydrocarbon odor.  CLAY: 100% clay, grayish brown (10YR 5/2), moist, very stiff, medium-plasticity.									
40	Direct Push	100%			MLS	SILTY SAND: 65% sand, greenish gray (GLEY1 6/5GY), wet, medium-dense, fine- to medium-grained, sub-angular, poorly graded. 35% silt, non-plastic. Moderate hydrocarbon odor.  SANDY SILT: 75% silt, greenish gray (GLEY1 6/5GY), wet, medium-stiff, non-plastic. 25% sand, fine- to medium-grained, sub-angular, poorly graded. Slight hydrocarbon odor.									
45 	Direct Push	100%			CL	CLAY: 100% clay, brown (10YR 5/3), moist, stiff, medium-plasticity. No hydrocarbon odor.									
55	Direct Push Direct Push	NR 30% NR 30%				Geologist Terminated Boring at 60' - Target Depth Achieved  - First water bearing zone encountered between 17.0' - 23.0' Second water bearing zone encountered between 40.0' - 48.0'  Pilot boring drilled and continuously cored to 60' using direct push equipment. Boring then backfilled with neat cement grout using tremie methods. Following pilot boring, well was drilled using 8-inch diameter hollow stem augers. Due to improper construction, well was overdrilled and reinstalled on December 8, 2015.  Well constructed using 2-inch diameter SCH40 PVC 0.020-inch machine slotted PVC screen placed from 18' to 23'									
60 						#2/12 s Bentonite Neat	and filter pack placed from 16' to 23' e transition seal placed from 13' to 16 cement grout placed from 1' to 13' at surface with traffic-rated bolt-down	,	60 						

"The free Adobe Reader may be used to view and complete this form. However, software must be purchased to complete, save, and reuse a saved form. State of California DWR Use Only - Do Not Fill in File Original with DWR Well Completion Report of 1 Owner's Well Number MW-2R No. e0298184 Date Work Began 09/10/2015 Date Work Ended 12/8/2015 Local Permit Agency Alameda County Public Works Agency Permit Number <u>W2015-0222</u> Permit Date 3/17/15 Well Owner Geologic Log OAngle Specify Name Owens Brockway Glass Container, Inc Orientation @Vertical O Horizontal Drilling Method Drilling Fluid Mailing Address One Michael Owens Way Depth from Surface Description City Perrysburg State OH Zip 43551 2999 Describe material, grain size, color, etc to Feel Well Location Please see attached geologic log Address 3600 Alameda Ave County Alameda city Oakland N Longitude Latitude Min. Deg. Min. Datum\_ Dec. Lat. \_ Dec. Long.\_\_ Parcel 11 Page 2250 APN Book 33 Section 7 Township 25 Range 3W Activity Location Sketch (Skelch must be diawn by hend after form New Well O Modification/Repair North O Deepen O Other\_\_ O Destroy Describe procedures and materials under GEOLOGIC LOGT Planned Uses O Water Supply ☐Domestic ☐Public ☐ Irrigation ☐ Industrial O Cathodic Protection O Dewatering O Heat Exchange O Injection Monitoring O Remediation O Sparging O Test Well South O Vapor Extraction lústifele of describe distance of well from roads, buildings, lences O Other Water Level and Yield of Completed Well Depth to first water 17 (Feet below surface) Depth to Static Water Level (Feet) Date Measured\_ (GPM) Test Type \_ Estimated Yield \* Feet **Total Depth of Boring** 23.5 (Hours) Total Drawdown Test Length \_ Total Depth of Completed Well 23 Feet May not be representative of a well's long term yield. Annular Material Casings Slot Size Depth from Walt Outside Screen Depth from Borehole Type Material Description Thickness Diameter if Any Surface Diameter Туре Surface Feet to Feet (inches) (Inches) (inches) to Fee (inches) Cement Blank PVC Sch. 40. 0.154 2.375 31 16 0.020 14 Bentonite PVC Sch. 40 0.154 2.375 Milled Slots 11 16 23 Screen Filter Pack #2/12 Sand 14 24 Certification Statement Attachments I, the undersigned, certify that this report is complete and accurate to the best of my knowledge and belief Geologic Log Name Well Construction Diagram ☐ Geophysical Log(s) ☐ Soit/Water Chemical Analyses Signed Other . Date Signed C-57 License Number diach additional information, if it exists.



PROJECT NAME:	Owen's B	Brockway	Glass Container Facility	LOG OF BORING:	MW-3R	<u> </u>						
SITE ADDRESS:	3600 Alamed Oakland, Ca			BOREHOLE DIAM. (in):	8"							
DATE STARTED:	11-Sep-15			DRILLER/COMPANY:	Josh Zwenke							
DATE COMPLETED: DRILLING METHOD:	11-Sep-15 8-inch Diame	eter Hollow	Stem Augers	GEOLOGIST/ENGINEER:	Enprobe C-57 #777007  B. Whalen, P.G. #9009							
					Sierra West Consultants, Inc.							
C	8-inch Diame  8-inch Diame  8 -inch	SOSO MLS	ASPHALT AND BASE SANDY SILT: 75% silt, dark gr 25% sand, fine- to medium-graine hydrocarbon odor.  POORLY GRADED SAND wr to medium-grained, sub-angular tr max gravel size of 1/4-inch. 10%  SILT: 80% silt, 15% clay, very cr grained sand. Very slight hydrocar	<b>SANDY SILT:</b> 75% silt, dark grayish brown (10YR 4/2), damp, medium-stiff, non-plastic. 25% sand, fine- to medium-grained, sub-angular to sub-rounded, poorly graded. Slight								
15 11 4 4 4 4 4 4 4 4 4 4 4 4 4 4 4 4 4	0.0 0.0 0.0 0.0 0.0 0.0 18.6 3.4 49 0.0 0.0 0.0 0.0	CL SP ML SP	plasticity. 10% sand, fine- to coa gravel size of 1/4-inch. No hydro POORLY GRADED SAND w medium-dense, fine- to medium-gnon-plastic. Moderate hydrocarb.  SILT: 70% silt, 30% clay, yellow POORLY GRADED SAND w medium-dense, fine- to medium-gnon-plastic. Moderate hydrocarb.  Geologist Till 'Lithology and FID measure well was drilled Well construing 0.020-inch mach #2/12 s Bentonite Neat	/SILT: 85% sand, very dark gray (G grained, sub-angular to sub-rounded, on odor. rish brown (10YR 5/6), moist, soft, low /SILT: 85% sand, very dark gray (G grained, sub-angular to sub-rounded,	GLEY1 3/N), moist, poorly graded. 15% silt, po							

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Total D	epth of C	omple	ted W	ell <u>22</u>			Feet			t be repres	entative				
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Depth	from	Boreh	ole				Wall	Outside	Screen	Slot Size	Depth	from			
Sur Feet t	ace	Dlame	eter	Type	Mate	. 16		Diameter	Type	if Any (Inches)		face o Feet	Fill		Description
гее ( 1	17	(Inche		fank	PVC Sch. 40		(Inches) .154	(inches) 2.375	F	(NICHES)	1	12	Cement	: .	
17	22	8	-	стеел	PVC Sch. 8		154	2.375	Milled Slots	0.020	12	15	Bentonite	-	
		<u> </u>	*								15	22	Filter Paci	<b>.</b> :	#2/12 Sand
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<b>Z</b>	Geologic					I, the unde	ersigned	, certify th	at this #port	is complet	e and ac	curate to	the best	of my	knowledge and belief
	Vell Con		on Dia	gram		Name _E	nProbe	Direct i	Push & Dri						
	Geophysi	ical Lo	g(s)			POB	ox 609	in or Caroo	<b>H</b>	Orc	<u>ville</u>	· · ·			95966
				Analyses		Signed	10	Address	M		City	10-27	-15		-007
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	REV. 1/2006					JE ADOITION	IAL SPACE	IS NEEDED	USE NEXT CO	NSECUTIVE					V and the V



Page 1 of 1

PROJECT	ΓΝΑΝ	ΛE:		Owen's	Brockwa	y Glass Container Facility	LOG OF BORING:	MV	V-21
SITE ADD	RES	S:		3600 Alame Oakland, C		3	BOREHOLE DIAM. (in):	8"	
DATE STA DATE CO DRILLING	MPLE	ETED:		11-Sep-15 11-Sep-15 8-inch Diam	neter Hollov	v Stem Augers	DRILLER/COMPANY: GEOLOGIST/ENGINEER:	Josh Zwenke Enprobe C-57 #777007 B. Whalen, P.G. #9009 Sierra West Consultants	, Inc.
0 OEDTH (Feet)	Hollow Stem Auger     ←     HAND AUGER     Sample Interval	Recovery (%)	(ppm)	SAMPLE NUMBER	D SYMBOL SYMBOL	POORLY GRADED SAND w/ medium-dense, fine- to medium-graine non-plastic. No hydrocarbon odor  Geologist T Lithology bas  Well was drilled Well constru 0.020-inch machi	erminated 30' - Target Depth Achieve sed off logged soil cuttings during drill I using 8-inch diameter hollow stem a cted using 2-inch diameter SCH 40 P ne slotted PVC screen placed from 1	um-stiff, non-plastic. y graded. No  orn (10YR 4/2), wet, poorly graded. 15% silt,  ed ing. ugers. VC	15
						Bentonite Neat o	and filter pack placed from 13' to 30' transition seal placed from 10' to 13' cement grout placed from 1' to 10' t surface with traffic-rated bolt-down		

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Page 1		of	1			Well			on Repo	ort	<u> </u>	,		T :		一
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	lo Fe	et	1 1		cribe material, gr	ain size, coto	r, etc		City Pe	errysburg	<u> </u>		Sta	ite <u>O</u> l	1 z <sub>ip</sub> 43551-	2999
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	Other <u>Si</u>			, 200	<b> </b> s	igned		Xali	V//		-	10-27	7-15 <u> </u>	777	7-007	
Atlach sod	itional inform	ation, it i	t exists.			C-	57 Lice	nsed Water	Wif Contractor			Date Sig	ned C	57 Lic	ense Number	



PROJECT	T NAN	ИE:	Owen's	Brockwa	y Glass Container Facility					
SITE ADD	DRES	S:	3600 Alame Oakland, C		3	BOREHOLE DIAM. (in):	8"			
DATE STA DATE CO DRILLING	MPLI	ETED	December December	10, 2015 10, 2015	v Stem Augers	DRILLER/COMPANY:  GEOLOGIST/ENGINEER:	Amador Arroyo Cascade Drilling, L.P. C-57 #93 B. Whalen, P.G. #9009 Sierra West Consultants, Inc.	8110		
					Upper 5' cleared for subsurface u No soil samples collected betwee  Yes SANDY SILT: 60% silt, greenis 40% sand, fine- to medium-graine POORLY GRADED SAND we medium-dense, fine- to med	DESCRIPTION  tilities / obstructions using a hand aug n 0-15 feet bgs.  sh gray (GLEY1 5/5GY), moist, medium ed, sub-angular, poorly graded. Sligh /SILT: 85% sand, greenish gray (Girained, sub-angular, poorly graded.  ish brown (10YR 5/2), moist, medium arbon odor.  icted using 2-inch diameter SCH 40 F	B. Whalen, P.G. #9009 Sierra West Consultants, Inc.  ger.  ger.  LEY 1 5/5GY), wet, 15% silt, non-plastic.  21.5' n-stiff, medium-plasticity. 22.5'	5		
25					Bentor #2/12 si Bentonite	ine slotted PVC screen placed from 1 nite backfill placed from 22' to 22.5' and filter pack placed from 17' to 22' transition seal plaecd from 14' to 17 cement grout placed from 2' to 14'		25		

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Page 1		of 1			We		mpleti to Instruction	on Repo	ort					
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			meda County 0813						[			APN/	TRS/Otl	her
				gic Log							Well	Owner		
	entation			izontal	OAngle	Specif	fy	Name C	Owens Br	ockway	Glass (	Containe	er, Inc.	
	Method He from Su	ollow Ste	m Auger	Dag	Drilling Flu	uid		Mailing A	Address <u>C</u>	ne Mic	hael Ow	ens Wa	ay	
Feet	to Fe	et	m Auger  Description	cribe material		color, etc		City Pe	rrysburg			Sta	ate <u>OF</u>	<u> 1 Zip 43551-2999</u>
		F	Please see at	tached ged	ologic log							_ocatio		
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								<i>)</i>		South				est Well
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						_		Water L	evel and	Yield o	of Com	oleted \	Vell	
						0	7		first water	16			(Fee	et below surface)
						V		<ul><li>Depth to</li><li>Water L</li></ul>	evel <u>12</u>		(Fee	t) Date	Measu	ured 12/14/2015
Total D	Depth of B	oring	22.5			Feet								
Total D	Depth of C	omplete	ed Well 21			_ Feet			-		•	,		down(Feet)
	_		_	Coc	ings			iviay no	t be repres	sentative	or a wer	Annu		
Dept	h from	Boreho	le <sub>Tyrne</sub>	Mate	ings	Wall	Outside	Screen	Slot Size	Dept	th from	Allilu	iai ivia	iteriai
	rface to Feet	Diamete (Inches		wate	1.1	hickness (Inches)	Diameter (Inches)	Туре	if Any (Inches)		rface to Feet	Fi	II	Description
1	18	8	Blank	PVC Sch. 40		).154	2.375			2	14	Cement		
18	21	8	Screen	PVC Sch. 40	0 (	).154	2.375	Milled Slots	0.020	14 17	17 22	Bentonit Filter Pa		#2/12 Sand
		-1								22	23	Bentonit		#2/12 Sanu
			) )											
			ments						Certificati					
Mell Construction Diagram Name					I, certify th	at this report	is comple	te and a	ccurate to	the bes	t of my	knowledge and belief		
Geophysical Log(s)					Firm or Corpo	ration					`Δ			
☐ Soil/Water Chemical Analyses Addre				Address	ddress City State Zip				Zip					
Other Signed _					Signed Date Signed				cense Number					
Allau1 a0	additional information, if it exists.  C-57 Licensed							d water well Contractor Date Signed C-57 License Number						



PROJECT N	AME:	Owen's	Brockwa	y Glass Container Facility	LOG OF BORING:	IW	<i>I-</i> 1B	
SITE ADDRE	ESS:	3600 Alame Oakland, C			BOREHOLE DIAM. (in):	8"		
DATE STAR		December			DRILLER/COMPANY:	Amador Arroyo		10
DATE COMP DRILLING M		December 8-inch Dian		v Stem Augers	GEOLOGIST/ENGINEER:	Cascade Drilling, L.P. C B. Whalen, P.G. #9009 Sierra West Consultants		10
DEPTH (Feet)					DESCRIPTION  itilities / obstructions using a hand au	B. Whalen, P.G. #9009 Sierra West Consultants		0 DEPTH (Feet)
20	12 20 24 1 4 9 1 5		CL	5% fine sand. Very slight hydroc POORLY GRADED SAND w medium-dense, fine- to coarse-gi	//SILT: 90% sand, dark greenish graained, sub-angular to sub-rounded, p	ay (GLEY1 4/5GY), wet,		_ 20 _ _ _ _
25  	3 10 20 6 8 19 6 10		SP	fine- to coarse-grained, sub-angucoarse-grained, with max gravel CLAYEY GRAVEL w/SAND: dense, sub-angular, fine- to coarse	on odor. 65% sand, dark greenish gray (GLEY) lar to sub-rounded, poorly graded. 2: size of 3/4-inches. Moderate hydroca 50% gravel, dark yellowish brown (* se-grained, with max gravel size of 1/% silt, non-plastic fines. Very slight h	0% gravel, fine- to arbon odor.  10YR 4/6), moist, very 2-inch. 20% sand, fine		25 - -
30	20 8 12		GC	Well constru 0.020-inch mach #2/12 s Bentonit	and filter pack placed from 24' to 29' e transition seal placed from 21' to 24' cement grout placed from 2' to 21'	PVC 18' to 21'		30 -

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Page 1		of 1			We			on Repo	ort			1 1	$T_{-1}$	
Owner's	Well Nun	nber IW	/-1B				to Instruction				Stat	te Well Nu		ite Number W
Date Wo	ork Began	12/10/	2015	Date	Work Ende						Latitude	IN		Longitude
Local Pe	ermit Ager	ıcy <u>Alar</u>	meda County 0813	Public Wo	rks Agen	CV						APN/	TRS/Oth	ner
remillion	vuilibei <u>v</u>	12010-0		gic Log	ate <u>0/21/1</u>	10		1			Wall	Owner		
Ori	entation	<b>⊙</b> Verf		izontal	OAngle	Specif	fv	Nome	Owens Br	ockway				
Drilling	Method H	ollow Ste			Drilling Flu		,		Address C					
Depth	n from Su	rface		Des	cription									l zin 43551-2999
Feet	to Fe	eet	Describes Describes at the second sec	cribe material		color, etc		City	, 0.0 09			ocatio		1 z <sub>ip</sub> 43551-2999
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										North		-	O M	lew Well Modification/Repair D Deepen D Other
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														lonitoring Lemediation
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				-		-	$\leftarrow$	Water L	_evel and	Yield o	of Comp	oleted V	Vell	
-			-	$\rightarrow$		0	-		first water				(Fee	et below surface)
				-		V.	<del>/</del>	Depth to	Static		(Fee	t) Data	Measi	ured 12/14/2015
Total [	Depth of B	orina	29			Feet					,	,		12/1 //2010
			ed Well 28	-		_ Foot								down(Feet)
Total L	Deptil of C	ompiete	tu vveli <u>20</u>			_ Feet		*May no	t be repres	entative	of a well	l's long te	rm yie	ld.
				Cas	ings					_		Annul	ar Ma	terial
Su	th from rface to Feet	Diamete (Inches	er Type	Mate	1.1	Wall hickness (Inches)	Outside Diameter (Inches)	Screen Type	Slot Size if Any (Inches)	Su	h from rface to Feet	Fi	II	Description
1	25	8	Blank	PVC Sch. 40		).154	2.375			2	21	Cement		
25	28	8	Screen	PVC Sch. 4	0 0	).154	2.375	Milled Slots	0.020	21	24	Bentonite		//O/4.0. O =l
	+			1			-			24	29	Filter Pa	CK	#2/12 Sand
	+													
					+						1			
		Attach	ments					(	Certificati	on Stat	tement			
<b>V</b>	Geologic				I, the und	ersigned	l, certify th					the bes	t of my	knowledge and belief
☐ Well Construction Diagram  Name ————————————————————————————————————							-							
☐ Geophysical Log(s)										<u> </u>				
☐ Soil/Water Chemical Analyses Signed				Address City State Zip Signed				∠ıp						
	OtherStatch additional information, if it exists.					C-57 Licensed Water Well Contractor				Date Signed C-57 License Number				



PROJECT NAME:	Owen's Brockw	NAME:	y Glass Container Facility	LOG OF BORING:	IW-2A
SITE ADDRESS:	3600 Alameda Avenu Oakland, California	ESS:		BOREHOLE DIAM. (in):	8"
ATE STARTED:	December 10, 2015	RTED:		DRILLER/COMPANY:	Amador Arroyo
ATE COMPLETED	December 10, 2015		Ot A	CEOLOGICT/ENGINEED	Cascade Drilling, L.P. C-57 #938110
RILLING METHO	8-inch Diameter Hollo	MEIH	Stem Augers	GEOLOGIST/ENGINEER:	B. Whalen, P.G. #9009 Sierra West Consultants, Inc.
Counts   C	NUMBER   SAMPLE   NUMBER   SAMBOL   SYMBOL   S	HAND AUGER / AIR KNIFE	SANDY SILT: 60% silt, greenis 40% sand, fine- to medium-graine SILTY SAND: 75% sand, greer medium-grained, sub-angular, pododor.  SILT: 80% silt, 10% clay, gray (2 grained, sub-angular. Moderate helpoor odor.  CLAY: 80% silt, 10% clay, gray (2 grained, sub-angular. Moderate helpoor odor.  CLAY: 80% clay, 20% silt, yellow plasticity. Slight hydrocarbon odo  Well construit 0.020-inch machine Bentonite tri	h gray (GLEY1 5/5GY), moist, mediu d, sub-angular, poorly graded. Mode nish gray (GLEY 1 5/5GY), moist, mediung graded. 25% silt, non-plastic. Mo 2.5Y 5/1), moist, medium-stiff, non-playdrocarbon odor.  SILT: 85% sand, greenish gray (GL rained, sub-angular. 15% silt, non-playdrocarbon to graydrocarbon	m-stiff, non-plastic. rate hydrocarbon odor. dium-dense, fine- to oderate hydrocarbon astic. 10% sand, fine- EY1 5/5GY), wet, astic. Moderate m stiff, medium-

*The free	Adobe Rea	ader may	be used to view	and complete	this form. H	However,	software m	ust be purchas	ed to compl	ete, save,	, and reus	e a saved	form.	
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Page 1		of 1			We		mpleti to Instruction	on Repo	ort					
Owner's	Well Num	iber <u>IV</u>	/-2A		_	No.	e02982	95			Sta	te Well Nu	ımber/S	ite Number W
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			meda County 0813									APN/	TRS/Ot	her
				gic Log							Well	Owner		
	entation		tical O Hor	izontal	OAngle	Specif	fy	Name C	Owens Br	ockway				
		ollow Ste	m Auger		Drilling Flu	iid		Mailing A	Address C	ne Mic	hael Ow	ens Wa	ay	
Feet	n from Su	rtace et	Desc	Des cribe material	<b>cription</b> , grain size, c	color, etc		City Pe	rrysburg			Sta	ate <u>O</u> F	H <sub>Zip</sub> <u>43551-2999</u>
		F	Please see at	tached ged	ologic log							ocatio		
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													-	Alameda
	_							Latitude		Min	900	N Longit	ude _	Deq. Min. Sec. Long.
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								APN Bo	ok <u>33</u>	Page	e <u>2250</u>		Parc	cel 11
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										ion Ske				Activity
								(Sketch	must be drawr	North	ifter form is	printed.)		lew Well /lodification/Repair
												,		O Deepen
								- 1						Other Destroy
								+					ا ا	Describe procedures and materials under "GEOLOGIC LOG"
														Planned Uses
						-								Vater Supply_
						7		West				East		Domestic □Public Irrigation □Industrial
								×				Ë	II .	Cathodic Protection
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					~°.	$\rightarrow$	-	- 1						leat Exchange
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				-	_	-								Remediation
						-	-							Sparging
								1		South				est Well /apor Extraction
								rivers, etc. an	escribe distance d attach a map.	Use additiona				Other
						-4			evel and	•	of Comi	oleted V		
	_			_		0			first water					et below surface)
				-		V.	-	Depth to	Static				_ `	ured <u>12/14/2015</u>
Total [	l Depth of B	oring	22.5	_		Feet								ured 12/14/2015
			ed Well 20.5	-		-								down(Feet)
Total L	Depth of C	ompiete	ed Well 20.5			- Feet		*May no	t be repres	entative	of a wel	i's long te	erm yie	eld.
D		D		Cas	ings	VA/ - 11	0.1:11		01:40	Dist		Annul	lar Ma	iterial
Su	th from rface	Boreho Diamet	er Type	Mate	11		Outside Diameter	Screen Type	Slot Size if Any	Su	th from rface	Fi	II	Description
Feet 1	to Feet	(Inches	Blank	PVC Sch. 40		(Inches) ).154	(Inches) 2.375		(Inches)	Feet 2	to Feet	Cement		
18	21	8	Screen	PVC Sch. 40		).154	2.375	Milled Slots	0.020	14	17	Bentonit	e	
										17	22	Filter Pa	ck	#2/12 Sand
		_(					ļ			22	23	Bentonit	е	
		-	$\checkmark$							<b> </b>				
		Attack	monto						Cortificati	on Sta	tomont			
	Geologic		nments		I, the unde	ersianea	l, certify th	Certification Statement rtify that this report is complete and accurate to the best of my knowledge and belief						
☐ Well Construction Diagram  Name ————————————————————————————————————														
☐ Geophysical Log(s)					rallUII					<u> </u>	_			
☐ Soil/Water Chemical Analyses Signed				Address City State Zip				Zip						
	OtherSignstitach additional information, if it exists.					·				Date Sig	Date Signed C-57 License Number			



PROJECT	NAN	ЛE:		Owen's	Brockwa	y Glass Container Facility	LOG OF BORING:	IW	/-2B	
SITE ADD	RES	S:		3600 Alame Oakland, C			BOREHOLE DIAM. (in):	8"		
DATE STA DATE CO DRILLING	MPLI	ETED		December December 8-inch Dian	12, 2015	w Stem Augers	DRILLER/COMPANY: GEOLOGIST/ENGINEER:	Amador Arroyo Cascade Drilling, L.P. C B. Whalen, P.G. #9009 Sierra West Consultants		8110
DRILLING    DEPTH (Feet)	HOND AUGER / AIR KNIFE Sample Interval	Blow Counts D	(mdd) ΩIA	S-inch Dian SAMPLE NUMBER	NSCS SYMBOL		DESCRIPTION  tilities / obstructions using a hand aug	Sierra West Consultants	i, Inc.	0 DEPTH (Feet)
	•	12 20 24 1 5 13 3 10 20 6 8 19 6 10 20 8 12			SP ML GS	dense, fine- to medium-grained, shydrocarbon odor.  SILT: 70% silt, 30% clay, yellow hydrocarbon odor.  SANDY GRAVEL w/SILT: 60 3/10Y), wet, dense, fine- to coars of 3/4", well graded. 10% silt, not GRAVELLY CLAY: 60% clay, gravel, 10% sand, fine- to coarse graded. Very slight hydrocarbon  Well construed. 0.020-inch mach	cted using 2-inch diameter SCH 40 P ine slotted PVC screen placed from 2	plastic. Strong  22' plastic. Moderate  25' nish gray (GLEY 1 ed, with max gravel size  28.5' ow-plasticity. 30% el size of 3/4", poorly		15
						Bentonite	and filter pack placed from 25' to 30' e transition seal plaecd from 22' to 25' cement grout placed from 2' to 22'			

Sierra West Consultants, Inc. Page 1 of 1

\*The free Adobe Reader may be used to view and complete this form. However, software must be purchased to complete, save, and reuse a saved form. State of California DWR Use Only - Do Not Fill In File Original with DWR Well Completion Report of 1 Page 1 Refer to Instruction Pamphlet State Well Number/Site Number Owner's Well Number IW-2B No. e0307967 W 1 N 1 1 Date Work Ended 12/12/2015 Date Work Began 12/12/2015 Local Permit Agency Alameda County Public Works Agency APN/TRS/Other Permit Date <u>8/27/15</u> Permit Number W2015-0813 Well Owner Geologic Log Name Owens Brockway Glass Container, Inc. Orientation O Vertical O Horizontal OAngle Specify Drilling Fluid Mailing Address One Michael Owens Way Drilling Method Description \_ State OH \_ Zip \_ 43551-2999 Depth from Surface City Perrysburg Describe material, grain size, color, etc Feet to Feet Well Location Please see attached geologic log Address 3600 Alameda Ave \_\_\_\_ County Alameda City Oakland Dea. Min. Sec. N Longitude \_\_\_\_\_ Dea. Min. Latitude \_ Dec. Lat. \_\_\_\_ \_ Dec. Long.\_ Parcel 11 APN Book 33 Page 2250 Township 2S Range 3W Section 7 Activity Location Sketch (Sketch must be drawn by hand after form is printed.) New Well O Modification/Repair O Deepen O Other\_ O Destroy Describe procedures and materials under "GEOLOGIC LOG" Planned Uses O Water Supply ☐ Domestic ☐ Public ☐ Irrigation ☐ Industrial O Cathodic Protection O Dewatering O Heat Exchange Injection O Monitoring O Remediation O Sparging O Test Well O Vapor Extraction Illustrate or describe distance of well from roads, buildings, fences, rivers, etc. and attach a map. Use additional paper if necessary. Please be accurate and complete. O Other\_ Water Level and Yield of Completed Well (Feet below surface) Depth to first water \_\_\_ Depth to Static \_ (Feet) Date Measured 12/17/2015 Water Level \_ Estimated Yield \* \_\_\_\_\_ (GPM) Test Type \_ Feet Total Depth of Boring 30 (Hours) Total Drawdown Test Length \_ Total Depth of Completed Well 29 Feet \*May not be representative of a well's long term yield. **Annular Material** Casings Slot Size Depth from Wall Outside Screen Depth from Borehole Material Surface FIII Description If Any Thickness Diameter Type Diameter Surface Feet to Feet (Inches) (Inches) (Inches) Feet to Feet (Inches) Cement 22 0.154 2.375 2 Blank PVC Sch. 40 26 25 Milled Slots 0.020 22 Bentonite 0.154 2.375 PVC Sch. 40 Screen 26 #2/12 Sand 25 30 Filter Pack **Certification Statement** Attachments I, the undersigned, certify that this report is complete and accurate to the best of my knowledge and belief ☑ Geologic Log ☐ Well Construction Diagram Person, Firm or Corporation ☐ Geophysical Log(s) CA Address ☐ Soil/Water Chemical Analyses Signed Date Signed C-57 License Number C-57 Licensed Water Well Contractor Attach additional information, if it exists.



ROJECT NAME:	Owen's Brocky	yay Glass Container Facility	LOG OF BORING:	IW-	<u> </u>
TE ADDRESS:	3600 Alameda Aven Oakland, California	ue	BOREHOLE DIAM. (in):	8"	
ATE STARTED:	December 8, 2015		DRILLER/COMPANY:	Amador Arroyo	
ATE COMPLETED:	December 8, 2015		0501 00107/51011555	Cascade Drilling, L.P. C-5	57 #938110
RILLING METHOD:	8-inch Diameter Holl	ow Stem Augers	GEOLOGIST/ENGINEER:		Inc
	December 8, 2015 December 8, 2015 8-inch Diameter Holl	SILT: 90% silt, light yellowish be fine- to medium-grained, sub-ange POORLY GRADED SAND women moist, medium-dense, fine- to coarse-grained, silt to coarse-grained, with 1/2-inch reduced plastic. Strong hydrocarbon SILT: 65% silt, 30% clay, light yellowish be fine- to coarse-grained, silt to co	DESCRIPTION  DESCR	Cascade Drilling, L.P. C-6 B. Whalen, P.G. #9009 Sierra West Consultants, I  a hand augerstiff, non-plastic. 30% carbon odor. Tree roots  ay (GLEY 1 4/5GY), nded, poorly graded.  18.5  1 4/5GY), wet, medium- aded. 25% gravel, fine- because free product present.  ay (GLEY 1 4/5GY), wet, coorly graded. 15% silt, fift- to medium-stiff, low-	
1					F
30_		Benton #2/12 sai Bentonite t	ite backfill placed from 21.5' to 22.5' nd filter pack placed from 16.5' to 21. ransition seal placedd from 13.5' to 1 cement grout placed from 2' to 13.5'	5'	30

*The free	Adobe Re	ader may	be used to view	and complete	this form. H	owever,	software m	ust be purchas	ed to compl	ete, save,	, and reus	e a saved	form.	
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Page 1		of 1			We		mpleti to Instruction	on Repo	ort			1 1 1	ļ , ,	
Owner's	Well Num	nber <u>IW</u>	'-3			No.	e03081	17			Sta	te vveii Nu	mber/S	ite Number
			2015				3/2015				Latitude			Longitude
			meda County 813									APN/	ΓRS/Otl	her
				gic Log							Well	Owner		
	entation		ical O Hor	izontal	OAngle	Specif	fy	Name C	Owens Br	ockway			r, Inc.	
		ollow Ster	m Auger		Drilling Flui	<u> </u>		Mailing A	Address C	ne Mic	hael Ow	ens Wa	У	
Feet	to Fe	rtace eet	Description Description	<b>Des</b> cribe material,	<b>cription</b> grain size, co	olor, etc		City Pe	rrysburg			Sta	ite <u>O</u> F	<u> 1 <sub>Zip</sub> 43551-2999</u>
		Р	lease see at	tached ged	logic log							_ocatio		
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								Townsh	<sub>ip</sub> <u>2S</u>	Rang	e <u>3W</u>		Sect	ion <u>7</u>
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								rivers, etc. an	escribe distance d attach a map.	Use additiona	oads, buildings al paper if nec	s, fences, essary.		Other
						-			evel and		of Com	oleted V	Vell	
				-		0	_		first water					et below surface)
				<i>—</i>		V.	-	Depth to	Static		(Eoo	t) Data	Moasi	ured 12/15/2015
Total F	Depth of B	orina	22.5	_		Feet								area <u>12/13/2013</u>
			d Well 20.5	-		Feet								down(Feet)
Total L	реритог С	omplete	a vveli <u>20:0</u>			1 661		*May no	t be repres	entative	of a wel			
Dont	h from	Borehol		Cas	ings	Wall	Outside	Caraan	Slot Size	Dont	h from	Annul	ar Ma	terial
Su	h from rface	Diamete	er Type	Mate	ın	ickness	Diameter	Screen Type	if Any	Su	th from	Fi	I	Description
Feet 1	to Feet	(Inches	) Blank	PVC Sch. 40		nches) 154	(Inches) 2.375		(Inches)	Peet 2	to Feet	Cement		
18	21	8	Screen	PVC Sch. 40		154	2.375	Milled Slots	0.020	14	17	Bentonite	9	
										17	22	Filter Pa		#2/12 Sand
		-(-	14				-			22	23	Bentonite	9	-
	+	-								-				
		Attach	monts						Certificati	ion Stat	tement			
7	Geologic		menta		I, the unde	rsigned	d, certify th					the bes	t of my	knowledge and belief
	Well Con	struction			Name		Firm or Corpo		-					-
	Geophys									0::	,		<u>A</u> _	7:
	Other		cal Analyses		Signed		Address			City			ate	Zip
	ditional inforn					C-57 Lice	ensed Water	Well Contractor			Date Sig	gned C	-57 Lic	cense Number



PROJECT	ΓΝΑΝ	ΛE:		Owen's	Brockwa	y Glass Container Facility	LOG OF BORING:	IW-4	
SITE ADD	RES	S:		3600 Alamo		•	BOREHOLE DIAM. (in):	8"	
DATE STA DATE CO DRILLING	MPLE	ETED		December December	9, 2015 9, 2015	Diameter Direct Push	DRILLER/COMPANY:  GEOLOGIST/ENGINEER:	Amador Arroyo Cascade Drilling, L.P. C-57 # B. Whalen, P.G. #9009	938110
				Drilled Usin	ng 8-inch Di	ameter Hollow Stem Augers		Sierra West Consultants, Inc.	
DEPTH (Feet)	Sample Interval	Recovery	PID (ppm)	SAMPLE	USCS		DESCRIPTION		DEPTH (Feet)
0  	HAND AUGER / AIR KNIFE				CL	CLAY w/SAND: 60% clay, 30' 10% sand, fine-grained, sub-angi	% silt, black (10YR 2/1), dry, medium- ular. No hydrocarbon odor.	-stiff, medium-plasticity.	0 - - -
5 — —	Direct Push	100%			ML	<b>SILT:</b> 95% silt, light yellowish bi fine-grained, sub-angular. No hy	rown (2.5Y 6/4), damp, medium-stiff, r drocarbon odor.	non-plastic. 5% sand,	5 — — — —
_ 10 	Direct Push	100%							10
15	Direct Push	100%			SP		r/SILT: 80% sand, dark greenish graedium-grained, sub-angular, poorly grador.		
	Direct Push	100%			ML SP	10% sand, fine-grained, sub-anger	ish gray (GLEY1 4/10Y), moist, medicular. Moderate hydrocarbon odor.  ISILT: 90% sand, greenish gray (Glarined, sub-angular to sub-rounded, podor.	LEY1 5/5GY), wet,	20
					CL	CLAY: 65% clay, 35% silt, light plasticity. Moderate hydrocarbon	yellowish brown (2.5Y 6/4), moist, moodor.	***************************************	
25						0.020-inch machin Bento #2/12 sar Bentonite i	ucted using 2-inch diameter SCH 40 F e slotted PVC screen placed from 17. nite backfill placed from 21.5' to 23' nd filter pack placed from 16.5' to 21.5 transition seal placed from 13.5' to 16 ement grout placed from 2' to 13.5'	.5' to 20.5'	25 

*The free	Adobe Re	ader may	be used to view	and complete	this form. H	lowever,	software m	ust be purchas	sed to compl	ete, save,	, and reus	e a saved	form.	
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Page 1		of 1			We		mpleti to Instruction	on Repo	ort					
Owner's	Well Num	nber <u>IW</u>	/-4			No.	e03081	44			Sta	te vveli Nu	Imber/S	ite Number W
			2015				/2015				Latitude			Longitude
			meda County 0813									APN/	TRS/Ot	her
				gic Log							Well	Owner		
	entation		tical O Hor	izontal	OAngle	Speci	fу	Name C	Owens Bro	ockway	Glass (	Containe	er, Inc.	
		ollow Ster	m Auger	D	Drilling Flu	id		Mailing A	Address <u>C</u>	ne Mic	hael Ow	vens Wa	ay	
Feet	from Su	et et	Describer Description	cribe material	<b>cription</b> , grain size, c	olor, etc		City Pe	rrysburg			Sta	ate <u>OF</u>	<u> 1 Zip 43551-2999</u>
		F	Please see at	tached ged	ologic log							Locatio		
									3600 AI				_	
								1 1 -					-	Mameda
								Latitude	Deg.	Min.	Sec.	N Longit	ude _	Dea. Min. Sec. Long.
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		-			<del>-</del>		-							Sparging
							-	1		South			От	est Well
								rivers, etc. ar	escribe distance of attach a map.	of well from ro Use additiona	oads, buildings al paper if nec	s, fences, essary.		/apor Extraction Other
						-		Water L	evel and	Yield o	of Com	oleted V	Vell	
						0	7		first water	16			(Fe	et below surface)
								<ul><li>Depth to Water L</li></ul>	evel <u>13</u>		(Fee	t) Date	Measi	ured 12/15/2015
Total D	Depth of B	oring	23			Feet								
Total D	Depth of C	omplete	d Well 20.5			Feet			ngth of be repres		•	,		down(Feet)
				Cas	ings			Iviay IIC	t be repres	entative	or a wer	Annul		
	h from	Borehol	IVno	Mate	rial	Wall	Outside	Screen	Slot Size		th from			
	rface to Feet	Diamete (Inches	er ·	mato	Ir	nickness Inches)	Diameter (Inches)	Туре	if Any (Inches)		rface to Feet	Fi	II	Description
1	18	8	Blank	PVC Sch. 40		.154	2.375			2	14	Cement		
18	21	8	Screen	PVC Sch. 40	0	.154	2.375	Milled Slots	0.020	14 17	17 22	Bentonit Filter Pa		#2/12 Sand
		$-\ell$	-							22	23	Bentonit		#2/12 Saliu
			7											
		Attach	ments						Certificati					
	Geologic		Diagram		I, the unde	ersigned	l, certify th	at this report	is complet	te and a	ccurate to	o the bes	t of my	knowledge and belief
	Well Con Geophys		n Diagram (s)			Person,	Firm or Corpo	ration					CA	
	Soil/Wate	r Chemi	ical Analyses				Address			City	/		tate	Zip
	Other				Signed	C-57 Lin	ensed Water	Well Contractor			Date Si	nned C	-57 Liz	cense Number
Allau1 a0	unional illiom	ıau∨II, II I( (	טאוסוס.								במנט טונָ	griou C	, UI LIC	JOHOU HUITIDUI



PROJECT	ΓΝΑΝ	ΛE:		Owen's	Brockwa	ay Glass Container Facility	LOG OF BORING:	IW-5	}
SITE ADD	RES	S:		3600 Alame		9	BOREHOLE DIAM. (in):	8"	
DATE STA	MPLE	ETED		December :	9, 2015 9, 2015	Diameter Direct Push	DRILLER/COMPANY:  GEOLOGIST/ENGINEER:	Amador Arroyo Cascade Drilling, L.P. C-5' B. Whalen, P.G. #9009	7 #938110
				Drilled Usin	ng 8-inch Di	iameter Hollow Stem Augers		Sierra West Consultants, Ir	nc.
DEPTH (Feet)	Sample Interval	Recovery	PID (ppm)	SAMPLE	USCS		DESCRIPTION		DEPTH (Feet)
0 5	HAND AUGER / AIR KNIFE				CL	CLAY w/SAND: 60% clay, 30' sand, fine-grained, sub-angular.	% silt, black (10YR 2/1), dry, stiff, med No hydrocarbon odor.	dium-plasticity. 10%	0
-	Direct Push	100%			ML	SILT: 95% silt, light yellowish bi fine-grained, sub-angular. No hy	rown (2.5Y 6/4), damp, medium-stiff, r drocarbon odor.	non-plastic. 5% sand,	
10 _	Direct Push	100%							10
15	Direct Push	100%			SM	medium-grained, sub-angular, p POORLY GRADED SAND w medium-dense, fine- to medium-	reenish gray (GLEY1 5/5GY), moist, nopoorly graded. 35% silt, non-plastic. odor.  v/SILT: 90% sand, greenish gray (Glagrained, sub-angular to sub-rounded.	Moderate hydrocarbon  16  LEY1 5/5GY), moist,	
	Direct Push	100%			ML SP	sand, fine-grained. Strong hydro POORLY GRADED SAND w	<b>//SILT:</b> 90% sand, greenish gray (Glained, sub-angular to sub-rounded, p	LEY1 5/5GY), wet,	
_					CL	CLAY: 65% clay, 35% silt, light plasticity. Slight hydrocarbon odd	yellowish brown (2.5Y 6/4), moist, me or.	edium-stiff, medium-	
25						0.020-inch machin Bento #2/12 sar Bentonite	ucted using 2-inch diameter SCH 40 F e slotted PVC screen placed from 17. nite backfill placed from 21.5' to 23' nd filter pack placed from 16.5' to 21.5 transition seal placed from 13.5' to 16 ement grout placed from 2' to 13.5'	.5' to 20.5'	25 

*The free	Adobe Re	ader may	be used to view	and complete	this form. H	owever,	software m	ust be purchas	ed to compl	ete, save,	, and reus	e a saved	form.	
File Orig	jinal with [	OWR			107		ate of Cali		, [		DV	VR Use O	nly – Do	Not Fill In
Page 1		of 1			We		mpleti to Instruction	on Repo	ort					
Owner's	Well Num	nber <u>IW</u>	<i>l</i> -5			No.	e03081	60			Sta	te vveli Nu	Imber/S	ite Number W
			2015				/2015				Latitude			Longitude
			meda County 0813									APN/	TRS/Ot	her
				gic Log							Well	Owner		
	entation		tical O Hor	izontal	OAngle	Specif	fy	Name C	Owens Br	ockway				
		ollow Ste	m Auger		Drilling Flui	d		Mailing A	Address C	ne Mic	hael Ow	ens Wa	ay	
Feet	n from Su to Fe	rtace eet	m Auger  Description	<b>Des</b> cribe material,	<b>cription</b> , grain size, c	olor, etc		City Pe	rrysburg			Sta	ate <u>O</u> F	H <sub>Zip</sub> <u>43551-2999</u>
		F	Please see at	tached ged	ologic log							_ocatio		
									3600 AI					
													-	Alameda
								Latitude	Deg .	Min	Sec	N Longit	ude _	Deq. Min. Sec. Long.
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								Townsh	<sub>ip</sub> <u>2S</u>	Rang	e <u>3W</u>	$\mathbf{M}$	Sect	ion <u>7</u>
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								+						Describe procedures and materials under "GEOLOGIC LOG"
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														Vater Supply
								West				East		Domestic □Public Irrigation □Industrial
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										South				est Well /apor Extraction
								rivers, etc. an	escribe distance d attach a map. curate and com	Use additiona	oads, buildings al paper if nec	s, fences, essary.		Other
									evel and		of Comi	oleted V	Vell	
						0		Depth to	first water					et below surface)
				7		V.	<i>)</i>	Depth to	Static		(Fee	t) Date	Measi	ured 12/15/2015
Total [	Depth of B	oring	23			Feet								12/10/2010
Total [	enth of C	omnlete	ed Well 20.5			Feet		Test Ler	ngth		(Hou	ırs) Tota	l Draw	down(Feet)
Total	30ptil 01 0	ompioto	7d 11011 <u>= 0.10</u>	_ \				*May no	t be repres	entative	of a wel			
Dent	th from	Boreho	le	Cas		Wall	Outside	Screen	Slot Size	Dent	th from	Annu	lar Ma	iterial
Su	rface to Feet	Diamete (Inches	er Type	Mate	ın		Diameter (Inches)	Туре	if Any (Inches)	Su	rface to Feet	Fi	II	Description
1	18	8	Blank	PVC Sch. 40		154	2.375		(ITICITES)	2	14	Cement		
18	21	8	Screen	PVC Sch. 40	0.	154	2.375	Milled Slots	0.020	14	17	Bentonit	е	
										17	22	Filter Pa		#2/12 Sand
		-	- , \	-						22	23	Bentonit	е	
		-												
		Attach	ments						Certificati	on Stat	tement			
7	Geologic					rsigned	d, certify th					the bes	t of my	/ knowledge and belief
			n Diagram		Name	Person, I	Firm or Corpo	ration						
	Geophys Soil/Water		(s) ical Analyses		l ——		Address			City	/		tate _	Zip
	Other				Signed									·
	ditional inforn					C-57 Lice	ensed Water	Well Contractor			Date Sig	gned C	C-57 Lic	cense Number



PROJECT NAME:	Owen's Brockwa	ay Glass Container Facility	LOG OF BORING:	IW-6A
SITE ADDRESS:	3600 Alameda Avenu Oakland, California	e	BOREHOLE DIAM. (in):	8"
DATE STARTED: DATE COMPLETED: DRILLING METHOD:	December 9, 2015 December 9, 2015 8-inch Diameter Hollo	w Stem Augers	DRILLER/COMPANY:  GEOLOGIST/ENGINEER:	Amador Arroyo Cascade Drilling, L.P. C-57 #938110 B. Whalen, P.G. #9009 Sierra West Consultants, Inc.
O DEPTH (Feet)  WIFE Sample Interval Blow Counts PID (ppm)	SAMPLE NUMBER USCS SYMBOL		DESCRIPTION  prown (10YR 3/3), dry, medium-stiff, r	non-plastic. 15% sand,
0	CL	hydrocarbon odor.  @ 5' to 7' 20% fine- to coarse-gra	ry dark gray (10YR 3/1), damp, stiff, n ained gravels present in soils. sh brown (10YR 5/2), medium-stiff, no	5 
	SP	medium-dense, fine- to medium-g Strong hydrocarbon odor.  SANDY SILT: 70% silt, olive (5 grained, sub-angular, poorly grac Well constru 0.020-inch machi #2/12 si Bentonite	d'SILT: 85% sand, greenish gray (Gl grained, sub-angular, poorly graded. 5Y 4/3), wet, soft, non-plastic. 30% s ded. Strong hydrocarbon odor. licted using 2-inch diameter SCH 40 F ine slotted PVC screen placed from 1 and filter pack placed from 15' to 20' e transition seal plaecd from 12' to 15' cement grout placed from 2' to 12'	and, fine- to medium-  PVC 7' to 20'  19.5'  20  20  20

			ay be	e used to view	and complete	this form.	However,	software m	ust be purchas	sed to compl	ete, save,	and reus	e a saved fo	orm.	
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Page 1		of	1			W		mpleti	on Repo	ort					
Owner's	Well Nur	nber [	W-6	SA .			No.	e03081	64			Sta	te Well Nun	nber/Si	144
	•			)15				/2015				Latitude			Longitude
				eda County									APN/TI	RS/Oth	ner
Permit N	lumber <u>V</u>	VZU15-	-08	13		ate <u>8/2//</u>	15					VA7 . 11		10,01	101
Ori	entation	(A)/c	rtio		gic Log	OAngle	Speci	5.		D D.	1		Owner		
				aı O Hoi Auger		Drilling F	-	У		Owens Br					
	from Su				Des	cription	<u> </u>		_	Address C					I - 42551 2000
Feet	to F		Б.		cribe material				City PE	errysburg			Stat	е <u>О</u> Г	<u> 1 Zip 43551-2999</u>
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									Townsh	ip <u>2S</u>	Range	e <u>3W</u>		Secti	ion <u>7</u>
											ion Ske				Activity
									(Sketch	must be drawr	by hand af North	ter form is	printed.)		lew Well
													4.4		odification/Repair Deepen
															Other
									+					O D	Destroy Describe procedures and materials under "GEOLOGIC LOG"
															Planned Uses
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Total	Depth of E	oring		22	_	$-\times$	Feet								ured 12/15/2015
				23	-		_								down(Feet)
Total D	Depth of C	comple	ted \	Well <u>20.5</u>	$\rightarrow$	$\rightarrow$	_ Feet			t be repres					
					Cas	ings							Annula	ır Ma	terial
Su	h from	Boreh Diame	eter	Туре	Mate	rial .		Outside Diameter	Screen Type	Slot Size if Any	Sur	h from face	Fill		Description
1	to Feet 18	(Inche	es)	Blank	PVC Sch. 40	)	(Inches) 0.154	(Inches) 2.375		(Inches)	2 Feet	to Feet 14	Cement		
18	21	8		Screen	PVC Sch. 4		0.154	2.375	Milled Slots	0.020	14	17	Bentonite		
			P								17	22	Filter Pack	<	#2/12 Sand
											22	23	Bentonite		
		Attac	hm	onte						Certificati	on Stat	omont			
7	Geologic		11111	CIII3		I, the un	dersigned	I, certify th					o the best	of mv	knowledge and belief
	Well Con		on D	iagram		Name _		Firm or Corpo	•						
	Geophys								nauUII				CA		
	Soil/Wate Other			al Analyses		Signed		Address			City		Sta	te	Zip
	ditional inforr						C-57 Lice	ensed Water	Well Contractor			Date Sig	gned C-	57 Lic	cense Number



PROJECT	NAN	ЛE:		Owen's	Brockwa	y Glass Container Facility	LOG OF BORING:	IW	/-6B	
SITE ADD	RES	S:		3600 Alame Oakland, C		•	BOREHOLE DIAM. (in):	8"		
DATE STA DATE CO DRILLING	MPLI	ETED:		December 9 December 9 8-inch Diam	9, 2015	v Stem Augers	DRILLER/COMPANY:  GEOLOGIST/ENGINEER:	Amador Arroyo Cascade Drilling, L.P. C B. Whalen, P.G. #9009 Sierra West Consultants		10
DEPTH (Feet)	Sample Interval	Blow Counts	PID (ppm)	SAMPLE	USCS		DESCRIPTION			DEPTH (Feet)
0	HAND AUGER / AIR KNIFE				CL	fine-grained, sub-rounded, poorly  CLAY w/SAND: 85% clay, ver hydrocarbon odor.  @ 5' to 7' 20% fine- to coarse-gra	y dark gray (10YR 3/1), damp, stiff, n ined gravels present in soils. h brown (10YR 5/2), medium-stiff, no	3.5' nedium-plasticity. No		0
					SP	medium-dense, fine- to medium-g Strong hydrocarbon odor.  SANDY SILT: 70% silt, olive (8 grained, sub-angular, poorly grad	/SILT: 85% sand, greenish gray (Gigrained, sub-angular, poorly graded.  5Y 4/3), wet, soft, non-plastic. 30% sided. Strong hydrocarbon odor.  95% sand, dark greenish gray (GLEY gular, poorly graded. 5% silt, non-plas	15% silt, non-plastic.  19.5' and, fine- to medium-  23' (1 4/10Y), wet, loose,		20
25						odor.  27' - Increasing silt/clay content.  Well constru 0.020-inch mach  #2/12 si	uiar, poorly graded. 5% slit, non-plass of the control of the cont	28' PVC 24' to 27'		25

*The free	Adobe Re	ader may	be used to view	and complete	e this form. I	However,	software m	ust be purchas	sed to compl	ete, save,	and reuse	e a saved	form.	
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Page 1		of 1			We		mpleti to Instruction	on Repo	ort				L	
			/-6B				e03081				Sta	te Well Nu	ımber/Si	ite Number W
Date Wo	ork Began	12/09/	2015	Date			/2015				Latitude			Longitude
			meda County 0813						— [			APN/	TRS/Oth	her
				gic Log							Well	Owner		
	entation		tical O Hor	izontal	OAngle	Specif	y	Name C	Owens Br	ockway				
		ollow Ste	m Auger		Drilling Flu	ıid		- Mailing	Address C	ne Mic	hael Ow	ens Wa	ıy	
Depth Feet	from Su	rface eet	Describer Description	<b>Des</b> cribe material	<b>cription</b> . grain size. c	color, etc								H <sub>Zip</sub> <u>43551-2999</u>
		F	Please see at	tached ged		,						_ocatio		
								Address	3600 AI	ameda.	Ave			
								City Oa	akland			Co	unty A	Alameda
								Latitude				N Longitu	ude _	W
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-														tion 7
-								Towner		ion Ske			0000	Activity
								(Sketch	must be drawr	by hand a		printed.)		lew Well
										North	1.			Modification/Repair O Deepen O Other
								1 4					OD	Destroy Describe procedures and materials under "GEOLOGIC LOG"
														Planned Uses
														Vater Supply  Domestic
								West				East		Irrigation ☐ Industrial
								Š				ш	ll .	Cathodic Protection
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						-7							<b>⊙</b> s	Sparging
							$\neg$	<i>)</i>		South				est Well
				4				rivers, etc. ar	escribe distance ad attach a map. ccurate and com	Use additiona	pads, buildings al paper if nece	s, fences, essary.		/apor Extraction Other
						_		Water L	evel and	Yield o	of Comp	oleted V	Vell	
					·	0	7		first water	20			(Fee	et below surface)
				1	~	V		Depth to	evel 15		(Fee	t) Date	Meası	ured 12/15/2015
Total [	Depth of B	oring	28			Feet								
Total [	Depth of C	omplete	ed Well 27			- Feet			-		•	,		down(Feet)
			h.					*May no	t be repres	entative	of a well			
Dent	th from	Boreho	ما		ings	Wall	Outside	Screen	Slot Size	Dent	h from	Annul	ar Ma	iterial
Su	rface to Feet	Diamete (Inches	er Type	Mate		<b>hickness</b> (Inches)	Diameter (Inches)		if Any (Inches)	Sui Feet	rface to Feet	Fi	II	Description
1	24	8	Blank	PVC Sch. 40		).154	2.375		0.000	2	20	Cement		
24	27	8	Screen	PVC Sch. 40	0 0	).154	2.375	Milled Slots	0.020	20 23	23 28	Bentonite Filter Pa		#2/12 Sand
-		-/								23	20	i iitei Fat		#2/12 Saliu
			. )"								1			
		Attach	ments						Certificati					
	Geologic					ersigned	l, certify th	at this report	is comple	te and a	ccurate to	the bes	t of my	knowledge and belief
			n Diagram		Name	Person, F	Firm or Corpo	ration						
	Geophys Soil/Water		(s) ical Analyses				Address			City	,		tate _	Zip
	Other				Signed _									·
	ditional inform					C-57 Lice	ensed Water	Well Contractor			Date Sig	gned C	-57 Lic	cense Number



PROJECT NAME:	Owen's Brockwa	y Glass Container Facility	LOG OF BORING:	IW-7
SITE ADDRESS:	3600 Alameda Avenue Oakland, California		BOREHOLE DIAM. (in):	8"
DATE STARTED: DATE COMPLETED: DRILLING METHOD:	December 8, 2015 December 8, 2015 8-inch Diameter Hollow	v Stem Augers	DRILLER/COMPANY:  GEOLOGIST/ENGINEER:	Amador Arroyo Cascade Drilling, L.P. C-57 #938110 B. Whalen, P.G. #9009 Sierra West Consultants, Inc.
Counts   C	SAMPLE NUMBER  AS STANDLE NUMBER  SAMPLE NUMBER  SAMPLE NUMBER  SYMBOL	hard, non-plastic. 30% sand, fine hydrocarbon odor.  POORLY GRADED SAND w moist, medium-dense, fine- to me 15% silt, non-plastic. Strong hyd SILT w/Sand: 80% silt, dark g 20% sand, fine-grained, sub-angular to si fine-grained, with 1/4-inch max g SILT: 60% silt, 30% clay, yellow 10% fine sand. Strong hydrocart Well construction. Well construction with 1/4-inch mach 10.020-inch mach 12/12 s Bentonit	lay, dark greenish gray (GLEY 1 4/GY e- to medium-grained, sub-angular, poorly grarocarbon odor.  reenish gray (GLEY 1 4/10Y), moist, reub-angular, poorly graded. Strong hy greenish gray (GLEY 1 4/10Y), wet, ub-rounded, poorly graded. 30% silt, ravel size. Strong hydrocarbon odor.	7), moist, medium-stiff to porly graded. Strong  ay (GLEY 1 4/5GY), aded, mostly fine sand.  medium-stiff, non-plastic. ydrocarbon odor. medium-dense, fine- to non-plastic. 5% gravel, anstiff, low-plasticity.

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Page 1		of 1			We		mpleti to Instruction	on Repo	ort					
Owner's	Well Nun	nber <u>IV</u>	V-7			No.	e03081	66			Sta	te well Nu	mber/S	ite Number W
			/2015				/2015				Latitude			Longitude
			meda County 0813									APN/	TRS/Oth	her
				gic Log							Well	Owner		
	entation		tical O Hor	izontal	OAngle	Specif	fу	Name C	Owens Br	ockway	Glass (	Containe	r, Inc.	
		ollow Ste	em Auger	D	Drilling Flui	id		Mailing A	Address <u>C</u>	ne Micl	hael Ow	vens Wa	ıy	
Feet	from Su	eet	Desc	cribe material	<b>cription</b> , grain size, c	olor, etc		City Pe	rrysburg			Sta	<sub>ite</sub> <u>O</u> ⊦	<u> 1 Zip 43551-2999</u>
		ı	Please see at	tached ged	ologic log							Locatio		
									3600 AI					
		+											-	Alameda
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								Datum_		Dec. Lat	t. <u></u>		Dec.	Long.
								APN Bo	ok <u>33</u>	Page	e <u>2250</u>		Parc	cel <u>11</u>
								Townsh	ip <u>2S</u>	Rang	e <u>3W</u>		Sect	ion <u>7</u>
								(Skotob	Locat must be drawr	ion Ske		nrinted )		Activity
								(OKEICH	must be drawi	North	iter form is	printed.)	ΟM	New Well Modification/Repair Deepen
														Other Destroy
												$\rightarrow$	_	Describe procedures and materials under "GEOLOGIC LOG"  Planned Uses
													_	Vater Supply
						-4	$\overline{}$							Domestic Public
							<del>_</del>	West				East		Irrigation Industrial
														Cathodic Protection Dewatering
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					ж.	_								kemediation Sparging
				_		_				South			От	est Well
								rivers, etc. ar	escribe distance ad attach a map.	of well from ro Use additiona	pads, buildings al paper if nec	s, fences, essary.		/apor Extraction Other
						-		Water L	evel and	Yield o	of Com	pleted V	Vell	
						$\cap$			first water	18			(Fee	et below surface)
				7		V	7	Depth to	Static evel 14		(Fee	t) Date	Meası	ured 12/15/2015
Total [	Depth of B	oring	21			Feet								
Total [	Depth of C	omplete	ed Well 20			Feet			-		•	,		down(Feet)
		·		0				^May no	t be repres	sentative	of a wel			
Dept	th from	Boreho	ole		ings	Wall	Outside	Screen	Slot Size	Dept	h from	Annul	ar ivia	iteriai
	to Feet	(Inches	s)	Mate	( (	Inches)	Diameter (Inches)	Туре	if Any (Inches)	Feet	to Feet	Fil	·I	Description
17	17 20	8	Blank Screen	PVC Sch. 40 PVC Sch. 40		.154 .154	2.375	Milled Slots	0.020	2 13	13 16	Cement Bentonite		
l''	20	0	COICOIT	7 7 0 0011. 10	9 0	.10-	2.070	Williod Cloto	0.020	16	21	Filter Pag		#2/12 Sand
		_\												
	Coolsei		nments		I the unde	reignos	L cortifu th		Certificati			o the boo	t of m	/ knowledge and belief
	Geologic Well Con		n Diagram		Name				is comple	e and ac	bourale l	o uie bes		n niowieuge and bellet
	Geophys	ical Log	(s)			Person, I	Firm or Corpo	ration					:A_	
			nical Analyses		Signed		Address			City	,		tate	Zip
	Other			C-57 Lice	ensed Water	Well Contractor			Date Sig	gned C	-57 Lic	cense Number		



PROJECT NAME:	Owen's Brockw	ay Glass Container Facility	LOG OF BORING:	IW-8
SITE ADDRESS:	3600 Alameda Avenu Oakland, California		BOREHOLE DIAM. (in):	8"
DATE STARTED: DATE COMPLETED: DRILLING METHOD:	December 8, 2015 December 8, 2015 8-inch Diameter Hollo	w Stem Augers	DRILLER/COMPANY:  GEOLOGIST/ENGINEER:	Amador Arroyo Cascade Drilling, L.P. C-57 #938110 B. Whalen, P.G. #9009 Sierra West Consultants, Inc.
Conuts   C	SAMPLE NUMBER NUMBER SAMPLE SA	medium-grained, sub-angular to shydrocarbon odor.  POORLY GRADED SAND w moist, medium-dense, fine- to me plastic. Strong hydrocarbon odor  GRAVELLY SAND w/SILT:  wet, dense, fine- to coarse-graine gravel size of 3/4-inch. 25% silt,  POORLY GRADED SAND w moist, medium-dense, fine- to me plastic. Strong hydrocarbon odor  SILT: 60% silt, 30% clay, yellow 10% sand, fine-grained. Slight hydrocarbon mach Bento #2/12 s	greenish gray (GLEY1 4/5GY), moist sub-rounded, poorly graded. 30% silt, r/SILT: 85% sand, dark greenish gradium-grained, sub-angular, poorly grade. 45% sand, 30% gravel, dark greenish ed, sub-angular to sub-rounded, poorly non-plastic. Strong hydrocarbon odor r/SILT: 85% sand, dark greenish gradium-grained, sub-angular, poorly gradedium-grained, sub-angular, poorly grade.	, medium-dense, fine- to non-plastic. Strong  y (GLEY1 4/10Y), ided. 15% silt, non-gray (GLEY1 4/10Y), y graded, with max  y (GLEY1 4/10Y), ided. 15% silt, non-gray (

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Page 1		of 1			We		mpleti to Instruction	on Repo	ort					
Owner's	Well Num	nber <u>IW</u>	/-8			No.	e03081	68			Sta	le vveii Nu	Imber/S	ite Number W
			2015				3/2015				Latitude			Longitude
			meda County 1813									APN/	TRS/Ot	her
				gic Log							Well	Owner		
	entation		ical O Hor	izontal	OAngle	Specif	fy	Name C	Owens Bro	ockway				
		ollow Ster	m Auger		Drilling Flu	id		- Mailing	Address C	ne Mic	hael Ow	ens Wa	ay	
Feet	to Fe	rtace eet	Describer Description	Des cribe material	<b>cription</b> , grain size, c	olor, etc		City Pe	rrysburg			Sta	ate <u>O</u> F	<u> 1 <sub>Zip</sub> 43551-2999</u>
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									3600 Al					
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								Townsh	ip <u>2S</u>	Rang	e <u>3W</u>	$\mathbf{M}$	Sect	ion <u>7</u>
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														Planned Uses
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								rivers, etc. ar	escribe distance of attach a map.	Use additiona				Other
						-			_evel and	•	of Comi	oleted V	Vell	
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Total F	Depth of B	orina	21	_		Feet								area <u>12/10/2015</u>
			d Well 22.5	- T		- Feet								down(Feet)
Total L	реритог С	ompiete	d vveli <u>22:0</u>		$\mathcal{L}^{\mathcal{L}}$	. 1 661		*May no	t be repres	entative	of a wel	i's long te	erm yie	ld.
Dont	h from	Borehol	lo.	Cas	ings	Wall	Outoido	Caroon	Clot Cizo	Dont	h from	Annul	lar Ma	terial
Su	h from rface	Diamete	er Type	Mate	Ir		Outside Diameter	Screen Type	Slot Size if Any	Su	th from	Fi	II	Description
Feet 1	to Feet	(Inches	Blank	PVC Sch. 40		Inches) .154	(Inches) 2.375		(Inches)	Peet 2	to Feet	Cement		
18	21	8	Screen	PVC Sch. 40		.154	2.375	Milled Slots	0.020	14	17	Bentonit	е	
										17	22	Filter Pa		#2/12 Sand
	-									22	23	Bentonit	e	
	+	-								-				
	1	Attach	monte	<u> </u>					Certificati	ion Stat	toment			
7	Geologic		11101110		I, the unde	ersigned	d, certify th					the bes	t of my	knowledge and belief
	Well Con	struction	Diagram		Name		Firm or Corpo		•					
	Geophys												<u> </u>	
			ical Analyses		Signed		Address			City	y	S	tate	Zip
	Other Signed							Well Contractor			Date Sig	gned C	C-57 Lic	cense Number



PROJECT NAME:	Owen's Brockwa	ay Glass Container Facility	LOG OF BORING:	IW-9	
SITE ADDRESS:	3600 Alameda Avenu Oakland, California		BOREHOLE DIAM. (in):	8"	
DATE STARTED: DATE COMPLETED: DRILLING METHOD:	December 7, 2015 December 7, 2015 8-inch Diameter Hollo	w Stem Augers	DRILLER/COMPANY:  GEOLOGIST/ENGINEER:	Amador Arroyo Cascade Drilling, L.P. C-57 B. Whalen, P.G. #9009	7 #938110
				Sierra West Consultants, Ir	IC.
DEPTH (Feet) Sample Interval Blow Counts PID (ppm)	SAMPLE NUMBER USCS SYMBOL		DESCRIPTION		DEPTH (Feet)
0   14		1' CONCRETE			0
10	MLS	SANDY SILT w/GRAVEL: 50 30% sand, 20% gravel, fine- to co	0% silt, dark gray (10YR 4/1), moist, noarse-grained, sub-angular to sub-round between 5' and 15' bgs.	nded, poorly graded.	5
15 _   15   17   19   5   10   10   11   14   18   17   19   21   9   10   15        20	ML SW	low-plasticity. 20% sand, fine- to  WELL GRADED SAND: 90%  dense, fine- to medium-grained, shydrocarbon odor.  Coarse grained sands from 18' to  Fine- to medium-grained sands fr  SILT w/SAND: 55% silt, 30% of plasticity. 15% sand, fine-grained  Well construction.  Well construction.  Benton  #2/12 sar  Bentonite to		ate hydrocarbon odor.  5GY), moist, medium- on-plastic. Moderate  21.5' st, medium-stiff, low- dor.  22.5' by C 5' to 20.5'	

*The free	Adobe Re	ader may	be used to view	and complete	this form. H	lowever,	software m	ust be purchas	sed to compl	ete, save,	, and reus	e a saved	form.	
File Orig	inal with [	OWR			107		ate of Cali		, [		DV	VR Use O	nly – Do	Not Fill In
Page 1		of 1			We		mpleti to Instruction	on Repo	ort					
Owner's	Well Num	nber <u>IW</u>	/-9			No.	e03081	69			Sta	te well Nu	Imber/S	ite Number W
			2015				/2015				Latitude			Longitude
			meda County 0813									APN/	TRS/Otl	her
				gic Log							Well	Owner		
	entation		tical O Hor	izontal	OAngle	Specif	fy	Name C	Owens Br	ockway				
		ollow Ste	m Auger		Drilling Flui	id		- Mailing	Address C	ne Mic	hael Ow	ens Wa	ay	
Feet	to Fe	rtace eet	Describer Description	Des cribe material	<b>cription</b> , grain size, c	olor, etc		City Pe	rrysburg			Sta	ate <u>OF</u>	H <sub>Zip</sub> <u>43551-2999</u>
		F	Please see at	tached ged	ologic log							_ocatio		
									3600 AI					
								1 1 -					-	Alameda
								Latitude	Deg .	Min	Sec	N Longit	ude	Deg Min Sec
								Datum_		Dec. La	t		Dec.	Deq. Min. Sec. Long.
								APN Bo	ok <u>33</u>	Pag	e <u>2250</u>		Parc	el <u>11</u>
								Townsh	ip <u>2S</u>	Rang	e <u>3W</u>		Sect	ion <u>7</u>
								(Olas tala		ion Ske				Activity
								(Skeich	must be drawr	North	iner iorm is	printea.)		lew Well /lodification/Repair
								-11 /				7		O Deepen
								- 1						Other Destroy
												<b>\</b>		Describe procedures and materials under "GEOLOGIC LOG"
														Planned Uses
														Vater Supply
								West				East		Domestic □Public Irrigation □Industrial
								Š				Ш	ll .	Cathodic Protection
							-							Dewatering
					- T	-	_	-11 /						leat Exchange njection
														Monitoring
					X								OR	Remediation
					-									Sparging
										South				est Well /apor Extraction
								rivers, etc. ar	escribe distance ad attach a map. curate and com	Use additiona				Other
									_evel and		of Comi	oleted \	Vell	
						0		Depth to	first water					et below surface)
				7		V.	<i>)</i>	— Depth to	Static		(Fee	t) Date	Maası	ured 12/16/2015
Total D	Depth of B	oring	22.5			Feet								12/10/2010
Total F	enth of C	omnlete	ed Well 21.5			- Feet		Test Ler	ngth		(Hou	ırs) Tota	l Drawo	down(Feet)
Total	70ptil 01 0	ompioto	7d 11011 <u>= 110</u>	_ \		. 1 000		*May no	t be repres	entative	of a wel			
Dent	h from	Boreho	le	Cas		Wall	Outside	Screen	Slot Size	Dent	th from	Annu	lar Ma	iterial
Su	rface to Feet	Diamete (Inches	er Type	Mate	ın		Diameter		if Any	Su	rface to Feet	Fi	II	Description
1	18	8	Blank	PVC Sch. 40		.154	(Inches) 2.375		(Inches)	2	14	Cement		
18	21	8	Screen	PVC Sch. 40		.154	2.375	Milled Slots	0.020	14	17	Bentonit	е	
										17	22	Filter Pa		#2/12 Sand
			- "	-						22	23	Bentonit	е	
	+													
	1	Attach	ments						Certificati	ion Stat	tement	1		
<b>/</b>	Geologic		orno		I, the unde	ersigned	I, certify th					the bes	t of my	knowledge and belief
	Well Con	struction	Diagram		Name		Firm or Corpo							
	Geophys Soil/Water		(s) ical Analyses				Address			City	,		tate	Zip
					Signed								iaic	Σιμ
	Other Signed							Well Contractor			Date Sig	gned C	C-57 Lic	cense Number



PROJECT NAME:	Owen's Brockwa	ay Glass Container Facility	LOG OF BORING:	IW-	10
SITE ADDRESS:	3600 Alameda Avenue Oakland, California		BOREHOLE DIAM. (in):	8"	
DATE COMPLETED:	December 7, 2015 December 7, 2015 8-inch Diameter Hollow	w Stem Augers	DRILLER/COMPANY:  GEOLOGIST/ENGINEER:	Amador Arroyo Cascade Drilling, L.P. C-6 B. Whalen, P.G. #9009	
DATE STARTED:   DATE COMPLETED:	December 7, 2015 December 7, 2015	1' CONCRETE  SANDY SILT w/GRAVEL: 50 30% sand, 20% gravel, fine- to co  No samp  No samp  No samp  No samp  No samp  No samp  I w/SAND: 60% silt, 20% low-plasticity. 20% sand, fine- to  WELL GRADED SAND: 90% dense, fine- to medium-grained, so hydrocarbon odor.  SILT w/SAND: 55% silt, 30% plasticity. 15% sand, fine-grained  Well construit  0.020-inch mach  #2/12 so Bentonite		Cascade Drilling, L.P. C-t B. Whalen, P.G. #9009 Sierra West Consultants,  nedium-stiff, non-plastic. nded, poorly graded.  15'  Y), moist, medium-stiff, ate hydrocarbon odor.  10YGY), moist, medium-on-plastic. Strong  20.5' st, medium-stiff, low-dor.  20.5' to 20'	

*The free	Adobe Re	ader may	be used to view	and complete	this form. H	łowever,	software m	ust be purchas	ed to compl	ete, save,	and reuse	e a saved	form.	
File Orig	inal with [	OWR					ate of Cali		, [		DW	VR Use Or	ıly – Do	Not Fill In
Page 1		of 1			We		mpleti to Instruction	on Repo	ort					
Owner's	Well Nun	nber <u>IV</u>	V-10			No.	e03081	70			Sta	te Well Nu N	mber/Si	ite Number W
Date Wo	ork Began	12/07	/2015	Date			//2015				Latitude			Longitude
			meda County 0813									APN/	TRS/Oth	her
				gic Log							Well	Owner		
	entation		tical O Hor	izontal	OAngle	Specif	fy	Name C	Owens Br	ockway	Glass C	Containe	r, Inc.	
		ollow Ste	m Auger		Drilling Flu	id		Mailing A	Address C	ne Micl	hael Ow	ens Wa	ıy	
Depth Feet	to Fe	rtace eet	Desc	<b>Des</b> cribe material	<b>cription</b> , grain size, c	olor, etc		City Pe	rrysburg			Sta	ite <u>OF</u>	H <sub>Zip</sub> 43551-2999
		F	Please see at	tached ged	ologic log							_ocatio		
								Address	3600 AI	ameda .	Ave			
													-	Nameda
								Latitude		Min	Can	N Longitu	ude _	W Win Coo
	_	+						Datum	Deg.	Dec. Lat	i		Dec.	Dea. Min. Sec. Long.
								APN Bo	ok <u>33</u>	Page	2250		Parc	el 11
														ion <u>7</u>
									Locat	ion Ske	etch			Activity
								(Sketch	must be drawr	by hand at North	fter form is p	printed.)		lew Well
												4 4		Modification/Repair  Deepen
								- 1						Other Destroy
	_							+						Describe procedures and materials under "GEOLOGIC LOG"
													_	Planned Uses
														Vater Supply
								West				East		Domestic □Public Irrigation □Industrial
								_   ×				ш		Cathodic Protection
														Dewatering
					~°.	-	-	- 1						leat Exchange
		-				$\overline{}$	$\overline{}$	-						njection Nonitoring
				_	_	-								Remediation
					7	-	-							Sparging
							_	1		South			_	est Well
								rivers, etc. an	escribe distance d attach a map.	Use additiona	oads, buildings Il paper if nece	s, fences, essary.		/apor Extraction Other
				_		-	$\overline{}$		evel and		of Comp	oleted V	Vell	
		+				0	-		first water	· <u>19</u>			(Fee	et below surface)
				7		V	7	Depth to	Static evel 16		(Fee	t) Date	Meası	ured 12/16/2015
Total D	Depth of B	oring	21			Feet								
Total E	Depth of C	omplete	ed Well 20			Feet			-		,	,		down(Feet)
	_				-			*May no	t be repres	entative	of a well			
Dept	h from	Boreho	ole _		ings	Wall	Outside	Screen	Slot Size	Dept	h from	Annul	ar ivia	iteriai
	rface to Feet	Diamet (Inches		Mate	Ir	nickness Inches)	Diameter (Inches)	Type	if Any (Inches)		rface to Feet	Fil	II.	Description
1	17	8	Blank	PVC Sch. 40		.154	2.375			2	13	Cement		
17	21	8	Screen	PVC Sch. 40	0	.154	2.375	Milled Slots	0.020	13	16	Bentonite		//O/40 O I
	1		7 - X							16	21	Filter Pag	<u>X</u>	#2/12 Sand
	+		- 1											
		Attach	nments						Certificati					
	Geologic					ersigned	d, certify th	at this report	is comple	te and ac	ccurate to	the bes	t of my	knowledge and belief
	Well Con Geophys		n Diagram (s)		Name	Person, I	Firm or Corpo	ration						
							Address			City	,		tate _	Zip
	Soil/Water Chemical Analyses OtherSigned						<b>  </b>				oonoo Numbar			
Attach ad	ditional inforn	nation, if it	exists.			2 01 LIU	oood vvalel	Contractor			Date Ol	yri <del>e</del> u C	-JI LIC	cuse munibel



PROJECT	T NAN	ЛЕ:		Owen's	Brockwa	y Glass Container Facility	LOG OF BORING:	IW-1	1
SITE ADD	DRES	S:		3600 Alame Oakland, C		)	BOREHOLE DIAM. (in):	8"	
DATE ST	ARTE	D:		December	7, 2015		DRILLER/COMPANY:	Amador Arroyo	
ATE CO				December 1			OFOLOGICT/FNOINFFD.	Cascade Drilling, L.P. C-57	#938110
RILLING	∍ IVI⊏ I	HOD		8-Inch Dian	neter Hollov	v Stem Augers	GEOLOGIST/ENGINEER:	B. Whalen, P.G. #9009 Sierra West Consultants, Inc	C.
OEPTH (Feet)	AIR KNIFE Sample Interval	Blow Counts	PID (ppm)	SAMPLE	USCS SYMBOL	1' CONCRETE  SANDY SILT: 80% silt, black ( grained, sub-angular. Moderate	DESCRIPTION  10YR 2/1), moist, medium-stiff, non-phydrocarbon odor.	plastic. 20% sand, fine-	O DEPTH (Feet)
5	HAND AUGER / AIR KNIFE						oles collected between 5' and 15' bgs.	. 15	5 - - - - - -
15	<b>+</b>	12 30 20 11 12 12 7 10 12 11 9 11			ML SP	20% sand, fine- to coarse-grained  POORLY GRADED SAND: dense, fine- to medium-grained, shydrocarbon odor.  SANDY SILT: 70% silt, 10% c	clay, dark gray (10YR 4/1), moist, med, sub-angular. Strong hydrocarbon of 90% sand, dark greenish gray (GLEY sub-rounded, poorly graded. 10% silt lay, yellowish brown (10YR 5/6), mois sub-angular. Moderate hydrocarbon	dium-stiff, low-plasticity. 15.5 codor. (1 4/10Y), moist, medium-t, non-plastic. Strong	15
25						0.020-inch machin #2/12 sar Bentonite t	ucted using 2-inch diameter SCH 40 F e slotted PVC screen placed from 16 nd filter pack placed from 15.5' to 20.9 transition seal placed from 12.5' to 15 ement grout placed from 2' to 12.5'	.5' to 19.5' 5'	

*The free	Adobe Re	ader may	be used to view	and complete	this form. H	lowever,	software m	ust be purchas	sed to compl	ete, save,	and reuse	e a saved	form.	
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Page 1		of 1			We		mpleti to Instruction	on Repo	ort					
Owner's	Well Nun	nber <u>IV</u>	V-11			No.	e03081	80			Sta	te well Nu	mber/S	ite Number W
			/2015				/2015				Latitude			Longitude
			meda County 0813									APN/	TRS/Oth	her
				gic Log							Well	Owner		
	entation		tical O Hor	izontal	OAngle	Specif	fy	Name C	Owens Br	ockway			r, Inc.	
		ollow Ste	m Auger		Drilling Flu	id		- Mailing	Address C	ne Micl	hael Ow	vens Wa	ıy	
Feet	to Fe	rtace eet	Desc	<b>Des</b> cribe material,	<b>cription</b> , grain size, c	olor, etc		City Pe	rrysburg			Sta	ite OF	H <sub>Zip</sub> <u>43551-2999</u>
		I	Please see at	tached ged	ologic log							Locatio		
									3600 AI					
													-	Alameda
								Latitude	——— .	Min	Sec	N Longitu	ude _	Deq. Min. Sec. Long.
								Datum	Deg.	Dec. Lat	t		Dec.	Long.
								APN Bo	ok <u>33</u>	Page	e <u>2250</u>		Parc	cel 11
														ion <u>7</u>
										ion Ske				Activity
								(Sketch	must be drawr	North	tter form is i	printed.)		lew Well /lodification/Repair
								_				4		O Deepen
								- 1						Other Destroy
								+						Describe procedures and materials under "GEOLOGIC LOG"
														Planned Uses
														Vater Supply
								West				East		Domestic □Public Irrigation □Industrial
								_   ×				ш		Cathodic Protection
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		+			~°~	-	$\rightarrow$	-11 /						leat Exchange
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					-									Sparging
										South				est Well /apor Extraction
								rivers, etc. ar	escribe distance ad attach a map. ccurate and com	Use additiona	oads, buildings al paper if nece	s, fences, essary.		Other
						-			_evel and		of Com	pleted V	Vell	
						$ \bigcirc $		Depth to	first water					et below surface)
				1		V.	<i>-</i>	Depth to	Static		(Fee	t) Date	Measi	ured 12/16/2015
Total D	Depth of B	oring	21			Feet								<u> </u>
Total F	Depth of C	omplete	ed Well 19.5			- Feet			-		•	,		down(Feet)
	-		_					*May no	t be repres	entative	of a well			
Dent	h from	Boreho	ole _	Cas		Wall	Outside	Screen	Slot Size	Dept	h from	Annul	ar Ma	iterial
Su	rface to Feet	Diamet (Inches	er Type	Mate	Ir		Diameter (Inches)	Туре	if Any (Inches)	Sui	rface to Feet	Fi	П	Description
1	17	8	Blank	PVC Sch. 40		.154	2.375		(mones)	2	13	Cement		
17	20	8	Screen	PVC Sch. 40	0	.154	2.375	Milled Slots	0.020	13	16	Bentonite	9	
	-									16	21	Filter Pa	ck	#2/12 Sand
		- (		-										
		Attack	nments						Certificati	on Stat	tement			
	Geologic	Log				ersigned	l, certify th					o the bes	t of my	knowledge and belief
			n Diagram		Name	Person, I	Firm or Corpo	ration						
	Geophys Soil/Water		(s) iical Analyses				Address			City	,		tate _	Zip
					Signed									·
	Other Signed							Well Contractor			Date Sig	gned C	-57 Lic	cense Number



PROJECT NAM	E:	Owen's E	Brockwa	y Glass Container Facility	LOG OF BORING:	IW-12	2
SITE ADDRESS	:	3600 Alame Oakland, Ca			BOREHOLE DIAM. (in):	8"	
DATE STARTED DATE COMPLE DRILLING METH	TED:	December 8 December 8 8-inch Diam	3, 2015	v Stem Augers	DRILLER/COMPANY:  GEOLOGIST/ENGINEER:	Amador Arroyo Cascade Drilling, L.P. C-57 B. Whalen, P.G. #9009 Sierra West Consultants, Inc	
	Blow Counts PID (ppm)	SAMPLE NUMBER	USCS SYMBOL		DESCRIPTION tilities / obstructions using a hand aug	ger.	OEPTH (Feet)
10   HAND AUGER / AIR KNIFE	8 11 20 27 20 20 4 10 10 10 12 8 10 15		CL SP	15% sand, fine- to medium-graine  CLAY: 80% clay, 20% silt, yellow Moderate hydrocarbon odor.  POORLY GRADED SAND: 9 dense, fine- to medium-grained, shydrocarbon odor.  CLAY: 80% clay, 20% silt, grayim Moderate hydrocarbon odor.  Well constru 0.020-inch machine Bentonite till	clay, black (10YR 2/1), moist, mediumed, sub-angular. Moderate hydrocarb wish brown (10YR 5/4), wet, mediumed, sand, dark grayish brown (2.5Y dub-angular, poorly graded. 10% silt, sh brown (10YR 5/2), moist, mediumed as lotted using 2-inch diameter SCH 40 Peresoluted PVC screen placed from 17. It to backfill placed from 21.5' to 22.5' dilter pack placed from 13.5' to 16. It is a consistion seal placed from 2' to 13.5' to 16. It is a consistion seal placed from 2' to 13.5'	-stiff, medium-plasticity. 17.5  4/2), wet, medium-non-plastic. Moderate  21.5  -stiff, medium-plasticity. 22.5  -stiff, medium-plasticity. 22.5	15

*The free	Adobe Re	ader may	be used to view	and complete	this form. H	lowever,	software m	ust be purchas	ed to compl	ete, save,	, and reus	e a saved	form.	
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Page 1		of 1			We		mpleti to Instruction	on Repo	ort					
Owner's	Well Nun	nber <u>IW</u>	<i>!</i> -12			No.	e03081	81			Sta	te Well Nu	ımber/S	ite Number W
Date Wo	ork Began	12/08/	2015	Date			3/2015				Latitude			Longitude
			meda County 1813									APN/	TRS/Oth	her
	tarribor <u></u>			gic Log	<u> </u>				_		Well	Owner	,	
	entation		tical O Hor	izontal	OAngle	Specif	fy	Name C	Owens Br	ockway				
		ollow Ster	m Auger		Drilling Flu	id		_ I I	Address C					
Depth Feet	to Fe	rface eet	Desc	<b>Des</b> cribe material	<b>cription</b> . grain size. c	olor, etc								H <sub>Zip</sub> <u>43551-2999</u>
		F	Please see at	tached ged		ĺ						ocatio		
								Address	3600 AI	ameda	Ave			
													-	Alameda
								Latitude		Min	Can	N Longit	ude _	W Nin Coo
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								APN Bo	ok <u>33</u>	Page	e <u>2250</u>		Parc	cel 11
														tion 7
										ion Ske				Activity
								(Sketch	must be drawr	n by hand a North	fter form is	printed.)		lew Well /lodification/Repair
												4		O Deepen
								- 1						Other Destroy
	_							+						Describe procedures and materials under "GEOLOGIC LOG"
														Planned Uses
														Vater Supply_
												st		Domestic □Public Irrigation □Industrial
								West				East		Cathodic Protection
														Dewatering
						_								leat Exchange
						$\rightarrow$	$\overline{}$	4						njection Monitoring
	_			_	_									Remediation
						-							<b>⊙</b> s	Sparging
								10		South				est Well
							_ 7	rivers, etc. an	escribe distance d attach a map.	Use additiona	oads, buildings al paper if nec	s, fences, essary.		/apor Extraction Other
						-			evel and	•	of Comi	oleted V	<u> </u>	
				-			-		first water					et below surface)
				$\overline{}$		€	-	Depth to	Static		/E00	t) Doto		ured <u>12/17/2015</u>
Total F	Depth of B	orina	22.5	_		Feet								ured 12/11/2015
			d Well 20.5			Feet								down(Feet)
Total L	реритог С	ompiete	20:0		$\mathcal{L}^{\mathcal{L}}$	. 1 661		*May no	t be repres	entative	of a wel	i's long te	erm yie	eld.
Dont	h from	Borehol	lo.	Cas	ings	Wall	Outside	Screen	Slot Size	Dont	th from	Annul	ar Ma	iterial
Su	rface	Diamete	er Type	Mate	Ir	nickness	Diameter	Туре	if Any	Su	rface	Fi	Ш	Description
1	to Feet	(Inches	Blank	PVC Sch. 40		Inches) .154	(Inches) 2.375		(Inches)	2	to Feet	Cement		
18	21	8	Screen	PVC Sch. 40		.154	2.375	Milled Slots	0.020	14	17	Bentonit	е	
										17	22	Filter Pa		#2/12 Sand
			- "	-			-	-		22	23	Bentonit	<u>e</u>	
		Attach	ments						Certificati	ion Stat	tement			
7	Geologic		menta		I, the unde	ersigned	d, certify th					the bes	t of my	knowledge and belief
	Well Con	struction	Diagram		Name		Firm or Corpo		-					-
	Geophys									0::	,		CA_	7:
			ical Analyses		Signed		Address			City			tate	Zip
	Other Signed							Well Contractor			Date Sig	gned C	)-57 Lic	cense Number



PROJECT I	NAM	IE:		Owen's I	Brockwa	y Glass Container Facility	LOG OF BORING:	IW-13	
SITE ADDR				3600 Alame	eda Avenue		BOREHOLE DIAM. (in):	8"	
DATE STAF DATE COM DRILLING N	/IPLE	TED:		December 9	9, 2015 9, 2015	w Stem Augers	DRILLER/COMPANY:  GEOLOGIST/ENGINEER:	Amador Arroyo Cascade Drilling, L.P. C-57 #938110 B. Whalen, P.G. #9009 Sierra West Consultants, Inc.	
10	←     HAND AUGER / AIR KNIFE     Sample Interval	11 15 20 9 9 13 9 10 15 15 15 15 15 15 15 15 15 15 15 15 15	(mqq) OIP	SAMPLE NUMBER	nscs SYMBOL	SILT w/SAND: 70% silt, 20% of 10% sand, fine- to medium-graine POORLY GRADED SAND w. moist, loose, fine- to medium-grain Moderate hydrocarbon odor.  ▼ @18' - Soil becomes wet, color grained with the silt of th	clay, very dark gray (10YR 3/1), moised, sub-angular. Slight hydrocarbon of SILT: 85% sand, dark greenish graned, sub-angular, poorly graded. 15% rades to grayish brown (10YR 5/2), slight brown (10YR 5/6), moist, medium like the solution of the solution	ger.  t, soft, low-plasticity.  ay (GLEY1 4/5GY), % silt, non-plastic.  light hydrocarbon odor.  p-VC .5' to 19.5'  25	5

*The free	Adobe Re	ader may	be used to view	and complete	this form. H	owever,	software m	ust be purchas	ed to compl	ete, save,	and reuse	e a saved	form.		
File Orig	inal with [	OWR			State of California Well Completion Report					DWR Use Only – Do Not Fill In					
Page 1		of 1			We		mpleti to Instruction		ort			1			
Owner's	Well Nun	nber <u>IW</u>	<i>'</i> -13			No.	e03081	84			Sta	e well Nu	imber/S	ite Number	
			2015				/2015				Latitude			Longitude	
			meda County 1813					APN/TRS/Other							
				gic Log							Well	Owner			
	entation		ical O Hor	izontal	OAngle	Specif	fу	Name C	Owens Br	ockway	Glass C	Containe	er, Inc.		
		ollow Ster	m Auger	D	Drilling Flui	d		Mailing A	Address <u>C</u>	ne Mic	hael Ow	ens Wa	ay		
Feet	from Su	eet	Desc	cribe material,	<b>cription</b> , grain size, co	olor, etc		City Pe	State OH Zip 43551-2999						
		F	Please see at	tached ged	ologic log							ocatio			
									3600 AI				_		
					City Oakland							•			
	_							Latitude	Deg.	Min.	Sec.	N Longit	ude _	Deg. Min. Sec.	
								Datum_		Dec. Lat	t		Dec.	Dea. Min. Sec. Long.	
								APN Bo	ok <u>33</u>	Page	e <u>2250</u>	$\Box$	Parc	el <u>11</u>	
								Townsh	ip <u>2S</u>	Rang	e <u>3W</u>		Sect	ion <u>7</u>	
								(Skotob	Locat must be drawr	ion Ske		orintod \		Activity	
								(Sketcii	must be drawi	North	iter ioiiii is j	onnieu.)	ΟM	lew Well Modification/Repair O Deepen	
													00	Other Destroy	
												Y	_	Describe procedures and materials under "GEOLOGIC LOG"  Planned Uses	
														Vater Supply	
						-4	$\overline{}$	٠, ١				÷.	☐ Domestic ☐ Public ☐ Irrigation ☐ Industrial		
								West				East	ll .		
														Cathodic Protection Dewatering	
													O Heat Exchange		
					<b>-</b> 4			41 (						njection	
						-								Monitoring Remediation	
	-				_		-							Sparging	
							-	1		South				est Well	
				4			_ `	rivers, etc. ar	escribe distance ad attach a map. ccurate and com	of well from ro Use additiona				/apor Extraction Other	
						_		Water L	evel and	Yield o	of Comp	oleted V	Vell		
						0	7	Depth to	first water	· <u>18</u>			(Fee	et below surface)	
					~			Water L	evel <u>11</u>		(Fee	t) Date	Measu	ured 12/16/2015	
Total D	Depth of B	oring	21			Feet									
Total D	Depth of C	omplete	d Well 19.5			Feet			ngth of be repres		•	,		down(Feet)	
	_		_	Cas	inas			Iviay no	t be repres	Seritative	or a wen	Annul			
	h from	Borehol	IVno	Mate	rial	Wall	Outside	Screen	Slot Size		h from				
	rface to Feet	Diamete (Inches	er ·	mato	ın	ickness nches)	Diameter (Inches)	Type	if Any (Inches)		rface to Feet	Fi	II	Description	
1	17	8	Blank	PVC Sch. 40		154	2.375			2	13	Cement			
17	20	8	Screen	PVC Sch. 40	0.	154	2.375	Milled Slots	0.020	13 16	16 21	Bentonit Filter Pa		#2/12 Sand	
	1									21	21	Bentonit		#2/12 Sano	
			7												
		Attach	ments						Certification Statement						
	Geologic		D:		I, the unde Name	rsigned	l, certify th	nat this report is complete and accurate to the best of my knowledge and belief							
	Well Con Geophys		n Diagram (s)			Person, I	Firm or Corpo	ration					A		
	Soil/Wate	er Chemi	ical Analyses		<u> </u>		Address			City	,		tate	Zip	
Other Signed						C-57 Line	icensed Water Well Contractor  Date Signed  C-57 License Number								
Augul au	ch additional information, if it exists.										عادت حال	,u C	, OI LIC	JOHOU HUITIDUI	



PROJECT NAME	:	Owen's E	Brockwa	y Glass Container Facility	LOG OF BORING:	IW-14	
SITE ADDRESS:		3600 Alame Oakland, Ca			BOREHOLE DIAM. (in):	8"	
DATE STARTED DATE COMPLET DRILLING METH	ED:	December 1	10, 2015 10, 2015	/ Stem Augers	DRILLER/COMPANY:  GEOLOGIST/ENGINEER:	Amador Arroyo Cascade Drilling, L.P. C-57 #938110 B. Whalen, P.G. #9009 Sierra West Consultants, Inc.	
DRILLING ME  O  O  O  O  O  O  O  O  O  O  O  O  O				Upper 5' cleared for subsurface upon No soil samples collected between No soil samples collected between 10% sand, fine-grained, sub-angurance to medium-grained, sub-angurance to medium-grained to m	DESCRIPTION  tilities / obstructions using a hand aug n 0-15 feet bgs.  lar. Slight hydrocarbon odor.  /SILT: 90% sand, brown (10YR 5/3) ular, poorly graded. 10% silt, non-pla yellowish brown (10YR 4/4), moist, n n odor.  cted using 2-inch diameter SCH 40 P te slotted PVC screen placed from 18.	B. Whalen, P.G. #9009 Sierra West Consultants, Inc.  ger.  15  15  15  17  18.5  18.5  19, wet, medium-dense, 1stic. Moderate  21.5  19  22.5  19  22.5  22.5  22.5  22.5  22.5  23  24  25  26  27  27  28  29  20  20  20  20  20  20  20  20  20	DEPTH (Feet)
				Bentonite to	nd filter pack placed from 17.5' to 22.5 ransition seal plaecd from 14.5' to 17. ement grout placed from 2' to 14.5'	5' 	- - - - 30 -

*The free	Adobe Re	ader may	be used to view	and complete	this form. I	However,	software m	ust be purchas	ed to compl	ete, save,	and reuse	e a saved	form.		
File Orig	inal with [	OWR			State of California Well Completion Report					DWR Use Only – Do Not Fill In					
Page 1		of 1			We		mpleti to Instruction		ort						
Owner's	Well Num	nber <u>IW</u>	<i>l</i> -14		_	No.	e03081	85			Sta	le vveii Nu	imber/Si	ite Number W	
			/2015				0/2015				Latitude			Longitude	
			meda County 0813					APN/TRS/Other							
				gic Log							Well	Owner			
	entation		tical O Hor	izontal	OAngle	Specif	fу	Name C	Owens Br	ockway					
		ollow Ste	m Auger		Drilling Flu	uid		- Mailing	Address C	One Michael Owens Way					
Feet	from Su	rtace et	Desc	Des cribe material	<b>cription</b> , grain size, o	color, etc		City Pe	rrysburg			Sta	ate <u>O</u>	H <sub>Zip</sub> <u>43551-2999</u>	
		F	Please see at	tached ged	ologic log							ocatio			
									3600 AI						
						City Oakland Co							-		
								Latitude	Deg .	Min	Sec	N Longit	ude _	Deq. Min. Sec. Long.	
								Datum_		Dec. Lat	i		Dec.	Long.	
								APN Bo	ok <u>33</u>	Page	2250		Parc	el <u>11</u>	
								Townsh	ip <u>2S</u>	Rang	e <u>3W</u>	$\mathbf{M}$	. Sect	ion <u>7</u>	
								(Olas tala		ion Ske				Activity	
								(Sketch	must be drawr	North	iter form is	printed.)		lew Well /lodification/Repair	
											/ .			O Deepen	
								- 1					OD	Other Destroy	
								-						Describe procedures and materials under "GEOLOGIC LOG"	
														Planned Uses	
													○ Water Supply □ Domestic □ Public		
								West				East		Irrigation	
								<u> </u>				ш	ll .	Cathodic Protection	
							-							Dewatering	
					~~	-	_	-11 /					O Heat Exchange O Injection		
						-								Monitoring	
					X								O R	Remediation	
					-	7							<ul><li>Sparging</li></ul>		
									South O Test Well O Vapor Extraction						
						Y		rivers, etc. ar	escribe distance ad attach a map. ccurate and com	Use additiona				Other	
									_evel and		of Com	oleted V	Vell		
						0		Depth to	first water					et below surface)	
				7		V.	<i>)</i>	— Depth to	Static		(Fee	t) Data	Мазсі	ured 12/16/2015	
Total D	Depth of B	oring	22.5			Feet								12/10/2010	
Total F	enth of C	omolete	ed Well 21.5			– Feet		Test Ler	ngth		(Hou	ırs) Total	Drawo	down(Feet)	
Total	70ptil 01 0	ompioto	74 Won <u>= 110</u>	_ \	$\cup$			*May no	t be repres	entative	of a well				
Dent	h from	Boreho	le .		ings	Wall	Outside	Screen	Slot Size	Dent	h from	Annul	ar Ma	iterial	
Su	rface to Feet	Diamet (Inches	er Type	Mate	1.1		Diameter (Inches)		if Any (Inches)	Sui	rface to Feet	Fi	11	Description	
1	19	8	Blank	PVC Sch. 40		).154	2.375		(mones)	2	15	Cement			
19	22	8	Screen	PVC Sch. 40	) C	).154	2.375	Milled Slots	0.020	15	18	Bentonite			
			<del>- X</del>							18	23	Filter Pa	ck	#2/12 Sand	
		-													
		Attach	nments					. (	Certificati	ation Statement					
	Geologic	Log				ersigned	l, certify th					the bes	t of my	knowledge and belief	
			n Diagram		Name	Person, F	irm or Corpo	Corporation							
	Geophys Soil/Wate		(s) iical Analyses				Address			City	,		tate _	Zip	
Other Signed													·		
	attach additional information, if it exists.						ensed Water	Water Well Contractor Date Signed C-57 License Number					cense Number		



PROJECT NAME:	Owen's Brockwa	ay Glass Container Facility	LOG OF BORING:	IW-15
SITE ADDRESS:	3600 Alameda Avenue Oakland, California	<u> </u>	BOREHOLE DIAM. (in):	8"
DATE STARTED: DATE COMPLETED: DRILLING METHOD:	December 9, 2015 December 9, 2015 8-inch Diameter Hollon	w Stem Augers	DRILLER/COMPANY:  GEOLOGIST/ENGINEER:	Amador Arroyo Cascade Drilling, L.P. C-57 #938110 B. Whalen, P.G. #9009
STALELING METHOD.	O-mon Blameter Hollo	w otom rugers	OLOCOGO I/LIVOIIVLLIV.	Sierra West Consultants, Inc.
Company   Counts   Counts	SAMPLE NUMBER    A	SILT w/SAND: 70% silt, 20% of 10% sand, fine- to medium-grained.  POORLY GRADED SAND w. fine- to coarse-grained, sub-angul Moderate hydrocarbon odor.  ▼ @18' - Soil becomes wet, color grained.  SILT: 70% silt, 30% clay, yellow. Slight hydrocarbon odor.  Well constru 0.020-inch machined. Benton #2/12 san Bentonite til	olay, very dark gray (10YR 3/1), moist d, sub-angular. Slight hydrocarbon o <b>/SILT:</b> 85% sand, grayish brown (10 lar to sub-rounded, poorly graded. 15	t, soft, low-plasticity.  The stiff, low-plasticity.  The stiff low-pl

*The free	Adobe Re	ader may	be used to view	and complete	this form. H	owever,	software m	ust be purchas	ed to compl	ete, save,	, and reuse	e a saved	form.		
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Page 1		of 1			We		mpleti to Instruction		ort			. 14/ 111			
Owner's	Well Nun	nber <u>IW</u>	<i>!</i> -15			No.	e03081	87			Sta	te well Ni	umber/S	ite Number W	
			2015				/2015				Latitude			Longitude	
			meda County 1813					APN/TRS/Other							
				gic Log							Well	Owner	•		
	entation		ical O Hor	izontal	OAngle	Specif	fy	Name C	Owens Br	ockway	Glass C	Containe	er, Inc.		
		ollow Ster	m Auger	D	Drilling Flui	d		Mailing A	Address <u>C</u>	One Michael Owens Way					
Feet	from Su	eet	Describer Description	cribe material	<b>cription</b> , grain size, c	olor, etc		City Pe	rrysburg	sburg State OH Zip 43551-2999					
		F	Please see at	tached ged	ologic log							Locatio			
									3600 AI				_		
					City Oakland							•			
	_							Latitude	Deg.	Min.	Sec.	N Longit	ude _	Dea. Min. Sec. Long.	
								Datum_		Dec. La	t		_ Dec.	Long.	
								APN Bo	ok <u>33</u>	Page	e <u>2250</u>	$\Box$	Parc	el <u>11</u>	
								Townsh	ip <u>2S</u>	Rang	e <u>3W</u>		Sect	ion <u>7</u>	
								(Skotob	Locat must be drawr	ion Ske		nrintad )		Activity	
								OKEICH	must be drawi	North	iter ioiiir is j	printed.)	OM	lew Well Modification/Repair O Deepen	
														OtherOestroy Describe procedures and materials under "GEOLOGIC LOG"	
														Planned Uses	
							-						II——	O Water Supply	
						-4	$\overline{}$	-				##		Domestic Public	
							7	West				East		Irrigation Industrial	
														Cathodic Protection Dewatering	
														leat Exchange	
								41 (						njection	
														Monitoring Remediation	
		-			<del>-</del>		-							Sparging	
							-	1		South			O Test Well		
							_ `	rivers, etc. ar	escribe distance ad attach a map. ccurate and com	of well from ro	oads, buildings al paper if nece	s, fences, essary.		/apor Extraction Other	
						_		Water L	evel and	Yield o	of Comp	oleted \	Vell		
					-	0			first water	18			(Fee	et below surface)	
								<ul><li>Depth to Water L</li></ul>	evel <u>13</u>		(Fee	t) Date	Measu	ured 12/16/2015	
Total D	Depth of B	oring	21			Feet									
Total D	Depth of C	omplete	d Well 19.5			Feet			ngth of be repres		•	,		down(Feet)	
				Cas	inge			Iviay IIC	t be repres	entative	or a wen		lar Ma		
	h from	Borehol	IVno	Mate	rial	Wall	Outside	Screen	Slot Size		h from				
	rface to Feet	Diamete (Inches	er ·	Wate	ın	ickness Inches)	Diameter (Inches)	Туре	if Any (Inches)		rface to Feet	F	ill	Description	
1	17	8	Blank	PVC Sch. 40		154	2.375			2	13	Cement			
17	20	8	Screen	PVC Sch. 40	0	154	2.375	Milled Slots	0.020	13 16	16 21	Bentonit Filter Pa		#2/12 Sand	
										21	21	Bentonit		#2/12 Saliu	
			7								<u> </u>				
		Attach	ments						Certification Statement						
	Geologic		D:		I, the unde	ersigned	d, certify th	nat this report is complete and accurate to the best of my knowledge and belief							
	Well Con Geophys		n Diagram (s)			Person, I	Firm or Corpo	ration					CA		
	Soil/Wate	er Chemi	ical Analyses				Address			City	/		tate _	Zip	
Other Signed						C-57 Lice	ensed Water	Well Contractor			Data Si	anod (	2 57 1 :-	cense Number	
Auach add	uitioriai intorn	iation, if it e	EXISIS.			_ J. LIO		0			Date Of	giicu (	וט-ر ∟l(	SCHOE MUHINEI	



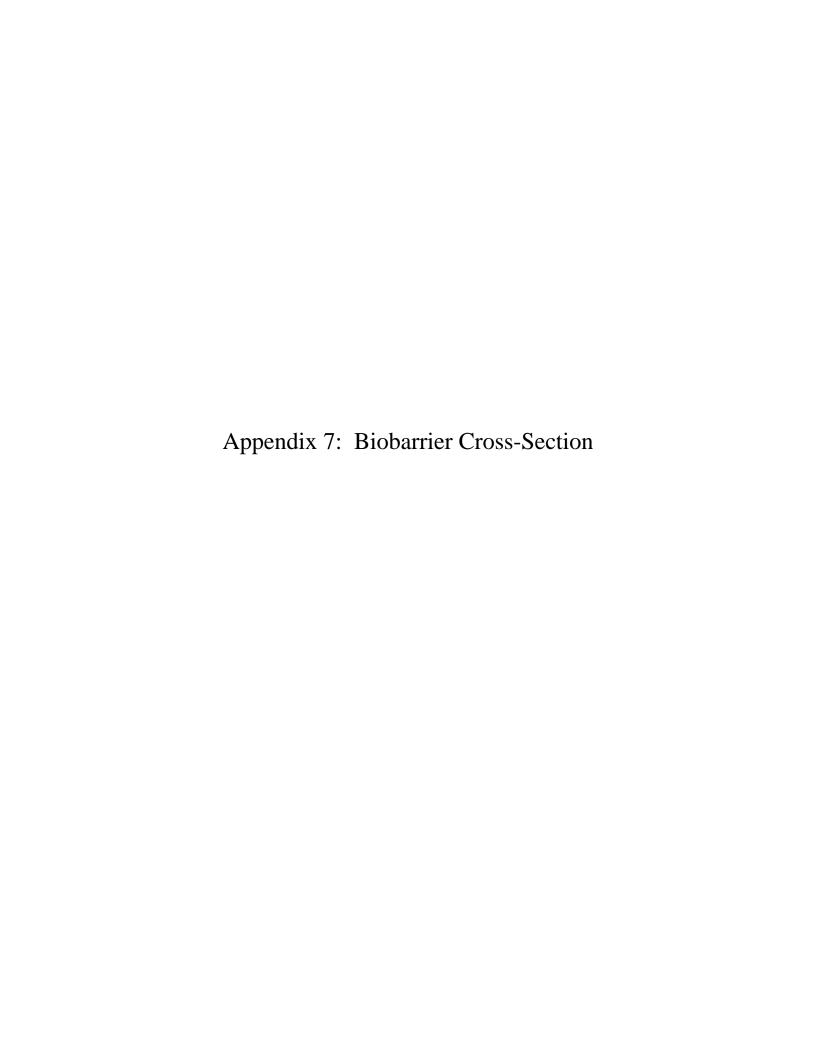
PROJECT NAME: Owen's Brockway Glass Con						y Glass Container Facility	LOG OF BORING:	IV	W-16				
SITE ADD	RES	S:		3600 Alame	eda Avenue		BOREHOLE DIAM. (in):	8"					
	MPLI	ETED		December 9	9, 2015 9, 2015	v Stem Augers	DRILLER/COMPANY:  GEOLOGIST/ENGINEER:	Amador Arroyo Cascade Drilling, L.P. ( B. Whalen, P.G. #9009 Sierra West Consultants	9				
DATE CO	MPLI	METHOD: December 9, 2015 METHOD: 8-inch Diameter Hollow Stem Blow Counts Blow Counts  SAMPLE NUMBER SAMPLE				Upper 5' cleared for subsurface u No soil samples collected betwee  SILT w/SAND: 80% silt, very of fine- to medium-grained, sub-ang  POORLY GRADED SAND w fine- to medium-grained, sub-ang	GEOLOGIST/ENGINEER:  DESCRIPTION  tilities / obstructions using a hand aug	Cascade Drilling, L.P. ( B. Whalen, P.G. #9009 Sierra West Consultants  ger.  15 plasticity. 20% sand,	s, Inc.	0 DEPTH (Feet)			
		9 11 22 9 10 15			CL	slight hydrocarbon odor.  Well constru 0.020-inch mach #2/12 s. Bentonite	ish brown (10YR 5/2), moist, stiff, medicted using 2-inch diameter SCH 40 Pine slotted PVC screen placed from 1 and filter pack placed from 16' to 21' e transition seal plaecd from 2' to 13' cement grout placed from 2' to 13'	PVC 7' to 20'	,	20			

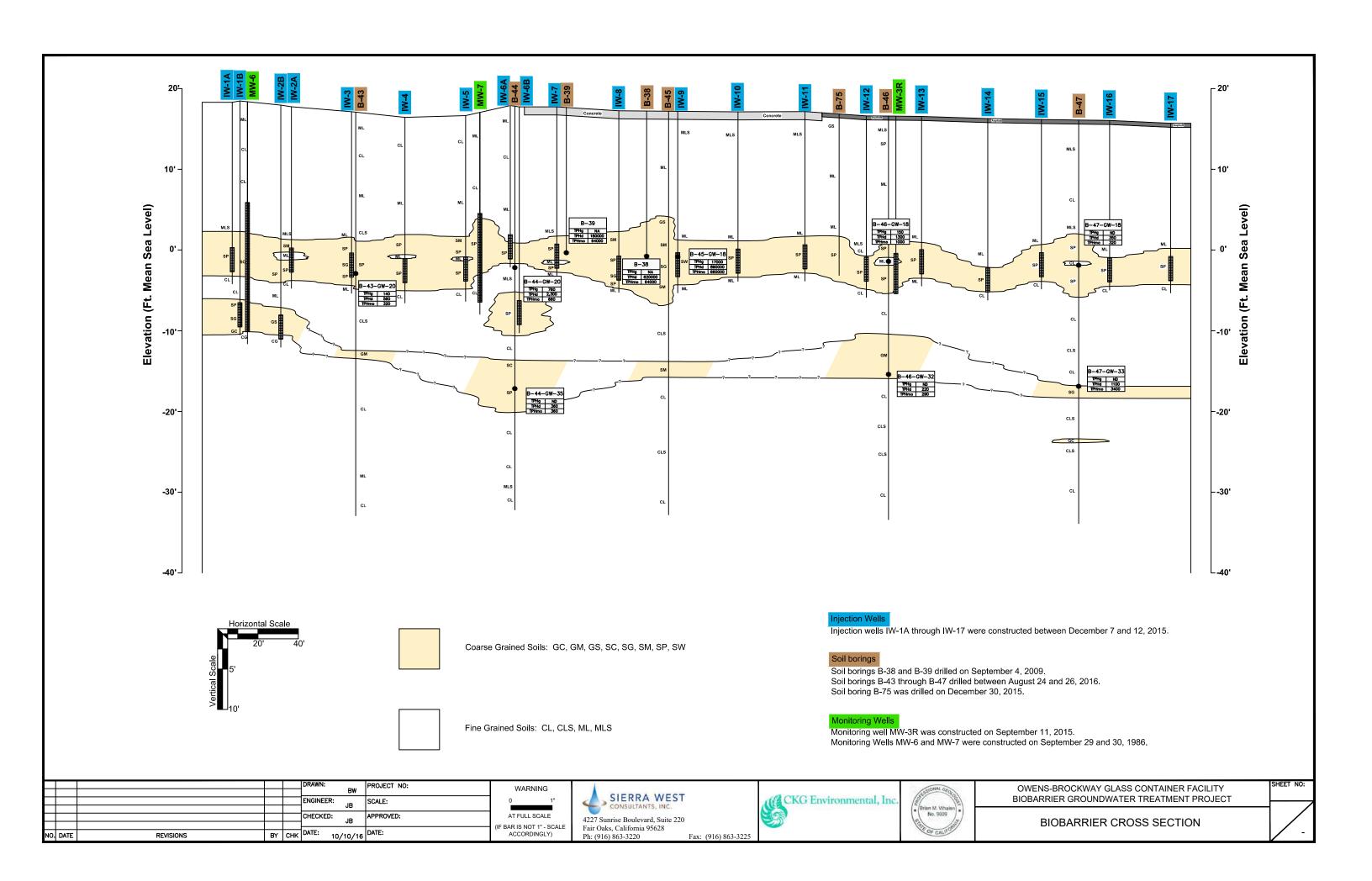
			y be used to vie	lowever,	software m	ust be purchas	ed to comple	ete, save,	and reuse	e a saved f	orm.					
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Page 1		of 1	<u> </u>		We		mpleti to Instruction		ort							
Owner's	Well Num	iber <u>IV</u>	V-16			No.	e03081	88			Stat	e vveii Nui	mber/Si	ite Number		
			/2015				/2015				Latitude			Longitude		
			meda Count 0813						— L			APN/T	ΓRS/Oth	ner		
				ogic Log							Well	Owner				
	entation		rtical O H	orizontal	OAngle	Specif	fу	Name C	Owens Bro	ockway	Glass C	Containe	r, Inc.			
			em Auger		Drilling Flui	id		Mailing A	Address <u>C</u>	ne Mic	hael Ow	ens Wa	У			
	from Su	et	De	bes scribe material	cription , grain size, c	olor, etc		City Pe	rrysburg			Sta	te <u>O</u> H	l <sub>Zip</sub> <u>43551-2999</u>		
			Please see a	ittached ged	ologic log							ocation				
									Address 3600 Alameda Ave  City Oakland County Alameda							
								Latitude	Deg.	Min.	Sec.	N Longitu	ıde <u> </u>	Deg. Min. Sec. Long.		
								Datum_		Dec. Lat	t		Dec.	Long		
														el <u>11</u>		
								Townsh					Secti	ion <u>7</u>		
								(Sketch	Locat must be drawn	ion Ske		orinted.)		Activity lew Well		
										North			ОМ	lodification/Repair		
								-11 /				1 1	5	Deepen Other		
													O Destroy  Describe procedures and materials			
											$\rightarrow$	under "GEOLOGIC LOG"				
														Planned Uses /ater Supply		
						-	-							Domestic Public		
								West				East		Irrigation Industrial		
														athodic Protection		
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					6.0	7					O Injection					
													O Monitoring			
					X.								_	emediation parging		
						_	-(-			041-				est Well		
				-	-	-	-	Illustrate or de	escribe distance	South of well from ro	oads, buildings	, fences,		apor Extraction		
				4					d attach a map. curate and com		al paper if nece	essary.	00	other		
									evel and							
							7	Depth to	first water	19			_ (Fee	et below surface)		
					$ \vee$	V		Water L	evel <u>15</u>					ıred 12/14/2015		
Total D	epth of B	oring	21			Feet					,	,		(5)		
Total D	epth of C	omplete	ed Well <u>20</u>		$\sim$	Feet			ngtn t be repres					down(Feet)		
				Cas	ings				•			Annul				
	n from face	Boreho		Mate	rial	Wall	Outside Diameter	Screen Type	Slot Size if Any		h from rface	Fil	1	Description		
	o Feet	(Inche	s)		(	Inches)	(Inches)	Турс	(Inches)	Feet	to Feet		·	Description		
1 17	17 20	8	Blank Screen	PVC Sch. 40		.154 .154	2.375	Milled Slots	0.020	2 13	13 16	Cement Bentonite				
''	20	0	Ocieen	1 70 301. 4	0.	.134	2.373	Willied Olots	0.020	16	21	Filter Pac		#2/12 Sand		
			1.													
			hments		I thought	areigno	L cortification		Certificati			the best	t of m	knowledge and belief		
	Geologic Well Con		n Diagram		Name				. is complet	e and ac	Jourale IC	uie best	. or illy	MIOWIEUGE AIR DEIRE		
	Geophysi	cal Log	ı(s)			Person, F	Firm or Corpo	<u>CA</u>								
			nical Analyses		Signed		Address	City State Zip								
Other Signed										Date Sig	ned C	-57 Lic	ense Number			



PROJECT	NAN	ЛЕ:		Owen's	Brockwa	y Glass Container Facility	LOG OF BORING:	IW-	17		
SITE ADD	RES	S:		3600 Alame		3	BOREHOLE DIAM. (in):	8"			
DATE STA	MPLI	ETED		December 9	9, 2015 9, 2015	w Stem Augers	DRILLER/COMPANY: GEOLOGIST/ENGINEER:	Amador Arroyo Cascade Drilling, L.P. C-5 B. Whalen, P.G. #9009 Sierra West Consultants, I			
O DEPTH (Feet)	Sample Interval	Blow Counts	PID (ppm)	SAMPLE	USCS SYMBOL	Upper 5' cleared for subsurface u	ger.	O DEPTH (Feet)			
5	→ Hollow Stem Auger HAND AUGER / AIR KNIFE	5 7 13 12 20 20 10 12 15 8 11 15			ML SP	fine- to medium-grained, sub-ang POORLY GRADED SAND w fine- to medium-grained, sub-ang hydrocarbon odor.  CLAY: 80% clay, 20% silt, gray slight hydrocarbon odor.  Well constru 0.020-inch machin  Benton #2/12 sar Bentonite t	dark gray (10YR 3/1), moist, soft, low- ular. Very slight hydrocarbon odor.  /SILT: 85% sand, grayish brown (10 ular, poorly graded. 15% silt, non-platish brown (10YR 5/2), moist, stiff, medicted using 2-inch diameter SCH 40 Pete slotted PVC screen placed from 16. nite backfill placed from 20.5' to 21' and filter pack placed from 15.5' to 20.5 ransition seal placed from 12.5' to 15. ement grout placed from 2' to 12.5'	DYR 5/2), wet, loose, stic. Very slight  20' dium-plasticity. Very  21' PVC 5' to 19.5'	5 5		

*The free	Adobe Re	ader may	be used to view	and complete	this form. H	owever,	software m	ust be purchas	ed to compl	ete, save,	and reuse	e a saved	form.			
File Orig	inal with [	OWR			State of California Well Completion Report					DWR Use Only – Do Not Fill In						
Page 1		of 1			We		mpleti to Instruction		ort							
Owner's	Well Nun	nber <u>IW</u>	/-17			No.	e03081	89			Sta	te vveii Ni	umber/S	ite Number W		
Date Wo	rk Began	12/09/	2015	_ Date			/2015				Latitude			Longitude		
			meda County 0813					APN/TRS/Other								
				gic Log							Well	Owner	•			
	entation		tical O Hor	izontal	OAngle	Specif	fy	Name C	Owens Bro	ockway			ntainer, Inc.			
		ollow Ste	m Auger		Drilling Flui	d		- Mailing	Address C	One Michael Owens Way						
Feet	from Su	rtace eet	Describer Description	<b>Des</b> cribe material,	<b>cription</b> , grain size, c	olor, etc		City Pe	rrysburg			Sta	ate <u>O</u> F	H <sub>Zip</sub> <u>43551-2999</u>		
		F	Please see at	tached ged	ologic log							_ocatio				
									3600 Al							
					City Oakland							•				
								Latitude	Deg -	Min	Sec	N Longit	ude _	Deq. Min. Sec. Long.		
								Datum_		Dec. La	t		_ Dec.	Long.		
								APN Bo	ok <u>33</u>	Page	e <u>2250</u>		Parc	el <u>11</u>		
								Townsh	ip <u>2S</u>	Rang	e <u>3W</u>	$\mathbf{M}$	Sect	ion <u>7</u>		
								(Olas tala		ion Ske				Activity		
								(Skeich	must be drawr	North	iter ionn is j	printea.)		lew Well /lodification/Repair		
											1.	7		O Deepen		
								- 1						Other Destroy		
														Describe procedures and materials under "GEOLOGIC LOG"		
														Planned Uses		
														Vater Supply		
								West				East		Domestic □Public Irrigation □Industrial		
								<u> </u>				Ш		Cathodic Protection		
							-						O Dewatering			
					~~	-	_	-11 /						leat Exchange njection		
														Monitoring		
				_	X								OF	Remediation		
														Sparging		
										South		O Test Well O Vapor Extraction				
								rivers, etc. ar	escribe distance of ad attach a map. curate and com	Use additiona				Other		
						-			_evel and	•	of Com	oleted \	Vell			
						$ \bigcirc $		Depth to	first water					et below surface)		
				1		V.	<i>-</i>	Depth to	Static		(Fee	t) Date	Measi	ured 12/14/2015		
Total D	Depth of B	oring	21			Feet								<u> </u>		
Total F	enth of C	omplete	ed Well 19.5			Feet			-		•	,		down(Feet)		
			<u> </u>					*May no	t be repres	entative	of a well					
Dept	h from	Boreho	le _	Cas		Wall	Outside	Screen	Slot Size	Dept	h from	Annu	lar Ma	iterial		
Su	rface to Feet	Diamete (Inches	er Type	Mate	In		Diameter (Inches)		if Any (Inches)	Su	rface to Feet	F	ill	Description		
1	17	8	Blank	PVC Sch. 40		154	2.375		(mones)	2	13	Cement				
17	20	8	Screen	PVC Sch. 40	0.	154	2.375	Milled Slots	0.020	13	16	Bentonit	te			
										16	21	Filter Pa		#2/12 Sand		
		-		-						21	21	Bentonit	.e			
		Attach	ments					. (	Certification Statement							
	Geologic	Log				rsigned	d, certify th				and accurate to the best of my knowledge and belief					
			n Diagram		Name	Person, I	Firm or Corpo	orporation								
	Geophys Soil/Wate		(s) ical Analyses				Address			City	,		ctate _	Zip		
Other Signed														·		
	Attach additional information, if it exists.						icensed Water Well Contractor Date Signed C-57 License Number					cense Number				







Site Location: 3600 Alameda Avenue

Oakland, California MW-JR Well ID: Casing Volume Calculation: 11.15 Initial Depth to Water: Initial Total Depth: Initial Depth to Product (if present): Casing Volume = (Total Depth - Depth to water) \* 0.16 Casing Volume: Surge over the screened interval for a minimum of 10 minutes Surging: 11:36 11:46 Surging Start Time: Surging End Time: Purging and Development: After removing at least 3 casing volumes by bailing, the remainder of purging/well development may be performed using a submersible pump at a flow rate of ~1 gallon per minute. After removing each casing volume by pumping, measure temperature, pH, conductivity, turbidity, and depth to water. Bailing Use a bailer to remove any accumulated sediment from the bottom of the well casing. Purge at least the first 3 casing volumes using the bailer. After removing each casing volume by balling, measure temperature, pH, conductivity, and turbidity, 11:51 Bailing Start Time: OTW Before Bailing: Casing Volumes Volume Removed Temperature Conductivity Turbidity Removed (gallons) (µS/cm²) (ntu) 12 7999 ч.о ያ‹ወ 10:30 Bailing End Time: DTW After Bailing: TD After Balling: After removing at least 3 casing volumes by bailing, the remainder of purging/well development may be performed using a submersible pump at a flow rate Pumping of ~1 gallon per minute. After removing each casing volume by pumping, measure temperature, pH, conductivity, turbidity, and depth to water. Pumping Start Time: DTW Before Pumping: TD Before Pumping: Casing Volumes Volume Removed Temperature Conductivity Turbidity DTW рΗ Removed (gallons) (ft. below TOC) (µS/cm²) (ntu) 12:12 2.935 18.61 12.29 Pumping End Time: DTW After Pumping: TD After Pumping:

# Well Development Field Form

	Well ID:	MW-ZR	T.	- 4	С	asing Volume =	1.70		
Time	Volume Removed (gallons)	Temperature (C°)	рН	Conductivity (µS/cm²)	Dissolved O <sub>2</sub>	ORP (mV)	Turbidity (ntu)	DTW (ft. below TOC)	TD (ft. below TO)
1230	Took Sample Knowed	lonin						12.4	22.3
12:43	2 gal - Bailing	Free Pro	duer			1.05	7999		
12448	4921	Free Pro	duct				>999		
12:55	5,5	23.2	10.83	1.32	9.98	-30	>999		
13:01	8.5	Free Prod	uct				>999		
13:03	10.5 - Pumping	1=3= 22 2	11,34	2.23	3.3	-104	2999		
13:07	hecalibraring								
1310	22	23.5	10.74	2.94	675	-11	2999	(4)	
1315	32	23.5	11.12	2.78	7.25	62	356		
1321	35	24.0	11,3	2.66	6.22	79	200624		
1324	39	23.4	11.64	2.8	6.57	19	MES 613		
13:29	47	23.1	11.67	2.76	64	-33	607		
13:31	50	23.2	11.6	2.86	6.5	-7	410		IV. Alexander
13133	52 55	229	11.64	2.72	9,07	-39	Wb4 398		
14:00								11.8	23
		The Table				10			
Comments	of tree product for	lor				8			

Signature:

### Well Development Field Form

Site Location:	Owens- Brockway	-

Date: 9/15/15
Personnel:

Well ID: Mw-362

Casing Volume = 1.58

Time	Volume Removed (gallons)	Temperature (C°)	рН	Conductivity (µS/cm <sup>2</sup> )	Dissolved O <sub>2</sub> (mg/L)	ORP (mV)	Turbidity (ntu)	DTW (ft. below TOC)	TD (ft. below TOC)
14:00	Surging Lomin					4		127	22.4
14:10	1 - bailing								
14:12	2 0	23	899	0.005	4.72	112	>999		
14:16	5	22.5	8.79	0.005	4.32	110	>999		
14:21	37	20.2	8.21	1,94	10.24	82	486		
14:29	10	20.1	211	1.01	10.23	97	601		
14:32	Punging @ 25gpm	Texas	Garlo		1000 gr	regen			
14.32	12:5 going day	21.3	8.26		14.87	36	539	702 20,7	22.6
14:40	15.0 Resume jumpies	22:1	5.43	1.54	12.02		340		
14:41	Dru								
14:48	17.8	21,2	6.65	1.99	14,46	39	311		
4:49	Dey								
14:56	20.0	20.8	8058		13.24	32	245		
14:58	22	21.1	6.9		11.03	50	103		
14:59	Pry	725	7-24		4-73	43	137		
9 tons	24	20.5	7.24		4,73	78	137		

15:05 April 24 20.5 7.24 4.73 78 137

15:07 Comments:

Signature:

# Well Development Field Form

Site Location:	Divers-Brockway	1

Personnel: 9-15-15

Well ID: MW-21

Casing Volume = 2.48

Time	Volume Removed (gallons)	Temperature (C°)	рН	Conductivity (µS/cm²)	Dissolved O <sub>2</sub> (mg/L)	ORP (mV)	Turbidity (ntu)	DTW (ft. below TOC)	TD (ft. below TOC)
9135	Ö						1	12.7	27.9
000	sirge lo win								
10.04	1- beiling	2(	6.4	0.009	3.01	257	-10.0		
10:16	2.5 0	20.7	7.77	9.99	2.23	207	0999	7	B F C
10149	5,0	21,8	7.85	1,60	8.79	166	>999		
11:00	7.5 - luming	21.8	7.81	1,63	8.06	166 .	2999		
11:05	18 mg 20.00	207	7,32	1,43	14 13	163	>999	2 15	
1107	22.5	21.2	7.65	1.49	11.27	163	2999		
1110	250	21.2	7.65	1.78	1.20	157	299	1 7	1000
1117	30,0	2015	7.52	1,37	534	175	2500.0		
11121	BB4 32.0/Pry								1
11.26	33,0	21,2	6.65	1.46		792.205	95 839	27.6	
11.51	35,0	20.9	6.47	1.99	9.87	200	204		
11:34	37.0	20.7	1.98	1.88	7.74	192	108		
11:37	39,0-Stol Inou	21.4	6-99	1.86	721	181	48		
11143							7/1	239	29.3

Domments: No Odor after development		
	The second secon	

Signature:		
olyrialure.		

Site Locati	tion: 3600 Alameda Ave Oakland, California		•			Dar	ne: <u>12/14/</u>	15			
Well	Till	14	_			Personel	11: B. Wha	ler			
Casing Volume (	•	nitial Depth to Water:	11.87	<u>.                                </u>		Initial Total Depth	abi: 20.1	·			
	Initial Depth to	Product (if present):		<del>-</del> -	- -	·		<del></del>			
	Casing Volume = (T	Total Depth - Depth to	o water) * 0.16		Casing Volume	<u>132</u>	(gallons)	<u>-</u>			
Sureing:	Surge over the scre Surging Start Time:	reened interval for a n	Maimum of 10 minut	es	Surging End Time:	9:1	0				
Purging and Dev	Purging and Development:  After removing at least 3 casing volumes by bailing, the remainder of purging/wall development may be performed using a submersible pump at a flow rate of ~1 gallon per minute. After removing each casing volume by pumping, measure temperature, pH, conductivity, turbidity, and depth to water.										
Bailing	Use a bailer to remy removing each cast	nove any accumulated sing volume by bailing,	i sediment from the games are temperate	bottom of the well cure, pH, conductivity	asing. Purge at leas , and turbidity.	st the first 3 casing w	volumes using the balle	er. After			
	Bailing Start Time:	9.20		DTW Before Bailing:	10 00	<u>uh5/cn³</u>	TD Before Bailing;	20-1			
	Time	Casing Volumes Removed	Volume Removed (gallons)	Temperature (C°)	pH	Conductivity	Turbidity (ntu)				
	9:29	73	753 906	14.96	6.27	1-242	574				
	10:00	36	4.59	16.23	7-19	1.054	499				
	10:05	1 48	6.812	16.47	7.22	1.028	564				
	Bailing End Time:			DTW After Sailing:	13.55	<b>-</b>	TD After Bailing:				
Pumping	After removing at least of ~1 gallon per min	ast 3 casing volumes nute. After removing	by bailing, the remains and casing volume	inder of purging/well by pumping, measur	development may e temperature, pH,	be performed using conductivity, turbid	g a submersible pump a lity, and depth to water	at a flow rate			
	Pumping Start Time:	N/A	. סדי	'W Before Pumping: _	NA	-	TD Before Pumping: _				
Time	Removed to	Volume Removed (gallons)	Temperature (C*)	рН	Conductivity (µS/cm²)	Turbidity (ntu)	DTW (ft. below TOC)				
10.10	370	75.15	1625	7.24	1.011	439		·			
	+	<del></del>		<del></del>							
	+						-				
	† <u> </u>		·								
							L				
	Pumping End Time:		PCT	TW After Pumping:			TD After Pumping:				

Site Location: 3600 Alarmeda Avenue

Oakland, California W-Well ID: Casing Volume Calculation: 12.72 initial Depth to Water: Initial Total Depth: Initial Depth to Product (if present): Casing Volume # (Total Depth - Depth to water) \* 0.16 Casing Volume: Surge over the screened interval for a minimum of 10 minutes Surging: 10:37 Surging Start Time: Surging End Time: Purging and Development: After removing at least 3 casing volumes by bailing, the remainder of purging/well development may be performed using a submersible pump at a flow rate of ~1 gallon per minute. After removing each casing volume by pumping, measure temperature, pH, conductivity, turbidity, and depth to water. Use a bailer to remove any accumulated sediment from the bottom of the well casing. Purge at least the first 3 casing volumes using the baller. After Bailing removing each casing volume by bailing, measure temperature, pH, conductivity, and turbidity. Bailing Start Time: Volume Removed **Casing Volumes** Conductivity Temperature Turbidity Removed (gallons) (C\*) (µS/cm²) (ntu) 11:01 11:08 Bailing End Time: DTW After Bailing: TD After Bailing: After removing at least 3 casing volumes by bailing, the remainder of purging/well development may be performed using a submersible pump at a flow rate Pumping of \*1 gallon per minute. After removing each casing volume by pumping, measure temperature, pH, conductivity, turbidity, and depth to water. Pumping Start Time: (1:29 DTW Before Pumping: TD Before Pumping: 😅 Casing Volumes Volume Removed Temperature Conductivity Turbidity DTW Removed (gallons) (µS/cm<sup>2</sup>) (ntu) (ft. below TOC) TD After Pumping: 27. Pumping End Time: DTW After Pumping:

Site Location: 3600 Alameda Avenue

Oakland, California Well ID: Casing Volume Calculation: Initial Depth to Water: Initial Total Depth: initial Depth to Product (if present): Casing Volume = (Total Depth - Depth to water) \* 0.16 Casing Volume Surging: Surge over the screened interval for a minimum of 10 minutes 1240 Surging Start Time: Surging End Time: Purging and Development: After removing at least 3 casing volumes by bailing, the remainder of purging/well development may be performed using a submersible pump at a flow rate of ~1 gallon per minute. After removing each casing volume by pumping, measure temperature, pH, conductivity, turbidity, and depth to water. Use a bailer to remove any accumulated sediment from the bottom of the well casing. Purge at least the first 3 casing volumes using the bailer. After Bailing. removing each casing volume by bailing, measure temperature, pH, conductivity, and turbidity. Bailing Start Time: DTW Before Bailing: Casing Volumes Volume Removed Conductivity Temperature Turbidity (C\*) Removed (gallons)  $(\mu S/cm^2)$ Pumping After removing at least 3 casing volumes by bailing, the remainder of purging/well development may be performed using a submersible pump at a flow rate of ~1 gallon per minute. After removing each casing volume by pumping, measure temperature, pH, conductivity, turbidity, and depth to water. Pumping Start Time: DTW Before Pumping: TD Before Pumping: Temperature (C°) Casing Volumes Volume Removed Conductivity Turbidity DTW Time pН Removed (gallons) (µS/cm²) (ft. below TOC) Pumping End Time: DTW After Pumping: TD After Pumping:

Site Locatio Well I	n: 3600 Alameda Av Oakland, Californi D: IW					Det: Personel	21	15 hater
Casing Volume C		nitial Depth to V. 1.2		H- 12.7	<u> </u>	Initial Total Depth	28.	7
	initial Depth to	Product (if pre- , :	# <i>IV/A</i>		<del></del>		0.0	•
	Casing Volume = (	Total Depth - De x/	to water) * 0.16		Casing Volume	: <u>₩</u> 6~	2.5 (gallons)	<u>r</u> .
Surging:		<b>—</b>	minimum of 10 minu	ies Bail for	~15 min +			ead before sur
	Surging Start Time	:	6	-	Surging End Time:	7:56	· · · · · · · · · · · · · · · · · · ·	-
Purging and Deve	lopment;	After remova pump at a flo turbidity, and	least 3 casing volume to of ~1 gallon per mi ech to water.	s by bailing, the rem nute. After removin	ainder of purging/w each casing volum	ell development ma e by pumping, meast	y be performed using ure temperature, pH,	a submersible conductivity,
Bailing	Use a baller to ren removing each cas	nove any accumulations sing volume by it is:	ed sediment from the	bottom of the well o	asing. Purge at least, and turbidity.	t the first 3 casing vo	dumes using the baile	er. After
	Bailing Start Time	<u>. €:∞</u>		DTW Before Bailing:	28.6		TD Before Bailing:	12.60
	Time	Casing Volur : : Remove::	Volume Removed (gallons)	Temperature (C*)	pH	Conductivity (µS/cm²)	Turbidity (ntu)	
	8:08		25	13.88	6.56	1.764	>999	
	8:12	2	5.0	14.56	7.13	1.912	>999	
	8:17	3	7.5	14.66	7.25	1.934	>999	
	8:31		10.0	14.81	7.32	1.952	>999	
	Bailing End Time:	<u>8:43</u>	-	DTW After Bailing:	12.95	-	TD After Bailing:	28.4
Pumping	After removing at I of ~1 gallon per mil	east 3 casing or nute. After ron	es by bailing, the remang each casing volume	inder of purging/we by pumping, measu	ll development may re temperature, pH,	be performed using conductivity, turbidi	a submersible pump ty, and depth to wate	at a flow rate er.
Γ	Pumping Start Time:	<del></del> .		W Before Pumping:		TO Before Pumping:		
Time	Casing Volumes Removed	Volume Rein (gallons)	Tomperature (C°)	pН	Conductivity (µS/om²)	Turbidity (ntu)	DTW (fl. below TOC)	
<u>8:25</u>	5	12.5	14.81	7.33	1962	880		
8:28	6		14.85	7.32	1.963	746		
8:32	7	17.5	14.58	7.34	1.963	813	<u>,,,</u>	
8:36	8	20.0	14.77	7.34	1.960	774		
8:40	9	22.5	14.88	7.36	1.957	738		
8:43	10	25,0	14.85	7.37	1.961	705		
	_							
			<u> </u>		· i		<del></del>	
-	<del> </del>		<u> </u>			-		
	<u>.</u>	<u> </u>						
	Pumping End Time:			FW After Pumping:			TD After Pumping:	

Site Location: 3600 Alameda Avenue

Pumping End Time:

Oakland, California Well ID: Casing Volume Calculation: 10.38 19.9 initial Depth to Water: Initial Total Depth: initial Depth to Product (if present): Casing Volume = {Total Depth - Depth to water} \* 0.16 Casing Volume: Surge over the screened interval for a minimum of 10 minutes Surging: Surging Start Time: Surging End Time: Purging and Development: After removing at least 3 casing volumes by bailing, the remainder of purging/well development may be performed using a submersible pump at a flow rate of ~1 gallon per minute. After removing each casing volume by pumping, measure temperature, pH, conductivity, turbidity, and depth to water. Bailing Use a bailer to remove any accumulated sediment from the bottom of the well casing. Purge at least the first 3 casing volumes using the bailer. After removing each casing volume by bailing, measure temperature, pH, conductivity, and turbidity. Balling Start Time: DTW Before Bailing: Casing Volumes Conductivity Volume Removed Temperature Turbidity Removed (gallons) (C\*) (µS/cm²) (ntu) Bailing End Time: DTW After Balling: TD After Bailing: After removing at least 3 casing volumes by bailing, the remainder of purging/well development may be performed using a submersible pump at a flow rate Pumping of "1 gallon per minute. After removing each casing volume by pumping, measure temperature, pH, conductivity, turbidity, and depth to water. DTW Before Pumping: Pumping Start Time: TD Before Pumping: Casing Volumes Volume Removed Conductivity Turbidity DTW Temperature Time (ft. below TQC) (C°)  $(\mu S/cm^2)$ (ntu) Removed (gallons)

DTW After Pumping:

TD After Pumping:

Well II	Oakland, Californi o:		<del></del>			Dati Personel	12 11	hden		
Casing Volume C		nitial Depth to Water:	12.8	યુ	<del></del>	Initial Total Depth	20.			
		Product (if present): Total Depth - Depth t		74	- Casing Volume:	1.2				
Surging:		·			Casing 4Did(tie.		(gallons)			
<del>yavanna</del>	Surging Start Time	eened interval for a m :	ninimum ər 10 minu	tės	Surging End Time:		•	·*		
Purging and Deve			and 3 engine values					<u> </u>		
	pump at a flow rate of ~1 gallon per minute. After removing each casing volume by pumping, measure temperature, pH, conductivity, turbidity, and depth to water.									
Bailing	Use a bailer to rem removing each cas	love any accumulated ing volume by bailing	sediment from the , measure temperate	bottom of the well c ure, pH, conductivity	asing. Purge at least and turbidity.	the first 3 casing vo	dumes using the balle	er. After		
Ç	Bailing Start Time:	<u>1030</u>	•	DTW Before Bailing:	1284		TD Before Bailing:	20.1		
<b>y</b> .	Time	Casing Volumes Removed	Volume Removed (gallons)	Temperature (C°)	рН	Conductivity (µ\$/cm²)	Turbidity (Atu)			
• •	1033		1.5	16.21	7,44	1.836	7999			
	1036	2	3.0	16.25	7.59	1.758	721			
	1039	3	4.5	16.37	7,59	1.528	830			
	1042	4	6.0	16.51	7.54	1.482	868			
	Bailing End Time;			DTW After Bailing:	18.16	•	TD After Bailing:	20.5		
Pumping	After removing at la of ~1 gallon per min	east 3 casing volumes nute. After removing	by bailing, the rema	inder of purging/well by pumping, measur	l development may t	bé performed using	a submersible pump			
								ar		
·	Pumping Start Time:		от 	W Before Pumping:			CO Before Pumping:	· · · · ·		
Time	Casing Volumes Removed	Volume Removed (gallons)	Temperature (C°)	pH	Conductivity (µS/cm²)	Turbidity (nlu)	DTW (fl. below TOC)			
1045	5	7.5	16.51	7.54	1.524	935				
1048	6	9.0	16.62	7.54	1.540	874 751				
1051	7	10.5	16.73	7.51	<u>  {\534  </u>					
1054	8		16.75	7.51	1.511	788				
1057	9	13.5	16.88	7.50	1.497	722				
1100	10	15.0	16.71	7.49	1,532	850				
						·				
-		· ·								
<u> </u>			***							
l	Pumping End Time:		D	TW After Pumping:			TD After Pumping:			

Site Location: 3600 Alameda Avenue Oakland, California

Well ID: I-W-Y

Personell: Youguf K

Casing Volume	Calculation:		<del>-</del>					
ł		nitial Depth to Wate			_	Initial Total Dep	th:_20	
1		o Product (if present						
	casing volume =	(Total Depth - Depth	to water) * 0.16		Casing Votum	e:	{gallon	<u>s)</u>
Surging:		reened interval for a	minimum of 10 mil	nutes				
<u> </u>	Surging Start Time	<u>8:35 </u>	<u> </u>	_	Surging End Tim	« <u>ሄ:ፕ</u>	<u> </u>	_
Purging and Dev	elopment:	After removing at pump at a flow rat turbidity, and depl	x Fourth her 11	nes by bailing, the i	emainder of purging ving each casing volu	z/well development ume by pumping, m	t may be performed u easure temperature,	ising a submersible pH, conductivity,
Bailing	Use a baller to rer removing each ca:	nove any accumulate sing volume by ballin	ed sediment from th	ne bottom of the w	elf casing. Purge at i	east the first 3 casin	ng volumes using the	bailer. After
		\$.55		DTW Before Bailing		_	TD Before Bailing	:_2 <u>0</u>
<u>:</u> :	Time	Casing Volumes Removed	Volume Removed (gallons)	Temperature (C*)	рН	Conductivity (µS/cm²)	Turbidity (nlu)	]
: .	10.00	1	1.5	18.9	4.66	1.69	7999	
· .	[0:6]	1 2	3,	17.9	5,06	1.50	7999	]
	10:11	3	4.5	15.5	498	0.376	<b>&gt;</b> 9%4	
Pumping	Bailing End Time.  After removing at I of ~1 gallon per mi	east 3 casing volume	s by bailing, the ren	DTW After Bailing mainder of purging, ne by pumping, mea	Augli danalan	nay be performed u oH, conductivity, tur	TD After Bailing: using a submersible pr (b)dity, and depth to	Imp at a flow rate water
	Pumping Start Time:		DT	W Before Pumping	ns/on	<u>.</u>	TD Before Pumping:	<u> </u>
Time	Casing Volumes Removed	Volume Removed (gallons)	Temperature (C°)	Нq	Conductivity (µS/cm²)	Turbidity (ntu)	DTW (ft. below TOC)	
ou	<u> </u>	6	17.17	5,6	1.42	7999		
12 4/2	9	7.5	16,95	5.17	1.43	>999	16.3	i
1047	C	9 -	16.35	6.95	1.42	7(000	iGal	
1119	7	10.5	16.87	7,43	1.4	>(oa)	16.4	i
1135	9	13,5	14.75	7.48	1-34	rer	151	
1149	10	15	14,25	7.48 7.77	1.29	14.6	16.35	
1204	11	16.5	17.10		1.31	14,3	16.3	
1217	ĮŁ	18	16.3	6,95	1.30	14.2	16.5	
					_ <del>. \. / ·</del>	<u> </u>	10.,,	
	Pumping End Time:	1217	от	W After Pumping:	16,5	: 4	TD After Pumping:	20

All cossing volumes were collected vin bailing

	Oakland, California	.ia				0010.		<del>/.</del>
Well II	10: <u>IW</u>	<u>- S'</u>	_			Personell:	: <u>B. Wh</u>	alen
Casing Volume C			12.1	<u>IU</u>			20	:1
		Initial Depth to Water: o Product (if present):		14	- ,	(nitia) Total Depth:	<u>20.</u> .	<del>1</del>
ı		o Product (if present): (Total Depth - Depth to	<del></del>	<u></u>		1.3		
					Casing Volume:		(gallons)	<u> </u>
<u>Surging:</u>		reened interval for a m	ainimum of 10 mlnut	(es				
	Surging Start Time:	:		-	Surging End Time:			- -
Purging and Deve	Acoment:	After removing at le pump at a flow rate turbidity, and depth	te of ~1 gallon per mir	es by bailing, the rema Inute. After removing	inder of purging/we each casing volume	ell development may e by pumping, measu	be performed using re temperature, pH,	a submersible conductivity,
Bailing	Use a bailer to rem removing each car	move any accumulated sing volume by bailing.	d sediment from the g, measure temperal	bottom of the well cr ture, pH, conductivity	asing. Purge at least	t the first 3 casing vol	lumes using the balle	ir. After
	Bailing Start Time:	بخسل عياص		DTW Before Bailing:	10 101	_	TD Before Bailing:	20.4
·	Time	Casing Volumes Removed	Volume Removed (gallons)	Temperature (C°)	рН	Conductivity (µS/cm²)	Turbidity (ntu)	-
	952		1.5	15.56	7.29	2.100	7999	1
	955	ğ	3.0	16.67	7.45	1.843	850	l
	958	3	4.5	17.03	7.47	1.593	721	1
	1001	<u> </u>	6.0	17.26	7.48	1.691	833	i
	Bailing End Time:	1018	-	DTW After Bailing:	18.25		TO After Bailing:	20.6
Pumping	After removing at is of ~1 gallon per mi	least 3 casing volumes inute. After removing	s by bailing, the remains the cash cash volume	ainder of purging/well	I development may	be performed using a	a submersible pump	at a flow rate
	₩ <b>=</b> <u>=</u> ,	Aug. Circ.	Sacii Sasing	ру ритрив, поссет	: Temperature, project	conductivity, tursians	y, and depth to wate.	r
	Pumping Start Time:	i	_ DT	TW Before Pumping: _	<del></del>	1	TD Before Pumping: _	
Time	Casing Volumes Removed	Volume Removed (gallons)	Temperature (C°)	PΗ	Conductivity (µS/cm²)	Turbidity (ntu)	OTW (ft. below TOC)	 i
1003	5	7.5	17.15	7.47	1.544	705		
1006	6	9.0	17.33	7.44	1.438	679		
1009	7	10.5	17.27	7.45	1.415	620		
1012		12/0000	17.24	7.47	1.392	662		
1015		B 1000	17.08	7.47	1.370	570		
iais	10	15.0	17.00	7.48	1,358	595		
	<del></del> '		<b></b>			<b>——</b>		
	<del>                                     </del>	-		-		<del></del>	<del></del>	
		<del></del>		<del></del>		<del></del>		
		<u></u>		L				
	Pumping End Time:		r	OTW After Pumping:			TD After Pumping:	

Site Location: 3600 Alameda Avenue

Oakland, California IW-6A Well ID: Casing Volume Calculation: Initial Depth to Water: Initial Total Depth: Initial Depth to Product (If present): Casing Volume ≈ (Total Depth - Depth to water) \* 0.16 Casing Volume: Surge over the screened interval for a minimum of 10 minutes Surging: Surging Start Time: Surging End Time: Purging and Development: After removing at least 3 casing volumes by bailing, the remainder of purging/well development may be performed using a submersible pump at a flow rate of ~1 gallon per minute. After removing each casing volume by pumping, measure temperature, pH, conductivity, turbidity, and depth to water. Use a bailer to remove any accumulated sediment from the bottom of the well casing. Purge at least the first 3 casing volumes using the bailer. After removing each casing volume by bailing, measure temperature, pH, conductivity, and turbidity. 1333 **Bailing Start Time:** DTW Before Bailing: **Casing Volumes** Volume Removed Temperature Conductivity Time Turbidity Removed (gallons) (C°)  $(\mu \$/cm^2)$ (ntu) 133ና Bailing End Time: DTW After Bailing: Pumping After removing at least 3 casing volumes by bailing, the remainder of purging/well development may be performed using a submersible pump at a flow rate of ~1 gallon per minute. After removing each casing volume by pumping, measure temperature, pH, conductivity, turbidity, and depth to water. Pumping Start Time: DTW Before Pumping: TD Before Pumping: Casing Volumes Volume Removed Temperature Conductivity Turbidity DTW Time οН Removed (gallons) (ft. below TOC) (µS/cm²) (ntu) 1343 6 8 9 9 Pumping End Time: DTW After Pumping: TD After Pumping:

Site Location: 3600 Alameda Avenue Oakland, California	Date: 12/15/15									
Well 10:	onell: B. Whalen									
Casing Volume Calculation:  Initial Depth to Water: 14,70 initial Total Depth to Water: 14,70	epth: 26. 7									
Initial Depth to Product (if present):	(gallons)									
Surge over the screened interval for a minimum of 10 minutes										
Surging Start Time: Surging End Time:										
Purging and Development:  After removing at least 3 casing volumes by bailing, the remainder of purging/well development pump at a flow rate of ~1 gallon per minute. After removing each casing volume by pumping, m turbidity, and depth to water.	may be performed using a submersible leasure temperature, pH, conductivity,									
Bailing  Use a bailer to remove any accumulated sediment from the bottom of the well casing. Purge at least the first 3 casin removing each casing volume by bailing, measure temperature, pH, conductivity, and turbidity.	ig volumes using the bailer. After									
Bailing Start Time: 1405 DTW Before Bailing: 14.70	TO Before Beiling: 26.7									
Time Casing Volumes Volume Removed Temperature pH Conductivit (µS/cm²)										
1409 1 2.0 17.15 8.41 3.110	>999									
1413 2 4.0 16.60 8.09 2.909	>999									
1431 4 8.0 16.24 7.77 2.579	<del>'</del>									
Stop to Suge Bailing End Time: 1530 DTW After Bailing: Dry	TD After Bailing: 26.8									
Pumping  After removing at least 3 casing volumes by bailing, the remainder of purging/well development may be performed upon first gallon per minute. After removing each casing volume by pumping, measure temperature, pH, conductivity, turn	sing a submersible pump at a flow rate									
Pumping Start Time: DTW Before Pumping:	TD Before Pumping:									
Time Casing Volumes Volume Removed Temperature (gallons) (C°) PH Conductivity (µS/cm²) (ntu)	DTW (fl. below TOC)									
1530 5 10.0 16.13 7.52 1.846 816	Day									

Site Cocation	on: 3600 Alameda Av Oakland, Californ					Det	·_D/15	/15
. Well	4	1-7				Personel	1 B. h	halen
Casing Volume (		•		<u> </u>	•	· 		<del></del>
Service Conduction	Leictia(RON;		(3,4	<i>1</i> 7	_	Initial Total Depth	. 2 <i>0</i>	. /
	Initial Depth to		N	4	_			- <del> </del>
	Casing Volume = (		,		Casing Volume	1.0	(gallons	1
Surging:	Surge over the sc:			· ·				<u> </u>
	Surging Start Time	(5:5		:	Surging End Time	16:	05	
Purging and Dev	Alonment		-					<u> </u>
Estand and Oca-			. 1-M	s by bailing, the rem rule. After removin	ainder of purging/w g each casing volum	ell development ma e by pumping, meast	y be performed using ure temperature, pH,	a submersible conductivity,
Bailing	Use a bailer to rer		·· <del></del>	<b></b>	<del></del>		<u> </u>	
	removing each cu		ne utr	pottom of the well ourse, pH, conductivity	easing. Purge at leas , and turbidity.	t the first 3 casing vo	lumes using the baik	er, After
	Bailing Start Tim.	16:12		DTW Before Bailing:	14.46	<b>-</b> .	TO Before Bailing:	19.9
	Time	Cosinglols	Sals Romoved	Temperature (C*)	pH	Conductivity (µS/cm²)	Turbidity (ntu)	
	1614		1.0	16.42	7.36	2.038	>999	
	1616	2	2.0	17.35	7.40	2.159	>999	
	1618	3	3.0	17.50	7.42	2.142	7999	
	1621	4	4.0	17.43	7.41	2.236	7999	
	Bailing End Time	1435		DTW After Bailing:	18.10	_	TD After Bailing:	20.1
Pumping	After removing at of ~1 gallon per		· · · · · · · · · · · · · · · · · · ·	inder of purging/we	li development may	be performed using conductivity, turbidit	a submersible pump	at a flow rate
					e temperature, pm,	conductivity, tarbian	ty, and depth to wate	и.
	Pumping Start Time		5 IV	W Before Pumping:		. 1	CD Before Pumping:	· · · · · · · · · · · · · · · · · · ·
Time	Casing Volume: Removed	Sellons Remoted	temperative	pH	Conductivity (µS/cm²)	Turbidity (ntu)	DTW (ft. below TOC)	
1623	5	5.0	17.21 ]	7.40	2.228	920		
	6	6.0	17.38	7.40	2.246	7999		
	7	7.0	17.52	7.40	2.235	821		
	8	8,0	17.48	7.41	2.204	945		
	9	9.0	17.30	7.41	2.197	7999		
	10	10.0	7.30	7.42	3,183	914		
<u> </u>	<u> </u>	1	, :-					
-								
	-	(	1					
					-	<u>.                                      </u>		
	Pumping End Time		ot	₩ After Pumping: _	· · · · · · · · · · · · · · · · · · ·		TD After Pumping: _	

٠.	Cil	Devel	opment	Ciold	Shoo

Site Location: 3600 Alameda Avenu Oakland, California Oate: 12/16	115
Well ID: IW-8 Personell: B. Wha	len
Casing Volume Calculation:	
Initial Total Depth: 20, 6	<u> </u>
Initial Depth to Pr	
Casing Volume ≂ (To! .:C Casing Volume:	
Surging: Surge over the scree: Ominutes	
Surging Start Time: 11:45 Surging End Time: 11:55	
Purging and Development:	submersible
i ; or minute. After removing each casing volume by pumping, measure temperature, pH, o	onductivity,
Bailing Use a bailer to remote the bottom of the well casing. Purge at least the first 3 casing volumes using the bailer removing each casing.	. After
ILEA	ባለ በ
Bailing Start Time: 11:08 DTW Before Bailing: 12:75 TD Before Bailing:	20.2
Time Femperature PH Conductivity Turbidity (LPS/cm²) (ntu)	
1201 1 1.5 18.37 7.77 1.718 >999	
1204 2 3.0 18.30 7.74 1.603 7999	
1207 3 4.5 18.13 7.62 1.582 840	
1210 4 6.0 18.25 7.53 1.572 788	
17:25	04.11
TD After Bailing: 6	
Pumping  After removing at less than remainder of purging/well development may be performed using a submersible pump a of ~1 gallon per minu. Solume by pumping, measure temperature; pH, conductivity, turbidity, and depth to water	a flow rate
Pumping Start Time: DTW Before Pumping: TD Before Pumping:	
Time Casing Volumes Free pH Conductivity Turbidity DTW (µS/cm²) (ntu) (fit. below TOC)	
1213 5 7.5 18.20 7.51 1.586 712	
1216 6 9.0 18.36 7.50 1.587 834	
1219 7 10.5 18.33 7.52 1.589 785	
1221 8 12.0 18.42 7.49 1.594 666	
1223 9 13.5 18.44 7.50 1.616 714	
1225 10 15.0 18.45 7.51 1.612 690	
Pumping End Time: DTW After Pumping; TD After Pumping:	

•	A 1-			
E	Develo	pment	Field	Sheet

Site Locati	on: 3600 Alameda Av Oakland, Californi					Dat	<u>. 12/1</u>	5/15
Well	id: <u>IW</u>	1-9				Persone	11: <u>B. Wha</u>	ilen
Casing Volume	Calculation:	•	15.	72		Initial Total Depth	20.	5
]	Initial Depth to		$\mathcal{N}_{l}$	/A	- -			<del></del>
	Casing Volume = (				Casing Volume	<u> </u>	(gallons	<u>)</u>
Surging:	Surge over the sc	7:2		rutes	. *	7. 2.		
	Surging Start Time	"o	: :=		Surging End Time		·	<u> </u>
Purging and Dev	<u>elopment:</u>		*4 *	nes by bailing, the rem ninute. After removing	ainder of purging/w reach casing volum	rell development ma e by pumping, meas	y be performed using ure temperature, pH	a submersible conductivity,
Balling	Use a bailer to rer removing each ca		¥3	ne bottom of the well cature, pH, conductivity	asing. Purge at leas	st the first 3 casing ve	dumes using the bail	er. After
	Bailing Start Time	7:45		DTW Before Bailing:	13.56	_	TD Before Bailing:	20.5
	Time			d Temperature (C°)	рΗ	Conductivity (µS/cm²)	Turbidity (ntu)	]
	747	l 2	[.7]		6.60	1.594	7999	
	744	2	2.0	6.68	7.04	1.675	940	
	7:50	2	3.0	17.32	7.14	1.659	>999	
	752	٦	4.U	17.60	7.23	1.620	7999	
	Bailing End Time			DTW After Bailing:		_	TD After Bailing:	<del>;</del>
Pumping	After removing at of ~1 gallon per m		in a	mainder of purging/web no by pumping, measur	l development may e temperature, pH,	be performed using conductivity, turbidi	a submersible pump ity, and depth to wat	at a flow rate
_	Pumping Start Time		ı	TW Before Pumping:	18.95	<u>-</u>	TO Before Pumping;	205
Time	Casing Volumes Removed		· =	pН	Conductivity (µS/om²)	Turbidily (ntu)	DTW (ft. below TOC)	
7:54	5	5.0	17.90	7.28	1.631	815		
7:57	6	6.0	18.01	7.31	1.638	929		
7:59	7	7.0	1805	7.34	1.636	>999		·
8101	8	8.0	18.00	7.36	1.642	856		
3/03	of suga	= - wel	1 dy		1 /0 0			
8:20		10.0	16.91	7.43	1.680	7999		
8:24	10	12.0	17-60	7.46 7.46	1.649	746		
1 S 2 1	1 4		(1.60	7.70	1.655	80		
			-	<del>-</del>			,	
	Pumping End Time		-	DTW After Pumping:			TD After Pumping:	

Site Locati	ion: 3600 Alameda Avent Oakland, California					Da	te: 12/16/	<sup>7</sup> 15
Well	T) I	-10				Persone	B. Wh.	ulen
Casing Volume C			1 =-		<u> </u>			
	Init		17/	97	-	initial Total Depti	h: <del></del>	<del></del>
	Casing Volume = (Tot		~~ <i> </i> _	<u> </u>	— Casing Volume		8 0.7gallons)	1
Surging:	Surge over the scree-		i mi <b>nu</b>	ites.	<del></del> _			<u>-</u>
	Surging Start Time:	10:16		_	Surging End Time	<u> 10-2</u>	6	_
Purging and Deve	elopment:		dume or mi	es by bailing, the rem inute. After removing	ainder of purging/w g each casing volum	/ell development ma le by pumping, meas	ay be performed using sure temperature, pH,	a submersible conductivity,
Balling	Use a bailer to remo- removing each casing		on the Perat	bottom of the well of ture, pH, conductivity	asing. Purge at lease, and turbidity.	st the first 9 casing v	olumes using the baile	er. After
	Beiling Start Time:	10:30		DTW Before Bailing:	15.04	_	TD Before Bailing:	20.0
	Time			Temperature (C°)	рН	Conductivity (µS/cm²)	Turbidity (ntu)	
	1037	ļ	1.0	16.88	7.73	2.869	>999	
	1034	5	ã.0 <u>_</u>	17.61	7.71	2.811	>999	
	10.56	3	3.0	17.93	7.92	2.64	>999	
-	1038	Ч	4.0	17.91	7.88	2.610	>999	
	Bailing End Time:	1120		DTW After Bailing:	19.22	<del>-</del>	TD After Bailing:	20.1
Pumping	After removing at less of ~1 gallon per mir .		rema Jome	alnder of purging/well by pumping, measur	il development may re temperature, pH,	be performed using conductivity, turbid	a submersible pump : ity, and depth to wate	at a flow rate
					•		****	
	Pumping Start Time:		יזס	W Before Pumping:		-	TD Bafore Pumping:	
Tîme	Casing Volumes Removed		10	pН	Conductivity (µS/cm²)	Turbidity (ntu)	DTW (ft. below TOC)	
1039		5.0	17.90	7.86	2.587	>999		
1.0	34,40	549e 6.0 7.0						
1109	6	6.0	17.20	7.86	2521	840		
1112			17.30		2.510	756		
1114			17.38	7.84	2.485	731	<u> </u>	
111/			17.50		2.511	790	<u> </u>	
1120	10	10.D	17.56	7.84	<u>2.525</u>	628		
	-						-	
					<u>-</u> .			
L								
	Pumping End Time:		D1	TW After Pumping: _			TD After Pumping: _	

				: Development Fi	ield Sheet			
Site Location	on: 3600 Alameda Av					Dat	e 12/16/	115
#	Oakland, Californi ID:					Personel	0 111	ales
Well		[~] [ -:-					<u></u>	,
Casing Volume (	Calculation:	<del>.</del>		12.30	· ·	initial Total Depth	19.6	
	Initial Depth to			N/A	_	Tribular Levella and pro-	"	<del> </del>
	Casing Volume = (	:		····	Casing Volume	12	(gallons)	<u>-</u>
Surging:	Surge over the scr			inutes			<u> </u>	<del></del>
<u> </u>	Surging Start Tim	8:50	)	_	Surging End Time	<u>9:00</u>	)	_
Purging and Dev	elopment:	•		omes by balling, the rem	ainder of purging/w	vell development ma	y be performed using	a submersible
				minute. After removing	g each casing volum	e by pumping, meas	ure temperature, pH,	conductivity,
Bailing	Use a baller to rer			the bottom of the well o	asing. Purge at leas	st the first 3 casing ve	olumes using the baile	er. After
	removing each ca-	•		emature, pH, conductivity	, and turbidity.		-	
	Bailing Start Time			DTW Before Bailing:	13.50	-	TD Before Bailing:	19.5
	Time			red Temperature (C°)	рН	Conductivity (µS/cm²)	Turbidity (ntu)	
	9:06	1	1.5	16.21	8.05	1.953	7999	
	9:08	2	3.0	17.32	8.29	1.946	>499	
	9-11	3	4.5	17.36	8.34	1.917	>999	
	9:14	L-(	60	17.43	8.23	1.923	918	
		9:46		· <del>- • · · · · · · · · · · · · · · · · · · </del>	W30		1 1, -	10/
	Bailing End Tine .	F 10		DTW After Bailing:	18,20	-	TD After Bailing:	19.6
Pumping	After removing at of ~1 gallon per i			i:mainder of purging/we ime by pumping, measur	il development may re temperature, pH,	be performed using conductivity, turbid	; a submersible pump :	at a flow rate
ē				,,			11 <b>3)</b> = 11= (-2)	
	Pumping Start Time			OTW Before Pumping:	(0000)	-	TD Before Pumping:	
Time	Casing Volume: Removed			<sup>‡</sup> рН	Conductivity (µS/cm²)	Turbidity (ntu)	DTW (fil. below TOC)	
9:17	5	7.5	17.51	8.09	1.913	>999	<del></del>	
9:20	6	9.0	17.51		1.871	842		
	Dry -	5top to	surge			<del></del> 1.		
4.36	7	10.5	16.75		1.722	7999		
9:40	8	12.0	17.50		1.717	865		
9:43	9	13.5	17.45		1.725	712		
9:46	10	15.0	17.61	7.68	1.737	771		
1	1					1		

DTW After Pumping:

TD After Pumping:

Pumping End Thra

Site Locat	ition: 3600 Alameda Ave Oakland, California					Date	· 12/L	7/15
Welt	Tlata					Personel	11. B. W	alen
Casing Volume		nitial Depth to Water	. 13	.80		Initial Total Depth	<u> </u>	7-20.6
ł		Product (if present);	7	<u> </u>	_			
	Casing Volume = (1	Total Depth - Depth 1	io water) * 0.16		Casing Volume	n <u>                                     </u>	(gallons)	-
<u>Surging:</u>		reened interval for a n		tes	Surging End Time	. 9:40	?	
Purging and Dev	velopment:	After removing at le pump at a flow rate turbidity, and depti	(e of ~1 gation per mir	as by bailing, the rem mute. After removing	ainder of purging/w g each casing volum	eli development ma le by pumping, meass	y be performed using ure temperature, pH,	a submersible conductivity,
Bailing	Use a bailer to rem removing each cas	nove any accumulated sing volume by bailing	d sediment from the g, measure temperat	bottom of the well c ture, pH, conductivity	asing. Purge at leas	st the first 3 casing vo	olumes using the baile	r. After
	Bailing Start Time:			DTW Before Bailing:	12 08	_	TD Before Bailing:	20,5
	Time	Casing Volumes Removed	Volume Removed (gallons)	Temperature (C*)	рН	Conductivity (µS/cm²)	Turbidity (ntu)	
I	9:51	l	1,5	15,84	7.62	2.060	854	
	9,52	_ ユ	2.5	17.10	7.68	1.942	7999	ļ
	7:54	3	3,5	17.35	7.67	1.891	7999	
-	4,22	<u> </u>	4.5	1751	_1.65_	16/81	7999	
	Balling End Time:		<u> </u>	DTW After Bailing:		-	TD After Bailing:	•
Pumping	After removing at le of ~1 gallon per min	east 3 casing volumes rute. After removing	; by bailing, the rema ; each casing volume	inder of purging/well by pumping, measur	I development may e temperature, pH,	be performed using conductivity, turbidi	a submersible pump a ty, and depth to water	at a flow rate
							,	
	Pumping Start Time:			W Before Pumping:			TD Before Pumping: _	
Time	Casing Volumes Removed	Volume Removed (gallons)	Temperature (C*)	рН	Conductivity (µS/cm²)	Turbidity (ntu)	DTW (ft. below TOC)	
9:57	S	5.5	17:50	7.63	1.756	>999		
9:59	6	7.0	17:51	7.61	1.739	7999		
10:16	7	8.0	16-36	7.58	1.745	7999		-
10:18	8	9.0	16.75	7.54	1.727	810		
10:33	9	10.0	17.48	7.58	1.614	798		
10.00	10	11.0	1/-76	7.61	1.580	740	]	
<u></u>	†	<del></del>						
	<u> </u>		-			-		
							·····	
	Pumping End Time: _		D'	TW After Pumping:			TD After Pumping:	

Surging: Surge over the screened interest information of 10 minutes	19.5   19.5
Initial Depth to Product : Initial Depth to Prod	9.5-19.5
Initial Depth to Product   N/A    Casing Volume = (Total copic   wester) + 0.16   Casing Volume:   1.5   (gall surging: Surge over the screened interval of 19 minutes)	ons)
Casing Volume = (Total region water) * 0.16 Casing Volume: 1.5 (gall Surging: Surge over the screened into: Infimum of 10 minutes	ons)
and the state of t	
Surging Start Time: 14:54 Surging End Time: 15:04	
Purging and Development:  After the state of purging and Development may be performed upon the state of the state of purging and development may be performed upon the state of the state o	sing a submersible pH, conductivity,
Bailing Use a bailer to remove	bailer. After
Bailing Start Time: 1505 DTW Before Bailing: 12.00 To Before Ball	ing: 19.63
Time Volume Removed Temperature pH Conductivity Turbidity (gallons) (C*) pH (µS/cm²) (ntu)	
1507 1 1.5 16.45 7.93 1.797 2999	$\dashv$
1310 2 3.0 17.03 8.41 1.699 >999	$\dashv$
1513 3 4.5 17.24 8.63 1.578 875	_
1516 4 6.0 17.40 8.60 1.624 >999	7
Balling End Time: DTW After Bailing:   6    0	
Pumping After removing at least the factor of purging/well development may be performed using a submersible purging of ~1 gallon per minut. Set casing volume by pumping, measure temperature, pH, conductivity, turbidity, and depth to the set of a gallon per minut.	mp at a flow rate water.
Pumping Start Time: DTW Before Pumping: TD Before Pumpi	ne: 4
Time Casing Volumes comporature pH Conductivity Turbidity (ft. below TOC	<b>,</b>
1518 5 7.5 17.40 8.70 1.574 832	7
1520 6 9.0 17.42 8.64 1.573 690	
1522 7 10.5 17.42 8.44 1.580 652	
1524 8 12.0 17.55 8.28 1.590 551	7.
1526 9 13.5 17.52 8.20 1.620 492	
1529 10 15.0 17.33 8.09 1.631 411	
	_
Pumping End Time: DTW After Pumping: TD After Pumping	

	on: 3600 Alameda Ave Oakland, California	a				Date	B 2 11	115
Welt (I	10: <u>IW</u> -	<u> 14</u>				Personel	الا الله	aen
Casing Volume Co		niti !!	12.41	<u></u>		Initial Total Depth	25.9	<del>-</del>
	Initial Depth to (	Pr ·	N/A	<u> </u>	-	Mittar (Otal Dept.)	"	
	Casing Volume = (To		7 7 <del>3 3 3 3 3 3 3 3 3 3 3 3 3 3 3 3 3 3</del>		— Casing Volume	:	(gallons)	_
Surgine:	Surge over the scre		n 10 minut	ies		·		
	Surging Start Time:	132	O	-	Surging End Time:	<u> (330</u>		-
Purging and Deve		F n 1 1	tia leg volumer (2008) per min	s by bailing, the rem rute. After removing	ainder of purging/w geach casing volum	ell development ma e by pumping, meas	ay be performed using a sure temperature, pH, o	a submersible conductivity,
Bailing	Use a bailer to remo removing each casin			bottom of the well cure, pH, conductivity,		# the first 3 casing v	rolumes using the bailer	rr, After
·	Bailing Start Time:	-		DTW Before Bailing:	12.12	· <u>-</u>	TD Before Bailing:	199
	Time	la '	e Contoved	Temperature (C*)	Не	Conductivity (µS/cm²)	Turbidity (ntu)	
	1337		1.5	16.51	7.64	2.814	)999	
	1340	[	3.0	15.95	7.84	2.618	>999	
	1343	3	4.3	16.19	7.83	2.831	>999_	
-	[ Sbp	to s	sge_	_ <del>_</del>				l
ن <del>ه</del> د	Bailing End Time:	1436		DTW After Bailing:	19.89	·	TD After Bailing:	21.4
Pumping	After removing at least of ~1 gallon per minu		the remains	inder of purging/we	il development may	be performed using	g a submersible pump a lity, and depth to water	at a flow rate
	-		•	) hamilands were	a temperature of ferry		ity, and depth to water	r.
	Pumping Start Time:	_ ·	DTN	W Before Pumping:		-	TO Before Pumping: _	
Tirne	Casing Volumes Removed	<u> </u>	coate <b>re</b>	рH	Conductivity (µS/cm²)	Turbidity (ntu)	DTW (fl. below TOC)	
1400	4	6.0 7.5	16.46		2.394	>999		
1462	<u> </u>		16.91		2.403	>999		
1405	6	9.0			2.381	7999		
1408	7	10.5		7.75	2,352	916		
431	8	- i3·Ö	16.90	7.65	1.739	631		
1433	9	13.2	16.92	7.65	2023	727		
1436	10	(2,0	16.88	7.67	2.161	770		
						<u> </u>		
	1 1					<u> </u>		
						١.,	1	

Site Location: 3600 Alameda Avenue

Oakland, California Well IO: Casing Volume Calculation: 13,25 Initial Depth to the en-Initial Total Depth: Initial Depth to Product (if  $\rho(m) \leq \epsilon$ Casing Volume = (Total Depth - De; to water) \* 0.16 Casing Volume: (gallons) Surging: Surge over the screened interval. (. ninimum of 10 minutes 15: **'**5~53 Surging Start Time: Surging End Time; Purging and Development: east 3 casing volumes by bailing, the remainder of purging/well development may be performed using a submersible After rem: pump at a : a of Tilgallon per minute. After removing each casing volume by pumping, measure temperature, pH, conductivity, turbidity, ah to water. Bailing Use a bailer to remove any access d sediment from the bottom of the well casing. Purge at least the first 3 casing volumes using the bailer. After removing each casing volume in it g, measure temperature, pH, conductivity, and turbidity. Bailing Start Time: DTW Before Bailing: Casing Vol.: Volume Removed Temperature Conductivity Turbidity Remo-(gallons) (µS/cm²) (ntu) 3.057 Bailing End Time: DTW After Balling: Pumping After removing at least 3 casing a is by trailing, the remainder of purging/wall development may be performed using a submersible pump at a flow rate of ~1 gallon per minute. Afte: a each casing volume by pumping, measure temperature, pH, conductivity, turbidity, and depth to water. Pumping Start Time: DTW Before Pumping: TD Before Pumping: Casing Volumes Volume f Conductivity Temperature (C\*) DTW (ft. below TOC) Turbidity Removed (gal' ....)  $(\mu S/cm^2)$ (ntu) 1602 9 7,69 10.0 10 Pumping End Time: DTW After Pumping: TD After Pumping:

Site Locatio	on: 3600 Alameda Ave Oaklan <u>d,</u> California				-	Date	= 12/14/	1 <u>5</u>	
Welf II		1-16	_			Personel	B. What	en	
Casing Volume Ca		nitial Depth to Water	1540	<del></del>		Initial Total Depth	2/1/()	<del></del>	
,	Initial Depth to	Product (if present):		TA	<del>-</del>	IOICIAL TOTAL COMPANY	:		
Casing Volume ≈ (Total Depth - Depth to water) * 0.16 Casing Volume: 0.7 1.2 (gallons)									
Surging:		م <del>ين م</del> ر ر	minimum of 10 minut	tes				· · · · · · · · · · · · · · · · · · ·	
	Surging Start Time:			-	Surging End Time:		<del></del>		
	Purging and Development:  After removing at least 3 casing volumes by balling, the remainder of purging/well development may be performed using a submersible pump at a flow rate of ~1 gallon per minute. After removing each casing volume by pumping, measure temperature, pH, conductivity, turbidity, and depth to water.								
Bailing	Use a bailer to remove removing each casi	ove any accumulated ing volume by balling	ed sediment from the l	bottom of the well c ure, pH, conductivity	asing. Purge at least	t the first 3 casing vo	olumes using the bailer. After	er	
	Bailing Start Time:	ICUI		DTW Before Bailing:	12/1	<u>-</u>	TD Before Bailing:	<u>0.0</u>	
	Time	Casing Volumes Removed	Volume Removed (gallons)	Temperature (C°)	рН	Conductivity (µ8/cm²)	Turbidity (Rlu)		
1	1550		1.5	15.74	7.87	4.001	216	· · · · · · · · · · · · · · · · · · ·	
	1553	2_	3.0	16.64	7.74	3.394	148		
	1256	<u>  3</u>	4.5	16.77	778	2.967	149		
:	[13 <u>5</u> .[	<u> </u>	6.0	10.68	1.10	1 3 -1dU	126	_	
	Bailing End Time:			DTW After Bailing:	<u> 1750</u>	<u>)</u>	TD After Bailing;	<u> 2.6</u>	
Pumping	After removing at least of ~1 gallon per min	east 3 casing volumes rute. After removing	by bailing, the remain each casing volume	inder of purging/weby pumping, measur	il development may i re temperature, pH,	be performed using conductivity, turbidit	a submersible pump at a flo ty, and <b>de</b> pth to water.	w rate	
Į t	Pumping Start Time:			W Before Pumping:			TO Before Pumping:		
Time	Casing Volumes Removed	Volume Removed (gallons)	Temperature (C*)	рН	Conductivity (µS/cm²)	Turbidity (ntu)	DTW (ft. below TOC)		
1617	5	7.5	15.50	7.72	2.506	132			
1620	6	9.0	16.57	7.70	2.536	140			
1624		10.5	16.58	7.73	2.743	158			
· - · ·									
					·				
,									
, <del> </del>		<del></del>					<u> </u>		
,		···							
	Pumping End Time:	L		TW After Pumping:	L	<u>.</u>	TD After Pumping:		

			Well D	Development Fi	eld Sheet			
Site Location: 3600 Alameda Avenue Oakland, California						Oat	te: 12/1	1/15
Well to:	<b>T.</b> 1	-17	-			Personel	# <u>13.W1</u>	naten
Casing Volume Ca		nitial Depth to Water:	11.2	2		Initial Total Depth	to 19.8	
j		Product (if present):		4	· -	ı il		
		Total Depth - Depth to			Casing Volume:	[, ]	(gallons)	<u>.</u>
Surging:	Surge over the scre Surging Start Time:	eened interval for a m	inimum of 10 minut	tes	Surging End Time:	1448		
Purging and Devek	opment:	After removing at le pump at a flow rate turbidity, and depth	e of ~1 gallon per mir	s by bailing, the remainute. After removing	sinder of purging/wa each casing volume	ell development ma e by pumping, meas	ay be performed using sure temperature, pH,	a submersible conductivity,
Bailing	Use a bailer to remove removing each casi	ove any accumulated ing volume by bailing	I sediment from the , measure temperat	e bottom of the well co ture, pH, conductivity,	asing. Purge at least, and turbidity.	t the first 3 casing ve	volumes using the baile	ır. After
	Bailing Start Time:	1422	• —	DTW Before Bailing:	12.05	-	TD Before Bailing:	19.8
	Time	Casing Volumes Removed	Volume Removed (gallons)	Temperature (C*)	pH	Conductivity (µS/cm²)	Turbidity (ntu)	
	14:56		1.5	16.53	7.78	5644	565	ĺ
Stop at come	14:59	3	30 UC	16.55	7.79	4.965	205	
DINE 11.33	15:25	4	6.0	16.75	7.89	4.470	156_	
· · · · · · · · · · · · · · · · · · ·	Bailing End Time:		<u> </u>	oTW After Bailing:	17.55	<b>-</b>	TD After Bailing:	P28
Pumping	After removing at least of ~1 gallon per min-	ast 3 casing volumes ute. After removing	by balling, the rema each casing volume	inder of purging/well by pumping, measur	development may a temperature, pH,	be performed using conductivity, turbid	g a submersible pump a dity, and depth to wate	at a flow rate ir.
P	Pumping Start Time:		οτ	FW Before Pumping:		-	TD Before Pumping:	
Time	Casing Volumes Removed	Volume Removed {gallons}	Temperature (C°)	рН	Conductivity (µS/cm²)	Turbidity (nlu)	DTW (ft. below TOC)	İ
	<u> </u>							ı
								ı
	-							
		_		<del></del>				ı
					-			
	<u> </u>							
					4		-	
	Pumping End Time:			DTW After Pumping:			TD After Pumping:	

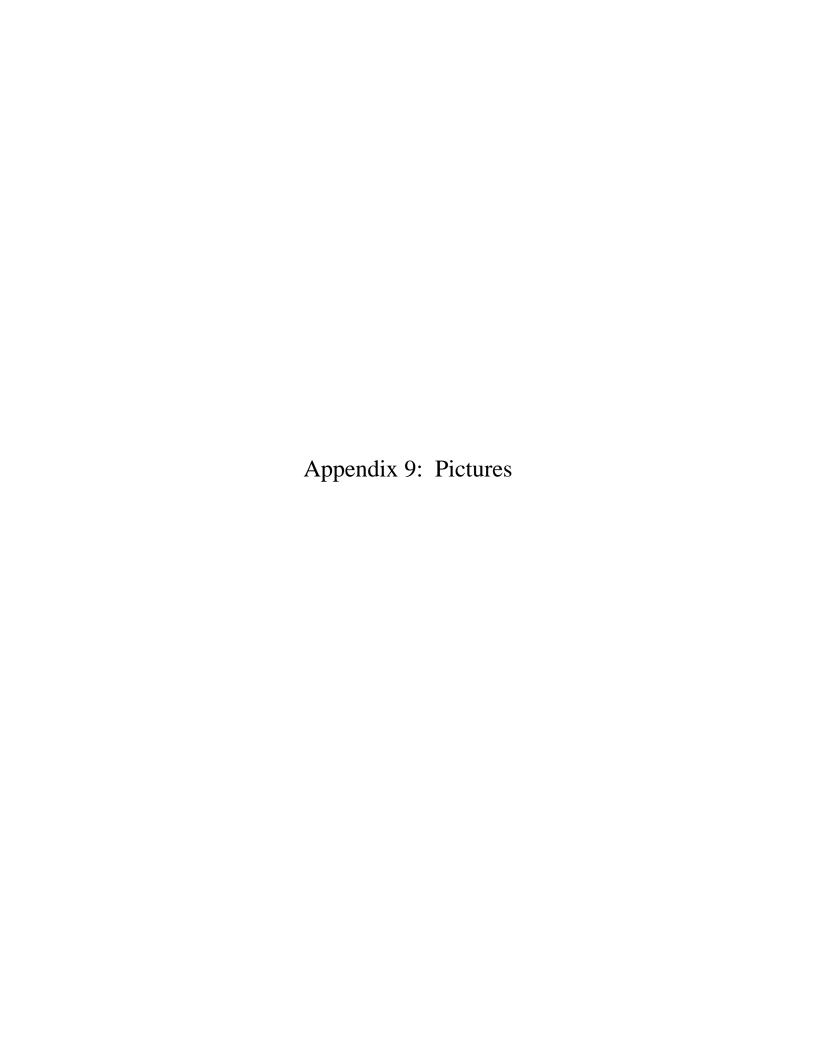




Figure 1: Concrete and Asphalt Area Marked for Sawcutting

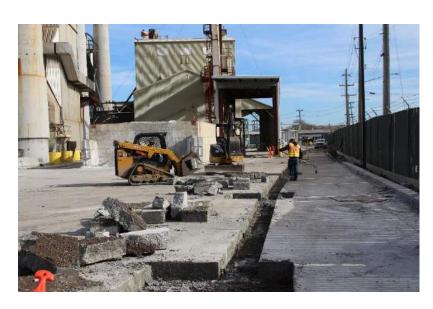


Figure 2: Concrete and Asphalt Area Trenching



Figure 3: Well Vault Placement



Figure 4: Storm Drain Damage



Figure 5: Plugging Storm Drain with Cement



Figure 6: Bolt-Down Steel Plate for Added Protection





Figures 7 and 8: Placing Well Vaults in Landscaped Area



Figure 9: Well Vault Instrumentation

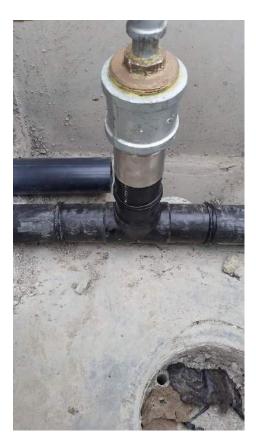


Figure 10: Welded PE Tee with PE to Galvanized Transition Fitting



Figure 11: Cargo Shed Foundation with Ufer Prior to Pouring Concrete Slab



Figure 12: Completed Cargo Shed Foundation



Figure 13: Placing Cargo Shed Onto Concrete Slab Foundation



Figure 14: Cargo Shed Installed with Gravel Landscaping



Figure 15: Backfill and Surface Restoration Completed Inside Property





Figure 16 and 17: Backfill and Landscaping Completed Outside Property

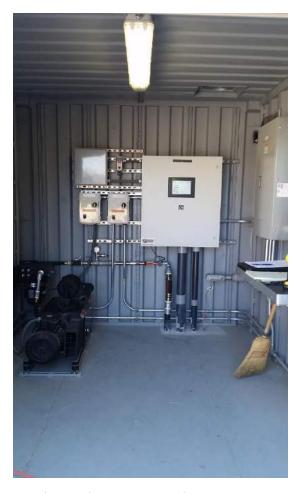
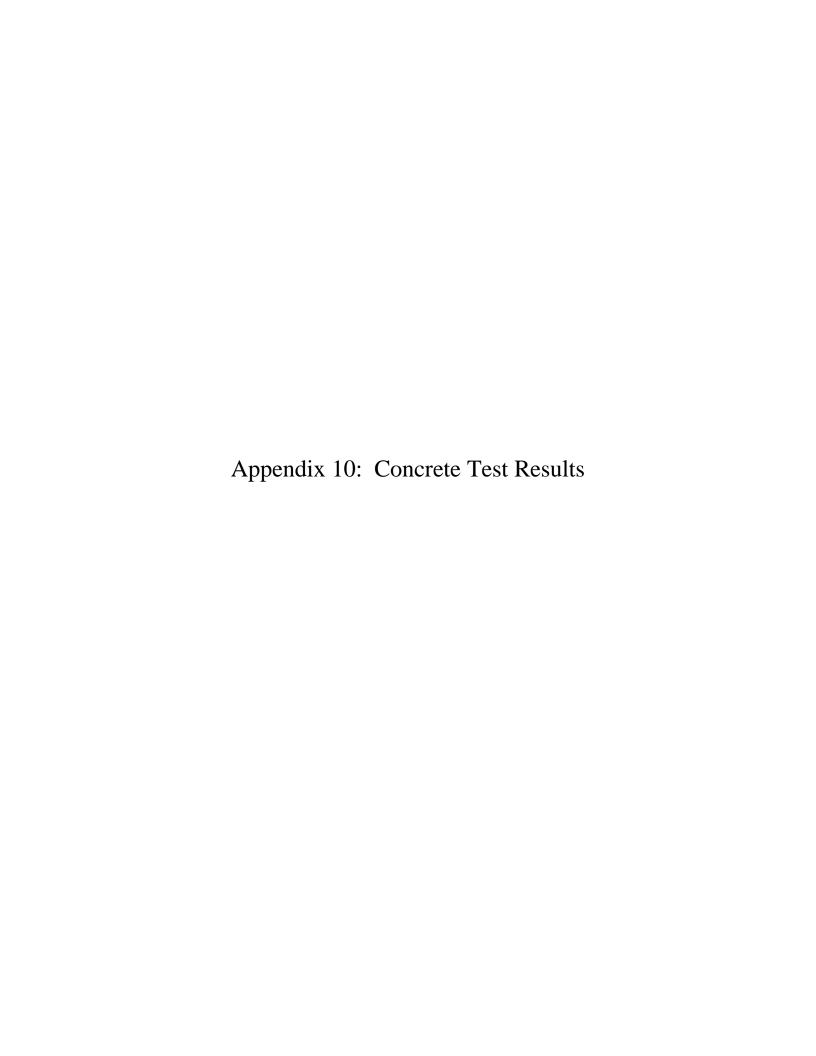


Figure 18: Completed Heat Exchanger Installation





Figure 19 and 20: Heat Exchanger Mounting Position and Connections



# Testing Engineers, Inc.

Quality Assurance Services Materials Consulting Since 1954

### **Regular Concrete Compression Test Report**

Project No.: 62795 Client: CKG000	Sample No. : 253583 / Page 1 of 1		
Project Name:	Report Date : 03/22/16		
3600 Alameda Avenue	Sample Date : 02/23/16		
Owens-Brockway Glass Container	Time Sampled : 1010AM		
Oakland, CA	Date Received: 02/24/16		
Permit # B1600031	Inspector : G. Wooldridge, TEI		

Supplier: Central Concrete

Mix: 161115D4 Ticket No.: 18173261 Specimens Cast (ASTM C-31): 5

Air Temperature (ASTM C-1064): 63 deg F Mixture Temperature (ASTM C-1064): 70 deg F

Slump (ASTM C-143): 4 inches

Location: Slab on grade.

Capping Specimens \_\_\_ ASTM C-617 \_\_\_ ASTM C-1231

Date Tested	03/01/16	03/22/16	03/22/16	03/22/16	HOLD
ID Number	2A	2B	2C	2D	2E
Mark Sample					
Dimension, Inches					15
Diameter	4	4	4	4	
Length	8	8	8	8	
Area, sq. inches	12.57	12.57	12.57	12.57	
Ultimate Load, lbs	43000	58000	59000	58000	
Ultimate Str., psi	3420	4610	4690	4610	
Average, Str., psi				4640	
Age Tested, Days	7	28	28	28	HOLD
Fracture Type	1	1	1	1	
Dry Unit Weight, pcf	1827	26.1	50°	.5	
Specified Strength, psi		4000	4000	4000	

SPECIMENS NOT SCHEDULED FOR TESTING WILL BE DISCARDED AFTER 28 DAYS OLD

The Material X WAS WAS NOT	The Material Tested MET DID NOT MEET THE
SAMPLED AND TESTED IN ACCORDANCE WITH THE	REQUIREMENTS OF THE BLDG. DEPT. OR DSA APPROVED DOCUMENTS

REQUIREMENTS OF THE BLDG. DEPT. OR DSA APPROVED DOCUMENTS.

Remarks: Samples Tested in General Conformance with ASTM C-39

1 cc. City of Oakland

1 cc. CKG Environmental, Inc.

Reviewed By:

Robert Green Concrete Lab Supervisor

The results presented in this report relate only to the item(s) tested. This report can be reproduced only in its entirety unless written permission from TEI is obtained.

4	
4	
-	

## TESTING ENGINEERS, INC.

Date: Project No.: Project Name: Address: City: Requested by: Reported to:	223-2016 3600 Alameda Ave OAKland Yousif Yousif	OSHPD No.:	DSA App. #:
Rein	nforcing Steel (180), Concrete (		ioning Report (144)
☐ Inspected the place	ement of _ reinforcing steel; _ tendons; _ AB	3's; ☐ HD's; ☐ tie downs (180	) at the following locations:
☐ Inspected the stress	sing operations (144) and recorded elongations (on	file at TEI office) for the follow	ing location(s):
Performed Continue	ous periodic inspection at batch plant (123) oper	rations for materials and checked	l loads leaving plant
Performed continuo	ous inspection of the placement of concrete (10	7); non-shrink grout (168)	Concrete Sample Only (147)
	riving at the jobsite for correct mix and proper slum		Concrete Sample Only (147)
Inspected placemen	t operations and vibrating procedures. Performed slump test(s)	7	Performed air entrainment tests
Sample # <u>253583</u>	5,,		for Concrete Mix # 16115D4
from (supplier)Ce	specified s	strength 4000 , air	% and slump 4 inches
for concrete placed at _	Slub on Grade For C	ARGO Container	menes
		9	
T	21/2		
Total cubic yards place			
	pending written approval or corrective action as not	ed. See attached RFI.	
All non-compliance	items were brought to the attention of		at jobsite.
Notes:			
Showup; Stand-b	y time;  Job Cancelled;  Re-inspection; Hours	s:	
except as noted abo	was not inspected in accordance with the 🗵 Built met 🗌 did not meet the requirements of the 🛆 we.  vas 🗌 was not 🔲 N/A performed in accordance was	Building Department or DS	SA or OSHPD approved documents,
Drawings Struct	Dated	9/15/2015 \$	City County DSA Shop
nspector: Received by:	Slevn Wooldan Recertification	n# <u>5107696</u>	Date: 2-23-2016
1 4			Date:



Central Bode Westside

### a U.S. CONCRETE COMPANY ≥=

WARNING: IRRITATION TO THE SKIN AND EYES: Contains Portland Cement. Wear rubber boots and gloves. PROLONGED CONTACT MAY CAUSE BURNS. Avoid contact with eyes and prolonged contact with skin. In case of contact with skin or eyes, flush thoroughly with water. If irritation persists, get medical attention. KEEP CHILDREN AWAY.

CONCRETE IS A PERISHABLE COMMODITY AND BECOMES THE PROPERTY OF THE PURCHASER UPON LEAVING THE PLANT ANY CHANGES OR CANCELLATION OF ORIGINAL INSTRUCTIONS MUST BE TELEPHONED TO THE OFFICE BEFORE LOADING STARTS.

WE DO NOT GUARANTEE FINISHED RESULTS OBTAINED FROM THIS LOAD OF CONCRETE AS MANY IMPORTANT FACTORS AFFECTING THE ULTIMATE QUALITY OF THE COMPLETED JOB ARE OUT OF OUR CONTROL. We do not warrant that the concrete can be used in any particular environment or soil conditions or that the concrete is fit for any particular use. Selection of the mix design and/or specification of the mix design parameters are solely the responsibility of the Customer, and we assume no liability therefore.

PLEASE NOTE: THIS LOAD OF CONCRETE IS PRODUCED IN ACCORDANCE WITH STANDARD SPECIFICATIONS FOR READY MIX CONCRETE ASTM. ANY DE-ICING MATERIALS, IMPROPER FINISHING AND LACK OF CURING WILL CAUSE DAMAGE OR A DECREASE IN STRENGTH.

NOTICE: MY SIGNATURE BELOW INDICATES THAT I HAVE READ THE HEALTH WARNING NOTICE AND SUPPLIER WILL NOT BE RESPONSIBLE FOR ANY DAMAGE CAUSED WHEN DELIVERING INSIDE CURB LINE AND AGREE TO THE TERMS AND CONDITIONS ON REVERSE SIDE. TIME IN EXCESS OF FREE TIME WILL BE CHARGED AT CURRENT DELAY RATE. ALL C.O.D. DELIVERIES MUST BE PAID IN ADVANCE AND LOAD ACCEPTED BY SIGNING THIS DELIVERY TICKET BEFORE POURING.

ENGINEERING/REMEDIATION

LOAD RECEIVED BY:

X.

CUSTOMER

PROJECT NAME

### CENTRAL CONCRETE SUPPLY CO., INC.

MAIN OFFICE: 755 Stockton Avenue, San Jose, CA 95126 1-866-404-1000

18 111	ESTI	0.51	1111	8811	BI
		111	Ш	111	11

TICKET NUMBER

WATER ADDED AT CUSTOMER REQUEST

EXCESSIVE WATER IS DETRIMENTAL TO CONCRETE PERFORMANCE.

REQUESTOR'S NAME

**TEST RESULTS** 

CONC. TEMP.

T VEC

1/4 LOAD

(GALLONS)

1/4 LOAD

AIR%

3/4 LOAD

(GALLONS)

#### PROPERTY DAMAGE RELEASE

(TO BE SIGNED IF DELIVERY TO BE MADE INSIDE ÇURB LINE)

Dear Customer - The size and weight of this truck could cause damage to the premises and/or adjacent property if this load is placed where you do

to help you in every way that we can, but in order to do this we are requesting that you sign this RELEASE relieving this supplier and its affiliates from any responsibility fron damage that may occur to the premises and/or adjacent property, buildings, sidewalks drive-ways, curbs, etc., due to the delivery of this material, and that you also agree to help the driver remove mud from the wheels of his vehicle so that it will not litter the public street. Further, as additional consideration; the undersigned agrees to indemnify and hold harmless the driver of this truck and this supplier and its affiliates for any and all damage to the premises and/or adjacent property which may be claimed by anyone to have arisen out of delivery of this order.  SIGNED: X
WEIGHMASTER CERTIFICATE
THIS IS TO CERTIFY that the following described commodity was weighed, measured or counted by a weighmaster, whose signature is on this certificate, who is a recognized authority of accuracy, as prescribed by Chapter 7 (commencing with Section 12700) of Division 5 of the California Business and Professions Code, administered by the Division 5 of the California Business and Professions Code.

DEL

mmencing with Section 12700) of Code, administered by the Division ant of Food and Agriculture.	NAME OF TESTING LAB:	
IVERY ADDRESS		
SERIO OF OMER		

SLUMP

CYLINDERS TAKEN

**FULL LOAD** 

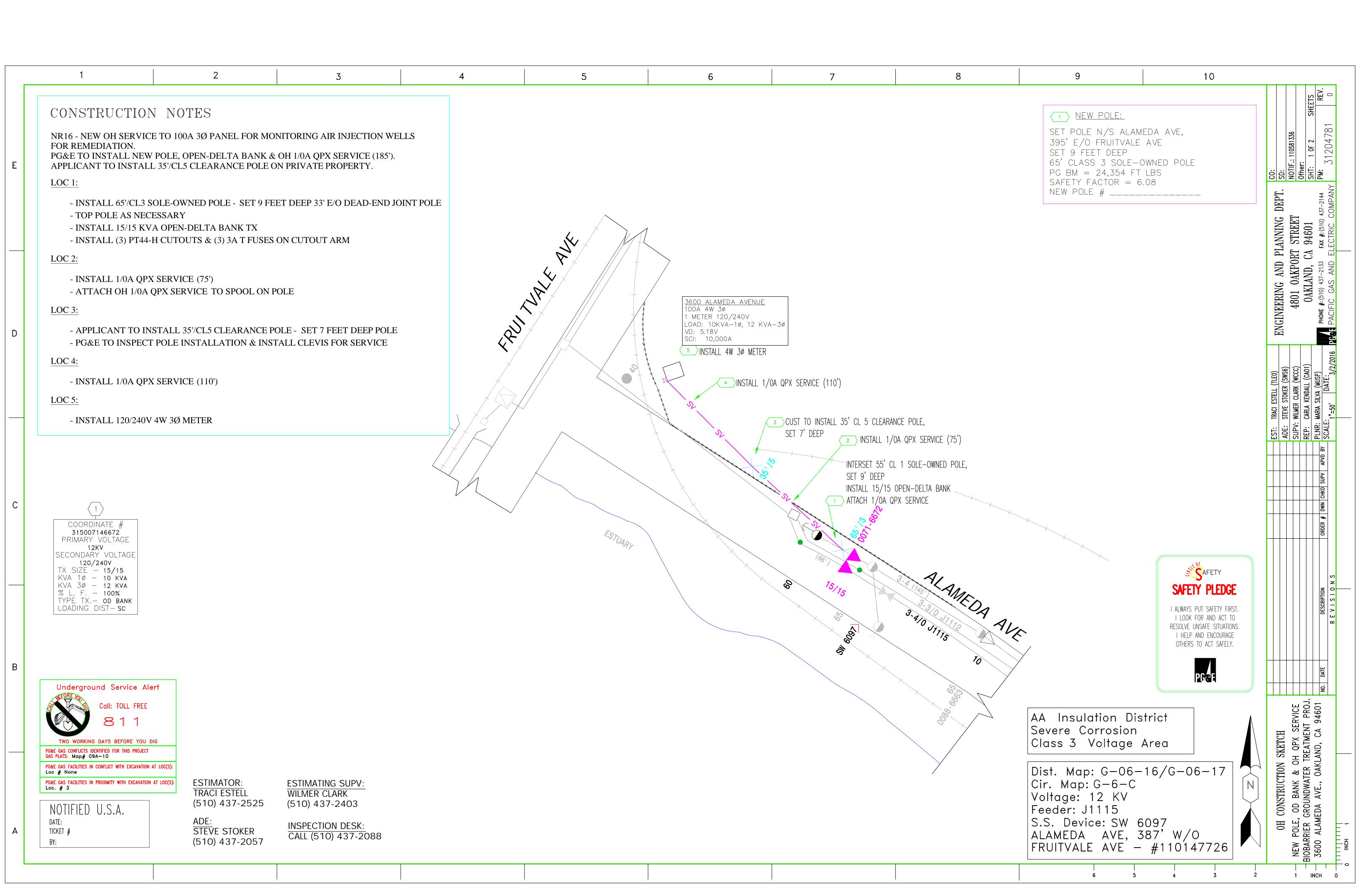
LASS PLAI			1366428	-	601			
	S- FRUI	TVALE					RET	URNED CONCRETE
D 3.5 Ø	3.5	16111 EFUEL	15D4 20 .06 FU	ELØ6	*2006   *ENVIR	FUEL SURC	UNIT PRICE	EXTENDED PRICE
LEAVE PLANT	ARRIVE JOB	BEGIN P	POUR FINI	SH POUR	LEAVE JOB	ARRIVE AT PLANT	USAGE CODE	SUB TOTAL
	K LOAD	#	SLUMP 4	MAP	PAGE	TIME DUE ON JOB	TAX RATE	TAX
1129	12	1	to these best best	Cla			ORDER GRAND TOTAL	TOTAL  ASTER CERTIFICATE #
	ORDERED QTY  ORDER  ORDER  ORDER  1129	ORDERED QTY CUMULATIVE QTY 3.5  CUBIC VARD  LEAVE-PLANT ARRIVE JOB  PREVIOUS TRUCK LOAD  ORDER # PLAN  1129	ORDERED QTY  ORDERED QTY  ORDERED QTY  CUMULATIVE QTY  PRODU  1611  EFUEL  EENV1  ARRIVE JOB  PREVIOUS TRUCK  LOAD #  ORDER # PLANT  1129	SPECIAL INSTRUCTIONS S - FRUITVALE  ORDERED QTY CUMULATIVE QTY PRODUCT ID 161115D4 PRO	SPECIAL INSTRUCTIONS	SPECIAL INSTRUCTIONS SPECIAL I	ORDERED QTY CUMULATIVE QTY PRODUCT ID 161115D4 PASS FA 0.45 W/CIT EFUEL 06 FUEL 06 FUEL SURCE EENV12 964 1 #ENVIRONMENTAL  CUBIC YARD 930 *SHORTLOAD  LEAVE PLANT ARRIVE JOB BEGIN POUR FINISH POUR LEAVE JOB ARRIVE AT PLANT PREVIOUS TRUCK LOAD# SLUMP MAP PAGE TIME DUE ON JOB ORDER # PLANT TRUCK # DELIVERY PROFESSIONAL 1253 CLARKE, FRANK	SPECIAL INSTRUCTIONS  S FRUITVALE  ORDERED QTY  ORDER QT

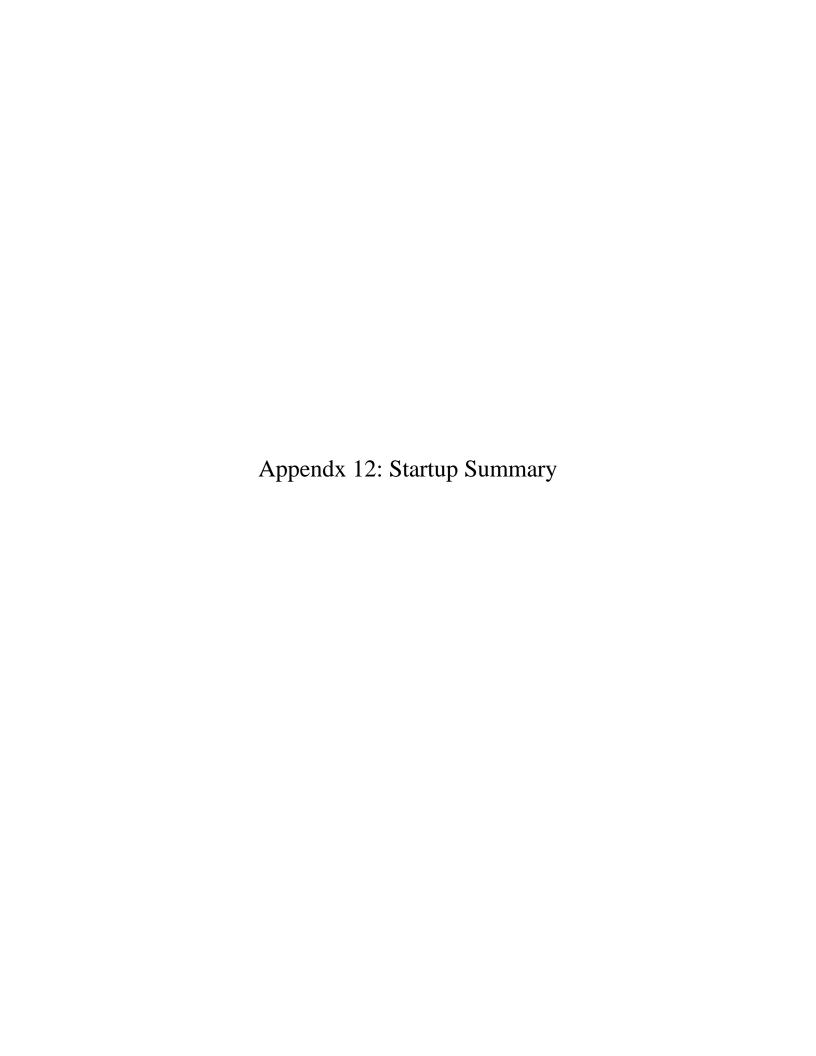
Weighat2400PeraltaSt. Oakland

of Measurement Standards of the California Departme

CUSTOMER CODE

Appendix 11: PG&E Electrical Design Drawing





#### STARTUP SUMMARY FORM

CKG Biobarrier Groundwater Treatment Project 3600 Alameda Ave, Oakland, CA

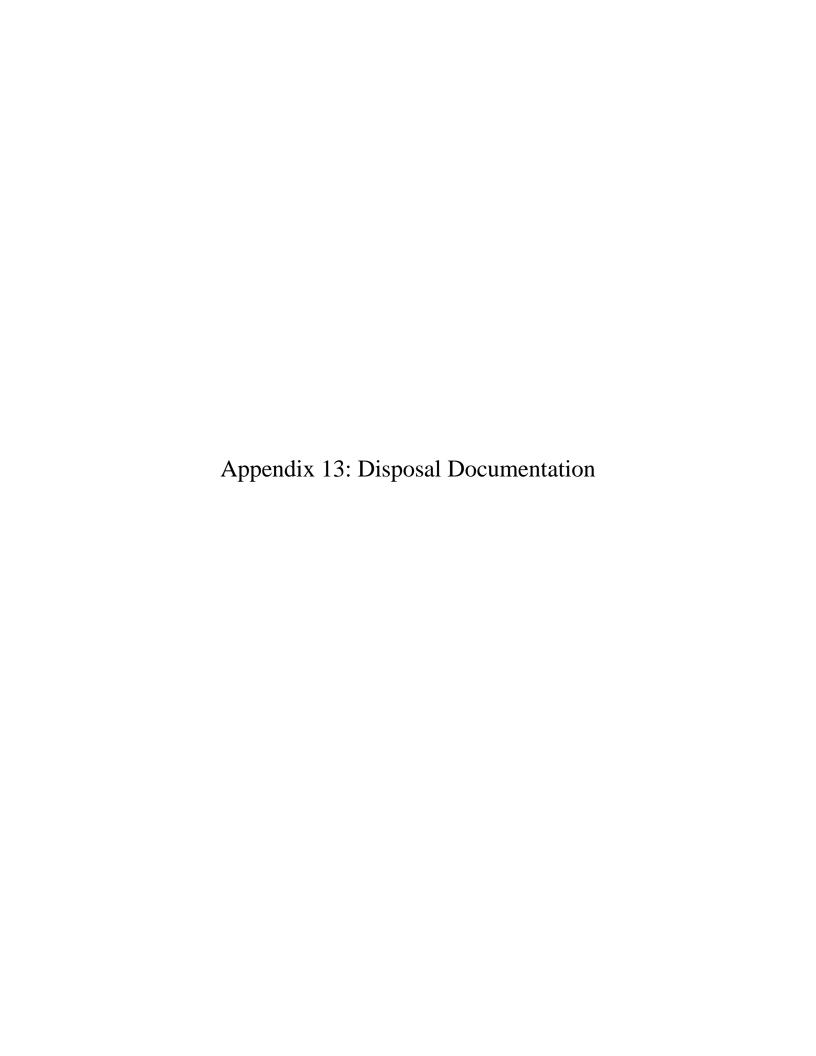
Date: 7/20/2016

IW ID	Flow (cfm)	Pressure (psi)	Change in Water Level (ft)	MW ID
1A	15	18	0.2	6
1B	32	18	overflow	6
2A	22	18	overflow	6
2B	30	18	0.35	6
3	16	21	0/0.1	6/7
4	6.2	19	0	7
5	11	16	overflow	7
6A	35	20	overflow	7
6B	10.1	23	3.5	7
7	16	18	0.3	7
8	14.9	11	0	7
9	12.8	10	0	7
10	16.5	7	-0.15	3R
11	4.7	19	-1.1	3R
12	5.5	18	3.1	3R
13	11.1	17	2.7	3R
14	4.3	22	-0.7	17/3R
15	11.4	17	-0.25	17
16	10	18	0.55	17
17	17	16	0.4	17

**Current Well Groupings** 

	Well
Group	ID
	1A
	3
1	5
1	12
	13
	15
	1B
	4
	8
2	10
	11
	14
	16
	2A
	2B
	6A
3	6B
	7
	9
	17

- 1. The objective of the startup was to assess the maximum flow rate to each well, while monitoring the change in groundwater elevation at nearby monitoring wells.
- 2. Operated each air injection well independently, while running the air compressor at the highest pressure achievable.
- 3. The results indicate that several wells share similar characteristics in terms of flow rate and pressure.
- 4. Wells with similar flow and pressure characteristics were grouped together to maximize the efficiency of the system.
- 5. Injection wells 1B, 2A, 5, and 6A caused groundwater to rise to the top of the well casing. This is an indication that flowrate to these wells should be limited to avoid discharging contaminated groundwater onto the ground surface.
- 6. Well groupings shown are current as of 10/14/2016, and are subject to change.



# R-88 WPL655B

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	UNIFORM HAZARDOUS CATOOO518918	2. Page 1 of 1	3. Emergency Respor (800) 368-47	78	4. Manifest	Tracking   5 3 4	Number   9974	
	Generator's Name and Mailing Address     OWENS - BROCKWAY GLASS CONTAINER INC - OAKLAND		Generator's Site Addre		han mailing addre	89)	·····	
П	3600 ALAMEDA AVENUE		3600 ALAMED/	AVENUE				
П	OAKLAND CA 94501  Generator's Phone: 510 436-2165	1	OAKLAND			CA	94501	
$\ $	6. Transporter 1 Company Name	4			U.S. EPAID		A	
	REM. dral Trassporter 2 Company Name 7. Transporter 2 Company Name	<u>65 -</u>	SCAULO	53	CAR	200	01813	566
Ш	The masspance & company regate				U.S. EPA IĎ N 1	Number		
П	B. Designated Facility Name and Site Address	•			U.S. EPA ID N	lumber	<del></del>	
Ш	CHENICAL WASTE MANAGEMENT 35251 OLD SKYLINE RD.							
П	KETTLEMAN CITY CA 93239				Loamo			
$\ $	Facility's Phone: (559)385-9711  9a. 9b. U.S. DOT Description (including Proper Shipping Name, Hazard Class, ID Number,		10.0		rJ	_	10117	
	HM and Packing Group (if any))		10. Conti No.	Type	11. Total Quantity	12. Unit Wi.Mol.	13. Wa	ste Codes
ğ	" NON RCRA HAZARDOUS WASTE, SOLID (SOIL, LEAD)						611	i,
M			[	CM	20	Y		***************************************
GENERATOR	2.				·		<u> </u>	
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	3.		<u></u>					<u> </u>
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	4.							1
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	14. Special Handling Instructions and Additional Information			<u>.l</u> ]				
	9B1\ CA610358 - 5OIL		ERG#:	9B1, 171	** ER5 W.O.#	123018	- ECB <del>**</del>	
	PT-2984							
	15. GENERATOR'S/OFFEROR'S CERTIFICATION: I hereby declare that the contents of this	- Considerated of	24 HR I	MERGEN	Y CONTACT	ENVIR	05ERV	
	marked and labeled/placartied, and are in all respects in proper condition for transport acco	ording to applica	ible international and nat	scribed above Ional governm	by the proper ship ental regulations, i	oping name It export sh	e, and are classifie ipment and i am t	d, packeged, he Primary
	Exporter, I certify that the contents of this consignment conform to the terms of the attacher I certify that the waste minimization statement identified in 40 CFR 262.27(a) (if I am a large	a quantity gener	rator) or (b) (if I am a sm	all quantity gen	eratos is true.			
	Generator's/Offeror's Printed/Typed Name 48 AGENT FOR GENER	ATOP Sign:	ature CI	5.7			Month	Day Year
+	SHAVE PICKETT  16. International Shipments						1.3	7116
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SP	Kodney BEAM Transporter 2 Printed/Typed Name	1/4		7 /3			13	716
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Ā	Facility's Phone:				1			
E	18c. Signature of Atlernate Facility (or Generator)				·	••••	Month	Day Year
3	10 Marson Waste Poset Marson and Lib. 10	<b></b>						<u> </u>
DESIGNATED FACILITY	Hazardous Waste Report Management Method Codes (i.e., codes for hazardous waste treatr     2.	ment, disposat, a	and recycling systems)		<del></del>		****	
7	H132	1			4.			
	20. Designated Facility Owner or Operator: Certification of receipt of hazardous materials covered	d by the manifes	st except as noted in Item	n 18a				
	Printed/Typed Name	Signa	ture		1-5-M-1		Month	Day Year
<b>∳</b>	Katty Burkett Form 8700-22 (Rev. 3-05) Previous editions are obsolete.		4R				03	07/16
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DESIGNATED FACILITY TO DESTINATION STATE (IF REQUIRED)

GROSS:  TARE:	COMMODITY: HAZARDOUS: WASTE DEPUTY WEIGHMASTER	CHEMICAL WASTE MANAGEMENT, INC. WERRINASTER weighed at 35231 Old Skyline Road Kenternan City, CA  NO: WEIGHMANSTER CERTIFICATE		
NET: 72800 LB  GENERATOR MANIFEST -7, 10 - PROF	YARDAGE: DO	This is TO CERTIFY that the bolowing described commodify was weighted, measured, or counted by a weightstatier, whose signature is on this certificate, who is a recognized authority of accuracy, as prescribed by Chapter 7 (commencing with Section 1270U) of Division 5 of the California Business and Professions Code, administered by the Division of Measurement Standards of the California Department of Food and Agriculture.		
TRACTOR LICENSE # TRAILER LICENSE NO.   BIN #	RECEIPT#	n+4 60 >		
		317) ( +		

Truck wp 49487 7308KL

Please print or type. (Form designed for use on elite (12-pltch) typewriter.) Form Approved, OMB No. 2050-0039 1. Generator ID Number 2. Page 1 of 3. Emergency Response Phone Manifest Tracking Number UNIFORM HAZARDOUS 0153499 **WASTE MANIFEST** (800) 368-4778 CAT000618918 Generator's Site Address (if different than mailing address) 5. Generator's Name and Mailing Address OWENS - BROCKWAY GLASS CONTAINER INC - OAKLAND 3500 ALAMEDA AVENUE 3500 ALANEDA AVENUE OAKLAND 94501 DAKLAND 94501 Generator's Phone: 510 436-2166 6. Transporter 1 Company Name ransportation Services CAROO U.S. EPA D Humber 8. Designated Facility Name and Site Address U.S. EPA ID Number CHEMICAL WASTE MANAGEMENT 35251 OLD SKYLINE RD. KETTLEMAN CITY CA 93239 CAT000646117 Facility's Phona: (559)386-9711 9b. U.S. DOT Description (including Proper Shipping Name, Hazard Class, ID Number, Containers 11. Total 12. Unit 13. Waste Codes and Packing Group (if any)) HM No. Quantity Wt./Vol Type NON RCRA HAZARDOUS WASTE, SOLID (SOIL, LEAD) GENERATOR 511 CMY 2. 14. Special Handling Instructions and Additional Information 981) CA510358 - 5OIL ERG#:981. 171 \*\* ER5 W.O.# 123018 - ECB \*\* PT- 4479 24 HR EVERGENCY CONTACT: ENVIROSERV GENERATOR'S/OFFEROR'S CERTIFICATION: I hereby declare that the contents of this consignment are tully and accurately described above by the proper shipping name, and are classified, packaged, marked and labeled/placarded, and are in all respects in proper condition for transport according to applicable international and national governmental regulations. It export shipment and I am the Primary Exporter, I certify that the contents of this consignment conform to the terms of the attached EPA Acknowledgment of Consent. I certify that the waste minimization statement identified in 40 CFR 282.27(a) (if I am a large quantity generator) or (b) (if I am a small quantity generator) is true. Generator's/Offeror's Printed/Typed Name ★5 44 € 117 FOR GEVERATORIBLE Month Day Year SHANZ 16. International Shipments Export from U.S. Port of entry/exit: Transporter signature (for exports only): Date leaving U.S.: 17. Transporter Acknowledgment of Receipt of Materials Transporter 1 Printed/Typed Name ७3 Transporter 2 Printed/Typed Name 18. Discrepancy 18a. Discrepancy Indication Space Туре .... Quantity Residue Partial Rejection Full Rejection Manifest Reference Number: 18b. Allemate Facility (or Generator) U.S. EPA ID Number Facility's Phone; 18c. Signature of Alternate Facility (or Generator) Month Day Year 19. Hazardous Waste Report Management Method Codes (i.e., codes for hazardous waste treatment, disposal, and recycling systems) 20. Designated Facility Owner or Operator: Certification of receipt of hazardous materials covered by the manifest except as noted in Item 18a Printed/Typed Name

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EPA Form 8700-22 (Rev. 3-05) Previous editions are obsolete.

	TIME	DATE .	WEIGHT (LB)	COMMODITY: HAZARDOUS WAST	CHEMICAL WASTE MAN
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UKU55.					NO: 303
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GENERATOR		MANIFEST		PROFILE	
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$\uparrow$	UNIFORM HAZARDOUS 1. Generator ID Number WASTE MANIFEST C A T 0 0 0 6 1 8 9 1 B	1 1	368-477	8		534	<u>9976</u>	JJ	K
	5. Generator's Name and Mailing Address OWENS - BROCKWAY GLASS CONTAINER INC - OAKLAND 350D ALAMEDA AVENUE OAKLAND CA 94601	360	or's Site Address D'ALANEDA (LAND		an mailing addres	5) GA	94601		
	Generator's Phone: 510 436-2166	1							
	6. Transporter 1 Company Name				U.S. EPAID N		3 esc e s		
	7. Transporter 2 Company Name	<u>-55</u>			U.S. EPAID N		71860		
	7. Harsbotter 2 Company reside				1				
	8. Designated Facility Name and Site Address CHENICAL WASTE MANAGEMENT 3S251 OLD SKYLINE RD.				U.S. EPA ID Number				
	KETTLEMAN CITY CA 93239				I CATO	0084	6117		
	Facility's Phone: (559)388-9711		10. Conta	inne					
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FACILITY	,								
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	18c. Signature of Alternate Facility (or Generator)						Mon	th Day	Year
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DESIGNATED	19. Hazardous Waste Report Management Method Codes (I.e., codes for hazardous waste		cycling systems)		.,				
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GROSS:	TIME D.	ATE WEIGHT (LB)	COMMODITY: HAZARDOUS WASTE  DEPUTY WEIGHMASTER	CHEMICAL WASTE MANAGEMENT, ENC WEIGHBASTER weighed at 3723 Oil Skylan Road Ketleman Chy, CA
TARE:	31460	LB	VARDAGE: 27	NO: SUBJEZ  WEIGHMASTER CERTIFICATE THIS IS TO CERTIFY that the following described commodity was weighed, measured, or counted by a welphanister, whose signature is on this certificate, who is a recognized authority of accuracy, as prescribed by Chapter 7 (commencing with Section 12700) of Division 5 of the California Business and Professional Code, administered by the Division of Measurement Standards of
GENERATOR  FRACTOR LICENSE		MANIFEST.  ALLER LICENSE NO BIT		the California Department of Food and Agriculture
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ĺ	Ш	5. Generator's Name and Mailing Address				than mailing addr	, O O -	10011	UUN
ſ	П	OWENS - BROCKWAY GLASS CONTAINER INC - OAKLAND		OO ALAMEDA		-	tasj		
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Discrepancy Indication Space  Quantity  Discrepancy Indication Space  Quantity  Type  Afternate Facility (or Generator)  Cility's Phone:  Signature of Alternate Facility (or Generator)  Hazardous Waste Report Management Method Codes (i.e., codes for hazardous waste treating the contents of the attack of the contents of the attack.	hed EPA Acknowledgment arge quantity generator) or Export from U.S.  Signature  Signature  Matter  Matter  Matter  Matter  Matter  Matter  Matter  Matter  Matter  Matter  Matter  Matter  Matter  Matter  Matter  Matter  Matter  Matter  Matter  Matter  Matter  Matter  Matter  Matter  Matter  Matter  Matter  Matter  Matter  Matter  Matter  Matter  Matter  Matter  Matter  Matter  Matter  Matter  Matter  Matter  Matter  Matter  Matter  Matter  Matter  Matter  Matter  Matter  Matter  Matter  Matter  Matter  Matter  Matter  Matter  Matter  Matter  Matter  Matter  Matter  Matter  Matter  Matter  Matter  Matter  Matter  Matter  Matter  Matter  Matter  Matter  Matter  Matter  Matter  Matter  Matter  Matter  Matter  Matter  Matter  Matter  Matter  Matter  Matter  Matter  Matter  Matter  Matter  Matter  Matter  Matter  Matter  Matter  Matter  Matter  Matter  Matter  Matter  Matter  Matter  Matter  Matter  Matter  Matter  Matter  Matter  Matter  Matter  Matter  Matter  Matter  Matter  Matter  Matter  Matter  Matter  Matter  Matter  Matter  Matter  Matter  Matter  Matter  Matter  Matter  Matter  Matter  Matter  Matter  Matter  Matter  Matter  Matter  Matter  Matter  Matter  Matter  Matter  Matter  Matter  Matter  Matter  Matter  Matter  Matter  Matter  Matter  Matter  Matter  Matter  Matter  Matter  Matter  Matter  Matter  Matter  Matter  Matter  Matter  Matter  Matter  Matter  Matter  Matter  Matter  Matter  Matter  Matter  Matter  Matter  Matter  Matter  Matter  Matter  Matter  Matter  Matter  Matter  Matter  Matter  Matter  Matter  Matter  Matter  Matter  Matter  Matter  Matter  Matter  Matter  Matter  Matter  Matter  Matter  Matter  Matter  Matter  Matter  Matter  Matter  Matter  Matter  Matter  Matter  Matter  Matter  Matter  Matter  Matter  Matter  Matter  Matter  Matter  Matter  Matter  Matter  Matter  Matter  Matter  Matter  Matter  Matter  Matter  Matter  Matter  Matter  Matter  Matter  Matter  Matter  Matter  Matter  Matter  Matter  Matter  Matter  Matter  Matter  Matter  Matter  Matter  Matter  Matter  Matter  Mat	nd accurately de mational and nat of Consent. 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GROSS:	DATE WEIGHT (1	B)	COMMODITY: HAZ	CHEMICAL WASTE MANAGEMENT, INC. WEIGHMASTER weighed in 357.51 Did Styline Road Kertorsea City, CA  NO: WEIGHMASTER CERTIFICATE THIS IS TO CERTIFY that the following described commodity, was weighed, measured, or counted by a weighmeaster, whose
NET: 15460	LB	PROFILE	YARDAGE:_	signature is on this certificate, who is a recognized authority of accuracy, as prescribed by Chapter 7 (commencing with Section 12700) of Division 5 of the California Business and Protessions. Code, administrated by the Division of Measurement Standards of the California Department of Food and Agriculture.
GENERATOR	MARIPEST	жонь	£42. X 4.7	
TRACTOR LICENSE#	TRAILER LICENSE NO.	BIN# I	SECEIPT#	1.,,

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lease print or type. (Form designed for use on elite (12-pitch) typewriter.)	TK-WP411	210 TU	-451	-2134	Form	ı Approved, OM	B No. 2050-0039
↑ UNIFORM HAZARDOUS 1. Generator ID Number WASTE MANIFEST CATOCO 618918	2. Page 1 of 1 3. Emerg	ency Response 368-477	Phone	14. Manifest	Itacxing in	9978	
5. Generator's Name and Mailing Address			•	an malling addre	55)		
OWENS - BROCKWAY GLASS CONTAINER INC - OAKLAND 3600 ALAMEDA AVENUE		ALAMEDA .	AVENUE		-4	0.1504	
OAKLAND CA 94501  Generator's Phone: 510 435-2156	OAKI	AND			CA	94501	
				U.S. EPA ID	Number	· <del>L·2++**</del>	
6. Transporter 1 Company Name  Remodia  Transporter 2 Company Name	EVERS			CARO	00/8	1560	
7. Transporter 2 Company Name				U.S. EPAID (	Number		
8. Designated Facility Name and Site Address				U,S, EPA ID I	Number	<del></del>	
CHEMICAL WASTE MANAGEMENT							
SS251 OLD 5KYLINE RD. KETTLEMAN CITY CA 93239						0247	
Facility's Phone: (559)385-9711	···			CATO	10064	611/	
9a. U.S. DOT Description (including Proper Shipping Name, Hazard Class, ID Number and Packing Group (if any))	ır,	10. Contai No.	ners Type	11. Total Quantity	12. Unit Wt.Nal.	13. Was	le Codes
1. NON RCRA HAZARDOUS WASTE, SOLID (SOIL, LEAD)		1				611	
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14: Special Handling Instructions and Additional Information 981) CA610358 - 5OIL		ERG#:	9B1, 171	** ER5 W.O.	# 123018	- ECB **	
PT-2379							
11-2011		24 HR E	MERGEN	CY CONTAC	T; ENVIR	OSERV	
<ol> <li>GENERATOR'S/OFFEROR'S CERTIFICATION: I hereby declare that the contents of the marked and labeled/placarded, and are in all respects in proper condition for transport a</li> </ol>	his consignment are fully ar	nd accurately de	scribed abov	e by the proper s	hipping nam	e, and are classific	eti, packaged, ha Pdmarv
Experier i certify that the contents of this consignment conform to the terms of the attack	hed EPA Acknowledgment:	of Consent.			a. u capori sa		
1 certify that the waste minimization statement identified in 40 CFR 262.27(a) (if I am a is Generator's/Offeror's Printed/Typed Name 45 AGENT FOR GENT	arge quantity generator) or -	(b) (#3 am a sm	asi quantity ge	nerator) is true.		Month	Day Year
SHAWE PICKETT		SF		7		Month 3	181/6
	Export from U.S.	Port of er	ntrv/exit:				
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17. Transporter Acknowledgment of Receipt of Materials	Signature					Month	Day Year
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Transporter 2 Pontee Typed Name	Signature	-g-~	-	<u></u>		Month	Day Year
17. Transporter Acknowledgment of Receipt of Materials Transporter 1 Printed/Typed Name Transporter 2 Pynted/Typed Name							<u> </u>
18. Discrepancy							
18a. Discrepancy Indication Space Quantity Type		Residue		Partial R	ejection		Full Rejection
[]	14-	nifort Deferre	o Nomber				
18b. Alternate Facility (or Generator)	ME .	inifest Referenc	ह् (क्यायवर्ष).	U.S. EPA ID	Number		
18b. Alternate Facility (or Generator)  Facility's Phone:							
						Month	Day Yea
18c. Signature of Atternate Facility (or Generator)						Almatu.	
2 19. Hazardous Waste Report Management Method Codes (i.e., codes for hazardous waste tr	realment, disposal, and rec	yding systems)				.,	<u></u>
18c. Signature of Alternate Facility (or Generator)  19. Hazardous Waste Report Management Method Codes (i.e., codes for hazardous waste to 1.	3.	. 0-7		4.			
II TIS 4 I							
20. Designated Facility Owner or Operator: Certification of receipt of hazardous materials cou		ot as noted in Re	em 18a			Month	Da <b>y)</b> Year
Printed/Typed Name	Signature 1	(	$\sim$	·		1 4	₹ <b>7</b> 7 1/1
FPA Form 8700-22 (Rev. 3-05) Prévious editions are obsolete.	necia	MATEDE	ACII II V	TO DESTI	NATION	STATE (IF	RECUIRE

GROSS:		DEPUTY WEIGHMASTER	CHEMICAL WASTE MANAGEMENT, INC. WEIGHBAATTE wingled is 3523 Old Skyline Road Ketternan City, CA  NO. 303546
NET:	<u>)</u>	<u>γ.γ</u> YARDAGE: <u></u>	WEIGHMASTER CERTIFICATE THIS IS TO CERTIFY that the losswing described commodity was weighted, measured, or courted by a weighmaster, whose signature is on this certificate, who is a recognized authority of accuracy, as prescribed by Chapter 7 (commoding with Section 12700) of Division 5 of the California Business and Professioris. Code, admissioned by the Division of Neasurement Standards of the California Department of Food and Agriculture.
GENERATOR  TRACTOR LICENSS#	MANIFEST TRAILER LICENSE NO I	PROFILE IN# RECEIPT#	

188 - W44455 105 - 4EV4212Please print or type. (Form designed for use on elite (12-plich) typewriter.)

Form Approved, OMB No. 2050-0039 UNIFORM HAZARDOUS 1. Generator ID Number 3. Emergency Response Phone 2. Page 1 of 4. Manifest Tracking Number 0153499 **WASTE MANIFEST** CAT000618918 (800) 368-4778 5. Generator's Name and Malling Address Generator's Site Address (if different than mailing address) OWENS - BROCKWAY GLASS CONTAINER INC - CAKLAND 3600 ALAMEDA AVENUE 3600 ALANEDA AVENUE DAKLAND 94501 DAKLAND CA 94601 Generator's Phone: 510 436-2166 6. Transporter 1 Company Name TAUSPONTATION Services REMEdial 8. Designated Facility Name and Site Address U.S. EPA ID Number CHEMICAL WASTE MANAGEMENT 35251 OLD SKYLINE RD. KETTLEMAN CITY 93239 CAT000846117 Facility's Phone: (559)365-9711 9b. U.S. DOT Description (including Proper Shipping Name, Hazard Class, ID Number, 10. Containers 9a. 11. Total 12. Unit 13. Waste Codes and Packing Group (if any)) ΗМ No. Quantity WIJVol. Туре NON RCRA HAZARDOUS WASTE, SOLID (SOIL, LEAD) 611 Y CM14. Special Handling Instructions and Additional Information 981) CA610358 - 5OIL ERG#:981. 171 \*\* ER5W.O.#128018 - EC8 \*\* PT-1070 24 HR EMERGENCY CONTACT: ENVIROSERV GENERATOR'S/OFFEROR'S CERTIFICATION: I hereby declare that the contents of this consignment are fully and accurately described above by the proper shipping name, and are classified, packaged, marked and labeled/placarded, and are in all respects in proper condition for transport according to applicable International and national governmental regulations. If export shipment and I am the Primary Exporter, I certify that the contents of this consignment conform to the terms of the attached EPA Acknowledgment of Consent. Month Day Year 03 16 16, International Shipments Import to U.S. ... Export from U.S. Port of entry/exit: Transporter signature (for exports only): 17. Transporter Acknowledgment of Receipt of Materials TRANSPOR Transporter 2 Printed/Typed Hame Discrepancy 18a. Discrepancy Indication Space Type Quantity Residue Partial Rejection ... Fut Rejection Manifest Reference Number: FACILITY 18b. Alternate Facility (or Generator) U.S. EPA ID Number Facility's Phone: DESIGNATED 18c. Signature of Alternate Facility (or Generator) Month Dav Year 19. Hazardous Waste Report Management Method Codes (i.e., codes for hazardous waste treatment, disposal, and recycling systems) 20. Designated Facility Owner or Operator: Certification of receipt of hazardous materials covered by the manifest except as noted in Item 18a Printed/Typed Name Month Day Signature

GROSS:  TARE  NET: 754	DATE WEIGHT (LB	COMMODITY: HAZARDOUS WASTE  DEPUTY WEIGHMASTER  YARDAGE: 2	CHEMICAL WASTE MANAGEMENT INC. WEIGHMASTER original of 31230 ON Skyline Road. Kerdeman Cay, CA.  NO. 17323  WEIGHMASTER CERTIFICATE THIS IS TO CERTIFY that the following described commodify was weighed indexined of controlled by a weighmaster, whose signature is not the certificate, who is a recognized subthinity of accuracy as prescribed by Chapter 7 (commencing with Section 1270) of Division 5 of the California Business and Professions Code, administrated by the Division of theoryment Standards of the California Department of Food and Agriculture.
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Ī	UNIFORM HAZARDOUS 1. Generator ID Number	2. Page 1 of 3. Eme	rgency Respons	se Phone	4. Manifest	Tracking N	lumber			
П	WASTE MANIFEST   CATOOO618918		) 368-47		UT	<u> 534</u>	9980	JJK		
П	5. Generator's Name and Mailing Address OWENS - BROCKWAY GLASS CONTAINER INC - OAKLAND		Generator's Site Address (if different that 3500 ALANEDA AVENUE							
П	3600 ALAWEDA AVENUE			. WAEIRDE		<b></b>	54504			
	OAKLAND CA 94601  Generator's Phone: 510 436-2165	) OA	(LAND			CA	94601			
$\  \ $	8. Transporter 1 Company Name	(۳)		· · · · · · · · · · · · · · · · · · ·	U.S. EPA ID	Number	-0	-~		
	Remedia Transport to four	De-W	205				18156	<u> </u>		
	7. Itansporer 2 Company Name				uïs. epáto. I	Number				
П	8. Designated Facility Name and Site Address				U.S. EPA ID	Mumber	*****			
	CHEMICAL WASTE MANAGEMENT 35251 OLD SKYLINE RD.									
	KETTLEMAN CITY CA 93239						6117			
	Facility's Phone: (559)3855-9711	<del> </del>			LAIL	0064	<u>911/</u>	311/		
	9a. 9b. U.S. DOT Description (including Proper Shipping Name, Hazard Class, ID Number, and Packing Group (if any))		10. Conta No.	iners Type	11. Total Quantity	12. Unit Wt./Vol.	13. Wast	Codes		
4	NON RCRA HAZARDOUS WASTE, SOLID (SOIL, LEAD)		_				611			
GENERATOR			Í	CM	20	Y		25.0.00.00.00.00.00.00.00.00.00.00.00.00.		
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	<ol> <li>GENERATOR'S/OFFEROR'S CERTIFICATION: thereby declare that the contents of this marked and labeled/placarded, and are in all respects in proper condition for transport acc</li> </ol>									
	Experter, I certify that the contents of this consignment conform to the terms of the attached a certify that the waste minimization statement identified in 40 CFR 262.27(a) (if i am a Large	ed EPA Acknowledgment se quantity.cenesator) or	of Consent. (b) (f) am a sm	ali quantity qe	nerator) is true.					
	I certify that the waste minimization statement identified in 40 CFR 262 27(a) (if I am a Jaro Generator's Offieror's Printed/Typed Name	Signature		<del>-</del> 10 ·	100		Month	Day Year		
¥	SHANE PICKETT			<del>-                                    </del>	-(3)		03	09 16		
1.LNI	16. International Shipments Import to U.S.	Export from U.S.	Port of ea		america de articolo articolo e del trades amb es acceso.					
_	Transporter signature (for exports only):  17. Transporter Acknowledgment of Receigt of Materials	. <del></del>	Date leav	лы U.O	<del></del>					
TRANSPORTER	Transporter 1 Printed Typed Name	Signaline					Month	Day Year		
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<u> </u>	18b. Alternate Facility (or Generator)	Me	milesi Referenc	e Number:	U.S. EPA ID I	hankan				
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Æ	   Facility's Phone:				1					
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DESIGNATED FACILITY		harries at the								
Š	Hazardous Waste Report Management Method Codes (i.e., codes for hazardous waste treat     12.	atment, disposal, and reco	ycling systems)		14.	······································	······································			
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	20. Designated Facility Owner or Operator: Certification of receipt of hazardous materials covere		it as noted in ite	m 18a						
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GROSS: TARE:	<u>DATE</u> <u>WEIGHT</u>	DEPUTY WEIGHMASTER	STE CHEMICAL WASTE MANAGEMENT, INC. WITCHMASTER weighed at 83.23 Old Skyling Road Kellerum Cig. Ca  NO: 173921  WEGEMASTER CERTIFICATE
NET: <u>4 8</u>	. <u>O</u> LB	YARDAGE: 2,	THIS IS TO CERTIFY that the following described commodity was yeighed, massured, or counted by a weighnastier, whose segnature is on the condicate, whose a recognized authority of accuracy, as prescribed by Chapter 1 (commencing with Section 127/5) at Division 5 of the California Business and Professional Contractional Sections and Professional Contractional Contraction of Measurement Sentionals in the California Deposits of the California Deposits of the California Deposits of the California Deposits of the California Deposits of the California Deposits of the California Deposits of the California Deposits of the California Deposits of the California Deposits of the California Deposits of the California Deposits of the California Deposits of the California Deposits of the California Deposits of the California Deposits of the California Deposits of the California Deposits of the California Deposits of the California Deposits of the California Deposits of the California Deposits of the California Deposits of the California Deposits of the California Deposits of the California Deposits of the California Deposits of the California Deposits of the California Deposits of the California Deposits of the California Deposits of the California Deposits of the California Deposits of the California Deposits of the California Deposits of the California Deposits of the California Deposits of the California Deposits of the California Deposits of the California Deposits of the California Deposits of the California Deposits of the California Deposits of the California Deposits of the California Deposits of the California Deposits of the California Deposits of the California Deposits of the California Deposits of the California Deposits of the California Deposits of the California Deposits of the California Deposits of the California Deposits of the California Deposits of the California Deposits of the California Deposits of the California Deposits of the California Deposits of the California Deposits of the California Deposits
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1	UNIFORM HAZARDOUS 1. Generator ID Number WASTE MANIFEST CATOOO518918	2. Page 1 of 3. Eme	rgency Response 368-477		4. Manifest	Tracking N 534	9981 <b>J</b> .	JK	
Ш	5. Generator's Name and Mailing Address		or's Site Address						
Ш	OWENS - BROCKWAY GLASS CONTAINER INC - OAKLAND	360	ALAMEDA	AVENUE					
	S600 ALAMEDA AVENUE OAKLAND CA 94601	. DAI	(LAND			CA	94501		
	Generator's Phone: 510 436-2165								
	6. Transporter 1 Company Name	ł.			U.S. EPA ID Number 18/ 560				
П	Remedia Transportation Services 7. Transporter 2 Company Name	<u> </u>	·····		U.S. EPAID Number				
Ш	7. Transporter 2 Company Name	,			U.S. EPAID N	lumber			
iΙ	Designated Facility Name and Site Address				U.S. EPAID N	la conferné			
	CHEMICAL WASTE MANAGEMENT		U.S. EFAID I	milnet					
	S5251 OLD SKYLINE RD.								
	KETTLEMAN CITY CA 95239 Facility's Phone: (559)386-9711				CATO	0064	8.117		
	9a. 9b. U.S. DOT Description (including Proper Shipping Name, Hazard Class, ID Number,		10, Contai	ners	11. Total	12. Unit			
	HM and Packing Group (if any))	'	No.	Туре	Quantity	WL/Vol.	13. Waste Codes	5	
	1. NON RCRA HAZARDOUS WASTE, SOLID (SOIL, LEAD)	· · · · · · · · · · · · · · · · · · ·					611		
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	PT-2474		24 HR F	WERGENO	Y CONTACT	r Enwer	aserv		
Ш	15. GENERATOR'S/OFFEROR'S CERTIFICATION: I hereby declare that the contents of this	s consignment are fully a	nd accurately de	scribed above	by the proper shi	pping name	a, and are classified, packa	rged,	
Ш	marked and labeled/placarded, and are in all respects in proper condition for transport acc Exporter, I certify that the contents of this consignment conform to the terms of the altache			onal governme	ental regulations.	lf export sh	ipment and I am the Prima	ıλ	
Ш	I certify that the waste minimization statement identified in 40 CFR 262.27(a) (if I am a targ	ge quantity generator) or	(b) (if I am a sma	il quantity gen	erator) is true.				
Ш	Generator's/Offeror's Printed/Typed Name 43 49ENT FOR G	ienskom?			66	<b>一</b>	Month Day	Year LI ∄ Z*	
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H	Transporter 2 Printed/Typed Name	Signature		<del></del>			Month Day	Year	
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<u>.</u>	18b. Alternate Facility (or Generator)	м	anifest Reference	Number:	U.S. EPA ID N	lumber			
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Ę	Facility's Phone:				1				
	18c. Signature of Alternate Facility (or Generator)						Month Day	Year	
DESIGNATED FACILITY							<u></u>		
386	19. Hazardous Waste Report Management Method Codes (i.e., codes for hazardous waste trea	atment, disposal, and rec	yding systems)		<u> </u>				
쁍	, H13.5	3.			4.				
				- 40-					
$\ $	20. Designated Facility Owner or Operator: Certification of receipt of hazardous materials cover Printed/Typed Name	ed by the manifest exce Signature	pias noted in Item	103			Month Day	Year	
	Katie Buckett	1 KA	2				103109		

TIME GROSS()	<u>DATE</u> WEIGHT (LB)	COMMODITY: HAZARDOUS WASTE  DEPUTY WEIGHMASTER	GEMICAL WASTE MANAGEMENT, INC. WIGHMASTER, sempled at 3227 (10th styling Road Kettleman (10), CA
TARE:	LB	V.C	WEIGHNASTER LEBTUH ATE. THIS IS TO CERTIFY that the following described commodify was weighed, measured, or counted by a weighmapter, whose signeture is on this certificate, who is a recognized authority of social any, as prescribed by Chapter 7 commencing with Section 17700 or Ovision 5 of the California Business and Protessors Code, socialisticated by the Division of Bleasurement Standards of the California Department of Food and Agriculture.
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Ħ	5. Generator's Name					Generalo	r's Site Addres:	s (if different th	an mailing addre	55)		
		ROCKWAY GLASS CO	INTAINER INC - O	AKLAND		3600	ALAMEDA	<b>AVENUE</b>				
П	CAKLAND	DA AVENUE	CA S	34501		OAKI	LAND			CA	94501	
П	Generator's Phone:	510 436-2166	or .			271111	P) (1 4 D)			231		
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	8. Designated Facility	Name and Site Address		· · · · · · · · · · · · · · · · · · ·					U.S. EPA ID 1	lumber		
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	KETTLEMA	SKYLINE RD. I CITY	CA 93239									i
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	05 LLC 707	Description (Including Proper	Shinning Name Hazam	Class ID Number	······		19. Conta	iners	11. Total	12. Unit	l	
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		that the contents of this consi aste minimization statement I						all accombiby man	peratori le Ima			Ì
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$\ $	5. Generator's Name and Mailing Address OWENS - BROCKWAY GLASS CONTAINER INC - OAKLAND			•	san mailing addre	ss)		
	3600 ALAMEDA AVENUE OAKLAND CA 94601		Ö ALAMEDA KLAND	AVENUE		CA	94601	,
П	Generator's Phone: 510 435-2155		<b>123 (1003</b>					
	6. Transporter 1 Company Name Remedied Thinsporta	7704 5	و درو محالاسمان میشد.	المجمد علطان الما	U.S. EPAID	Number حمد عدم	INIC	7.
$\  \ $	7. Transporter 2 Company Name	· (rent )	CIPIC		U.S. EPAID	Number	11812	
	8. Designated Facility Name and Site Address CHENTICAL WASTE MANAGEMENT				U.S. EPA ID I	4umber		
П	35251 OLD SKYLINE RD.							
П	KETTLEMAN CITY CA 98289 Facilitys Phone: (559)886-9711				] CATO	0084	6.117	
	9a. 9b. U.S. DOT Description (including Proper Shipping Name, Hazard Class, ID Number,		10. Contai	ners	11. Total	12. Unit	42 Was	té Codes
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	15. GENERATOR'S/OFFEROR'S CERTIFICATION: I hereby declare that the contents of this of	consignment are fully a			CY CONTACT by the proper sh			d, packaged,
	marked and labeled/placerded, and are in all respects in proper condition for transport according to the certify that the contents of this consignment conform to the terms of the attached	rding to applicable inte	mational and nati	onal governm	ental regulations.	If export shi	pment and I am II	ne Primary
	I certify that the waste minimization statement identified in 40 CFR 262.27(a) (if I am a large	quantity generator) or		ili quantity ger	terator) is true.			
	Generator's/Offeror's Printed/Typed Name & S. 4KGENT FOR GENE SHANE PICKETT	ar anglishrer	€	<b>~</b> T	11	7	Month Larz	Day Year 109   160
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	20. Designated Facility Owner or Operator. Certification of receipt of hazardous materials covered Printed/Typed Name	I by the manifest excess Signature	t as noted in Item	1183		······································	Month	Day Year
<b> </b>	Katie Burkett	1 KAB					03	

DATE \_\_\_\_WEIGHT (LB) TIME COMMODITY: HAZARDOUS WASTE EHEMICAE, WASTE MANAGEMENT, INC. WERLINASSER WEIGHEST 33251 Old Seyling Read Kellumum Chy, CK DEPUTY WEIGHMASTER GROSS: 174043 NO: TARE: WEIGHMASTER CERTEICATE WESTAMASTER CENTER AT IT.

THIS IS TO CERTIFY that the following described commutary was weighted, necessaril, or counted by a weightnesser, whose signature to on this certificate, who is a recognized authority of accuracy, as prescribed by Chapter 7 commencing with Section 12700 of Diseases 41 or California Basicaeva and Proteinsers Code administrated by the Division of Necessarian Standards of the California Basicaeva and Proteinsers. Property. NET: YARDAGE: SEMERATOR PRODUCE RECEPTO TRACTOR LICENSES TRAILER LICENSE NO. Ϋ́×

. UP99905 1X9580Z

尸	···F	аse print or type, (Form designed for use on elite (12-pitch) typewriter.)			n Approved. OMB No. 2050-003
1		WASTE MANIFEST CATOOD518918 1	of 3, Emergency Response Phone (800) 368-4778	4. Manifest Tracking I	9984 <b>JJK</b>
	5	5. Generator's Name and Mailing Address OWENS - BROCKWAY GLASS CONTAINER INC - OAKLAND 3600 ALAMEDA AVENUE	Generator's Site Address (if different th	an mailing eddress)	
		OAKLAND CA 94501 Generator's Phone: 510 435-2155	OAKLAND	CA	94501
	6	6. Transporter 1 Company Name Reinig Mal Transportation Carrica		U.S. EPAID Number	18:47
	7	7. Transporter 2 Company Name		U.S. EPA ID Number	<u> </u>
	8	Designated Facility Name and Site Address     CHEMICAL WASTE MANAGEMENT     35251 OLD SKYLINE RD.		U.S. EPA ID Number	MH
	F	KETTLEMAN CITY CA 93239 Facility's Phone: (559)385-9711		CAT00064	8117
		9a. 9b. U.S. DOT Description (including Proper Shipping Name, Hazard Class, ID Number, and Packing Group (if any))	10. Containers No. Type	11. Total 12. Unit Quantity Wt./Vol.	13. Waste Codes
GENERATOR -		1. NON RCRA HAZARDOUS WASTE, SOLID (SOIL, LEAD)	l cm	20 Y	<b>511</b>
GENE	r	<b>Z</b> .			and a second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second sec
		3.			
	-	4.			
	14	14. Special Handling Instructions and Additional Information 9811 CA610358 - 5ONL	ERG#:981, 171 *		- FCB ++
		PT-2787			
	15	15. GENERATOR'S/OFFEROR'S CERTIFICATION: I hereby declare that the contents of this consignment	are fully and accurately described above l	Y CONTACT: ENVIRO by the proper shipping name	and are described neckanad
		marked and labeleti/placarded, and are in all respects in proper condition for transport according to app Exporter, I certify that the contents of this consignment conform to the terms of the attached EPA Acknot I certify that the weste minimization statement identified in 40 CFR 262.27(a) (if I am a large quantity ge	viedgment of Consent. nerator) or (b) (if i am a small quantity gene		oment and I am the Primary
$\prod$	Ge	Generator's Offeror's Printed Typed Name AS AGENT FOR GENERATORS	gnature S.P.	49	Month Day Year
#NT1		16. International Shipments Import to U.S. Export from			
1	17.	Transporter signature (for exports only): 17. Transporter Acknowledgment of Receipt of Materials	Date leaving U.S.:		
POR	Tta	Total Rendered Name  Se	inature		Month Day Year
TRANSPORTER	Tra	Ton - 1 - 1 - 2 - 2 - 2 - 2 - 2 - 2 - 2 - 2	nature	<u> </u>	Month Day Year
1	⊢	18. Discrepancy			
	16:	l6a. Discrepancy Indication Space Quantity Type	Residue	Partial Rejection	Full Rejection
	181	8b, Alternate Facility (or Generator)	Manifest Reference Number:	U.S. EPA ID Number	
DESIGNATED FACILITY	Far	aciity's Phone;	•	l	
<b>4TED</b>		8c. Signature of Alternate Facility (or Generator)		<u></u>	Month Day Year
SIGN		9. Hazardous Waste Report Management Method Codes (i.e., codes for hazardous waste treatment, disposa	al, and recycling systems)		
	1.	<u> </u>		4.	
	20. Prír	Designated Facility Owner or Operator: Certification of receipt of hazardous materials covered by the many infield/Typed Name     Section 1. Section 2. Section 2. Section 2. Section 2. Section 3. Section 3. Section 3. Section 3. Section 3. Section 3. Section 3. Section 3. Section 3. Section 3. Section 3. Section 3. Section 3. Section 3. Section 3. Section 3. Section 3. Section 3. Section 3. Section 3. Section 3. Section 3. Section 3. Section 3. Section 3. Section 3. Section 3. Section 3. Section 3. Section 3. Section 3. Section 3. Section 3. Section 3. Section 3. Section 3. Section 3. Section 3. Section 3. Section 3. Section 3. Section 3. Section 3. Section 3. Section 3. Section 3. Section 3. Section 3. Section 3. Section 3. Section 3. Section 3. Section 3. Section 3. Section 3. Section 3. Section 3. Section 3. Section 3. Section 3. Section 3. Section 3. Section 3. Section 3. Section 3. Section 3. Section 3. Section 3. Section 3. Section 3. Section 3. Section 3. Section 3. Section 3. Section 3. Section 3. Section 3. Section 3. Section 3. Section 3. Section 3. Section 3. Section 3. Section 3. Section 3. Section 3. Section 3. Section 3. Section 3. Section 3. Section 3. Section 3. Section 3. Section 3. Section 3. Section 3. Section 3. Section 3. Section 3. Section 3. Section 3. Section 3. Section 3. Section 3. Section 3. Section 3. Section 3. Section 3. Section 3. Section 3. Section 3. Section 3. Section 3. Section 3. Section 3. Section 3. Section 3. Section 3. Section 3. Section 3. Section 3. Section 3. Section 3. Section 3. Section 3. Section 3. Section 3. Section 3. Section 3. Section 3. Section 3. Section 3. Section 3. Section 3. Section 3. Section 3. Section 3. Section 3. Section 3. Section 3. Section 3. Section 3. Section 3. Section 3. Section 3. Section 3. Section 3. Section 3. Section 3. Section 3. Section 3. Section 3. Section 3. Section 3. Section 3. Section 3. Section 3. Section 3. Section 3. Section 3. Section 3. Section 3. Section 3. Section 3. Section 3. Section 3. Section 3. Section 3. Section	ifest except as noted in Item 184 mature		Month Day Year,
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GROSS: TARE:	TIME DATE WEIGHT	HT(LB)	COMMODITY, HAZARDOUS WASTE  DIPPTY WEIGHMASTER  \$ i'  YARDAGE:	CHEMICAL WASTE MANAGEMENT INC. WEIGHMASTER weighted to 35.51 DM Skylich Nazd Kentenan City LA  NO. 1701010  WEIGHMASTER CERTIFICATE THIS IS TO DERTIFY that the following described commodily was weighed, measured, or caunied by a weighmaster, whose separative is on this certificate, who is a robogulated suitlenty of appearance of the California Business and Protections 12790; of Division 5 of the California Business and Protections Dose, and management of Division of Management Standards of the California Business and Protections Dose, administered by the Division of Management Standards of the California Business and Protections
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### **BAY AREA CONCRETE RECYCLING**

P.O. Box 23424

Oakland, CA 94623

Office: (510) 294-0220 Fax: (510) 380-7447 www.bayareaconcreterecycling.com

No.	5	T	10	1	4
IVO.	U	U	V	7	1

Hayward - Depot Rd.

Hayward - 24701 Clawiter Rd.

San Francisco - 1236 Carroll Ave.

CONCRETE RECYCLING		Benicia - 401 W Channel Rd.
Customer Number:	Customer ELL (	Date
Dump Load  Concrete Wood & Debris Asphalt Oversized Brick With Steel Washout Slurry Mix Mixed Job #/Location:	Truck Size  ☐ Pick up ☐ Bobtail ☐ 10 Wheel ☐ End Dump ☐ Super Dump ☐ Semi Bottom ☐ DBL Bottom ☐ Transfer  ☐ Concrete Sand ☐ Class II AB ☐ Class II Permeab ☐ ¾ Drain Rock ☐ ¾ Pea Gravel ☐ Comments:	☐ Cash ☐ Charge
Truck LIC # 40 00005	Time: 7:50  Carrier Name DV	(16
BAYAREA CONCRETE RECYCLING  Customer Number:	P.O. Box 23424 Oakland, CA 94623 Office: (510) 294-0220 Fax: (510) 380-7447 www.bayareaconcreterecycling.com  Customer Name:	No. 5 5 621  Hayward - Depot Rd. Hayward - 24701 Clawiter Rd. San Francisco - 1236 Carroll Ave. Benicia - 401 W Channel Rd.  Date:
Dump Load  ☐ Concrete ☐ Wood & Debris ☐ Asphalt ☐ Oversized ☐ Brick ☐ With Steel ☐ Washout ☐ Slurry Mix ☐ Mixed ☐ ☐	Truck Size  ☐ Pick up ☐ Bobtail ☐ 10 Wheel ☐ End Dump ☐ Super Dump ☐ Semi Bottom ☐ DBL Bottom ☐ Transfer  ☐ Aggregate Sale ☐ Concrete Sand ☐ Class II AB ☐ Class II Permeabl ☐ 3¼ Drain Rock ☐ 3% Pea Gravel ☐ Comments:	Cash Charge Credit Card Check #
Driver:  Truck LIC #	Sold By:  Time: A.S.b.  Carrier Name	