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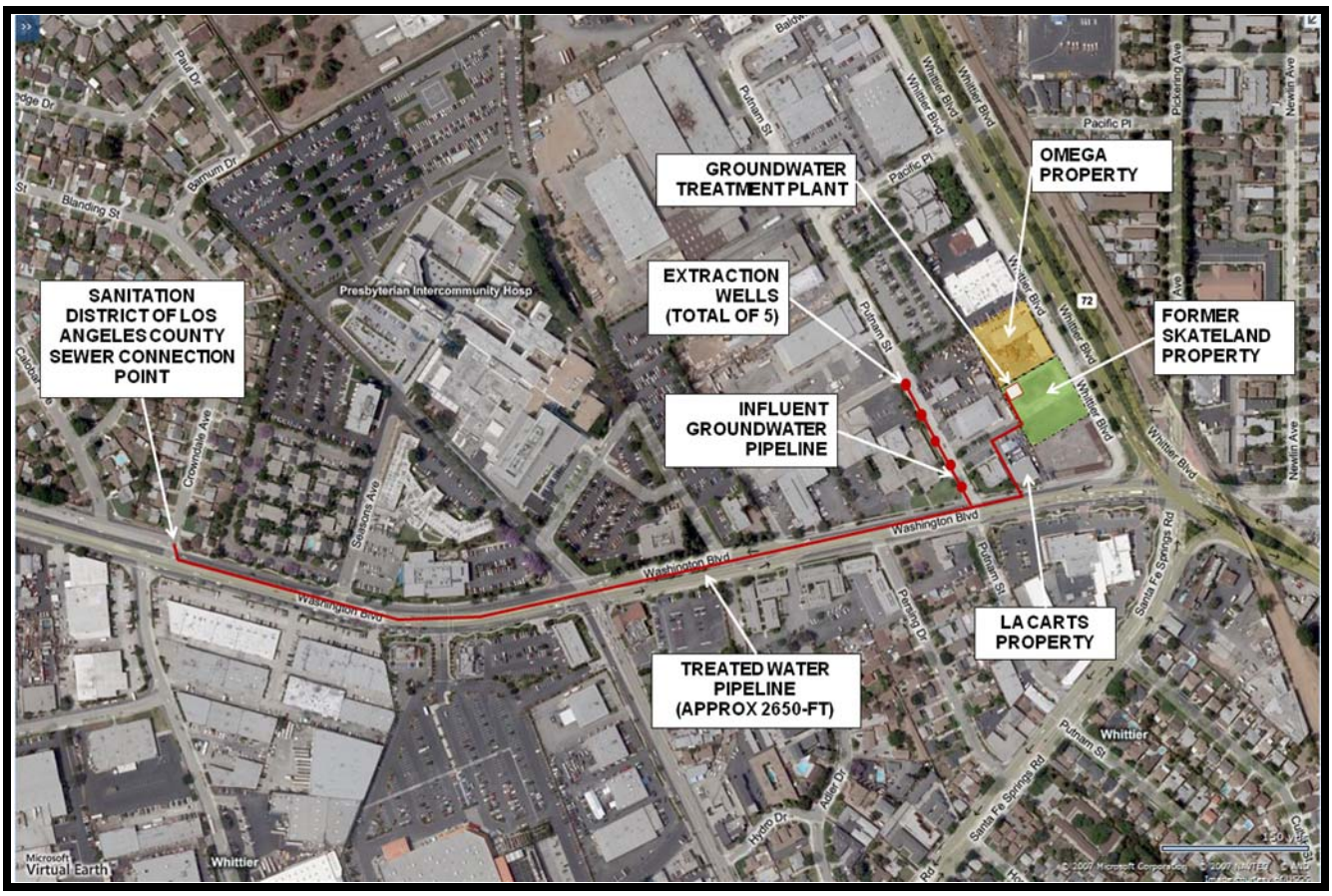
CDM

Removal Action Completion Report (FINAL)

Volume 1 of 2
(Text, Figures, Tables and Appendices)

April 07, 2010



Omega Chemical Superfund Site
Non-Time Critical Removal Action (NTCRA)
Groundwater Remedy

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April 07, 2010

Lynda Deschambault
USEPA REGION IX
75 Hawthorne Street
San Francisco, CA 94105

Subject: Final Removal Action Completion Report (RACR)
Omega Chemical Superfund Site
Whittier, CA 90602

Dear Ms. Deschambault:

Per the requirements in the Statement of Work in Consent Decree No. 00-12471 between the United States Environmental Protection Agency (EPA) and Omega Chemical Site PRP Organized Group, enclosed is the Final Removal Action Completion Report (RACR) for Non-Time Critical Removal Action (NTCRA) Groundwater Remedy.

Should you have any questions, please contact me.

Sincerely,

Edward Modiano
Project Coordinator

Enclosure
Final Removal Action Completion Report (RACR) (CDM, April 07, 2010)

CC:
Lori Parness, DTSC
Chuck Comstock, ITSI
Sharon Wallin, CDM

Removal Action Completion Report (FINAL)

Volume 1 of 2
(Text, Figures, Tables and Appendices)

Omega Chemical Superfund Site
Non-Time Critical Removal Action (NTCRA)
Groundwater Remedy

April 7, 2010

Prepared for:
United States Environmental Protection Agency
Region 9

Prepared for:
Omega Chemical Site PRP Organized Group
(OPOG)

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February 19, 2010	Pre-Final RAC Report	Revised and re-issued for review
April 07, 2010	Final RAC Report	Issued for final approval

Project No. 10500-76051-EECA.RAC

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The information contained in the document has received appropriate technical review and approval. This acknowledgement is made in lieu of all warranties, either expressed or implied. The activities outlined in this report were performed under the supervision of California Registered Professionals.

Prepared and Reviewed by:

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Certification of Completion
"Under penalty of law, I certify that to the best of my knowledge, after appropriate inquires of all relevant persons involved in the preparation of the report, the information submitted is true, accurate, and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment for knowing violations."

Edward Modiano, Project Coordinator
Omega Chemical Site PRP Organized Group

Approved by:

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List of Acronyms

bgs	Below Ground Surface
CERCLA	Comprehensive Environmental Response, Compensation and Liability Act
CDM	Camp Dresser & McKee Inc.
CEQA	California Environmental Quality Act
COC	Chain-of-Custody
EPA	Environmental Protection Agency
GWTP	Groundwater Treatment Plant
gpm	gallons per minute
GAC	granular activated carbon
HDPE	High Density Polyethylene
RCRA	Resource Conservation Recovery Act
LADPW	Los Angeles County Department of Public Works
MCC	motor control center
MSL	mean sea level
NPL	National Priority List
OCC	Omega Chemical Corporation
OM&M	Operation, Maintenance and Monitoring
OPOG	Omega Chemical Site PRP Organized Group
OSHA	Occupational Safety and Health Act
OU-1	Operable Unit 1
PCA	1,1,1,2-tetrachloroethane
PCE	perchlorethylene
PLC	Programmable Logic Controller
POTW	Publicly Owned Treatment Works

ppm	parts per million
ppmv	parts per million by volume
PSVP	Performance Standards Verification Plan
QA/QC	Quality Assurance / Quality Control
SCAQMD	South Coast Air Quality Management District
scfm	Standard Cubic Feet per Minute
SDLAC	Sanitation District of Los Angeles County
Site	Omega Chemical Superfund Site
SOW	Statement of Work
TBD	To Be Determined
TOC	Total Organic Compounds
TTO	Total Toxic Organics
USEPA	United States Environmental Protection Agency
VGAC	vapor phase granular activated carbon
VOC	Volatile Organic Compound

Section 1
Introduction

Camp Dresser and McKee Inc. (CDM) has prepared this Removal Action Completion (RAC) Report for the Omega Chemical Superfund Site (Site) on behalf of the Omega Chemical Site PRP Organized Group (OPOG). This purpose of this report is to document the construction and completion of the groundwater treatment system in Operable Unit 1 (OU-1) at the Site.

A summary of project information is provided in Table 1-1. Construction scope of work can be found in the record drawings provided in Appendix A.

1.1 Site Characteristics

This section presents an overview of site characteristics for the Omega Chemical Superfund Site.

1.1.1 Surface Topography

The Site is relatively flat and is situated at an approximate elevation of 220 feet above mean sea level. Currently, two buildings (an office building and a warehouse) are located on the former Omega property, with concrete paving covering exterior areas.

1.1.2 Surrounding Land Uses

Two industrial properties (Medlin & Son and Terra Pave) are immediately adjacent to the former Omega property (northwestern and southwestern boundaries, respectively). The northeastern boundary of the property is bordered by Whittier Boulevard and a frontage road.

1.1.3 Climate

The climate of the area is characterized as semi-arid, with an average annual precipitation of approximately 16 inches. Precipitation occurs mainly during the winter and spring months.

1.1.4 Regional Geology and Hydrogeology

The Site is located in the Montebello Forebay area of the Central Groundwater Basin of the Coastal Plain of Los Angeles (California Department of Water Resources [DWR], 1961). The Montebello Forebay is an important area of groundwater recharge. Groundwater flow in the area is generally towards the southwest, originating in an area of recharge and flowing toward an area of discharge.

The Site is underlain by low permeability silty and clayey soils of the upper Pleistocene Lakewood Formation. The Bellflower aquiclude (the Bellflower unit is actually more accurately described as an aquitard) is part of the undifferentiated Lakewood formation throughout much of the Whittier area, and likely underlies the Site. The Lakewood Formation is locally derived from erosion of the Puente Hills to

the northeast, and may be overlain by a thin cover of Holocene slopewash and alluvium that can be difficult to distinguish from the Lakewood Formation on the basis of lithology. Furthermore, local merging and interfingering of geologic units near the basin margin makes positive identification of individual geologic units encountered in borings problematic.

The direction of regional groundwater flow is generally to the southwest. The nearest active downgradient water supply wells are located more than one mile from the former Omega Chemical property. The closest active well (Santa Fe Springs Well 30R3) is located on Dice Road by Burke Street, approximately 1.25 miles downgradient of the former Omega Chemical property. This well is screened from 200 to 900 feet below ground surface (bgs) and at least two aquitards appear to be present between the shallowest aquifer and the top of the well screen.

1.1.5 Local Geology and Hydrogeology

Based on previous geologic findings at the Site, groundwater is typically encountered between 70 and 80 feet bgs, and flows to the southwest in the vicinity of the former Omega Chemical property.

Regional hydrogeologic information is inconclusive on the presence or absence of major regional named aquifers in this portion of the Whittier Area. A cross-section about 1.5 miles south of the former Omega Chemical property is presented in Bulletin 104 (DWR, 1961) that suggests that the uppermost aquifers present are the Gage and Jefferson Aquifers. The upper portion of the shallow aquifer may represent the Gage aquifer, while the lower aquifer is potentially the Hollydale or Jefferson aquifer. The Gage aquifer is the major water bearing member of the Lakewood formation in the Whittier area, where it consists of about 30 feet of sand with some interbedded clay. It can attain maximum depths of 150 feet. The Jefferson aquifer is part of the Lower Pleistocene San Pedro formation that underlies the entire Whittier Area. The formation is composed of sand and gravel with interbedded clay, likely of marine origin. It ranges in thickness from 20 to 40 feet and reaches a maximum depth of 350 feet.

Below the Gage and Jefferson aquifers are deeper members of the Lower Pleistocene San Pedro formation. From shallowest to deepest, they are the Hollydale, Lynwood, Silverado, and Sunnyside aquifers. The Hollydale aquifer may be located beneath the Site, as the Site is located in the western part of the Whittier Area. It ranges in thickness from 10 to 25 feet and reaches to a maximum depth of 100 feet, and merges with the overlying Gage near South Whittier. The Lynwood aquifer ranges in thickness from 50 to 100 feet and extends to a maximum depth of 460 feet; the Silverado aquifer ranges in thickness from 110 to 300 feet, and extends to a depth of 750 feet; while the Sunnyside aquifer consists of 200 to 300 feet of sand and gravel and reaches a depth of 1,000 feet. Site borings have not penetrated any of these deeper formations.

1.1.6 Aquifer Characteristics

Groundwater flow in the upper aquifer has been shown to be consistently towards the southwest based on depth to water and groundwater elevation data collected and contour maps prepared beginning in mid-2001. Numerous aquifer tests have been performed on wells downgradient of the Omega site over the past seven years, as follows: slug tests and step-drawdown testing on wells OW-1b, OW-2, and OW-3 in 1999; short-term (approximately four hours) constant discharge testing on wells OW-2, OW-3, OW4a, and OW8 in 2003; and long-term (approximately 24 hours) constant discharge testing, performed in September 2006 on five wells (EW-1 through EW-5) that were installed for groundwater extraction as part of the Phase 1a area groundwater remedy. A technical memorandum detailing well installation, well completion details, groundwater extraction and treatment pilot testing procedures, and an evaluation of the testing results was prepared and submitted to the United States Environmental Protection Agency (EPA) in late-2006 (CDM, November 7, 2006).

1.2 Site Operation History

The following sections present a summary of information regarding previous owners, operations, and known historical chemical use at the Site.

1.2.1 Current Use

The property located at 12504/12512 East Whittier Boulevard was first developed in 1951. It occupies Los Angeles County Assessor Tract No. 13486, Lots 3 and 4. The property is approximately 41,000 square feet (200 feet wide by 205 feet long) and contains two structures – an approximate 140 by 50 foot warehouse and an approximate 80 by 30 foot administrative building. A loading dock is attached to the rear of the warehouse. The exterior areas are concrete-paved and the property is secured with a perimeter fence and locking gate.

Van Owen Holdings LLC of Los Angeles, California purchased the former Omega Chemical property in 2003. The former Omega Chemical property is divided into two parcels:

- Northern parcel: 12504 Whittier Boulevard. Currently being leased by Star City Auto Body to conduct automotive body repair and painting. The auto body shop also leases the small paved parking lot north of the warehouse building for automobile parking.

- Southern parcel: 12512 Whittier Boulevard. The former administrative building and paved parking area south of the warehouse have had a variety of tenants since 2003. The property is currently vacant and is available for lease. The building was previously used for administration and equipment storage, while the concrete paved exterior yard was used for parking and temporary storage of heavy construction equipment.

1.2.2 Prior Use

Prior to construction of the buildings in July 1951, the property was used for agriculture. The buildings erected in 1951 were operated by Sierra Bullets through 1963. During operation of the Sierra Bullet facility, a 500-gallon underground storage tank (UST) was utilized for storage of kerosene. The UST was subsequently removed in 1987 by Fred R. Rippy, Inc. which occupied the site from 1963 through 1976.

From 1976 to 1991 Omega Chemical Corporation operated a treatment and disposal facility for commercial and industrial solid and liquid wastes and a transfer station for storage and consolidation of wastes for shipment to other treatment and/or disposal facilities.

Limited information regarding volumes and types of wastes handled by the Omega Chemical Corporation is available for review. According to the Phase II Close Out Report (Hargis and Associates, England and Associates, October 1, 1996), Omega Chemical Corporation operated the facility for recycling and treatment of spent solvents and refrigerants. Drums and bulk loads of waste solvents and chemicals (primarily chlorinated hydrocarbons and chlorofluorocarbons) from various industrial activities were processed to form commercial products which were returned to generators or sold in the marketplace. An Operation Plan, prepared by Omega Chemical Corporation in 1990 for proposed expansion of the facility, provided a summary of then current and proposed facility processes, tank capacities, incoming and facility-generated waste stream characteristics and handling practices, etc. Wastes accepted by Omega Chemical Corporation for recycling were broadly characterized as organic solvents and chemicals, and aqueous wastes with organic waste constituents. Sources of the incoming waste were a wide assortment of manufacturing and industrial processes (petroleum refining, rubber and plastics, chemicals, paper and allied products, furniture and fixture products, lumber and wood products, printing and publishing, textile mill products, food and kindred products, refrigerants, etc.). Most of the wastes reportedly arrived at the property manifested under a few common EPA waste codes (e.g., D001, ignitable waste; and F001 through F005, halogenated and non-halogenated waste). According to the Operations Plan, typical Omega-generated waste consisted of the following: C6 to C11 aliphatics (43.4 percent), xylene (16 percent), toluene (7.2 percent), C9 to C10 alkyl benzenes (5.2 percent), isopropyl alcohol (5.1 percent), and a variety of other compounds.

1.3 Enforcement History

Numerous enforcement and response actions have been taken at the Omega Site by various regulatory agencies. A summary of these actions follows:

Date	Enforcement Action
From 1984 to 1991	Notices of Violations (NOVs) received from the Los Angeles County Department of Health for the improper labeling of drums, leaking drums, incomplete hazardous waste manifests, and numerous safety violations.
November 1990	A preliminary injunction was filed by the Los Angeles County Superior Court enjoining Omega from accepting any offsite hazardous waste.
February 1991	Search warrants issued by the offices of the San Bernardino and Los Angeles County District Attorneys to search three railcars on the former Omega property.
April 1991	The Los Angeles County Superior Court ordered Omega to cease operations, remove all hazardous wastes, and close the facility.
October 1991	EPA issued an Administrative Order on Consent requiring Omega to perform several interim measures to mitigate current or potential threats to human health or the environment and to submit a Resource Conservation and Recovery Act (RCRA) Facility Investigation (RFI).
January 1995	The Los Angeles County Superior Court found Dennis O'Meara, president of Omega, in contempt of court for failing to follow its orders and ordered Mr. O'Meara and Omega to cease all operations at the former Omega property and to cooperate fully in all efforts to investigate and implement appropriate action at the former Omega property
March 1995	Dennis O'Meara pled guilty to two felony counts of illegal storage and disposal of hazardous waste.
May 1995	EPA issued a Unilateral Administrative Order (UAO) to the facility operator (Dennis O'Meara) and to the generators of hazardous substances who each sent at least 10 tons of hazardous substances to Omega.

Date	Enforcement Action
February 2001	EPA and OPOG entered into a Partial Consent Decree (Partial CD) to address soil and groundwater contamination on the former Omega property and the area immediately downgradient.
September 2005	EPA issued an Action Memorandum to construct and operate an interim groundwater pump and treatment system for the OU-1 area.

1.4 Report Organization

This document is organized as follows:

- Section 1 - Introduction: This section provides an introduction, Site background, and Enforcement history.
- Section 2 - Operable Unit Background: This section provides a brief description of the operable unit.
- Section 3 - Chronology of Events: This section provides a chronological summary of the major events.
- Section 4 - Construction Completion Activities: This section summarizes the permitting and construction completion activities.
- Section 5 - Performance Standard and Construction Quality Control: This section provides a summary of the performance standards and quality control performed during construction and current operation.
- Section 6 – EPA Inspections: This section summarizes the system inspections.
- Section 7 – Post Construction Activities: This section summarizes the post-construction activities.
- Section 8 –Project Cost: This section provides a summary of project cost.
- Section 9 – Observations and Lessons Learned: This section summarizes observations made and lessons learned.
- Section 10 - References: This section cites the references used.

Table 1-1
Summary of Project Information

Site Name
Omega Chemical Superfund Site

Regulatory Information
CERCLA ID #: CAD042245001
NPL Date: January 19, 1999
Consent Decree (CD) #: 00-12471
CD Date: February 28, 2001
Operable Unit: OU-1
Action Memorandum: September 27, 2005 for OU-1 Groundwater

Site Logistics / Contacts
Site Lead: Omega Chemical Site PRP Organized Group (OPOG)
Site Oversight: USEPA
Local Agencies: City of Whittier, County of Los Angeles Department of Public Works, Sanitation District of Los Angeles County (SDLAC), and County of Los Angeles Fire Department.

Site Characteristics
Former Site Use: Former recycling and reformulation facility
Physical Location: 12504/12512 East Whittier Blvd, Whittier California
Topography: 220 feet MSL, relatively flat
Climate: Semi-arid with average of 16 inches annual precipitation

Geology and Hydrogeology
Regional: Montebello Forebay area of the Central Groundwater Basin of the Coastal Plain of Los Angeles (California Department of Water Resources [DWR], 1961).
Local (Phase 1a area): Approx 70 to 80 feet to Groundwater
Groundwater Flow: Southwest

Contaminant Characterization
COCs: Volatile Organic Compounds (VOC) consisting primarily of tetrachloroethene (PCE), trichloroethene (TCE), and 1,1-dichloroethene (1,1-DCE), Freons (11, 12, and 113) and 1,4-dioxane.

Project Type
Non-Time Critical Removal Action (NTCRA) Groundwater Remedy

Remedial Objective
Contaminant Mass Removal and Hydraulic Containment

Remedial Approach
Groundwater Extraction and Ex-situ Treatment

Design Parameters
Extraction Wells: EW-1 through EW-5
Treatment Technology: Air Stripping and Vapor Phase Granular Activated Carbon
System Capacity: 40-gpm design and 60-gpm maximum
Discharge Permit: POTW Industrial Waste Discharge and Substantive Air Emission Requirements of South Coast Air Quality Management District (SCAQMD)

Completion Timeline
Construction Period: January 2008 to June 2009
Startup/Shakedown Period: May 2009 to July 2009
Operation Period: July 2009 to present
Initial EPA Inspection: August 19, 2009
Final EPA Inspection: November 12, 2009
Operation Lifecycle: 30 years

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Section 2
Operable Unit Background

2.1 OU Description

Remedial activities at the Omega Site have been performed in accordance with the Statement of Work in Consent Decree No. 00-12471 between the USEPA and the OPOG. The Consent Decree (CD) was lodged on November 24, 2000 and entered into the US District Court on February 28, 2001. The CD refers to this area of groundwater contamination of the Omega Chemical Superfund Site as the "Phase 1a Area", otherwise known as OU-1. The removal actions pertaining to the groundwater remediation system are only one component of the overall remedy that will address contamination associated with the Site. Other components will include remedies that will address contaminants present in OU-1 soils and regional groundwater contamination in OU-2.

Task 1 of the CD requires OPOG to "Design and Implement a Groundwater Containment and Mass Removal Treatment System in the Phase 1a Area." The Consent Decree defines the Phase 1a area as 'the area of soil and groundwater contamination associated with the Omega Property and extending downgradient approximately 100 feet southwest of Putnam Street, Whittier, California'.

Figure 2-1
OU-1 Boundary Map (Source: EPA 2008)

USEPA is currently performing a remedial investigation/feasibility study (RI/FS) in Operable Unit 2 (OU-2) to address regional groundwater contamination in the area downgradient of OU-1.

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Section 3
Chronology of Events

This section summarizes the major events pertaining to OU-1, and design and construction of the groundwater treatment system.

Table 3-1
Timeline of Major Events

DATE	MAJOR EVENT
May 1995	Unilateral Administrative Order (UAO) issued by EPA to approximately 170 major generator potentially responsible parties (PRPs). Omega Chemical Site PRP Organized Group or "OPOG" was formed.
January 1999	Omega Chemical Corporation site added to the National Priorities List (NPL).
February, 2001	Partial Consent Decree No. 00-12471 lodged on November 24, 2000 and entered into the US District Court on February 28, 2001
July 2005	Engineering Evaluation and Cost Analysis ("EE/CA") was completed. The EE/CA evaluated potential response actions which could contain contamination within the Phase 1A area.
September 2005	EPA issued an Action Memorandum to construct and operate an interim groundwater pump and treatment system for the OU-1 area.
July 2006	Five groundwater extraction wells (EW-1 through EW-5) were installed
December 2007	City of Whittier Building Department granted approval for the construction of the treatment plant.
January 2008	The construction of the groundwater extraction and treatment system for the OU-1 area began.
September 2008	Industrial Waste Discharge permit obtained from Sanitation District of Los Angeles County.
December 2008	Draft Operations, Maintenance and Monitoring Manual submitted.
July 2008	City of Whittier Public Works Department granted approval for the construction of the pipeline in the city Right-of-Way.
December 2008	Los Angeles County Department of Public Works granted approval for the construction of the pipeline in the county Right-of-Way.
July 2009	The construction of the groundwater extraction and treatment system for the OU-1 area was completed. The system began operation.
August 2009	Initial inspection of the groundwater treatment system conducted by EPA

DATE	**MAJOR EVENT**
November 2009	Final inspection of the groundwater treatment system conducted by EPA
November 2009	Final Operations, Maintenance and Monitoring Manual submitted.

Section 4
Construction Completion Activities

This section discusses the phases and activities related to installation of the extraction wells and construction of the groundwater extraction system (i.e. pumps, pipelines and treatment plant).

4.1 Extraction Well Drilling, Installation, and Development

Prior to the start of construction for the groundwater treatment system, Five groundwater extraction wells (EW-1 through EW-5) were installed during July 2006 using the air-rotary casing hammer (ARCH) drilling method. The drilling contractor selected for the work was WDC, Montclair, California. Following well installation, development was performed with a combination of bailing, surging, and pumping. All wells are located to the north of Washington Boulevard along the western side of Putnam Avenue. Well locations are presented on Figure 1.

Prior to drilling, underground utilities were located using both geophysical methods and by conventional notification of Underground Service Alert. As an additional safeguard against damaging buried utilities, the first five to six feet of the 12-inch diameter well borings were also cleared using the air-knife method. Prior to mobilizing equipment to the site, a Traffic Control Plan was prepared and subsequently approved by the City of Whittier. City traffic control personnel were consulted periodically during drilling as changes were made to the traffic control signage and equipment to accommodate changes in location of drilling and support equipment. All cuttings, decontamination fluids, and water produced during development and testing were contained in metal bins or tanks.

ARCH drilling was performed by driving a nominal 12-inch casing with threaded joints as a 10 5/8-inch diameter tri-cone air rotary drill bit advanced the boring. During drilling, samples of drill cuttings were collected at a minimum of five-foot intervals and logged for general lithology by the CDM on-site geologist. Following evaluation of the lithology encountered at each boring the wells were installed to total depths between 90 to 92 feet below ground surface (bgs). After advancing each boring to its total depth, the drill string and bit were removed from the boring and the well was constructed inside the drive casing.

All were installed similarly and with the same types of materials. The six-inch diameter wells were constructed using 15 feet of stainless steel 0.020-inch slot wire-wrap screen above a five-foot Schedule 40 PVC sediment sump and end cap. Above the screened interval, blank Schedule 80 PVC riser was installed to approximately six to ten inches bgs. To maximize the wells' ability to draw water from all productive zones encountered, filter pack consisting of No. 2/12 sand (12 by 20 gradation) was installed from the wells' total depth to above the water table. An infiltration barrier of 60 mesh sand was installed to a minimum thickness of

two feet above the filter pack. Above the infiltration barrier, a minimum of three feet of granular bentonite seal was installed and hydrated with potable water. After allowing sufficient time for the bentonite seal to hydrate, the wells were grouted to approximately five to six feet bgs with neat Portland cement grout containing five percent bentonite. Approximately four to five feet of granular bentonite were installed above the grout to facilitate modification of the well casing during plumbing to the groundwater treatment system pipelines. Each well was completed with a traffic-rated, flush-mount vault which was set in concrete, with a bolt-down lid. Locking well caps and keyed-alike padlocks were installed at each well after completion. Well completion details are provided in Table 4-1.

All wells were developed in a similar manner using a combination of bailing, surging, and pumping. The well development consisted of two stages; 1) bailing and surging, and 2) pumping. The first stage combined alternating cycles of bailing and surging to improve hydraulic communication between the well and adjacent aquifer, and to remove fine sediment from the well and adjacent filter pack. Bailing was performed with a ten-foot stainless steel bailer equipped with a check valve, and surging was done using a surge block consisting of a weighted 6-inch rubber diaphragm. The type and approximate amount of sediment removed from the well during development was noted by the CDM on-site geologist. Pumping was performed using a submersible pump set at the bottom of the well, and water was discharged directly to a 21,000 gallon tank at the Site. During the pumping stage of development, each well was pumped at varying rates and also pumped dry and allowed to recover in cycles. At the end of development, well depth measurements verified that there was minimal sediment remaining in the bottom of the wells.

Concurrent with all drilling and well development activities, The Gas Company was performing excavation and gas line maintenance in the vicinity of wells EW-4 and EW-5. Potential hazards posed by this work were incorporated into daily safety meetings as necessary and CDM worked with Gas Company supervisors to minimize delays to drilling and well development, and to mitigate potential safety risks.

The PSVP specified the installation of two additional monitoring wells (OW9 and OW10) and two additional piezometers (PZ3 and PZ4) for remedy monitoring purposes. The wells and piezometers were installed in December 2008 and June 2009, respectively, using a hollow-stem auger drilling rig. The two wells were completed with four-inch diameter Schedule 40 polyvinylchloride (PVC) blank casing and a 20-foot length of 0.020-inch (20 slot) wire-wrap stainless steel screen with No. 2/12 gravel pack. The two piezometers were completed using two-inch diameter polyvinylchloride (PVC) blank casing and a 20-foot length of slotted (0.010-inch) PVC with No. 2/12 gravel pack. For both the well and piezometers, the gravel pack was extended approximately 5 feet above the top of the slotted PVC, and the remainder of the annulus was grouted to the surface using neat cement with bentonite added. The completion depth for the two wells and two piezometers was approximately 90 feet bgs, with screen sections placed from approximately 70 to 90 feet bgs Boring logs and well completion details are provided in Appendix B.

Figure 4-1
Drilling and Extraction Well Installation

4.2 Permitting Process

Engineering drawings were first submitted to the City of Whittier for plan check on April 20, 2007. Based on the initial review by the City of Whittier, it was decided that the approval processes for the treatment plant and pipeline would be handled separately but on a parallel path. The approval of treatment plant was to be granted by the Planning Commission; and the approval of pipeline by the City Council.

Treatment Plant Approval

Architectural and additional drawings were submitted to the Planning Department for design review. On June 18, 2007, a public meeting was held and the Planning Commission voted to approve the project and allow it to go forward into plan check by the Building Department.

Engineering drawings for the treatment plant were submitted for plan check. After OPOG responded to plan check corrections and re-submitted, the Planning and Building Departments granted approval for treatment plant construction in December 2007. The approval from the Los Angeles County Fire Department was also received in December 2007.

Pipeline City Right-Of-Way Approval

Project and site information were submitted to the Planning Department for CEQA preparation. On May 30, 2007, the initial study and draft Mitigated Negative Declaration was completed and released for public review until June 18, 2007.

On April 22, 2008, the City Council voted to approve the project, allowing it to go forward into plan check by the Public Works Department.

Plans were subsequently submitted to the Public Works Department for plan check. Approval of the pipeline construction in the City Right-of-Way was granted in June 2008 by the City of Whittier Public Works Department and a Public Works Permit was granted.

Pipeline on Private Property Approval

The plan check for the pipeline within the LA Carts property was handled as a deferred submittal due to access issues. The plans were later approved in February 2009.

Pipeline County Right-Of-Way Approval

After receiving approval of the Sewer Area Study for Treated Groundwater Discharge (CDM, March 12, 2007) from Los Angeles Department of Public Works (LADPW) in June 2007. Engineering plans were submitted to the LADPW shortly. After responding to plan check corrections, LADPW granted approval for pipeline construction and connection to the existing sewer manhole in December 2008.

Industrial Waste Discharge Joint Permit Approval

The Sanitation District of Los Angeles County (SDLAC) granted approval for the discharge of the treated water on September 11, 2007. LADPW granted approval for the discharge of the treated water on April 27, 2009.

4.3 Construction Activities

The following describes the various construction phases in generally chronological order.

4.3.1 Treatment Plant Construction Activities

Mobilization and Site Preparation

In January 2008 after the acquisition of the permits, mobilization of construction equipment and tools, as well as the installation of temporary utilities and other support facilities was completed in the first two weeks of January 2008. Neighboring businesses were notified of the construction activities.

A formal kickoff meeting was held on January 14, 2008. At that time, the formal scope of work, personnel roles and responsibilities and construction schedule were discussed. Subsequent to the kick-off meeting weekly construction progress meeting were held. Daily tailgate safety meetings were held throughout the construction period.

Prior to start of construction, the limits for demolition and excavation of the treatment plant area were clearly delineated. Support and work zones are clearly delineated with cones and caution tapes. An area of approximately 60 by 60 feet was designated

for the proposed treatment plant excavation area. Civil survey and subsurface utility research were conducted during this period of time.

Demolition and Excavation

Sawcut and demolition of an existing concrete slab, demolition of unused structures, and removal of vegetation and old utilities commenced shortly after completion of mobilization. Excavation for treatment plant foundation proceeded to the required depth per the Geotechnical Report for Groundwater Treatment Plant Proposed Equipment Pad dated December 2007. Composite samples of the excavated soil composite were collected at various depths to characterize of the soils. Soils were temporarily stockpiled pending receipt of laboratory analysis and soil profiling (discussed in Section 4.3).

During excavation, air monitoring using a Photo Ionization Detector was performed in accordance with Rule 1166 of SCAQMD. Results from air monitoring showed that all field readings were below SCAQMD action levels.

In compliance with the site specific Storm Water Pollution Prevention Plan (SWPPP) (Global Environmental Network, January 23, 2008), sandbag berms and plastic materials were used to protect the stockpiled soil to prevent runoffs from rain events from leaving the site.

Figure 4-2
Excavation of the Treatment Slab Foundation

Figure 4-3
Temporary Soil Stockpile

Backfill, Subsurface Compaction and Geotechnical Testing

Once excavation to competent native soils was completed backfill and compaction with imported soil was initiated in accordance with the project geotechnical requirements. Material was placed in 8 to 12 inch lifts. Compaction testing on the backfill was performed to 90 percent relative compaction per method ASTM D1557. After the sub-grade was backfilled and compacted, aggregate base was placed to the required depth. The results from the geotechnical testing indicated that the compacted subsurface soils were suitable to support the aboveground structures and the sub-grade was approved by the geotechnical engineer.

Slab Construction, Footing Installation, and Concrete Testing

The construction contractor submitted the concrete mix for review and approval by the structural engineer prior to placement. Reinforcing steel bars (rebar) and wood concrete forms were placed to facilitate the concrete pour. Rebar grade and lapping were confirmed onsite prior to placement of concrete. Concrete testing was completed using "slump test" per method ASTM C143 prior to placement and per method ASTM C39 to confirm strength with breaks at 7, 15 and 28 days.

Figure 4-4
Slab and Footing Construction

Treatment Plant Construction

The construction of a 40 x 40x 8 feet high block wall enclosure was performed and completed next. Concrete Masonry Unit (CMU) materials were selected to comply with City of Whittier architectural requirements. Large equipment including Carbon Vessels and Air Stripper were brought in at this time and anchored on to the slab prior to closing up the enclosure.

The metal gates were installed followed by an engineered metal canopy structure to provide shelter and security for the equipment. For added security, a chain-link fence was installed to close the gap between the canopy openings and block wall. The treatment plant structure was inspected and approved by City inspectors.

The treatment plant building structure was completed in May 2008 awaiting the approval of the pipeline and the rest of the equipment installation.

Figure 4-5
Block Wall Enclosure and Canopy Structure

4.3.2 Pipeline Construction Activities

Mobilization and Site Preparation

After the acquisition of the permits, additional construction equipment and support facilities were mobilized for the work in the city right-of-way. Prior to start of the construction, the alignment of the pipeline was clearly delineated and surveyed. Businesses and residences impacted were notified about the pipeline construction activities. Subsurface utility survey and pot holing of the proposed pipeline route was conducted to verify locations of existing subsurface utilities.

Pipeline Installation in the City Right-of-Way

The pipeline construction in the City Right-of-Way was performed on two City streets. The pipeline consisted of approximately 450 linear feet of three by six inches double-wall High Density Polyethylene (HDPE) influent pipe and six conduits along Putnam Street and approximately 2,650 linear feet of three inch single HDPE effluent pipe along Washington Blvd.

Figure 4-6
Trenching along Putnam Street

Open trenching was the method used to install the belowground pipeline and conduits along Putnam Street and portions of alignment on Washington Blvd east of Putnam Street toward the LA Carts property. This section of trenching contained a double-wall influent pipe, single-wall effluent pipe and approximately six conduits. Five 4 by 4 feet vaults with traffic-rated lids for the five extraction wells (EW-1 through EW-5) and two 3 by 4 feet electrical junction vaults were installed along Putnam Street. These pipeline and conduits were installed and stubbed up near the LA Carts Inc property pending approval of an access agreement.

The majority of the effluent pipeline along Washington Blvd was installed using trenchless or Horizontal Directional Drilling (HDD) method. A few sections of open trenching were used where major subsurface utility lines were encountered. HDD methodology consisted of directly installing the pipeline along a linear alignment (not necessarily horizontal) using a steerable drilling tip to push a steel drill rod. Gyros and GPS sensors were located at the tip of the rod for control and monitoring of the directional drilling operation. The pipe was fed and pulled back filling the annular space as the tip retreats. Electrical conduits were not needed for this section of the pipeline. Isolation valves, cleanouts, pressure test ports, leak detection ports and other fittings were also installed using conventional open trench methods as part of the piping system.

After the installation of the pipeline, hydrostatic pressure testing was performed on the influent and effluent HDPE to verify that the pipelines were free from any leaks. According to the pipe manufacturer's instructions, the hydrostatic pressure pipe was

held to a minimum of eight hours at 50 psig to account for pipe thermal expansion and one hour for the actual test. Minor leaks were encountered and repaired. Retests were conducted which indicated satisfactory repairs had been performed.

Pneumatic testing was also performed on the secondary containment of the double-wall influent HDPE pipe for one hour at 5 psig.

Figure 4-7
Horizontal Directional Drilling along Washington Blvd

Pipeline Installation in the County Jurisdiction

The final section of the effluent pipeline alignment was installed outside the City of Whittier in the unincorporated section of the County of Los Angeles. In December of 2008, the Los Angeles County of Department of Public Works (LADPW) granted approval for the connection of the effluent pipeline to the County sewer at existing sewer manhole (MH539) on Crowndale Avenue.

Following permit procurement, trenching and construction of the last section of 200 linear feet of pipeline was completed in the County. The pipeline consisted of a combination of ten inch Vitrified Clay Pipe and Ductile Iron Pipe (at locations where depth was less than four feet). Two 4 by 4 feet manholes were installed near the City/County boundary and at the intersection of Washington Blvd and Crowndale Avenue.

The pipeline construction within the County jurisdiction was inspected and approved by a County inspector in end of December 2008.

Pipeline Installation through Private Property

In March of 2009, the construction of approximately 250 linear feet of pipeline through LA Carts Inc private property commenced after the acquisition of the building permit. An Easement Agreement with Fountainhead Development Inc., a development firm which purchased the LA Carts property from the original owner, to allow access across the property was finalized and recorded.

The aboveground pipeline consisted of a 3 by 6 inch double-wall influent pipe, a three inch single-wall effluent pipe and five 1.5 inch conduits. Metal casings in eight and six inch diameters were used to protect the exposed HDPE pipes from potential vandalism. After installation of the pipeline, hydrostatic and pneumatic testing was successfully performed. The pipeline through LA Carts Inc., property was completed in May of 2009.

Figure 4-8
Pipelines and Conduits entering LA Carts Property

Figure 4-9
Aboveground Pipeline and Conduits inside the LA Carts Property

Well Head Completion

Concurrent with the pipeline construction in the LA Carts property, submersible pumps and level switches were installed in all five extraction wells. Piping and electrical instruments were installed and tested, following which final connections were made to the influent pipeline.

Figure 4-10
Typical Well Head and Vault

4.3.3 Treatment System Equipment Installation and Final System Connections

In May of 2009, equipment, tanks and piping materials were delivered and placed inside the enclosure. Final phase of equipment, piping, mechanical, electrical, and instruments installation was also initiated. During this phase critical electrical and control system components including Motor Control Center (MCC), Programmable Logic Controllers (PLC) and Human-Machine Interface (HMI) were installed. Individual wiring and conduits were installed to respective equipment and instruments.

The treatment plant construction was completed in May 2009.

Figure 4-11
Carbon Vessels

Figure 4-12
Air Stripper System

Figure 4-13
Anti-Scalant System

Figure 4-14
MCC, PLC and HMI Cabinets

Figure 4-15
Northwest view of the Completed Treatment Plant

4.3.4 Deviations from the Pre-Design Report

The following table discusses key design deviations, the "As-built" condition, relative to the design basis as submitted in the *Remedial Action Plan and Preliminary Design Report* (RAP/PDR; CDM December 16, 2005).

Reference / Requirement	Deviation / Rationale
Section 4.1.2 – Variable Speed Drives for all the groundwater extraction wells	Due to anticipated low flow rates it was determined to be technically and economically infeasible to install VFDs in wells EW-4 and EW-5.
Section 4.1.2 - Equalization vessel	An equalization vessel was determined to be not necessary to achieve the treatment performance. Direct discharge into the air stripper system from the extraction wells is used.
Section 4.3 - Design flow rate of 30 gpm	A design flow rate of 40 gpm was selected based on modeling and aquifer testing. Section 4.5.4 discusses the actual and anticipated system parameters.

4.4 Waste Generation, Characterization and Disposal

During the duration of construction, the all excavated soils were temporarily stockpiled at the site. The following waste quantities were generated and disposed of:

- Approximately 133 cubic yards of existing concrete were disposed of as construction debris.
- Approximately 1,400 cubic yards of existing soils were disposed of as non-hazardous soil as verified by analytical results from Toxicity Characteristic Leaching Procedure (TCLP); Total Threshold Limit Concentration, and Soluble Threshold Limit Concentration (STLC) tests.

Analytical results are included in Appendix C. Since the soils were characterized as non-hazardous, they were disposed of as construction debris to a local landfill. Manifests were not required for disposal and will not be included in Appendix D.

4.5 Startup and Shakedown Completion Activities

After completion of construction, the Startup and Shakedown (Startup/Shakedown) phase began on May 18, 2009 and was completed on July 24, 2009. Treatment plant commissioning consisted of three phases of testing (Functional, Simulation and Performance testing).

The procedures for Startup/Shakedown operations were outlined in the draft operation, maintenance and monitoring manual. Start-up operations included completion of minor punch list items, extraction well flow adjustments and heightened monitoring of system operation. Treatment plant commissioning was outlined in Appendix I of the draft Operation, Maintenance and Monitoring (OM&M) Manual (CDM, December 12, 2008). Thirty days of shake down operations followed completion of functional, simulation and performance testing.

Table 4-2 contains a breakdown of the documentation detailing the procedures used to perform each phase of the testing. The table also includes the actual dates for completion of each testing milestone. Appendix E contains field forms (red tags) generated documenting the completion of each phase of the testing.

4.5.1 Functional Testing

Functional testing involved the testing of mechanical and electrical aspects of the equipment. The purpose of the test was to verify that each piece of equipment operated according to its intended function and parameter in a dry condition. Liquid was not introduced into the system at this time.

Each piece of equipment was functionally tested individually (i.e., each motor was checked to verify correct rotation; instruments were checked to verify proper signals). The equipment was checked for physical mounting, loose/missing bolts, missing gaskets and missing guards, installation of all necessary piping and ducting, damaged

or missing coatings. The equipment was checked to verify that each piece was free of debris and in good condition. Valves and damper positions were checked in preparation for individual equipment test run.

The blue tag (electrical check out) was reviewed in preparation of completion of electrical check out. The equipment was then bumped to check rotation if required. Rotation was corrected as needed and the equipment was test run. The equipment was operated to collect electrical data for confirming voltage, amperage and inrush. Breaker and thermal overload adjustments were made as necessary.

Major punch list items were identified and corrected as needed. The equipment was retested if appropriate before proceeding to simulation testing.

4.5.2 Simulation Testing

Simulation testing involved the testing of the interaction of each individual piece of equipment with all other associated equipment, instrumentation and controls. The equipment was tested with liquid and materials under loading conditions. The test was performed using potable water. All instruments and alarms were triggered to verify interface and communication with associated equipment. The purpose of the test was to verify that the equipment operates according to its process parameter. Since contaminated groundwater was not introduced into the system at the time, the extraction well pumps remained offline during this test.

Treatment Plant Equipment

The treatment plant was loaded with potable water and connected to a temporary tank to simulate water influent and effluent discharge. The bag filters, air stripper, transfer pump, and effluent pump were prepared and configured for the test. The pumps were primed with water. Effluent was directed back to the temporary tank for recirculation.

Influent flow was simulated using a temporary transfer pump to transfer the liquid from the temporary tank to the plant influent connection. The system was configured to cycle water through the process equipment and then back to the temporary tank. No discharge to the sewer was performed at this time.

With the introduction of potable water into the system, valves at specific sections of the system were throttled back to build up pressure and check for leaks which, if any, were corrected.

The bag filters, air stripper, transfer pump, and sump pump were placed in service. Gravity flow from the temporary tank was used to simulate low flow. Level controls of the air stripper and sump pump were tested and adjusted as needed. The temporary transfer pump was started to simulate higher flow rates. The air stripper transfer pump level switches and the sump level transmitter were adjusted for desired level control.

Extraction Well Pumps

Since potable water could not be used to test the extraction well pumps after these pumps were deployed inside the wells, actual groundwater was used. Extracted groundwater was directed to a second temporary tank by bypassing the treatment plant and was stored for later treatment.

The extraction wells were individually started in hand mode. The initial well flow rates were set. The flow meters, pressure switches and level controls were tested. Punch list items were generated and major issues were identified and corrected before proceeding. Automatic operation of each well was tested and additional flow adjustments were made.

System Controls

PLC and HMI testing were performed at various times, where feasible, during functional, simulation, and performance testing. Modifications were performed at various times and were prioritized depending on testing needs as the process proceeded. The PLC and HMI functions that were tested and passed are documented on the PLC / HMI field records (Appendix E).

4.5.3 Performance Testing

Performance testing involved the operation of the equipment as intended under actual process conditions followed by sampling/monitoring to verify that the system met performance and compliance standards. Groundwater was introduced into the system for the test and discharged into a second temporary tank pending verification of sampling results.

The performance testing of individual pieces of equipment was performed and data collected for each piece of equipment was recorded on the red tags.

Initial system performance testing was performed by energizing the extraction well pumps to extract groundwater for treatment through the air stripper. The off-gas discharge from the air stripper was directed to the VPGAC vessels installed in series. The liquid effluent discharge was directed to a temporary storage tank. The system operated for approximately six hours. Water samples of the air stripper inlet and air stripper discharge were collected to evaluate the air stripper performance. Vapor samples of the VPGAC inlet, VPGAC midpoint and VPGAC discharge were collected to evaluate the VPGAC performance. The plant was shut down pending receipt and evaluation of analytical results.

The results of the initial testing indicated that the treatment equipment was operating within the desired specifications and discharge limits. See Appendix F for details of the analytical performance verification testing.

After verification of analytical results, the treated water collected in the temporary tank was discharged to the sewer via the newly installed conveyance piping. Untreated water collected during extraction well pump simulation testing was

introduced into the plant for treatment and subsequent discharge to the sewer. Once emptied the temporary tank and other testing equipment were subsequently removed from site.

Process verification samples were collected on July 15, July 22, August 6, 2009 and August 27, 2009 (Appendix F).

4.5.4 Current and Anticipated System Parameters

After the successful completion of testing activities, the system began automated operation on July 24, 2009. Regular OM&M and data collection began as soon as the system was online. The following system crucial parameters were closely monitored since operation.

System Flow Rates

The system flow rate is monitored by the effluent flow meter before discharging to the sanitary sewer. The data is logged by the PLC. Each month the data is downloaded to an access database for storage and analysis. Flow rate is measured in gallons per minute and total gallons pumped are displayed in the manual readout inside the treatment plant.

Due to ongoing drought conditions in Southern California, water levels have declined and the aquifer is currently yielding approximately 20 gpm since operation of the extraction wells began on a continual basis in July 2009.

Groundwater capture is being analyzed in the upcoming Groundwater Modeling Report.

Vapor Flow Rates

The flow rates from the air stripper offgas is being monitored by a pitot-tube flow instrument and magnehelic gauge. The offgas flow rate has been averaging 580 standard cubic feet per minutes. To maintain a minimum air to water ratio, the flow rate is set to not exceed 600 scfm and only fluctuates slightly with varying water treatment flow rate. The data is manually recorded on the log on the weekly basis.

Table 4-1a
Extraction Well Construction Details
Omega Chemical Superfund Site, Whittier, CA

Well No.	Casing Dia. (inches)	Boring diameter (inches)	TD drilled (feet bgs)	Blank Casing Type	Screen Type	Screened Interval (feet bgs)	Opening Size (inch)	Filter Pack Gradation	Filter Pack Interval (feet bgs)	Date Drilled	TD Cased (feet bgs)	Northing (feet)	Easting (feet)	Depth to Groundwater (feet btoc)	Reference Point Depth (feet bgs)	Reference Point (casing)
EW-1	6	12	92	PVC	SS/WW	72 - 87	0.020	#2/12	60 - 92	Jul-06	92	NA	NA	66.66	0.68	top of PVC
EW-2	6	12	92	PVC	SS/WW	72 - 87	0.020	#2/12	60 - 92	Jul-06	92	NA	NA	65.51	0.67	top of PVC
EW-3	6	12	90	PVC	SS/WW	70 - 85	0.020	#2/12	63.4 - 90	Jul-06	90	NA	NA	64.08	0.92	top of PVC
EW-4	6	12	91	PVC	SS/WW	71 - 86	0.020	#2/12	59 - 91	Jul-06	91	NA	NA	63.11	0.70	top of PVC
EW-5	6	12	90	PVC	SS/WW	70 - 85	0.020	#2/12	58.5 - 90	Jul-06	90	NA	NA	61.55	0.56	top of PVC

Notes:

bgs - below ground surface
msl - feet above Mean Sea Level
GS - Ground Surface
TD - Total Depth

Dia. - Diameter
SS - stainless steel
WW - continuous wire wrap screen
PVC - polyvinylchloride

btoc - below top of casing (measuring point)

Reference point utilized prior to installation of well vaults, see Table 3-1b for well survey information following installation of well vaults and wellhead equipment in 2009

* Depth to groundwater measured July 19, 2006, and represent pre-development conditions

Table 4-1b
Extraction Well Construction Details

Well No.	Northing, Easting	Top of Well head Elevation (MSL)	Bottom of Vault Elevation (MSL)	Top of Vault Elevation (MSL)	Well Dia (in)	Well Screen Interval (ft bgs)	Total Depth (ft bgs)	Approx. Depth to GW (ft bgs) *1
EW-1	1811141.56, 6548077.81	202.09	198.43	202.23	6	72 - 87	92	67.35
EW-2	1811076.59, 6548114.39	200.88	197.3	200.89	6	72 – 87	92	65.60
EW-3	1811016.29, 6548146.33	196.61	196.51	199.62	6	70 – 85	90	65.28
EW-4	1810940.52, 6548188.23	198.68	195.04	198.67	6	71 – 86	91	66.05
EW-5	1810861.90, 6548232.64	197.03	193.59	197.02	6	70 - 85	90	62.23

Notes:
*1 = data obtained in 2008
ft bgs = feet below ground surface
in = inches
gw = groundwater
MSL = mean sea level measured at the top of casing
Dia = Diameter

Table 4-2
Startup/Shakedown Completion Schedule

Start Date	Completion Date	Tasks	Procedure Reference	Field Procedures / Documentation	Equipment	Notes
05/27/09	06/01/09	Functional Testing	Draft O&M Manual, Appendix I	EW-1, EW-2, EW-3, EW-4, EW-5	EW-1, EW-2, EW-3, EW-4, EW-5	Collect Static Water Levels
05/07/09	6/5/2009	Functional Testing	Draft O&M Manual, Appendix I; 3.2 Submersible Pump, 5.1.1 Duplex Strainer, 5.1.2 Anti Scalant System, 5.1.3 Air Stripper, 5.1.4 Discharge Pump, 5.1.5 Effluent Flow Meter, 5.1.6 Vapor Phase Carbon	Equipment Readiness / Check Out Report (Red Tag); BWR-225, STAS-220, PMP215, PMP-229, FLT-205, FLT-207, PMP-230	Treatment Plant; air stripper, VPGAC, effluent pump	Check out individual equipment
05/07/09	07-10-09	Simulation Testing	Draft O&M Manual, Appendix I; 3.2 Submersible Pump, 5.1.1 Duplex Strainer, 5.1.2 Anti Scalant System, 5.1.3 Air Stripper, 5.1.4 Discharge Pump, 5.1.5 Effluent Flow Meter, 5.1.6 Vapor Phase Carbon	Equipment Readiness / Check Out Report (Red Tag); BWR-225, STAS-220, PMP215, PMP-229, FLT-205, FLT-207, PMP-230	Treatment Plant; air stripper, VPGAC, effluent pump	Operate treatment plant without wells field to and from on site temporary tankage, group start of equipment without well field, simulate alarm / shut down conditions
6/1/2009 A	06/10/09	Functional Testing	Draft O&M Manual, Appendix I; 3.1 Extraction Wells	Equipment Readiness / Check Out Report (Red Tag); EW-1/5	EW-1, EW-2, EW-3, EW-4, EW-5	Inspect wells, start each well, make initial flow rate adjustment, check instrumentation; waiting on EW-2 VFD
06/10/09	06/11/09	Functional Testing	Draft O&M Manual, Appendix I; 4.0 Conveyance Pipeline	EW-1, EW-2, EW-3, EW-4, EW-5	Conveyance Piping	System pressure complete, inspect for above ground leaks

Table 4-2
Startup/Shakedown Completion Schedule

Start Date	Completion Date	Tasks	Procedure Reference	Field Procedures / Documentation	Equipment	Notes
06/10/09	07-10-09	Simulation Testing	Draft O&M Manual, Appendix I; 3.1 Extraction Wells	Equipment Readiness / Check Out Report (Red Tag); EW-1/5	EW-1, EW-2, EW-3, EW-4, EW-5	Group Start of all wells, check air stripper / treatment plant pump operation
06/01/09	07-24-09	Functional, Simulation and Performance Testing	Draft O&M Manual, Appendix I; 5.2.1 Motor Control Center	Equipment Readiness / Check Out Report (Red Tag); MCC / PLC / HMI / Auto Dialer / PLC A/C / Backup Power Supply	MCC / PLC / HMI / Auto Dialer / PLC A/C / Backup Power Supply	Functional and Simulation Testing compete
06/01/09	07-24-09	Functional, Simulation and Performance Testing	Draft O&M Manual, Appendix I; 5.2.2 Programmable Logic Controller, 5.2.3 Human Machine Interface	Equipment Readiness / Check Out Report (Red Tag); MCC / PLC / HMI / Auto Dialer / PLC A/C / Backup Power Supply	MCC / PLC / HMI / Auto Dialer / PLC A/C / Backup Power Supply	Functional and Simulation Testing compete
06/15/09	06/19/09	Performance Testing	Draft O&M Manual, Appendix I; 3.2 Submersible Pump, 5.1.1 Duplex Strainer, 5.1.2 Anti Scalant System, 5.1.3 Air Stripper, 5.1.4 Discharge Pump, 5.1.5 Effluent Flow Meter, 5.1.6 Vapor Phase Carbon	Equipment Readiness / Check Out Report (Red Tag); BWR-225, STAS-220, PMP215, PMP-229, FLT-205, FLT-207, PMP-230	Treatment Plant; air stripper, VPGAC, effluent pump	Operate treatment plant with wells field, discharge to on site temporary tankage

Table 4-2
Startup/Shakedown Completion Schedule

Start Date	Completion Date	Tasks	Procedure Reference	Field Procedures / Documentation	Equipment	Notes
06/22/09	06/22/09	Performance Testing	CDM Memo 05-15-09; O&M Manual Section 6; SDLAC Permit	Laboratory Reports	Treatment plant inlet water sampling	Initial plant performance test, all extraction wells, composite influent
06/22/09	06/22/09	Performance Testing	CDM Memo 05-15-09; O&M Manual Section 6, SDLAC Permit and Appendix I; 6.2 Liquid Phase Monitoring	Laboratory Reports	Plant effluent	Initial plant performance test, plant effluent
06/22/09	06/22/09	Performance Testing / Compliance Sampling , vapor, monthly	CDM Memo 05-15-09; O&M Manual Section 6, SCAQMD Permit and Appendix I; 6.3 Vapor Phase Monitoring	Laboratory Reports	VPGAC vapors	Initial plant performance test, vapor phase GAC
6/23/2009	7/24/2009	Shake Down Operation	Draft O&M Manual, Sections 3, 4 and 5	Equipment Readiness / Check Out Report (Red Tag); BWR-225, STAS-220, PMP215, PMP-229, FLT-205, FLT-207, PMP-230, EW-1/5	All	Begin shakedown operation after confirmation of compliance testing
07-15-09	07-15-09	Performance Testing	CDM Memo 05-15-09; O&M Manual Section 6, SDLAC Permit and Appendix I; 6.2 Liquid Phase Monitoring; SAP Addendum 06-30-09	Laboratory Reports	Plant effluent	Process Verification Sampling number 1

Table 4-2
Startup/Shakedown Completion Schedule

Start Date	Completion Date	Tasks	Procedure Reference	Field Procedures / Documentation	Equipment	Notes
07-15-09 A	07-15-09	Performance Testing	CDM Memo 05-15-09; O&M Manual Section 6, SCAQMD Permit and Appendix I; 6.3 Vapor Phase Monitoring; SAP Addendum 06-30-09	Laboratory Reports	VPGAC vapors	Process Verification Sampling number 1
07/22/09	07/22/09	Performance Testing	CDM Memo 05-15-09; O&M Manual Section 6, SDLAC Permit and Appendix I; 6.2 Liquid Phase Monitoring; SAP Addendum 06-30-09	Laboratory Reports	Plant effluent	Process Verification Sampling number 2
07/22/09	07/22/09	Performance Testing / Compliance Sampling, Vapor, Monthly	CDM Memo 05-15-09; O&M Manual Section 6, SCAQMD Permit and Appendix I; 6.3 Vapor Phase Monitoring	Laboratory Reports	VPGAC vapors	Process Verification Sampling number 2
8/6/2009	8/7/2009	Compliance Sampling, water, Third Quarter	SDLAC Permit	Laboratory Reports	Plant effluent	Permit driven, including 24 hour composite
8/13/2009	8/13/2009	Performance Testing	CDM Memo 05-15-09; O&M Manual Section 6; SAP Addendum 06-30-09	Laboratory Reports	Treatment plant inlet and extraction well water sampling	Process Verification Sampling number 3
8/13/2009	8/13/2009	Performance Testing	CDM Memo 05-15-09; O&M Manual Section 6, SDLAC Permit and Appendix I; 6.2 Liquid Phase Monitoring; SAP Addendum 06-30-09	Laboratory Reports	Plant effluent	Process Verification Sampling number 3

Table 4-2
Startup/Shakedown Completion Schedule

Start Date	Completion Date	Tasks	Procedure Reference	Field Procedures / Documentation	Equipment	Notes
8/13/2009	8/13/2009	Performance Testing / Compliance Sampling, Vapor, Monthly	CDM Memo 05-15-09; O&M Manual Section 6, SCAQMD Permit and Appendix I; 6.3 Vapor Phase Monitoring; SAP Addendum 06-30-09	Laboratory Reports / Regulatory Reports	VPGAC vapors	Process Verification Sampling number 3
8/19/2009	8/19/2009	EPA Inspection		ITSI Check List		10 AM to 3 PM, one well inspection

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Section 5
Performance Standards and Quality Control

5.1 Performance Standards

The following tables summarize the objectives and goals for the groundwater remediation system.

Table 5-1
Summary of Performance Standards

Construction and Remediation Objectives / Cleanup Goals	Performance Results
Installation of extraction wells in the Phase 1A (OU-1) area.	Five (5) groundwater wells (EW-1, EW-2, EW-3, EW-4 and EW-5) were installed along Putnam Street to a depth of approximately 95 feet below ground surface, and were completed with a 20 feet long screened interval.
The completion of a treatment system to treat the extracted groundwater to meet ARAR requirements.	A treatment plant was constructed at the Former Skateland property, 12520 Whittier Blvd, Whittier, California. The treatment system consists of air stripping technology to treat VOC-contaminated groundwater to meet SDLAC requirements prior to discharge to the POTW and a vapor phase carbon adsorption system to treat the VOC-contaminated offgas to meet the substantive requirements of SCAQMD.
Extraction pumps	Each pump was adequately sized to meet and exceed design flow rate.
Compaction Testing, 90% relative compaction per method ASTM D1557.	Geotechnical testing indicated that the compacted subsurface soils met standard.
Concrete Testing, using “slump test” per method ASTM C143 prior to placement and per method ASTM C39 to confirm strength with breaks at 7, 15 and 28 days	Concrete testing indicated that the compacted subsurface soils met standard
Pressure Testing, Hydrostatic up to 1½ times of design pressure.	All pipes were tested and verified free from any leaks
Functional Testing	Completed during Startup/Shakedown period.
Simulation Testing	Completed during Startup/Shakedown period.
Performance Testing	Completed during Startup/Shakedown period.
Operation of the extraction wells to provide adequate containment of the contaminant plume to limit further migration of highly contaminated groundwater from the OU-1 area.	Performance Evaluation Reports will be submitted on an annual basis and will include an evaluation of remedial system performance for each of the four quarters of the year.

Table 5-2
Effluent Water Discharge Standards

Substance Name	Regulation	Sample Method	At Any Time Max.	Daily Avg. Min.
Flow	Per permit	Flow Meter by manual readout	60 gpm	40 gpm
pH	Federal	Grab	n/a	5.0 S.U.
pH	Local	Grab	n/a	6.0 S.U.
Temperature	Local	Grab	140 Deg. F	None
Solids, Suspended	None (see note1)	Grab	None (see note 1)	None (see note1)
Sulfide, Soluble	Local	Grab	0.1 mg/L	None
COD, Total	None (see note 1)	Grab	None (see note 1)	None (see note 1)
1,4-Dioxane	None (see note 1)	Grab	See note 2	None (see note 1)
TTO, Volatile	Local	Grab	1000 ug/L	None
TTO,Semi-Volatile	Local	Grab	1000 ug/L	None

Notes:
1 - Sampling is required but no compliance limit has been assigned by SDLAC.
2 –If value is increasing and trending to 5,000 ug/l, additional instruction may be needed from SDLAC.

Table 5-3
Effluent Vapor Emission Standards

Compound	Parts per Billion
Benzene	20
Carbon tetrachloride	10
Chloroform	13
Dichlorobenzene, p-	10
Dichloroethane, 1,1-	60
Ethylene dichloride	4.6
Methyl tert-butyl ether	20
Methylene chloride	31.2
Naphthalene	10
Perchloroethylene	268.6
Trichloroethane, 1,1,2-	30
Trichloroethylene	13.4
Vinyl chloride	20

5.2 Design QA/QC

Quality Assurance and Quality Control (Q A/QC) for design was conducted in general accordance with CDM's Quality Management Process Manuals (QMPs). The design documents, plans and specifications were adequately reviewed by each discipline lead and the Engineer of Record.

5.3 Construction QA/QC

QA/QC for construction was conducted in general accordance with CDM's QMPs and the Construction Quality Assurance Work Plan (Section 10 of the RAP/PDR).

Consistent with these documents, contractors were required to provide the required submittals per technical specifications developed by CDM according to the Construction Specification Institute's 16 Division format. These submittals received the appropriate review and approval by the engineer. These submittals are documented in Volume 2.

Field inspections, required in the technical specifications, were conducted and documented in Volume 2 Submittals during Construction.

5.4 Sampling and Analytical QA/QC

QA/QC for sampling and testing were performed in accordance with the Sampling and Analysis Plan (SAP) Addendum for Startup and Performance Testing of the EECA Groundwater Treatment System (CDM, June 30, 2009) and Downgradient Well Installation and Groundwater Monitoring Sampling and Analysis Plan (CDM, April 20, 2001).

Field and laboratory QA/QC procedures were performed in accordance with the Sampling and Analysis Plan Addendum for Additional Data Collection in the Phase 1a Area (CDM, March 6, 2003).

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Section 6
EPA Inspections

6.1 Pre-Inspection

During the Startup/Shakedown phase, OPOG and EPA representatives, including EPA's Operation and Maintenance (O&M) contractor Innovative Technical Solutions, Inc. (ITSI), participated in weekly teleconference calls to discuss EPA's comments to the Draft Operations, Maintenance, and Monitoring (OM&M) Manual (CDM, December 2008), startup of the treatment system, and other related topics. These calls took place on July 1st, July 8th, July 15th, July 22nd, July 29th, and August 5th of 2009.

Following each of the calls, CDM staff provided EPA and ITSI with information and revisions of various documents (Standard Operating Procedures, field forms, checklists, etc.) relating to the OM&M Manual and startup pending EPA inspection, as requested.

6.2 Initial Inspection

An initial inspection was conducted on August 19, 2009 by representatives from EPA, ITSI and DTSC in the presence of representatives from OPOG and CDM. An inspection report was developed by ITSI and submitted to OPOG on November 13, 2009. See Appendix G for the Inspection Report.

Based on the inspection of the GWTS, ITSI reported that no significant hazards or equipment malfunctions were apparent. The extraction wells, conveyance piping, and treatment system were generally in good condition and functioning as described in the Draft Groundwater Treatment System Operation, Maintenance, and Monitoring Manual. An action item list was developed by ITSI and EPA, and provided to OPOG and CDM for corrections prior to final inspection. The action items were addressed prior to EPA's final inspection.

6.3 Final Inspection

After addressing the action items from the August 19th inspection, a final inspection was conducted on November 19, 2009 by representatives from EPA and DTSC in the presence of representatives from CDM. A follow-up letter dated November 20, 2009 was issued by EPA to OPOG summarizing the observations from the final inspection (Appendix G).

Responses to EPA's observations were addressed in the Final OM&M Manual (CDM, November 19, 2009) and this Removal Action Completion Report. The following table summarizes the completion of the inspection items.

Table 6-1
Summary of Inspection Observations and Responses

EPA Comments	Response
A central repository of site documents	A copy of the Final OM&M Manual and Removal Action Completion Report will be stored at the site at all times. In addition, completed field records will be stored at the site as required by local agencies.
SOPs and Field Forms	All SOPs and Field Forms were verified and checked for references in the Final OM&M Manual.
Effluent flow meter	Effluent flow meter was constructed as part of the design and verified during inspection. A copy of the flow meter calibration report is included in Appendix E.1 of this RACR.
Cap seal of the secondary piping	The Cap seal of the secondary piping was completed prior to the November 19th inspection and was verified during inspection.
Vault seals and indicator/shut off	Vault seals and indicator/shut off were verified during inspection.
Remote shut down capability	During inspection, a laptop that allows the plant operators to shut down the system remotely was demonstrated and verified.

Section 7
Post-Construction Activities

7.1 Operation, Maintenance and Monitoring

The treatment plant began fully automated 24-hour operation on July 24, 2009. Regular OM&M began as soon as the treatment system was placed into operation.

Routine site visits are performed on a weekly basis and include maintenance and monitoring to verify that the system operates as desired. Non-routine repairs, calibrations and optimization of the system are performed when necessary. Weekly records are documented on the weekly log, which is stored electronically in the project directory. Hardcopies of the records are stored in a binder at the site. Weekly log records will be imported into a Microsoft Access database. Operating data is recorded and evaluated. Trended data is viewed on the HMI and evaluated for long term trends. Extraction well and treatment plant adjustments are made as needed based on the data evaluation. Anti-scalant tank level is noted on a periodic basis and actual injection flow is confirmed. The equipment and piping are inspected periodically for leaks and damage. The sumps are inspected for sediment / scale accumulation. The VPGAC performance is checked with a field monitoring instrument during sampling events. Non-routine maintenance, vapor sampling, water sampling, hazardous waste management, water level measurements, housekeeping, reagent filling and/or equipment deliveries are typically scheduled and performed on an extended weekly site visit and are documented in appropriate forms.

The operation of the plant is monitored remotely at least once weekly or when an alarm condition is encountered. Remote access through the internet enables authorized personnel to connect to the system computer and view operating parameters at any time.

Monthly maintenance/inspection is documented on the monthly log, which is stored electronically in the project directory. Hardcopies of the records are stored in a binder at the site. Monthly log records will be imported into a Microsoft Access database. The monthly maintenance/inspection is typically performed in conjunction with the weekly maintenance as an extended visit. Monthly maintenance/inspection includes additional tasks not typically required on a weekly frequency. Examples of these additional tasks include: inspection of the extraction wells vaults and secondary containment ports for damage or leaks; inspection of the vapor stream for condensate accumulation; and inspection of the air stripper trays and bottoms for biological and/or scale build up. The monthly maintenance log sheet provides a complete and detailed list of monthly maintenance/inspection activities which includes monitoring of water levels, water quality and pumping rates in the extraction wells.

Operating data including the water level measurements, monthly and weekly records is entered into a centralized OMM Microsoft Access database. The data can be queried by many parameters for evaluation including by date, by record type, or by

measurement type. The queries can be exported to Microsoft Excel for analysis, as needed. PLC data will also be included in the OMM Microsoft Access database. PLC data will be downloaded monthly and imported into the database. Downloaded PLC data will also be saved in the electronic files in the project directory.

Hardcopies of field and analytical records will be maintained at the site for a period of four years.

Analytical data for the treatment plant, extraction wells, monitoring wells or SDLAC compliance sampling is also stored electronically in the project directory and will be imported into the analytical Microsoft Access database, which is a separate database from the OMM database.

In the event of non-compliance with performance standards, EPA will be notified within five days of discovery.

7.2 Performance Monitoring

Performance monitoring for the groundwater remedy began after the system was placed into operation in accordance with the Performance Standards Verification Plan (PSVP) (CDM, April 19, 2007). The PSVP specifies the monitoring of water levels and water quality in select monitoring wells to assess the effectiveness of the groundwater extraction system. The PSVP includes the following:

Reporting Requirements

- Monthly Progress Reports which summarize remedial system performance monitoring activities and data collected
- Performance Monitoring Reports which are submitted annually and will include an evaluation of remedial system performance for each of the four quarters of the year
- In the event of non-compliance with performance standards, EPA will be notified within five days of discovery.

Monitoring (Water Levels, Water Quality Samples, Pumping Rates)

Water Levels

- Monitoring wells OW1, OW1b, OW2, OW3, OW3b, OW4a, OW4b, OW7, OW8, OW8b, OW9, OW10, and piezometers PZ1, PZ2, PZ3, and PZ4
- Extraction wells EW1 through EW5
- Frequency of water level measurements is weekly for three months (September through November 2009) and then monthly beginning in December 2009. Starting in year two (September 2010) frequency will be monthly. Frequency will be re-evaluated following two years of monitoring (September 2011) and will likely

be semi-annually and performed at the same time as semi-annual water quality sampling.

Weekly water level monitoring was initiated on September 1, 2009. During measurement of the extraction well water levels, it will be noted on the water level log whether the extraction well is operating or has cycled off for recharge.

Water Quality Samples

- Monitoring wells OW1, OW1a, OW2, OW3, OW3b, OW4a, OW4b, OW7, OW8, and OW8b
  - Frequency of sampling is semi-annual for the first two years at the above monitoring wells
- Monitoring wells OW9 through OW10
  - Frequency of sampling is quarterly for one year following system startup, and semi-annual thereafter at OW9 and OW10

Groundwater sampling activities were initiated on September 1, 2009.

All water quality samples will be analyzed for the following parameters at a fixed-base laboratory:

- VOCs plus acetone, Freon 11, Freon 12, and Freon 113 by Method 8260B
- 1,4-Dioxane by Method 8270M.

Specific conductance, temperature, pH, and turbidity will be measured during well purging using field instruments.

Pumping Rates

Pumping rates for each extraction well will be monitored weekly for the first three months of operation (September through November 2009) and then monthly thereafter. Pumping information is recorded automatically at the treatment plant via treatment plant instrumentation, and will be obtained from the facility OM&M operator.

Schedule

EVENT	FREQUENCY	2009	2010	2011
Water Levels				
OW1, OW1b, OW2, OW3, OW4a, OW4b, OW7, OW8a, OW8b, OW9, & OW10	Weekly (for 3 months starting Sept. 2009)	Sept. 1, 9, 16, 23, 30 Oct. 7, 14, 21, 28 Nov. 4, 11, 18, 25	n/a (weekly water levels are not collected)	n/a (weekly water levels are not collected)

EVENT	FREQUENCY	2009	2010	2011
OW1, OW1b, OW2, OW3, OW4a, OW4b, OW7, OW8a, OW8b, OW9, & OW10	Monthly (starting Dec. 2009)	Dec. 30	Jan. 30 and monthly thereafter	n/a (monthly water levels are not collected)
OW1, OW1b, OW2, OW3, OW4a, OW4b, OW7, OW8a, OW8b, OW9, & OW10	Quarterly (starting Sept. 2010)	n/a (monthly water levels are not collected)	Sept. and Dec.	Jan. and April (re-evaluate in Sept.)
Water Quality Samples				
OW1, OW1b, OW2, OW3, OW4a, OW4b, OW7, OW8a, & OW8b	Semi-annual (starting Sept. 2009)	Sept.	Mar. and Sept.	Mar. and Sept. (re-evaluate in Sept.)
OW9 and OW10	Quarterly (for 12 months starting Sept. 2009)	Sept. and Dec.	Mar. and Jun.	n/a (samples are collected semi-annually)
OW9 and OW10	Semi-annual (starting Dec. 2009)	n/a (samples are collected quarterly)	Sept.	Mar. and Sept. (re-evaluate in Sept.)

The latest PSVP monthly progress report for the month of January 2010 is attached in Appendix I for reference. This report presents the system data in tabular and graphical formats and further elaborates existing site conditions and system performance.

Section 8
Project Cost

The following section provides a summary of the costs for each major cost element and a comparison of the actual project costs with the ROD estimate of project costs. Appendix H provides an annotated breakout of the actual cost details.

Table 8-1
Summary of RA Costs

Cost Summary Item	ROD Cost Estimate (2005 $$)	ROD Cost Estimate Adjusted for 7% inflation (2009 $$)	Actual Cost (2009 $$)
Total RA Capital Cost	$2,773,000	$3,635,000	$5,972,000 (Note 1)
Projected O & M Cost for 12 months	$296,000	$388,000	$451,000
Total Present Worth Project Lifecycle Cost (Note 2)	$6,447,000	$8,451,000	$12,016,000

Notes:
[1] Includes all labor, fees, equipment and materials needed to construct the treatment system and pipelines; and a total of six months of operating cost (two months of Startup/Shakedown and four months of Performance Monitoring).
[2] The project lifecycle is assumed for 30 years at an interest rate of 7%.

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Section 9
Lessons Learned

This section highlights the key successes and challenges encountered in the implementation of the RA.

- Public notifications (60-day, 30-day and 7-day) via mailing, posted signs and city newsletter prior to the start of work in the city's streets were effective in communicating to the community.
- Open lines of communication during construction through consistent updates and regular site meetings (weekly during construction activities) were vital.
- Open communication via weekly meetings and email correspondences among EPA, OPOG and their respective consultants during the startup phase resulted in effective collaborative and teamwork in solving technical issues.
- The process of acquiring approval from the local agency took substantially longer and required more time to complete than expected.
- Acquisition of an easement from a private owner/developer proved to be challenging and resulted in construction delays.

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Section 10
References

CDM, 2009. *Final Operations, Monitoring and Maintenance Manual,* November 19 (draft December 12, 2008).

CDM, 2009. *Sampling and Analysis Plan Addendum Startup and Performance Testing of the EECA Groundwater Treatment System*, June 30.

CDM, 2007. *Performance Standards and Verification Plan for Phase 1a Area Groundwater Treatment System*, April 19.

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CDM, 2006. *Groundwater Extraction and Treatment Pilot Testing Technical Memorandum,* November 7.

CDM, 2005. *Removal Action Plan and Preliminary Design Report*, December 29.

CDM, 2005. *Engineering Evaluation and Cost Analysis.* July 29.

CDM, 2001. *Downgradient Well Installation and Groundwater Monitoring Sampling and Analysis Plan*, April 20.

USEPA, 2005. *EPA Action Memorandum*, September 27

USEPA, 2001. *Consent Decree No. 00-12471*, February 28.

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Appendix A
Record Drawings

OMEGA CHEMICAL SUPERFUND SITE
12504/12512 EAST WHITTIER BOULEVARD
WHITTIER, CALIFORNIA
GROUNDWATER TREATMENT PLANT

OCTOBER 2009

RECORD DRAWING SET

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VICINITY MAP

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MILES

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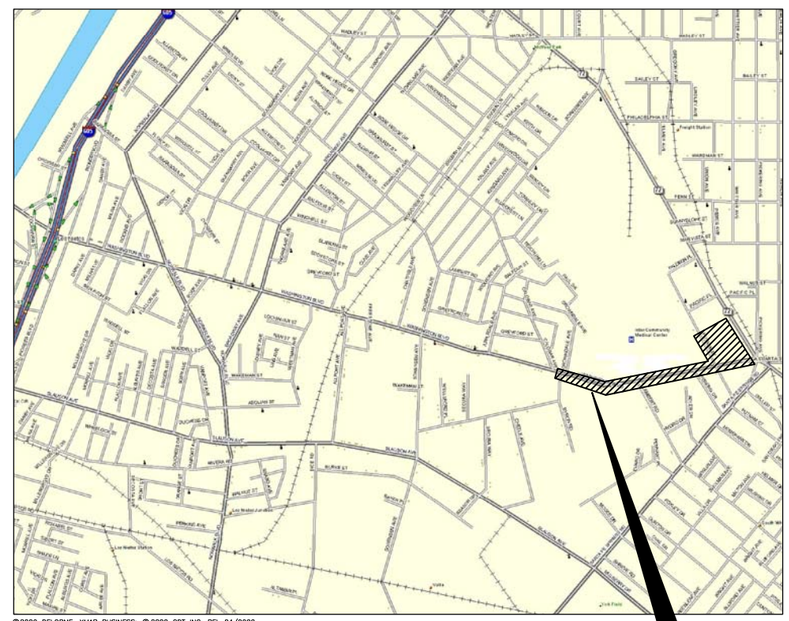

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LOCATION PLAN

700 350 0 700
FEET

DRAWING LIST

GENERAL

G-1 TITLE SHEET AND DRAWING LIST
G-2 PROJECT OVERVIEW
G-3 PROCESS FLOW DIAGRAM

ARCHITECTURAL

A-1 ARCHITECTURAL PLAN AND ELEVATIONS

CIVIL

C-1.1 CIVIL LEGEND AND NOTES
C-1.2 CIVIL NOTES - I
C-1.3 CIVIL NOTES - II
C-2.1 SITE AND PIPING PLAN INDEX
C-2.2 PLAN VIEW OF EXTRACTION WELLS, TREATMENT PLANT, AND CONVEYANCE PIPE ROUTING
C-2.3 SITE PLAN AND PROFILE I
C-2.4 SITE PLAN AND PROFILE II
C-2.5 SITE PLAN AND PROFILE III
C-2.6 GENERAL AND STORMWATER POLLUTION PREVENTION NOTES
C-2.7 WASHINGTON BOULEVARD TREATED GROUNDWATER DISCHARGE LINE PLAN AND PROFILE I
C-2.8 WASHINGTON BOULEVARD TREATED GROUNDWATER DISCHARGE LINE PLAN AND PROFILE II
C-2.9 WASHINGTON BOULEVARD TREATED GROUNDWATER DISCHARGE LINE PLAN AND PROFILE III
C-2.10 WASHINGTON BOULEVARD TREATED GROUNDWATER DISCHARGE LINE PLAN AND PROFILE IV

C-3.1 EXTRACTION WELLHEAD CONSTRUCTION DETAILS AND SCHEDULE
C-3.2 TRENCHING SECTIONS AND DETAILS
C-3.3 MISCELLANEOUS CIVIL DETAILS
C-3.4 PIPING AND SUPPORT DETAILS
C-3.5 STANDARD DETAILS
PC11982 SANITARY SEWER PLAN

STRUCTURAL

S-1 STRUCTURAL GENERAL NOTES
S-2 STRUCTURAL STANDARD DETAILS-I
S-3 STRUCTURAL STANDARD DETAILS-II
S-4 STRUCTURAL LAYOUT PLAN
S-5 STRUCTURAL SECTIONS
S-6 CMU SCREEN WALL DETAILS

ELECTRICAL

E-1 ELECTRICAL LEGENDS, ABBREVIATIONS AND NOTES
E-2 ELECTRICAL STANDARD DETAILS
E-3 ELECTRICAL GROUNDING DETAILS
E-4 OVERALL ELECTRICAL SITE PLAN
E-5 POWER, CONTROL, AND GROUNDING PLAN
E-6 TREATMENT PLANT LIGHTING PLAN
E-7 EXTRACTION WELL ELECTRICAL PLAN AND SCHEMATICS
E-8 EFFLUENT AND ANTI-SCALANT PUMP SCHEMATICS
E-9 SINGLE LINE DIAGRAM, MCC ELEVATION AND PANELBOARD SCHEDULE
E-10 EXTRACTION WELL VAULTS CONDUIT ROUTING DETAILS

MECHANICAL

M-1 GENERAL EQUIPMENT LAYOUT PLAN
M-2 GENERAL EQUIPMENT LAYOUT ELEVATION

INSTRUMENTATION

I-1 PIPING & INSTRUMENTATION DIAGRAM - LEGEND I
I-2 PIPING & INSTRUMENTATION DIAGRAM - LEGEND II
I-3 PIPING & INSTRUMENTATION DIAGRAM - COMMUNICATION BLOCK DIAGRAM
I-4 EXTRACTION WELLS
I-5 PIPING & INSTRUMENTATION DIAGRAM - AIR STRIPPER SYSTEM
I-6 PIPING & INSTRUMENTATION DIAGRAM - VGAC SYSTEM AND CONTROL PWR MONITOR

REV. NO.	DATE	DRWN	CHKD	REMARKS
4	9/09	PJR		RECORD DRAWING
3	1/7/08	PJR	SHA	ISSUED FOR CONSTRUCTION
2	10/12/07	PJR	SHA	ISSUED FOR CITY PLAN CHECK
1	9/07	PJR	SHA	SUBMITTED FOR PLAN CHECK
0	8/07	PJR	SHA	SUBMITTED FOR PLAN CHECK

CAMP DRESSER & McKEE INC.

RECORD DRAWING

REGISTERED PROFESSIONAL ENGINEER
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Exp. 06-30-2011
CIVIL
STATE OF CALIFORNIA

CDM Camp Dresser & McKee Inc.
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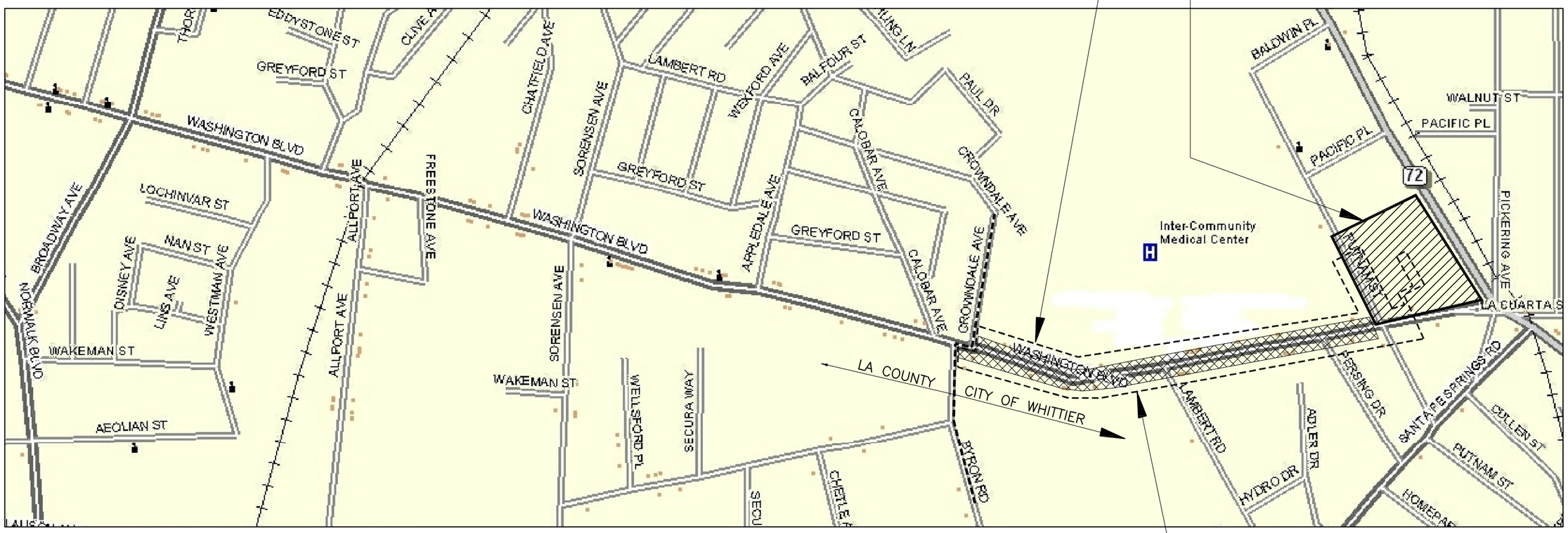
TRAFFIC CONTROL PLAN
PERMITTING AUTHORITY: CITY OF WHITTIER

GROUNDWATER CONVEYANCE AND TREATMENT PLANT INSTALLATION
PERMITTING AUTHORITY: CITY OF WHITTIER



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TREATED WATER DISCHARGE LINE INSTALLATION
(UP TO CITY OF WHITTIER BOUNDARY)

N

APPROXIMATE SCALE
160 80 0 160
FEET

RECORD DRAWING

CALL BEFORE YOU DIG:
UNDERGROUND SERVICE ALERT OF
SOUTHERN CALIFORNIA
TWO WORKING DAYS BEFORE YOU DIG
1-800-227-2600

REV. NO.	DATE	DRWN	CHKD	REMARKS
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3	1/7/08	PJR	SHA	ISSUED FOR CONSTRUCTION
2	10/12/07	PJR	SHA	ISSUED FOR CITY PLAN CHECK
1	9/07	PJR	SHA	SUBMITTED FOR PLAN CHECK
0	8/07	PJR	SHA	SUBMITTED FOR PLAN CHECK

DESIGNED BY: SHA
DRAWN BY: PJR
SHEET CHK'D BY: SHA
CROSS CHK'D BY: AS
APPROVED BY: RS
DATE: JUNE 2007

WARNING
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IF THIS BAR DOES NOT MEASURE 1" THEN DRAWING IS NOT TO SCALE.

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OMEGA CHEMICAL SUPERFUND SITE
12504/12512 EAST WHITTIER BOULEVARD
WHITTIER, CALIFORNIA

GROUND WATER TREATMENT PLANT
PROJECT OVERVIEW

PROJECT NO. 10500-70150
SHEET NO. G-2

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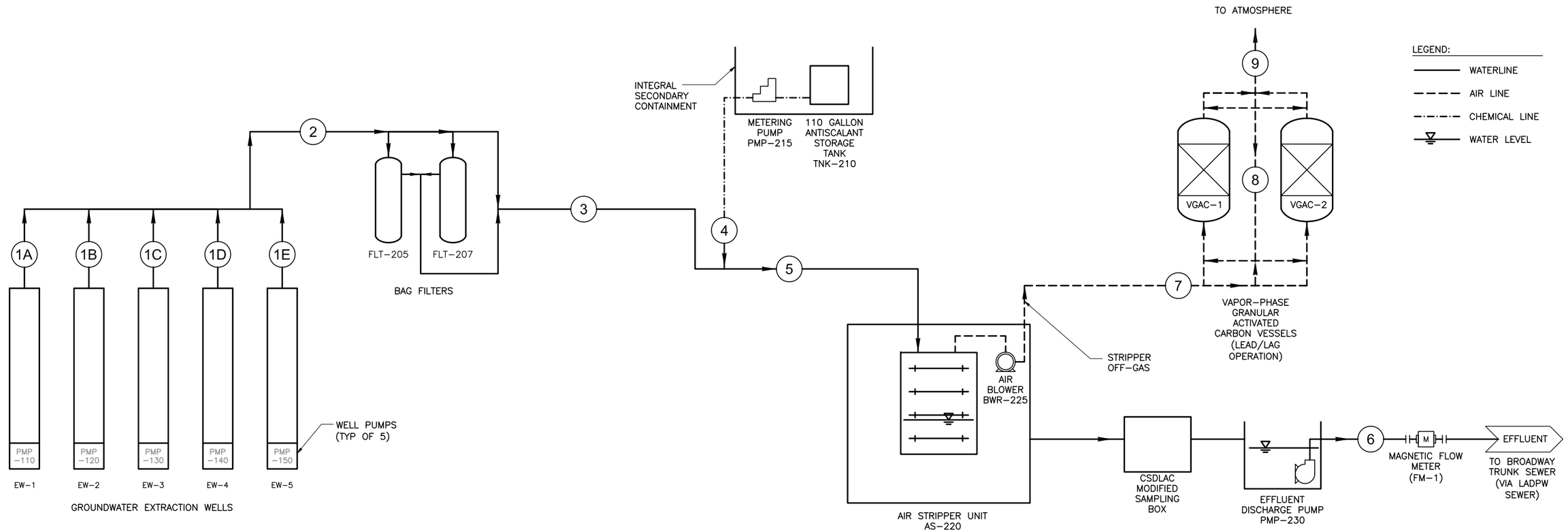

PROCESS INFORMATION

Process Node		1A	1B	1C	1D	1E	2	3	4	5	6	7	8	9
Description		EW-1 Influent	EW-2 Influent	EW-3 Influent	EW-4 Influent	EW-5 Influent	Groundwater Influent (Raw)	Groundwater Influent (Filtrate)	Chemical Injection	Groundwater Influent (Softened)	Treated Effluent (Discharge)	Vapor Inlet	Vapor Intermediate	Vapor Exhaust
Operating Limits and Conditions														
Flow Rate for liquid in gpm and vapor in scfm	Low	10	10	5	1.2	1.2	0	0	0 gpd	0	0	0	0	0
	High	20	20	14	7	7	60	60	3 gpd	60	60	1000	1000	1000
	Setpoint	n/a	n/a	n/a	n/a	n/a	n/a	n/a	0.76 gpd	n/a	40	n/a	n/a	n/a
	Operating	16	13	8	2	2	41	41	0.76	41	41	600	600	600
Pressure for liquid in psig and vapor in wc	High	113	87	139	156	156	30	20	100	20	33	41	10	5
	Low	85	52	39	35	35	15	5	50	5	5	15	5	1
	Setpoint	n/a	n/a	n/a	n/a	n/a	n/a	12 DeltaP	n/a	n/a	n/a	n/a	n/a	n/a
	Operating	87	78	Table 4	147	147	26	14	75	14	33	15" wc	10" wc	5" wc
Temperature (deg F)	High	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	140	140	140
	Low	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	100	100	100
	Setpoint	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	140
	Operating	70	70	70	70	70	70	70	70	70	70	110	120	130

RECORD DRAWING

REV. NO.	DATE	DRWN	CHKD	REMARKS
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3	1/7/08	PJR	SHA	ISSUED FOR CONSTRUCTION
2	10/12/07	PJR	SHA	ISSUED FOR CITY PLAN CHECK
1	9/07	AT	RS	SUBMITTED FOR PLAN CHECK AND BIDDING
0	8/07	AT	RS	SUBMITTED FOR PLAN CHECK AND BIDDING

DESIGNED BY: K. SCHWARZ
DRAWN BY: S. NGUYEN
SHEET CHK'D BY: D. DY
CROSS CHK'D BY: A. SHAWWA
APPROVED BY: R. SUBRAMANIAN
DATE: OCTOBER 2007

WARNING
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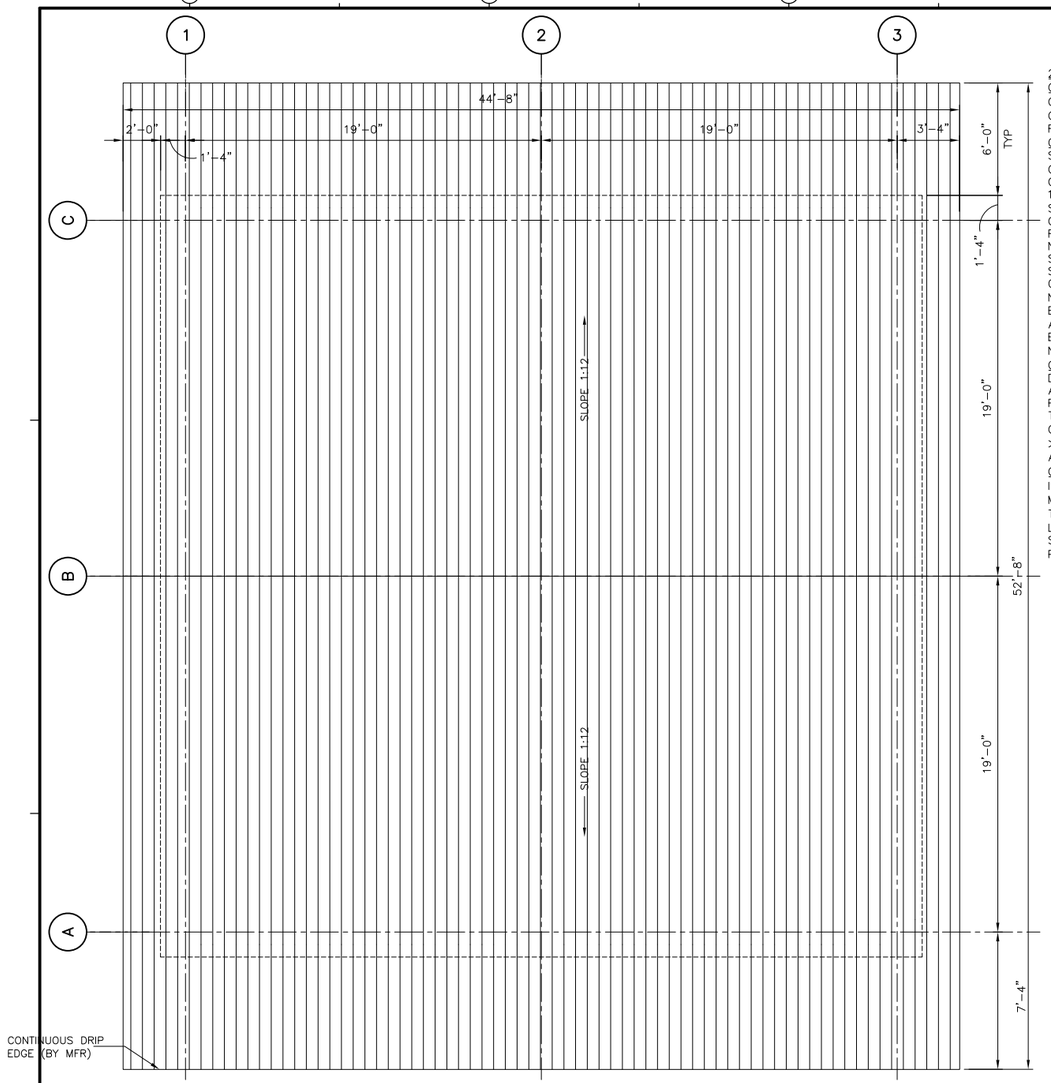
OMEGA CHEMICAL SUPERFUND SITE
12504/12512 EAST WHITTIER BOULEVARD
WHITTIER, CALIFORNIA

GROUNDWATER TREATMENT PLANT
PROCESS FLOW DIAGRAM

PROJECT NO. 10500-53426
SHEET NO. G-3

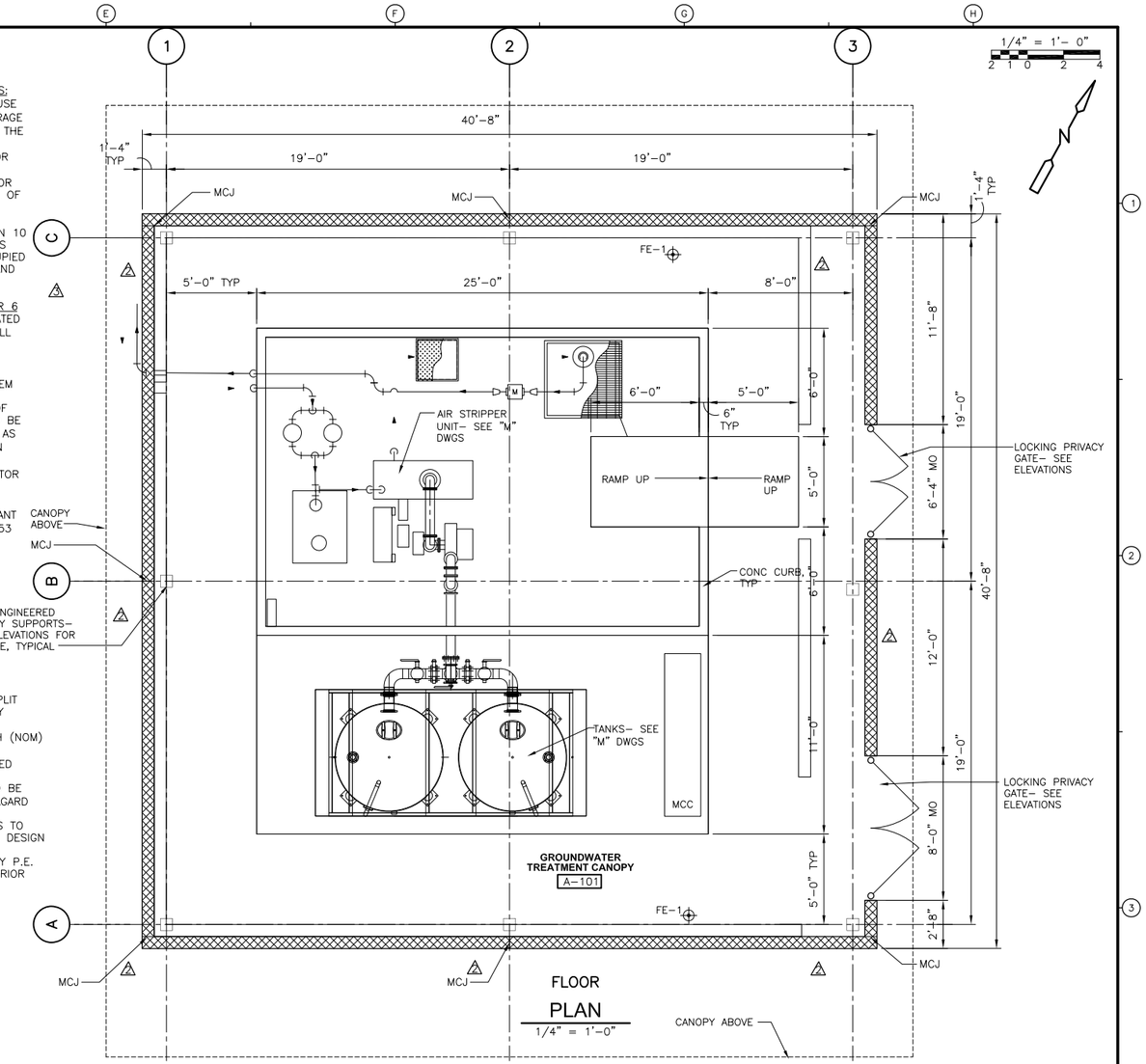
P:\10500\53426\Remedial Design\Ricker\ R-G-3 01/09/08 14:45 Riehlepj XREFS: OMEGA-bd



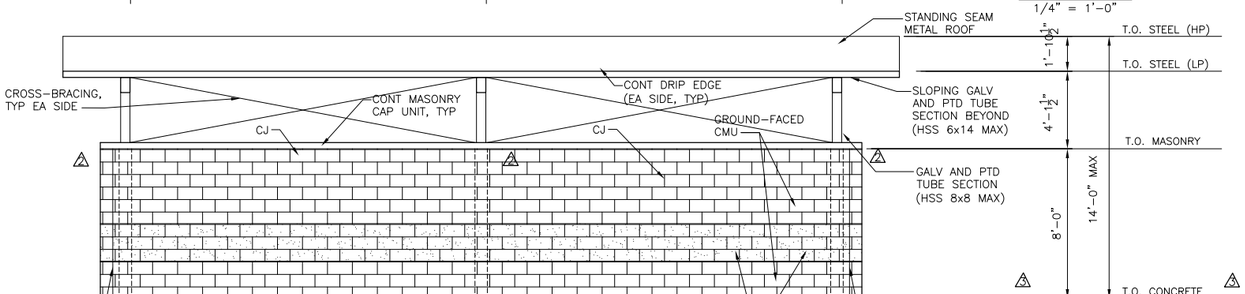
ROOF PLAN
1/4" = 1'-0"

2001 CALIFORNIA BUILDING CODE NOTES:
CHAPTER 3 SECTION 311, DIVISION 2 USE GROUP TO BE S-2 (LOW HAZARD STORAGE GROUP...PUMPING PLANT...) 311.2.3.4- THE ROOF FRAMING CAN BE UNPROTECTED
CHAPTER 5 LOCATION ON PROPERTY(FOR S-2 USE GROUP OF TYPE II-N CONSTRUCTION) = NO FIRE BARRIERS OR OPENING PROTECTIVES FOR A DISTANCE OF 10 FEET OR LESS TO THE NEAREST STRUCTURE (PER TABLE 5-A). - THE CONCRETE BLOCK SITE WALL LESS THAN 10 FEET BEHIND THE PROPOSED CANOPY IS NOT DESIGNATED AS PART OF AN OCCUPIED STRUCTURE AS IT IS FOR SCREENING AND SECURITY ONLY. THE WALL IS ALSO COMPLETELY CONSTRUCTED OF NON-COMBUSTIBLE MATERIALS. CHAPTER 6 BUILDING CONSTRUCTION TYPE: DESIGNATED AS TYPE II-N (SECTION 603) WHERE ALL BUILDING ELEMENTS ARE OF NON-COMBUSTIBLE CONSTRUCTION.
CHAPTER 9 SECTION 904.2.2 NOTE #1 DOES NOT REQUIRE A SPRINKLER SYSTEM AS A RESULT OF THE OPENING REQUIREMENTS AND OVERALL LENGTH OF THE FACILITY. THIS STRUCTURE SHOULD BE CLASSIFIED AS AN "OPEN STRUCTURE", AS >/= 20% OF THE SIDES ARE OPEN ON ALL SIDES.
CHAPTER 10 THE OCCUPANT LOAD FACTOR IS 300 SQUARE FEET/OCCUPANT FOR MECHANICAL EQUIPMENT AREA (#21 ON TABLE 10-A), YIELDING A MAX. OCCUPANT LOAD OF 6 INDIVIDUALS MAXIMUM. (1,653 SQ.FT. DIVIDED BY 300 = 5.51, OR 6 PEOPLE).

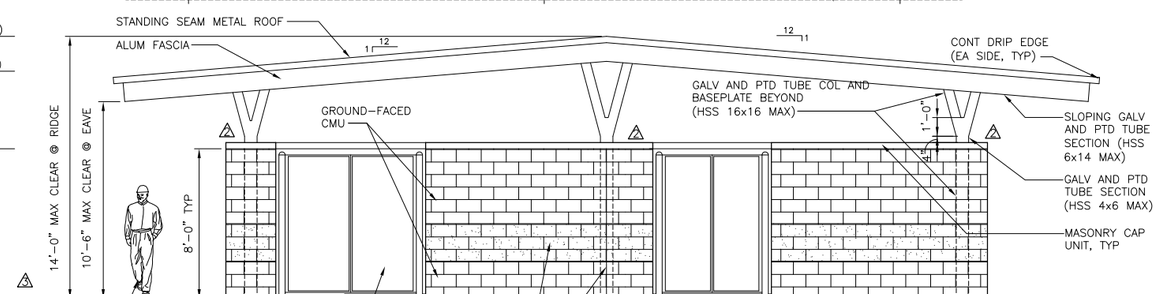
GENERAL NOTES:
1. MASONRY UNITS TO BE #101 IN SPLIT AND GROUND-FACE NOMINAL UNITS BY BASALITE, OR APPROVED EQUAL.
2. MASONRY CAP UNIT TO BE 4" HIGH (NOM) BEVELED CAP UNIT COLOR #D389 "PRECISION" BY BASALITE, OR APPROVED EQUAL.
3. STANDING SEAM METAL ROOFING TO BE CENTRIA SRS2 #9911 "PEBBLE", DURAGARD PLUS FINISH, OR APPROVED EQUAL.
4. PRE-ENGINEERD CANOPY SUPPORTS TO EXTEND TO GRADE- BASE ANCHORAGE DESIGN BY MANUFACTURER.
5. SUBMIT SHOP DRAWING STAMPED BY P.E. IN CALIFORNIA FOR FINAL APPROVAL PRIOR TO FABRICATION.



FLOOR PLAN
1/4" = 1'-0"



SOUTH ELEVATION
1/4" = 1'-0"



EAST ELEVATION
1/4" = 1'-0"

RECORD DRAWING

REV. NO.	DATE	DRWN	CHKD	REMARKS
5				RECORD DRAWING
4	10/12/07	RMS	EG	ISSUED FOR CITY PLAN CHECK
3	6/13/07	RMS	EG	REVISIONS RESPONDING TO CITY COMMENTS
2	6/08/07	RMS	EG	REVISIONS TO PRE-ENGINEERED CANOPY AND WALL
1	5/31/07	RMS	EG	REVISED TO ADDRESS CITY OF WHITTIER COMMENTS

DESIGNED BY: R SUNYOGER
DRAWN BY: R SUNYOGER
SHEET CHK'D BY: T KING
CROSS CHK'D BY: E GALINDO
APPROVED BY: R SUBRAMANIAN
DATE: JUNE 2007

WARNING
0 1/2 1"
IF THIS BAR DOES NOT MEASURE 1" THEN DRAWING IS NOT TO SCALE.

LICENSED ARCHITECT EDUARDO GALINDO NO. C 12130 RENEWAL DATE 9.30.09 STATE OF CALIFORNIA

CDM Camp Dresser & McKee Inc.
consulting engineering construction operations
18581 Teller Avenue, Suite 200
Irvine, California 92612
Tel: (949) 752-5452
Fax: (949) 752-1307

OMEGA CHEMICAL SUPERFUND SITE
12504/12512 EAST WHITTIER BOULEVARD
WHITTIER, CALIFORNIA

GROUNDWATER TREATMENT PLANT
ARCHITECTURAL
PLAN AND ELEVATIONS

PROJECT NO. 10500-53426
SHEET NO. A-1

UTILITY SYMBOLS

SYMBOL	FEATURE
MH-14 WEST INV 27.35 EAST INV 32.50 — 8-SS-PVC	SANITARY SEWER AND MANHOLE
MH-22 EAST INV 32.75 WEST INV 32.50 — 8-SD-XX; CB-1 INV 33.75	STORM DRAIN, MANHOLE, AND CATCH BASIN
12-FPW-PVC; FH	FIRE LINE W/ FIRE HYDRANT ASSEMBLY (INCLUDES VALVE)
4-FPW-PVC — FDC	FIRE DEPARTMENT CONNECTION
12-SD-PVC — C.O.	CLEANOUT
12-FPW-PVC — B.O.	BLOWOFF
6-SS-PVC	FORCE MAIN
6-W-PVC	OTHER PIPELINE CALLOUT
	PIPE MATERIAL (OPTIONAL)
	ABBREVIATED PROCESS LINE DESCRIPTION
	PIPE DIAMETER
	SEWER
GAS — GAS — GAS — GAS — GAS	GAS
	WATER
	ELECTRICAL
	TELEPHONE

SYMBOL NOTES

1. BOLD ITEMS: CONTRACTOR TO FURNISH AND INSTALL FOR THIS CONTRACT. (CONTRACTOR TO ASSUME ALL WORK IS NEW UNLESS NOTED).
2. SHADED ITEMS

2.1 EQUIPMENT: THE AIR STRIPPER, AIR BLOWER, DISCHARGE PUMP, CONTROL BOX, AND VGAC UNITS WILL BE PROVIDED BY OWNER.

2.2 UTILITIES: EXISTING OR FUTURE – TO BE INSTALLED BY OTHERS.

SYMBOLS

DETAIL # / SHEET # — A / C-1.1	SECTION CALLOUT
DETAIL # / SHEET # — 2 / CD-12	DETAIL CALLOUT

PIPING LEGEND

MATERIAL CODES

PVC	SCHEDULE 80 PVC OR C900 PIPE
CPVC	SCHEDULE 80 CPVC PIPE
C20	SCHEDULE 40 CARPENTER 20 ALLOY PIPE
STL/L	STEEL PIPE, EPOXY-LINED
DIP	DUCTILE IRON PIPE
CMLSP	CEMENT MORTAR-LINED STEEL PIPE
HDPE	HIGH DENSITY POLYETHYLENE

FLUID/MISCELLANEOUS ABBREVIATIONS

EGW	EXTRACTED GROUNDWATER
TW	TREATED WATER

PIPE LINE SYMBOLS

SINGLE WALL: 3"-TW-HDPE (PIPE SIZE IN INCHES; PROCESS FLUID; PIPE MATERIAL — (SEE LEGEND THIS SHEET))

PROCESS PIPING: 3"(6")-EGW-HDPE(HDPE) (INSIDE PIPE IN INCHES; OUTSIDE PIPE; FLUID; INSIDE PIPE MATERIAL; OUTSIDE PIPE MATERIAL)

DUAL WALL

YARD PIPING SYMBOLS

- - - - - - - - EXTRACTED GROUNDWATER

——— TREATED WATER DISCHARGE LINE WITH STATION NUMBER

CALL BEFORE YOU DIG:
UNDERGROUND SERVICE ALERT OF
SOUTHERN CALIFORNIA
TWO WORKING DAYS BEFORE YOU DIG
1-800-227-2600

RECORD DRAWING

REV. NO.	DATE	DRWN	CHKD	REMARKS
4	9/09	PJR		RECORD DRAWING
3	1/7/08	PJR	SHA	ISSUED FOR CONSTRUCTION
2	10/12/07	PJR	SHA	ISSUED FOR CITY PLAN CHECK
1	9/07	PJR	SHA	SUBMITTED FOR PLAN CHECK
0	8/07	PJR	SHA	SUBMITTED FOR PLAN CHECK

DESIGNED BY: SHA
DRAWN BY: PJR
SHEET CHK'D BY: SHA
CROSS CHK'D BY: AS
APPROVED BY: RS
DATE: JUNE 2007

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REGISTERED PROFESSIONAL ENGINEER RAVI SUBRAMANIAN No. C053679 Exp. 06-30-2011 CIVIL STATE OF CALIFORNIA

CDM Camp Dresser & McKee Inc.
consulting engineering construction operations
111 ACADEMY, STE 150
Irvine, California 92617
Tel: (949) 752-5452
Fax: (949) 725-3790

OMEGA CHEMICAL SUPERFUND SITE
12504/12512 EAST WHITTIER BOULEVARD
WHITTIER, CALIFORNIA

GROUND WATER TREATMENT PLANT

CIVIL LEGEND AND NOTES

PROJECT NO. 10500-70150

SHEET NO. C-1.1

P:\10500\53426\Sept 2009 Record Dwgs\Civil-2009 Record\ R-C-1.1 10/01/09 11:44 riehlepj XREFS: OMEGA-bd

GENERAL NOTES:

1. ALL WORK SHALL BE PERFORMED IN ACCORDANCE WITH ALL APPLICABLE FEDERAL, STATE, AND LOCAL CODES AND REQUIREMENTS.

2. CONTRACTOR SHALL BE RESPONSIBLE FOR VERIFYING ALL DIMENSIONS AND LOCATIONS SHOWN PRIOR TO COMMENCING WORK. ANY CONFLICTS WITH DETAILS AND NOTES SHALL BE BROUGHT TO THE IMMEDIATE ATTENTION OF THE ENGINEER IN WRITING.

3. DETAILS TAKE PRECEDENCE OVER GENERAL DRAWINGS. WHERE NOTES CONFLICT WITH ANY DRAWING, THE MOST RESTRICTIVE SHALL APPLY. WHERE CONFLICTS EXIST, THE CONTRACTOR SHALL NOTIFY THE ENGINEER IN WRITING IMMEDIATELY. NO CHANGES OR ADDITIONS TO THE SCOPE OF WORK DEPICTED HEREIN SHALL BE MADE WITHOUT PRIOR APPROVAL OF THE ENGINEER.

4. CONTRACTOR SHALL SECURE ALL APPLICABLE EXCAVATION, ENCROACHMENT, GRADING AND CONSTRUCTION PERMITS FROM APPROPRIATE AGENCIES PRIOR TO COMMENCING WORK. CONTRACTOR SHALL MAINTAIN COPIES OF ANY PERMITS AT THE JOB SITE FOR AGENCY INSPECTION.

5. CONTRACTOR SHALL LOCATE ALL UTILITIES AND PROTECT THEM FROM DAMAGE. THE CONTRACTOR SHALL REPAIR AND/OR REPLACE ANY UTILITIES DAMAGED BY THE CONTRACTOR AND PROVIDE FOR SERVICE CONTINUATION DURING REPAIRS AT HIS EXPENSE.

6. UTILITY CROSSINGS AND DEPTHS WITHIN THE PARCEL BOUNDARIES ARE APPROXIMATE. THE CONTRACTOR IS RESPONSIBLE FOR VERIFYING THE UTILITY LOCATIONS AND DEPTHS PRIOR TO CONSTRUCTION.

7. LOCATIONS OF UTILITIES OUTSIDE THE PARCEL BOUNDARY ARE APPROXIMATE. THE CONTRACTOR IS RESPONSIBLE TO VERIFY UTILITY LOCATIONS AND DEPTHS PRIOR TO CONSTRUCTION. EXISTING UTILITIES SHALL BE PROTECTED.

8. THE CONTRACTOR SHALL MAINTAIN AN ORDERLY AND CLEAN JOB SITE. THE CONTRACTOR SHALL REMOVE AND PROPERLY DISPOSE OF ALL CONSTRUCTION RELATED TRASH, DEBRIS, AND EXCESS MATERIALS. THE CONTRACTOR'S LAYDOWN AREA FOR MATERIALS SHALL BE COORDINATED WITH THE ENGINEER AND OTHER ON-SITE CONTRACTORS. SECURITY FOR CONTRACTOR'S EQUIPMENT AND MATERIALS IS THE RESPONSIBILITY OF THE CONTRACTOR.

9. THE ELEVATION OF FEATURES (UTILITIES AND FOUNDATIONS) SHALL BE CONFIRMED WITH THE ENGINEER OR SITE CONSTRUCTION MANAGER BEFORE EXCAVATING TRENCHES THAT CROSS FEATURES.

10. ALL OPEN EXCAVATIONS SHALL BE SUPPORTED IN ACCORDANCE WITH APPLICABLE OSHA REQUIREMENTS.

11. ALL GROUNDWATER SINGLE WALL AND DOUBLE CONTAINED CONVEYANCE PIPING SHALL BE HDPE OR PVC.

12. THE FOLLOWING PARAGRAPHS REFER TO INSTALLATION OF HDPE PIPE WHERE USED:
- PIPING MATERIAL TO BE APPROVED BY LA COUNTY DPW (207-16.1) AND CITY OF WHITTIER
- ALL HDPE PIPING FOR GROUNDWATER CONVEYANCE SHALL BE SDR-11.
- INSTALLATION OF HDPE PIPE AND FITTINGS SHALL BE IN ACCORDANCE WITH THE MANUFACTURER'S RECOMMENDED PROCEDURES. HDPE PIPE SHALL BE STORED AND HANDLED SO AS NOT TO DAMAGE THE PIPE.
- HDPE PIPE SHALL BE JOINED BY BUTT FUSION IN ACCORDANCE WITH THE MANUFACTURER'S RECOMMENDED PROCEDURES. REQUIREMENTS FOR FUSION TIME, TEMPERATURE, AND PRESSURE SHALL BE FOLLOWED. ALL PIPE JOINTS SHALL ALIGN NATURALLY AND BE STRESS-FREE.
- ALL HDPE BENDS SHALL BE A MINIMUM OF 3' IN RADIUS.
- HDPE TO PVC TRANSITION FITTINGS CONNECTIONS SHALL BE ENCASED IN A MINIMUM OF 1.5 SACK CONCRETE SLURRY TO PREVENT MOVEMENT.
- PRIOR TO BACKFILL, HDPE PIPE WILL BE PRESSURE-TESTED FOLLOWING THE MANUFACTURER'S REQUIREMENTS.

13. THE FOLLOWING PARAGRAPHS REFER TO INSTALLATION OF PVC PIPE WHERE USED:
- ALL PVC PIPING, VALVES, AND FITTINGS FOR GROUNDWATER CONVEYANCE SHALL BE SCHEDULE 80.
- PVC PIPE SHALL BE JOINED BY SOLVENT WELDING IN ACCORDANCE WITH THE MANUFACTURER'S RECOMMENDATIONS. ALL PIPE JOINTS SHALL ALIGN NATURALLY AND BE STRESS FREE.

14. ALL UNDERGROUND PIPES SHALL BE SUPPORTED WITH JIGS OR TEMPLATES DURING CONSTRUCTION TO MAINTAIN THE REQUIRED SPACING BETWEEN PIPES PIPE SLOPE. JIGS AND TEMPLATES SHALL BE DESIGNED AND PLACED SO THAT THEY DO NOT PINCH THE PIPE OR CONSTRICT THE FLOW OF FLUID WHEN IN USE.

15. ALL ABOVE GROUND PIPING SHALL BE SUPPORTED BY THE GROUND SURFACE AND/OR ATTACHED TO UNISTRUT (OR EQUIVALENT) SUPPORTS. SPACING BETWEEN PIPE SUPPORTS SHALL BE IN ACCORDANCE WITH MANUFACTURER'S RECOMMENDATIONS TO PREVENT SAGGING.

16. ALL PIPE TERMINATIONS INSIDE VAULTS SHALL BE CORRECTLY LABELED WITH THE ASSOCIATED WELLHEAD IDENTIFICATION LABEL USING STAMPED STAINLESS STEEL TAGS.

17. GROUNDWATER EXTRACTION MANIFOLDS SHALL BE CONSTRUCTED ENTIRELY WITHIN THE TREATMENT COMPOUND.

18. ALL PIPING SHALL BE PERMANENTLY LABELED AT EACH END WITH ASSOCIATED WELLHEAD IDENTIFICATION LABEL BEFORE COVERING WITH CONCRETE SLURRY OR SOIL.

19. ALL PIPING SHALL BE INSTALLED, TESTED, AND COVERED WITH CONCRETE SLURRY OR SAND ONE LAYER AT A TIME, IN ACCORDANCE WITH THE LAYOUT AND DETAILS PROVIDED ON CIVIL SHEETS.

20. OPEN TRENCHES SHALL BE COMPLETELY SURROUNDED BY TEMPORARY SAFETY FENCING AT ALL TIMES WHEN WORK IS NOT BEING DONE IN THE IMMEDIATE AREA. THE SAFETY FENCING SHALL BE MAINTAINED UNTIL THE TRENCH IS BACKFILLED AND COMPACTED TO THE EXISTING GRADE.
a) NO OPEN TRENCHES AT THE END OF THE WORKDAY IN THE CITY OF WHITTIER.

b) CONTRACTOR TO FOLLOW OPEN TRENCH LIMITATIONS REQUIRED IN SECTION 306-1.1.2 OF THE JUNE 2006 GRAYBOOK (ADDITIONS AND AMENDMENTS TO THE STANDARD SPECIFICATIONS FOR PUBLIC WORKS CONSTRUCTION - LOS ANGELES COUNTY DEPARTMENT OF PUBLIC WORKS)

21. PRIOR TO BACKFILL, ALL NEW PIPING SHALL BE FLUSHED WITH WATER TO REMOVE ANY GRIT, SAND, AND DEBRIS FROM THE PIPE. FLUSHING SHALL NOT EXCEED THE HDPE DESIGN PRESSURE.

22. THE CONTRACTOR SHALL NOT BACKFILL THE TRENCHES UNLESS APPROVAL IS PROVIDED BY THE ENGINEER OR ONSITE CONSTRUCTION MANAGER.

23. CONTINUOUS MAGNETIC LOCATOR TAPE SHALL BE INSTALLED IN ALL TRENCHES DURING BACKFILLING FOR IDENTIFICATION PURPOSES.

24. SOIL TRENCH BACKFILL, WHERE INDICATED, SHALL BE MOISTURE CONDITIONED AND COMPACTED TO A MINIMUM OF 90 PERCENT OF THE MAXIMUM DRY DENSITY FROM THE GROUND SURFACE TO 12 INCHES BELOW GROUND SURFACE. BACKFILL BELOW 12 INCHES SHALL BE MOISTURE CONDITIONED AND COMPACTED TO A MINIMUM OF 90 PERCENT OF THE MAXIMUM DRY DENSITY. THE CONTRACTOR SHALL BE ENTIRELY RESPONSIBLE FOR ANY DAMAGE TO THE PIPE DURING BEDDING AND BACKFILL PLACEMENT. EACH LIFT NEEDS TO BE TESTED. 8" LIFTS MAX PER CITY OF WHITTIER.

25. COMPACTED BACKFILL SHALL BE TESTED IN ACCORDANCE WITH ASTM D1557-00 TO DOCUMENT MINIMUM COMPACTION REQUIREMENTS ARE MET.

26. CONCRETE SLURRY, WHERE INDICATED, SHALL BE A MINIMUM 2 SACK MIX WHERE INDICATED AND WHERE TRENCHES CROSS OTHER BELOW GRADE UTILITY LOCATIONS AND BUILDING FOOTINGS.

27. PRIOR TO BACKFILL, ALL PIPE TRENCHES SHALL BE SURVEYED FOR CENTERLINE OF TRENCH AND WELL LOCATIONS. ALL NEW PIPING SHALL BE SURVEYED EVERY 20 LINEAR FEET AND AT PIPE CONNECTIONS, CHANGES IN DIRECTION, AND LOCATIONS WHERE SLOPE CHANGES.

28. ALL SURVEY WORK SHALL BE COMPLETED BY A CALIFORNIA REGISTERED LAND SURVEYOR. THE LAND SURVEYOR SHALL ONLY USE ESTABLISHED BENCHMARKS.

29. FINAL GROUND SURFACE ELEVATION IN LANDSCAPED AREAS SHALL BE CONFIRMED WITH THE ENGINEER OR SITE CONSTRUCTION MANAGER BEFORE EXCAVATING FOR VAULT INSTALLATION.

30. TRAFFIC-RATED SPRING-ASSISTED LIDS PER CITY OF WHITTIER REQUIREMENTS SHALL BE PROVIDED FOR VAULTS.

31. THE CONTRACTOR SHALL REPLACE IN KIND ALL LANDSCAPE PLANTINGS AND GROUND COVERINGS DISTURBED OR DAMAGED BY THE WORK.

32. THE CONTRACTOR SHALL BE RESPONSIBLE FOR INSTALLING TREATMENT ENCLOSURE PER PLAN HEREIN.

33. CONTRACTOR SHALL BE RESPONSIBLE FOR FIELD LOCATING AND PROTECTING EXISTING GROUNDWATER MONITORING WELLS. DAMAGE TO THE WELLS BY THE CONTRACTOR SHALL BE REPAIRED OR REPLACED AT THE CONTRACTOR'S EXPENSE.

34. 3"Ø LINE WITH SECONDARY CONTAINMENT SHALL HAVE A 3"Ø PRIMARY LINE WITH A MINIMUM 6"Ø SECONDARY PIPE. 2" Ø LINE WITH SECONDARY CONTAINMENT SHALL HAVE A 2"Ø PRIMARY LINE WITH A MINIMUM 4"Ø SECONDARY PIPE. THESE SECONDARY CONTAINMENT LINES SHALL BE PRESSURE TESTED IN ACCORDANCE WITH MANUFACTURERS SPECIFICATIONS. A COPY OF THE MANUFACTURER SPECIFICATIONS SHALL BE PROVIDED TO THE ENGINEER FOR REVIEW PRIOR TO TESTING.

35. PRIOR TO BACKFILL, ALL NEW GROUNDWATER CONVEYANCE PIPING SHALL BE HYDROSTATICALLY PRESSURE TESTED AT 150% OF THE DESIGN SERVICE PRESSURE. AFTER INITIAL PRESSURIZATION OF THE PIPE, THE CONTRACTOR SHALL ALLOW A MINIMUM EXPANSION PERIOD OF 20 MINUTES. IF NO LEAKS ARE OBSERVED, THE PIPE WILL BE PRESSURIZED TO THE INITIAL TEST PRESSURE AND THE PIPE PRESSURE TESTED FOR A MINIMUM OF ONE HOUR. A LOSS OF PRESSURE WILL INDICATE A LEAK REQUIRING REPAIR AND RE-TESTING AT THE CONTRACTOR'S EXPENSE. THE ENGINEER OR ONSITE CONSTRUCTION MANAGER MUST WITNESS PRESSURE TESTING. ADDITIONAL TESTING REQUIREMENTS ARE PROVIDED IN THE SPECIFICATIONS

36. TREATMENT SYSTEM PAD AND CANOPY IS NOT DESIGNED OR INTENDED FOR HUMAN OCCUPANCY.

37. NEW POTABLE WATER CONNECTIONS SHALL BE INSTALLED WITH A RP BACKFLOW DEVICE.

38. CONTRACTOR SHALL MAINTAIN CLEARANCE OF POTABLE WATER SERVICES, LATERALS, MAINS IN ACCORDANCE WITH CALIFORNIA HEALTH DEPARTMENT STANDARDS AND LOS ANGELES COUNTY DEPARTMENT OF PUBIC WORKS STANDARD PLAN 2100-1.

39. NO HAZARDOUS MATERIALS SHALL BE STORED ONSITE DURING CONSTRUCTION OR OPERATION AND MAINTENANCE.

40. WHERE REFERENCE IS MADE TO STANDARD PLANS OR STANDARD SPECIFICTIONS, IT SHALL REFER TO THE STANDARD PLANS FOR PUBLIC WORKS CONSTRUCTION AND STANDARD SPECIFICATIONS FOR PUBLIC WORKS CONSTRUCTION, 2006 EDITION AND ASSOCIATED ADDENDUMS.

41. CONCRETE MIX SHALL BE 51/2 SACK, C2500 W/NO ACCELERATES OR ADDITIVES (CITY OF WHITTIER).

42. ADDRESS FOR OMEGA FACILITY IS:
12504/12512 WHITTIER BOULEVARD
WHITTIER, CALIFORNIA 90602

43. ADDRESS OF TREATMENT PLANT LOCATION:
12520 WHITTIER BOULEVARD
WHITTIER, CALIFORNIA 90602

44. ENGINEER OF RECORD IS:
RAVI SUBBRAMANIAN, PE
CDM
111 ACADEMY, STE 150
IRVINE, CALIFORNIA, 926127

UTILITY INFORMATION:

CONTRACTOR IS RESPONSIBLE FOR CONTACTING THE FOLLOWING UTILITIES AS PART OF THE UNDERGROUND SERVICE ALERT OF SOUTHERN CALIFORNIA AT LEAST 2 FULL WORKING DAYS PRIOR TO START OF CONSTRUCTION.

CENTRAL BASIN MWD
TOM KOE / JIM CRAWFORD
17140 S AVALON BL #210
CARSON, CA. 907461218
(323) 263-4145

CENTRAL BASIN MWD-SANTA FE SPRINGS AREA
TOM KOE / JIM CRAWFORD
5243 E SHEILA ST
LOS ANGELES, CA 90040

CONOCOPHILLIPS (TOSCO)
NED VOIGT
PO BOX 76
NORWALK, CA 906504060
(310) 466-8187

ELLER MEDIA COMPAMY
KEVIN KOCIC
19320 HARBORGATE WAY
LOS ANGELES, CA 90501
(310) 755-7299
KEVINKOCIC@CLEARCHANNEL.COM

LA HABRA HEIGHTS WATER COMPANY
RICK VIGIL
1271 N HACIENDA RE
LA HABRA, CA 90631
(562) 697-6769
RICHLHHCWD@COVAD.NET

MOBIL OIL
RUTH CRONIN-FRUITT
12851 E 166TH ST ROOM 123
CERRITOS, CA 90703
(310) 212-1761

SOUTHERN CALIFORNIA GAS
DAVE RAND
1919 STATE COLLAGE BLVD
ANAHEIM, CA 928066114
(714) 634-3034
DRAND@SEMPRAUTILITES.COM

CENTRAL BASIN MWD
DAVID ATTWATER
17140 S AVALON BL #210
CARSON, CA 907461218
(310) 660-6296
SHERWINU@WEBWATER.ORG

CALIFORNIA DOMESTIC WATER
JIM BYERRUM
PO BOX 1338
WHITTIER, CA 90603
(562) 947-3811

LA COUNTY TRAFFIC OPERATIONS -
OPERATIONAL SERVICE DIVISION
YOLANDA MALACON
900 S FREMONT AVE
ALHAMBRA, CA 91803
(626) 458-1700

CHARTER COMMUNICATIONS
LEBRON LEWIS
13300 E WHITTIER BL
WHITTIER, CA 90602
(562) 698-1141

SBC/PAC BELL
PRELIMINARY UTILITY NOTICE REQ
14709 VANOWEN ST ROOM 218
VAN NUYS, CA 91405

CITY OF SANTA FE SPRINGS
FRANK BEACH
11710 E TELEGRAPH RD
SANTA FE SPRINGS, CA 90670
(562) 868-0511
FRANKBEACH@SANTAFESPRINGS.ORG

SAN GABRIEL VALLEY WATER COMPANY
LUIS MONTENEGRO
1142 E GARVEY AVE
EL MONTE, CA 91733
(626) 448-6183

VERIZON WIRELESS
MALCOLM BROWN
15505 SAND CANYON AVE
IRVINE, CA 926183114
(949) 286-8772

SOUTHERN CALIFORINA EDISON DISTRIBUTION
MARQUIS RANDOLPH
9901 GEARY
SANTA FE SPRINGS, CA. 90670
(562)-903-3179

VERIZON - SANTA FE SPRINGS
11558 E WASHINGTON BL UNIT B
SANTA FE SPRINGS, CA 90670

CITY OF WHITTIER
LEON YEHUDA
13230 PENN ST
WHITTIER, CA 906021772
(562) 464-3510

SUBURBAN WATER SYSTEMS - WHITTIER/LA MIRADA
TOM MEDINA, FIELD SUPERVISOR
15088 ROSECRANS BLVD.
LA MIRADA, CA. 09638
(562)-944-8219

TIME WARNER CABLE
JEFF FLACO
1041 E. ROUTE 66
GLENDORA, CA. 91740
(626) 914-4382-X208

WHITTIER COLLEGE
DAVID CRANE
13421 PHILADELPHIA ST
WHITTIER, CA 90608
(562) 907-4894

SURVEY INFORMATION:

BASIS OF BEARINGS
THE BEARINGS SHOWN HEREON ARE BASED ON THE CENTERLINE OF WASHINGTON BLVD. BETWEEN THE FOUND SPIKE AND WASHER, LS 5411, AT THE LAMBERT ROAD INTERSECTION AND THE FOUND SPIKE AND WASHER, LS 5411, AT THE PUTNAM STREET INTERSECTION BEING N78°30'56"E.

COORDINATE DATUM
COORDINATES SHOWN HEREON ARE BASED ON THE CALIFORNIA COORDINATE SYSTEM (CCS83), ZONE 5, 1983 NAD, 2004.0 EPOCH.

BENCHMARK
LOS ANGELES COUNTY BM Y6633
ELEV. 215.036 NAVD88 1995 ADJUSTMENT
BASELINE QUAD
COUNTY ENGINEERS MONUMENT AT THE NORTH END OF A CATCH BASIN 19.7 FEET NORTH OF THE BEGIN CURB RETURN ON WHITTIER BLVD. 59.0 FEET EAST OF THE CENTERLINE OF WHITTIER BLVD. AND 88.6 FEET WEST OF THE CENTERLINE OF PICKERING AVE. MARKED "BM 1-14AB 1961 RE 5869"

RECORD DRAWING

CALL BEFORE YOU DIG:
UNDERGROUND SERVICE ALERT OF SOUTHERN CALIFORNIA
TWO WORKING DAYS BEFORE YOU DIG
1-800-227-2600

REV. NO.	DATE	DRWN	CHKD	REMARKS
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DESIGNED BY: SHA
DRAWN BY: PJR
SHEET CHK'D BY: SHA
CROSS CHK'D BY: AS
APPROVED BY: RS
DATE: JUNE 2007

WARNING
0 1/2 1"
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REGISTERED PROFESSIONAL ENGINEER RAVI SUBRAMANIAN No. C053879 Exp. 06-30-2011 CIVIL STATE OF CALIFORNIA

CDM Camp Dresser & McKee Inc.
consulting engineering construction operations
111 ACADEMY, STE 150
Irvine, California 92617
Tel: (949) 752-5452
Fax: (949) 725-3790

OMEGA CHEMICAL SUPERFUND SITE
12504/12512 EAST WHITTIER BOULEVARD
WHITTIER, CALIFORNIA

GROUND WATER TREATMENT PLANT

CIVIL NOTES - I

PROJECT NO. 10500-70150
SHEET NO. C-1.2

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GEOTECHNICAL RECOMMENDATIONS (CDM MEMORANDUM, DECEMBER 5, 2006)

REFER TO GEOTECHNICAL INVESTIGATION REPORT (DECEMBER 2006) FOR GEOTECHNICAL RECOMMENDATIONS.

GRADING AND EARTHWORK:

NO UNUSUAL PROBLEMS ARE ANTICIPATED DURING THE GENERAL SITE PREPARATION AND EARTHWORK OPERATIONS WITHIN THE SITE. THE SITE CAN BE EXCAVATED WITH STANDARD EARTHMOVING EQUIPMENT. EARTHWORK AND GRADING SHALL BE PERFORMED IN ACCORDANCE WITH ALL APPLICABLE REQUIREMENTS OF THE STANDARD SPECIFICATIONS FOR PUBLIC WORKS CONSTRUCTION (GREENBOOK).

THE SITE SHALL BE CLEARED OF ALL SURFACE ITEMS, ASPHALT, NEAR SURFACE DISTURBED SOIL, DELETERIOUS MATERIALS, VEGETATION AND OTHER UTILITIES. ALL UNDOCUMENTED FILL WITHIN THE TREATMENT PAD LIMITS AND FIVE FEET BEYOND THE PAD LIMITS SHALL BE REMOVED AND RE-COMPACTED TO PROVIDE AT LEAST 5 FEET OF COMPACTED FILL BELOW THE BOTTOM OF THE CONCRETE PAD. THE ACTUAL DEPTH OF REMOVAL AND RE-COMPACTION SHALL BE DETERMINED IN THE FIELD BY A REPRESENTATIVE OF THE GEOTECHNICAL ENGINEER AT THE TIME OF CONSTRUCTION.

ADDITIONAL EXCAVATION MAY BE NECESSARY IF ANY DISTURBED SOIL OR OTHER UNSUITABLE DEPOSITS ARE EXPOSED. THE EXPOSED SURFACE SHALL BE SCARIFIED TO A MINIMUM DEPTH OF SIX (6) INCHES AND BE COMPACTED TO A MINIMUM DENSITY OF 90 PERCENT RELATIVE COMPACTION AS DETERMINED BY ASTM DESIGNATION D1557-00.

THE EXCAVATED ON-SITE SOILS MAY BE REUSED AS COMPACTED FILL PROVIDED THEY ARE FREE OF DELETERIOUS SUBSTANCES, AND ARE RELATIVELY FREE OF THE COBBLE AND BOULDER SIZE PARTICLES DISCUSSED ABOVE. ANY SOILS IMPORTED FROM OFF-SITE SOURCES FOR USE WITHIN THE PAD AREAS AND TO FIVE (5) FEET BEYOND THE BUILDING LIMITS SHALL BE NON-EXPANSIVE WITH AN EXPANSION INDEX OF LESS THAN 20, AND BE APPROVED BY THE GEOTECHNICAL ENGINEER PRIOR TO PLACEMENT.

ACCEPTABLE FILL MATERIAL SHALL BE PLACED IN LIFTS NOT EXCEEDING EIGHT (8) INCHES IN THICKNESS WHEN LOOSE AND SHALL BE PROPERLY COMPACTED TO AT LEAST 90 PERCENT OF THE MAXIMUM DRY DENSITY AS DETERMINED BY ASTM TEST METHOD D1557-00. ON-SITE MATERIALS SHALL BE COMPACTED WITH THE WATER CONTENT AT LEAST FOUR (4) PERCENT ABOVE THE OPTIMUM AS DETERMINED FROM ASTM TEST METHOD D1557-00. THE PLACEMENT AND COMPACTION OF ALL FILL SHALL BE PERFORMED UNDER THE OBSERVATION AND TESTING OF A REPRESENTATIVE OF CDM GEOTECHNICAL DIVISION.

SHRINKAGE IS THE LOSS OF SOIL VOLUME CAUSED BY COMPACTION OF THE SOIL TO A DENSITY GREATER THAN BEFORE GRADING. FOR AN EARTHWORK VOLUME ESTIMATE, A SHRINKAGE VALUE ON THE ORDER OF 10 TO 15 PERCENT MAY BE ASSUMED FOR THE NEAR SURFACE SOILS.

REFERENCES:

CALIFORNIA DEPARTMENT OF CONSERVATION, DIVISION OF MINES AND GEOLOGY, (1994) "*FAULT ACTIVITY MAP OF CALIFORNIA AND ADJACENT AREAS WITH LOCATIONS AND AGES OF RECENT VOLCANIC ERUPTIONS, COMPILED BY C.W. JENNINGS*"

CALIFORNIA DEPARTMENT OF CONSERVATION, DIVISION OF MINES AND GEOLOGY, (1998) "*SEISMIC HAZARD EVALUATION OF THE WHITTIER7.5-MINUTE QUADRANGLE, LOS ANGELES AND ORANGE COUNTIES, CALIFORNIA* " SEISMIC HAZARD ZONE REPORT 037.

CALIFORNIA BUILDING CODE, VOLUME 2 – 2001

INTERNATIONAL CONFERENCE OF BUILDING OFFICIALS (ICBO), 1997, MAPS OF KNOWN ACTIVE FAULT, NEAR-SOURCE ZONES IN CALIFORNIA AND ADJACENT PORTIONS OF NEVADA, TO BE USED WITH 1997 UNIFORM BUILDING CODE.

STATE OF CALIFORNIA, (1999) "SEISMIC HAZARD ZONES – WHITTIER QUADRANGLE"

STORMWATER POLLUTION PLAN NOTES:

REFER TO SHEET C-2.6 FOR STORMWATER POLLUTION PLAN NOTES

RECORD DRAWING

REV. NO.	DATE	DRWN	CHKD	REMARKS
4	9/09	PJR		RECORD DRAWING
3	1/7/08	PJR	SHA	ISSUED FOR CONSTRUCTION
2	10/12/07	PJR	SHA	ISSUED FOR CITY PLAN CHECK
1	9/07	PJR	SHA	SUBMITTED FOR PLAN CHECK
0	8/07	PJR	SHA	SUBMITTED FOR PLAN CHECK

DESIGNED BY: SHA
DRAWN BY: PJR
SHEET CHK'D BY: SHA
CROSS CHK'D BY: AS
APPROVED BY: RS
DATE: JUNE 2007

WARNING
0 1/2 1"
IF THIS BAR DOES NOT MEASURE 1" THEN DRAWING IS NOT TO SCALE.

REGISTERED PROFESSIONAL ENGINEER RAVI SUBRAMANIAN No. C053679 Exp. 06-30-2011 CIVIL STATE OF CALIFORNIA

CDM Camp Dresser & McKee Inc.
consulting engineering construction operations
111 ACADEMY, STE 150
Irvine, California 92617
Tel: (949) 752-5452
Fax: (949) 725-3790

OMEGA CHEMICAL SUPERFUND SITE
12504/12512 EAST WHITTIER BOULEVARD
WHITTIER, CALIFORNIA

GROUND WATER TREATMENT PLANT

CIVIL NOTES - II

PROJECT NO. 10500-70150

SHEET NO. C-1.3

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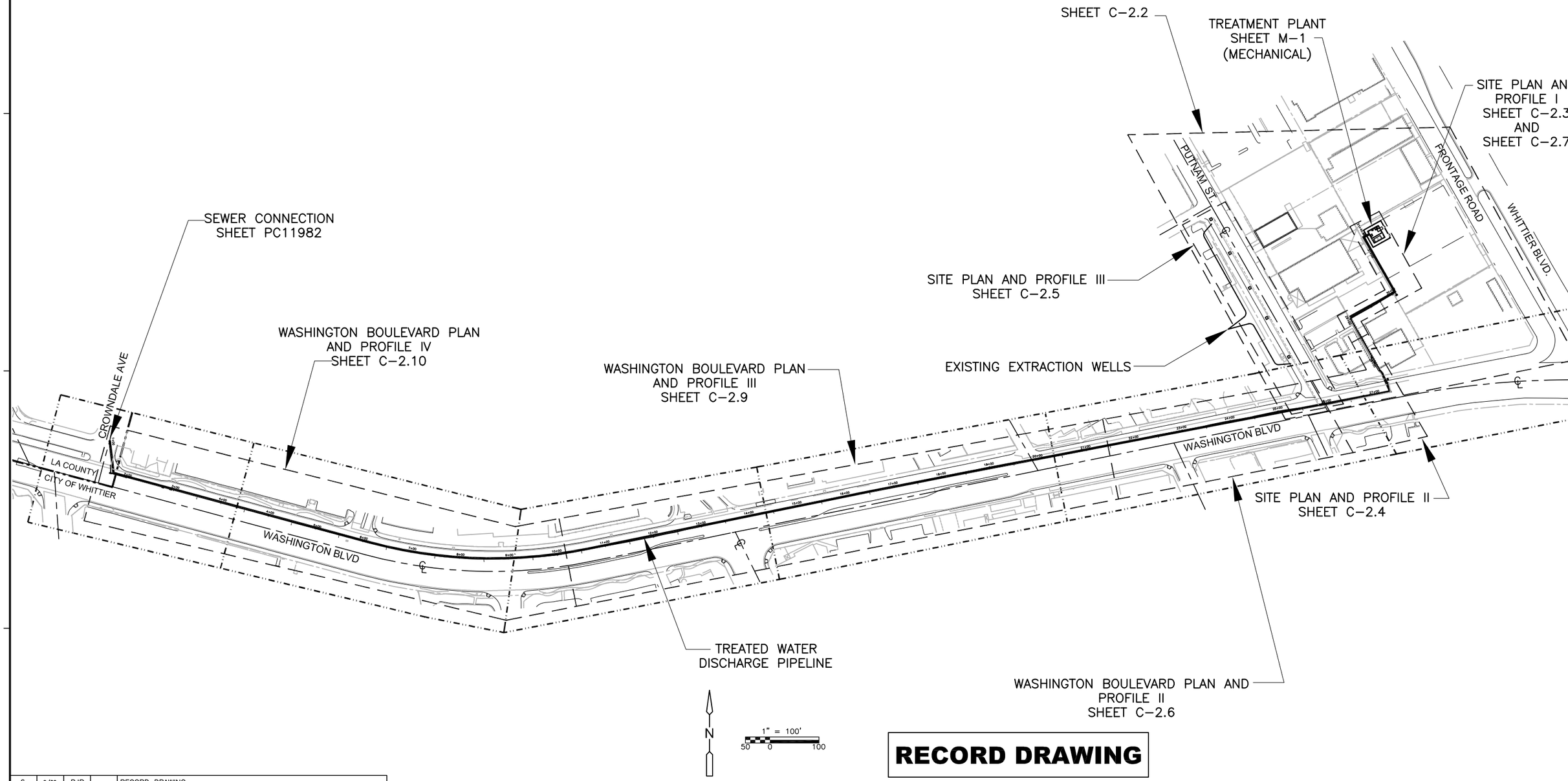

RECORD DRAWING

REV. NO.	DATE	DRWN	CHKD	REMARKS
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4	1/7/08	PJR	SHA	ISSUED FOR CONSTRUCTION
3	1/7/08	PJR	SHA	REVISED PER CITY OF WHITTIER COMMENTS
2	10/12/07	PJR	SHA	ISSUED FOR CITY PLAN CHECK
1	9/07	PJR	SHA	SUBMITTED FOR PLAN CHECK
0	8/07	PJR	SHA	SUBMITTED FOR PLAN CHECK

DESIGNED BY: SHA
DRAWN BY: PJR
SHEET CHK'D BY: SHA
CROSS CHK'D BY: AS
APPROVED BY: RS
DATE: JUNE 2007

WARNING
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REGISTERED PROFESSIONAL ENGINEER
RAVI SUBRAMANIAN
No. C053679
Exp. 06-30-2011
CIVIL
STATE OF CALIFORNIA

CDM Camp Dresser & McKee Inc.
consulting engineering construction operations
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OMEGA CHEMICAL SUPERFUND SITE

12504/12512 EAST WHITTIER BOULEVARD
WHITTIER, CALIFORNIA

GROUND WATER TREATMENT PLANT

SITE AND PIPING PLAN INDEX

PROJECT NO. 10500-70150

SHEET NO. C-2.1

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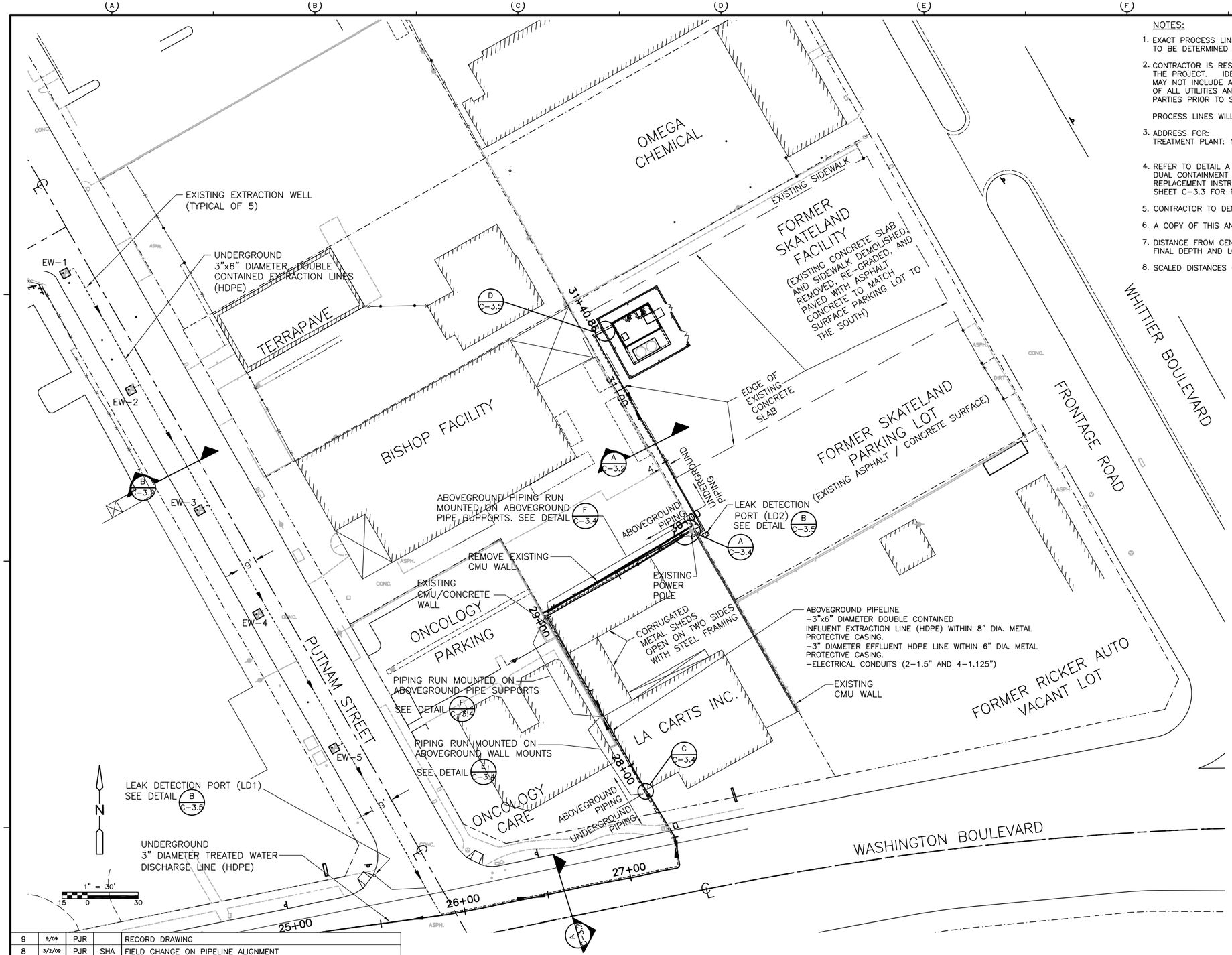

NOTES:

1. EXACT PROCESS LINE ALIGNMENT LOCATIONS IN REFERENCE TO BUILDING DIMENSIONS AND EXISTING UTILITY LOCATIONS TO BE DETERMINED BY CONTRACTOR.
2. CONTRACTOR IS RESPONSIBLE FOR PROTECTING ALL UTILITIES AND STRUCTURES THAT ARE TO BE PRESERVED DURING THE PROJECT. IDENTIFIED STRUCTURES, UTILITIES, AND POTENTIAL UTILITY CONFLICTS SHOWN ON DESIGN DRAWINGS MAY NOT INCLUDE ALL SUCH FEATURES. IT IS THE CONTRACTOR'S RESPONSIBILITY TO CONFIRM LOCATION AND STATUS OF ALL UTILITIES AND STRUCTURES WITH UTILITY OWNERS, THE PROJECT OWNER, THE ENGINEER, AND OTHER APPLICABLE PARTIES PRIOR TO START OF CONSTRUCTION.

   PROCESS LINES WILL BE DUAL CONTAINED HDPE MINIMUM 10 FEET ON EITHER SIDE OF CROSSING POTABLE WATER LINE.
3. ADDRESS FOR:
   TREATMENT PLANT: 12520 WHITTIER BLVD.
   WHITTIER, CA. 90602
4. REFER TO DETAIL A SHEET C-3.3 FOR PIPE CROSSING SUPPORT INSTRUCTIONS. REFER TO DETAIL B SHEET C-3.3 FOR DUAL CONTAINMENT PIPE TERMINATION INSTRUCTIONS. REFER TO DETAIL C SHEET C-3.3 FOR CONCRETE PAVEMENT REPLACEMENT INSTRUCTIONS. REFER TO DETAIL D SHEET C-3.3 FOR PIPE SEPARATION CRITERIA. REFER TO DETAIL E SHEET C-3.3 FOR PRESSURE CLEANOUT ASSEMBLY.
5. CONTRACTOR TO DEMO EXISTING VAULT AT EXTRACTION WELLS AND INSTALL NEW VAULTS PER SHEET C-3.1.
6. A COPY OF THIS AND OTHER EASEMENTS WILL BE PROVIDED TO THE CITY OF WHITTIER.
7. DISTANCE FROM CENTERLINE TO DISCHARGE LINE IS APPROXIMATE. CONTRACTOR TO FIELD LOCATE AND AS-BUILT THE FINAL DEPTH AND LOCATION PER SPECIFICATIONS.
8. SCALED DISTANCES GOVERN OVER DIMENSIONS.

LEGEND

- EXTRACTED GROUNDWATER (INFLUENT)
- TREATED WATER DISCHARGE LINE (EFFLUENT)
- EXTRACTION WELL (EXISTING)
- EXTRACTION WELLHEAD VAULT (NEW)

DEFERRED SUBMITTAL NOTES:

1. THE PLANNING COMMISSION APPROVED THE PROJECT ON JUNE 18, 2007. PLANNING DEPT. SIGNED OFF THE DRAWINGS IN NOVEMBER 2007.
2. GROUNDWATER TREATMENT PLANT WAS APPROVED BY BUILDING DEPT. UNDER PERMIT NO. 121600.
3. PIPELINE IN CITY RIGHT OF WAY WAS APPROVED BY CITY OF WHITTIER PUBLIC WORKS UNDER PERMIT NO. 8684.

RECORD DRAWING

REV. NO.	DATE	DRWN	CHKD	REMARKS
9	9/09	PJR		RECORD DRAWING
8	3/2/09	PJR	SHA	FIELD CHANGE ON PIPELINE ALIGNMENT
7	1/5/09	PJR	SHA	FIELD CHANGE ON PIPELINE ALIGNMENT
6	11/12/08	PJR	SHA	CHANGED PIPE RUN CALLOUTS TO ABOVEGROUND SUPPORTS FROM STATIONS 30 TO 31
5	9/19/08	PJR	SHA	ISSUED FOR DEFERRED SUBMITTAL
4	1/7/08	PJR	SHA	ISSUED FOR CONSTRUCTION
3	1/7/08	PJR	SHA	REVISED PER CITY OF WHITTIER COMMENTS
2	10/12/07	PJR	SHA	ISSUED FOR CITY PLAN CHECK
1	9/07	PJR	SHA	SUBMITTED FOR PLAN CHECK
0	8/07	PJR	SHA	SUBMITTED FOR PLAN CHECK

DESIGNED BY: SHA
DRAWN BY: PJR
SHEET CHK'D BY: SHA
CROSS CHK'D BY: AS
APPROVED BY: RS
DATE: JUNE 2007

WARNING
0 1/2 1"
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REGISTERED PROFESSIONAL ENGINEER RICHARD SUBRAMANIAN No. C053879 Exp. 06-30-2011 CIVIL STATE OF CALIFORNIA

CDM Camp Dresser & McKee Inc.
consulting engineering construction operations
111 ACADEMY, STE 150
Irvine, California 92617
Tel: (949) 752-5452
Fax: (949) 725-3790

OMEGA CHEMICAL SUPERFUND SITE
12504/12512 EAST WHITTIER BOULEVARD
WHITTIER, CALIFORNIA

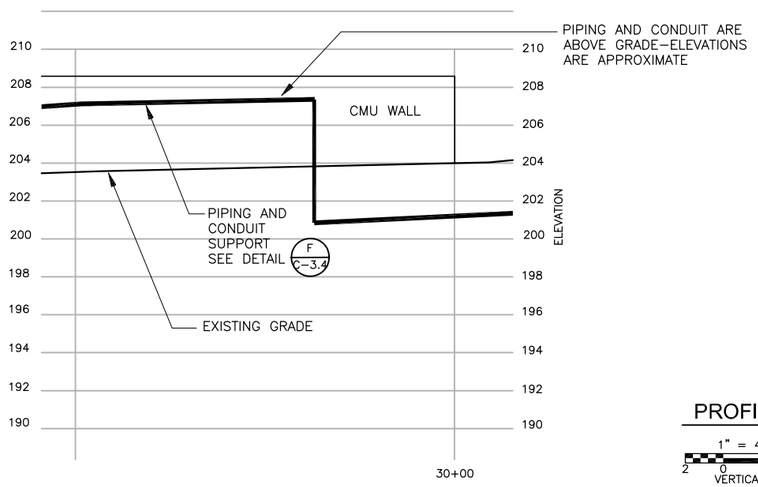
GROUND WATER TREATMENT PLANT
PLAN VIEW OF EXTRACTION WELLS, TREATMENT PLANT, AND CONVEYANCE PIPING ROUTING

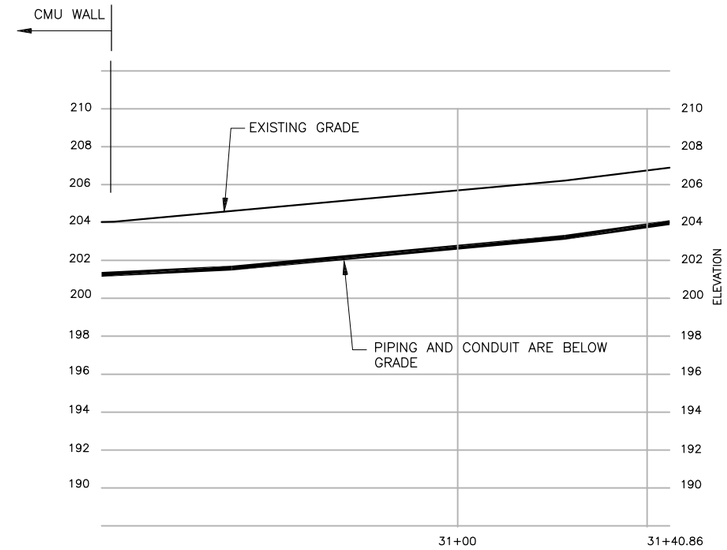
PROJECT NO. 10500-70150
SHEET NO. C-2.2

P:\10500\53426\Sept 2009 Record Dwgs\Civil-2009 Record\ R-C-2.2 10/02/09 11:05 richlep\ XREFS: cwp1000R, OMEGA-bd-R, SURVEY, 00001PL, OMEGAAC, CA-Rovi-S-2011

LEGEND:

- EXTRACTED GROUNDWATER (EGW)
- TREATED WATER (TW) DISCHARGE LINE WITH STATION NUMBER
- GROUNDWATER EXTRACTION WELL AND VAULT
- B-2 GEOTECH BORING LOCATION AND DESIGNATION

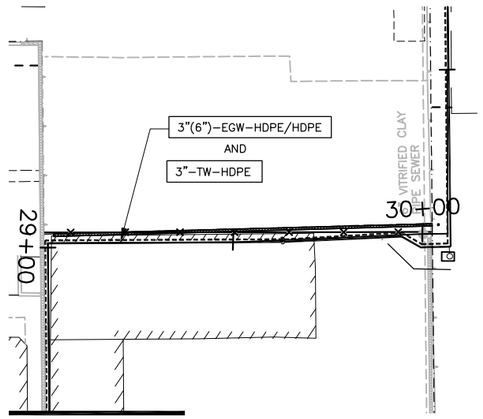




PROFILE

1" = 4'
2 0 4
VERTICAL

1" = 20'
10 0 20
HORIZONTAL



PLAN

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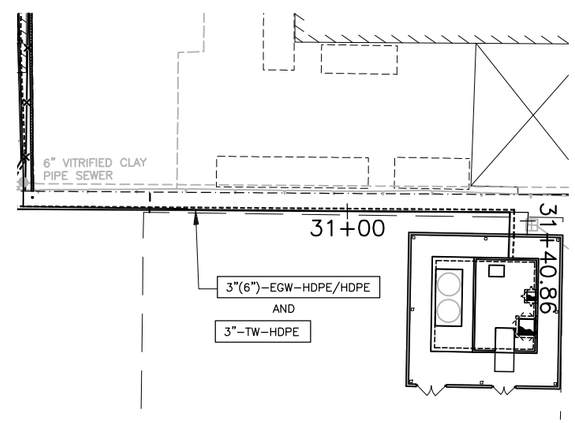

PLAN

1" = 20'
10 0 20

N

RECORD DRAWING

CALL BEFORE YOU DIG:
UNDERGROUND SERVICE ALERT OF
SOUTHERN CALIFORNIA
TWO WORKING DAYS BEFORE YOU DIG
1–800–227–2600

REV. NO.	DATE	DRWN	CHKD	REMARKS
5	9/09	PJR		RECORD DRAWING
4	1/7/08	PJR	SHA	ISSUED FOR CONSTRUCTION
3	1/7/08	PJR	SHA	REVISED PER CITY OF WHITTIER COMMENTS
2	10/12/07	PJR	SHA	ISSUED FOR CITY PLAN CHECK
1	9/07	PJR	SHA	SUBMITTED FOR PLAN CHECK
0	8/07	PJR	SHA	SUBMITTED FOR PLAN CHECK

DESIGNED BY: SHA
DRAWN BY: PJR
SHEET CHK'D BY: SHA
CROSS CHK'D BY: AS
APPROVED BY: RS
DATE: JUNE 2007

WARNING
0 1/2 1"
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REGISTERED PROFESSIONAL ENGINEER RAVI SUBRAMANIAN No. C053679 Exp. 09-30-2011 CIVIL STATE OF CALIFORNIA

CDM Camp Dresser & McKee Inc.
consulting engineering construction operations
111 ACADEMY, STE 150
Irvine, California 92617
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OMEGA CHEMICAL SUPERFUND SITE

12504/12512 EAST WHITTIER BOULEVARD
WHITTIER, CALIFORNIA

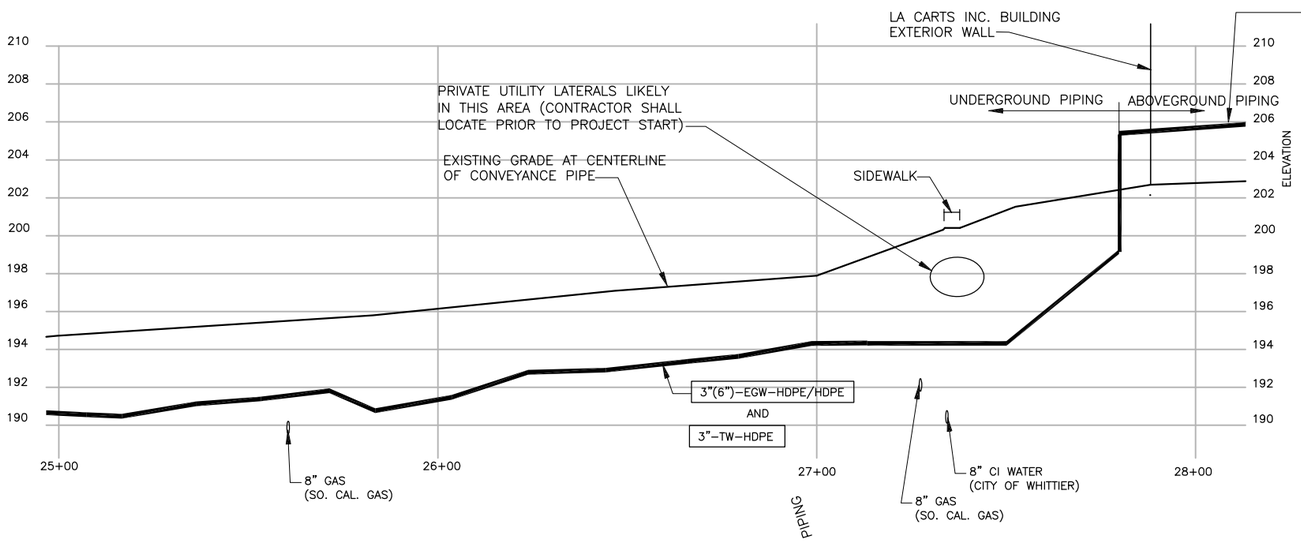
GROUND WATER TREATMENT PLANT

SITE
PLAN AND PROFILE I

PROJECT NO. 10500–70150

SHEET NO. C-2.3

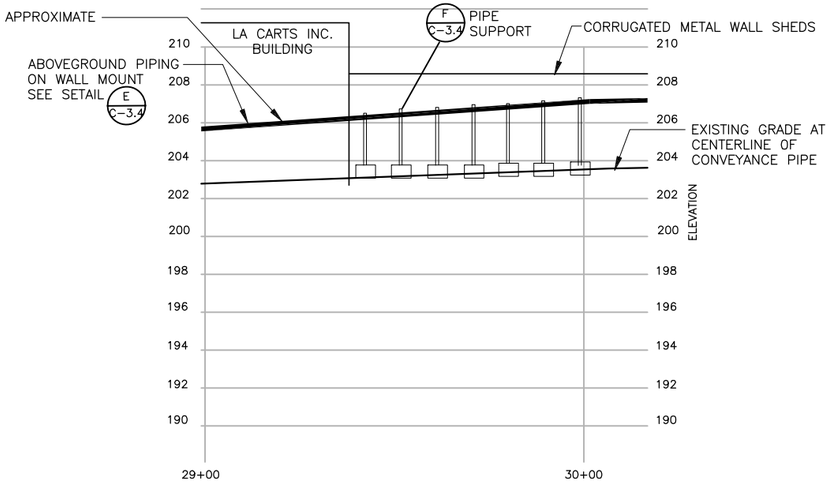
P:\10500\53426\Sept 2009 Record Dwgs\Civil-2009 Record\ R-C-2.3 10/02/09 11:12 riehlepj XREFS: SURVEY, cprof00R, cutil000, OMEGA-bd, 00001PL, cwpl000R

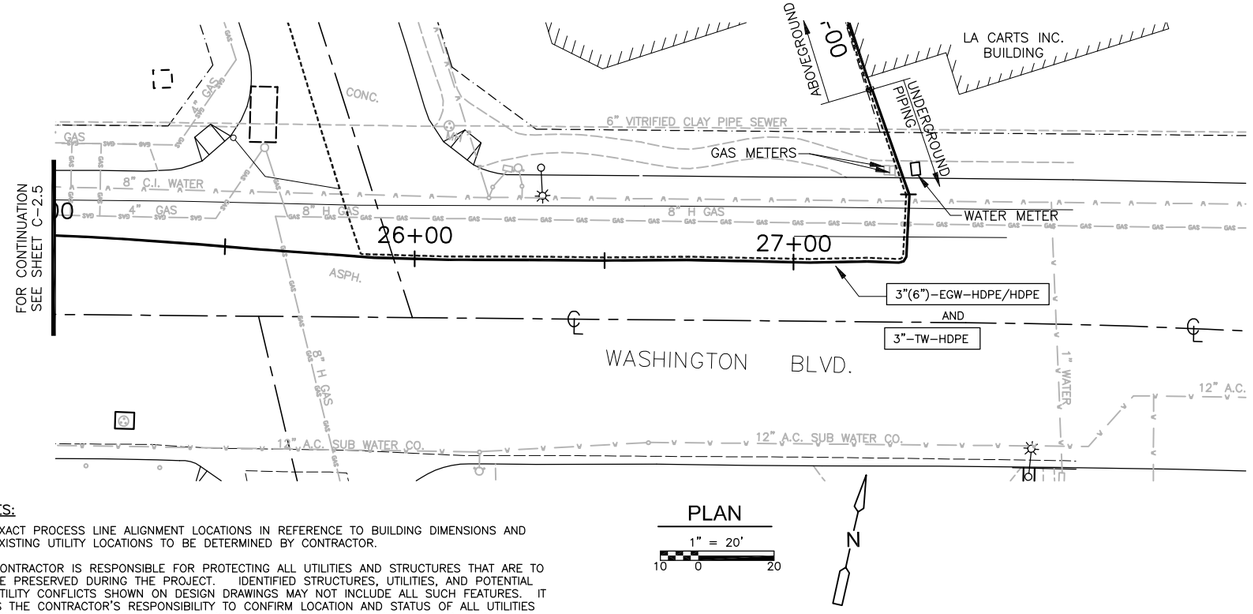


PROFILE

1" = 4'
VERTICAL

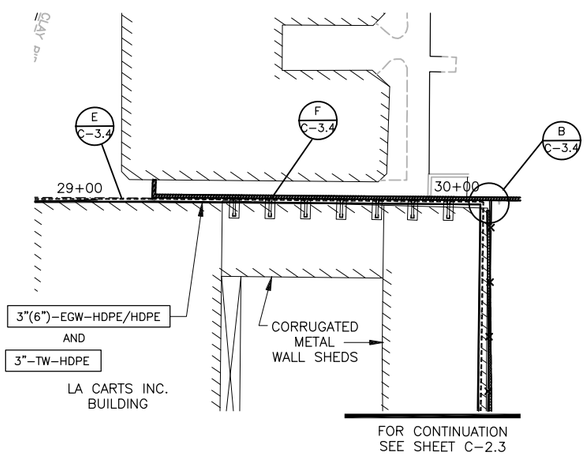
1" = 20'
HORIZONTAL





PLAN

1" = 20'



PLAN

1" = 20'

NOTES:

1. EXACT PROCESS LINE ALIGNMENT LOCATIONS IN REFERENCE TO BUILDING DIMENSIONS AND EXISTING UTILITY LOCATIONS TO BE DETERMINED BY CONTRACTOR.
2. CONTRACTOR IS RESPONSIBLE FOR PROTECTING ALL UTILITIES AND STRUCTURES THAT ARE TO BE PRESERVED DURING THE PROJECT. IDENTIFIED STRUCTURES, UTILITIES, AND POTENTIAL UTILITY CONFLICTS SHOWN ON DESIGN DRAWINGS MAY NOT INCLUDE ALL SUCH FEATURES. IT IS THE CONTRACTOR'S RESPONSIBILITY TO CONFIRM LOCATION AND STATUS OF ALL UTILITIES AND STRUCTURES WITH UTILITY OWNERS, THE PROJECT OWNER, THE ENGINEER, AND OTHER APPLICABLE PARTIES PRIOR TO START OF CONSTRUCTION.
3. PROCESS LINES WILL BE DUAL CONTAINED HDPE MINIMUM 10 FEET ON EITHER SIDE OF CROSSING POTABLE WATER LINE.
4. ADDRESS FOR:
   TREATMENT PLANT: 12520 WHITTIER BLVD.
   WHITTIER, CA. 90602
5. REFER TO DETAIL A SHEET C-3.3 FOR PIPE CROSSING SUPPORT INSTRUCTIONS. REFER TO DETAIL B SHEET C-3.3 FOR DUAL CONTAINMENT PIPE TERMINATION INSTRUCTIONS. REFER TO DETAIL C SHEET C-3.3 FOR CONCRETE PAVEMENT REPLACEMENT INSTRUCTIONS. REFER TO DETAIL D SHEET C-3.3 FOR PIPE SEPARATION CRITERIA. REFER TO DETAIL E SHEET C-3.3 FOR PRESSURE CLEANOUT ASSEMBLY.
6. CONTRACTOR TO DEMO EXISTING VAULT AT EXTRACTION WELLS AND INSTALL NEW VAULTS PER SHEET C-3.1.
7. TOPOGRAPHIC INFORMATION PROVIDED BY BUSH AND ASSOCIATES, COORDINATES SHOWN ARE BASED ON THE CALIFORNIA COORDINATE SYSTEM (CCS83), ZONE 5, 1983 NAD, 2004.0 EPOCH. VERTICAL DATUM IS NAVD88 1995 ADJUSTMENT.
6. A COPY OF THIS AND OTHER EASEMENTS WILL BE PROVIDED TO THE CITY OF WHITTIER.
9. CONTRACTOR SHALL MAINTAIN CLEARANCE OF POTABLE WATER SERVICES, LATERALS, MAINS, IN ACCORDANCE WITH HEALTH DEPARTMENT STANDARDS AND LOS ANGELES COUNTY DEPARTMENT OF PUBLIC WORKS STANDARD PLAN 2100-1.
10. DISTANCE FROM CENTERLINE TO DISCHARGE LINE IS APPROXIMATE. CONTRACTOR TO FIELD LOCATE AND AS-BUILT THE FINAL DEPTH AND LOCATION PER SPECIFICATIONS.
11. SCALED DISTANCES GOVERN OVER DIMENSIONS.

LEGEND:

- EXTRACTED GROUNDWATER (EGW)
- TREATED WATER (TW) DISCHARGE LINE WITH STATION NUMBER
- GROUNDWATER EXTRACTION WELL AND VAULT

RECORD DRAWING

CALL BEFORE YOU DIG:
UNDERGROUND SERVICE ALERT OF SOUTHERN CALIFORNIA
TWO WORKING DAYS BEFORE YOU DIG
1-800-227-2600

REV. NO.	DATE	DRWN	CHKD	REMARKS
5	9/19/08	PJR	SHA	ISSUUED FOR DEFERRED SUBMITTAL
4	1/7/08	PJR	SHA	ISSUED FOR CONSTRUCTION
3	1/7/08	PJR	SHA	REVISED PER CITY OF WHITTIER COMMENTS
2	10/12/07	PJR	SHA	ISSUED FOR CITY PLAN CHECK
1	9/07	PJR	SHA	SUBMITTED FOR PLAN CHECK
0	8/07	PJR	SHA	SUBMITTED FOR PLAN CHECK

DESIGNED BY: SHA
DRAWN BY: PJR
SHEET CHK'D BY: SHA
CROSS CHK'D BY: AS
APPROVED BY: RS
DATE: JUNE 2007

WARNING
0 1/2 1"
IF THIS BAR DOES NOT MEASURE 1" THEN DRAWING IS NOT TO SCALE.

REGISTERED PROFESSIONAL ENGINEER RAVI V. SUBRAMANIAN No. C053879 Exp. 06-30-2011 CIVIL STATE OF CALIFORNIA

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OMEGA CHEMICAL SUPERFUND SITE
12504/12512 EAST WHITTIER BOULEVARD
WHITTIER, CALIFORNIA

GROUND WATER TREATMENT PLANT
SITE
PLAN AND PROFILE II

PROJECT NO. 10500-70150
SHEET NO. C-2.4

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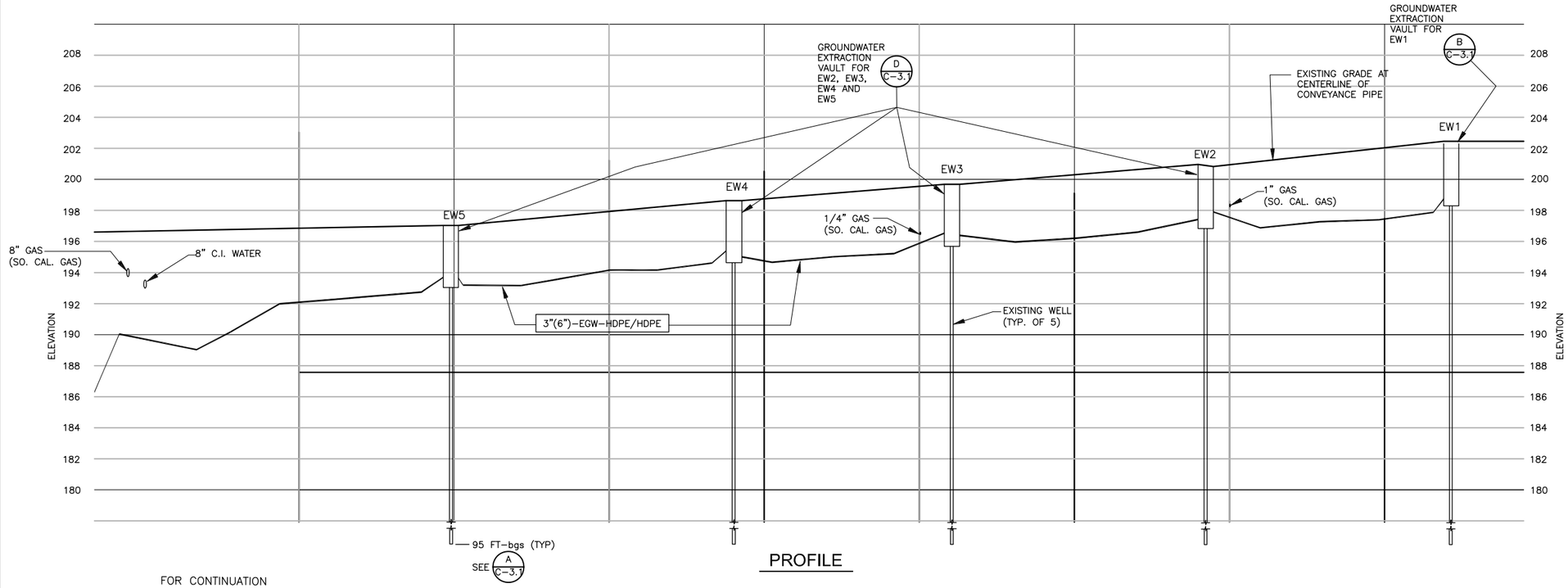
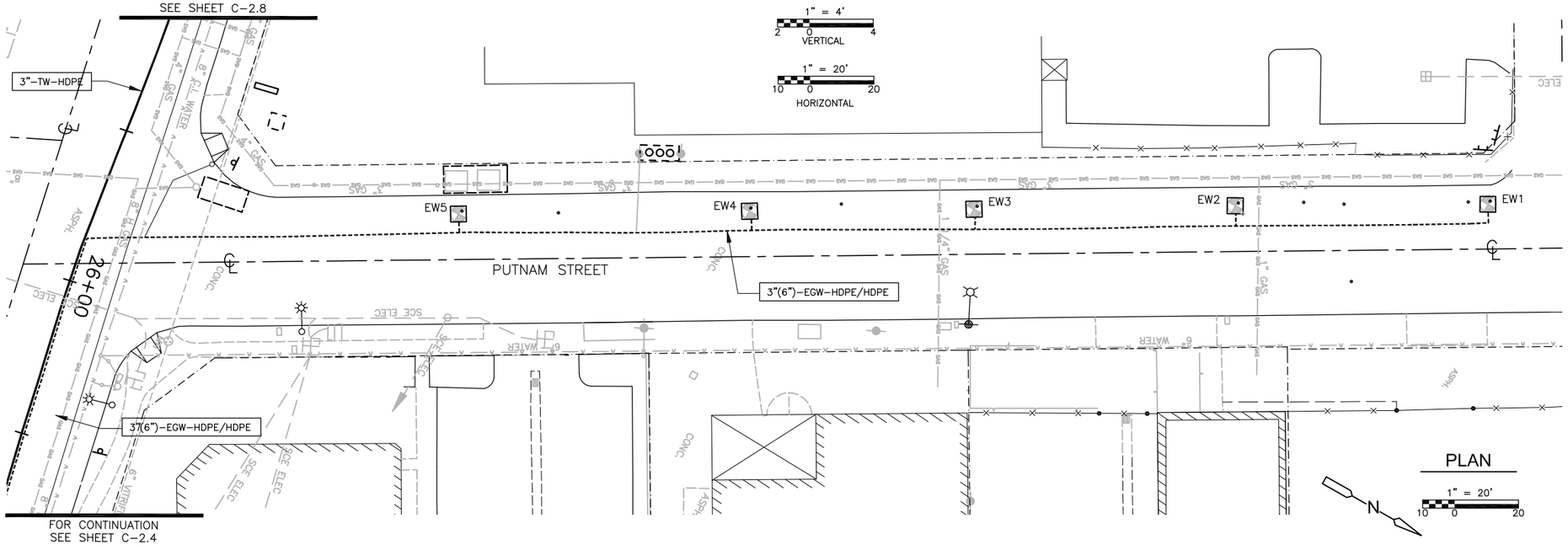


PROFILE

1" = 4'
2 0 4
VERTICAL

1" = 20'
10 0 20
HORIZONTAL



PLAN

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10 0 20

NOTES:

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3. PROCESS LINES WILL BE DUAL CONTAINMENT HDPE MINIMUM 10 FEET ON EITHER SIDE OF CROSSING POTABLE WATER LINE.
4. ADDRESS FOR:
   SKATELAND BUILDING IS: 12520 WHITTIER BLVD.
   WHITTIER, CA. 90602

   TOPOGRAPHIC INFORMATION PROVIDED BY BUSH AND ASSOCIATES, COORDINATES SHOWN ARE BASED ON THE CALIFORNIA COORDINATE SYSTEM (CCS83), ZONE 5, 1983 NAD, 2004.0 EPOCH. VERTICAL DATUM IS NAVD88 1995 ADJUSTMENT.
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6. CONTRACTOR TO DEMO EXISTING VAULT AT EXTRACTION WELLS AND INSTALL NEW VAULTS PER SHEET C-3.1.
7. DISTANCE FROM CENTERLINE TO DISCHARGE LINE IS APPROXIMATE. CONTRACTOR TO FIELD LOCATE AND AS-BUILT THE FINAL DEPTH AND LOCATION PER SPECIFICATIONS.

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TWO WORKING DAYS BEFORE YOU DIG
1-800-227-2600

RECORD DRAWING

REV. NO.	DATE	DRWN	CHKD	REMARKS
4	9/09	PJR		RECORD DRAWING
3	1/7/08	PJR	SHA	ISSUED FOR CONSTRUCTION
2	10/12/07	PJR	SHA	ISSUED FOR CITY PLAN CHECK
1	9/07	PJR	SHA	SUBMITTED FOR PLAN CHECK
0	8/07	PJR	SHA	SUBMITTED FOR PLAN CHECK

DESIGNED BY: SHA
DRAWN BY: PJR
SHEET CHK'D BY: SHA
CROSS CHK'D BY: AS
APPROVED BY: RS
DATE: JUNE 2007

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REGISTERED PROFESSIONAL ENGINEER RAVI SUBRAMANIAN No. C053679 Exp. 06-30-2011 CIVIL STATE OF CALIFORNIA

CDM Camp Dresser & McKee Inc.
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111 ACADEMY, STE 150
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Fax: (949) 725-3790

OMEGA CHEMICAL SUPERFUND SITE
12504/12512 EAST WHITTIER BOULEVARD
WHITTIER, CALIFORNIA

GROUND WATER TREATMENT PLANT
SITE
PLAN AND PROFILE III

PROJECT NO. 10500-70150
SHEET NO. C-2.5

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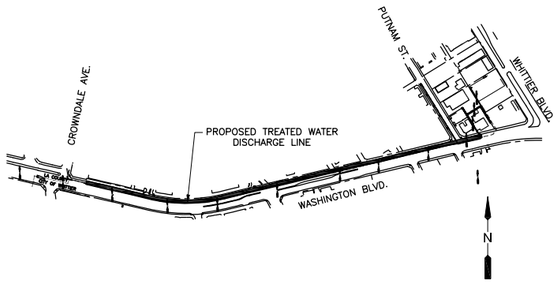
BENCH MARKS

BM Y6633 Elev. 215.036

COUNTY ENGINEERS MONUMENT AT THE NORTH END OF A CATCH BASIN 19.7 FEET NORTH OF THE BEGIN CURB RETURN ON WHITTIER BLVD. 59.0 FEET EAST OF THE CENTERLINE OF WHITTIER BLVD. AND 88.6 FEET WEST OF THE CENTERLINE OF PICKERING AVE. MARKED "BM 1-14AB 1961 RE 5869"

BASELINE QUAD

Per Title 20.24.140 of LA County Code, obstructing access to sewer facilities is prohibited. No object difficult to remove shall be located over the sewer easement(s) as to interfere with ready access to sewer facilities.



INDEX MAP

SCALE: 1" = 600' INDEX

STORMWATER POLLUTION PREVENTION NOTES

A. NOTES

1. ERODED SEDIMENTS AND OTHER POLLUTANTS MUST BE RETAINED ON SITE AND MAY NOT BE TRANSPORTED FROM THE SITE VIA SHEETFLOW, SWALES, AREA DRAINS, NATURAL DRAINAGE COURESS OR WIND.
2. STOCKPILES OF EARTH AND OTHER CONSTRUCTION RELATED MATERIALS MUST BE PROTECTED FROM BEING TRANSPORTED FROM THE SITE BY THE FORCES OF WIND OR WATER.
3. FUELS, OILS, SOLVENTS, AND OTHER TOXIC MATERIALS MUST BE STORED IN ACCORDANCE WITH THEIR LISTING AND ARE NOT TO CONTAMINATE THE SOIL AND SURFACE WATERS. ALL APPROVED STORAGE CONTAINERS ARE TO BE PROTECTED FROM THE WEATHER. SPILLS MAY NOT BE WASHED INTO THE DRAINAGE SYSTEM.
4. EXCESS OR WASTE CONCRETE MAY NOT BE WASHED INTO THE PUBLIC WAY OR ANY OTHER DRAINAGE SYSTEM. PROVISIONS SHALL BE MADE TO RETAIN CONCRETE WASTES ON SITE UNTIL THEY CAN BE DISPOSED OF AS SOLID WASTE.
5. TRASH AND CONSTRUCTION RELATED SOLID WASTES MUST BE DEPOSITED INTO A COVERED RECEPTACLE TO PREVENT CONTAMINATION OF RAINWATER AND DISPERSAL BY WIND.
6. SEDIMENTS AND OTHER MATERIALS MAY NOT TRACKED FROM THE SITE BY VEHICLE TRAFFIC. THE CONSTRUCTION ENTRANCE ROADWAYS MUST BE STABILIZED SO AS TO INHIBIT SEDIMENTS FROM BEING DEPOSITED INTO THE PUBLIC WAY. ACCIDENTAL DEPOSITIONS MUST BE SWEPT UP IMMEDIATELY AND MAY NOT BE WASHED DOWN BY RAIN OR OTHER MEANS.
7. ANY SLOPES WITH DISTURBED SOILS DENUDED OF VEGETATION MUST BE STABILIZED SO AS TO INHIBIT EROSION BY WIND AND WATER.

B. THE FOLLOWING BMPS AS OUTLINED IN, BUT NOT LIMITED TO, THE "BEST MANAGEMENT PRACTICE HANDBOOK, CALIFORNIA STORMWATER QUALITY TASK FORCE, SACRAMENTO, CALIFORNIA 2003," OR THE LATEST REVISED EDITION, MAY APPLY DURING THE CONSTRUCTION OF THIS PROJECT (ADDITIONAL MEASURES MAY BE REQUIRED IF DEEMED APPROPRIATE BY COUNTY INSPECTORS):

TEMPORARY SOIL STABILIZATION

SS1 SCHEDULING
SS2 PRESERVATION OF EXISTING VEGETATION
SS3 HYDRAULIC MULCH
SS4 HYDROSEEDING
SS5 SOIL BINDERS
SS6 STRAW MULCH
SS7 GEOTEXTILES, PLASTIC COVERS, & EROSION CONTROL BLANKETS/MATS
SS8 WOOD MULCHING
SS9 EARTH DIKES/DRAINAGE SWALES & LINED DITCHES
SS10 OUTLET PROTECTION/VELOCITY DISSIPATION DEVICES
SS11 SLOPE DRAINS

NON-STORMWATER MANAGEMENT

NS1 WATER CONSERVATION PRACTICES
NS2 DEWATERING OPERATIONS
NS3 PAVING AND GRINDING OPERATIONS
NS4 TEMPORARY STREAM CROSSING
NS5 CLEAR WATER DIVERSION
NS6 ILLICIT CONNECTION/ILLEGAL DISCHARGE DETECTION AND REPORTING
NS7 POTABLE WATER/IRRIGATION
NS8 VEHICLE AND EQUIPMENT CLEANING
NS9 VEHICLE AND EQUIPMENT FUELING
NS10 VEHICLE AND EQUIPMENT MAINTENANCE
NS11 PILE DRIVING OPERATIONS
NS12 CONCRETE CURING
NS13 MATERIAL AND EQUIPEMENT USE OVER WATER
NS14 CONCRETE FINISHING

WASTE MANAGEMENT AND MATERIALS POLLUTION CONTROL

WM1 MATERIAL DELIVERY AND STORAGE
WM2 MATERIAL USE
WM3 STOCKPILE MANAGEMENT
WM4 SPILL PREVENTION AND CONTROL
WM5 SOLID WASTE MANAGEMENT
WM6 HAZARDOUS WASTE MANAGEMENT
WM7 CONTAMINED SOIL MANAGEMENT
WM8 CONCRETE WASTE MANAGEMENT
WM9 SANITARY/SEPTIC WASTE MANAGEMENT
WM10 LIQUID WASTE MANAGEMENT

TEMPORARY SEDIMENT CONTROL

SC1 SILT FENCE
SC2 SEDIMENT/DESILTING BASIN
SC3 SEDIMENT TRAP
SC4 CHECK DAM
SC5 FIBER ROLLS
SC6 GRAVEL BAG BERM
SC7 STREET SWEEPING AND VACUUMING
SC8 SANDBAG BARRIER
SC9 STRAW BALE BARRIER
SC10 STORM DRAIN INLET PROJECTION

WIND EROSION CONTROL

WE1 WIND EROSION CONTROL

TRACKING CONTROL

TC1 STABLIZED CONSTRUCTION ENTRANCE/EXIT
TC2 STABLIZED CONSTRUCTION ROADWAY
TC3 ENTRANCE/OUTLET TIREWASH

STANDARD PLANS:

LOS ANGELES COUNTY DEPARTMENT OF PUBLIC WORKS
THE FOLLOWING LATEST REVISED STANDARD PLANS ON FILE IN THE OFFICE OF THE FOLLOWING DEPARTMENT SHALL APPLY IN THE CONSTRUCTION OF THIS PROJECT.

2000-0 LEGEND FOR SANITARY SEWER PLANS AND PROFILES AND DISTRICT MAPS.
2002-1 PRECAST CONCRETE SHALLOW MANHOLE.
2003-2 REINFORCED PRECAST CONCRETE MANHOLE.
2014-1 RECTANGULAR MANHOLE FRAME AND COVER.
2015-1 STANDARD MANHOLE STEP.
2021-1 BEDDING FOR SEWER PIPE.
2023-2 CRADLING AND ENCASEMENT.
2024-1 WYE OR TEE SUPPORT.
2026-1 EROSION PROTECTION IN STEEP SLOPES.
2027-1 ALLOWABLE TRENCH WIDTHS.
2100-1 REQUIREMENTS FOR SANITARY SEWERS IN THE VICINITY OF PRESSURE WATER MAINS
6008-1 MINIMUM PUBLIC SAFETY REQUIREMENTS.

STANDARD PLANS FOR PUBLIC WORKS CONSTRUCTION (APWA)

200-2 PRECAST CONCRETE SEWER MANHOLE
207-1 PRECAST REINFORCED CONCRETE MANHOLE BASE
208-1 BREAKING INTO EXISTING MANHOLES
210-2 MANHOLE FRAME AND COVER LOCKING TYPE
221-1 PIPE ANCHORS AND BACKFILL STABILIZERS

NOTES:

NO CONNECTION FOR THE DISPOSAL OF INDUSTRIAL WASTES SHALL BE MADE TO SEWERS SHOWN ON THESE DRAWINGS UNTIL A PERMIT FOR INDUSTRIAL WASTE WATER DISCHARGE HAS BEEN ISSUED BY THE COUNTY SANITATION DISTRICTS FOR SAID CONNECTIONS.

BEFORE BREAKING INTO OR CONSTRUCTING A SANITATION DISTRICTS' SEWER AND PRIOR TO FINAL ACCEPTANCE OF THE PROJECT, A SANITATION DISTRICTS' INSPECTOR SHALL BE NOTIFIED BY TELEPHONE AT (661) 266-4683 SO THAT REQUIRED INSPECTION CAN BE MADE.

GENERAL NOTES

1. A SEWER CONSTRUCTION PERMIT SHALL BE OBTAINED AND A FEE PAID FOR CONSTRUCTION INSPECTION AND RECORD PLANS TO THE CITY OF WHITTIER PUBLIC WORKS DIVISION AT LEAST 72 HOURS PRIOR TO STARTING WORK UNDER THIS PERMIT. COPIES OF ALL OTHER REQUIRED PERMITS, SUCH AS ROAD EXCAVATION, CALTRANS, ETC., IF REQUIRED MUST BE FILED WITH THE PERMIT APPLICATION.
2. PRIOR TO ISSUANCE OF ANY PERMIT, THE CONTRACTOR SHALL FILE A PERMIT FOR EXCAVATIONS AND TRENCHES FROM THE STATE OF CALIFRONIA DIVISION OF INDUSTRIAL SAFETY, AND A CERTIFICATE OF WORKER'S COMPENSATION INSURANCE WITH THE CITY OF WHITTIER NAMED AS THE CERTIFICATE HOLDER. THE CITY OF WHITTIER SHALL BE NOTIFIED 30 DAYS PRIOR TO CANCELLATION OF THE INSURANCE POLICY.
3. IF WORK IS DONE IN A STATE HIGHWAY, A PERMIT MUST BE OBTAINED FROM THE STATE OF CALIFORNIA DIVISION OF HIGHWAYS, 120 SOUTH SPRING STREET, LOS ANGELES, CALIFORNIA.
4. APPROVAL OF THIS PLAN BY THE CITY OF WHITTIER DOES NOT CONSTITUTE A REPRESENTATION AS TO ACCURACY OF THE LOCATION OF OR THE EXISTENCE OR NON-EXISTENCE OF ANY UNDERGROUND UTILITY PIPE OR STRUCTURE WITHIN THE LIMITS OF THIS PROJECT. THIS NOTE APPLIES TO ALL PAGES.
5. ALL WORK SHALL BE IN ACCORDANCE WITH THE LATEST APPROVED EDITION OF THE "STANDARD SPECIFICATIONS FOR PUBLIC WORKS CONSTRUCTION", INCLUDING, LADPW STANDARD PLANS AND SPECIFICATION SUPPLEMENTS AND THE LATEST "SPECIAL PROVISIONS FOR CONSTRUCTION OF SANITARY SEWER" AND SHALL BE PROSECUTED ONLY IN THE PRESENCE OF THE DEPARTMENT OF PUBLITHE CONSTRUCTION OF SANITARY SEWER" AND SHALL BE PROSECUTED ONLY IN THE PRESENCE OF THE DEPARTMENT OF PUBLIC WORKS.
6. THE CONTRACTOR'S ATTENTION IS DIRECTED TO SECTION 7-10.4.1 OF THE "STANDARD SPECIFICATIONS FOR PUBLIC WORKS CONSTRUCTION" IN REGARD TO SAFETY ORDERS AND SHALL CONFORM TO THE "MINIMUM PUBLIC SAFETY REQUIREMENT" AS SHOWN ON LOS ANGELES DEPARTMENT OF PUBLIC WORKS' STANDARD PLAN 6008-1.
7. ELEVATIONS ARE IN FEET ABOVE U.S.C. & G.S. SEA LEVEL DATUM OF 1929.
8. NO REVISIONS SHALL BE MADE IN THESE PLANS WITHOUT THE APPROVAL OF THE CITY OF WHITTIER PUBLIC WORKS DIVISION.
9. NO REPRESENTATIVE OF THE CITY OF WHITTIER WILL SURVEY OR LAY OUT ANY PORTION OF THE WORK.
10. GRADES TO WHICH THIS IMPROVEMENT IS TO BE CONSTRUCTED ARE SHOWN ON PLANS AND PROFILES. GRADE POINTS FOR TOP OF CURBS, CENTERLINE OF STREETS, OR CENTERLINE OF ALLEYS, ARE SHOWN BY CIRCLES ON PROFILES AT ALL POINTS BETWEEN SAID DESIGNED POINTS. THE GRADE SHALL BE ESTABLISHED SO AS TO CONFORM TO A STRAIGHT LINE DRAWN BETWEEN SAID DESIGN POINTS.
11. CONTRACTOR SHALL MAINTAIN CLEARANCE OF POTABLE WATER SEWERS, LATERALS, MAINS WITH CALIFORNIA HEALTH DEPARTMENT STANDARDS AND LOS ANGELES DEPARTMENT OF PUBLIC WORKS STANDARD PLAN 2100-1.
12. DISTANCE FROM THE CENTERLINE TO DISCHARGE LINE IS APPROXIMATE. CONTRACTOR TO FIELD LOCATE AND AS-BUILT THE FINAL DEPTH AND LOCATION PER SPECIFICATIONS.
13. SCALED DISTANCES GOVEN OVER DIMENSIONS.
14. A COPY OF THIS AND OTHER EASEMENTS WILL BE PROVIDED TO THE CITY OF WHITTIER.

CONSTRUCTION NOTES

1. PROVIDE SURVEY STAKES ON THE PROPERTY LINE OR PROPERTY LINES PRODUCED AT RIGHT ANGLES TO THE SEWER LINE AT THE CENTERLINE OF EACH MANHOLE.
2. IF A POWERPOLE IS WITHIN THREE FEET OF THE SEWER, THE SEWER SHALL BE ENCASED PER LACDPW STANDARD PLAN 2023-2, CASE II, TWO FEET ON EACH SIDE FROM THE POINT OF INTERFERENCE.
3. WYE OR TEE BRANCHES MAY BE USED FOR CONNECTIONS TO THE MAINLINE SEWERS EXCEPT AS NOTED.
4. IF DURING THE COURSE OF CONSTRUCTION, IT IS DETERMINED THAT THERE IS LESS THAN FOUR FEET OF COVER OVER THE TOP OF A MAINLINE OR HOUSE LATERAL V.C.P. SEWER WHICH IS NOT INDICATED ON THE PLANS, THE PIPES SHALL BE ENCASED PER LACDPW STANDARD PLAN 2023-2, CASE II, UNLESS OTHERWISE APPROVED BY THE DIRECTOR OF PUBLIC WORKS.
5. ALL STRUCTURES SHALL BE REINFORCED PRECAST CONCRETE MANHOLE PER LACDPW STANDARD PLAN 2003-2, EXCEPT AS NOTED.
6. RESURFACE ALL TRENCHES WITHIN PAVED AREAS TO MEET DEPARTMENT OF PUBLIC WORKS OR CALIFORNIA STATE HIGHWAY REQUIREMENTS IN ACCORDANCE WITH THE PERMITS.
7. FULL COMPLIANCE WITH SECTION 306-1.3.4. OF THE "STANDARD SPECIFICATIONS FOR PUBLIC WORKS CONSTRUCTION" WILL BE REQUIRED FOR BACKFILL IN STREET. CERTIFICATION OF BACKFILL, COMPACTION, AND SAND EQUIVALENTS BY A QUALIFIED CIVIL ENGINEER SHALL BE PROVIDED BY THE PERMITEE PRIOR TO THE ISSUANCE OF A CERTIFICATE OF PARTIAL ACCEPTANCE.
8. ALL BACKFILL AND FILLS OUTSIDE OF THE STREET RIGHT OF WAY SHALL BE COMPACTED TO 90% OF THE MAXIMUM DENSITY AS DETERMINED BY ASTM SOIL COMPACTION TEST D 1557-78 METHOD "D" UNLESS OTHERWISE SPECIFIED. THIS SHALL BE CERTIFIED BY A QUALIFIED CIVIL ENGINEER.
9. MANHOLE TOPS IN UNIMPROVED RIGHTS OF WAY TO BE SIX INCHES ABOVE FINISHED GRADE.
10. SEWERS TO BE TESTED FOR LEAKAGE PER SECTION 306-1.4 OF THE "STANDARD SPECIFICATIONS FOR PUBLIC WORKS CONSTRUCTION" AND "SPECIAL PROVISIONSFOR THE CONSTRUCTION OF SANITARY SEWER".
11. MANHOLE TOPS IN IMPROVED RIGHTS OF WAY TO BE LEVEL WITH FINISHED GRADE.
12. ALL WYES AND/OR HOUSE LATERALS ARE TO BE LOCATED AT LEAST 5' APART AND WHEN POSSIBLE NOT CLOSER THAN 5' TO ANY MANHOLE.
13. PROVIDE PRESSURE CLEANOUT PER DETAIL E IN DWG C-3.3 EVERY 500 FEET ON THE TREATED WATER DISCHARGE LINE (ENTIRE LENGTH TILL THE WHITTIER/LA COUNTY LINE).

RECORD DRAWING

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4	9/09	PJR		RECORD DRAWINGS
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SHEET CHK'D BY: SHA
CROSS CHK'D BY: AS
APPROVED BY: RS
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WHITTIER, CALIFORNIA

GROUND WATER TREATMENT PLANT

GENERAL AND STORMWATER POLLUTION PREVENTION NOTES

PROJECT NO. 10500-70150

SHEET NO. C-2.6

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NOTES:

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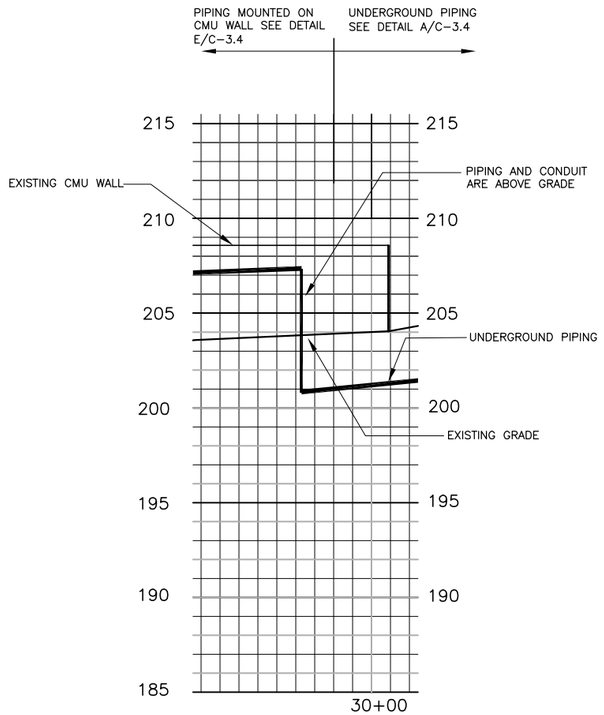

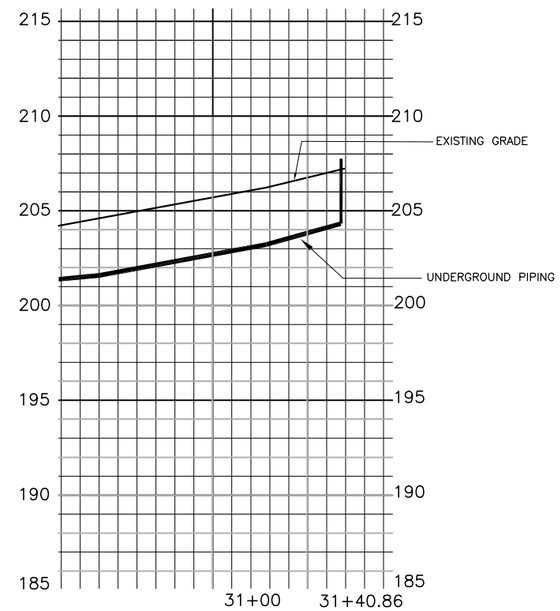

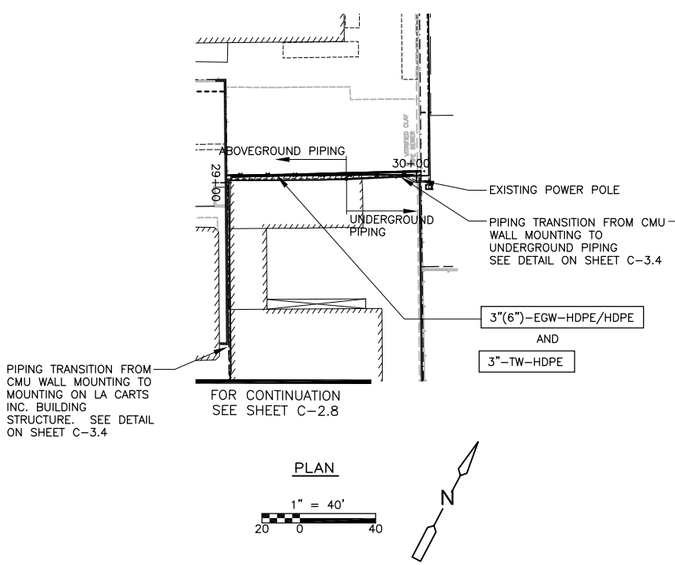

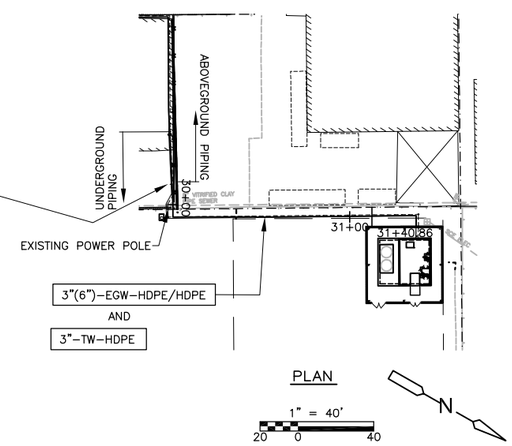

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GROUND WATER TREATMENT PLANT
WASHINGTON BLVD.
TREATED WATER DISCHARGE LINE
PLAN AND PROFILE I

PROJECT NO. 10500-70150
SHEET NO. C-2.7

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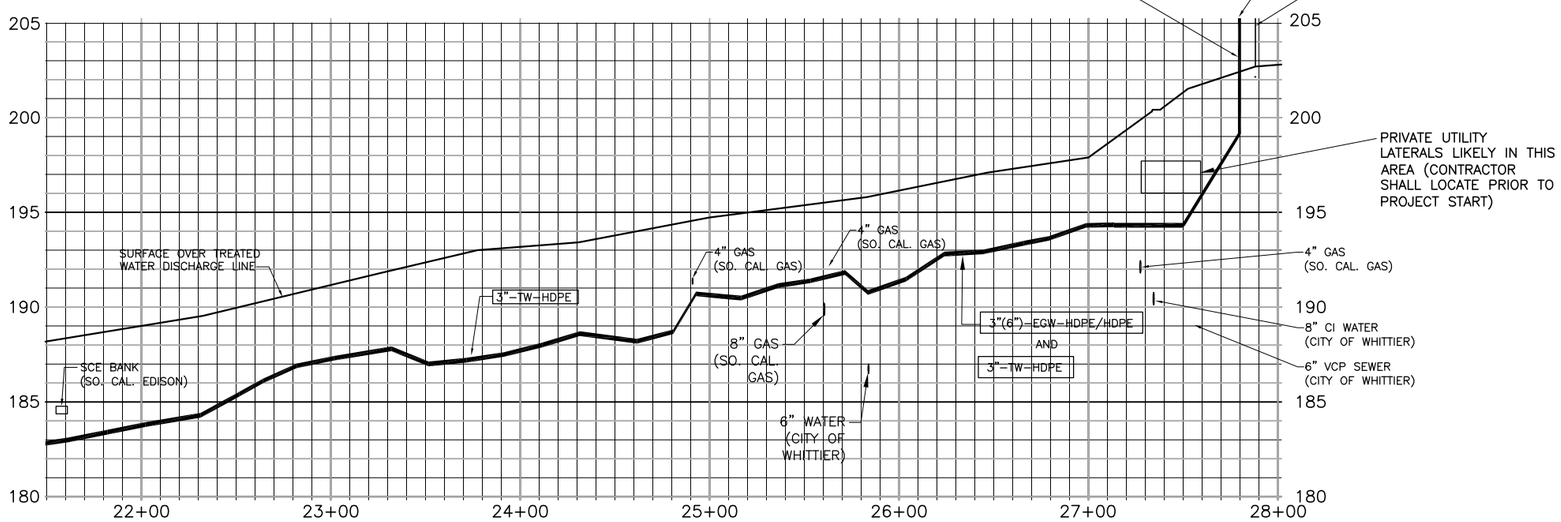

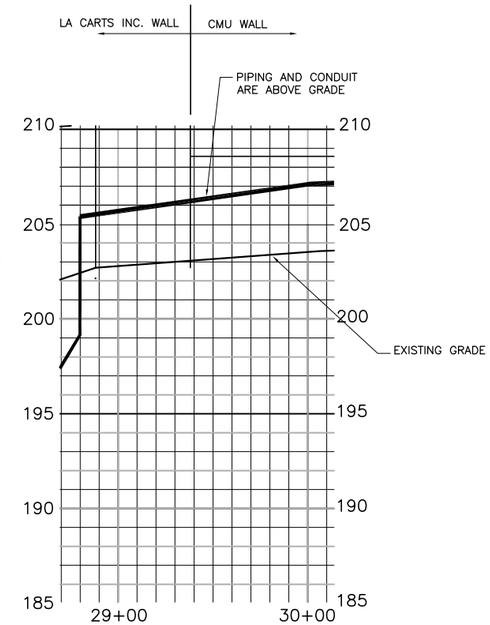

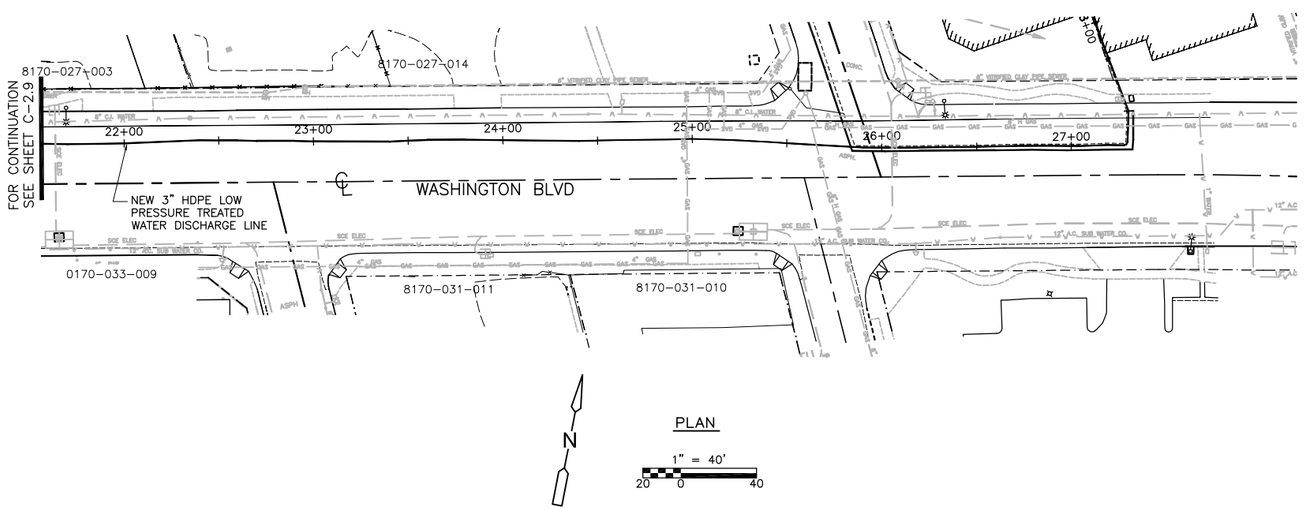

PLAN

1" = 40'

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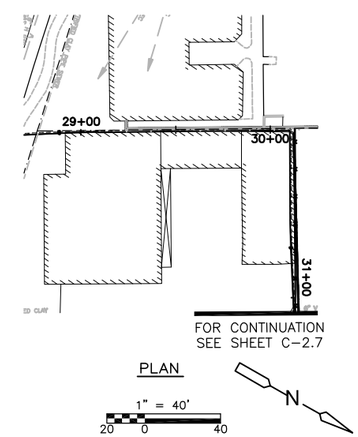

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WHITTIER, CALIFORNIA

GROUND WATER TREATMENT PLANT
WASHINGTON BLVD.
TREATED WATER DISCHARGE LINE
PLAN AND PROFILE II

PROJECT NO. 10500-70150

SHEET NO. C-2.8

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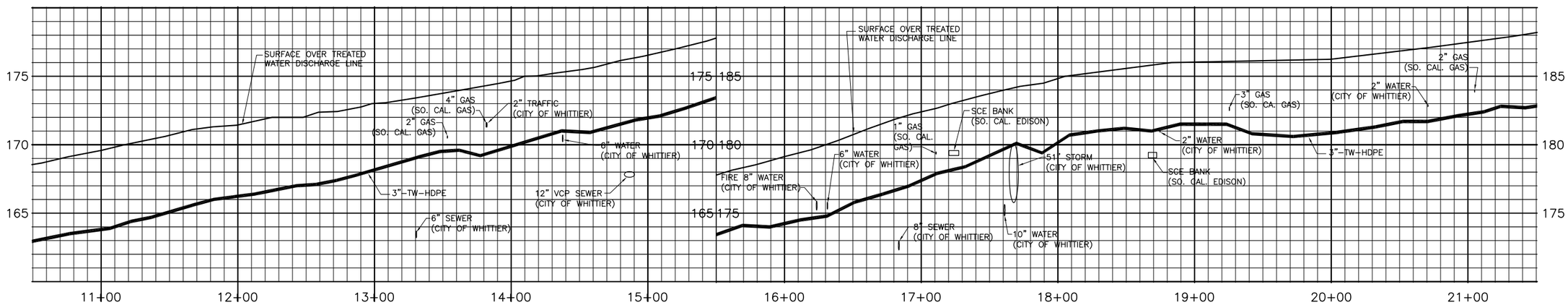

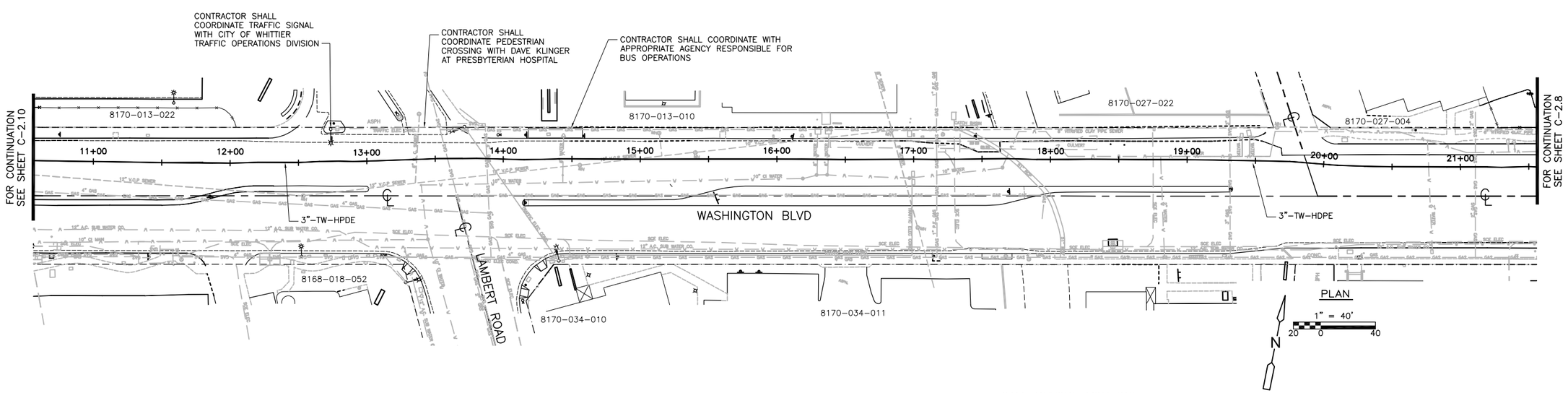

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RECORD DRAWING

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GROUND WATER TREATMENT PLANT
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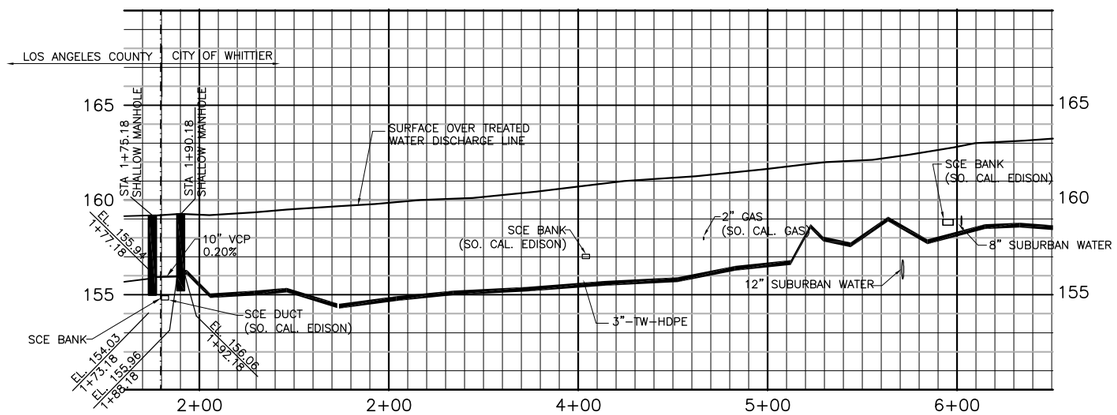
TREATED WATER DISCHARGE LINE
PLAN AND PROFILE III

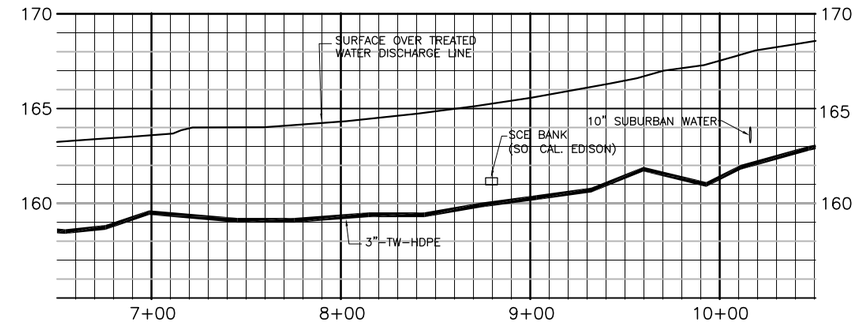
PROJECT NO. 10500-70150
SHEET NO. C-2.9

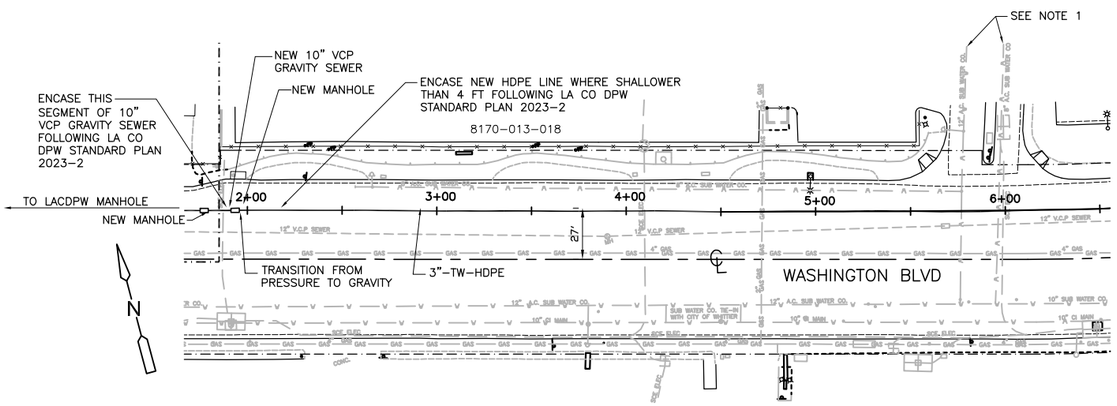
P:\10500\53426\Sept 2009 Record Dwgs\Civil-2009 Record\ R-C-2.9 10/01/09 12:19 riehlepj XREFS: cwpl000R, cprofOTP, SURVEY, cutil000, OMEGA-bd

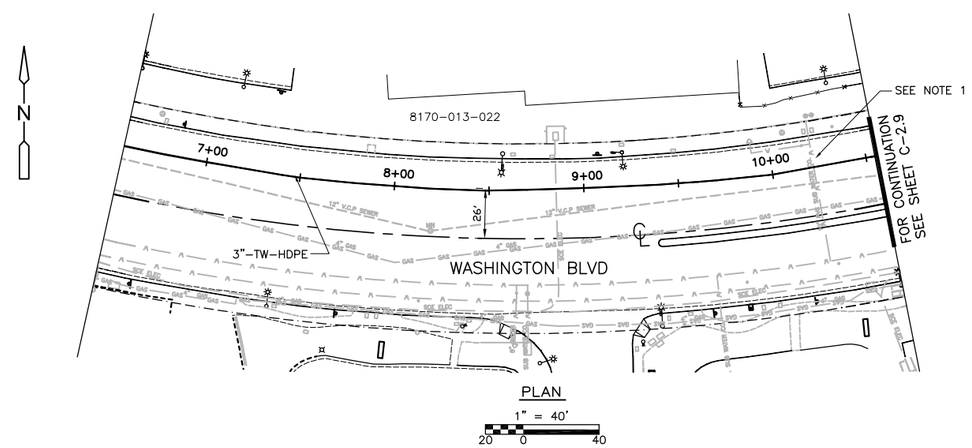
NOTES:

1. CONTRACTOR SHALL MAINTAIN CLEARANCE OF POTABLE WATER SERVICES, LATERALS, MAINS WITH CALIFORNIA HEALTH DEPARTMENT STANDARDS AND LOS ANGELES DEPARTMENT OF PUBLIC WORKS STANDARD PLAN 2100–1.
2. DISTANCE FROM CENTERLINE TO DISCHARGE LINE IS APPROXIMATE. CONTRACTOR TO FIELD LOCATE AND AS–BUILT THE FINAL DEPTH AND LOCATION PER SPECIFICATIONS.
3. SCALED DISTANCES GOVERN OVER DIMENSIONS.









RECORD DRAWING

CALL BEFORE YOU DIG:
UNDERGROUND SERVICE ALERT OF
SOUTHERN CALIFORNIA
TWO WORKING DAYS BEFORE YOU DIG
1–800–227–2600

REV. NO.	DATE	DRWN	CHKD	REMARKS
4	9/09	PJR		RECORD DRAWING
3	1/7/08	PJR	SHA	ISSUED FOR CONSTRUCTION
2	10/12/07	PJR	SHA	ISSUED FOR CITY PLAN CHECK
1	9/07	PJR	SHA	SUBMITTED FOR PLAN CHECK
0	8/07	PJR	SHA	SUBMITTED FOR PLAN CHECK

DESIGNED BY: SHA
DRAWN BY: PJR
SHEET CHK'D BY: SHA
CROSS CHK'D BY: AS
APPROVED BY: RS
DATE: JUNE 2007

WARNING
0 1/2 1"
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REGISTERED PROFESSIONAL ENGINEER
RAVI SUBRAMANIAN
No. C053679
Exp. 09-30-2011
CIVIL
STATE OF CALIFORNIA

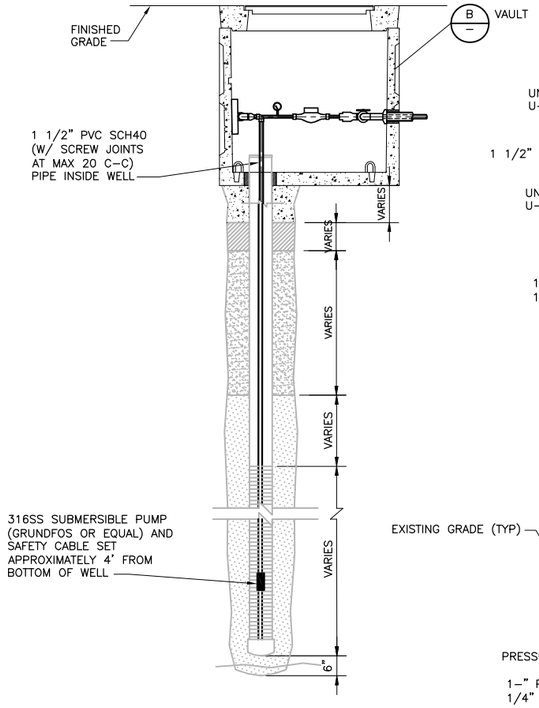
CDM Camp Dresser & McKee Inc.
consulting engineering construction operations
111 ACADEMY, STE 150
Irvine, California 92617
Tel: (949) 752-5452
Fax: (949) 725-3790

OMEGA CHEMICAL SUPERFUND SITE
12504/12512 EAST WHITTIER BOULEVARD
WHITTIER, CALIFORNIA

GROUND WATER TREATMENT PLANT
WASHINGTON BLVD.
TREATED WATER DISCHARGE LINE
PLAN AND PROFILE IV

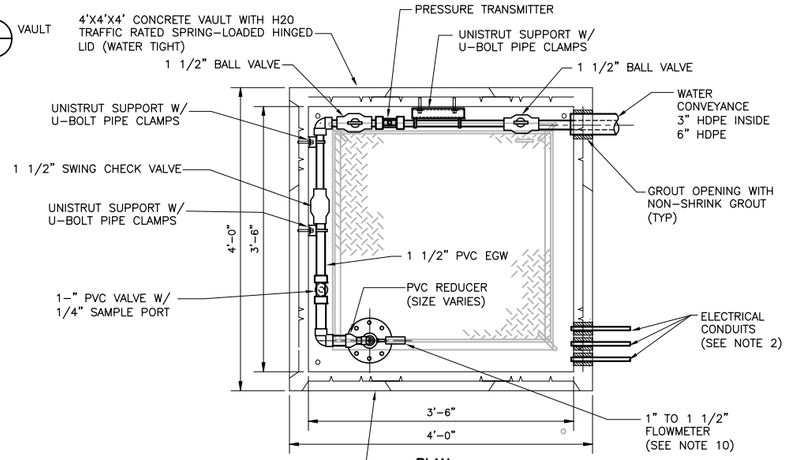
PROJECT NO. 10500–70150
SHEET NO. C-2.10

P:\10500\53426\Sept 2009 Record Dwgs\Civil–2009 Record\ R–C–2.10 10/01/09 12:22 rienlepj XREFS: cwpl000R, cpro10TP, SURVEY, cutil000, OMEGA–bd

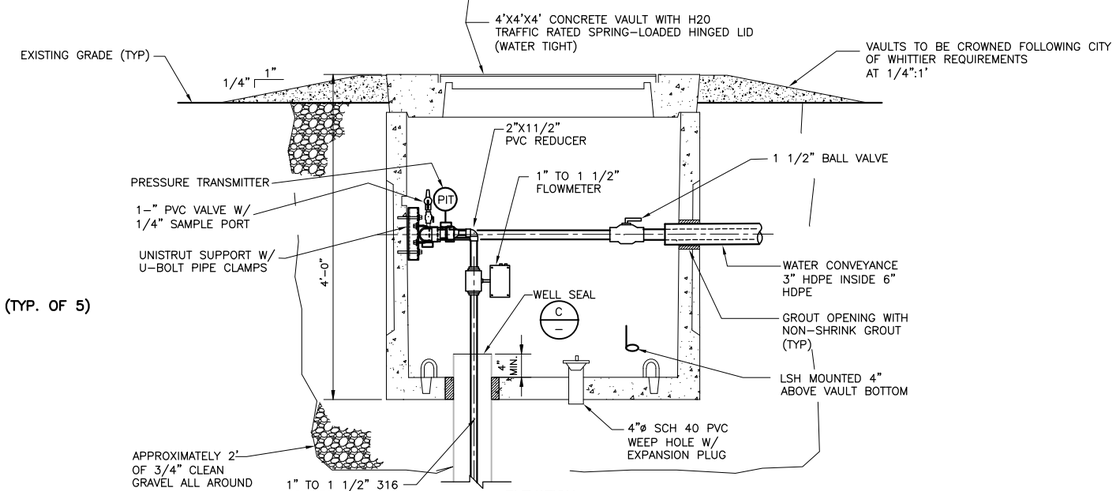


EXISTING GROUNDWATER EXTRACTION WELL (TYP. OF 5)

DETAIL A
NTS



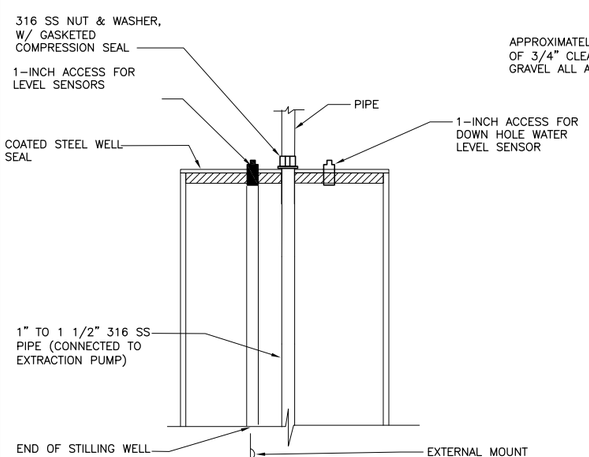
PLAN



ELEVATION

GROUNDWATER EXTRACTION WELL VAULT
(TYP. OF WELL EW-1 THROUGH EW-5)

DETAIL B
NTS



WELL SEAL

DETAIL C
NTS

NOTES:

1. ELECTRICAL INFORMATION INCLUDING NO. AND SIZE OF CONDUITS AND CONDUCTORS PROVIDED ON ELECTRICAL DRAWINGS..
2. ACTUAL ORIENTATION OF SAMPLE PARTS AND GAUGES MAY DIFFER FROM WHAT IS SHOWN TO ALLOW EASY ACCESS FOR OBSERVATION AND MAINTENANCE.
3. PIPE THREAD COMPOUND SHALL BE USED ON ALL RISER CONNECTIONS, PER MANUFACTURER'S RECOMMENDATIONS.
4. DROP CABLE SHALL BE CAPABLE OF SUPPORTING PIPE, PUMP, AND WATER WEIGHT (APPROXIMATELY 100 LBS PLUS 7 LBS PER FOOT DEPTH OF WELL) AND SHALL NOT CORRODE IN WELL WATER.
5. ALL PUMPS, PIPES, HOSES, FLOWMETERS, VALVES, INSTRUMENTS AND OTHER FITTINGS SHALL BE INSTALLED PER MANUFACTURERS RECOMMENDATIONS.
6. PLEASE REFER TO THE P&IDs AND ELECTRICAL SHEETS FOR MORE DETAILS.
7. TOTAL FLOW FROM ALL WELLS NOT TO EXCEED 60 GPM
8. FINAL ELEVATIONS OF VAULTS TO BE DETERMINED IN THE FIELD DURING VAULT INSTALLATION
9. MAINTAIN FLOWMETER LOCATION AT 5-PIPE DIAMETERS UPSTREAM AND 10-PIPE DIAMETERS DOWNSTREAM OF VALVES AND FITTINGS ON PIPING.
10. ALL VALVES TO BE TRUE UNION, UNO.
11. ALL FLOWMETERS TO BE INSTALLED SO THAT THEY CAN BE EASILY REMOVED FOR MAINTENANCE.

PROPOSED EXTRACTION WELL VAULT SCHEDULE

VAULT ID	DIMENSIONS	ELEVATION TOP OF VAULT	FT MSL CL-PIPE	BOTTOM OF VAULT
EW-1	4' X 4' X 4'	202.50	200.25	198.75
EW-2	4' X 4' X 4'	201.25	199.00	197.50
EW-3	4' X 4' X 4'	200.25	198.00	196.50
EW-4	4' X 4' X 4'	199.25	197.00	195.50
EW-5	4' X 4' X 4'	197.25	195.00	193.50

EXISTING EXTRACTION WELL SCHEDULE

WELL ID	DIAMETER (in)	TOTAL DEPTH (FT-BGS)	ANTICIPATED FLOW RATE (GPM)	SCREENED INTERNAL (FT-BGS)		COORDINATES		APPROX. DEPTH TO GROUNDWATER (FT-BGS)
				TOP	BOTTOM	NORTHING	EASTING	
EW-1	6	92	16	72	87	1811141.56	6548077.81	66.7
EW-2	6	92	13	72	87	1811076.59	6548114.39	65.5
EW-3	6	90	8	70	85	1811016.29	6548146.33	64.0
EW-4	6	91	2	71	86	1810940.52	6548188.23	63.1
EW-5	6	90	2	70	85	1810861.90	6548232.64	61.6

FT-BGS= FEET BELOW GROUND SURFACE
FT-MSL= ELEVATION IN FEET ABOVE MEAN SEA LEVEL
GPM= GALLONS PER MINUTE

TOTAL FLOW FROM ALL WELLS NOT TO EXCEED 60 GPM

TBD- FINAL COORDINATES AND ELEVATIONS OF VAULTS TO BE DETERMINED IN THE FIELD.

RECORD DRAWING

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DESIGNED BY: SHA
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CROSS CHK'D BY: AS
APPROVED BY: RS
DATE: JUNE 2007

WARNING
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REGISTERED PROFESSIONAL ENGINEER — SUBKAMAYAN — No. C053679 Exp. 06-30-2011 — CIVIL — STATE OF CALIFORNIA

CDM Camp Dresser & McKee Inc.
consulting engineering construction operations
111 ACADEMY, STE 150
Irvine, California 92617
Tel: (949) 752-5452
Fax: (949) 725-3790

OMEGA CHEMICAL SUPERFUND SITE
12504/12512 EAST WHITTIER BOULEVARD
WHITTIER, CALIFORNIA

GROUND WATER TREATMENT PLANT
EXTRACTION WELLHEAD CONSTRUCTION DETAILS AND SCHEDULE

PROJECT NO. 10500-70150
SHEET NO. C-3.1

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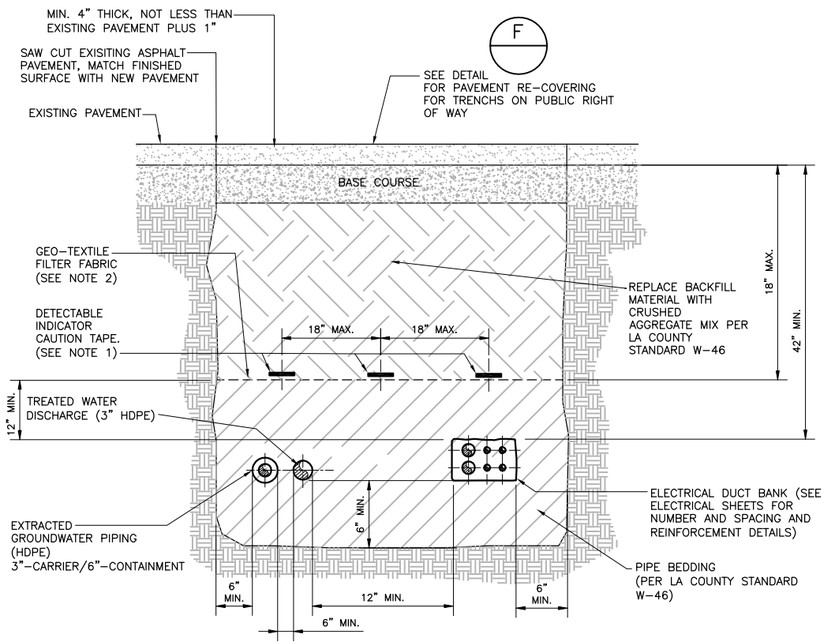
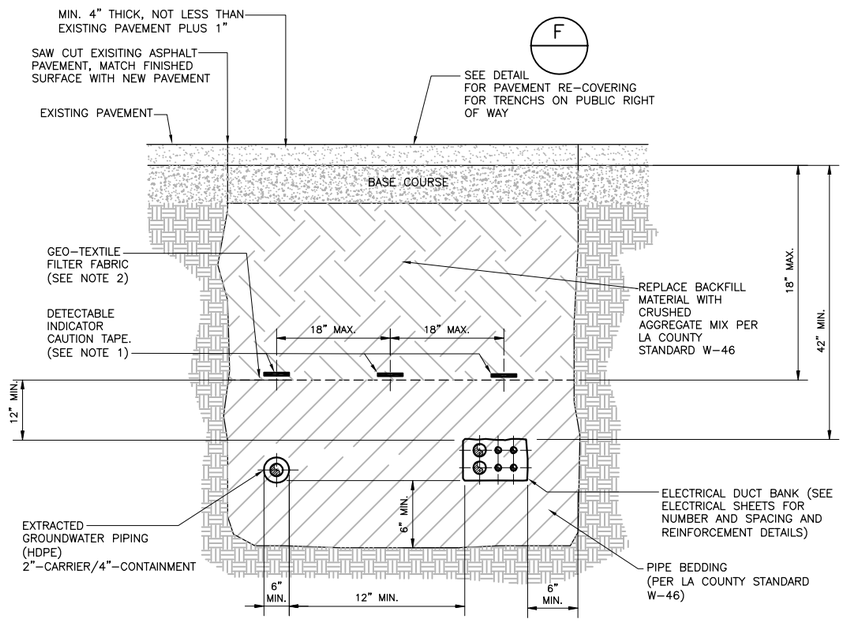


SECTION A
NTS
C-2.2



SECTION B
NTS
C-2.2

NOTES:

1. TAPE SHALL BE POLYETHYLENE WARNING TAPE WITH METAL TRACER TAPE RUNNING THE FULL LENGTH OF THE PIPE BUCT BANK. MAXIMUM 18-INCH SPACING BETWEEN CAUTION TAPE/STRIPS. TRENCH WIDTHS OF 3 FOOT OR MORE REQUIRE MULTIPLE CAUTION TAPE.
2. INSTALL FABRIC-BONDED GEO-TEXTILE FILTER WITH 10 OUNCES/SY FABRIC FACING UP.
3. OPEN TRENCH SHALL BE COMPLETELY SURROUNDED BU TEMPORARY SAFETY FENCING AT ALL TIMES WHEN WORK IS NOT BEING DONE IN THE IMMEDIATE AREA. THE SAFETY FENCING SHALL BE MAINTAINED UNTIL THE TRENCH IS BACKFILLED AND COMPACTED TO THE EXISTING GRADE.
   a) NO OPEN TRENCHES AT THE END OF THE WORKDAY IN THE CITY OF WHITTIER.

   b) CONTRACTOR TO FOLLOW OPEN TRENCH LIMITATIONS REQUIRED IN SECTION 306-1.1.2 OF THE JUNE 2006 GRAYBOOK (ADDITIONS AND AMENDMENTS TO THE STANDARD SPECIFICATIONS FOR PUBLIC WORKS CONSTRUCTION - LOS ANGELES COUNTY DEPARTMENT OF PUBLIC WORKS).
4. MATERIAL SHALL BE COMPACTED TO 95% OF MAXIMUM DENSITY PER ASTM D1557.

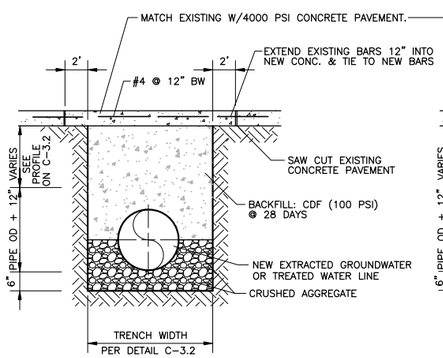
NOTES FOR DETAIL F

1. WHERE THE EDGE OF THE PAVEMENT REMOVED FOR THE PIPELINE TRENCH EXCAVATION COMES WITHIN THREE (3) FEET OF THE OUTER EDGE OF THE PAVEMENT AGAINST GUTTER LINE OR CURB FACE, THE EXISTING PAVING SHALL BE REMOVED TO THE GUTTER LINE OR CURB FACE AND THE PERMANENT PAVEMENT LAID TO THE GUTTER LINE OR CURB FACE.

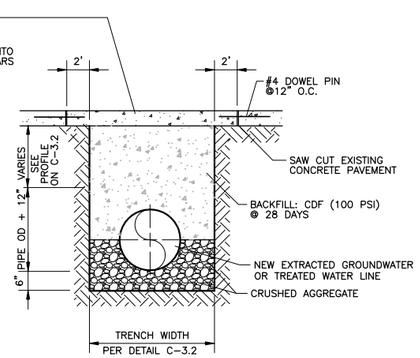
   WHERE THE EDGE LINE OF THE PAVEMENT REMOVED FOR THE PIPELINE TRENCH EXCAVATION IS MORE THAN THREE (3) FEET FROM THE GUTTER LINE OR CURB FACE. THE CONTRACTOR IS TO SAWCUT THE EXISTING PAVING TWELVE (12) INCHES BACK FROM THE EDGE OF THE TRENCH AND REMOVE THAT EXISTING PAVEMENT BEFORE REPLACEMENT OF PERMANENT PAVING (INCLUDING BASE MATERIAL)

   AC PAVEMENT TRENCH REPLACEMENT SHALL BE PLACED NO LESS THAN FLUSH WITH ADJACENT EXISTING PAVEMENT. PRIOR TO PLACEMENT OF 1-1/2" FINAL AC CAP, THE PREVIOUSLY PLACED AC PAVEMENT TRENCH REPLACEMENT SHALL BE GROUND ALONG WITH ADJACENT AC PAVEMENT AS SHOWN ON DETAIL.
2. THE EXISTING PAVING AND AC PAVEMENT TRENCH REPLACEMENT IS TO BE MECHANICALLY GROUND DOWN A MINIMUM OF 1" (A MINIMUM OF AN ADDITIONAL 12" OUTSIDE OF THE AC PAVEMENT TRENCH REPLACEMENT OR TRENCH WIDTH + 48") TO THE NEAREST LANE LINES ON BOTH SIDES OF THE TRENCH. THE PERMANENT PAVING SHALL THAN BE EXTENDED AS AN OVERLAY INTO THIS AREA. ALL EXISTING PAVEMENT EDGES ARE TO BE TACK COATED BEFORE APPLICATION OF PERMANENT PAVEMENT. IF THERE IS LESS THAN (2) INCHES OF PAVEMENT AFTER GRINDING, THEN THE GROUND AREA SHALL BE REMOVED BY SAW CUTTING AND PERMANENT PAVEMENT PLACED.

   IN AREAS WHERE SLURRY SEAL WILL BE PLACED FROM CURB TO CURB. THE LIMITS OF 1-1/2" GRIND AND CAP WILL BE AN ADDITIONAL 12" OUTSIDE OF THE AC PAVEMENT TRENCH REPLACEMENT (TRENCH WIDTH + 48").
3. TRANSVERSE TRENCHES ARE ANY TRENCHES WHICH ARE PERPENDICULAR TO THE STREET CENTERLINE, i.e. CROSSINGS OF STREETS, AIR AND VACUUM RELEASE INSTALLATIONS, BLOWOFF INSTALLATIONS AND C.P. INSTALLATIONS.
4. ACCEPTABLE ALTERNATIVE TO GRINDING AND CAPPING HALF OF AN EXISTING STREET: COLD PLANE NEXT TO GUTTER, ALONG THE CENTERLINE AT EACH END (ANGLED HEADER CUT), CAP ONE HALF TO THE STREET AND RESTRIPE. CAP SHALL BE A MINIMUM THICKNESS OF 1".
5. DEPTH OF EXISTING PAVEMENT AND BASE SHALL BE AS SHOWN IN THE SPECIFICATIONS.
6. CONTRACTOR SHALL RAISE ALL EXISTING AND NEW WATER / RECLAIMED WATER VALVES, AND SEWER / WATER / RECLAIMED WATER MANHOLES TO GRADE AFTER FINAL PAVING IS COMPLETED
7. CONTRACTOR TO CLEAN STREET WITH WATER TRUCK AND SWEEPER PRIOR TO END OF EACH WORK DAY
8. ALL EXISTING STRIPPING AND PAVEMENT MARKERS REMOVED BY TRENCHING/REPAVING SHALL BE REPLACED PER PROJECT SPECIFICATIONS.
9. FINAL A.C. PAVEMENT SECTIONS SHALL BE NO LESS THAN 4" TOTAL THICKNESS FOR NEW SECTIONS AS WELL AS RESTORED SECTIONS.



PAVEMENT REPLACEMENT FOR CONCRETE PAVEMENT

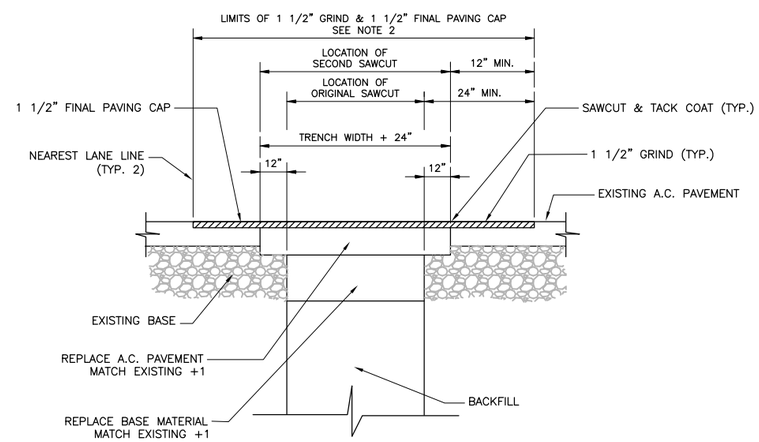


PAVEMENT REPLACEMENT FOR CONCRETE SIDEWALK

CONSTRUCTION NOTES:

1. #4 DOWEL PINS SHALL BE USED IN CONNECTING NEW & EXISTING CONCRETE PAVEMENT AND AT CONCRETE CONSTRUCTION JOINTS.
2. WHERE PIPING TRENCH OR WATER SERVICE CONNECTIONS IMPACT SIDEWALK SLABS, THE WHOLE SLAB (JOINT TO JOINT) SHALL BE REPLACED IN "LIKE KIND" IN ALL RESPECTS.
3. ALL WORK & MATERIALS SHALL CONFORM TO THE MOST CURRENT EDITION OF THE THE CITY OF WHITTIER OR LOS ANGELES COUNTY STANDARD SPECS.
4. MATERIAL SHALL BE COMPACTED TO 95% OF MAXIMUM DENSITY PER ASTM D1557

DETAIL D
NTS



TYPICAL ASPHALT PAVEMENT REPLACEMENT
(ON PUBLIC RIGHT OF WAY ONLY)

DETAIL F
NOT TO SCALE

NOT APPLICABLE

DETAIL C
NOT TO SCALE

RECORD DRAWING

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DESIGNED BY: SHA
DRAWN BY: PJR
SHEET CHK'D BY: SHA
CROSS CHK'D BY: AS
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DATE: JUNE 2007

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REGISTERED PROFESSIONAL ENGINEER RAY SUBRAMANIAN No. C053679 Exp. 06-30-2011 CIVIL STATE OF CALIFORNIA

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consulting engineering construction operations
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OMEGA CHEMICAL SUPERFUND SITE
12504/12512 EAST WHITTIER BOULEVARD
WHITTIER, CALIFORNIA

GROUND WATER TREATMENT PLANT

TRENCHING SECTIONS AND DETAILS

PROJECT NO. 10500-70150
SHEET NO. C-3.2

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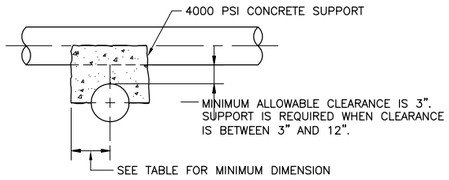
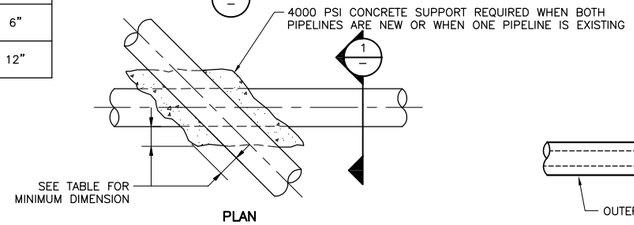


SECTION 1/–

SUPPORT DIMENSION TABLE

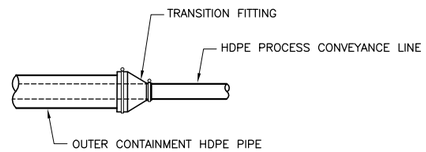
LARGEST PIPELINE SIZE	MINIMUM DIMENSION
SMALLER THAN 2-1/2"	3"
2-1/2" TO 12"	6"
LARGER THAN 12"	12"



PLAN

CONCRETE SUPPORT FOR PIPE CROSSING

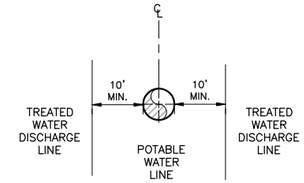
DETAIL A/– NTS



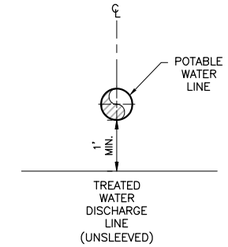
TYPICAL TERMINATION FOR DUAL CONTAINMENT HDPE PIPE

DETAIL B/– NTS

PARALLEL CONSTRUCTION



CROSS-OVER CONSTRUCTION



NOTES SEPARATION REQUIREMENTS:

A. PARALLEL CONSTRUCTION: THERE SHALL BE AT LEAST A TEN FOOT (10') SEPARATION, ALL DISTANCES MEASURED FROM PIPELINE OUTSIDE DIAMETER.

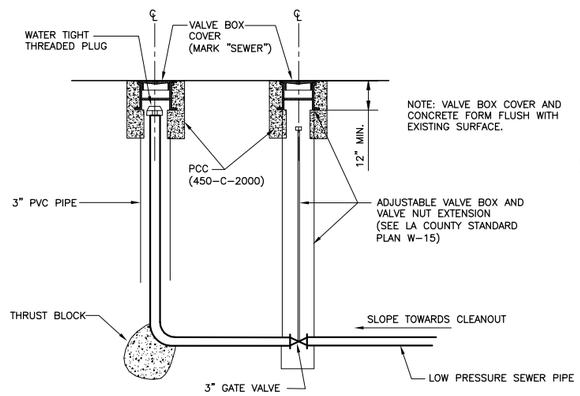
B. CROSS-OVER CONSTRUCTION: AS PERPENDICULAR AS POSSIBLE, ONE FOOT (1') SEPARATION, WITH POTABLE ABOVE RECYCLED; FULL PIPE LENGTH CENTERED OVER CROSSING.

C. ALTERNATE CROSS-OVER CONSTRUCTION (DISTANCE NOT MAINTAINED): EITHER THE POTABLE OR RECYCLED WATER LINES MAY BE SLEEVED WITH THE SAME CLASS PIPING FOR ONE FULL LENGTH (MINIMUM TEN FEET) CENTERED OVER THE CROSS-OVER.

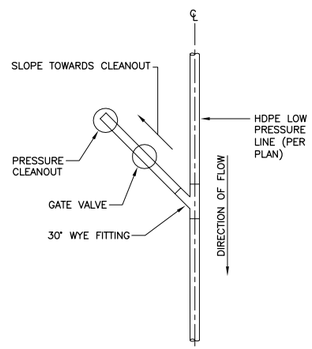
SEPARATION REQUIREMENTS BETWEEN TREATED WATER AND POTABLE WATER LINE

(USING LA COUNTY – DEPARTMENT OF HEALTH SERVICES REQUIREMENTS FOR RECYCLED WASTEWATER CONSTRUCTION REQUIREMENTS)

DETAIL C/– NTS



3" PRESSURE CLEANOUT ASSEMBLY (SECTION)



PLAN VIEW (SCHEMATIC)

DETAIL D/– NTS

RECORD DRAWING

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DESIGNED BY: SHA
DRAWN BY: PJR
SHEET CHK'D BY: SHA
CROSS CHK'D BY: AS
APPROVED BY: RS
DATE: JUNE 2007

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REGISTERED PROFESSIONAL ENGINEER RAVI SUBRAMANIAN No. C053679 Exp. 06-30-2011 CIVIL STATE OF CALIFORNIA

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OMEGA CHEMICAL SUPERFUND SITE
12504/12512 EAST WHITTIER BOULEVARD
WHITTIER, CALIFORNIA

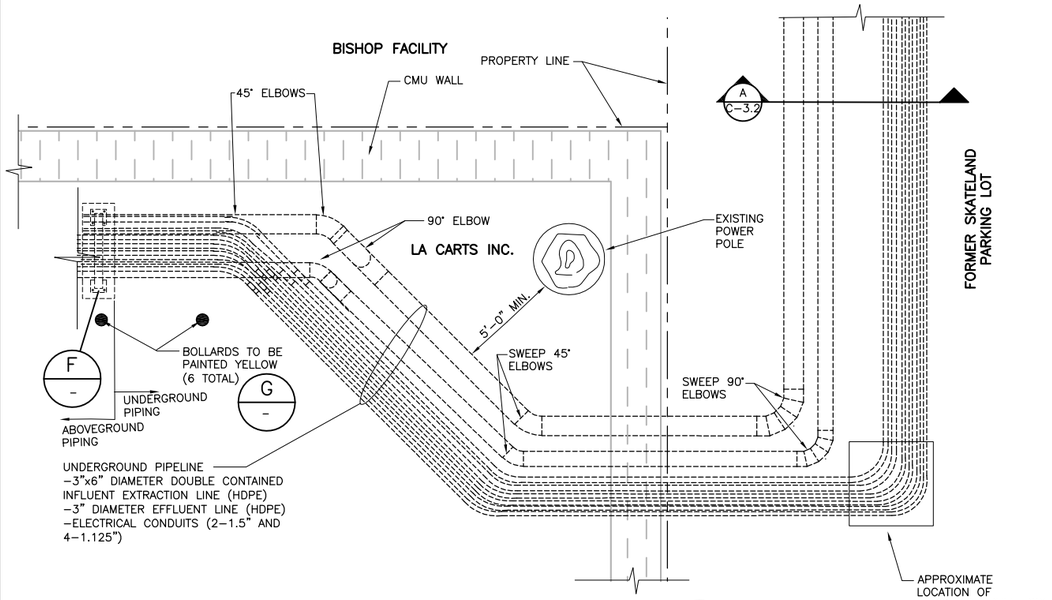
GROUND WATER TREATMENT PLANT

MISCELLANEOUS CIVIL DETAILS

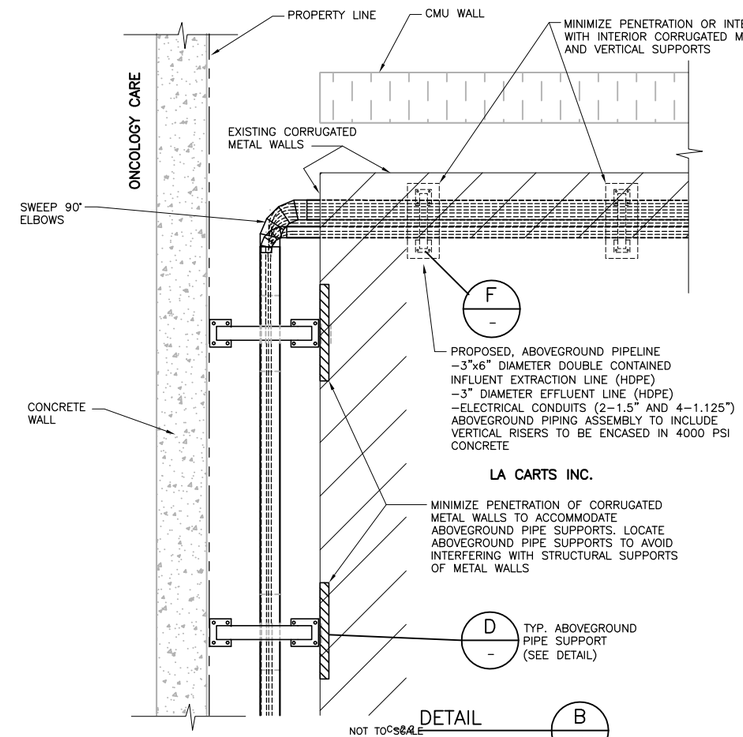
PROJECT NO. 10500-70150

SHEET NO. C-3.3

P:\10500\53426\Sept 2009 Record Dwgs\Civil-2009 Record\ R-C-3.3 10/01/09 12:26 riehlepj XREFS: OMEGA-bd



DETAIL A C-2.2
NOT TO SCALE



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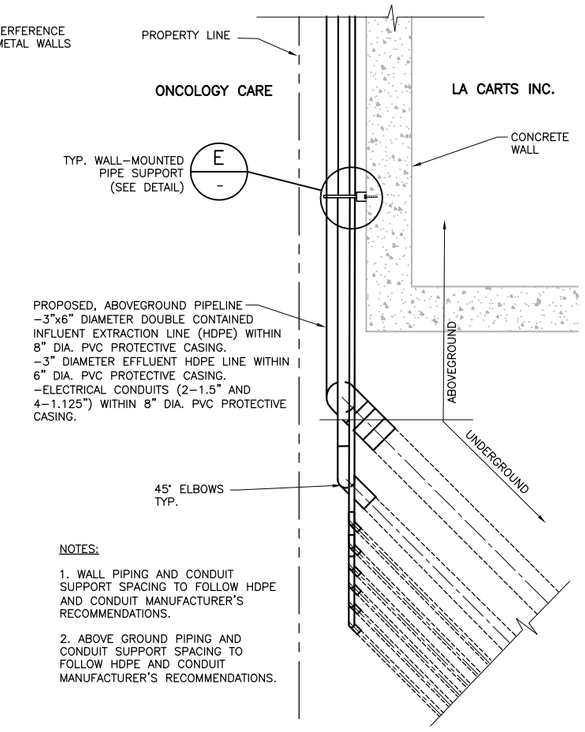
NOT TO SCALE

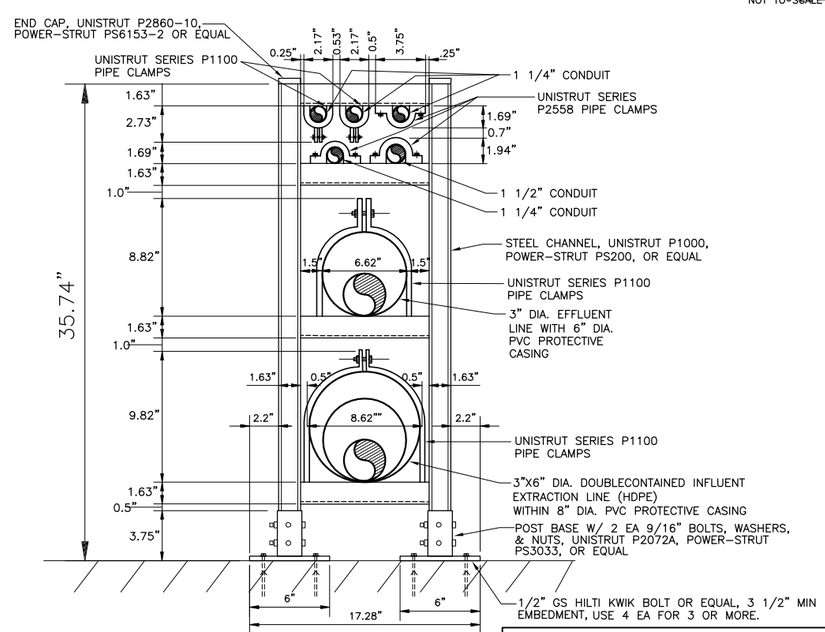


NOTES:

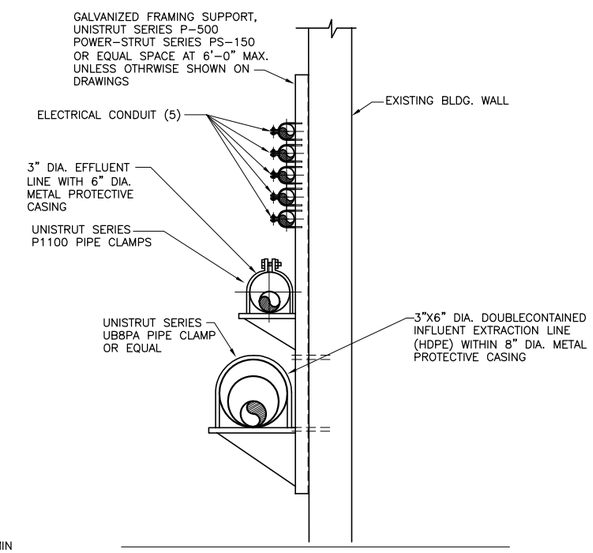
1. WALL PIPING AND CONDUIT SUPPORT SPACING TO FOLLOW HDPE AND CONDUIT MANUFACTURER'S RECOMMENDATIONS.

2. ABOVE GROUND PIPING AND CONDUIT SUPPORT SPACING TO FOLLOW HDPE AND CONDUIT MANUFACTURER'S RECOMMENDATIONS.

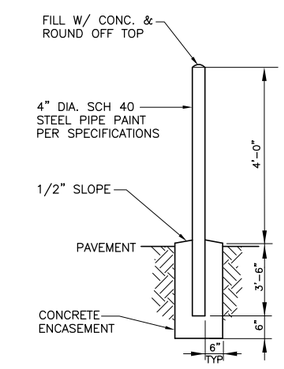
DETAIL C C-2.2
NOT TO SCALE



DETAIL F -
NOT TO SCALE



DETAIL E -
NOT TO SCALE



BOLLARD

DETAIL G -
NTS

NOT APPLICABLE

DETAIL D -
NOT TO SCALE

RECORD DRAWING

CALL BEFORE YOU DIG:
UNDERGROUND SERVICE ALERT OF SOUTHERN CALIFORNIA
TWO WORKING DAYS BEFORE YOU DIG
1-800-227-2600

REV. NO.	DATE	DRWN	CHKD	REMARKS
9	9/09	PJR		RECORD DRAWING
8	1/20/09	PJR	SHA	REVISED CASING FOR ELECTRICAL CONDUIT, CHANGED INDIVIDUAL RINS, DETAIL E
7	1/20/09	PJR	SHA	ADDED BOLLARD DETAIL G
6	11/05/08	PJR	SHA	CHANGED DETAIL F TO ABOVEGROUND PIPE SUPPORTS, CHANGED PIPE RUN CALLOUTS ON DETAILS A AND B TO ABOVEGROUND PIPE SUPPORTS
5	9/19/08	PJR	SHA	ISSUED FOR DEFERRED SUBMITTAL
4	1/7/08	PJR	SHA	ISSUED FOR CONSTRUCTION
3	1/7/08	PJR	SHA	REVISED PER CITY OF WHITTIER COMMENTS
2	10/12/07	PJR	SHA	ISSUED FOR CITY PLAN CHECK
1	9/07	PJR	SHA	SUBMITTED FOR PLAN CHECK
0	8/07	PJR	SHA	SUBMITTED FOR PLAN CHECK

DESIGNED BY: SHA
DRAWN BY: PJR
SHEET CHK'D BY: SHA
CROSS CHK'D BY: AS
APPROVED BY: RS
DATE: OCTOBER 2007

WARNING
0 1/2 1"
IF THIS BAR DOES NOT MEASURE 1" THEN DRAWING IS NOT TO SCALE.

REGISTERED PROFESSIONAL ENGINEER RAVI SUBRAMANIAN No. C053678 Exp. 09-30-2011 CIVIL STATE OF CALIFORNIA

CDM Camp Dresser & McKee Inc.
consulting engineering construction operations
111 ACADEMY, STE 150
Irvine, California 92617
Tel: (949) 752-5452
Fax: (949) 725-3790

OMEGA CHEMICAL SUPERFUND SITE
12504/12512 EAST WHITTIER BOULEVARD
WHITTIER, CALIFORNIA

GROUNDWATER TREATMENT PLANT

PIPING AND SUPPORT DETAILS

PROJECT NO. 10500-53426

SHEET NO. C-3.4

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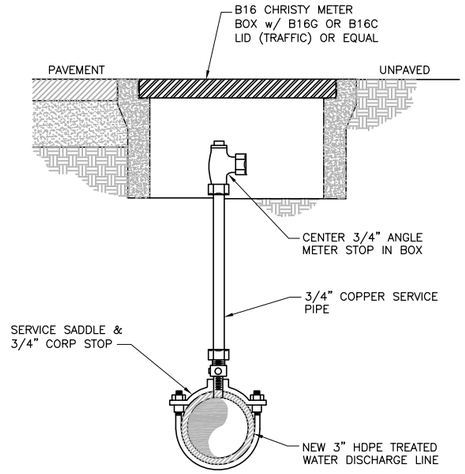


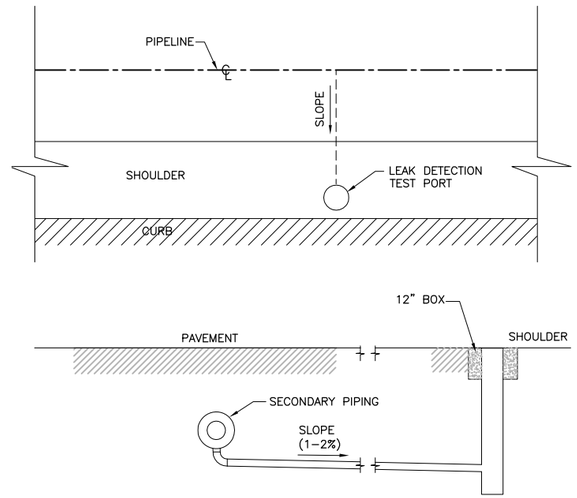
NOTES:

1. AFTER PRESSURE TESTING, CLOSE CORP. STOP, REMOVE SERVICE PIPE, METER BOX AND ANGLE STOP.

2. BOX MAY BE LOCATED OUT OF HEAVY TRAFFIC AREA AT THE DISCRETION OF THE ENGINEER.

TYPICAL PRESSURE TESTING ACCESS PORT

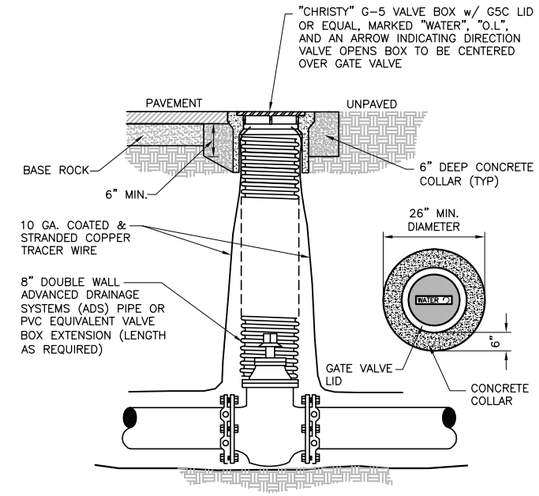
DETAIL A
NOT TO SCALE –



NOTE: FOR INFLUENT PIPING SECONDARY CONTAINMENT PIPING ONLY

LEAK DETECTION TEST PORT

DETAIL B
NOT TO SCALE –

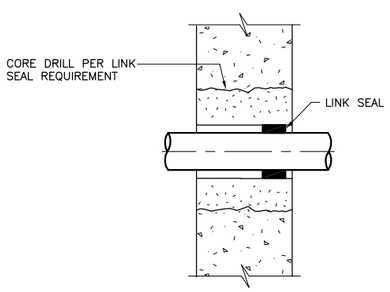


NOTES:

1. VALVE BOX LID SHALL BE OILED PRIOR TO PAVING OR CLEANING TO INSURE THAT LID MARKINGS ARE LEGIBLE.
2. INSTALL VALVE BOX LID TO BE FLUSH WITH FINAL PAVING OR GROUND SURFACE.
3. CONCRETE COLLAR TO BE OMITTED WHEN LOCATED IN SLURRY.
4. WHERE TRACER WIRES ARE SPLICED USE WATER TIGHT CONNECTION.
5. INSTALL REDWOOD BLOCK UNDER VALVE, AS REQUIRED.
6. USE OF GRADE RINGS PROHIBITED.

TYPICAL ISOLATION VALVE AND VALVE BOX INSTALLATION

DETAIL C
NOT TO SCALE –



PIPE SLEEVE

DETAIL D
NTS –

NOTES:

1. LEAK DETECTION PORT FOR SECONDARY CONTAINMENT PIPING SHALL BE LOCATED MINIMUM EVERY 500 FEET.

2. ISOLATION VALVES WITH PRESSURE TESTING ACCESS PORTS SHALL BE LOCATED ALONG THE DISCHARGE LINE WITH A MAXIMUM SPACING OF 500 FEET.

RECORD DRAWING

CALL BEFORE YOU DIG:
UNDERGROUND SERVICE ALERT OF SOUTHERN CALIFORNIA
TWO WORKING DAYS BEFORE YOU DIG
1–800–227–2600

REV. NO.	DATE	DRWN	CHKD	REMARKS
3	9/09	PJR		RECORD DRAWING
2	1/7/08	PJR	SHA	ISSUED FOR CONSTRUCTION
0	10/12/07	PJR	SHA	ISSUED FOR CITY PLAN CHECK

DESIGNED BY: SHA
DRAWN BY: PJR
SHEET CHK'D BY: SHA
CROSS CHK'D BY: AS
APPROVED BY: RS
DATE: JUNE 2007

WARNING
0 1/2 1"
IF THIS BAR DOES NOT MEASURE 1" THEN DRAWING IS NOT TO SCALE.

REGISTERED PROFESSIONAL ENGINEER RAVI SUBRAMANIAN No. C053679 Exp. 06-30-2011 CIVIL STATE OF CALIFORNIA

CDM Camp Dresser & McKee Inc.
consulting engineering construction operations
111 ACADEMY, STE 150
Irvine, California 92617
Tel: (949) 752-5452
Fax: (949) 725-3790

OMEGA CHEMICAL SUPERFUND SITE
12504/12512 EAST WHITTIER BOULEVARD
WHITTIER, CALIFORNIA

GROUND WATER TREATMENT PLANT

STANDARD DETAILS

PROJECT NO. 10500–70150
SHEET NO. C-3.5

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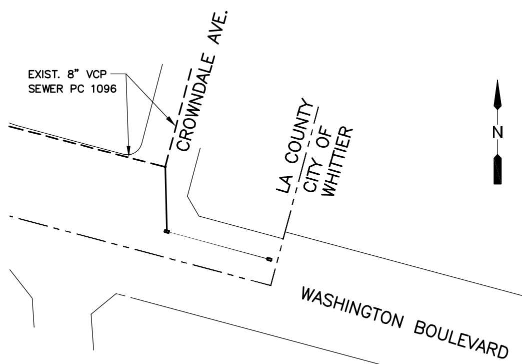
BENCH MARKS

BM Y6633 Elev. 215.036

COUNTY ENGINEERS MONUMENT AT THE NORTH END OF A CATCH BASIN 19.7 FEET NORTH OF THE BEGIN CURB RETURN ON WHITTIER BLVD. 59.0 FEET EAST OF THE CENTERLINE OF WHITTIER BLVD. AND 88.6 FEET WEST OF THE CENTERLINE OF PICKERING AVE. MARKED "BM 1-14AB 1961 RE 5869"

BASELINE QUAD
1995 ADJUSTMENT

Per Title 20.24.140 of LA County Code, obstructing access to sewer facilities is prohibited. No object difficult to remove shall be located over the sewer easement(s) as to interfere with ready access to sewer facilities.



BUILDING AND SAFETY DIVISION FIELD OFFICE: SOUTH WHITTIER

NOTES: NUMBER IN CIRCLE INDICATES PAGE NUMBER. ALL MAINLINE SANITARY SEWERS ARE WITHIN THE SANITARY SEWER EASEMENT

INDEX MAP

SCALE: 1" = 100' INDEX C-2077 C3
11982 12504/12512 WHITTIER BLVD
THOMAS GUIDE PAGE: 707, B1

NO.	REVISION	REVISED BY	APPROVED BY	DATE

STORMWATER POLLUTION PLAN NOTES

A. NOTES

1. Eroded sediments and other pollutants must be retained on site and may not be transported from the site via sheetflow, swales, area drains, natural drainage couress or wind.
2. Stockpiles of earth and other construction related materials must be protected from being transported from the site by the forces of wind or water.
3. Fuels, oils, solvents, and other toxic materials must be stored in accordance with their listing and are not to contaminate the soil and surface waters. All approved storage containers are to be protected from the weather. Spills may not be washed into the drainage system.
4. Excess or waste concrete may not be washed into the Public way or any other drainage system. Provisions shall be made to retain concrete wastes on site until they can be disposed of as solid waste.
5. Trash and construction related solid wastes must be deposited into a covered receptacle to prevent contamination of rainwater and dispersal by wind.
6. Sediments and other materials may not tracked from the site by vehicle traffic. The construction entrance roadways must be stabilized so as to inhibit sediments from being deposited into the public way. Accidental depositions must be swept up immediately and may not be washed down by rain or other means.
7. Any slopes with disturbed soils denuded of vegetation must be stabilized so as to inhibit erosion by wind and water.

B. The following BMPs as outlined in, but not limited to, the "Best management practice handbook, california stormwater quality task force, sacramento, california 2003," or the latest revised edition, may apply during the construction of this project (Additional measures may be required if deemed appropriate by county inspectors):

EROSION CONTROL
- EC-1 Scheduling
- EC-2 Preservation of Existing Vegetation
- EC-3 Hydraulic Mulch
- EC-4 Hydroseeding
- EC-5 Soil Binders
- EC-6 Straw Mulch
- EC-7 Geotextiles and Mats
- EC-8 Wood Mulching
- EC-9 Earth Dikes and Drainage Swale
- EC-10 Velocity Dissipation Swales
- EC-11 Slope Drains
- EC-12 Streambank Stabilization
- EC-13 Polyocrylamide

TEMPORARY SEDIMENT CONTROL
- SE-1 Silt Fence
- SE-2 Sediment Basin
- SE-3 Sediment Trap
- SE-4 Check Dams
- SE-5 Fiber Rolls
- SE-6 Gravel Bag Berm
- SE-7 Street Sweeping And Vacuuming
- SE-8 Sandbag Barrier
- SE-9 Straw Bale Barrier
- SE-10 Storm Drain Inlet Projection
- SE-11 Chemical Treatment

WIND EROSION CONTROL
- WE-1 Wind Erosion Control

WASTE MANAGEMENT AND MATERIALS POLLUTION CONTROL
- WM-1 Material Delivery And Storage
- WM-2 Material Use
- WM-3 Stockpile Management
- WM-4 Spill Prevention And Control
- WM-5 Solid Waste Management
- WM-6 Hazardous Waste Management
- WM-7 Contamined Soil Management
- WM-8 Concrete Waste Management
- WM-9 Sanitary/Septic Waste Management
- WM-10 Liquid Waste Management

NON-STORMWATER MANAGEMENT
- NS-1 Water Conservation Practices
- NS-2 Dewatering Operations
- NS-3 Paving And Grinding Operations
- NS-4 Temporary Stream Crossing
- NS-5 Clear Water Diversion
- NS-6 Illicit Connection/Discharge
- NS-7 Potable Water/Irrigation
- NS-8 Vehicle And Equipment Cleaning
- NS-9 Vehicle And Equipment Fueling
- NS-10 Vehicle And Equipment Maintenance
- NS-11 Pile Driving Operations
- NS-12 Concrete Curing
- NS-13 Concrete Finishing
- NS-14 Material Over Water
- NS-15 Demolition Adjacent to Water
- NS-16 Temporary Batch Plants

EQUIPMENT TRACKING CONTROL
- TR-1 Stablized Construction Entrance/exit
- TR-2 Stablized Construction Roadway
- TR-3 Entrance/Outlet Tire Wash

STANDARD PLANS:

The following latest revised standard plans on file in the office of the following department shall apply in the construction of this project.
LOS ANGELES COUNTY DEPARTMENT OF PUBLIC WORKS

2000-0	Legend for sanitary sewer plans and profiles and district maps.
2002-1	Precast concrete shallow manhole.
2003-2	Reinforced precast concrete manhole.
2014-1	Rectangular manhole frame and cover.
2015-1	Standard manhole step.
2021-1	Bedding for sewer pipe.
2023-2	Cradling and encasement.
2024-1	WYE or TEE support.
2026-1	Erosion protection in steep slopes.
2027-1	Allowable trench widths.
2100-1	Requirements for sanitary sewers in the vicinity of pressure water mains.
6008-1	Minimum public safety requirements.

STANDARD PLANS FOR PUBLIC WORKS CONSTRUCTION (APWA)

200-2	Precast concrete sewer manhole
207-1	Precast reinforced concrete manhole base
208-1	Breaking into existing manholes
210-2	Manhole frame and cover locking type
221-1	Pipe anchors and backfill stabilizers

NOTES:
No connection for the disposal of industrial wastes shall be made to sewers shown on these drawings until a permit for industrial waste water discharge has been issued by the County Sanitation Districts for said connections.

Before breaking into or constructing a Sanitation Districts' sewer and prior to final acceptance of the project, a Sanitation Districts' inspector shall be notified by telephone at (661) 962-8605 so that required inspection can be made.

PRIVATE CONTRACT SEWER GENERAL NOTES

1. A sewer construction permit shall be obtained and a fee paid for construction inspection and record plans to the Department of Public Works at the Permit Counter, 900 South Fremont Avenue, 8th Floor, Alhambra, at least 72 hours prior to starting work under this permit. Copies of all other required permits, such as Road Excavation, Caltrans, etc., must be filed with the permit application.
2. Prior to issuance of any permit, the contractor shall file a permit for excavations and trenches from the State of Califronia Division of Industrial Safety, and a Certificate of Worker's Compensation Insurance with the Department of Public Works named as the Certificate Holder. The Department of Public Works shall be notified 30 days prior to cancellation of the insurance policy.
3. If work is done in a State Highway, a permit must be obtained from the State of California Division of Highways, 120 South Spring Street, Los Angeles, California.
4. When work is within a contract city, the contractor must contact the Director of Public Works of that city, to determine the location to pay the inspection fee.
5. The contractor shall contact the district office listed on the "Application for Construction Permit" to arrange for an acceptable construction start date.
6. Approval of this plan by the County of Los Angeles does not constitute a representation as to accuracy of the location of or the existence or non-existence of any underground utility pipe or structure within the limits of this project. This note applies to all pages.
7. All work shall be in accordance with the latest approved edition of the "Standard Specifications for Public Works Construction", including supplements and the latest "Special Provisions for the Construction of Sanitary Sewer" and shall be prosecuted only in the presence of the Department of Public Works
8. The contractor's attention is directed to Section 7-10.4.1 of the "Standard Specifications for Public Works Construction" in regard to safety orders and shall conform to the "Minimum Public Safety Requirement" as shown on Los Angeles Department of Public Works' standard plan 6008-1.
9. Elevations are in feet above U.S.C. & G.S. sea level datum of 1929.
10. No revisions shall be made in these plans without the approval of the Director of Public Works.
11. No representative of the Department of Public Works will survey or lay out any portion of the work.
12. Grades to which this improvement is to be constructed are shown on plans and profiles. Grade points for top of curbs, centerline of streets, or centerline of alleys, are shown by circles on profiles at all points between said designed points. The grade shall be established so as to conform to a straight line drawn between said design points.

CONSTRUCTION NOTES

1. Provide survey stakes on the property line or property lines produced at right angles to the sewer line at the centerline of each manhole.
2. If a powerpole is within three feet of the sewer, the sewer shall be encased per LACDPW standard plan 2023-2, Case II, two feet on each side from the point of interference.
3. Wye or tee branches may be used for connections to the mainline sewers except as noted.
4. If during the course of construction, it is determined that there is less than four feet of cover over the top of a mainline or house lateral V.C.P. sewer which is not indicated on the plans, the pipes shall be encased per LACDPW standard plan 2023-2, Case II, unless otherwise approved by the Director of Public Works.
5. All structures shall be either precast concrete shallow manholes per LACDPW standard plan 2002-1, except as noted.
6. Resurface all trenches within paved areas to meet Department of Public Works or California State Highway requirements in accordance with the permits.
7. Full compliance with Section 306-1.3.4. of the "Standard Specifications for Public Works Construction" will be required for backfill in street. Certification of backfill, compaction, and sand equivalents by a qualified civil engineer shall be provided by the permitee prior to the issuance of a certificate of partial acceptance.
8. All backfill and fills outside of the street right of way shall be compacted to 90% of the maximum density as determined by ASTM soil compaction test D 1557-78 method "D" unless otherwise specified. This shall be certified by a qualified civil engineer. This certification shall be submitted to the Construction Division of the Department of Public Works prior to the acceptance of the work by the county.
9. Manhole tops in unimproved rights of way to be six inches above finished grade.
10. Sewers to be tested for leakage per section 306-1.4 of the "Standard Specifications for Public Works Construction" and "Special Provisions for the Construction of Sanitary Sewer".
11. Manhole tops in improved rights of way to be level with finished grade.
12. All wyes and/or house laterals are to be located at least 5' apart and when possible not closer than 5' to any manhole.
13. Locate new manhole so that centerline of manhole is 5 feet from Los Angeles County/City of Whittier boundary line.

NOTICE TO CONTRACTOR:
MAINTAIN SEWER FLOW AT ALL TIMES DURING CONSTRUCTION.

The developer shall be responsible for the continued maintenance of PC11982 sanitary sewer until the County formally accepts it for maintenance. All mainline, manholes and laterals shall be protected from damage and infiltration.

ADDITIONAL CONSTRUCTION NOTES:
1. Contractor to coat outside of all sanitary sewer manholes with waterptoof membranes on Washington Boulevard
2. All sanitary sewer manhole frames and covers on Washington Boulevard shall be watertight.
3. All joints are to be mechanical compression joints

NOTICE TO CONTRACTOR:
Sewer video of all segments shall be submitted prior to partial field acceptance (95%) and completed field acceptance (98%). Final map and as-built sewer plans shall be submitted prior to partial field acceptance.

PROFILE, ALIGNMENT, AND GRADE OF

SANITARY SEWERS

TO BE CONSTRUCTED IN

12504/12512 EAST WHITTIER BLVD PC NO. 11982
1 SHEETS: 1 PAGES
LA COUNTY
INDEX C-2077

(1) 12504/12512 EAST WHITTIER BLVD PC NO. 11982

DEAN D. EFSTATHIOU ACTING DIRECTOR OF PUBLIC WORKS

APPROVED BY LAND DEVELOPMENT DIVISION

BY ______ ASSISTANT DIVISION ENGINEER DATE

SUBMITTED BY ______ SEWER AND WATER/LANDSCAPING SECTION DATE

COUNTY SANITATION DISTRICT NO.18
OF LOS ANGELES COUNTY, CALIFORNIA
STEPHEN R. MAGUIN – CHIEF ENGINEER and GENERAL MANAGER

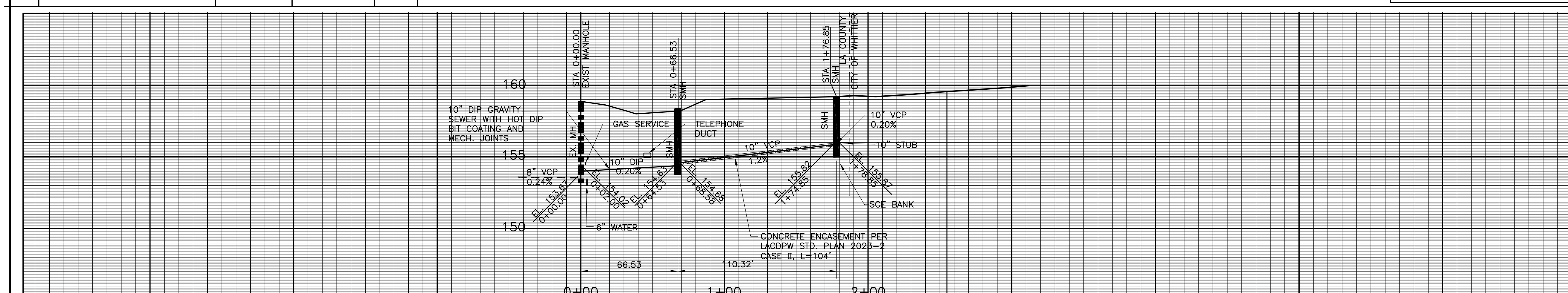
APPROVED BY ______ OFFICE ENGINEER DATE: ______

PRIVATE ENGINEERS NOTICE TO CONTRACTORS:

THE EXISTENCE AND LOCATION OF ANY UNDERGROUND UTILITY PIPES OR STRUCTURES SHOWN ON THESE PLANS IS REQUIRED BY A SEARCH OF AVAILABLE RECORDS TO THE BEST OF OUR KNOWLEDGE. THERE ARE NO EXISTING UTILITIES EXCEPT AS SHOWN ON THIS MAP. THE CONTRACTOR IS REQUIRED TO TAKE PRECAUTIONARY MEASURES TO PROTECT THE UTILITY LINES SHOWN AND ANY OTHER LINES NOT OF RECORD OR NOT SHOWN ON THIS DRAWING.

PROJECT ENGINEER RCE NO DATE

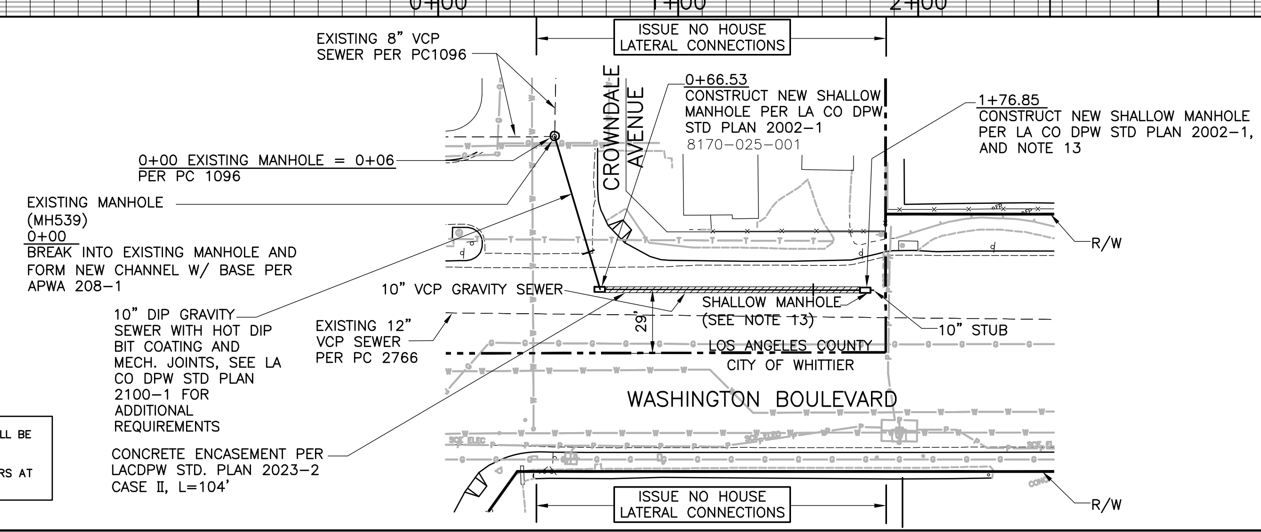
P.C. 11982 PAGE 2



NO. L.A. Co. DPW CHARGES FOR CONNECTIONS

SEE SANITATION DISTRICTS FOR SPECIAL CONNECTION CHARGES

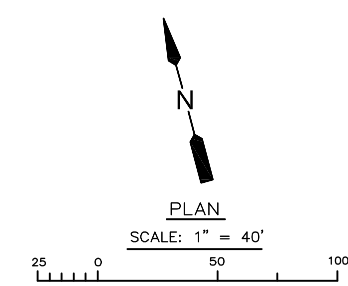
TEL. (562) 908-4288 EX. 2727



RECONSTRUCTION NOTES:
1. Break into existing manhole and form new channel in base per APWA 208-1.
2. Maintain sewer flow at all times during construction.
3. Remodel and reconnect all existing house laterals per LA County and City of Whittier as applicable.

EXISTING SEWER SYSTEM SHALL BE OPERATIONAL AT ALL TIMES DURING RECONSTRUCTION.
NOTIFY AFFECTED HOMEOWNERS AT LEAST 72 HRS IN ADVANCE.

RECORD DRAWING
11/04/09



PLAN
SCALE: 1" = 40'

SANITARY SEWER PLANS IN 12504/12512 EAST WHITTIER BOULEVARD PC NO. 11982

REVIEWED BY LAND DEVELOPMENT DIVISION

BY ______ SEWER AND WATER/LANDSCAPING SECTION DATE

COUNTY OF LOS ANGELES DEPARTMENT OF PUBLIC WORKS

PROJECT ENGINEER DATE

CDM
111 ACADEMY, STE 150
Irvine, California 92617
Tel: (949) 752-5452
Fax: (949) 725-3790
ATTN: RAVI SUBRAMANIAN, PE
SUBRAMANIANR@CDM.COM

DWG Dwg No. PC11982

ts-ss-dl.dgn 09/05

STRUCTURAL NOTES

GENERAL

1. ALL STRUCTURAL DRAWINGS SHALL BE USED IN CONJUNCTION WITH THE ARCHITECTURAL, MECHANICAL, ELECTRICAL, AND SHOP DRAWINGS AND THE PROJECT SPECIFICATIONS (IF ANY).
2. CONSTRUCTION SHALL MEET THE REQUIREMENTS OF THE 1997 UNIFORM BUILDING CODE (UBC). THE UBC SHALL GOVERN EXCEPT WHERE OTHER APPLICABLE CODES OR THESE DOCUMENTS ARE MORE RESTRICTIVE.
3. NOTHING SHOWN OR OMITTED FROM THESE DOCUMENTS SHALL RELIEVE THE CONTRACTOR FROM FULL COMPLIANCE WITH ALL APPLICABLE CODES AND ORDINANCES.
4. THE CONTRACTOR ALONE IS RESPONSIBLE FOR JOB SITE SAFETY. SITE REVIEW OF THE CONSTRUCTION BY THE ENGINEER IS TO DETERMINE CONFORMANCE WITH THE PLANS AND SPECIFICATIONS. IT DOES NOT ENCOMPASS SAFETY PROCEDURES OR OPERATIONS.
5. WITHOUT EXCLUSION OF ANY REFERENCE IN THE CONSTRUCTION DOCUMENTS TO ANY RULE OR REGULATION, THE ENGINEER IS NOT ASSUMING ANY PROVISIONS OF SUPERVISION OF CONSTRUCTION METHODS OR PROCESSES.
6. STRUCTURES HAVE BEEN DESIGNED FOR OPERATIONAL LOADS ON THE COMPLETED STRUCTURES. DURING CONSTRUCTION, BRACING OR SHORING SHALL SUPPORT STRUCTURES WHEREVER EXCESSIVE CONSTRUCTION LOADS MAY OCCUR.
7. WRITTEN DIMENSIONS SHALL BE USED FOR CONSTRUCTION. DO NOT SCALE DRAWINGS.
8. STRUCTURAL DIMENSIONS CONTROLLED BY OR RELATED TO MECHANICAL AND/OR ELECTRICAL EQUIPMENT SHALL BE VERIFIED BY THE CONTRACTOR PRIOR TO CONSTRUCTION.
9. ALL DIMENSIONS SHALL BE FIELD VERIFIED BY THE CONTRACTOR. SHOULD CONFLICTS OR INTERFERENCE OCCUR, THEY SHALL BE RESOLVED WITH THE ENGINEER AT NO ADDITIONAL COST TO THE OWNER. EXISTING FIELD CONDITIONS AT VARIANCE WITH THE PLANS SHALL BE BROUGHT TO THE ATTENTION OF THE ENGINEER BEFORE ANY WORK IS PERFORMED.

DEFERRED SUBMITTALS

1. THE FOLLOWING PORTIONS OF THE PROJECT ARE DEFERRED SUBMITTAL ITEMS AND HAVE NOT BEEN DESIGNED BY THE ENGINEER OF RECORD.
   a) PRE-ENGINEERED BUILDING
   b) MINOR EQUIPMENT ANCHORAGE
   c) VAPOR PHASE GRANULAR ACTIVATED CARBON (VGAC) ANCHORAGE
   d) SHALLOW TRAY LOW PROFILE AIR STRIPPER ANCHORAGE
2. UNLESS OTHERWISE NOTED, DEFERRED SUBMITTAL ITEMS SHALL BE STAMPED AND SIGNED BY A PROFESSIONAL (CIVIL OR STRUCTURAL) ENGINEER LICENSED IN THE STATE OF CALIFORNIA AND ENGAGED AND PAID FOR BY THE CONTRACTOR OR CONTRACTOR'S VENDOR.
3. STAMPED DEFFERED SUBMITTALS FOR SHALLOW TRAY LOW PROFILE AIR STRIPPER AND VGAC VESSEL'S ANCHORAGE SHALL BE PROVIDED BY PRIME EQUIPMENT SUPPLIER UNDER CONTRACT WITH OWNER. ALL ANCHORAGE PROVIDED BY PRIME EQUIPMENT SUPPLIER SHALL BE INSTALLED BY CONTRACTOR.
4. DEFERRED SUBMITTAL ITEMS SHALL BE SUBMITTED TO THE OWNER AND/OR BUILDING OFFICIAL FOR APPROVAL DURING THE CONSTRUCTION PHASE OF THE PROJECT.
5. DEFERRED SUBMITTAL ITEMS SHALL NOT BE INSTALLED UNTIL THE ENGINEER OF RECORD HAS REVIEWED THE SUBMITTAL DOCUMENTS AND INDICATED THAT THEY HAVE BEEN REVIEWED AND THAT THEY HAVE BEEN FOUND TO BE IN GENERAL CONFORMANCE WITH THE DESIGN OF THE STRUCTURES.
6. DEFERRED SUBMITTAL ITEMS SHALL NOT BE INSTALLED UNTIL THEIR DESIGN AND SUBMITTAL DOCUMENTS HAVE BEEN ACCEPTED BY THE OWNER AND BUILDING OFFICIAL.

SPECIAL INSPECTION

1. UNLESS MODIFIED BY THIS NOTE, SPECIAL INSPECTION SHALL BE CONDUCTED IN ACCORDANCE WITH THE REQUIREMENTS SET FORTH IN CHAPTER 17 OF THE UBC. THE FOLLOWING ITEMS, AS A MINIMUM, SHALL RECEIVE SPECIAL INSPECTION:
   a) CONCRETE – THE INSPECTOR SHALL SUPERVISE THE PREPARATION OF COMPRESSION TEST SPECIMENS, BE PRESENT DURING PLACEMENT OF REINFORCED CONCRETE, AND DURING PREPARATION OF CONSTRUCTION JOINTS.
   b) BOLTS INSTALLED IN CONCRETE – BOLTS SHALL BE INSPECTED PRIOR TO AND DURING CONCRETE PLACEMENT.
   c) ADHESIVE ANCHOR SYSTEMS – THE INSPECTOR SHALL RECORD DRILL BIT COMPLIANCE WITH ANSI B212.15-1994. HOLE DEPTH AND CLEANLINESS, PRODUCT DATA AND VERIFICATION OF ANCHOR INSTALLATION WITH THE MANUFACTURER'S PUBLISHED INSTRUCTIONS AND ICC-ES EVALUATIONS REPORT.
   d) REINFORCING STEEL – REINFORCING STEEL SHALL BE INSPECTED AND FAVORABLY REVIEWED PRIOR TO CLOSING THE FORMS AND DELIVERY OF CONCRETE TO JOBSITE.

DESIGN LOADS

1. GRAVITY:

USE OR OCCUPANCY	UNIFORM LOAD (psf)
WALKWAYS, STAIRWAYS AND TUNNELS	100
UNRESTRICTED VEHICULAR AREAS	300**
PROCESS AREA	200

** DESIGN LOAD CONFORMS TO THE REQUIREMENTS FOR HS-20 LOADING WHERE APPLICABLE.

2. LATERAL:
   a) WIND: 1997 UBC, 70 MPH, EXPOSURE C, I = 1.0
   b) SEISMIC 1997 UBC
   SEISMIC ZONE 4
   NEAR SOURCE FACTOR Na = 1.2
   IMPORTANCE FACTOR I = 1.0

CONCRETE

1. REINFORCED CONCRETE SHALL CONFORM TO THE ACI SPECIFICATION 318-05.
2. PORTLAND CEMENT SHALL CONFORM TO ASTM C-150 TYPE I OR II. ONE BRAND OF CEMENT SHALL BE USED THROUGHOUT THE WORK.
3. ALL AGGREGATES SHALL CONFORM TO ASTM C-33. THE AGGREGATE SHALL HAVE A MAXIMUM SIZE OF 1 INCH.
4. MIXING WATER SHALL BE POTABLE WATER FREE FROM INJURIOUS AMOUNT OF ACID, ALKALI, OR OTHER HARMFUL SUBSTANCES. WATER SHALL BE OBTAINED FROM LOCAL UTILITY COMPANY MAINS UNLESS THE ENGINEER APPROVES ANOTHER SOURCE.
5. AIR ENTRAINING ADMIXTURES SHALL CONFORM TO ASTM C260.
6. CURING COMPOUNDS SHALL CONFORM TO ASTM C309.
7. IT SHALL BE THE CONTRACTOR'S RESPONSIBILITY TO PROVIDE THE MINIMUM REQUIREMENTS LISTED BELOW. CEMENT CONTENT SHALL BE INCREASED OVER THAT LISTED IF REQUIRED TO OBTAIN THE LISTED COMPRESSIVE STRENGTH.

LOCATION	MIN 28 DAY STRENGTH (psi)	MIN CEMENT CONTENT (lbs)	MAX SLUMP (in)
STRUCTURAL CONCRETE	4,500	564	4
CONCRETE SIDEWALKS AND PAVEMENTS	3,000	480	4
CONCRETE FILL	2,500	440	4

8. ALL CONCRETE SHALL HAVE AIR ENTRAINMENT OF 4.0 ± 1.0 PERCENT.
9. ALL CONCRETE SHALL BE TRANSIT MIXED IN ACCORDANCE WITH ASTM C-194
10. TRANSIT MIXED CONCRETE SHALL BE MIXED FOR NOT LESS THAN 10 MINUTES TOTAL. OF WHICH NOT LESS THAN 3 MINUTES SHALL BE ON THE SITE JUST PRIOR TO PLACEMENT. MIXING SHALL BE CONTINUOUS WITH NO INTERRUPTIONS FROM THE TIME THE TRUCK IS FILLED UNTIL THE TIME IT IS EMPTIED. CONCRETE SHALL BE PLACED WITHIN ONE HOUR OF THE TIME WATER IS FIRST ADDED. TRANSIT MIX CONCRETE SHALL NOT EXCEED A TEMPERATURE OF 70 DEGREES WITHOUT APPROVAL OF THE ENGINEER.
11. CONSTRUCTION JOINTS SHALL NOT BE PLACED AT LOCATIONS OTHER THAN THOSE SHOWN ON THE DRAWINGS WITHOUT THE PRIOR APPROVAL OF THE ENGINEER.
12. ALL EXPOSED CORNERS OF CONCRETE SHALL HAVE ¾" MINIMUM CHAMFER, UNLESS NOTED OTHERWISE.
13. FOR ALL CONCRETE PLACED ON SOIL, THE SUBGRADE SHALL BE THOROUGHLY WETTED PRIOR TO PLACING. SEE OTHER NOTES FOR ADDITIONAL SUBGRADE REQUIREMENTS.
14. BEFORE PLACING CONCRETE, MIXING, CONVEYING, FINISHING EQUIPMENT, FORMS AND REINFORCING SHALL BE WELL CLEANED. WET FORMS BEFORE PLACING CONCRETE UNLESS OILED FORMS ARE USED.
15. CONCRETE SHALL BE CONVEYED FROM MIXER TO FINAL LOCATION AS RAPIDLY AS POSSIBLE BY METHODS PREVENTING SEPARATION OF THE INGREDIENTS. DEPOSIT CONCRETE AS NEARLY AS POSSIBLE IN FINAL POSITION TO AVOID REHANDLING.
16. CONCRETE IN CERTAIN LOCATIONS MAY BE PUMPED INTO PLACE UPON PRIOR APPROVAL OF THE ENGINEER. WHEN THIS PROCEDURE REQUIRES REDESIGN OF THE CONCRETE MIX, SUCH REDESIGN SHALL BE SUBMITTED TO THE ENGINEER FOR APPROVAL.
17. VIBRATION SHALL BE BY MEANS OF MECHANICAL VIBRATORS IN DIRECT CONTACT WITH THE CONCRETE, AND NOT BY VIBRATING THE FORMS OR REINFORCING. VIBRATION SHALL CONTINUE UNTIL WATER SHOWS THE FIRST SIGNS OF RISING.

CONCRETE ANCHORS

1. CAST-IN ANCHOR BOLTS SHALL CONFORM TO ASTM A307
2. ADHESIVE ANCHORS SHALL CONFORM TO MANUFACTURER'S RECOMMENDATIONS AND THE APPROPRIATE ICC-ES REPORTS. ANCHORS WITHOUT APPROPRIATE ICC-ES REPORTS SHALL NOT BE USED.
3. CONTRACTOR SHALL LOCATE EXISTING REBAR USING NON-DESTRUCTIVE METHODS PRIOR TO DRILLING HOLES FOR ADHESIVE ANCHORS. ADJUST SPACING OF ANCHORS TO MISS EXISTING REINFORCING. TOTAL NUMBER OF ANCHORS PROVIDED SHALL BE EQUAL TO THAT SHOWN ON THE DRAWINGS.
4. ADHESIVE ANCHORS SHALL CONSIST OF A TWO-COMPONENT RESIN ADHESIVE. THE PACKAGES CONTAINING EACH COMPONENT SHALL BE ATTACHED TO A DISPENSING MANIFOLD. AN AUGER STYLE NOZZLE SHALL BE ATTACHED FOR PROPER MIXING OF THE ADHESIVE COMPONENTS. WHERE THREADED RODS ARE REQUIRED, RODS SHALL CONFORM TO ASTM A193 GRADE B7. WHERE SST IS CALLED FOR ON THE DRAWINGS, CONTRACTOR SHALL USE AISI 304-SS, GROUP 1 CW.

REINFORCING

1. REINFORCING STEEL SHALL CONFORM TO THE LATEST EDITION OF ASTM SPECIFICATION A706 OR A615, GRADE 60.
2. REINFORCING STEEL FABRICATION SHALL BE IN ACCORDANCE WITH THE LATEST EDITION OF CRSI MANUAL OF STANDARD PRACTICE.
3. REINFORCING SHALL HAVE THE FOLLOWING CLEAR CONCRETE COVER, UNLESS OTHERWISE NOTED ON THE DRAWINGS.

CONDITION	COVER (inches)
UNFORMED SURFACES IN CONTACT WITH EARTH	3
FORMED SURFACES EXPOSED TO EARTH, WATER AND/OR WEATHER	2
CONCRETE SURFACES FOR DRY CONDITIONS SLABS	1 ½

4. SPLICED BARS SHALL HAVE A CLASS B MINIMUM LAP AS SPECIFIED IN LATEST EDITION OF ACI 315 DETAILING MANUAL AND ACI 318 CHAPTER 21 UNLESS OTHERWISE NOTED IN THESE CONTRACT DOCUMENTS. WHERE SHOWN ON THE DRAWINGS, l_d = DEVELOPMENT LENGTH AS DEFINED IN THE STANDARD DETAILS OF THESE DRAWINGS. HOOKS OF REINFORCING STEEL SHALL COMPLY ACI 318.
5. WRITTEN SPACING AND LOCATION OF REINFORCING SHALL TAKE PRECEDENCE OVER DEPICTED SPACING AND LOCATION.
6. IN CASES WHERE REINFORCING BARS CANNOT BE EXTENDED AS FAR AS REQUIRED DUE TO THE LIMITED EXTENT OF THE ADJACENT CONCRETE STRUCTURE, THE BARS SHALL EXTEND AS FAR AS POSSIBLE AND BE TERMINATED WITH A STANDARD HOOK.
7. AT FOOTING CORNERS AND INTERSECTIONS, EXTEND BARS AROUND CORNERS AND LAP MINIMUM 40 BAR DIAMETERS.

ALUMINUM GRATING

1. DEPTH OF GRATING SHALL BE 1½" UNLESS NOTED OTHERWISE ON THE DRAWINGS.
2. GRATING BARS SHALL BE AN I-BAR CONFIGURATION AND BE SPACED AT 1 3/16-INCHES ON CENTER.
3. BEARING BARS SHALL BE PUNCHED TO RECEIVE CROSS BARS. CROSS BARS SHALL BE SPACED AT 4 INCHES ON CENTER. CROSS BARS SHALL BE SECURED TO THE MAIN BEARING BARS BY A SWEGING PROCESS TO PREVENT TURNING.
4. GRATING AND SUPPORTS SHALL BE ALUMINUM ALLOY 6061-T6.
5. FASTENERS, ANCHORS, BOLTS, NUTS AND WASHERS FOR GRATING AND SUPPORTS SHALL BE TYPE 304 OR 316 STAINLESS STEEL.
6. BAND ALL GRATING ALONG EDGES AND AROUND OPENINGS WITH CONTINUOUS BAR EQUAL TO BEARING BARS.
7. ALL ANGLE FRAMES FOR GRATING SHALL BE MITERED AND WELDED AT CORNERS.
8. ALL ALUMINUM GRATING SHALL BE SECURELY FASTENED TO SUPPORTS WITH STAINLESS STEEL GRATING CLIPS AND STAINLESS STEEL ANCHORS, UNLESS OTHERWISE NOTED.
9. FIELD VERIFY GRATING SUPPORT LOCATIONS BEFORE FABRICATING GRATING. PLACE SUPPORTS WITH EXTREME CARE TO PROVIDE TOLERANCES SHOWN OR SPECIFIED.
10. GRATING PANEL LAYOUT SHALL PROVIDE FOR THE REMOVAL OF GRATING AROUND PIPE AND OTHER GRATING PENETRATIONS.
11. MAXIMUM WEIGHT OF EACH GRATING SECTION SHALL BE 80 POUNDS.

CONDUIT AND PIPES EMBEDDED IN CONCRETE

1. CONDUIT, PIPES, AND SLEEVES OF ANY MATERIAL NOT HARMFUL TO CONCRETE AND WITHIN LIMITATIONS OF THE PROJECT DRAWINGS AND SPECIFICATIONS, AND ACI-318 SHALL BE PERMITTED TO BE EMBEDDED IN CONCRETE WITH THE PRIOR APPROVAL OF THE ENGINEER, PROVIDED THEY ARE NOT CONSIDERED, BY THE ENGINEER, TO DISPLACE STRUCTURAL CONCRETE, EXCEPT AS PROVIDED HEREIN.
2. CONDUITS AND PIPES OF ALUMINUM SHALL NOT BE EMBEDDED IN STRUCTURAL CONCRETE.
3. CONDUITS, PIPES, WITH THEIR FITTINGS, EMBEDDED WITHIN A COLUMN SHALL NOT DISPLACE MORE THAN 4-PERCENT OF THE AREA OF THE CROSS-SECTION ON WHICH THE STRENGTH IS CALCULATED OR WHICH IS REQUIRED FOR FIRE PROTECTION. THE ENGINEER SHALL DETERMINE IF THE STRENGTH OF THE CONSTRUCTION HAS BEEN SIGNIFICANTLY IMPARIED.
4. CONDUITS AND PIPES EMBEDDED WITHIN A SLAB, WALL, OR BEAM SHALL SATISFY THE FOLLOWING
   a. THEY SHALL NOT BE LARGER IN OUTSIDE DIAMETER THAN 2-INCHES.
   b. MINIMUM CLEAR DISTANCE BETWEEN CONDUIT AND/OR PIPING RUNS SHALL BE 8-INCHES.
   c. THEY SHALL BE LOCATED IN SUCH A MANNER AS TO MAINTAIN A MINIMUM OF 1-INCH CLEAR SPACE BETWEEN THE EMBEDDED ITEM AND PRIMARY REINFORCEMENT.
   d. THEY SHALL NOT SIGNIFICANTLY IMPAIR THE STRENGTH OF THE CONSTRUCTION. THE ENGINEER SHALL DETERMINE IF THE STRENGTH OF THE CONSTRUCTION HAS BEEN SIGNIFICANTLY IMPAIRED.
5. NO LIQUIDS, GAS, OR VAPOR, EXCEPT WATER NOT EXCEEDING 90-DEGREES-FARHENHIET NOR 5-PSI, SHALL BE PLACED IN THE PIPES UNTIL THE CONCRETE HAS ATTAINED ITS DESIGN STRENGTH.
6. IN SOLID SLABS, CONDUITS AND/OR PIPING, SHALL BE PLACED BETWEEN THE TOP AND BOTTOM REINFORCEMENT AT THE CENTERLINE OF THE SLAB. AT A MINIMUM, THEY SHALL BE LOCATED IN SUCH A MANNER AS TO MAINTAIN A MINIMUM OF 1-INCH CLEAR SPACE BETWEEN THE EMBEDDED ITEM AND PRIMARY REINFORCEMENT.
7. CONCRETE COVER FOR PIPES SHALL NOT BE LESS THAN 1½-INCHES FOR CONCRETE EXPOSED TO EARTH OR WEATHER, NOR LESS THAN ¾-INCH FOR CONCRETE NOT EXPOSED TO WEATHER OR IN CONTACT WITH GROUND.
8. ADDITIONAL REINFORCEMENT WITH AN AREA NOT LESS THAN 0.002 TIMES THE AREA OF CONCRETE SECTION SHALL BE PROVIDED NORMAL TO THE CONDUIT AND/OR PIPING.
9. CONDUITS AND/OR PIPING SHALL BE SO FABRICATED AND INSTALLED THAT CUTTING, BENDING, OR DISPLACEMENT OF REINFORCEMENT FROM ITS PROPER LOCATION WILL NOT BE REQUIRED.

RECORD DRAWING

RECORD DRAWING
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REV. NO.	DATE	DRWN	CHKD	REMARKS

DESIGNED BY: RKT
DRAWN BY: ADM
SHEET CHK'D BY: TJC
CROSS CHK'D BY: DJH
APPROVED BY: RS
DATE: JUNE 2007

WARNING
0 1/2 1"
IF THIS BAR DOES NOT MEASURE 1" THEN DRAWING IS NOT TO SCALE.

REGISTERED PROFESSIONAL ENGINEER — C62055 — EXP. 09/30/07 — CIVIL — STATE OF CALIFORNIA
DATE SIGNED 03/22/07

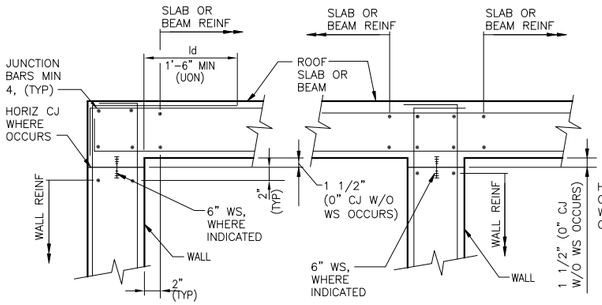
CDM Camp Dresser & McKee Inc.
consulting engineering construction operations
18581 Teller Avenue, Suite 200
Irvine, California 92612
Tel: (949) 752-5452
Fax: (949) 752-1307

OMEGA CHEMICAL SUPERFUND SITE
12504/12512 EAST WHITTIER BOULEVARD
WHITTIER, CALIFORNIA

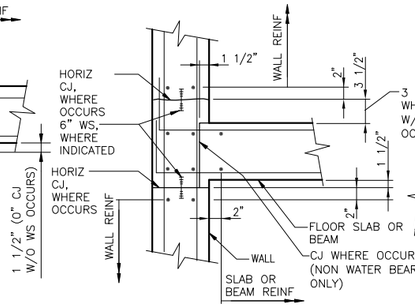
GROUNDWATER TREATMENT PLANT
STRUCTURAL GENERAL NOTES

PROJECT NO. 10500-53426
SHEET NO. S-1

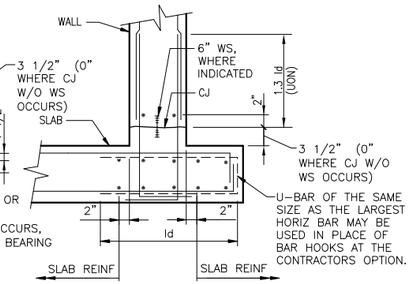
W:\TJCAA – 2006 Projects\106066 – CDM, Omega Chemical Vol\Pad\106066 – Record Drawings\106066 – STR\ S-1 10/06/09 12:39 XREFS: 37240-MUV-G00, RKT California – PE – Exp 09-30-07, RKT Signature



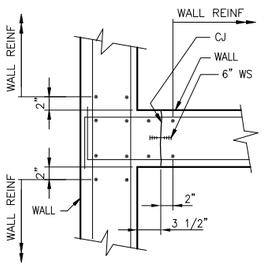
WALL TO TOP SLAB (SECTION)



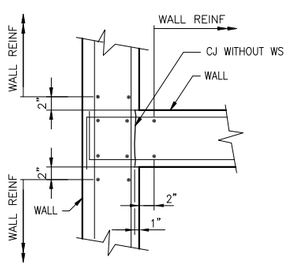
WALL TO INTERMEDIATE SLAB (SECTION)



WALL TO BOTTOM SLAB (SECTION)

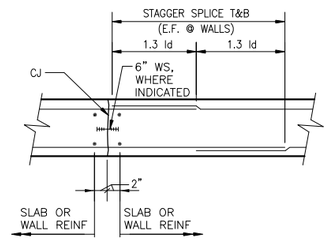


WATER BEARING



NON-WATER BEARING

WALL TO WALL PLANS



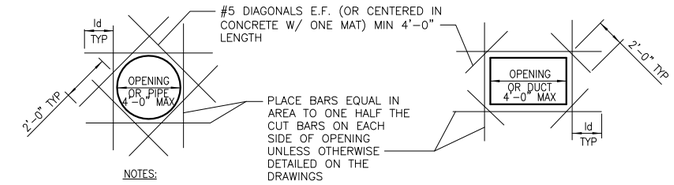
SLAB OR WALL CONTINUATION

CONSTRUCTION JOINT NOTES:

1. REINFORCING SHOWN IS FOR CLARITY ONLY. SEE PLANS AND SECTIONS FOR REINFORCING SIZES, SPACING, LOCATION AND DETAILS.
2. ALL SURFACES SHALL BE PREPARED IN ACCORDANCE WITH THE PROJECT SPECIFICATIONS.
3. JUNCTION BARS SHALL BE SAME SIZE OF THE LARGER OF WALL OR SLAB REINFORCING EXCEPT WHERE OTHERWISE NOTED ON THE DETAILS OR DRAWINGS.
4. ALL LAP SPLICES SHALL BE CLASS B TENSION LAP.
5. WATERSTOP SHALL BE PLACED AT CENTER OF WALL OR SLAB, UON.
6. UON WATERSTOP SHALL BE PLACED AT ALL CONSTRUCTION JOINTS FOR WATER RETENTION STRUCTURES.
7. SEALANT SHALL BE PROVIDED ON THE WATER BEARING SIDE OF ALL JOINTS.

CONSTRUCTION JOINT (CJ)

DETAIL 3002
NTS



NOTES:

1. PROVIDE STD HOOK IF INDICATED LENGTH IS NOT POSSIBLE.
2. REINFORCING STEEL IS TO BE CARRIED ACROSS ALL CONSTRUCTION JOINTS.
3. DETAIL IS TYP FOR ALL OPENINGS GREATER THAN 10 INCHES AND LESS THAN OR EQUAL TO 4 FEET IN THE LARGER DIMENSION IN CONCRETE WALLS AND SLABS UNLESS OTHERWISE DETAILED ON THE DRAWINGS.
4. EXTRA BARS ARE NOT REQUIRED AT AN OPENING EDGE PARALLEL TO AND WITHIN 6 INCHES OF A WALL OR BEAM.

EXTRA REINFORCEMENT AT OPENINGS

DETAIL 3025
NTS

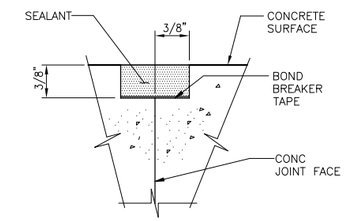
1.3 ld (INCHES) FOR A STRAIGHT BAR IN 2500 PSI CONCRETE		
REINF	TOP BAR	OTHER
#3	32	23
#4	42	30
#5	53	38
#6	63	45
#7	74	53
#8	84	60
#9	95	68
#10	105	75
#11	116	83

NOTES:

1. TOP BAR IS ANY HORIZONTAL BAR WITH MORE THAN 12" CONCRETE CAST IN ONE LIFT BENEATH THE BAR.
2. SPLICES IN HORIZONTAL BARS SHALL BE CLASS B TENSION LAP AND SHALL BE STAGGERED.
3. UNLESS OTHERWISE DETAILED ON THE DRAWINGS, SPLICES IN TWO CURTAINS SHALL NOT OCCUR IN THE SAME LOCATION.

LAP SPLICE LENGTH

DETAIL 3026
NTS

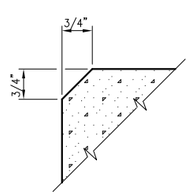


NOTE:

DO NOT COAT SEALANT GROOVE WITH BOND BREAKER.

SEALANT GROOVE

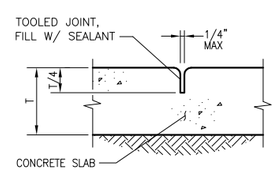
DETAIL 3027
NTS



UON ON DRAWINGS

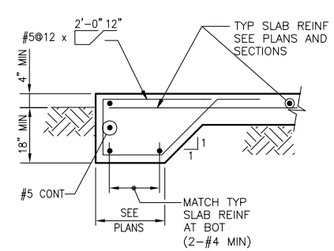
CONCRETE CHAMFER

DETAIL 3028
NTS



TOOLED CONTROL JOINT

DETAIL 3030
NTS



THICKENED SLAB EDGE

DETAIL 3032
NTS

RECORD DRAWING

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REV. NO.	DATE	DRWN	CHKD	REMARKS

DESIGNED BY: RKT
DRAWN BY: ADM
SHEET CHK'D BY: TJC
CROSS CHK'D BY: DJH
APPROVED BY: RS
DATE: JUNE 2007

WARNING
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CDM Camp Dresser & McKee inc.
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OMEGA CHEMICAL SUPERFUND SITE
12504/12512 EAST WHITTIER BOULEVARD
WHITTIER, CALIFORNIA

GROUNDWATER TREATMENT PLANT

STRUCTURAL STANDARD DETAILS - I

PROJECT NO. 10500-53426
SHEET NO. S-2

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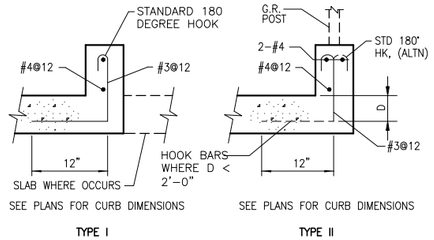
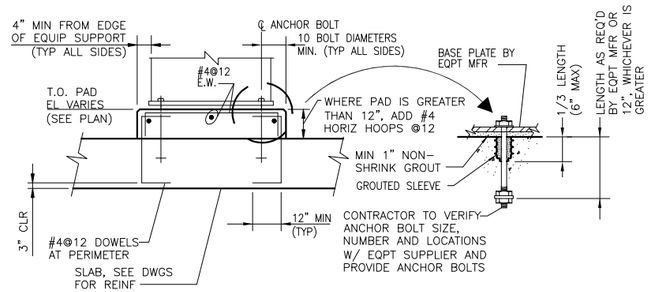


CONC CURB

DETAIL 3033

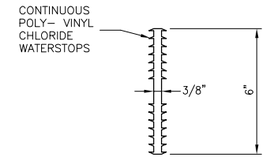
NTS



EQUIPMENT PAD

DETAIL 3076

NTS

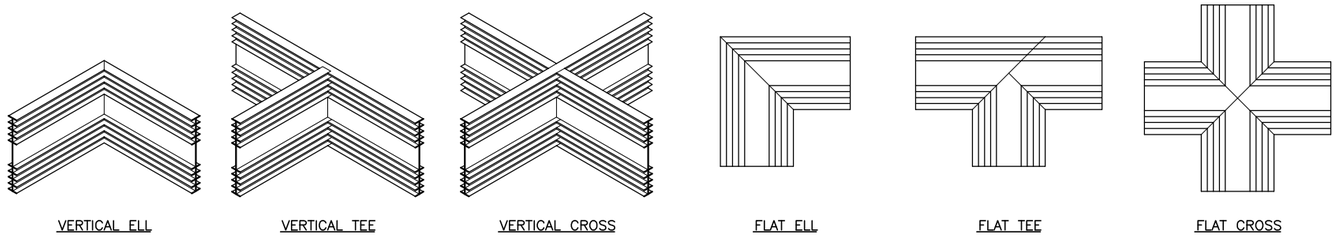


SEE JT NOTES & DWGS FOR REQD LOCATIONS

6" PVC JOINT WATERSTOP

DETAIL 3102

NTS



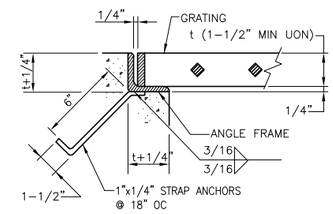
NOTES:

1. PVC WATERSTOPS SHOWN, SIMILAR FOR THERMOPLASTIC ELASTOMERIC RUBBER WATERSTOPS.
2. ALL FITTINGS SHALL BE FACTORY MADE OR SHOP WELDED IN ACCORDANCE WITH MANUFACTURERS RECOMMENDATIONS.
3. ONLY STRAIGHT BUTT SPLICES MAY BE FABRICATED IN FIELD.

WATERSTOP FITTINGS

DETAIL 3106

NTS

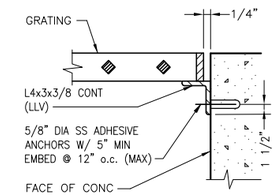


t = GRATING THICKNESS
SEE GRATING NOTES

GRATING SEAT

DETAIL 5051

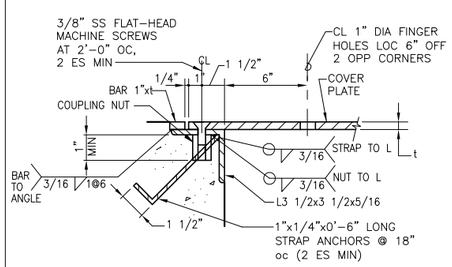
NTS



GRATING WALL SUPPORT

DETAIL 5052

NTS



NOTE:
t = 3/8" UON ON DRAWINGS PROVIDE FINGER HOLES FOR COVER PLATES < 4 SQ FT IN SIZE UON.

COVER PLATE SEAT

DETAIL 5076

NTS

RECORD DRAWING

RECORD DRAWING
THIS RECORD DRAWING HAS BEEN PREPARED BASED ON INFORMATION PROVIDED BY OTHERS. THE ENGINEER HAS NOT VERIFIED THE ACCURACY OF THIS INFORMATION AND SHALL NOT BE RESPONSIBLE FOR ANY ERRORS OR OMISSIONS THAT MAY BE INCORPORATED AS A RESULT.

REV. NO.	DATE	DRWN	CHKD	REMARKS

DESIGNED BY: RKT
DRAWN BY: ADM
SHEET CHK'D BY: TJC
CROSS CHK'D BY: DJH
APPROVED BY: RS
DATE: JUNE 2007

WARNING
0 1/2 1"
IF THIS BAR DOES NOT MEASURE 1" THEN DRAWING IS NOT TO SCALE.

REGISTERED PROFESSIONAL ENGINEER C62055 EXP. 09/30/07 CIVIL STATE OF CALIFORNIA
DATE SIGNED 03/22/07

CDM Camp Dresser & McKee inc.
consulting engineering construction operations
18581 Teller Avenue, Suite 200
Irvine, California 92612
Tel: (949) 752-5452
Fax: (949) 752-1307

OMEGA CHEMICAL SUPERFUND SITE
12504/12512 EAST WHITTIER BOULEVARD
WHITTIER, CALIFORNIA

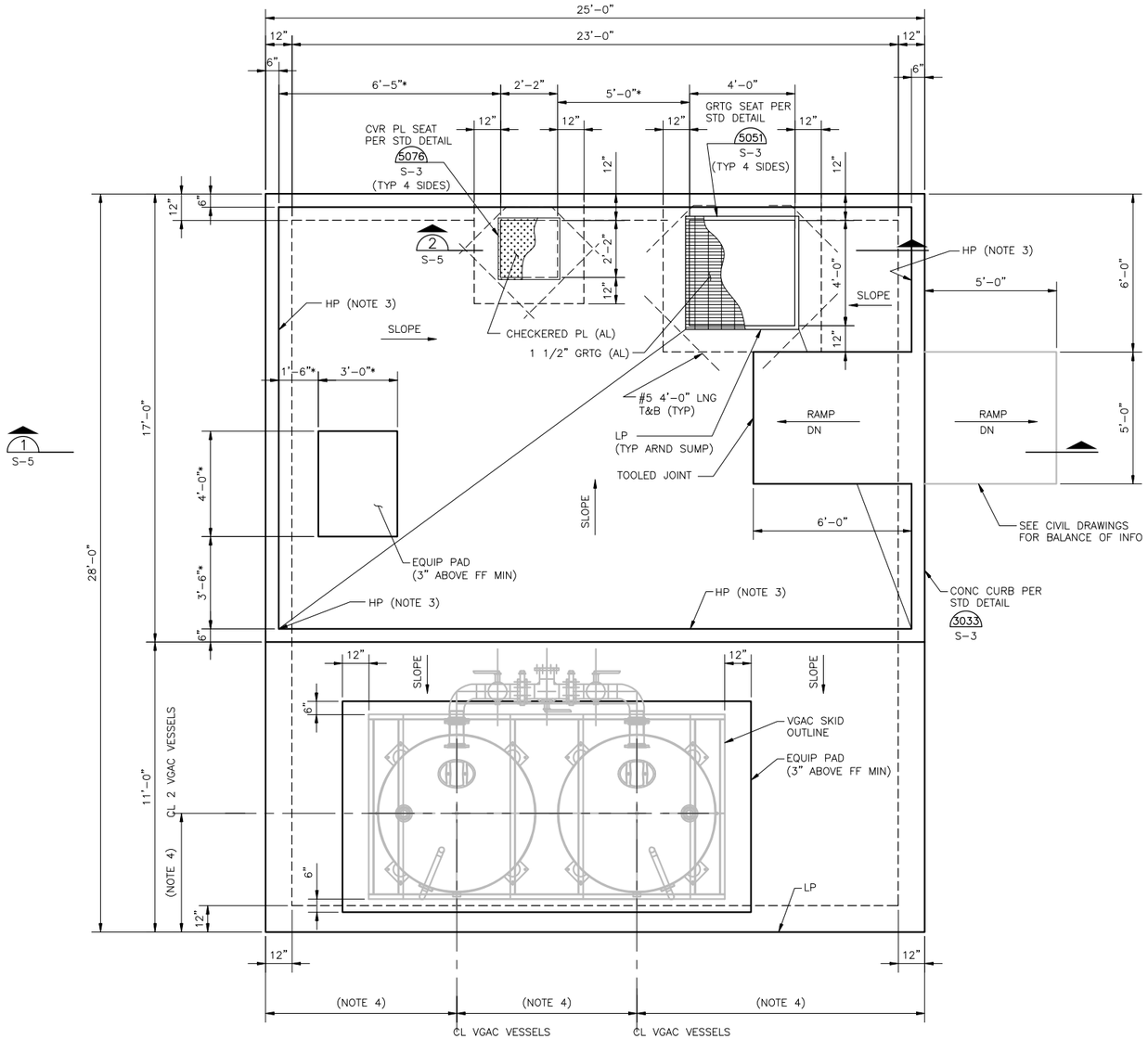
GROUNDWATER TREATMENT PLANT

STRUCTURAL STANDARD DETAILS - II

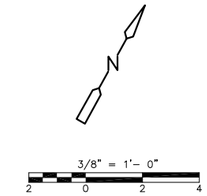
PROJECT NO. 10500-53426

SHEET NO. S-3

W:\TJCAA - 2006 Projects\106066 - CDM, Omega Chemical VOC Pod\106066 - Record Drawings\106066 - STR\S-3 10/06/09 12:42 ondria XREFS: 37240-MUV-G00, RKT California - PE - Exp 09-30-07, RKT Signature



PLAN
3/8" = 1'-0"



NOTE:

1. METAL CANOPY NOT SHOWN FOR CLARITY.
2. METAL CANOPY IS DEFERRED SUBMITTAL ITEM AND HAS NOT BEEN DESIGNED BY THE ENGINEER OF RECORD. REFER TO STRUCTURAL NOTES, SHEET S-1 AND PROJECT SPECIFICATIONS FOR ADDITIONAL INFORMATION.
3. ALL HIGH POINTS (HP) SHALL BE AT LEAST 3-INCHES HIGHER THAN LOW POINT (LP).
4. VERIFY LOCATION OF VGAC VESSELS WITH MECHANICAL.
5. DIMENSIONS MARKED "*" ARE TO BE VERIFIED WITH MECHANICAL PRIOR TO CONSTRUCTION
6. CMU BLOCK WALL NOT SHOWN FOR CLARITY.

RECORD DRAWING

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REV. NO.	DATE	DRWN	CHKD	REMARKS
1	06/07	ADM	RKT	REVISED TO ADDRESS CITY OF WHITTIER COMMENTS

DESIGNED BY: RKT
DRAWN BY: ADM
SHEET CHK'D BY: TJC
CROSS CHK'D BY: DJH
APPROVED BY: RS
DATE: JUNE 2007

WARNING
0 1/2 1"
IF THIS BAR DOES NOT MEASURE 1" THEN DRAWING IS NOT TO SCALE.

REGISTERED PROFESSIONAL ENGINEER
RICHARD KEITH
C62055
EXP. 09/30/07
CIVIL
STATE OF CALIFORNIA
DATE SIGNED 06/12/07

CDM Camp Dresser & McKee Inc.
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18581 Teller Avenue, Suite 200
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OMEGA CHEMICAL SUPERFUND SITE
12504/12512 EAST WHITTIER BOULEVARD
WHITTIER, CALIFORNIA

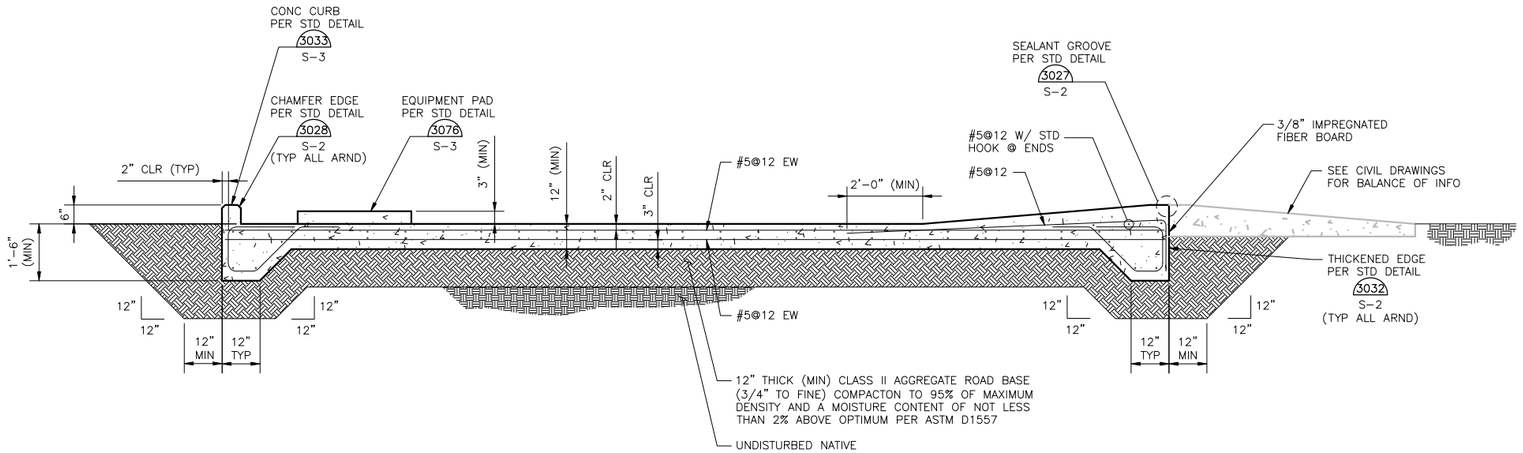
GROUNDWATER TREATMENT PLANT

STRUCTURAL LAYOUT PLAN

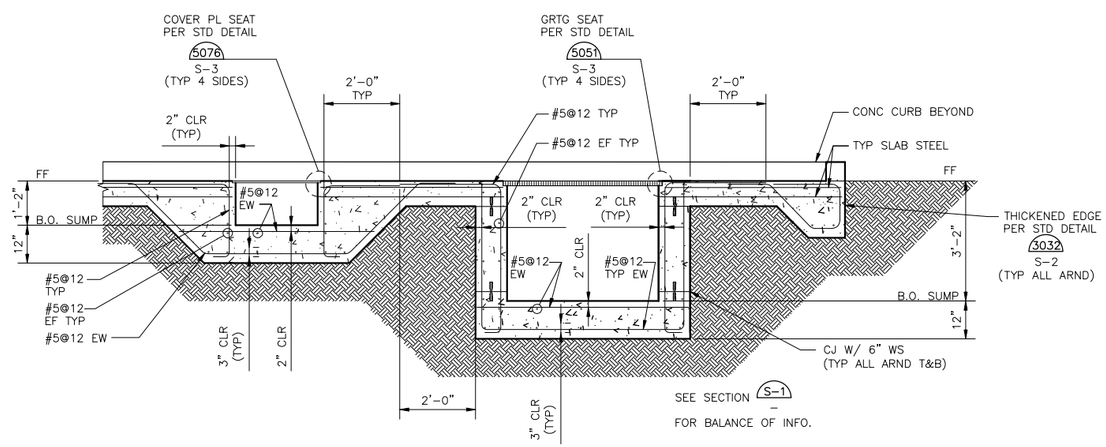
PROJECT NO. 10500-53426

SHEET NO. S-4

W:\TJCAA - 2006 Projects\106066 - CDM, Omega Chemical VGAC Pad\106066 - Record Drawings\106066 - STR\ S-4 10/06/09 12:43 Bjorna XREFS: 00001PL, 37240-UV-C02, 37240-MF-C01, 37240-MUV-G00, RKT California - PE - Exp 09-30-07, RKT Signature



SECTION 1
1/2"=1'-0" S-4



SECTION 2
1/2"=1'-0" S-4

NOTE:

1. METAL CANOPY AND CMU WALL NOT SHOWN FOR CLARITY.
2. METAL CANOPY IS DEFERRED SUBMITTAL ITEM AND HAS NOT BEEN DESIGNED BY THE ENGINEER OF RECORD. REFER TO STRUCTURAL NOTES, SHEET S-1 AND PROJECT SPECIFICATIONS FOR ADDITIONAL INFORMATION.

RECORD DRAWING

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REV. NO.	DATE	DRWN	CHKD	REMARKS
1	06/07	ADM	RKT	REVISED TO ADDRESS CITY OF WHITTIER COMMENTS

DESIGNED BY: RKT
DRAWN BY: ADM
SHEET CHK'D BY: TJC
CROSS CHK'D BY: DJH
APPROVED BY: RS
DATE: JUNE 2007

WARNING
0 1/2 1"
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REGISTERED PROFESSIONAL ENGINEER
RICHARD KEITH
C62055
EXP. 09/30/07
CIVIL
STATE OF CALIFORNIA
DATE SIGNED 06/12/07

CDM Camp Dresser & McKee Inc.
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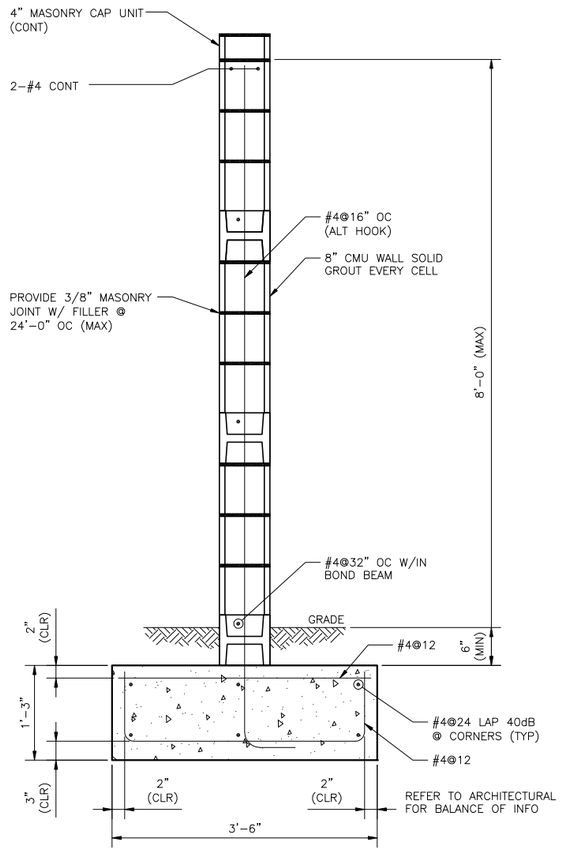
OMEGA CHEMICAL SUPERFUND SITE
12504/12512 EAST WHITTIER BOULEVARD
WHITTIER, CALIFORNIA

GROUNDWATER TREATMENT PLANT
STRUCTURAL SECTIONS

PROJECT NO. 10500-53426
SHEET NO. S-5

W:\TJCAA - 2006 Projects\106066 - CDM, Omega Chemical Vol. Pad\106066 - Record Drawings\106066 - STR\ S-5 10/06/09 12:44 Cinyria XREFS: 37240-MUV-G00, 00001SC, 00001PL, 37240-UV-C02, 37240-MP-001, RKT California - PE - Exp 09-30-07, RKT Signature

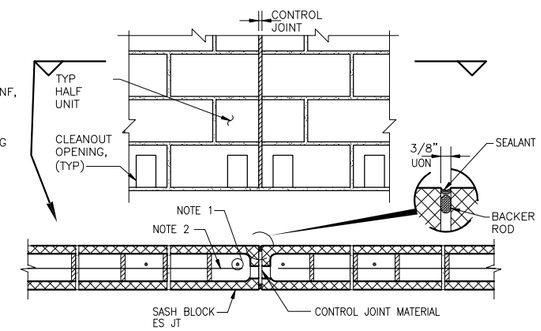


CMU SCREEN WALL
1"=1'-0"

CONTROL JOINT NOTES:

1. PROVIDE ADDITIONAL VERTICAL BAR, EQUAL IN SIZE TO TYP REINF, ON EACH SIDE OF ALL CONTROL JOINTS.

2. TERMINATE HORIZ REINFORCING TWO INCHES FROM CONTROL JOINTS. UON



MASONRY CONTROL JOINT (MCJ)

DETAIL 4005
NTS

RECORD DRAWING

RECORD DRAWING
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REV. NO.	DATE	DRWN	CHKD	REMARKS
1	06/07	ADM	RKT	REVISED TO ADDRESS CITY OF WHITTIER COMMENTS

DESIGNED BY: RKT
DRAWN BY: ADM
SHEET CHK'D BY: RKT
CROSS CHK'D BY: DJH
APPROVED BY: RS
DATE: JUNE 2007

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0 1/2 1"
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REGISTERED PROFESSIONAL ENGINEER
C62055
EXP. 09/30/07
CIVIL
STATE OF CALIFORNIA
DATE SIGNED 06/12/07

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consulting engineering construction operations
18581 Teller Avenue, Suite 200
Irvine, California 92612
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OMEGA CHEMICAL SUPERFUND SITE
12504/12512 EAST WHITTIER BOULEVARD
WHITTIER, CALIFORNIA

GROUNDWATER TREATMENT PLANT
CMU SCREEN WALL DETAILS

PROJECT NO. 10500-53426
SHEET NO. S-6

W:\TJCAA - 2006 Projects\106066 - CDM, Omega Chemical VOC\Pad\106066 - Record Drawings\106066 - STR\ S-6 10/06/09 12:45 Cindria XREFS: 37240-MUV-G00, RKT Signature

LEGENDS:

Symbol	Description
AT / AF	WITHDRAWABLE CIRCUIT BREAKER AT – AMPERE TRIP AF – AMPERE FRAME
3A * / MCP / **	COMBINATION MOTOR CIRCUIT PROTECTOR AND MAGNETIC FULL STARTER W/ VOLTAGE STARTER W/ 120 VOLT CONTROL POWER TRANSFORMER. * MAGNETIC TRIP MOTOR CIRCUIT PROTECTOR TRIP RATING ** NEMA CONTACTOR SIZE
3	MOTOR, NUMBER INSIDE CIRCLE = HP
300A	FULLY RATED MOLDED CASE OR INSULATED CASE CIRCUIT BREAKER (3 POLE UNLESS OTHERWISE NOTED).
RVAT	REDUCED VOLTAGE AUTO TRANSFORMER MOTOR STARTER
FVNR	FULL VOLTAGE NON-REVERSE MOTOR STARTER
SS	SOLID STATE SOFT MOTOR STARTER
	GROUND
S/A	SURGE ARRESTOR
30A	DISCONNECT (NON-FUSED)
	TRANSFORMER
3	CURRENT TRANSFORMER (3) DENOTES QUANTITY
	POWER POLE
	SERVICE ENTRANCE
	FUSE
DMM	DIGITAL METERING MODULE
M	UTILITY METERING
GFI	GROUND FAULT INTERRUPTER
	GROUND WIRE
	GROUND WELL
	GROUND ROD
	GROUND ROD
	UNDERGROUND OR CONCEALED CONDUIT
	EXPOSED CONDUIT
8, LP-1	3/4" MINIMUM. HOMERUN CONDUIT HASHMARKS INDICATE 3 #12 CONDUCTORS UNLESS OTHERWISE NOTED, I.E.: CIRCUIT 8 FROM PANEL LP-1
3,LP-1 B	LIGHTING FIXTURE WALL MOUNTED. SEE LIGHTING FIXTURE SCHEDULE
5,LP-1 A	LIGHTING FIXTURE, POLE MOUNTED
A1 4,LP-1	INCANDESCENT, COMPACT FLUORESCENT OR HID LIGHTING FIXTURE * INDICATES FIXTURE EQUIPPED WITH A QUARTZ AUXILIARY LAMP.
$ 3	FLUSH TOGGLE SWITCH, 3 WAY
A2	FLOURESCENT FIXTURE. SEE LIGHTING SCHEDULE
A4	FLOURESCENT FIXTURE. WITH BACKUP BATTERY. SEE LIGHTING SCHEDULE
	MCC
	EXISTING POWER POLE
	120/208/480V ELECTRICAL DUCT BANKS
HH	HANDHOLE (4'x 4'x 4' UNLESS OTHERWISE NOTED)
	PADMOUNT TRANSFORMER
	DUPLEX RECEPTACLE

3 POSITION SELECTOR SWITCH, MAINTAINED CONTACT
O–OPEN X–CLOSED

(X00) (0X0) (00X)

POSITION	TOP CONTACT	MIDDLE CONTACT	BOTTOM CONTACT
A	X	O	O
B	O	X	O
C	O	O	X

* NAMEPLATE (A/B/C)

HS

HOA – HAND/OFF/AUTO
HOR – HAND/OFF/REMOTE
LOR – LOCAL/OFF/REMOTE
RSL – RAISE/STOP/LOWER
TOA – TEST/OFF/AUTO
ROA – RUN/OFF/AUTO
LOA – LOCAL/OFF/AUTO

Symbol	Description
X#	NORMALLY OPEN
X#	NORMALLY CLOSED
	X# INDICATES CONTACT ACTUATING RELAY OR STARTER
*CR #	CONTROL RELAY # DESIGNATES CONTROL CIRCUIT * SEQUENTIAL PREFIX FOR CIRCUIT IN WHICH DEVICE USED MORE THAN ONCE
LS-#	LEVEL SWITCH # (NO CLOSES ON RISING LEVEL)
LS-#	LEVEL SWITCH # (NC OPENS ON RISING LEVEL)
R	PUSH TO TEST PILOT LIGHT LAMP LENS COLOR A = AMBER, G = GREEN, R = RED, W = WHITE, ETC.
L	LENGTH
FLA	FULL LOAD AMPERE
AIC	AMPERE INTERRUPTING CURRENT
CCW	CONTINOUS CORRUGATED WELDED CABLE
	FUSE
B	ALARM BEACON
NEMA #	ALL PANELS, STARTERS, DISCONNECT, WIRING DEVICES ETC. LOCATED WITHIN THE ROOM COVERED BY THIS DESIGNATION SHALL HAVE ENCLOSURES WITH NEMA TYPE # SPECIFIED. (EXCEPT AS SPECIFICALLY NOTED OTHERWISE)
CCTV	VIDEO CAMERA

STANDARD ABBREVIATIONS

A	AMPERES
AC	ALTERNATING CURRENT
AF	AMPERE FRAME
AFC	ABOVE FINISHED CONCRETE
AFF	ABOVE FINISHED FLOOR
AFG	ABOVE FINISHED GRADE
AT	AMPERE TRIP
ATS	AUTOMATIC TRANSFER SWITCH
AUX	AUXILIARY
AUTO	AUTOMATIC
AWG	AMERICAN WIRE GAUGE
BC	BARE COPPER
BD	BOARD
BKR	BREAKER
C	CONDUIT
CB	CIRCUIT BREAKER
CKT	CIRCUIT
CLG	CEILING
C.O.	CONDUIT ONLY
COND	CONDUCTOR
CONT	CONTROL
CONTD	CONTINUED
CPT	CONTROL POWER TRANSFORMER
CP	CONTROL PANEL
CT	CURRENT TRANSFORMER
CU	COPPER
CR	CONTROL RELAY
DC	DIRECT CURRENT
DISC	DISCONNECT
DISC SW	DISCONNECT SWITCH
DPDT	DOUBLE POLE DOUBLE THROW
DPST	DOUBLE POLE SINGLE THROW
DWG	DRAWING
DWP	LOS ANGELES DEPARTMENT OF WATER AND POWER
DS	DOOR SWITCH
EL,ELEV	ELEVATION
EO	ELECTRICALLY OPERATED
EXIST	EXISTING
FBO	FURNISHED BY OWNER
FDR	FEEDER
FIN	FINISHED
FLA	FULL LOAD AMPS
FLEX	FLEXIBLE
FM	FLOW METER
FS	FLOW SWITCH
FT OR '	FEET OR FOOT
FT	FLOW TRANSMITTER
FUT	FUTURE
FVNR	FULL VOLTAGE NON REVERSING
GALV	GALVANIZED
GD	GAS DETECTORS
GFI	GROUND FAULT INTERRUPTER
GFP	GROUND FAULT PROTECTION
GND OR G	GROUND
GRS	GALVANIZED RIGID STEEL
HH	HANDHOLE
HOA	HAND/OFF/AUTO
HTR	HEATER
HS	HAND SWITCH
IC	INTERRUPTING CURRENT
IN OR "	INCHES OR INCH
IND	INDICATING
INST	INSTANTANEOUS
INSTR	INSTRUMENT
INTLK	INTERLOCK
JB OR J	JUNCTION BOX, CONDULET OR FITTING AS REQUIRED BY NEC. UNLESS OTHERWISE NOTED
KW	KILOWATTS
LCL	LONG CONTINUOUS LOAD
LCP	LOCAL CONTROL PANEL
LES	LOCAL EMERGENCY STOP
LEV	LEVEL
LIM	LIMIT
LR	LOCAL/REMOTE
LOR	LOCAL/OFF/REMOTE
LOS	LOCKOUT STOP STATION
LS	LEVEL OR LIMIT SWITCH
LT	LIGHT
LTG	LIGHTING
LV	LOW VOLTAGE
MA	MILLIAMPERE
MAINT	MAINTAINED
MAN	MANUAL
MAX	MAXIMUM
MC	MAINTAINED CONTACT
MCC	MOTOR CONTROL CENTER
MCM	THOUSAND CIRCULAR MILS
MCP	MOTOR CIRCUIT PROTECTOR
MH	MANHOLE
L	LENGTH
FLA	FULL LOAD AMPERE
AIC	AMPERE INTERRUPTING CURRENT
O/H	OVERHEAD LINE
DWP	LOS ANGELES DEPARTMENT OF WATER AND POWER
VD	VOLTAGE DROP
kA	KILO AMPERES
BLDG.	BUILDING
MIN	MINIMUM OR MINUTE
MLO	MAIN LUGS ONLY
MOV	MOTOR OPERATED VALVE ACTUATOR
MTG	MOUNTING
MTR	MOTOR
N	NEUTRAL
NA	NON-AUTOMATIC
NC	NORMALLY CLOSED
NCIO	NORMALLY CLOSED, INSTANTANEOUS OPEN
NCTC	NORMALLY CLOSED, TIME CLOSE
NCTO	NORMALLY CLOSE, TIME OPEN
NEC	NATIONAL ELECTRIC CODE
NIC	NOT IN CONTRACT
No	NUMBER
NO	NORMALLY OPEN
NOIC	NORMALLY OPEN, INSTANTANEOUS CLOSE
NOTC	NORMALLY OPEN, TIME CLOSE
NOTO	NORMALLY OPEN, TIME OPEN
NP	NAMEPLATE
NTS	NOT TO SCALE
OL	OVERLOAD
OTT	OVERTEMP SWITCH
PB	PUSHBUTTON
PB	PULLBOX
PC	PHOTOCELL
PCV	PUMP CONTROL VALVE
PE	PHOTOELECTRIC EYE
PLC	PROGRAMMABLE LOGIC CONTROLLER
PMR	POWER MONITOR RELAY
PNL	PANEL
POS	POSITION
PR	PAIR
PRI	PRIMARY
PS	PRESSURE SWITCH
PT	POTENTIAL TRANSFORMER
PVC	POLYVINYL CHLORIDE
PVC/RGS	PVC JACKETED RIGID GALVANIZED STEEL CONDUIT
PW	PART WINDING
RECEP	RECEPTACLE
RGS	RIGID GALVANIZED STEEL CONDUIT
RTU	REMOTE TERMINAL UNIT
RVAT	REDUCED VOLTAGE AUTO TRANSFORMER
RVYD	REDUCED VOLTAGE WYE DELTA
SCE	SOUTHERN CALIFORNIA EDISON
SEC	SECONDARY
SEL	SELECTOR
SP	SPARE
SPEC	SPECIFICATION
SS	STAINLESS STEEL
SPDT	SINGLE POLE DOUBLE THROW
SPST	SINGLE POLE SINGLE THROW
ST	SHUNT TRIP
STA	STATION
STL	STEEL
STP	SHIELDED TWISTED PAIR
STR	STARTER
STT	SHIELDED TWISTED TRIPLET
SV	SOLENOID VALVE
SW	SWITCH
SWBD	SWITCHBOARD
TB	TERMINAL BOX
TD	TIME DELAY
TEL	TELEPHONE
TEMP	TEMPERATURE
TERM	TERMINAL
TM	TELEMETRY
TS	TEMPERATURE SWITCH
TS2W	TWO SPEED TWO WINDING
TW/SH	TWISTED SHIELDED
TYP	TYPICAL
UNGND	UNDERGROUND
UON	UNLESS OTHERWISE NOTED
V	VOLTS
VFD	VARIABLE FREQUENCY DRIVE
W	WATTS
W/	WITH
W/O	WITHOUT
WP	WEATHERPROOF
XFMR	TRANSFORMER
XP	EXPLOSION PROOF
ZS	POSITION SWITCH OR LIMIT SWITCH
3W	THREE WIRE
4W	FOUR WIRE

NOTES:

1. SCOPE: THE WORK SPECIFIED IN THIS SECTION INCLUDES PROVIDING LABOR, MATERIAL, EQUIPMENT AND SERVICES NECESSARY FOR INSTALLING ELECTRICAL EQUIPMENT AND CONTROL PANELS, INCLUDING ROUTING OF ALL CONDUITS AND WIRINGS.
2. THE ELECTRICAL DRAWINGS ARE DIAGRAMMATIC. THE EQUIPMENT FOOTPRINTS AND LOCATIONS ARE SHOWN FOR CONTRACTOR TO FIELD VERIFY BEFORE INSTALLATION. THE CONTRACTOR SHALL VERIFY ALL CONDITIONS AND DATA INFORMATION AS INDICATED ON THE DRAWINGS.
3. THE CONTRACTOR SHALL PROVIDE A SET OF AS-BUILT DRAWINGS INDICATING ALL CHANGES MADE DURING CONSTRUCTION AND DEVIATIONS FROM THE ELECTRICAL DRAWINGS.
4. ALL WORK SHALL COMPLY WITH THE LATEST EDITION OF THE CALIFORNIA ELECTRICAL CODE, NATIONAL ELECTRICAL CODE (NEC) AND ALL OTHER APPLICABLE FEDERAL, STATE AND LOCAL CODES. WHERE CONSTRUCTION DOCUMENTS INDICATE MORE RESTRICTIVE REQUIREMENTS, THE CONSTRUCTION DOCUMENTS SHALL GOVERN, BUT THE CONSTRUCTION DOCUMENTS SHALL NOT BE INTERPRETED AS AUTHORITY TO VIOLATE ANY CODE OR REGULATIONS.
5. ALL MATERIALS AND EQUIPMENT SHALL BE NEW AND SHALL BEAR THE UNDERWRITERS LABEL (UL) AND SHALL BE INSTALLED IN THE MANNER FOR WHICH THEY ARE DESIGNED AND APPROVED.
6. UNLESS OTHERWISE NOTED, ALL WIRES SHALL BE COPPER. ALL WIRES SHALL BE UL LISTED, RATED FOR 600V, STRANDED COPPER CONDUCTORS TYPE XHHW INSULATION. NO. 12 MINIMUM FOR POWER TYPE THHN/THWN INSULATION, NO. 14 MINIMUM FOR CONTROL AND TWISTED SHIELDED PAIR OR TRIAD CABLES, NO. 16 MINIMUM FOR INSTRUMENTATION.
7. THE CONTRACTOR SHALL PROVIDE ALL WIRES AND CONDUITS WITH MINIMUM BENDS (MAXIMUM FOUR 90 DEG. BENDS), AND IN SUCH MANNER AS TO CONFORM TO THE STRUCTURE, AVOID OBSTRUCTIONS, PRESERVE HEAD ROOM, KEEP OPENINGS AND PASSAGEWAYS CLEAR AND MEET ALL STRUCTURAL CODE REQUIREMENTS.
8. THE CONTRACTOR SHALL NOT BORE, NOTCH OR IN ANYWAY CUT INTO STRUCTURAL MEMBER WITHOUT PREWRITTEN APPROVAL FROM THE STRUCTURAL ENGINEER.
9. THE ENTIRE ELECTRICAL INSTALLATION, INCLUDING ALL METALLIC STRUCTURES AND SUPPORT SHALL BE GROUNDED AS REQUIRED BY NEC AND ALL APPLICABLE LOCAL CODES.
10. THE ENTIRE WIRING SYSTEM SHALL BE TESTED FOR SHORT CIRCUITS, GROUNDS AND INSULATION RESISTANCE BETWEEN CONDUCTORS AND GROUND.
11. ALL FIXTURES AND ELECTRICAL EQUIPMENT INSTALLED SHALL HAVE ENCLOSURE WITH NEMA RATING 4X, FOR CHEMICAL CORROSIVE RESISTIVE CONDITIONS, NEMA 4 FOR WET AREA.
12. ALL CONDUITS SHALL HAVE ALL CONNECTIONS AND TERMINATIONS SEALED WATER AND GAS TIGHT. ANY WALL PENETRATION SHALL BE WATER AND GAS TIGHT SEAL RECOMMENDED BY VENDOR.

RECORD DRAWING

REV. NO.	DATE	DRWN	CHKD	REMARKS
1	9/29/09	JJ	MM	REVISED FOR RECORD DRAWINGS
0	3/20/07	MS	MD	SUBMITTED FOR PLAN CHECK

DESIGNED BY: MS
DRAWN BY: MS
SHEET CHK'D BY: MD
CROSS CHK'D BY: RS/AS
APPROVED BY: MD
DATE: JUNE 2007

WARNING
0 1/2 1"
IF THIS BAR DOES NOT MEASURE 1" THEN DRAWING IS NOT TO SCALE.

REGISTERED PROFESSIONAL ENGINEER
No. E 13693
Exp. 6/30/11
ELECTRICAL
STATE OF CALIFORNIA

CDM Camp Dresser & McKee Inc.
consulting engineering construction operations
111 ACADEMY, STE 150
Irvine, California 92617
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OMEGA CHEMICAL SUPERFUND SITE
12504/12512 EAST WHITTIER BOULEVARD
WHITTIER, CALIFORNIA

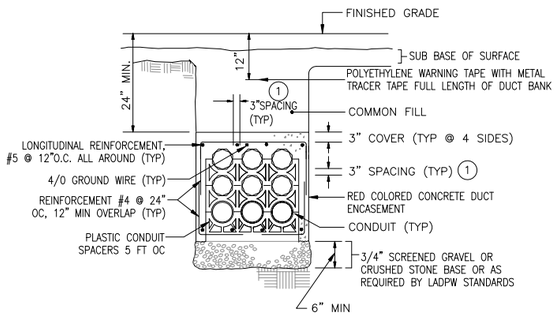
GROUND WATER TREATMENT PLANT

ELECTRICAL
LEGENDS, ABBREVIATION AND NOTES

PROJECT NO. 10500-70150

SHEET NO. E-1

C:\Omega\Elec\ E-1 03/03/07 23:50 SolesM XREFS: OMEGA-bd



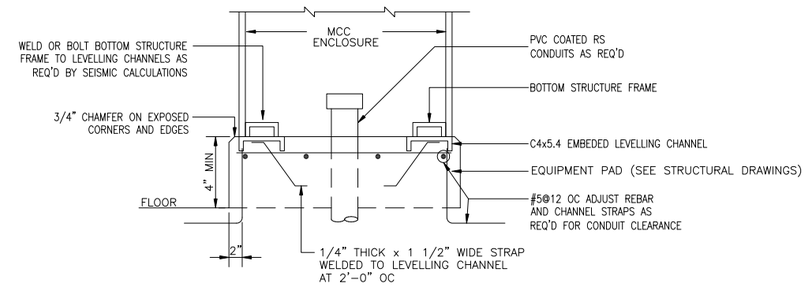
NOTES:

1. MINIMUM SPACING BETWEEN CONDUITS CENTER IS 7.5".
2. DETAIL APPLY FOR DUCT BANK AT ROAD CROSSING AND/OR AS NOTED ON DRAWINGS.

UNDERGROUND DUCT BANK 2

DETAIL 1 / –

NTS

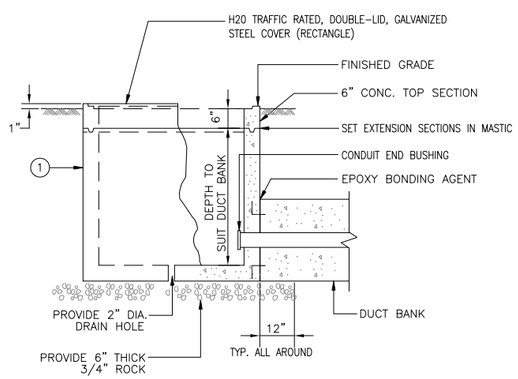


NOTE:
SEE MANUFACTURER MOUNTING DETAIL FOR ADDITIONAL INFORMATION.

MOTOR CONTROL CENTER W/EQUIPMENT PAD

DETAIL 3 / –

NTS

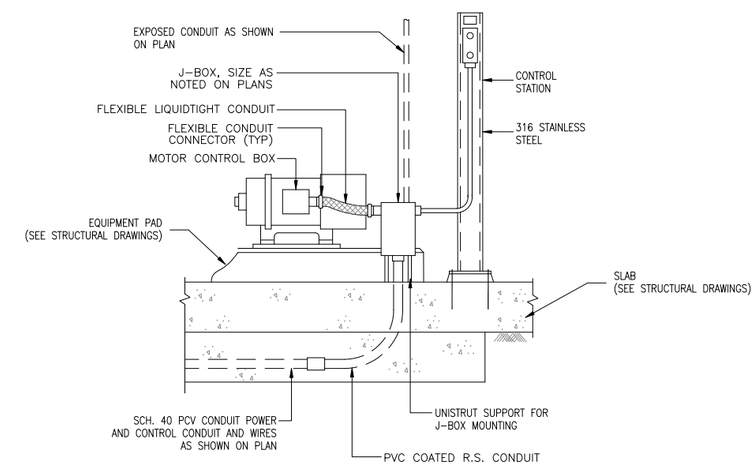


1 MINIMUM HANDHOLE/PULLBOX SIZE IS 1' X 1' X 1'D UNLESS OTHERWISE NOTED.

TYPICAL HANDHOLE/PULLBOX DETAIL

DETAIL 2 / –

NTS



TYPICAL MOTOR CONNECTION

DETAIL 4 / –

NTS

RECORD DRAWING

REV. NO.	DATE	DRWN	CHKD	REMARKS
1	3/21/08	MS	MD	REVISED UNDERGROUND DUCT BANK DETAIL
0	3/20/07	MS	MD	SUBMITTED FOR PLAN CHECK

DESIGNED BY: MS
DRAWN BY: MS
SHEET CHK'D BY: MD
CROSS CHK'D BY: RS/AS
APPROVED BY: MD
DATE: JUNE 2007

WARNING
0 1/2 1"
IF THIS BAR DOES NOT MEASURE 1" THEN DRAWING IS NOT TO SCALE.

REGISTERED PROFESSIONAL ENGINEER Mario U. Manansala No. E 13693 Exp. 6/30/11 ELECTRICAL STATE OF CALIFORNIA

CDM Camp Dresser & McKee Inc.
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OMEGA CHEMICAL SUPERFUND SITE
12504/12512 EAST WHITTIER BOULEVARD
WHITTIER, CALIFORNIA

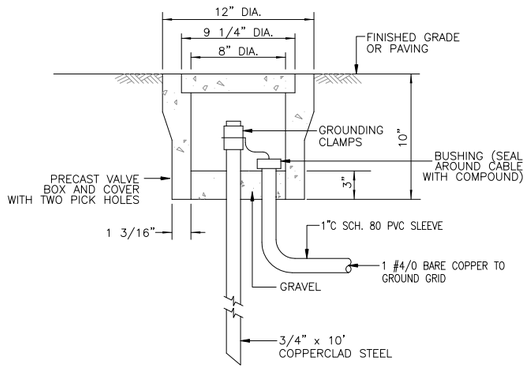
GROUND WATER TREATMENT PLANT

ELECTRICAL STANDARD DETAILS

PROJECT NO. 10500-70150

SHEET NO. E-2

C:\Omega\Elec\ E-2 03/03/07 23:54 SalesM XREFS: OMEGA-bd



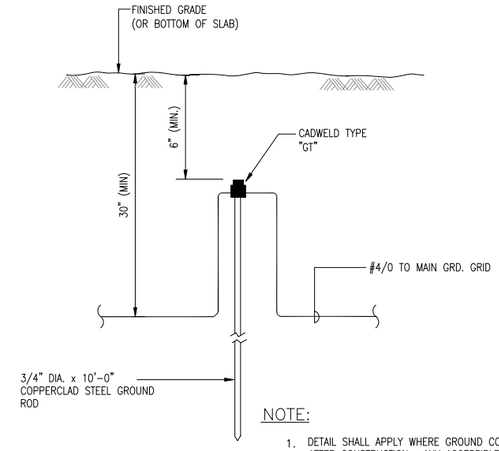
NOTE:

1. DIMENSIONS SHOWN ARE MINIMUM REQUIREMENTS.
2. H20 TRAFFIC RATED COVER IN PAVED AREA.

GROUND WELL

DETAIL 1 / –

NTS



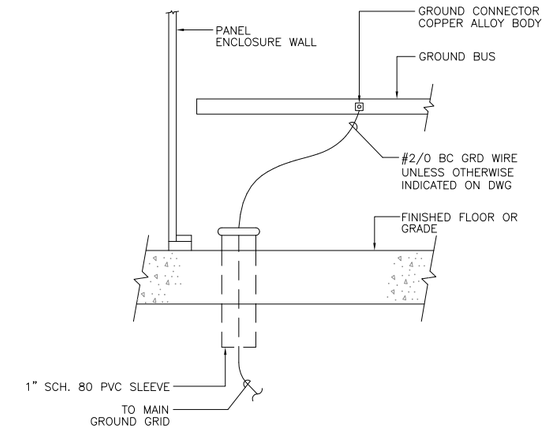
NOTE:

1. DETAIL SHALL APPLY WHERE GROUND CONNECTION IS NOT ACCESSIBLE AFTER CONSTRUCTION. ANY ACCESSIBLE GROUND CONNECTIONS SHALL UTILIZE GROUND WELL DETAIL 1 / –

GROUNDING ROD

DETAIL 2 / –

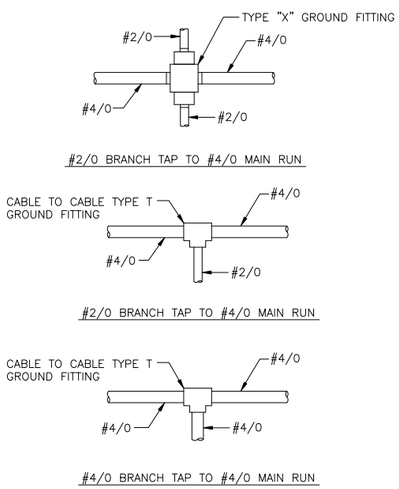
NTS



FLOOR MOUNTED EQUIPMENT GROUNDING

DETAIL 3 / –

NTS



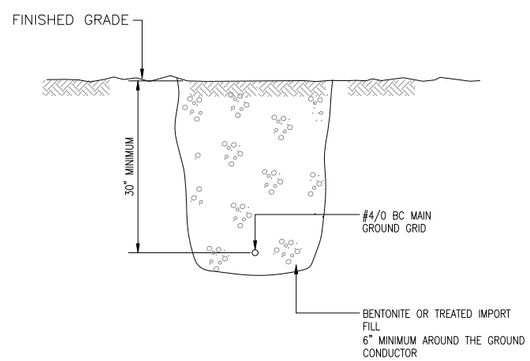
NOTE:

FITTINGS ARE EXOTHERMICALLY WELDED (CADWELD)

UNDERGROUND GROUND WIRE CONNECTIONS

DETAIL 4 / –

NTS



GROUNDING TRENCH

DETAIL 5 / –

NTS

RECORD DRAWING

REV. NO.	DATE	DRWN	CHKD	REMARKS
0	3/20/07	MS	MD	SUBMITTED FOR PLAN CHECK

DESIGNED BY: MS
DRAWN BY: MS
SHEET CHK'D BY: MD
CROSS CHK'D BY: RS/AS
APPROVED BY: MD
DATE: JUNE 2007

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OMEGA CHEMICAL SUPERFUND SITE

12504/12512 EAST WHITTIER BOULEVARD
WHITTIER, CALIFORNIA

GROUND WATER TREATMENT PLANT

ELECTRICAL GROUNDING DETAILS

PROJECT NO. 10500-70150

SHEET NO. E-3

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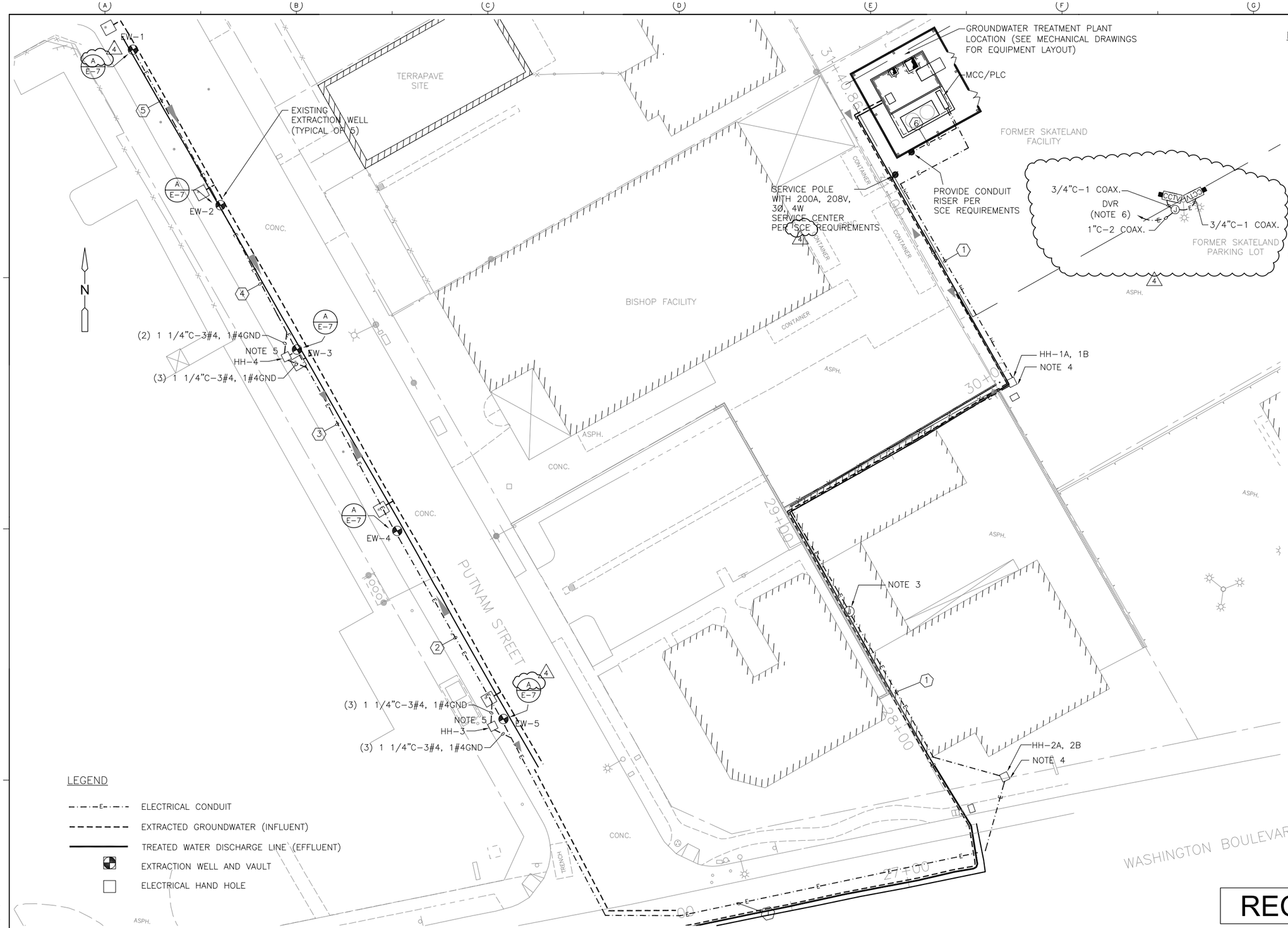

NOTES:

1. ELECTRICAL DUCT BANKS SHALL BE ROUTED IN THE SAME TRENCH WITH THE PROCESS LINES WITH MINIMUM 1 FT. CLEARANCE.
2. NOT USED.
3. PROVIDE STYLE C CONDULETS FOR INSTRUMENTATION, CONTROL AND POWER CONDUCTORS. PROVIDE PULLING MOGUL FOR #4 POWER CONDUCTORS.
4. PROVIDE SEPARATE HANDHOLE FOR POWER WIRES AND CONTROL WIRES.
5. REFER TO DRAWING E-10 FOR CONDUIT ROUTING DETAILS.
6. DIGITAL VIDEO RECORDER (DVR) LOCATED IN CONSTRUCTION TRAILER, TO BE LOCATED IN PROCESS AREA IN THE FUTURE.

DUCT BANK SEGMENT	CONDUITS AND CABLES
1	(3) 1 1/4"C – 3#4, 1#4 GND (1) 1 1/4"C – 6#10, 2#10 GND (1) 1 1/2"C – 20#12, 5#12 GND (1) 1 1/2"C – 5#16TSP, 5#16TST
2	(3) 1 1/4"C – 3#4, 1#4 GND (1) 1"C – 3#10, 1#10 GND (1) 1 1/2"C – 16#12, 4#12 GND (1) 1 1/2"C – 4#16TSP, 4#16TST
3	(3) 1 1/4"C – 3#4, 1#4 GND (1) 1"C – 12#12, 3#12 GND (1) 1 1/4"C – 3#16TSP, 3#16TST
4	(2) 1 1/4"C – 3#4, 1#4 GND (1) 1"C – 8#12, 2#12 GND (1) 1"C – 2#16TSP, 2#16TST
5	(1) 1 1/4"C – 3#4, 1#4 GND (1) 3/4"C – 4#12, 1#12 GND (1) 3/4"C – 1#16TSP, 1#16TST
6	(1) 2"C – 4#3/0, 1#4 GND

LEGEND

- ELECTRICAL CONDUIT
- EXTRACTED GROUNDWATER (INFLUENT)
- TREATED WATER DISCHARGE LINE (EFFLUENT)
- EXTRACTION WELL AND VAULT
- ELECTRICAL HAND HOLE

RECORD DRAWING

REV. NO.	DATE	DRWN	CHKD	REMARKS
4	9/29/09	JJ	MM	REVISED FOR RECORD DRAWINGS
3	4/30/08	MS	MD	REVISED PER 208V, 3ø, 4W MCC SYSTEM
2	3/21/08	MS	MD	REVISED TO ADDRESS RFI #7, #11, AND FLOODING IN THE WELL VAULTS
1	1/11/08	MS	MD	ROUTING & VOLTAGE CHANGE (480V TO 208V), ADDED GROUND CONDUCTOR
0	3/20/07	MS	MD	SUBMITTED FOR PLAN CHECK

DESIGNED BY: MS
DRAWN BY: MS
SHEET CHK'D BY: MD
CROSS CHK'D BY: RS/AS
APPROVED BY: MD
DATE: JUNE 2007

WARNING
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OMEGA CHEMICAL SUPERFUND SITE
12504/12512 EAST WHITTIER BOULEVARD
WHITTIER, CALIFORNIA

GROUND WATER TREATMENT PLANT
OVERALL ELECTRICAL SITE PLAN

PROJECT NO. 10500-70150
SHEET NO. E-4

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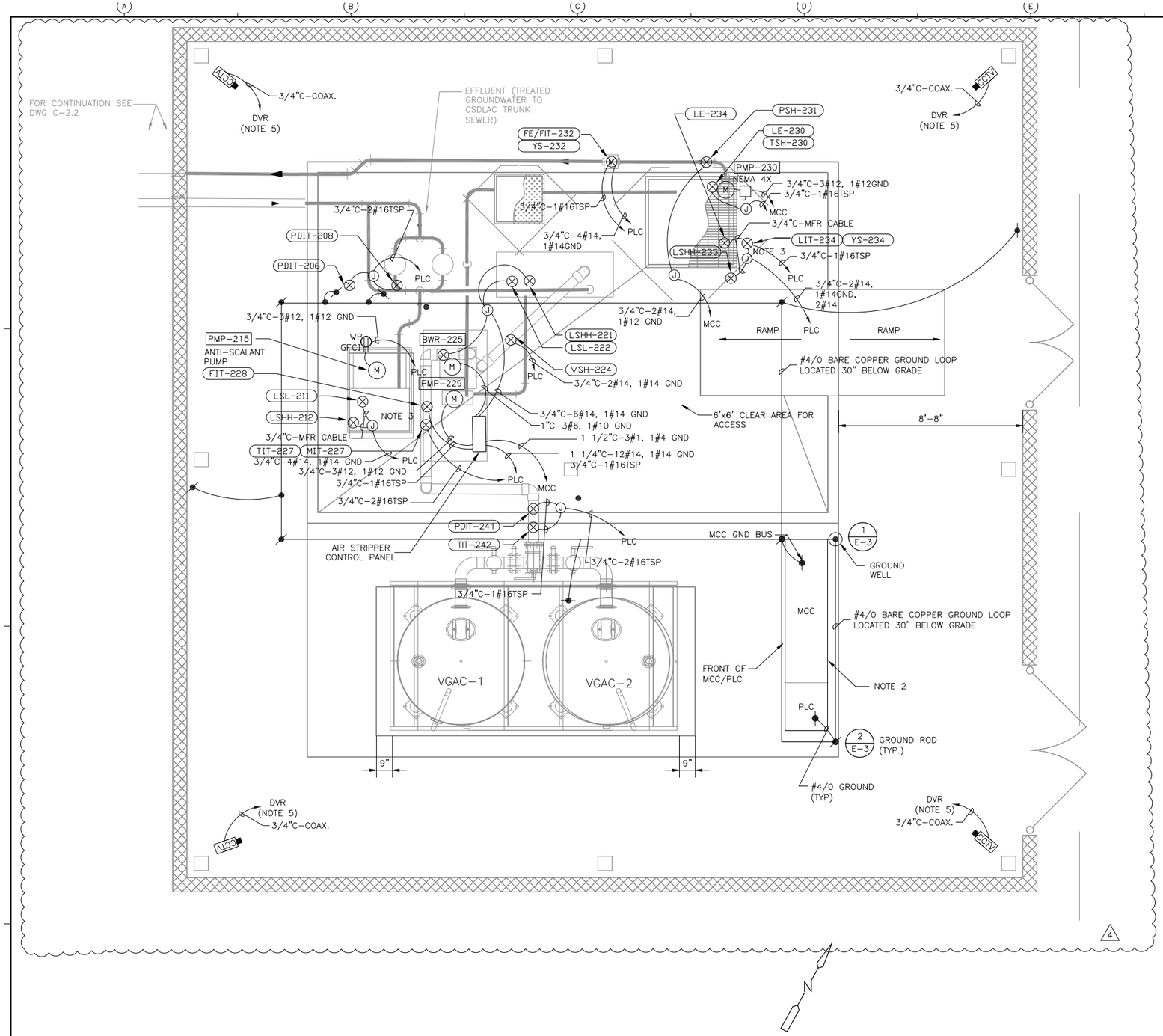

NOTES:

1. STUB UP CONDUITS 6" ABOVE SLAB.
2. INSTALL (1) 2" CONDUIT AND (1) 1" CONDUIT BETWEEN THE MCC AND PLC PANEL.
3. PROVIDE TERMINAL BLOCKS IN J-BOX TO CONNECT TO MFR CABLES. NO SPLICING ALLOWED.
4. CONNECT THE SERVICE GROUND TO THE MCC GROUND WITH 1#4/0 BARE COPPER BURIED AT 30" BELOW GRADE.
5. DIGITAL VIDEO RECORDER (DVR) LOCATED IN CONSTRUCTION TRAILER, TO BE MOVED TO PROCESS AREA IN THE FUTURE.

3/8" = 1'- 0"

RECORD DRAWING

REV. NO.	DATE	DRWN	CHKD	REMARKS
4	9/29/09	JJ	MM	REVISED FOR RECORD DRAWINGS
3	3/21/08	MS	MD	REVISED TO MATCH SUBMITTED PUMP & RELOCATE CONTAINMENT SW
2	1/22/08	MS	MD	ADDED A SECOND GROUND LOOP FOR MAJOR EQUIPMENTS
1	6/1/07	MS	MD	REVISED TO ADDRESS CITY OF WHITTIER COMMENTS
0	3/20/07	MS	MD	SUBMITTED FOR PLAN CHECK

DESIGNED BY: MS
DRAWN BY: MS
SHEET CHK'D BY: MD
CROSS CHK'D BY: RS/AS
APPROVED BY: MD
DATE: JUNE 2007

WARNING
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OMEGA CHEMICAL SUPERFUND SITE
12504/12512 EAST WHITTIER BOULEVARD
WHITTIER, CALIFORNIA

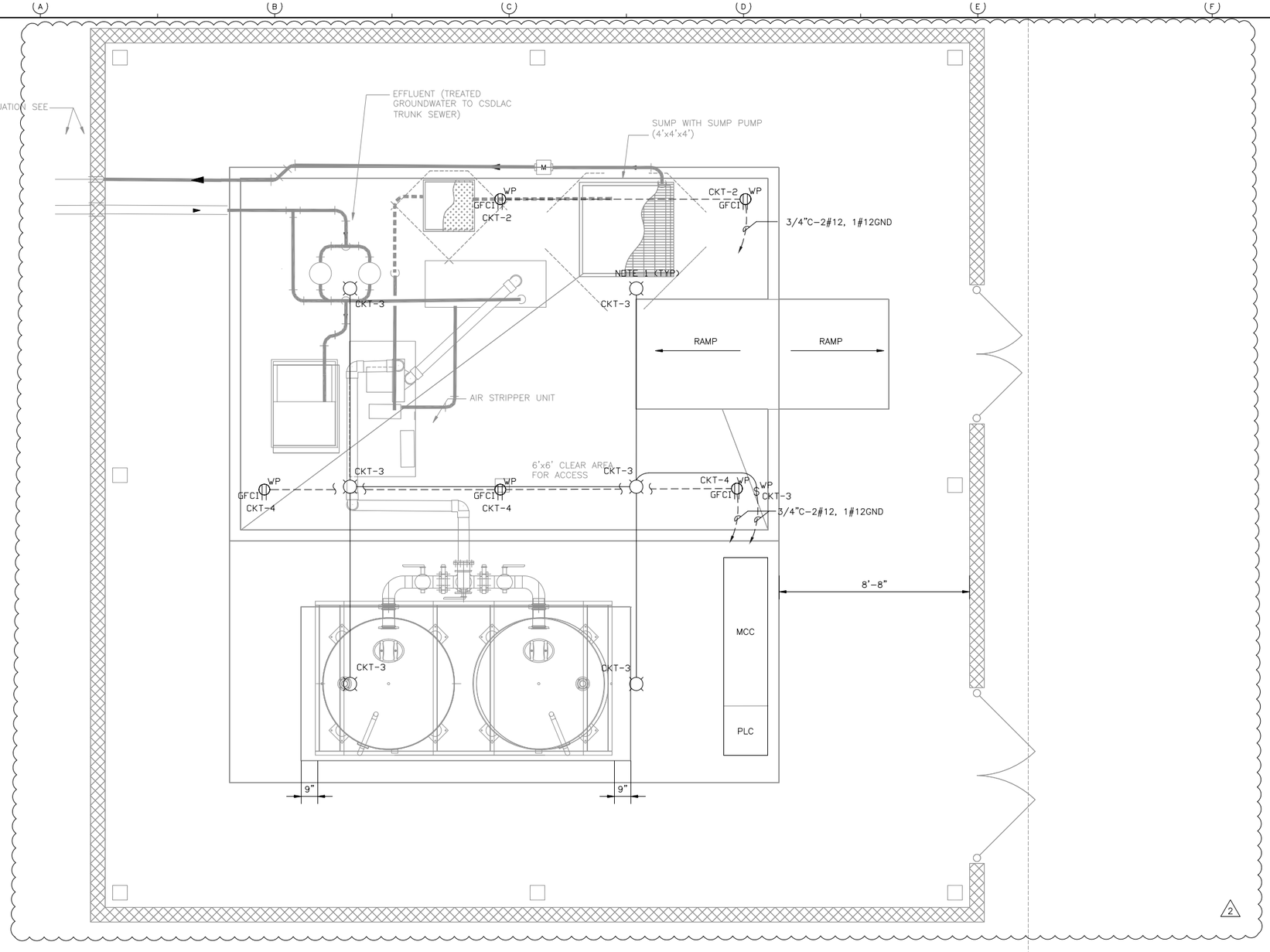
GROUND WATER TREATMENT PLANT

POWER, CONTROL, AND GROUNDING PLAN

PROJECT NO. 10500-70150

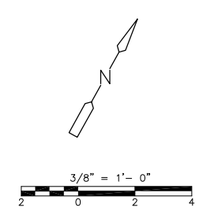
SHEET NO. E-5

P:\10500\53426\Remedial Design\Wlc on biv\Sheets-UV-OX\03-MEC\ 37240-UV-M01 06/11/07 11:05 riehlepj XREFS: 37240-MF-C01, 00001PL, OMEGA-bd, racapl01



NOTES:

1. METAL HALIDE, PARKPAK CAT #: PK175MH12CWS. MOUNT FROM CANOPY CEILING.
2. MOUNT RECEPTACLES AND SWITCH ON CANOPY SUPPORT.



RECORD DRAWING

REV. NO.	DATE	DRWN	CHKD	REMARKS
2	10/2/09	JJ	MM	REVISED FOR RECORD DRAWINGS
1	6/1/07	MS	MD	REVISED TO ADDRESS CITY OF WHITTIER COMMENTS.
0	3/20/07	MS	MD	SUBMITTED FOR PLAN CHECK

DESIGNED BY: MS
DRAWN BY: MS
SHEET CHK'D BY: MD
CROSS CHK'D BY: RS/AS
APPROVED BY: MD
DATE: JUNE 2007

WARNING
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No. E 13693
Exp. 6/30/11
ELECTRICAL
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OMEGA CHEMICAL SUPERFUND SITE
12504/12512 EAST WHITTIER BOULEVARD
WHITTIER, CALIFORNIA

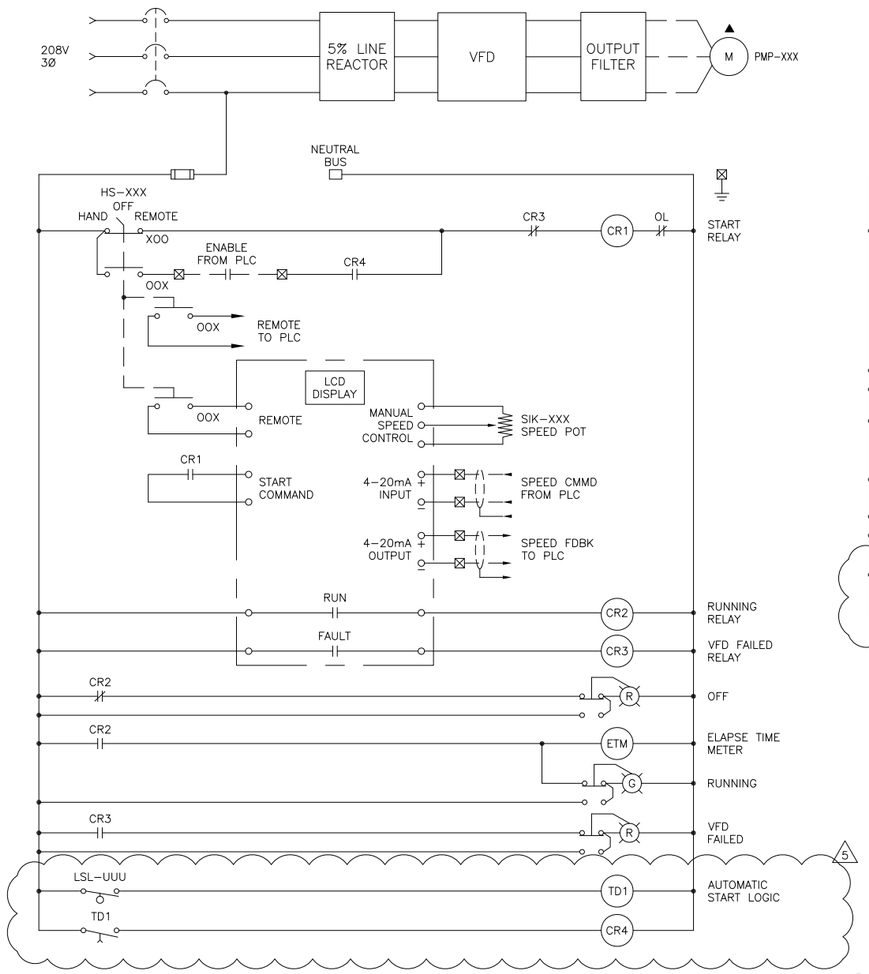
GROUND WATER TREATMENT PLANT

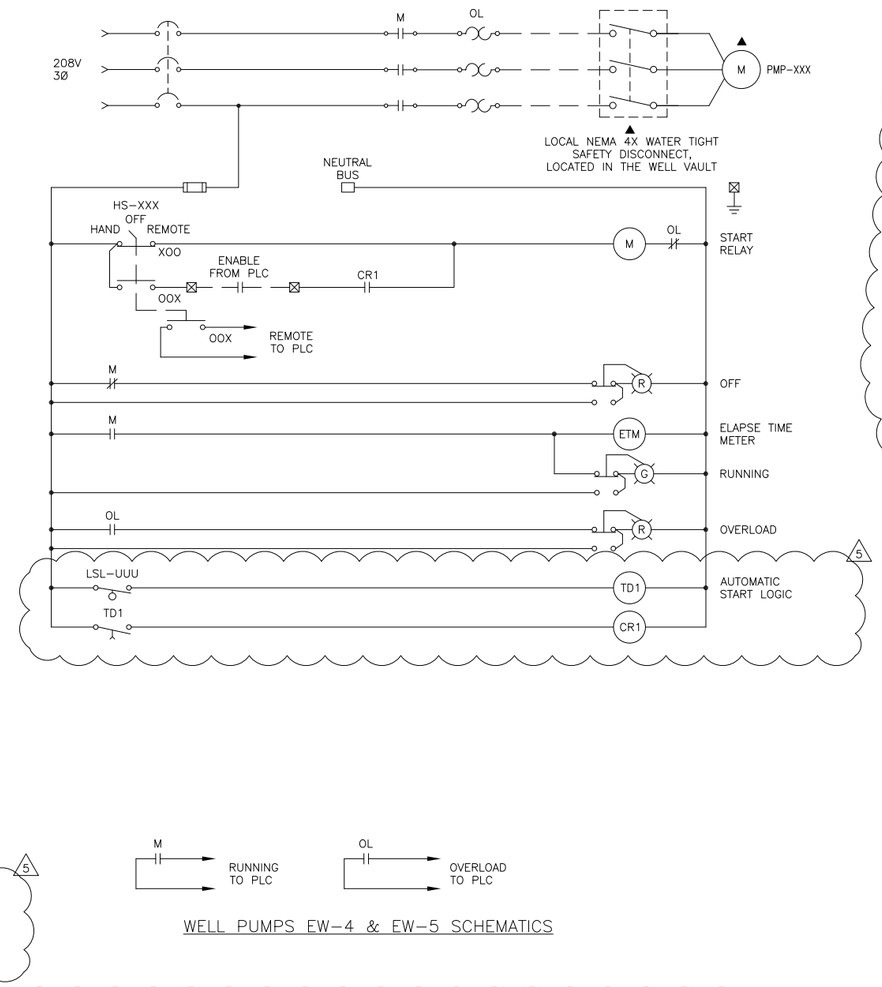
TREATMENT PLANT
LIGHTING PLAN

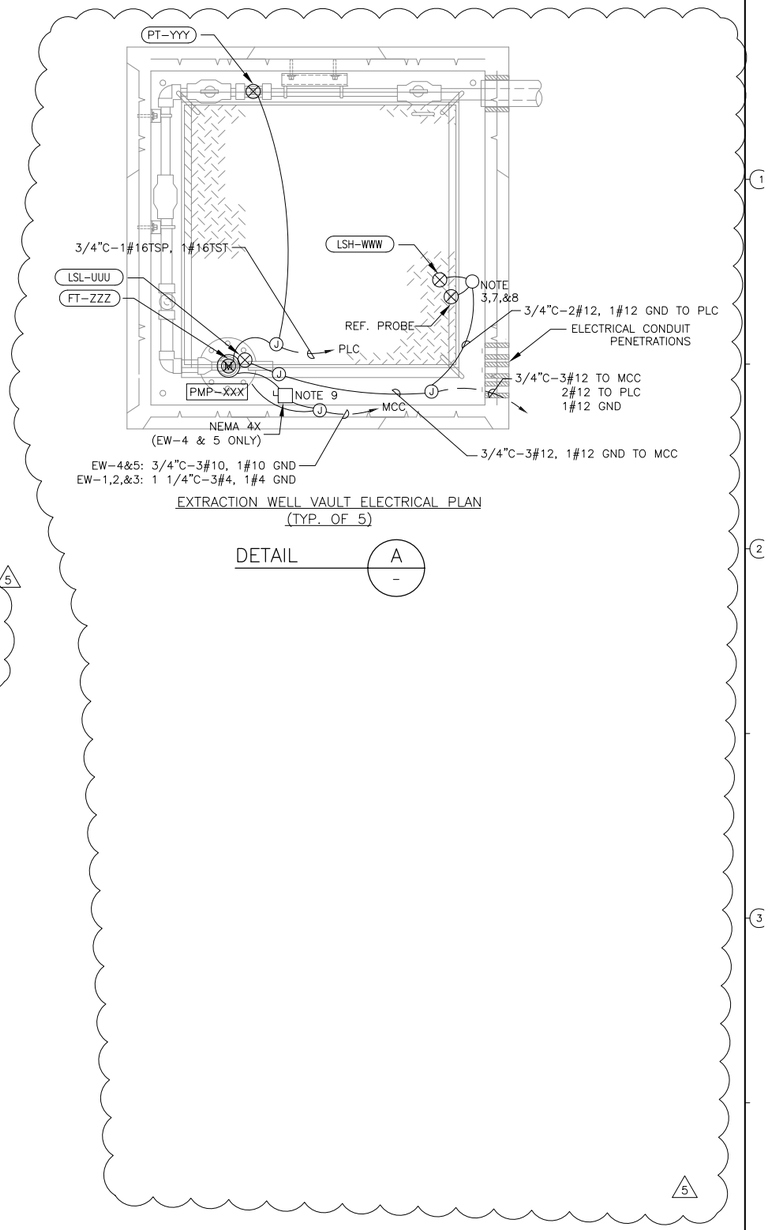
PROJECT NO. 10500-70150

SHEET NO. E-6

P:\10500\53426\Remedial Design\Wlc on blv\Sheets-UV-OX\03-MEC\ 37240-UV-M01 06/11/07 11:05 riehlepj XREFS: 37240-MF-C01, 00001PL, OMEGA-bd, racapl01







EXTRACTION WELL VAULT ELECTRICAL PLAN
(TYP. OF 5)

DETAIL A

WELL PUMPS EW-1, EW-2, & EW-3 SCHEMATICS

WELL PUMPS EW-4 & EW-5 SCHEMATICS

EQUIPMENT NUMBER	DESCRIPTION	PUMP TAG XXX	LOW LVL SWITCH UUU	VAULT HI LVL SWITCH WWW	PRESSURE XMTR YYY	FLOW XMTR ZZZ
PMP-110	EXTRACTION WELL No.1 PUMP	110	111	113	114	115
PMP-120	EXTRACTION WELL No.2 PUMP	120	121	123	124	125
PMP-130	EXTRACTION WELL No.3 PUMP	130	131	133	134	135
PMP-140	EXTRACTION WELL No.4 PUMP	140	141	143	144	145
PMP-150	EXTRACTION WELL No.5 PUMP	150	151	153	154	155

▲ LOCATED IN THE FIELD.

NOTES:

1. WARRICK SERIES 16M RELAY OR EQUAL.
2. LEVEL PROBES LOCATED IN THE WELL SHALL BE WARRICK SERIES 3W OR EQUAL.
3. NOT USED.
4. PROVIDE RELAY TERMINAL NUMBERS IN SUBMITTAL DRAWINGS.
5. PROVIDE WATER TIGHT LID OR COVER.
6. J-BOXES SHALL BE WATERTIGHT.
7. LEVEL PROBES LOCATED IN THE VAULT SHALL BE WARRICK SERIES 3R OR EQUAL.
8. LEVEL PROBES SHALL BE PROVIDED WITH ALL ACCESSORIES AND RELAYS REQUIRED FOR PROPER INSTALLATION AND OPERATION.
9. GROUND METAL WELL CASINGS USING THE PUMP'S EQUIPMENT GROUNDING CONDUCTOR.

RECORD DRAWING

REV. NO.	DATE	DRWN	CHKD	REMARKS
5	9/29/09	JJ	MM	REVISED FOR RECORD DRAWINGS
4	4/30/08	MS	MD	REVISED PER 208V, 3ø, 4W MCC SYSTEM
3	3/21/08	MS	MD	REVISED TO ADDRESS RFI #3, #7, #11, AND FLOODING AT THE WELL VAULTS
2	1/22/08	MS	MD	VOLTAGE CHANGE FROM 480V TO 208V, AND ADDED GROUND CONDUCTOR
1	6/1/07	MS	MD	REVISED TO ADDRESS CITY OF WHITTIER COMMENTS.
0	3/20/07	MS	MD	SUBMITTED FOR PLAN CHECK

DESIGNED BY: MS
DRAWN BY: MS
SHEET CHK'D BY: MD
CROSS CHK'D BY: RS/AS
APPROVED BY: MD
DATE: JUNE 2007

WARNING
0 1/2 1"
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REGISTERED PROFESSIONAL ENGINEER Mario U. Manaois No. E 13693 Exp. 6/30/11 ELECTRICAL STATE OF CALIFORNIA

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OMEGA CHEMICAL SUPERFUND SITE
12504/12512 EAST WHITTIER BOULEVARD
WHITTIER, CALIFORNIA

GROUND WATER TREATMENT PLANT

EXTRACTION WELLS ELECTRICAL PLANS AND SCHEMATICS

PROJECT NO. 10500-70150
SHEET NO. E-7

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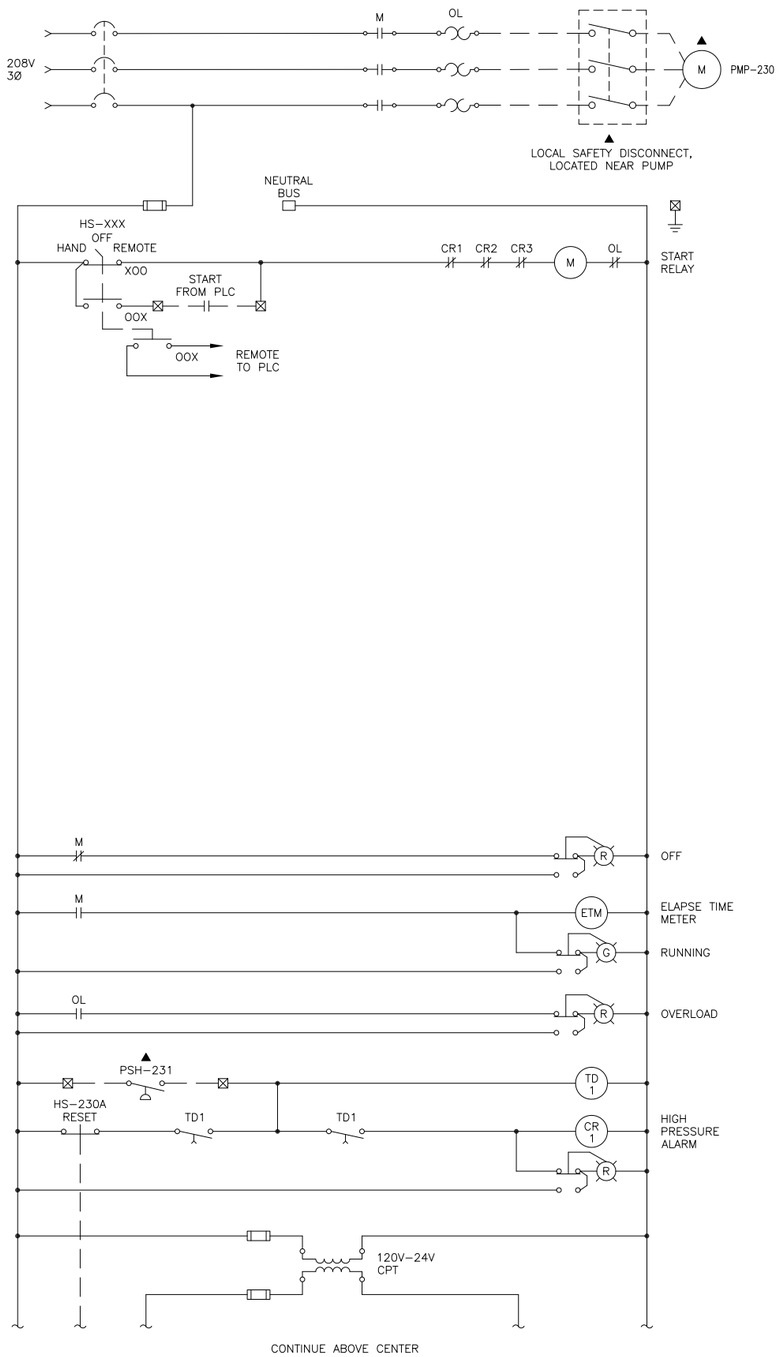
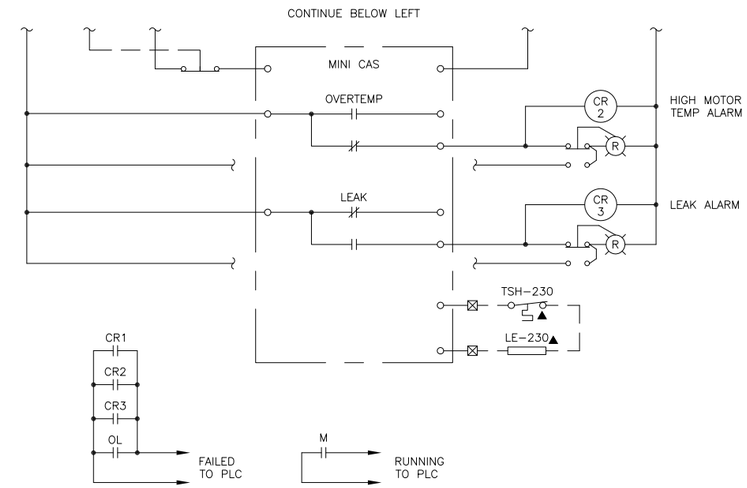
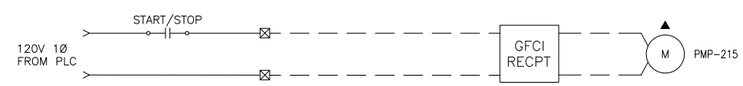




SUMP PUMP SCHEMATIC



ANTI-SCALANT PUMP SCHEMATIC

LEGEND:

▲ LOCATED IN THE FIELD

NOTES:

1. PROVIDE RELAY TERMINAL NUMBERS IN SUBMITTAL DRAWINGS.

RECORD DRAWING

REV. NO.	DATE	DRWN	CHKD	REMARKS
4	4/30/08	MS	MD	REVISED PER 208V, 3ø, 4W MCC SYSTEM
3	3/21/08	MS	MD	REVISED TO MATCH SUBMITTED PUMPS, DELETED VFD
2	1/11/08	MS	MD	VOLTAGE CHANGE FROM 480V TO 208V
1	6/1/07	MS	MD	REVISED TO ADDRESS CITY OF WHITTIER COMMENTS.
0	3/20/07	MS	MD	SUBMITTED FOR PLAN CHECK

DESIGNED BY: MS
DRAWN BY: MS
SHEET CHK'D BY: MD
CROSS CHK'D BY: RS/AS
APPROVED BY: MD
DATE: JUNE 2007

WARNING
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OMEGA CHEMICAL SUPERFUND SITE

12504/12512 EAST WHITTIER BOULEVARD
WHITTIER, CALIFORNIA

GROUND WATER TREATMENT PLANT

EFFLUENT PUMP AND ANTI-SCALANT SCHEMATICS

PROJECT NO. 10500-70150

SHEET NO. E-8

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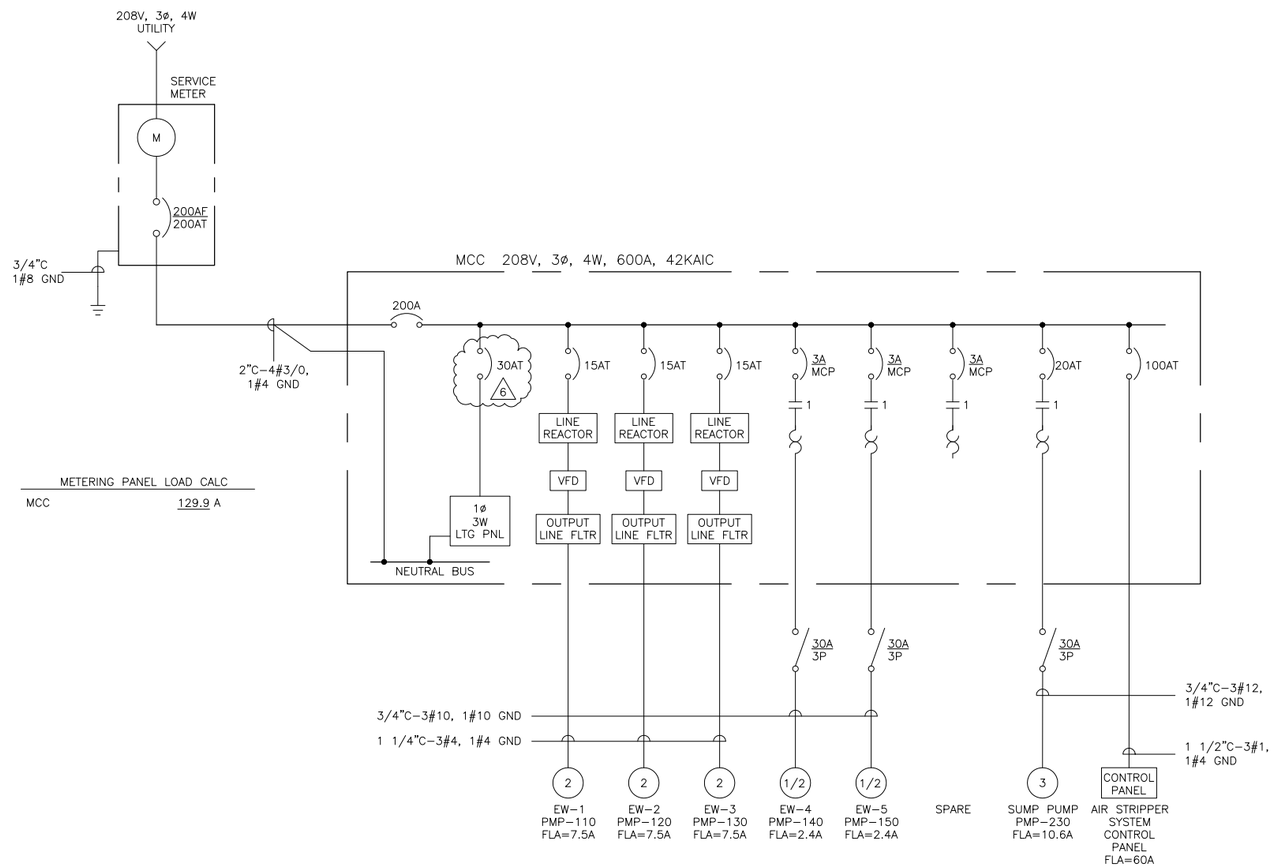
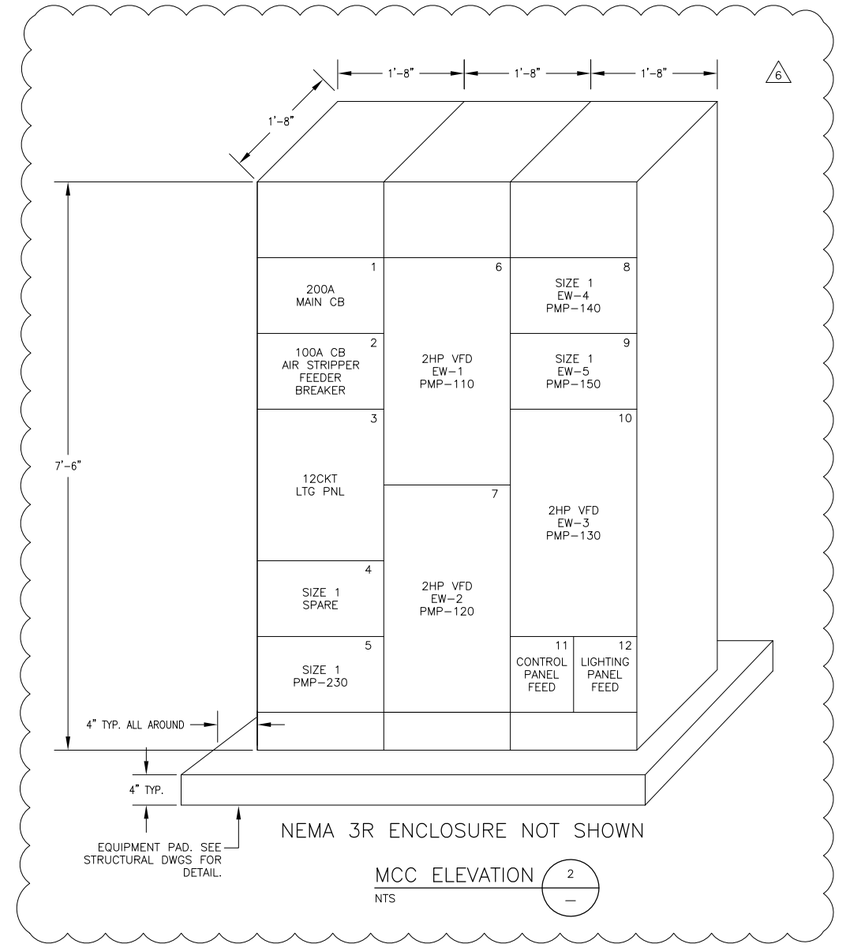


METERING PANEL LOAD CALC

MCC	129.9 A

SINGLE LINE DIAGRAM (1/—)



MCC ELEVATION (2/—)
NTS

MOUNTING: SURFACE
120/208 VOLTS
IC RATING: 10 KAIC

LTG PNL

1 PHASE 3 WIRE

MAIN CB: 30A
BUS: 100A
TYPE: NEMA 1 ENCLOSURE

LOAD DESCRIPTION	VA ØA	VA ØB	BREAKER POLE	BREAKER AMP	CKT NO.	BUS CONNECTION ØA ØB	CKT NO.	BREAKER AMP	BREAKER POLE	VA ØA	VA ØB	LOAD DESCRIPTION
PLC PANEL	2000		1	20	1		2	20	1	360		RECEPTACLES
LIGHTS		1000	1	20	3		4	20	1		540	RECEPTACLES
SPARE			1	20	5		6	20	1			SPARE
SPARE			1	20	7		8	20	1			SPARE
SPACE			–	–	9		10	–	–			SPACE
SPACE			–	–	11		12	–	–			SPACE
TOTAL VA/PHASE	2000	1000	TOTAL VA= 3,900			TOTAL AMPS = 18.75 (6)				360	540	TOTAL VA/PHASE

PANELBOARD SCHEDULE (3/—)

MCC LOAD CALCULATIONS

EW-1	7.5	FLA
EW-2	7.5	FLA
EW-3	7.5	FLA
EW-4	2.4	FLA
EW-5	2.4	FLA
PMP-230	10.6	FLA
AIR STRIPPER BLOWER	48.3	FLA
AIR STRIPPER XFER PUMP	11	FLA
PANELBOARD	18.75	A
TOTAL AMPS	116	A
25% LCL	29	A
TOTAL AMPS +25% LCL	145	A

(6)

RECORD DRAWING

REV. NO.	DATE	DRWN	CHKD	REMARKS
6	9/29/09	JJ	MM	REVISED FOR RECORD DRAWINGS
5	4/30/08	MS	MD	REVISED PER 208V, 3ø, 4W MCC SYSTEM
4	3/21/08	MS	MD	REVISED PMP-230 TO CONSTANT SPEED & ADDED METERING PNL LOAD CALCS
3	11/9/08	MS	MD	CHANGES PER NEW ROUTING AND VOLTAGE CHANGE FROM 480V TO 208V
2	10/5/07	HC	MD	SUBMITTED FOR PLAN CHECK
1	3/20/07	MS	MD	SUBMITTED FOR PLAN CHECK

DESIGNED BY: MS
DRAWN BY: MS
SHEET CHK'D BY: MD
CROSS CHK'D BY: RS/AS
APPROVED BY: MD
DATE: JUNE 2007

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REGISTERED PROFESSIONAL ENGINEER Mark O. Mahoney No. E 13693 Exp. 6/30/11 ELECTRICAL STATE OF CALIFORNIA

CDM Camp Dresser & McKee Inc.
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Irvine, California 92617
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OMEGA CHEMICAL SUPERFUND SITE
12504/12512 EAST WHITTIER BOULEVARD
WHITTIER, CALIFORNIA

GROUND WATER TREATMENT PLANT

SINGLE LINE DIAGRAM, MCC ELEVATION AND PANELBOARD SCHEDULE

PROJECT NO. 10500-70150
SHEET NO. E-9

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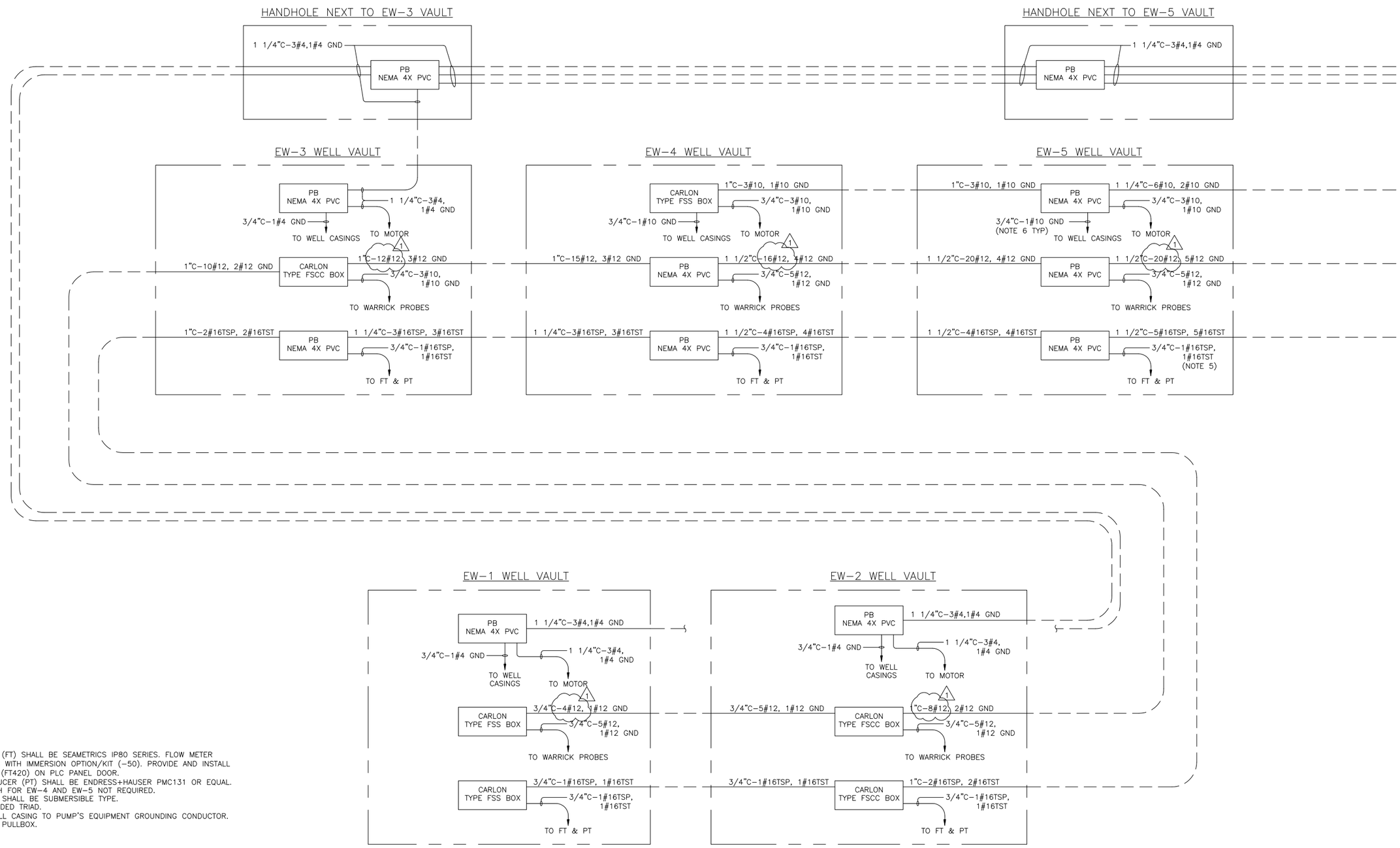

NOTES:

1. FLOW TRANSDUCER (FT) SHALL BE SEAMETRICS IP80 SERIES. FLOW METER SHALL BE ORDERED WITH IMMERSION OPTION/KIT (-50). PROVIDE AND INSTALL FLOW TRANSMITTER (FT420) ON PLC PANEL DOOR.
2. PRESSURE TRANSDUCER (PT) SHALL BE ENDRESS+HAUSER PMC131 OR EQUAL.
3. DISCONNECT SWITCH FOR EW-4 AND EW-5 NOT REQUIRED.
4. ALL SPLICES USED SHALL BE SUBMERSIBLE TYPE.
5. TST: TWISTED SHIELDED TRIAD.
6. GROUND METAL WELL CASING TO PUMP'S EQUIPMENT GROUNDING CONDUCTOR. SPLICE GROUND IN PULLBOX.

RECORD DRAWING

REV. NO.	DATE	DRWN	CHKD	REMARKS
1	9/29/09	JJ	MM	REVISED FOR RECORD DRAWINGS
0	3/20/07	MS	MD	SUBMITTED FOR PLAN CHECK

DESIGNED BY: MS
DRAWN BY: MS
SHEET CHK'D BY:
CROSS CHK'D BY:
APPROVED BY:
DATE: JUNE 2007

WARNING
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REGISTERED PROFESSIONAL ENGINEER Mario U. Manansala No. E 13693 Exp. 6/30/11 ELECTRICAL STATE OF CALIFORNIA

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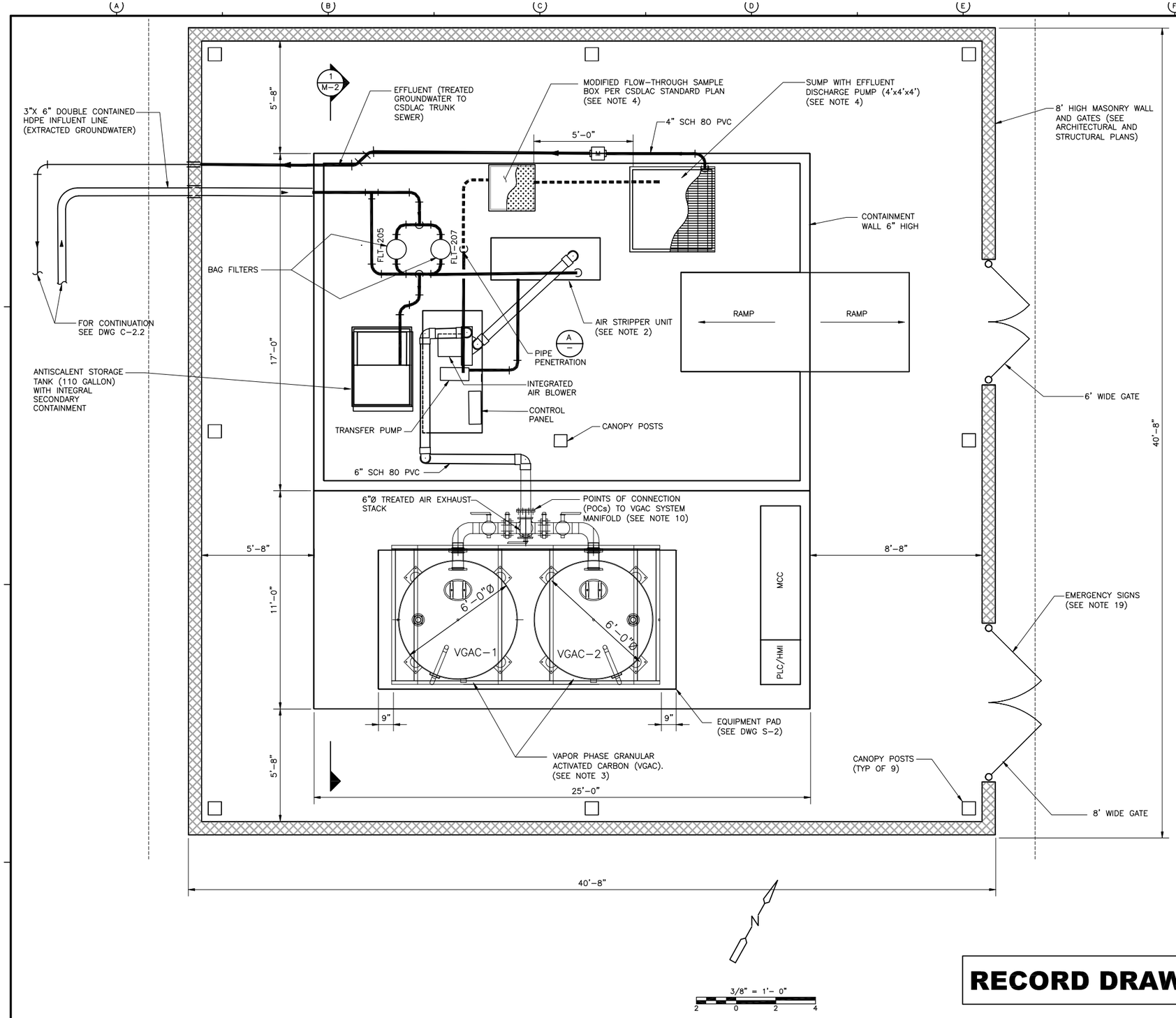
OMEGA CHEMICAL SUPERFUND SITE
12504/12512 EAST WHITTIER BOULEVARD
WHITTIER, CALIFORNIA

GROUND WATER TREATMENT PLANT

EXTRACTION WELL VAULT
CONDUIT ROUTING

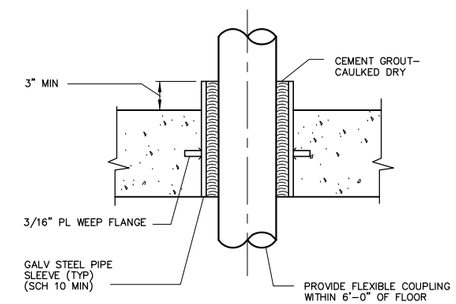
PROJECT NO. 10500-70150

SHEET NO. E-10



NOTES:

1. CONTRACTOR SHALL INSTALL A PRE-ENGINEERED CANOPY PER SPECIFICATIONS OVER THE CONTAINMENT AREA.
2. THE SHALLOW TRAY AIR STRIPPER UNIT HAS BEEN PRE-PURCHASED BY OWNER AND SHALL BE INSTALLED BY THE CONTRACTOR. THE UNIT INCLUDES A LOW PROFILE MULTI-TRAY AIR STRIPPER, AIR BLOWER, DISCHARGE PUMP, AND CONTROL BOX. SEE APPENDIX A FOR AIR STRIPPER PRIME SUPPLIER SCOPE OF WORK.
3. THE VGAC UNIT HAS BEEN PRE-PURCHASED BY OWNER AND SHALL BE INSTALLED BY THE CONTRACTOR. THE UNIT INCLUDES TWO 5,000-LB GAC VESSELS AND STEEL PIPE MANIFOLD MOUNTED ON A SKID. SEE APPENDIX A FOR VGAC PRIME SUPPLIER SCOPE OF WORK.
4. ALUMINUM GRATING AT THE SURFACE OF THE SUMP. SEE STRUCTRUAL DWGS FOR DETAILS.
5. PIPES SUPPORTED ON THE CANOPY BEAMS WILL REQUIRE SEISMIC SUPPORT.
6. CONTRACTOR SHALL PROVIDE PORTABLE EYE WASH ADJACENT TO ANTI-SCALANT TANK.
7. ALL PIPING AND EQUIPMENT LOCATIONS ARE APPROXIMATE. PRIOR TO CONSTRUCTION, CONTRACTOR SHALL PROVIDE A DETAILED LAYOUT PLAN AND ELEVATION DRAWINGS TO SCALE FOR ENGINEER'S APPROVAL.
8. NOT ALL EQUIPMENT PIPING, VALVES, INSTRUMENTATION MAY BE SHOWN HERE. PLEASE REFER TO P&IDS FOR COMPLETE SCHEDULE OF ALL EQUIPMENT, PIPING, VALVES, AND INSTRUMENTATION.
9. ALL PVC PIPE AND FITTINGS SHALL BE FIELD PAINTED WITH 2 COATS OF HI-BUILD EPOXOLINE (TNEMEC SERIES 66) - POLYAMIDE CURED EPOXY OR APPROVED EQUAL TO PROVIDE ADDITIONAL UV PROTECTION. ALL PVC PIPE AND OTHER PLASTIC MATRIX SURFACES TO BE PAINTED SHALL BE LIGHTLY SANDED AND CLEANTED OF RESIDUE BEFORE PAINTING. PROVIDE MARKING OF ALL PIPES TO INDICATE NORMAL DIRECTION OF FLOW AND THE FLUID BEING TRANSPORTED.
10. ALL PLASTIC PIPE TO METAL PIPE CONNECTIONS SHALL BE MADE USING FLANGED CONNECTIONS.
11. ANCHOR BOLTS FOR THE AIR STRIPPER AND VGAC SKIDS TO BE PROVIDED BY OWNER AND INSTALLED BY CONTRACTOR. ANCHOR BOLTS FOR ALL OTHER EQUIPMENT SHALL BE INSTALLED IN ACCORDANCE WITH REQUIREMENTS OF SPEC SECTION 01614.
12. ALL PIPING AND PIPE MANIFOLD RACKS SHALL BE SUPPORTED AS REQUIRED TO PREVENT SIGNIFICANT STRESSES IN THE PIPE OR TUBING MATERIAL, VALVES, FITTINGS AND OTHER PIPE APPURTENANCES AND TO SUPPORT AND SECURE THE PIPE IN THE INTENDED POSITION AND ALIGNMENT. ALL SUPPORTS SHALL BE DESIGNED TO ADEQUATELY SECURE THE PIPE AGAINST EXCESSIVE DISLOCATION DUE TO THERMAL EXPANSION AND CONTRACTION, INTERNAL FLOW FORCES AND ALL PROBABLE EXTERNAL FORCES SUCH AS EQUIPMENT, PIPE AND PERSONNEL CONTACT. ANY STRUCTURAL STEEL MEMBERS REQUIRED TO BRACE ANY PIPING FROM EXCESSIVE DISLOCATION SHALL CONFORM TO THE APPLICABLE REQUIREMENTS OF SECTION 05500.
13. ALL PIPE AND APPURTENANCES CONNECTED TO THE EQUIPMENT SHALL BE SUPPORTED IN A MANNER TO PREVENT ANY STRAIN FROM BEING IMPOSED ON THE EQUIPMENT OR PIPING SYSTEM.
14. INDIVIDUALLY SUPPORTED PVC PIPES SHALL BE SUPPORTED AS RECOMMENDED BY THE MANUFACTURER EXCEPT THAT SUPPORT-SPACING SHALL NOT EXCEED 3 FEET. SUPPORTS SHALL BE SUFFICIENTLY CLOSE TOGETHER SUCH THAT THE SAG OF THE PIPE IS WITHIN LIMITS THAT WILL PERMIT DRAINAGE AND AVOID EXCESSIVE BENDING STRESSES FROM CONCENTRATED LOADS BETWEEN SUPPORTS.
15. INDIVIDUAL CLAMPS, HANGERS AND SUPPORTS IN CONTACT WITH PLASTIC PVC PIPE SHALL PROVIDE FIRM SUPPORT BUT NOT SO FIRM AS TO PREVENT LONGITUDINAL MOVEMENT DUE TO THERMAL EXPANSION AND CONTRACTION.
16. INSOFAR AS IS POSSIBLE, FLOOR SUPPORTS SHALL BE GIVEN PREFERENCE. TYPICAL CONCRETE SUPPORTS ARE SHOWN ON THE STRUCTURAL DRAWINGS. BASE ELBOW AND BASE TEES SHALL BE USED WHERE POSSIBLE.
17. PIPE SUPPORTS SHALL BE STANDARD CATALOGUED COMPONENTS, CONFORMING TO THE REQUIREMENTS OF MANUFACTURER'S STANDARDIZATION SOCIETY OF THE VALVE AND FITTINGS INDUSTRY (MSS)-SP-58 AND MSS-SP-69; AND SHALL BE AS MANUFACTURED BY GRINNELL CO., INC., PROVIDENCE, RI; CARPENTER & PATTERSON, INC., WOBURN, MA; F&S CENTRAL, BROOKLYN NY; ELCEN METAL PRODUCTS CO., FRANKLIN PARK, IL AND UNISTRUT NORTHEAST, CAMBRIDGE, MA OR EQUAL. ANY REFERENCE TO A SPECIFIC FIGURE NUMBER OF A SPECIFIC MANUFACTURER IS FOR THE PURPOSE OF ESTABLISHING A TYPE AND QUALITY OF PRODUCT AND SHALL NOT BE CONSIDERED AS PROPRIETARY.
18. PIPES 3-INCHES IN DIAMETER OR LESS SHALL BE HELD IN POSITION BY SUPPORTS FABRICATED FROM STEEL "C" CHANNEL, WELDED POST BASE SIMILAR TO UNISTRUT, FIGURE P2072A AND PIPE CLAMPS SIMILAR TO UNISTRUT, FIGURES P1109 THRU P1126. WHERE REQUIRED TO ASSURE ADEQUATE SUPPORT, FABRICATE SUPPORTS USING TWO VERTICAL MEMBERS AND POST BASES CONNECTED TOGETHER BY HORIZONTAL MEMBER OF SUFFICIENT LOAD CAPACITY TO SUPPORT PIPE. WHEREVER POSSIBLE SUPPORTS SHALL BE FASTENED TO NEARBY WALLS OR OTHER STRUCTURAL MEMBER TO PROVIDE HORIZONTAL RIGIDITY. MORE THAN ONE PIPE MAY BE SUPPORTED FROM A COMMON FABRICATED SUPPORT.
19. EMERGENCY SIGNS TO INCLUDE 24-HOUR EMERGENCY CONTACT INFORMATION. NFPA PLACARD AND PROPOSITION 65. SIGNS SHALL BE POSTED ON TREATMENT COMPOUND GATE AND PERIMETER GATE.
20. ALL VALVES TO TO BE TRUE UNION, UNO
21. ALL FLOWMETERS TO BE INSTALLED SO THAT THEY CAN BE EASILY REMOVED FOR MAINTENANCE.



PIPE SLEEVE (WET FLOOR)

DETAIL A

NTS

RECORD DRAWING

REV. NO.	DATE	DRWN	CHKD	REMARKS
4	9/09	PJR		RECORD DRAWING
3	1/7/08	PJR	SHA	ISSUED FOR CONSTRUCTION
2	10/12/07	PJR	SHA	ISSUED FOR CITY PLAN CHECK
1	9/07	PJR	RS	SUBMITTED FOR PLAN CHECK AND BIDDING
0	8/07	AT	RS	SUBMITTED FOR PLAN CHECK AND BIDDING

DESIGNED BY: K. SCHWARZ
DRAWN BY: S.NGUYEN
SHEET CHK'D BY: A. SHAWWA
CROSS CHK'D BY: D. DY
APPROVED BY: R. SUBRAMANIAN
DATE: JUNE 2007

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REGISTERED PROFESSIONAL ENGINEER R. SUBRAMANIAN No. C063679 Exp. 06-30-2011 CIVIL STATE OF CALIFORNIA

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OMEGA CHEMICAL SUPERFUND SITE

12504/12512 EAST WHITTIER BOULEVARD
WHITTIER, CALIFORNIA

GROUND WATER TREATMENT PLANT

GENERAL EQUIPMENT LAYOUT PLAN

PROJECT NO. 10500-70150

SHEET NO. M-1

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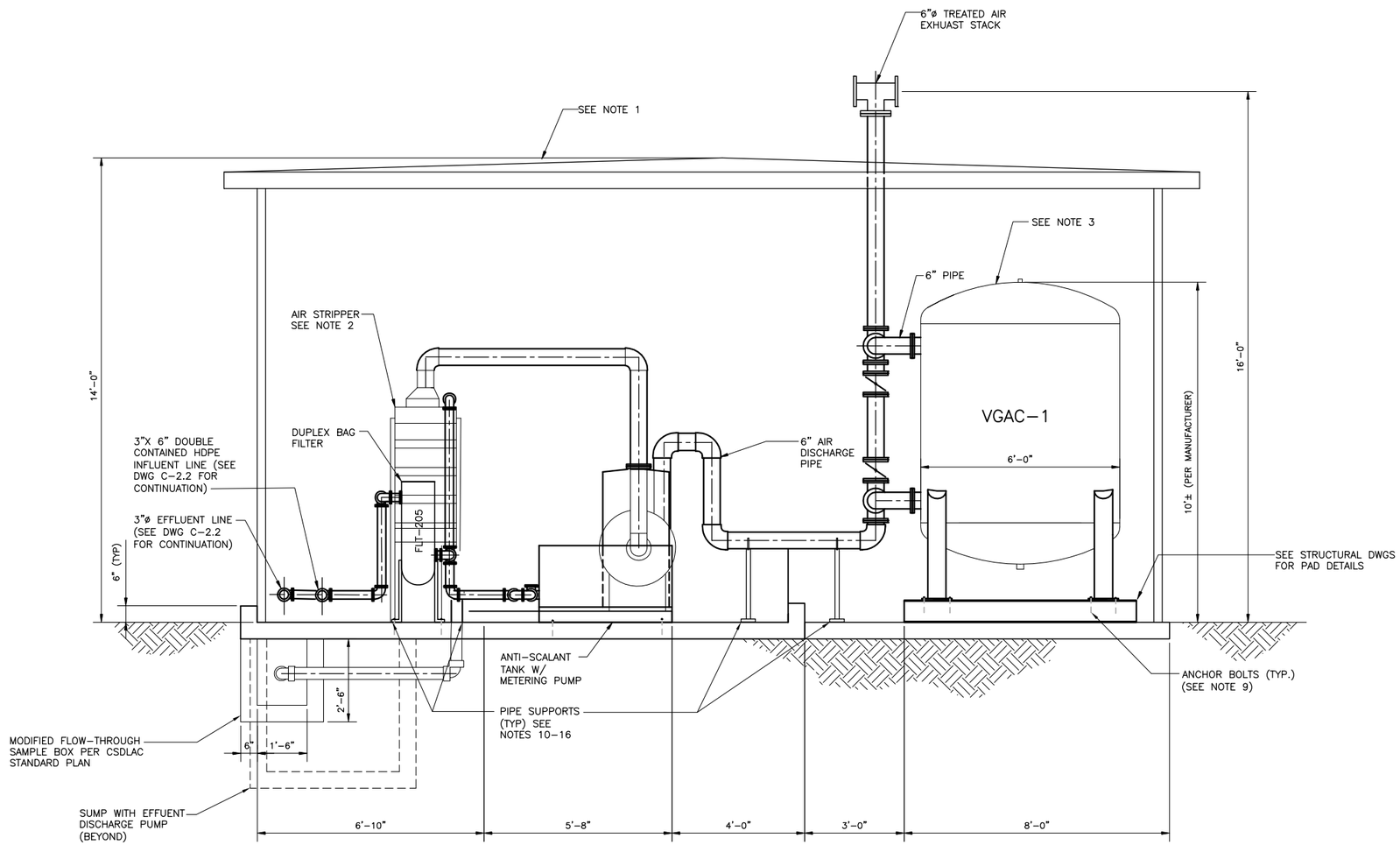

SECTION 1 / M-1
1/2" = 1'-0"

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DESIGNED BY: K. SCHWARZ
DRAWN BY: S. NGUYEN
SHEET CHK'D BY: A. SHAWWA
CROSS CHK'D BY: D. DY
APPROVED BY: R. SUBRAMANIAN
DATE: JUNE 2007

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REGISTERED PROFESSIONAL ENGINEER RAVI SUBRAMANIAN No. C053679 Exp. 06-30-2011 CIVIL STATE OF CALIFORNIA

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OMEGA CHEMICAL SUPERFUND SITE
12504/12512 EAST WHITTIER BOULEVARD
WHITTIER, CALIFORNIA

GROUND WATER TREATMENT PLANT
GENERAL EQUIPMENT LAYOUT ELEVATION

PROJECT NO. 10500-70150
SHEET NO. M-2

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PIPING LEGEND

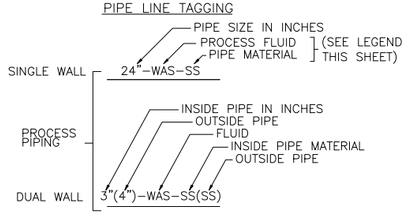
MATERIAL CODES

FRP	150 psi PRESSURE CLASS FIBERGLASS REINFORCED PLASTIC PIPE
HDPE	150 psi PRESSURE CLASS HIGH DENSITY POLYETHYLENE PIPE
PVC	SCHEDULE 80 PVC OR C900 PIPE
PVC/D	PVC GRAVITY SEWER PIPE
CU	COPPER TUBING
CPVC	SCHEDULE 80 CPVC PIPE
EPDM	EPDM TUBING
C20	SCHEDULE 40 CARPENTER 20 ALLOY PIPE
304SS	TYPE 304/304L STAINLESS STEEL PIPE
316SS	TYPE 316/316L STAINLESS STEEL PIPE
PVDF	230 psi PRESSURE CLASS PVDF PIPE
PP	150 psi PRESSURE CLASS POLYPROPYLENE PIPE
STL/L	SCH 40 STEEL PIPE, LINED
DIP	DUCTILE IRON PIPE
CMLSP	CEMENT MORTAR–LINED STEEL PIPE

OPERATING FLUID CODE

BD	BLOWDOWN	LPA	LOW PRESSURE AIR
BS	BOTTOM SLUDGE	LPDG	LOW PRESSURE DIGESTER GAS
BYP	BYPASS	LO	LUBE OIL
C	CHILLED WATER	MA	MURIATIC ACID
CHEMD	CHEMICAL DRAIN	NAOH	SODIUM HYDROXIDE (CAUSTIC SOLUTION)
CND	CONDENSER	NG	NATURAL GAS
COND	CONDENSATE	OF	OVERFLOW
CS	CHLORINE SOLUTION	O2	OXYGEN
CSL	CAUSTIC SOLUTION	P	PROPANE
CW	CITY WATER	PD	PROCESS DRAIN
D	DRAIN	PE	PRIMARY EFFLUENT
DC	DIGESTER CLEANING	PI	PRIMARY INFLUENT
DISCH	DISCHARGE	POL	POLYMER
DG	DIGESTER GAS	POTW	POTABLE WATER
EGW	EXTRACTED GROUNDWATER	PS	PRIMARY SLUDGE
FA	FOUL AIR	PW	PLANT WATER
FD	FLOOR DRAIN	RD	ROOF DRAIN
FECL2	FERROUS CHLORIDE	RS	RAW SEWAGE
FECL3	FERRIC CHLORIDE	RAS	RETURN ACTIVATED SLUDGE
FM	FORCE MAIN	REC	RECIRCULATION
FO	FUEL OIL	RW	RECLAIMED WATER
FSW	FIRE SUPPLY WATER	S	SCUM
FW	FEED WATER	SAM	SAMPLE
GR	GRIT	SEW	SEWER
HCL	HYDROCHLORIC ACID	SC	SLUDGE CAKE
HPA	HIGH PRESSURE AIR	SD	SANITARY DRAIN
HPDG	HIGH PRESSURE DIGESTER GAS	SE	SECONDARY EFFLUENT
HPNG	HIGH PRESSURE NATURAL GAS	SI	SECONDARY INFLUENT
HPW	HIGH PRESSURE WATER	SN	SUPERNATANT
HW	HOT WATER	SO	SLOP OIL
HWR	HOT WATER RETURN	SOD	SLOP OIL DRAIN
HWS	HOW WATER SUPPLY	SPD	SUMP PUMP DISCHARGE
HYPO	SODIUM HYPOCHLORITE	SS	SANITARY SEWER
H2O2	HYDROGEN PEROXIDE	STRM	STORM DRAIN
IA	INSTRUMENT AIR	SW	SEAL WATER
IRRIG	IRRIGATION	SWR	SOFTENED WATER
IRW	IRRIGATION WATER	TW	TREATED WATER
IW	INDUSTRIAL WATER	V	VENT
JWR	JACKET WATER RETURN		
JWS	JACKET WATER SUPPLY		
JOS	JOINT OUTFALL SEWER		

PIPE LINE TAGGING



PIPE FITTINGS AND CONNECTORS

- BLIND FLANGE
- UNION
- Y–STRAINER
- CONCENTRIC REDUCER/ENLARGER
- ECCENTRIC REDUCER/ENLARGER
- PIPE EXTENDING PERPENDICULAR FROM VIEWER
- PIPE EXTENDING PERPENDICULAR TO VIEWER
- FLEXIBLE PIPE CONNECTOR (*)
- FLANGED JOINT
- QUICK CONNECTION
- THREADED CONNECTION W/CAP
- DOUBLE WALLED PIPE
- CONTINUED PIPE
- (*) RESTRAIN ALL JOINTS UNLESS NOTED

VALVE LEGEND

VALVE ACTUATION

FAILURE POSITION:
FO = FAIL OPEN
FC = FAIL CLOSED
FLP = FAIL LAST POSITION

- M MOTOR ACTUATOR
- S SOLENOID ACTUATOR
- P PNEUMATIC ACTUATOR
- PNEUMATIC ACTUATOR
- DIAPHRAGM

VALVE AND GATES SYMBOLS

VALVE POSITION:
NC = NORMALLY CLOSED
NO = NORMALLY OPEN

- HAND CONTROL VALVE
- ANGLE VALVE
- 3–WAY VALVE
- BALL CHECK VALVE
- BALL VALVE (TRUE–UNION ONLY)
- 3–WAY BALL VALVE
- 4–WAY BALL VALVE
- BUTTERFLY VALVE
- CHECK VALVE
- DUAL DISK CHECK VALVE DIAPHRAGM CHECK VALVE
- DIAPHRAGM VALVE
- GATE VALVE
- KNIFE GATE VALVE
- GLOBE VALVE
- NEEDLE VALVE
- PLUG VALVE (PV)
- 3–WAY PLUG VALVE
- 4–WAY PLUG VALVE
- PINCH VALVE
- TELESCOPING VALVE
- ROTARY VALVE
- PRESSURE RELIEF VALVE
- VACUUM RELIEF VALVE
- AIR/VACUUM RELIEF VALVE
- PRESSURE REDUCING VALVE
- REGULATED SIDE PRESSURE REGULATING VALVE OR BACK PRESSURE VALVE OR PRESSURE SUSTAINING VALVE
- BACKFLOW PREVENTER VALVE
- SAMPLE VALVE
- SLEEVE VALVE
- VACUUM BREAKER VALVE
- AIR VENT RELIEF VALVE
- AIR RELIEF VALVE
- FOOT VALVE W/ STRAINER
- COMBINATION AIR/VACCUM RELEASE VALVE
- VACUUM REGULATOR
- FLAP VALVE
- INJECTION VALVE
- SLUICE GATE
- WEIR GATE
- SLIDE GATE

EQUIPMENT SYMBOLS

- MOTOR
- CHEMICAL METERING PUMP
- SUBMERSIBLE PUMP
- VERTICAL TURBINE PUMP
- CENTRIFUGAL PUMP
- CENTRIFUGAL BLOWER/FAN
- POSITIVE DISPLACEMENT BLOWER
- AIR COMPRESSOR
- PLUNGER/POSITIVE DISPLACEMENT PUMP
- DOUBLE DISK PUMP
- AIR OPERATED DIAPHRAGM PUMP
- PERISTALTIC PUMP
- GEAR/ROTARY LOBE PUMP
- DIAPHRAGM PUMP
- GRINDER
- PROGRESSIVE CAVITY PUMP
- HOSE PUMP
- BELT CONVEYOR
- SCREW CONVEYOR
- MIXER
- STATIC MIXER
- IN–LINE MOTIONLESS MIXER
- IN–LINE MECHANICAL MIXER
- AIR INTAKE FILTER
- TANK VENT FILTER
- STRAINER, FILTER OR COALESCER
- CALIBRATION COLUMN
- INJECTION QUILL WITH CORPORATION STOP
- SCRUBBER
- BASKET SCREEN
- BAR SCREEN
- AUTO SAMPLER
- FIRE HYDRANT
- VENT
- PULSATION DAMPENER
- DRAIN
- FIRE DEPARTMENT CONNECTION
- DRY PIPE VALVE
- SPRINKER(S)
- WATER MOTOR GONG
- ACCUMULATOR
- SIGHT GLASS
- AUTOMATIC DRIP TRAP
- RUPTURE DISK
- HORN
- BEACON
- DIAPHRAGM SEAL

EQUIPMENT ABBREVIATIONS

AC	AIR CONDITIONING
ARV	AIR RELEASE VALVE
BFP	BELT FILTER PRESS
BFT	BIOFILTER
BFV	BUTTERFLY VALVE
BV	BALL VALVE
BOL	BOILER
BSR	BARSCREEN
BWR	BLOWER
CAV	COMBINATION AIR/VACCUM RELEASE VALVE
CB	CATCH BASIN
CEN	CENTRIFUGE
CLR	SCUM OR SLUDGE COLLECTOR
CO	CLEAN OUT
CPLG	COUPLING
CV	CHECK VALVE
CLS	CLASSIFIER
CMP	COMPRESSOR
CND	CONDENSER
CVY	CONVEYOR
DIG	DIGESTER
DMPR	BACK DRAFT DAMPER
DRY	DRYER
DV	DIAPHRAGM VALVE
EJ	EXPANSION JOINT
ENG	ENGINE
EVP	EVAPORATOR
EXH	EXHAUST
EXR	EXCHANGER
FAP	FIRE ALARM PANEL
FH	FIRE HYDRANT
FIL	FILTRATE
FLR	FLARE
FLT	FILTER
FLV	FLAPPER VAVLE
GAT	GATE
GBX	GEARBOX
GDR	GRINDER
GEN	GENERATOR
GLV	GLOBE VALVE
GV	GATE VALVE
HNDLG	HANDLING
HDWKS	HEADWORKS
HTR	HEATER
IBD	ISOLATION/BALANCE DAMPER
JB	JUNCTION BOX
LVR	LOUVER
MTR	MOTOR
MXR	MIXER
NV	NEEDLE VALVE
OPS	OPERATOR (ACTUATOR)
PC	PRIMARY CLARIFIER
PIV	PINCH VALVE
PV	PLUG VALVE
PMP	PUMP
PNL	PANEL
PRD	PRES REDUCING VALVE
PRG	PRES REGULATING VALVE
PRV	PRE RELIEF VALVE
PRVB	PRES RELIEF/VACUUM BREAKER
RPD	REDUCED PRINCIPLE DEVICE
RUD	ROLL–UP DOOR
SAM	SAMPLE
SBR	SCRUBBER
SCRNGS	SCREENINGS
SFS	SAFETY SHOWER
SOF	SOFTENER
SPD	SUMP PUMP DISCHARGE
SPR	SEPERATOR
ST	STEAM
STA	STATION
STR	STRAINER
STRUC	STRUCTURAL
SWP	SWEEP ARM ASSEMBLY
TEL	TELEPHONE
TNK	TANK
TUB	TUB (ELECTRICAL)
TUR	TURBINE
TSV	TELESCOPING VALVE
VA	VALVE
VAC	VACUUM
VB	VALVE BOX
VFD	VARIABLE FREQUENCY DRIVE
VNTV	VENT VALVE
VKG	KNIFE VALVE
WH	WATER HEATER
WSHR	WASHER
WSS	WASTESIDE STREAM
XFMR	TRANSFORMER

RECORD DRAWING

REV. NO.	DATE	DRWN	CHKD	REMARKS
0	3/20/07	MS	MD	SUBMITTED FOR PLAN CHECK

DESIGNED BY: MS
DRAWN BY: MS
SHEET CHK'D BY: MD
CROSS CHK'D BY: RS/AS
APPROVED BY: MD
DATE: JUNE 2007

WARNING
0 1/2 1"
IF THIS BAR DOES NOT MEASURE 1" THEN DRAWING IS NOT TO SCALE.

REGISTERED PROFESSIONAL ENGINEER Mark D. Manoukian No. E 13693 Exp. 6/30/11 ELECTRICAL STATE OF CALIFORNIA

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OMEGA CHEMICAL SUPERFUND SITE
12504/12512 EAST WHITTIER BOULEVARD
WHITTIER, CALIFORNIA

GROUND WATER TREATMENT PLANT

PIPING & INSTRUMENTATION DIAGRAM
LEGEND I

PROJECT NO. 10500–70150

SHEET NO. I-1

C:\Omega\PID\ I–1 02/27/07 16:05 salesm

FLOW ELEMENTS

- ORIFICE PLATE
- MAGNETIC FLOW METER
- PROPELLER FLOW METER
- TURBINE FLOW METER
- ULTRASONIC FLOW METER
- THERMAL MASS FLOWMETER
- VENTURI
- POSITIVE DISPLACEMENT FLOW METER
- AVERAGING PITOT TUBE
- VORTEX FLOW METER
- WEIR
- ROTAMETER
- ROTAMETER WITH INTEGRAL NEEDLE VALVE

LEVEL ELEMENTS

- ULTRASONIC
- RADAR
- CAPACITANCE
- CONDUCTANCE
- BUBBLER TUBE
- GUIDED RADAR
- FLOAT

GENERAL INSTRUMENT OR FUNCTION SYMBOLS

FUNCTION SYMBOLS	FIELD MOUNTED	PRIMARY PANEL NORMALLY ACCESSIBLE TO OPERATOR (NOTE 1)	LOCAL PANEL NORMALLY ACCESSIBLE TO OPERATOR (NOTE 1)
DISCRETE INSTRUMENTS			
PLC OR COMPUTER SHARED CONTROL			
COMPUTER FUNCTION			
PROGRAMMABLE CONTROLLER			

NOTES:

1. A DASHED CENTER SINGLE LINE OR DOUBLE LINE INDICATES PRIMARY OR LOCAL PANEL NORMALLY INACCESSIBLE TO OPERATOR OR BACK PANEL MOUNTED.

Ex:

- MISCELLANEOUS HARDWIRED INTERLOCK
- PLC INTERLOCK
- INSTRUMENTS SHARING COMMON HOUSING
- PILOT LIGHT
- LOGIC BLOCK (OR / AND)

ANALYTICAL DESCRIPTORS

CL2	CHLORINE
COND	CONDUCTIVITY
DO	DISSOLVED OXYGEN
H2O2	HYDROGEN PEROXIDE
LEAK	LEAK DETECTION
NH3	AMMONIA
O2	AMBIENT OXYGEN
ORP	OXIDATION REDUCTION POTENTIAL
pH	HYDROGEN ION CONCENTRATION
TURB	TURBIDITY

INSTRUMENTATION FUNCTIONAL CODE

	FIRST LETTER		SUCEEDING LETTERS (3)		
	MEASURED OR INDICATING VARIABLE	MODIFIER	READOUT OR PASSIVE FUNCTION	OUTPUT FUNCTION	MODIFIER
A	ANALYSIS		ALARM		
B	BURNER,COMBUSTION		USER'S CHOICE	USER'S CHOICE	USER'S CHOICE
C	CONDUCTIVITY (ELECTRICAL)			CONTROL	
D	DENSITY (MASS) OR SPECIFIC GRAVITY	DIFFERENTIAL			
E	VOLTAGE (EMF)		PRIMARY ELEMENT		
F	FLOW RATE	RATIO (FRACTION)			
G	GAGING (DIMENSIONAL)		GLASS		
H	HAND (MANUALLY INITIATED)				HIGH
I	CURRENT (ELECTRICAL)		INDICATE		
J	POWER	SCAN			
K	TIME OR TIME-SCHEDULE			CONTROL STATION	
L	LEVEL		LIGHT (PILOT)		LOW
M	MOISTURE OR HUMIDITY	MOMENTARY			MIDDLE OR INTERMEDIATE
N	USER'S CHOICE		USER'S CHOICE	USER'S CHOICE	USER'S CHOICE
O	USER'S CHOICE		ORIFICE (RESTRICTION)		
P	PRESSURE OR VACUUM		POINT (TEST CONNECTION)		
Q	QUANTITY OR EVENT	INTERGRATE OR TOTALIZE			
R	RADIATION		RECORD OR PRINT		
S	SPEED OR FREQUENCY	SAFETY		SWITCH	
T	TEMPERATURE			TRANSMIT	
U	MULTIVARIABLE		MULTIFUNCTION	MULTIFUNCTION	MULTIFUNCTION
V	VIBRATION			VALVE, DAMPER OR LOUVER	
W	WEIGHT OR FORCE		WELL		
X	UNCLASSIFIED	X AXIS	UNCLASSIFIED	UNCLASSIFIED	UNCLASSIFIED
Y	EVENT,STATE, PRESENCE	Y AXIS		RELAY OR COMPUTE DRIVE, ACTUATE	
Z	POSITION	Z AXIS		(FINAL CONTROL ELEMENT)	

INSTRUMENT LINE SYMBOLS

- ELECTRICAL SIGNAL
- TELEPHONE SIGNAL
- ELECTROMAGNETIC OR SONIC SIGNAL
- PNEUMATIC SIGNAL
- CAPILLARY TUBE
- HYDRAULIC SUPPLY
- INSTRUMENT SUPPLY OR CONNECTION TO PROCESS
- SCREENED INSTRUMENT LINES INDICATE EXISTING LINES TO REMAIN AS IS (ELECTRIC SIGNAL SHOWN-TYPICAL FOR OTHER SIGNALS)
- SOFTWARE OR DATA LINK SIGNAL
- RADIO SIGNAL
- ES — ELECTRICAL SOURCE
- IA — INSTRUMENT AIR SOURCE

SIGNAL CONVERTERS

XY — X/X — OUTPUT / INPUT — FUNCTIONAL CODE

- E = VOLTAGE
- F = FREQUENCY
- H = HYDRAULIC
- I = CURRENT
- P = PNEUMATIC
- PF = PULSE FREQUENCY
- PD = PULSE DURATION
- R = RESISTANCE
- √ = SQUARE ROOT EXTRACTION
- Σ = SUM

HAND SWITCHES

HS — XXX — SPECIFIC SWITCH FUNCTION, (TYP)

SELECTOR SWITCH

- AO = AUTO/OFF
- AM = AUTO/MANUAL
- CM = COMPUTER/MANUAL
- CL = COMPUTER/LOCAL
- ES = E-STOP
- FR = FORWARD/REVERSE
- FOR = FORWARD/OFF/REVERSE
- FS = FAST/SLOW
- FOS = FAST/OFF/SLOW
- HOA = HAND/OFF/AUTO
- LLS = LEAD/LAG/STANDBY
- LOR = LOCAL/OFF/REMOTE
- LOS = LOCKOUT STOP
- LR = LOCAL/REMOTE
- OC = OPEN/CLOSE
- OCA = OPEN/CLOSE/AUTO
- OCR = OPEN/CLOSE/REMOTE
- OO = ON/OFF
- OSC = OPEN/STOP/CLOSE
- SS = START/STOP
- SOR = START/OFF/RESET

INSTRUMENTATION TAGGING

XXX / #N

FUNCTIONAL IDENTIFICATION PER ISA STANDARDS AS MODIFIED FOR USE IN THIS CONTRACT (SEE TABLE THIS SHEET)

XXX-Y YYY N

- SUFFIX TO DIFFERENTIATE MULTIPLE FUNCTIONAL CODES (WHEN REQUIRED)
- LOOP NUMBER
- AREA DESIGNATION
- FUNCTIONAL CODE

EXAMPLE

FI / 101A

- FI = FUNCTIONAL CODE = FLOW INDICATOR
- 101 = LOOP NUMBER
- A = FUNCTIONAL SUFFIX CODE
- COMPLETE INSTRUMENT TAG NUMBER IS FI-101A

I/O SIGNALS

MEASURED VARIABLE OR OUTPUT FUNCTION FROM INSTRUMENT FUNCTIONAL CODE TABLE.

- ANALOG INPUT (AI)
- ANALOG OUTPUT (AO)
- DIGITAL INPUT (DI)
- X DIGITAL OUTPUT (DO)
  - BLANK = MAINTAINED (ELECTRICALLY HELD)
  - M = MOMENTARY
  - L = LATCHED (MAGNETICALLY OR MECHANICALLY HELD)

RECORD DRAWING

REV. NO.	DATE	DRWN	CHKD	REMARKS
0	3/20/07	MS	MD	SUBMITTED FOR PLAN CHECK

DESIGNED BY: MS
DRAWN BY: MS
SHEET CHK'D BY: MD
CROSS CHK'D BY: RS/AS
APPROVED BY: MD
DATE: JUNE 2007

WARNING
0 1/2 1"
IF THIS BAR DOES NOT MEASURE 1" THEN DRAWING IS NOT TO SCALE.

REGISTERED PROFESSIONAL ENGINEER — Mario D. Manansala — No. E 13693 — Exp. 6/30/11 — ELECTRICAL — STATE OF CALIFORNIA

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OMEGA CHEMICAL SUPERFUND SITE
12504/12512 EAST WHITTIER BOULEVARD
WHITTIER, CALIFORNIA

GROUND WATER TREATMENT PLANT

PIPING & INSTRUMENTATION DIAGRAM
LEGEND II

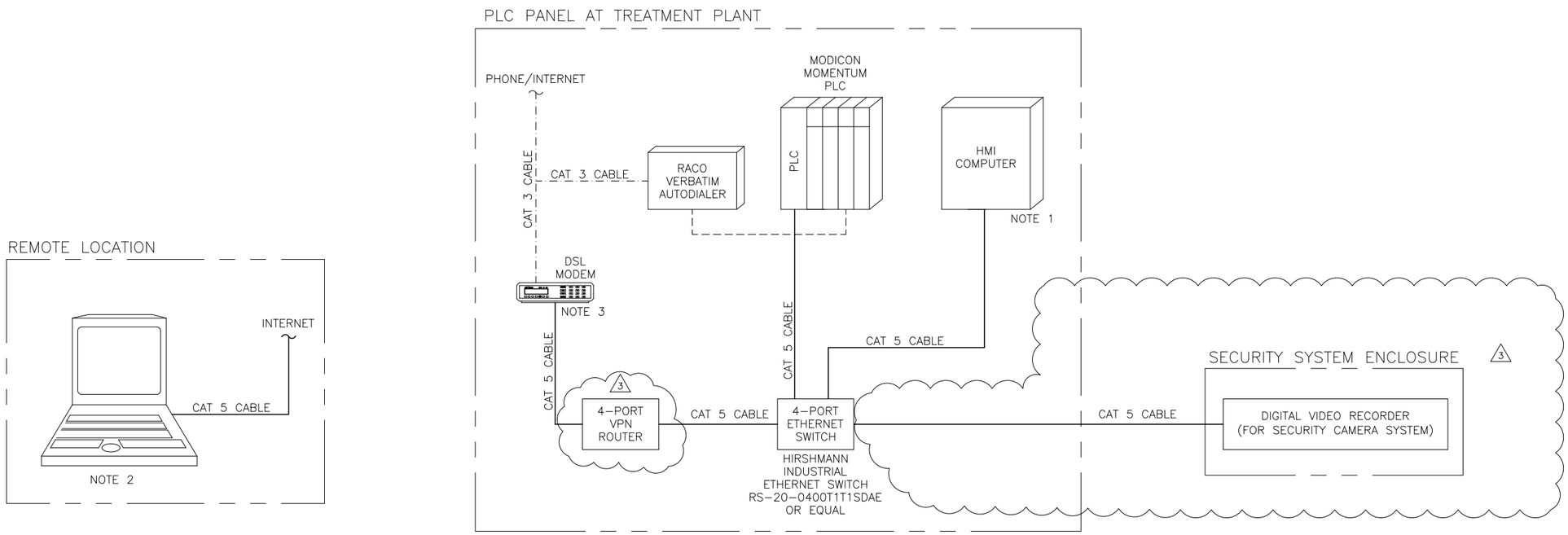
PROJECT NO. 10500-70150

SHEET NO. I-2

C:\Omega\PID\ I-2 03/19/07 12:30 salesrn XREFS: OMEGA-bd

NOTES:

1. 10" TOUCH SCREEN INDUSTRIAL COMPUTER. MOUNT COMPUTER ON INTERNAL SWING OUT DOOR. COMPUTER SHALL BE MAPLE SYSTEMS PC110A OR EQUAL. THE HMI COMPUTER SHALL BE COMPLETE WITH REQUIRED HARDWARE AND SOFTWARE INSTALLED.
2. PROVIDE LAPTOP WITH REQUIRED SOFTWARE(S) FOR REMOTE CONTROLLING AND MONITORING OF THE HMI SYSTEM.
3. PROVIDE ADDITIONAL HARDWARE/SOFTWARE TO CONFIGURE/SETUP VPN NETWORK FOR REMOTE MONITORING AND CONTROL.
4. DIGITAL VIDEO RECORDER LOCATED IN TRAILER ON SITE. WILL BE RELOCATED TO THE TREATMENT PLANT AT A LATER DATE. 3



LEGEND

HMI HUMAN MACHINE INTERFACE

PLC PROGRAMMABLE LOGIC CONTROLLER

RECORD DRAWING

REV. NO.	DATE	DRWN	CHKD	REMARKS
3	9/29/09	JJ	MM	REVISED FOR RECORD DRAWINGS
2	4/08	MS	MD	ADDED ALARM AUTODIALER.
1	1/11/08	MS	MD	CHANGE INTERNET ACCESS FROM CELLULAR DATA TO STANDARD DSL LINE.
0	3/20/07	MS	MD	SUBMITTED FOR PLAN CHECK

DESIGNED BY: MS
DRAWN BY: MS
SHEET CHK'D BY: MD
CROSS CHK'D BY: RS/AS
APPROVED BY: MD
DATE: JUNE 2007

WARNING
0 1/2 1"
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REGISTERED PROFESSIONAL ENGINEER Mario U. Manansala No. E 13693 Exp. 6/30/11 ELECTRICAL STATE OF CALIFORNIA

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OMEGA CHEMICAL SUPERFUND SITE

12504/12512 EAST WHITTIER BOULEVARD
WHITTIER, CALIFORNIA

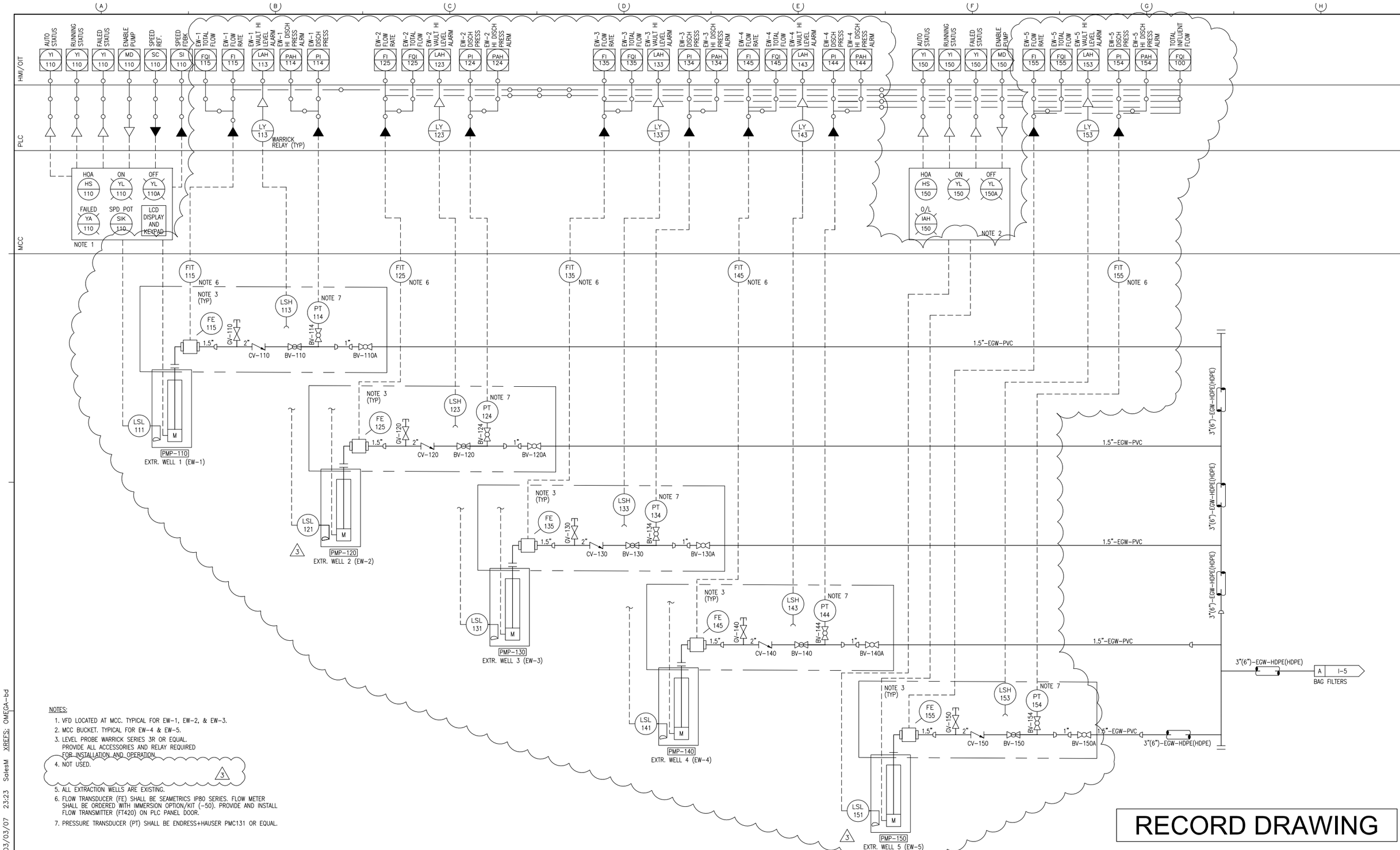
GROUND WATER TREATMENT PLANT

PIPING & INSTRUMENTATION DIAGRAM
COMMUNICATION BLOCK DIAGRAM

PROJECT NO. 10500-70150

SHEET NO. I-3

C:\Omega\PID\ I-3 03/03/07 22:44 SalesM XREFS: OMEGA-bd



NOTES:

1. VFD LOCATED AT MCC. TYPICAL FOR EW-1, EW-2, & EW-3.
2. MCC BUCKET. TYPICAL FOR EW-4 & EW-5.
3. LEVEL PROBE WARRICK SERIES 3R OR EQUAL. PROVIDE ALL ACCESSORIES AND RELAY REQUIRED FOR INSTALLATION AND OPERATION.
4. NOT USED.
5. ALL EXTRACTION WELLS ARE EXISTING.
6. FLOW TRANSDUCER (FE) SHALL BE SEAMETRICS IP80 SERIES. FLOW METER SHALL BE ORDERED WITH IMMERSION OPTION/KIT (-50). PROVIDE AND INSTALL FLOW TRANSMITTER (FT420) ON PLC PANEL DOOR.
7. PRESSURE TRANSDUCER (PT) SHALL BE ENDRESS+HAUSER PMC131 OR EQUAL.

RECORD DRAWING

REV. NO.	DATE	DRWN	CHKD	REMARKS
3	9/29/09	JJ	MM	REVISED FOR RECORD DRAWINGS
2	3/21/08	MS	MD	SWITCHED FLOW & PRESSURE INSTR. BECAUSE OF FLOODING CONCERNS
1	6/1/07	MS	MD	REVISED TO ADDRESS CITY OF WHITTIER COMMENTS.
0	3/20/07	MS	MD	SUBMITTED FOR PLAN CHECK

DESIGNED BY: MS
DRAWN BY: MS
SHEET CHK'D BY: MD
CROSS CHK'D BY: RS/AS
APPROVED BY: MD
DATE: JUNE 2007

WARNING
0 1/2 1"
IF THIS BAR DOES NOT MEASURE 1" THEN DRAWING IS NOT TO SCALE.

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OMEGA CHEMICAL SUPERFUND SITE
12504/12512 EAST WHITTIER BOULEVARD
WHITTIER, CALIFORNIA

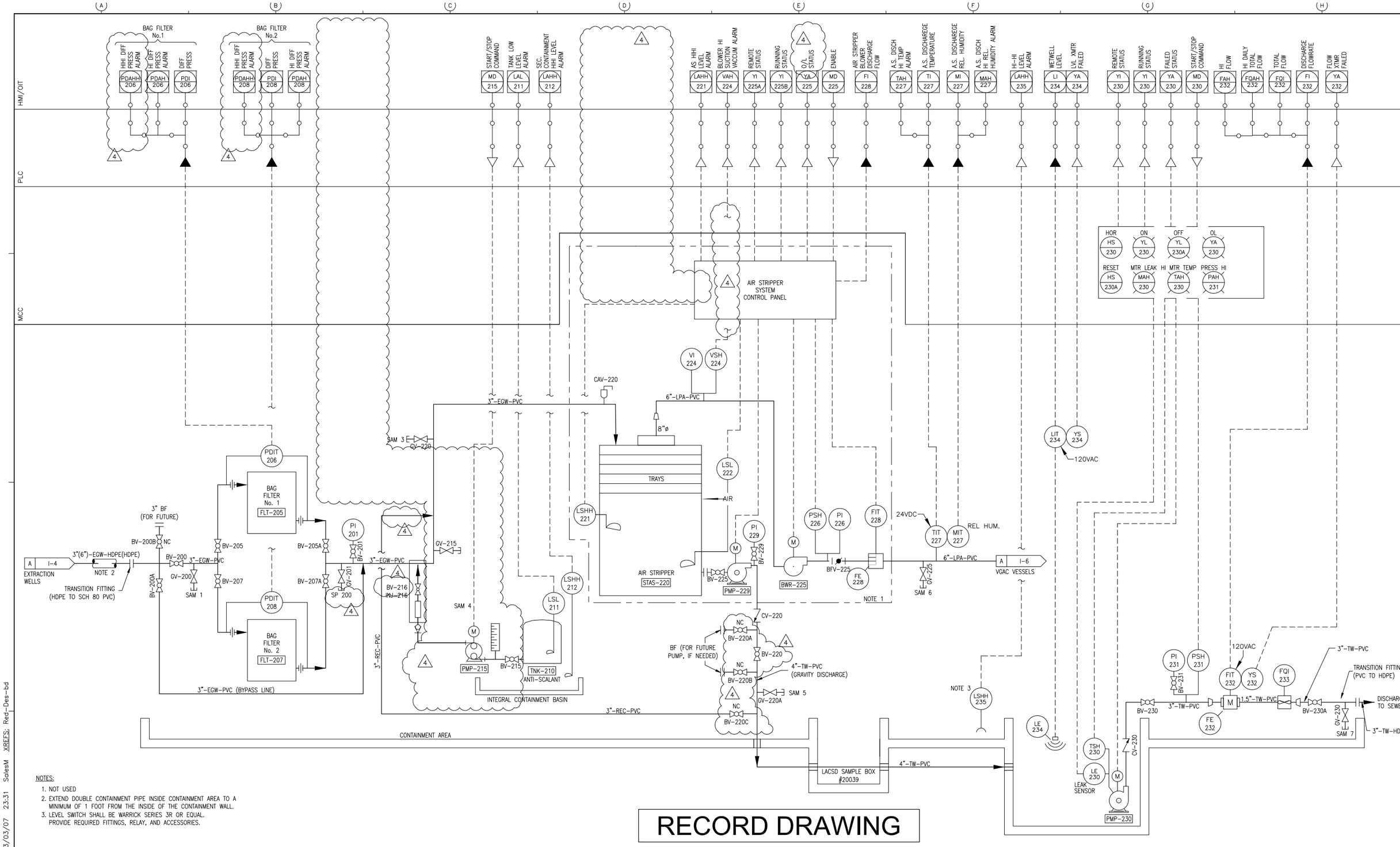
GROUND WATER TREATMENT PLANT

PIPING & INSTRUMENTATION DIAGRAM
EXTRACTION WELLS

PROJECT NO. 10500-70150

SHEET NO. I-4

C:\Omega\PID\ I-4 03/03/07 23:23 SalesM XREFS: OMEGA-bd



NOTES:

1. NOT USED
2. EXTEND DOUBLE CONTAINMENT PIPE INSIDE CONTAINMENT AREA TO A MINIMUM OF 1 FOOT FROM THE INSIDE OF THE CONTAINMENT WALL.
3. LEVEL SWITCH SHALL BE WARRICK SERIES 3R OR EQUAL. PROVIDE REQUIRED FITTINGS, RELAY, AND ACCESSORIES.

RECORD DRAWING

REV. NO.	DATE	DRWN	CHKD	REMARKS
4	9/29/09	JJ	MM	REVISED FOR RECORD DRAWINGS
3	3/24/08	MS	MD	RELOCATE LEVEL SWITCH AND CHANGE FROM FLOAT TO CONDUCTANCE TYPE.
2	3/21/08	MS	MD	REVISED TO MATCH SUBMITTED PUMPS
1	6/1/07	MS	MD	REVISED TO ADDRESS CITY OF WHITTIER COMMENTS.
0	3/20/07	MS	MD	SUBMITTED FOR PLAN CHECK

DESIGNED BY: MS
DRAWN BY: MS
SHEET CHK'D BY: MD
CROSS CHK'D BY: RS/AS
APPROVED BY: MD
DATE: JUNE 2007

WARNING
0 1/2 1"
IF THIS BAR DOES NOT MEASURE 1" THEN DRAWING IS NOT TO SCALE.

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OMEGA CHEMICAL SUPERFUND SITE
12504/12512 EAST WHITTIER BOULEVARD
WHITTIER, CALIFORNIA

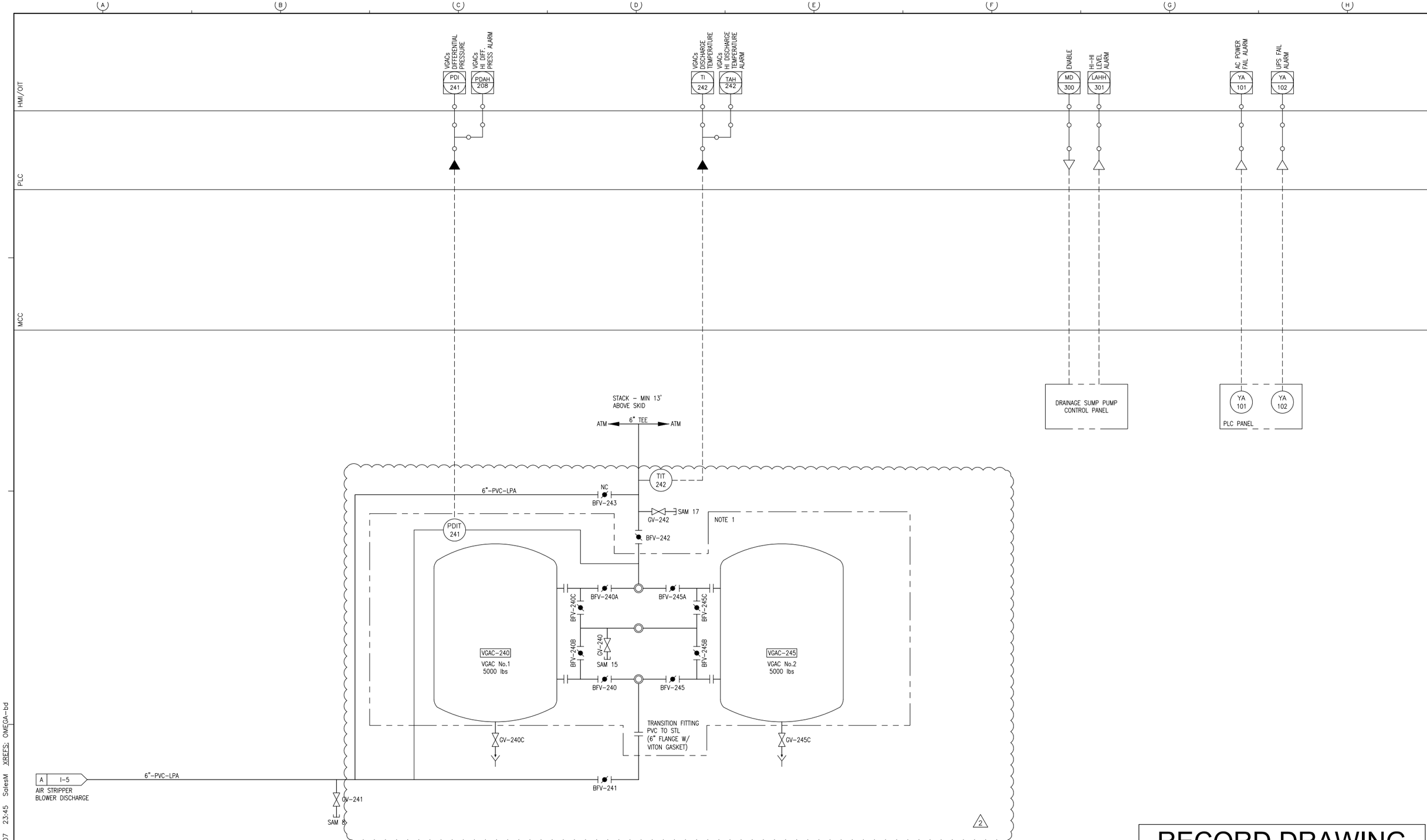
GROUND WATER TREATMENT PLANT

PIPING & INSTRUMENTATION DIAGRAM
AIR STRIPPER SYSTEM

PROJECT NO. 10500-70150

SHEET NO. I-5

C:\Omega\PID\ I-5 03/03/07 23:31 SalesM XREFS: Red-Des-bd



RECORD DRAWING

REV. NO.	DATE	DRWN	CHKD	REMARKS
2	9/29/09	JJ	MM	REVISED FOR RECORD DRAWINGS
1	3/21/08	MS	MD	ADDED CONTROL FOR DRAINAGE SUMP PUMP.
0	3/20/07	MS	MD	SUBMITTED FOR PLAN CHECK

DESIGNED BY: MS
DRAWN BY: MS
SHEET CHK'D BY: MD
CROSS CHK'D BY: RS/AS
APPROVED BY: MD
DATE: JUNE 2007

WARNING
0 1/2 1"
IF THIS BAR DOES NOT MEASURE 1" THEN DRAWING IS NOT TO SCALE.

REGISTERED PROFESSIONAL ENGINEER
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OMEGA CHEMICAL SUPERFUND SITE
12504/12512 EAST WHITTIER BOULEVARD
WHITTIER, CALIFORNIA

GROUND WATER TREATMENT PLANT

PIPING & INSTRUMENTATION DIAGRAM
VGAC SYSTEM & CONTROL PWR MONITOR

PROJECT NO. 10500-70150

SHEET NO. I-6

C:\Omega\PID\ I-6 03/03/07 23:45 SalesM XREFS: OMEGA-bd

Appendix B
Aquifer Pilot Testing Technical Memorandum and Well Logs

Appendix B.1

Aquifer Pilot Testing Technical Memorandum (CDM, November 7, 2006)

OMEGA CHEMICAL SITE PRP ORGANIZED GROUP
5225 Canyon Crest Drive
Building 200/Suite 253
Riverside, Ca 92507
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(951) 222-0389
e-mail: edm@demaximis.com

November 7, 2006

Mr. Chris Lichens
Remedial Project Manager
U.S. Environmental Project Manager Agency-Region IX
75 Hawthrone Street (SFD-7-4)
San Francisco, CA 94105

Re: Groundwater Extraction and Treatment Pilot Testing Technical Memorandum, Omega Chemical Superfund Site, Whittier, California

Dear Mr. Lichens:

Enclosed for your reference is a copy of the Groundwater Extraction and Treatment Pilot Testing Technical Memorandum that was prepared by CDM on behalf of the Omega Chemical Site PRP Organized Group (OPOG).

Should you have any questions, regarding the above, please contact me.

Sincerely,
Omega Chemical Site PRP Organized Group

Edward Modiano
Project Coordinator

Cc: Tom Perina, CH2MHIL
Lori Paranass, DTSC
Dave Chamberlin, CDM
Ravi Subramanian, CDM

CDM

18581 Teller Avenue, Suite 200
Irvine, California 92612
tel: 949 752-5452
fax: 949 752-1307

Memorandum

To: *Edward Modiano, OPOG Project Coordinator*

From: *Sharon Wallin, P.G. – CDM*
Mike Smith, CDM
Ravi Subramanian, P.E. – CDM

Cc: *Dave Chamberlin, CDM*

Date: *November 7, 2006*

Subject: *Groundwater Extraction and Treatment Pilot Testing*
Omega Chemical Superfund Site
10500-53426
10500-5.2.3

1.0 Introduction

Camp Dresser & McKee Inc. (CDM) has prepared this technical memorandum (TM) on behalf of the Omega Chemical Site Potentially Responsible Party (PRP) Organized Group (OPOG). This TM provides USEPA with the results from the pilot testing of the recently installed extraction wells at the Omega Chemical Site (the Site). Pilot testing consisted of aquifer performance test (APT) of the five extraction wells, and treatment of the exacted groundwater from the APT using an air stripper with Vapor Phase granular activated carbon (VPGAC) adsorption off-gas treatment. The treatment method of air stripping with VPGAC was selected based on the results of the Treatability Study (Attachment A). The pilot testing was conducted in general accordance with the USEPA-approved workplan dated August 31, 2006.

1.1. Pilot Test Objectives

The overall objectives of the pilot test was to collect additional data for use in selecting the most appropriate design parameters for the final design and implementation of the groundwater treatment remedy for the Site.

Specific objectives for this pilot test included:

- Determine sustainable groundwater extraction rates from the five extraction wells and characterize extracted groundwater with respect to contaminants of concern and general groundwater chemistry.
- Confirm the ability of air stripping to reduce total VOC concentrations in extracted groundwater to less than 1,000 micrograms per liter (µg/L) as required for discharge to the sanitary sewer for ultimate treatment at the Joint Water Pollution Control Plant (JWPCP) in Carson operated by the County Sanitation Districts of Los Angeles County (CSDLAC).
- Obtain VPGAC influent and effluent VOC concentration data to support air emission risk modeling that will be required to meet the substantive requirements of the California South Coast Air Quality Management District (SCAQMD).
- Develop preliminary estimates of VPGAC consumption rates.

2.0 Test Procedures

This section describes the procedures and the equipment used to perform and monitor the pilot tests conducted between September 13 and 21, 2006.

2.1 Aquifer Performance Testing Procedures

Five extraction wells (EW-1 through EW-5) were installed along Putnam Street at the locations illustrated on Figure 2-1 during July 2006. Well construction details are provided in Table 2-1.

The APT was conducted on September 13, and 14, 2006. Submersible test pumps powered by a single phase generator and 3/4-inch diameter PVC sounding tubes were installed and operated simultaneously in the five wells (EW1 through EW5) by the drilling subcontractor (WDC Exploration and Wells of Montclair, California). The pump intake was set near the bottom of the screen zone in each well, at approximately 84 to 86 feet below ground surface (ft bgs). The pumping rates were measured using an in-line flow meter and totalizer. At the end of the pumping phases (approximately 2 days), the pumps were turned off and water level recovery to pre-pumping conditions was measured in the extraction wells and the surrounding observation wells.

Prior to the initiation of the test, manual static water level measurements were taken on September 13, 2006 in the five extraction and ten observation wells (Table 2-2) using an electric water level indicator. Automatic data loggers (In-Situ Trolls700) were installed on September 12, 2006 in seven observation wells/piezometers (OW2, OW3, OW3b, OW8, OW8b, PZ1, and PZ2) and the five extraction wells to collect background water levels prior to

beginning the test. Manual measurements were collected from observation wells OW-1, OW-4a and OW4b (Figure 2-1).

Groundwater extracted during the APT was contained on-site in two, 21,000 gallon Baker tanks. Little or no sand was produced during the APT, indicating that the well screens were adequately developed.

2.1.1 Constant Rate Test

From September 13 through September 14, 2006, constant rate pumping tests were conducted on EW-1, EW-2, EW-3, EW-4 and EW-5 (also referred to as the pumping array). Field forms for the constant rate test are presented in Attachment B. The results are discussed in the following paragraphs.

Extraction wells EW-1, EW-2, EW-3, EW-4 and EW-5 were pumped simultaneously on September 13, 2006, at a constant flow rate of approximately 25 gallons per minute (gpm) for 1411 minutes (23.5 hours). The individual flow rates from extraction well EW-1, EW-2, EW-3, EW-4, and EW-5 were 10.5. 5.7 gpm, 5.4 gpm, 1.98 gpm, and 1.96 gpm, respectively. Since a flow of 10.5 gpm in EW-1 induced a drawdown of only 3ft, compared to 12 ft of available drawdown, the pumping rate at EW-1 was increased from 10.5 gpm to 13.2 gpm after 949 minutes of constant pumping to determine the maximum production capacity of the well. Fluctuations in pumping rate were observed in EW-3 throughout the test, due to technical difficulties with the pump installed in the well. A total of 35,981 gallons were pumped from the extraction wells during the constant rate test into the baker tanks.

Observation wells located along Putnam Street and completed in the shallow aquifer (OW-2, OW-3, OW-8, PZ-1 and PZ-2) all showed a response to the pumping. Wells OW-3B and OW-8B, which were the closest deeper zone wells, showed no response to the pumping, indicating no hydraulic communication between the shallow and deep zones over the test period. No significant drawdown was observed in OW-1, OW-4a and OW-4b, due to significant radial distance (>300ft) from the pumping array. Drawdown to a maximum of 2 ft was observed in the PZ-2, screened in the shallow aquifer, with lesser drawdowns observed at other nearby shallow zone wells (Table 2-2).

During the constant rate pump tests, field measurements of pH, temperature and electrical conductivity were taken periodically. pH ranged between 7.21 to 7.38 pH units, temperature was constant at 23.7 ^{o}C, and conductivity ranged between 1552 to 1556 uS/cm.

2.2 Treatment Pilot Test Procedures

Based on treatability testing conducted to date and the anticipated sanitary sewer discharge limits for the treated water, air stripping combined with off-gas treatment was implemented for pilot testing of the extracted groundwater at the Site. Groundwater generated during well development and drilling activities; and the APT was stored on-site in two 21,000 gallon

Baker tanks (Tanks 1 and 2, respectively) and was subsequently processed through the pilot technology described below.

2.2.1 Process Equipment

Process equipment used during the pilot study is described below (Figure 2-2):

Air Stripper – Onion Enterprises (Walnut Creek, California) supplied the air stripper package used for this pilot study. The air stripper consisted of a shallow tray air stripper unit equipped with an integral blower and a sump pump for treated water discharge. The model used was the Shallow Tray Low Profile Air Stripper Model 1300P manufactured by North East Environmental Products, Inc. (NEEPS) rated for flows from 0.5 to 15 gpm. Attachment C contains specifications for the shallow tray stripper unit (Note that a vacuum blower as described in the next paragraph was used in lieu of the integral blower). The groundwater flow rate for the pilot test ranged between 13 to 15 gpm. Air flow rates ranged from 109 to 142 standard cubic feet per minute (SCFM) resulting in air to water ratios of 56:1 to 73:1. A skid mounted transfer pump was used to pump untreated water from the Baker tanks through a set of bag filters to remove sediments prior to entering the air stripper. All equipment was operated using a single phase generator.

Vapor Treatment – Vapor phase granular activated carbon (VPGAC) was used to treat off gas from the air stripper. Two carbon vessels, each containing between 400 and 500 pounds of carbon were operated in series. This system, with interconnecting hoses, fittings, and valves was provided by Slaby Environmental (Los Angeles, CA). For the pilot test, a vacuum blower, with a moisture knockout tank on the suction side of the blower, was used on the downstream side of the stripper off-gas discharge to increase the temperature and to reduce/maintain the Relative Humidity (RH) of the stripper off-gas. An in-line heater was connected to the system to help maintain RH as close as possible to 50% prior to entering the first VPGAC vessel. However, since RH values during the pilot test were below 50% (21% to 35%), the in-line heater was not used.

Water Containment – A total of three 21,000-gallon Baker tanks was used to contain extracted and treated groundwater. Groundwater from Tank 1 was treated by the air stripper and discharged into Tank 3. After Tank 1 was emptied, groundwater from Tank 2 was treated by the air stripper and discharged into Tank1.

2.2.2 Test Procedures

The groundwater and vapor treatment pilot test was conducted from September 19 through 21, 2006 after completion of the pumping test on September 14, 2006. Groundwater flow from Tank 1 to the air stripper was initiated at a flow rate of 14.5 gpm. Air flow to the air stripper was initiated at the minimum flow rate of about 150 scfm. The operating conditions were maintained generally at a constant rate until water from Baker Tank 1 was emptied into Baker

Tank 3. At that time, the valves were adjusted to allow untreated groundwater from Baker Tank 2 to be pumped through the air stripper and into Baker Tank 1. A tabulated summary of the field measurements for the pilot test are presented in Attachment B.

Groundwater monitoring consisted of flow measurements using a positive displacement flow meter and totalizer at regular intervals. Flow was maintained between 14 and 15 gpm. pH and temperature was also measured on field at the influent and effluent sampling ports using a calibrated pH/temperature/Conductivity meter. Influent pH and temperature values ranged from 7.06 to 7.88 pH units and from 23.2 to 25.1°C, respectively, while effluent values ranged from 7.39 to 8.28 pH units and from 23.1 to 25.1°C, respectively. Water samples were collected approximately every four hours, in accordance with Table 2-3, for off site laboratory analysis as mentioned in Section 3.0.

Vapor monitoring consisted of air flow measurement at the air stripper inlet, temperature, pressure and RH monitored at the vacuum blower/heater inlet and outlet as shown on Figure 2-2. Field monitoring of total VOCs was performed at regular intervals, using an organic vapor analyzer (OVA) equipped with a photoionization detector (PID), calibrated to 100 parts per million by volume (ppmv) isobutylene, on samples collected in 1 Liter (L) Tedlar bags from the inlet to GAC-1, the inlet to GAC-2, and the outlet from GAC-2. VOC concentrations, ranged from 17.6 to 542 ppmv at the inlet to GAC-1; 0.6 to 831 ppmv at the inlet to GAC-2 and 1.8 to 189 ppmv at the outlet from GAC-2. The variability in the VOCs concentrations for the vapor may be attributed to technical difficulties encountered with the field PID, which are typically associated with field instruments. Air samples were collected every four hours, in accordance with Table 2-3, simultaneously with the water samples, for off site laboratory analysis as mentioned in Section 3.0.

3.0 Sampling and Analysis

This section describes the sampling and analysis conducted during the pilot testing.

3.1 Groundwater Sampling during the APT

Groundwater samples for laboratory analysis were collected from all five extraction wells just prior to terminating the constant rate pump test (approximately 24 hours of pumping). A total of six samples (including one duplicate) was analyzed for the following parameters: volatile organic compounds (VOCs), semi-volatile organic compounds (SVOCs), 1,4-dioxane, NDMA (Method 1625C [low detection limit]), Title 22 metals, total organic carbon (TOC), biological oxygen demand (BOD), chemical oxygen demand (COD), sulfide, chlorides, alkalinity, hardness, total dissolved solids (TDS), and total and dissolved iron and manganese. In addition, one sample was collected from each well approximately four hours into the constant rate pump test (total of five samples plus one duplicate) and analyzed for VOCs, 1,4-dioxane, and NDMA. A trip blank for VOCs consisting of laboratory grade water was submitted with each shipment of water samples sent to the off site laboratory.

All analysis was performed by Test America of Irvine, California, a California Department of Health Services (DHS)-certified lab for hazardous waste analysis. Results of the analysis are presented in Tables 3-1 and 3-2.

3.2 Treatment Pilot Test Monitoring and Sampling

Treatment pilot test sampling included collecting air stripper influent and effluent water samples at approximately every four hours for off-site laboratory analysis for VOCs and 1,4-dioxane. In addition one set of the four-hour samples on the second day of the test (Sept 20, 2006) was also analyzed for other organic and inorganic compounds listed in Table 2-3. All analyses were performed by Advanced Technology Laboratories, of Signal Hill, California, a DHS-certified lab for hazardous waste analysis. Results of the analysis are presented in Tables 3-3 and 3-4.

Vapor samples were collected from the vapor sample ports on the inlet to GAC-1, the inlet to GAC-2, and the outlet from GAC-2 using 1L Summa Canisters and submitted for off-site laboratory analysis for VOCs by EPA Method TO-14A. All analyses were performed by SunStar Laboratories, of Tustin, California, a DHS-certified lab for hazardous waste analysis. Results of the analysis are presented in Table 3-5.

4.0 Analysis and Interpretation of Test Results

This section describes the data analysis and interpretation of the pilot test results.

4.1 Aquifer Performance Testing

The primary objective of the APT program was determination of sustainable discharge rates for hydraulic control using the extraction wells. Estimates of aquifer characteristics were also made based on drawdowns in observation wells. A number of analytical methods can be used to estimate the transmissivity and storage coefficient from the results of a pumping test conducted in a confined aquifer. The transmissivity and storage coefficient was calculated for the pumping phase using the Theis method (1935), superimposing the effect of each of the five pumping wells. This composite effect from the five wells was compared to each of the observation well response, and the transmissivity and storage coefficient systematically varied to match the observed data. Hydraulic conductivity was calculated by dividing the transmissivity by the thickness of the aquifer penetrated by the observation well. Table 4-1 summarizes the aquifer parameters for pumping tests performed on the extraction and observation wells.

4.1.1 Observation Wells

Due to distance from the pumping array, no significant drawdown was observed in OW-1, OW-4a and OW-4b. No significant drawdown was induced during the constant rate pump test in OW-3b, OW-4b and OW-8b, which are screened in the lower aquifer (approximately 112 to 125 ft bgs), indicating no hydraulic connection between the upper aquifer zone

(between 64 to 90 ft bgs) and the lower aquifer during the test.

Based on boring logs (CDM, April 1999) in the vicinity of the extraction wells (EW-1 through EW-5), the saturated thickness of the aquifer is estimated to be approximately 18ft. A maximum drawdown of 0.2 ft was observed in OW-2 during the duration of the pumping test. Analysis of the data indicates that the aquifer in this area generally behaves as a confined system (Figure 4-1) with a transmissivity (T) of 2347 square feet per day (ft^2/day) and the storativity of 0.02. The estimated value of hydraulic conductivity (k) is 130 ft/day. The observed drawdown does not fit the analytical solution very well, thus these parameter estimates have a high uncertainty.

A maximum drawdown of 1.1 ft was observed in OW-3 during the duration of the pumping test. Analysis of the data indicates that the aquifer in this area generally behaves as a confined system (Figure 4-2) with T of 1050 ft^2/day and the storativity of 0.02. The estimated value of k is 58 ft/day. The observed data and the analytical solution were very similar, indicating a reliable parameter estimate.

A maximum drawdown of 0.8 ft was observed in OW-8 during the duration of the pumping test. Analysis of the data shows the presence of a boundary effect where more drawdown than projected is observed. This suggests a truncated aquifer in this area (Figure 4-3). An estimated T of 4000 ft^2/day and the storativity of 0.02 were calculated. The estimated value of k is 220 ft/day. Due to the apparent boundary effects, uncertainty on these estimates is relatively high.

A maximum drawdown of 0.8 ft was observed in PZ-1 during the duration of the pumping test. Analysis of the data suggests the presence of a boundary effect, indicating a truncated aquifer in this area (Figure 4-4). An estimated T of 5890 ft^2/day and the storativity of 0.02 were calculated. The estimated value of k is 327 ft/day. The uncertainty on this estimate is high due to the poor fit to the analytical solution, and the presence of boundary effects.

A maximum drawdown of 2.0 ft was observed in PZ-2 during the duration of the pump test. The results of PZ-2 were not analyzed due to significant deviations from the expected theoretical response (Figure 4-5).

4.1.2 Extraction Wells

As mentioned previously, extraction wells EW-1, EW-2, EW-3, EW-4 and EW-5 were pumped simultaneously on September 13, 2006, at a constant flow rate of 10.5 gpm, 5.7 gpm, 5.4 gpm, 1.98 gpm and 1.96 gpm, respectively for 1411 minutes (23.5 hours). The flow rate at EW-1 was increased in the latter portion of the test. Time-drawdown data collected during the test are graphically shown on Figures 4-6 through 4-10 for each of the five extraction wells, along with projections of drawdown observed in the pumping wells (assuming that the trend remains the same) to estimate long-term maximum sustainable discharge rates. This is expected to

yield a conservative estimate, since rates will decline over time due to the truncated nature of the shallow aquifer zone. Geologic exploration indicates that minimal permeable sand zones are present in this interval toward the source area on the former Omega property. The projected drawdown trends are provided on Figures 4-6 through 4-10. The design drawdown in the production wells was defined as 2/3rd of the saturated thickness, or 12 feet, based on the current water levels at the site. The estimated maximum sustainable rates for each well are listed below:

- EW-1 = 13 gpm
- EW-2 = 8 gpm
- EW-3= 6 gpm
- EW-4= 2 gpm
- EW-5 = 2 gpm

4.2 Treatment Pilot Testing

Data analysis was conducted to determine the operational effectiveness of the air stripper and the VPGAC and to collect data for design of the full-scale remediation system and to support air emission risk modeling that will be required to meet the substantive requirements of the California South Coast Air Quality Management District (SCAQMD).

4.2.1 Groundwater Treatment

Figure 4-11 presents total VOC concentrations in the groundwater influent to and effluent from the air stripper. Total VOC influent concentrations ranged from approximately 3800 µg/L to 8700 µg/L, but effluent concentrations did not exceed 165 µg/L, which is well below the total VOC limit of less than 1,000 µg/L for discharge to the sanitary sewer. Most VOCs were not detected in the stripper effluent. Other VOCs were detected, but at significantly lower concentrations than in influent samples. For example, influent TCE concentrations ranged from 3000 to 7300 µg/L, but effluent concentrations were 110 µg/L or lower.

Analysis for 1,4-dioxane in the samples collected during the pilot test show concentrations ranging from 360 to 1,100 µg/L. As expected, 1,4-dioxane concentrations did not decrease across the air stripper. Effluent concentrations observed during the pilot test ranged from 340 to 1,110 µg/L, which are all below the 5,000 µg/L preliminary limit established by CSDLAC for discharge to JWPCP.

4.2.2 Off-Gas VPGAC Treatment

Data were also collected during the pilot test to characterize the stripper off-gas, the VPGAC performance, and the likely vapor-phase system effluent. Figures 4-12 and 4-13 present vapor-phase concentrations of PCE and total VOCs in samples collected from the stripper effluent and after the first GAC vessel. The concentrations found in the stripper effluent ranged from 6,600 to 18,000 parts per billion by volume (ppbv) for PCE and 10,000 to 24,000 ppbv for total VOCs. However, concentrations found after the first GAC vessel were at or below detection limits for all VOCs, with only one exception. 1, 3, 5-trimethylbenzene was detected in one of the 12 total samples taken at 54 ppbv, which is barely over the reporting limit at 50 ppbv.

It should be noted that all calculations and figures presented in this memorandum include non-detections as detections at the reporting limit, except where noted. This provides a conservative bias to all presented data. For example, although the effluent from the first GAC vessel is shown to have a total VOC concentration consistently near 1000 ppbv, only one VOC was detected throughout the test. The remainder of the contributions to this total is the presence of VOCs at their respective reporting limits.

Figures 4-14 and 4-15 show the total VOC and PCE mass flow rates, respectively, coming from the stripper and from the first GAC vessel. Similar to the concentration-based data, the stripper effluent data show high mass flow rates for both PCE (between approximately 200 and 520 pounds per year) and total VOCs (between approximately 260 and 660 pounds per year). However, as noted above, only one VOC was detected here, and as a result the calculated mass flow rates leaving the first GAC vessel all correspond to non-detect VOCs presented at their respective reporting-limits.

Samples were also taken downstream of the second GAC vessel. Data show that the concentrations of VOCs there were also below reporting limits for all samples but one. The last sample gathered, collected at 7 AM, shows a total VOC concentration of 1427 ppbv, with relatively low-level detections of cyclo-hexane (120 ppbv), heptane (110 ppbv), hexane (220 ppbv), and m,p-xylenes (130 ppbv), slightly above their reporting limit of 100 ppbv. These compounds were not detected in any of the groundwater samples collected during the pilot test and the APT, and were not detected in the samples collected before or after from the influent to the second GAC vessel. M,p-xylenes were detected at 260 ppbv in a previous sample collected from the air stripper effluent (inlet to the first GAC vessel). Based on the above observations and the fact that these compounds have not been previously identified to be of concern at this Site, it is suspected that these detections were caused by laboratory contamination of the summa canisters before sampling.

4.2.3 Preliminary Design Basis and VPGAC Usage Estimates

Data collected during this pilot study were also analyzed to determine a preliminary design basis for the future full-scale remediation system. Table 4-2 shows minimum, average, and maximum VOC concentrations in the groundwater entering the air stripper and the off-gas

leaving the air stripper and similar statistics for the vapor-phase samples collected during the pilot test. Table 4-2 also shows concentrations of these same compounds from samples collected from the extraction wells during the APT. An average of these concentrations was also calculated, where the average was weighted according to the estimated maximum sustainable flow rates for each well listed in Section 4.1.2.

In order to develop an estimate of the anticipated VPGAC usage for the full-scale system, the maximum concentrations of detected VOCs observed in each of the extraction wells during the pilot test were averaged for a design flow of 30 gpm. Table 4-3 presents the preliminary design basis concentrations based on the above estimates. Two commercially available air stripper models (QED Environmental Systems Inc. [QED], available at http://www.qedenv.com/model.html and NEEP Systems) were then used to predict the level of stripping that could be anticipated using the preliminary design basis. Both models required input of the influent groundwater VOC concentrations and some basic parameters, including groundwater temperature, ambient air temperature, and water flow rates. Both of the models assist in selection of an appropriate air stripper model that will meet desired effluent levels, while calculating necessary air flow rates and resulting liquid-phase and vapor-phase effluent VOC concentrations. Results of these models were also confirmed with representatives of QED and NEEP Systems. A few of the VOCs listed in Table 4-3 could not be included in the air stripper models or could only be modeled via surrogates, but these compounds represent a small portion of the total VOC concentration (less than 4%) and were generally not detected in samples collected.

Model output was provided to a GAC vendor, Siemens Water Technologies Corp. (SWTC) (formerly US Filter/Westates) to estimate VPGAC consumption for the preliminary design basis. The GAC vendor was asked to consider two operational methods: one in which the breakthrough of any VOCs would trigger GAC replacement, and another in which GAC replacement would not be performed until PCE effluent concentrations breakthrough. Using the second method, poorly adsorbed compounds, such as freons and chloroform, would likely be detected in the GAC effluent before PCE. The second method was chosen for evaluation because of initial air modeling calculations which suggest that PCE emissions generate the majority of the risk.

GAC usage estimates varied from 378 pounds per day of GAC assuming loading of all VOCs to 16 pounds per day assuming just PCE loading. GAC usage estimates are presented in Table 4-4.

Further discussions with the GAC vendor indicated that if the GAC is operated based on PCE breakthrough, then other compounds that were previously adsorbed may be displaced by the PCE (i.e. competitive adsorption phenomenon), as PCE adsorbs to the GAC better than most other VOCs and represents approximately three quarters of the total VOCs in each of the design bases. In this case, these poorly adsorbed compounds will be present in the VPGAC

effluent at concentrations equaling or even exceeding the VPGAC influent (stripper off-gas). GAC usage isotherms are unable to quantify this displacement. The selection of type of GAC (regenerated versus virgin) may have an effect on this phenomenon, as compounds that are difficult to adsorb (such as freons and chloroform) will be less likely to adsorb to regenerated GAC. Therefore, effluent concentrations for these compounds will not increase due to competitive adsorption as much as they might with a media that was less capable of adsorbing them. Similarly, compounds that do adsorb to the GAC, but not as well as PCE, are more likely to desorb during PCE loading. Therefore, those compounds are most likely to have some increase in concentrations across the GAC vessels. Samples collected during full scale operation should be able to demonstrate which VOCs are adsorbed in the lead vessel and would therefore be at risk for increase, and this could be done while adsorption of all compounds of concern was still occurring in the lag vessels.

5.0 Conclusions

Pumping tests were performed at five extraction wells along Putnam Street, at Omega Chemical Superfund Site, in Whittier, California. Groundwater extracted during the pump test was then treated using pilot-scale air stripper combined with off-gas VPGAC treatment. The results of the pilot tests provided information regarding the aquifer characteristics at the Site, along Putnam Street and data for selecting the most appropriate design parameters for the final design and implementation of the groundwater treatment remedy for the Site. Based on the results presented herein, CDM has the following conclusions:

- A sustainable total pumping rate of 25.5 gpm from the groundwater extraction wells (EW-1 through EW-5) was maintained during the constant rate pumping test.

- The estimated maximum sustainable rates for each well are as follows: EW-1 = 13 gpm; EW-2 = 8 gpm; EW-3= 6 gpm; EW-4= 2 gpm; EW-5 = 2 gpm. This results in a total system design flow rate of approximately 30 gpm.

- Drawdown to a maximum of 2 feet (PZ-2) was observed in the shallow aquifer. No significant drawdown was induced in OW1, OW4a and OW4b, due to significant radial distance (>300 ft) from the pumping array.

- No significant drawdown was induced in the lower aquifer at OW-3b and OW-8b along the pumping array, indicating minimal hydraulic communication between the shallow and deeper aquifer along the pumping array.

- Analysis of the response curve for OW-8 and PZ-2, suggests the presence of boundaries, thereby indicating truncation of the shallow aquifer in the vicinity of these observation wells.

- Transmissivity and hydraulic conductivity for the shallow aquifer along the pumping array, was calculated at a geometric mean of 2760 ft^2/day and of 1.53E+02ft/day. These values are within the range of the screened geological unit of lean clay-silt, with moderate to low permeability and infeasible transmissivity.

- The pumping test results from the extraction wells suggest a higher well capacity along the northern portion of the pumping array (EW-1 and EW-2).

- Groundwater from the individual extraction wells during the APT, contained the highest concentrations of VOCs in EW-2 (with PCE up to 42,000 ug/L).

- Pilot test data show that stripping is a viable technology for removal of VOCs from groundwater and was effective in reducing the total VOC levels to less than the sewer discharge limit of 1,000 µg/L even at varying influent total VOC concentrations of 3800 µg/L to 8700 µg/L.

- The measured groundwater concentrations during the pilot study also show 1,4-dioxane concentrations to be below the 5,000 µg/L preliminary limit established by CSDLAC for discharge to JWPCP.

- General groundwater chemistry results indicate extremely high concentrations of hardness (over 600 mg/L) which would require use of an anticipant (polyphosphate or similar chemical) for the full-scale treatment system to prevent scale deposits on the air stripper.

- Vapor-phase samples demonstrated no breakthrough in the VPGAC vessels during the pilot test, but it is likely that several compounds such as chloroform and freons will breakthrough prior to PCE.

- If VPGAC is operated to prevent breakthrough of any of the detected VOCs, GAC usage is estimated to be 378 pounds per day based on the concentrations observed during the pilot test and a design flow rate of 30 gpm. If VPGAC is operated to allow selective breakthrough of poorly adsorbed compounds, these compounds will be present in the system effluent at concentrations equally or potentially exceeding the influent, due to competitive adsorption as PCE generally adsorbs to GAC better than most VOCs. GAC usage isotherms are unable to quantify what level of displacement could occur. GAC usage rates under in this case was estimated to be far lower (16 pounds per day at 30 gpm), but off-gas discharge will contain higher levels of other VOCs. The final determination of the appropriate operational method will be based on whether the VOC emissions meet the substantive requirements of SCAQMD consisting of a maximum incremental cancer risk (MICR) of less than 10^{-5} and chronic and acute hazard indices (HIC and HIA) of less than 1.0.

Attachments

- Tables
- Figures
- Attachment A – Treatability Study Results
- Attachment B – Field Data
- Attachment C – Treatment Equipment Cut Sheets

Tables

Table 2-1
Extraction Well Construction Details
Omega Chemical Superfund Site, Whittier, CA

Well No.	Casing Dia. (inches)	Boring diameter (inches)	TD drilled (feet bgs)	Blank Casing Type	Screen Type	Screened Interval (feet bgs)	Opening Size (inch)	Filter Pack Gradation	Filter Pack Interval (feet bgs)	Date Drilled	TD Cased (feet bgs)	Northing (feet)	Easting (feet)	Depth to Groundwater* (feet btoc)	Reference Point Depth (feet bgs)	Reference Point (casing)
EW-1	6	12	92	PVC	SS/WW	72 - 87	0.020	#2/12	60 - 92	Jul-06	92	NA	NA	66.66	0.68	top of PVC
EW-2	6	12	92	PVC	SS/WW	72 - 87	0.020	#2/12	60 - 92	Jul-06	92	NA	NA	65.51	0.67	top of PVC
EW-3	6	12	90	PVC	SS/WW	70 - 85	0.020	#2/12	63.4 - 90	Jul-06	90	NA	NA	64.08	0.92	top of PVC
EW-4	6	12	91	PVC	SS/WW	71 - 86	0.020	#2/12	59 - 91	Jul-06	91	NA	NA	63.11	0.70	top of PVC
EW-5	6	12	90	PVC	SS/WW	70 - 85	0.020	#2/12	58.5 - 90	Jul-06	90	NA	NA	61.55	0.56	top of PVC

Notes:

bgs - below ground surface
msl - feet above Mean Sea Level
GS - Ground Surface
TD - Total Depth

Dia. - Diameter
SS - stainless steel
WW - continuous wire wrap screen
PVC - polyvinylchloride

btoc - below top of casing (measuring point)

* Depth to groundwater measured July 19, 2006, due to drilling method used and subsequent field observations these pre-development water level data are assumed to represent aquifer conditions.

Table 2-2
Constant Test Summary
Omega Chemical Superfund Site, Whittier, CA

Well No.	Total Depth (ft bgs)	Casing Diameter (in)	Time	Static Water (ft bgs)	Screen Interval (ft bgs)	Geologic Unit Screened	Q (gpm)	Maximum drawdown observed (ft)	Distance from extraction wells (ft)*
EW-1	92	6	11:22	67.86	72-87	interbedded SP and CL	10.5	4.0	--
EW-2	92	6	11:23	66.53	72-87	interbedded SP, ML and GP	5.7	1.3	--
EW-3	90	6	11:14	65.03	70-85	interbedded SP, ML and GP	5.4	3.8	--
EW-4	91	6	11:12	63.88	71-86	interbedded ML and CL	1.98	4.2	--
EW-5	90	6	11:10	62.25	70-85	interbedded ML and CL	1.96	5.4	--
OW-1	80	4	11:00	75.06	62-77	CH	--	not observed	300 ft NW from EW-1
OW-2	85	4	11:24	67.52	60-80	SP-SM with CL at the bottom 5 feet	--	0.2	100ft NW from EW-1
OW-3	83	4	11:13	63.64	63-83		--	1.1	12.5ft NW from EW-4
OW-3b	139	4	11:11	73.76	112-122	SP	--	not observed	31ft NW from EW-5
OW-4a	75	4	11:15	56.89	49.8-69.8	interbedded SW, SP, SM, ML, CL	--	not observed	along Whittier Blvd
OW-4b	127	4	11:16	61.54	112-122.3	Sand	--	not observed	along Whittier Blvd
OW-8	80	4	11:19	65.74	60.38- 79.98	SP, SW with ML at the bottom 2 feet	--	0.8	24ft NW from EW-2
OW-8b	143	4	11:20	76.93	116-126	interbedded SP, SM, ML	--	not observed	34ft NW from EW-2
PZ-1	90	2	11:18	65.39	68-88	interbedded SW, SP, SM, ML, CL	--	0.8	26ft SE from EW-1
PZ-2	85	2	11:21	66.48	64-84	interbedded SW, SP, SM, ML, CL	--	2	12ft SE from EW-1

Notes:

ft	feet
in	inches
ft bgs	feet below ground surface
gpm	gallon per minutes
*	Distances are approximations given from the nearest extraction well to the observation well

Table 2-3
Laboratory Analysis Summary
Omega Chemical Superfund Site, Whittier CA

		Groundwater Samples		Air Samples		
		Influent	Effluent	Influent		Effluent
Analysis	Method	GW-IN	GW-OUT	GAC-1-IN	GAC-2-IN	GAC-2-OUT
Volatile Organic Compounds	EPA 8260B	every 4 hours	every 4 hours	--	--	--
1,4-dioxane	EPA 8270	every 4 hours	every 4 hours	--	--	--
Semi-Volatile Organic Compounds	EPA 8270	One/test	One/test	--	--	--
CAM Title 22 Metals*	EPA 6010B/7420	One/test	One/test	--	--	--
Chemical Oxygen Demand	EPA 410.4	One/test	One/test	--	--	--
Sulfide	EPA 376.2	One/test	One/test	--	--	--
Total Suspended Solids	EPA 160.2	One/test	One/test	--	--	--
Cyanide	EPA 335.2	One/test	One/test	--	--	--
Oil and Grease	EPA 413.2	One/test	One/test	--	--	--
Hardness	EPA 130.2	One/test	One/test	--	--	--
Alkalinity	EPA 310.1	One/test	One/test	--	--	--
Total Dissolved Soilds	EPA 160.1	One/test	One/test	--	--	--
Dissolved Iron	EPA 6010B	One/test	One/test	--	--	--
Dissolved Manganese	EPA 6010B	One/test	One/test	--	--	--
Volatile Organic Compounds	EPA TO-14A	--	--	every 4 hours	every 4 hours	every 4 hours

* Unfiltered Sb, As, Ba, Be, Cd, Cr, Co, Cu, Pb, Hg, Mo, Ni, Se, Ag, Tl, V, Z

Table 3-1
Groundwater Analytical Summary - VOCs, 1,4-Dioxane, and NDMA
Aquifer Performance Test
Omega Chemical Superfund Site, Whittier, CA

			EW-1		EW-2		EW-3		EW-4			EW-5		
			9/13/2006	9/14/2006	9/13/2006	9/14/2006	9/13/2006	9/14/2006	9/13/2006	9/13/2006	9/14/2006	9/13/2006	9/14/2006	9/14/2006
Method	Parameter	Units	4-Hour	24-hour	4-Hour	24-Hour	4-Hour	24-Hour	4-Hour	4-Hour DUP	24-Hour	4-Hour	24-Hour	24-Hour DUP
EMERGING CHEMICALS														
EPA 8270C	1,4-DIOXANE	ug/l	0.59	0.48 U	1500	1300	0.88	2.4	0.47 U	0.47	0.49 U	0.47 U	0.47 U	0.47 U
1625	N-NITROSODIMETHYLAMINE	ug/l	0.0019 U	0.0019 U	0.13	0.15	0.0019 U	0.0019 U	0.0019 U	0.0019 U	0.0019 U	0.0019 U	0.0019 U	0.0019 U
VOCs														
EPA 8260B	1,1,1,2-TETRACHLOROETHANE	ug/l	1 U	1 U	20 U	4.5	10 U	1 U	2 U	1 U	1 U	1 U	1 U	1 U
	1,1,1-TRICHLOROETHANE	ug/l	1.7	2.4	150	120	3.7 J	3.4	3.8	3.4	2.9	0.79 J	1.1	1.2
	1,1,2,2-TETRACHLOROETHANE	ug/l	1 U	1 U	20 U	1 U	10 U	1 U	2 U	1 U	1 U	1 U	1 U	1 U
	1,1,2-TRICHLORO-1,2,2-TRIFLUOROETHANE	ug/l	190	210	780	700	120	120	170	140	140	160	190	150
	1,1,2-TRICHLOROETHANE	ug/l	1 U	1 U	6 J	14	10 U	1 U	2 U	1 U	1 U	1 U	1 U	1 U
	1,1-DICHLOROETHANE	ug/l	0.63 J	1.2	46	42	5.6 J	5.7	2.9	2.3	2.1	1 U	1 U	1 U
	1,1-DICHLOROETHENE	ug/l	50	84	930	670	500	370	720	640	580	290	360	370
	1,1-DICHLOROPROPENE	ug/l	1 U	1 U	20 U	1 U	10 U	1 U	2 U	1 U	1 U	1 U	1 U	1 U
	1,2,3-TRICHLOROBENZENE	ug/l	1 U	1 U	20 U	1 U	10 U	1 U	2 U	1 U	1 U	1 U	1 U	1 U
	1,2,3-TRICHLOROPROPANE	ug/l	1 U	1 U	20 U	1 U	10 U	1 U	2 U	1 U	1 U	1 U	1 U	1 U
	1,2,4-TRICHLOROBENZENE	ug/l	1 U	1 U	20 U	1 U	10 U	1 U	2 U	1 U	1 U	1 U	1 U	1 U
	1,2,4-TRIMETHYLBENZENE	ug/l	1 U	1 U	20 U	4.3	10 U	1 U	2 U	1 U	1 U	1 U	1 U	1 U
	1,2-DIBROMO-3-CHLOROPROPANE	ug/l	5 U	5 U	100 U	5 U	50 U	5 U	10 U	5 U	5 U	5 U	5 U	5 U
	1,2-DIBROMOETHANE	ug/l	1 U	1 U	20 U	1 U	10 U	1 U	2 U	1 U	1 U	1 U	1 U	1 U
	1,2-DICHLOROBENZENE	ug/l	1 U	1 U	6.4 J	5.1	10 U	1 U	2 U	1 U	1 U	1 U	1 U	1 U
	1,2-DICHLOROETHANE	ug/l	0.5 U	0.5 U	340	250	5 U	0.63	1 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U
	1,2-DICHLOROPROPANE	ug/l	1 U	1 U	20 U	1 U	10 U	1 U	2 U	1 U	1 U	1 U	1 U	1 U
	1,3,5-TRIMETHYLBENZENE	ug/l	1 U	1 U	20 U	1	10 U	1 U	2 U	1 U	1 U	1 U	1 U	1 U
	1,3-DICHLOROBENZENE	ug/l	1 U	1 U	20 U	1 U	10 U	1 U	2 U	1 U	1 U	1 U	1 U	1 U
	1,3-DICHLOROPROPANE	ug/l	1 U	1 U	20 U	1 U	10 U	1 U	2 U	1 U	1 U	1 U	1 U	1 U
	1,4-DICHLOROBENZENE	ug/l	1 U	1 U	20 U	0.58 J	10 U	1 U	2 U	1 U	1 U	1 U	1 U	1 U
	2,2-DICHLOROPROPANE	ug/l	1 U	1 U	20 U	1 U	10 U	1 U	2 U	1 U	1 U	1 U	1 U	1 U
	2-CHLOROTOLUENE	ug/l	1 U	1 U	20 U	1 U	10 U	1 U	2 U	1 U	1 U	1 U	1 U	1 U
	4-CHLOROTOLUENE	ug/l	1 U	1 U	20 U	1 U	10 U	1 U	2 U	1 U	1 U	1 U	1 U	1 U
	ACETONE	ug/l	10 U	10 U	270	560	100 U	10 U	20 U	10 U	10 U	10 U	10 U	10 U
	BENZENE	ug/l	0.5 U	0.5 U	10 U	4.3	5 U	0.49 J	1 U	0.41 J	0.29 J	0.5 U	0.5 U	0.5 U
	BROMOBENZENE	ug/l	1 U	1 U	20 U	1 U	10 U	1 U	2 U	1 U	1 U	1 U	1 U	1 U
	BROMOCHLOROMETHANE	ug/l	1 U	1 U	20 U	1 U	10 U	1 U	2 U	1 U	1 U	1 U	1 U	1 U
	BROMODICHLOROMETHANE	ug/l	1 U	1 U	20 U	1 U	10 U	1 U	2 U	1 U	1 U	1 U	1 U	1 U
	BROMOFORM	ug/l	1 U	1 U	20 U	1 U	10 U	1 U	2 U	1 U	1 U	1 U	1 U	1 U
	BROMOMETHANE	ug/l	1 U	1 U	20 U	1 U	10 U	1 U	2 U	1 U	1 U	1 U	1 U	1 U
	CARBON TETRACHLORIDE	ug/l	0.5 U	0.5 U	10 U	0.5 U	5 U	0.5 U	1 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U
	CHLOROBENZENE	ug/l	1 U	1 U	20 U	1.6	10 U	1 U	2 U	1 U	1 U	1 U	1 U	1 U
	CHLORODIBROMOMETHANE	ug/l	1 U	1 U	20 U	1 U	10 U	1 U	2 U	1 U	1 U	1 U	1 U	1 U
	CHLOROETHANE	ug/l	1 U	1 U	20 U	1 U	10 U	1 U	2 U	1 U	1 U	1 U	1 U	1 U

Table 3-1
Groundwater Analytical Summary - VOCs, 1,4-Dioxane, and NDMA
Aquifer Performance Test
Omega Chemical Superfund Site, Whittier, CA

			EW-1		EW-2		EW-3		EW-4			EW-5		
			9/13/2006	9/14/2006	9/13/2006	9/14/2006	9/13/2006	9/14/2006	9/13/2006	9/13/2006	9/14/2006	9/13/2006	9/14/2006	9/14/2006
Method	Parameter	Units	4-Hour	24-hour	4-Hour	24-Hour	4-Hour	24-Hour	4-Hour	4-Hour DUP	24-Hour	4-Hour	24-Hour	24-Hour DUP
VOCs (Contd.)														
	CHLOROFORM	ug/l	2.3	7	1500	1100	56	71	19	17	16	0.59 J	0.91 J	0.96 J
	CHLOROMETHANE	ug/l	1 U	1 U	20 U	1 U	10 U	1 U	2 U	1 U	1 U	1 U	1 U	1 U
	CIS-1,2-DICHLOROETHENE	ug/l	1 U	1 U	19 J	17	3.6 J	2.4	1.2 J	0.88 J	0.84 J	1 U	1 U	1 U
	CIS-1,3-DICHLOROPROPENE	ug/l	0.5 U	0.5 U	10 U	0.5 U	5 U	0.5 U	1 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U
	DIBROMOMETHANE	ug/l	1 U	1 U	20 U	1 U	10 U	1 U	2 U	1 U	1 U	1 U	1 U	1 U
	DICHLORODIFLUOROMETHANE	ug/l	5 U	5 U	100 U	5 U	50 U	5 U	10 U	5 U	5 U	5 U	5 U	5 U
	ETHYLBENZENE	ug/l	1 U	1 U	20 U	3.6	10 U	1 U	2 U	1 U	1 U	1 U	1 U	1 U
	HEXACHLOROBUTADIENE	ug/l	1 U	1 U	20 U	1 U	10 U	1 U	2 U	1 U	1 U	1 U	1 U	1 U
	ISOPROPYLBENZENE	ug/l	1 U	1 U	20 U	0.73 J	10 U	1 U	2 U	0.79 J	1 U	1 U	1 U	1 U
	M,P-XYLENES	ug/l	1 U	1 U	20 U	9.7	10 U	1 U	2 U	1 U	1 U	1 U	1 U	1 U
	METHYL TERT-BUTYL ETHER	ug/l	1 U	1 U	20 U	1 U	10 U	1 U	2 U	1 U	1 U	1 U	1 U	1 U
	METHYLENE CHLORIDE	ug/l	5 U	5 U	540	750	50 U	5 U	10 U	5 U	5 U	5 U	5 U	5 U
	NAPHTHALENE	ug/l	1 U	1 U	20	1 U	10 U	1 U	2 U	1 U	1 U	1 U	1 U	1 U
	N-BUTYLBENZENE	ug/l	1 U	1 U	20 U	1 U	10 U	1 U	2 U	1 U	1 U	1 U	1 U	1 U
	N-PROPYLBENZENE	ug/l	1 U	1 U	20 U	0.48 J	10 U	1 U	2 U	1 U	1 U	1 U	1 U	1 U
	O-XYLENE	ug/l	1 U	1 U	20 U	6.6	10 U	1 U	2 U	1 U	1 U	1 U	1 U	1 U
	P-ISOPROPYLTOLUENE	ug/l	1 U	1 U	20 U	1 U	10 U	1 U	2 U	1 U	1 U	1 U	1 U	1 U
	SEC-BUTYLBENZENE	ug/l	1 U	1 U	20 U	1 U	10 U	1 U	2 U	1 U	1 U	1 U	1 U	1 U
	STYRENE	ug/l	1 U	1 U	20 U	1 U	10 U	1 U	2 U	1 U	1 U	1 U	1 U	1 U
	TERT-BUTYLBENZENE	ug/l	1 U	1 U	20 U	1 U	10 U	1 U	2 U	1 U	1 U	1 U	1 U	1 U
	TETRACHLOROETHENE	ug/l	260	600	42000	22000	4800	2900	2200	2200	2000	360	450	460
	TOLUENE	ug/l	1 U	1 U	42	56	10 U	1 U	2 U	1 U	1 U	1 U	1 U	1 U
	TRANS-1,2-DICHLOROETHENE	ug/l	0.69 J	1.2	29	26	10 U	1.8	0.78 J	0.5 J	0.48 J	1 U	1 U	1 U
	TRANS-1,3-DICHLOROPROPENE	ug/l	0.5 U	0.5 U	10 U	0.5 U	5 U	0.5 U	1 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U
	TRICHLOROETHENE	ug/l	36	52	960	880	370	310	220	160	150	30	39	45
	TRICHLOROFLUOROMETHANE (FREON 11)	ug/l	61	62	310	240	85	71	90	70	71	79	92	100
	VINYL CHLORIDE	ug/l	0.5 U	0.5 U	10 U	0.5 U	5 U	0.5 U	1 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U

Notes:
U = Not detected at a concentration greater than the reporting limit shown
J = Estimated concentration between the laboratory method detection and reporting limits

Table 3-2
Groundwater Analytical Summary - General Chemistry, Metals, and SVOCs
Aquifer Performance Test
Omega Chemical Superfund Site, Whittier, CA

Method	Parameter	Units	EW-1	EW-2	EW-3	EW-4	EW-5	
			9/14/2006	9/14/2006	9/14/2006	9/14/2006	9/14/2006	9/14/2006
			24-Hour	24-Hour	24-Hour	24-Hour	24-Hour	DUP
GENERAL CHEMISTRY								
SM2320B	BICARBONATE ALKALINITY (AS CACO3)	mg/l	370	400	340	360	340	340
405.1	BOD 5 DAY (BIOCHEMICAL OXYGEN DEMAND)	mg/l	2 U	10	2 U	2 U	2 U	2 U
SM2320B	CARBONATE ALKALINITY (AS CACO3)	mg/l	2 U	2 U	2 U	2 U	2 U	2 U
410.4	CHEMICAL OXYGEN DEMAND	mg/l	28	75	69	29	23	29
EPA 300.0	CHLORIDE	mg/l	71	120	55	58	55	55
130.2	HARDNESS (AS CACO3)	mg/l	590	680	660	710	720	720
SM2320B	HYDROXIDE ALKALINITY (AS CACO3)	mg/l	2 U	2 U	2 U	2 U	2 U	2 U
EPA 376.2	SULFIDES	mg/l	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U
SM2320B	TOTAL ALKALINITY (AS CACO3)	mg/l	370	400	340	360	340	340
160.1	TOTAL DISSOLVED SOLIDS	mg/l	950	1100	1100	1100	1100	1200
EPA 415.1	TOTAL ORGANIC CARBON	mg/l	1 U	7.5	1 U	1 U	1 U	1 U
METALS								
EPA 6010B	ANTIMONY	mg/l	0.01 U	0.01 U	0.01 U	0.01 U	0.01 U	0.01 U
EPA 6010B	ARSENIC	mg/l	0.005 U	0.005 U	0.005 U	0.005 U	0.005 U	0.005 U
EPA 6010B	BARIUM	mg/l	0.028	0.032	0.022	0.022	0.022	0.023
EPA 6010B	BERYLLIUM	mg/l	0.004 U	0.004 U	0.004 U	0.004 U	0.004 U	0.004 U
EPA 6010B	CADMIUM	mg/l	0.005 U	0.005 U	0.005 U	0.005 U	0.005 U	0.005 U
EPA 6010B	CHROMIUM	mg/l	0.0052	0.0093	0.0085	0.0053	0.0063	0.0076
EPA 6010B	COBALT	mg/l	0.01 U	0.01 U	0.01 U	0.01 U	0.01 U	0.01 U
EPA 6010B	COPPER	mg/l	0.01 U	0.01 U	0.066	0.079	0.01 U	0.01 U
EPA 6010B	IRON	mg/l	0.043	0.13	0.057	0.04 U	0.04 U	0.55
EPA 6010B	LEAD	mg/l	0.005 U	0.005 U	0.067	0.075	0.005 U	0.007
EPA 6010B	MANGANESE	mg/l	0.02 U	1.2	0.02 U	0.02 U	0.02 U	0.02 U
EPA 7470A	MERCURY	mg/l	0.0002 U	0.0002 U	0.0002 U	0.0002 U	0.0002 U	0.0002 U
EPA 6010B	MOLYBDENUM	mg/l	0.02 U	0.02 U	0.02 U	0.02 U	0.02 U	0.02 U
EPA 6010B	NICKEL	mg/l	0.01 U	0.01 U	0.01 U	0.01 U	0.01 U	0.01 U
EPA 6010B	SELENIUM	mg/l	0.01 U	0.01 U	0.01 U	0.01 U	0.01 U	0.01 U
EPA 6010B	SILVER	mg/l	0.01 U	0.01 U	0.01 U	0.01 U	0.01 U	0.01 U
EPA 6010B	THALLIUM	mg/l	0.01 U	0.01 U	0.01 U	0.01 U	0.01 U	0.01 U
EPA 6010B	VANADIUM	mg/l	0.01 U	0.01 U	0.01 U	0.01 U	0.01 U	0.01 U
EPA 6010B	ZINC	mg/l	0.054	0.32	0.18	0.57	0.24	0.5

Table 3-2
Groundwater Analytical Summary - General Chemistry, Metals, and SVOCs
Aquifer Performance Test
Omega Chemical Superfund Site, Whittier, CA

Method	Parameter	Units	EW-1	EW-2	EW-3	EW-4	EW-5	
			9/14/2006	9/14/2006	9/14/2006	9/14/2006	9/14/2006	9/14/2006
			24-Hour	24-Hour	24-Hour	24-Hour	24-Hour	DUP
SVOCs								
EPA 8270C	1,2,4-TRICHLOROBENZENE	ug/l	9.6 U	9.5 U	9.6 U	9.5 U	9.4 U	Pending
	1,2-DICHLOROBENZENE	ug/l	9.6 U	9.5 U	9.6 U	9.5 U	9.4 U	"
	1,2-DIPHENYLHYDRAZINE	ug/l	19 U	19 U	19 U	19 U	19 U	"
	1,3-DICHLOROBENZENE	ug/l	9.6 U	9.5 U	9.6 U	9.5 U	9.4 U	"
	1,4-DICHLOROBENZENE	ug/l	9.6 U	9.5 U	9.6 U	9.5 U	9.4 U	"
	2,4,5- TRICHLOROPHENOL	ug/l	19 U	19 U	19 U	19 U	19 U	"
	2,4,6-TRICHLOROPHENOL	ug/l	19 U	19 U	19 U	19 U	19 U	"
	2,4-DICHLOROPHENOL	ug/l	9.6 U	9.5 U	9.6 U	9.5 U	9.4 U	"
	2,4-DIMETHYLPHENOL	ug/l	19 U	19 U	19 U	19 U	19 U	"
	2,4-DINITROPHENOL	ug/l	19 U	19 U	19 U	19 U	19 U	"
	2,4-DINITROTOLUENE	ug/l	9.6 U	9.5 U	9.6 U	9.5 U	9.4 U	"
	2,6-DINITROTOLUENE	ug/l	9.6 U	9.5 U	9.6 U	9.5 U	9.4 U	"
	2-CHLORONAPHTHALENE	ug/l	9.6 U	9.5 U	9.6 U	9.5 U	9.4 U	"
	2-CHLOROPHENOL	ug/l	9.6 U	9.5 U	9.6 U	9.5 U	9.4 U	"
	2-METHYLNAPHTHALENE	ug/l	9.6 U	9.5 U	9.6 U	9.5 U	9.4 U	"
	2-METHYLPHENOL	ug/l	9.6 U	9.5 U	9.6 U	9.5 U	9.4 U	"
	2-NITROANILINE	ug/l	19 U	19 U	19 U	19 U	19 U	"
	2-NITROPHENOL	ug/l	9.6 U	9.5 U	9.6 U	9.5 U	9.4 U	"
	3,3-DICHLOROBENZIDINE	ug/l	19 U	19 U	19 U	19 U	19 U	"
	3-NITROANILINE	ug/l	19 U	19 U	19 U	19 U	19 U	"
	4,6-DINITRO-2-METHYLPHENOL	ug/l	19 U	19 U	19 U	19 U	19 U	"
	4-BROMOPHENYL-PHENYL ETHER	ug/l	9.6 U	9.5 U	9.6 U	9.5 U	9.4 U	"
	4-CHLORO-3-METHYLPHENOL	ug/l	19 U	19 U	19 U	19 U	19 U	"
	4-CHLOROANILINE	ug/l	9.6 U	9.5 U	9.6 U	9.5 U	9.4 U	"
	4-CHLOROPHENYL-PHENYL ETHER	ug/l	9.6 U	9.5 U	9.6 U	9.5 U	9.4 U	"
	4-METHYLPHENOL	ug/l	9.6 U	9.5 U	9.6 U	9.5 U	9.4 U	"
	4-NITROANILINE	ug/l	19 U	19 U	19 U	19 U	19 U	"
	4-NITROPHENOL	ug/l	19 U	19 U	19 U	19 U	19 U	"
	ACENAPHTHENE (ETHYLENE NAPHTHALENE)	ug/l	9.6 U	9.5 U	9.6 U	9.5 U	9.4 U	"
	ACENAPHTHYLENE	ug/l	9.6 U	9.5 U	9.6 U	9.5 U	9.4 U	"
	ANILINE (PHENYLAMINE) (AMINOBENZENE)	ug/l	9.6 U	9.5 U	9.6 U	9.5 U	9.4 U	"
	ANTHRACENE	ug/l	9.6 U	9.5 U	9.6 U	9.5 U	9.4 U	"
	BENZIDINE	ug/l	19 U	19 U	19 U	19 U	19 U	"
	BENZO(A)ANTHRACENE	ug/l	9.6 U	9.5 U	9.6 U	9.5 U	9.4 U	"
	BENZO(A)PYRENE	ug/l	9.6 U	9.5 U	9.6 U	9.5 U	9.4 U	"
	BENZO(B)FLUORANTHENE	ug/l	9.6 U	9.5 U	9.6 U	9.5 U	9.4 U	"
	BENZO(G,H,I)PERYLENE	ug/l	9.6 U	9.5 U	9.6 U	9.5 U	9.4 U	"
	BENZO(K)FLUORANTHENE	ug/l	9.6 U	9.5 U	9.6 U	9.5 U	9.4 U	"
	BENZOIC ACID	ug/l	19 U	19 U	19 U	19 U	19 U	"

Table 3-2
Groundwater Analytical Summary - General Chemistry, Metals, and SVOCs
Aquifer Performance Test
Omega Chemical Superfund Site, Whittier, CA

Method	Parameter	Units	EW-1	EW-2	EW-3	EW-4	EW-5	
			9/14/2006	9/14/2006	9/14/2006	9/14/2006	9/14/2006	9/14/2006
			24-Hour	24-Hour	24-Hour	24-Hour	24-Hour	DUP
SVOCs								
	BENZYL ALCOHOL (PHENYLMETHANOL)	ug/l	19 U	19 U	19 U	19 U	19 U	"
	BIS(2-CHLOROETHOXY)METHANE	ug/l	9.6 U	9.5 U	9.6 U	9.5 U	9.4 U	"
	BIS(2-CHLOROETHYL)ETHER	ug/l	9.6 U	9.5 U	9.6 U	9.5 U	9.4 U	"
	BIS(2-CHLOROISOPROPYL)ETHER	ug/l	9.6 U	9.5 U	9.6 U	9.5 U	9.4 U	"
	BIS(2-ETHYLHEXYL)PHTHALATE	ug/l	48 U	48 U	48 U	48 U	47 U	"
	BUTYLBENZYL PHTHALATE	ug/l	19 U	19 U	19 U	19 U	19 U	"
	CHRYSENE	ug/l	9.6 U	9.5 U	9.6 U	9.5 U	9.4 U	"
	DIBENZO(A,H)ANTHRACENE	ug/l	19 U	19 U	19 U	19 U	19 U	"
	DIBENZOFURAN (DIPHENYLENE OXIDE)	ug/l	9.6 U	9.5 U	9.6 U	9.5 U	9.4 U	"
	DIETHYL PHTHALATE	ug/l	9.6 U	9.5 U	9.6 U	9.5 U	9.4 U	"
	DIMETHYL PHTHALATE	ug/l	9.6 U	9.5 U	9.6 U	9.5 U	9.4 U	"
	DI-N-BUTYLPHTHALATE	ug/l	19 U	19 U	19 U	19 U	19 U	"
	DI-N-OCTYL PHTHALATE (DIOCTYL PHTHALATE)	ug/l	19 U	19 U	19 U	19 U	19 U	"
	FLUORANTHENE (IDRYL)	ug/l	9.6 U	9.5 U	9.6 U	9.5 U	9.4 U	"
	FLUORENE (ALPHA-DIPHENYLENEMETHANE)	ug/l	9.6 U	9.5 U	9.6 U	9.5 U	9.4 U	"
	HEXACHLOROBENZENE (PERCHLOROBENZENE)	ug/l	9.6 U	9.5 U	9.6 U	9.5 U	9.4 U	"
	HEXACHLOROBUTADIENE	ug/l	9.6 U	9.5 U	9.6 U	9.5 U	9.4 U	"
	HEXACHLOROCYCLOPENTADIENE	ug/l	19 U	19 U	19 U	19 U	19 U	"
	HEXACHLOROETHANE (PERCHLOROETHANE)	ug/l	9.6 U	9.5 U	9.6 U	9.5 U	9.4 U	"
	INDENO(1,2,3-C,D)PYRENE	ug/l	19 U	19 U	19 U	19 U	19 U	"
	ISOPHORONE	ug/l	9.6 U	9.5 U	9.6 U	9.5 U	9.4 U	"
	NAPHTHALENE	ug/l	9.6 U	9.5 U	9.6 U	9.5 U	9.4 U	"
	NITROBENZENE (OIL OF MIRBANE)	ug/l	19 U	19 U	19 U	19 U	19 U	"
	N-NITROSODI-N-PROPYLAMINE	ug/l	9.6 U	9.5 U	9.6 U	9.5 U	9.4 U	"
	N-NITROSODIPHENYLAMINE	ug/l	9.6 U	9.5 U	9.6 U	9.5 U	9.4 U	"
	PENTACHLOROPHENOL (PCP)	ug/l	19 U	19 U	19 U	19 U	19 U	"
	PHENANTHRENE	ug/l	9.6 U	9.5 U	9.6 U	9.5 U	9.4 U	"
	PHENOL	ug/l	9.6 U	9.5 U	9.6 U	9.5 U	9.4 U	"
	PYRENE	ug/l	9.6 U	9.5 U	9.6 U	9.5 U	9.4 U	"

Notes:
U = Not detected at a concentration greater than the reporting limit shown
J = Estimated concentration between the laboratory method detection and reporting limits

Table 3-3
Groundwater Influent and Effluent Analytical Summary - VOCs
Pilot Test
Omega Chemical Superfund Site, Whittier, CA

Location ID	Sample Date	Sample Time	Sample Type	Units	1,4-Dioxane	1,1,2-TCA	1,1-DCA	1,1-DCE	1,2-DCA	Chloroform	Methylene Chloride	PCE	Toluene	Trans-1,2-DCE	TCE	Trichlorofluoro-methane (Freon 11)
Influent	9/16/2006	11:45	IN	ug/L	360	5 U	5 U	340	22	91	53	3100	5 U	5 U	180	55
	9/19/2006	12:30	IN	ug/L	360	5 U	5 U	360	24	100	55	3400	5 U	5 U	200	61
	9/19/2006	16:25	IN	ug/L	360	5 U	5 U	360	24	97	58	3300	5 U	5 U	190	61
	9/19/2006	23:53	IN	ug/L	370	5 U	5 U	360	23	97	54	3300	5 U	5 U	190	60
	9/20/2006	4:00	IN	ug/L	360	5 U	5 U	350	23	92	52	3100	5 U	5 U	180	59
	9/20/2006	8:00	IN	ug/L	370	5 U	5 U	310	21	84	47	3000	5 U	5 U	160	53
	9/20/2006	11:00	IN	ug/L	360	5 U	9.7	240	70	270	220	7300	12	6.6	210	79
	9/20/2006	18:48	IN	ug/L	1100	5 U	8.8	220	64	250	200	6800	11	6.1	190	76
	9/20/2006	22:50	IN	ug/L	1100	5 U	9.6	220	66	260	210	6800	11	5.9	190	78
	9/21/2006	3:00	IN	ug/L	1000	5 U	9.7	240	68	260	210	7000	12	6	200	82
	9/21/2006	6:50	IN	ug/L	1100	5 U	9	140	63	240	200	6500	11	5 U	180	75
	9/21/2006	8:35	IN	ug/L	1100	5 U	8.4	180	59	230	180	6100	9.9	5 U	170	69
Effluent	9/16/2006	11:30	EFF	ug/L	350	0.5 U	0.5 U	4.9	5.8	7.8	5.8	70	0.5 U	0.5 U	6.6	0.5 U
	9/19/2006	12:30	EFF	ug/L	350	0.5 U	0.5 U	4.9	5.4	7.2	5.3	67	0.5 U	0.5 U	6.3	0.5 U
	9/19/2006	16:30	EFF	ug/L	340	0.5 U	0.5 U	4.3	5.4	7.4	5.5	64	0.5 U	0.5 U	6	0.5 U
	9/19/2006	23:59	EFF	ug/L	350	0.5 U	0.5 U	4.5	3.9	5.2	3.8	59	0.5 U	0.5 U	4.8	0.5 U
	9/20/2006	4:00	EFF	ug/L	370	0.5 U	0.5 U	4	4	5	3.6	56	0.5 U	0.5 U	4.6	0.5 U
	9/20/2006	8:00	EFF	ug/L	360	0.5 U	0.5 U	3.7	3.9	4.9	3.6	54	0.5 U	0.5 U	4.5	0.5 U
	9/20/2006	11:00	EFF	ug/L	350	0.5 U	0.5 U	4.1	3.8	5.1	3.8	53	0.5 U	0.5 U	4.7	0.5 U
	9/20/2006	18:55	EFF	ug/L	1000	0.61	0.5 U	2.5	11	14	16	110	0.5 U	0.5 U	4.7	0.5 U
	9/20/2006	22:55	EFF	ug/L	1100	0.56	0.5 U	2.1	10	12	14	97	0.5 U	0.5 U	4.1	0.5 U
	9/21/2006	3:05	EFF	ug/L	1000	0.57	0.5 U	2.1	11	12	14	99	0.5 U	0.5 U	4.3	0.5 U
	9/21/2006	6:55	EFF	ug/L	1100	0.5 U	0.5 U	0.5 U	7.2	4.4	6.2	15	0.5 U	0.5 U	0.88	0.5 U
	9/21/2006	8:30	EFF	ug/L	1000	0.5 U	0.5 U	0.5 U	7.1	4.3	5.9	15	0.5 U	0.5 U	0.89	0.5 U

Notes:
IN = Influent
EFF = Effluent
TCA = Trichloroethane; DCA = Dichloroethane; DCE = Dichloroethene; PCE = Tetrachloroethene; TCE = Trichloroethene
Only compounds detected in one or more influent or effluent samples are shown
ug/L = micrograms per liter

Table 3-4
Groundwater Analytical Summary - General Chemistry, Metals, and SVOCs
Pilot Test
Omega Chemical Superfund Site, Whittier, CA

Method	Parameter	Units	Influent 9/20/2006, 11:00 AM	Effluent 9/20/2006, 11:00 AM
GENERAL CHEMISTRY				
410.4	CHEMICAL OXYGEN DEMAND	mg/L	5 U	5 U
EPA 335.2	CYANIDE	mg/L	0.055	0.01 U
SM2340B	HARDNESS (AS CACO3)	mg/L	620	560
1664	OIL AND GREASE	mg/L	4.3 U	4.3 U
EPA 376.2	SULFIDES	mg/L	0.05 U	0.05 U
310.1	TOTAL ALKALINITY (AS CACO3)	mg/L	380	350
160.1	TOTAL DISSOLVED SOLIDS	mg/L	1000	960
160.2	TOTAL SUSPENDED SOLIDS	mg/L	10 U	10 U
METALS				
EPA 6010B	ANTIMONY	mg/L	0.005 U	0.005 U
EPA 6010B	ARSENIC	mg/L	0.03	0.028
EPA 6010B	BARIUM	mg/L	0.033	0.032
EPA 6010B	BERYLLIUM	mg/L	0.003 U	0.003 U
EPA 6010B	CADMIUM	mg/L	0.003 U	0.003 U
EPA 6010B	CHROMIUM	mg/L	0.003	0.003 U
EPA 6010B	COBALT	mg/L	0.003 U	0.003 U
EPA 6010B	COPPER	mg/L	0.015	0.005 U
EPA 6010B	IRON	mg/L	0.5 U	0.5 U
EPA 6010B	LEAD	mg/L	0.005 U	0.005 U
EPA 6010B	MAGNESIUM	mg/L	51	52
EPA 6010B	MANGANESE	mg/L	0.5 U	0.5 U
EPA 7470A	MERCURY	ug/L	0.2 U	0.2 U
EPA 6010B	MOLYBDENUM	mg/L	0.016	0.015
EPA 6010B	NICKEL	mg/L	0.005 U	0.005 U
EPA 6010B	SELENIUM	mg/L	0.01 U	0.01 U
EPA 6010B	SILVER	mg/L	0.003 U	0.003 U
EPA 6010B	THALLIUM	mg/L	0.015 U	0.015 U
EPA 6010B	VANADIUM	mg/L	0.003 U	0.003 U
EPA 6010B	ZINC	mg/L	0.098	0.086

Table 3-4
Groundwater Analytical Summary - General Chemistry, Metals, and SVOCs
Pilot Test
Omega Chemical Superfund Site, Whittier, CA

Method	Parameter	Units	Influent 9/20/2006, 11:00 AM	Effluent 9/20/2006, 11:00 AM
SVOCs				
EPA 8270C	1,2,4-TRICHLOROBENZENE	ug/L	10 U	10 U
	1,2-DICHLOROBENZENE	ug/L	10 U	10 U
	1,3-DICHLOROBENZENE	ug/L	10 U	10 U
	1,4-DICHLOROBENZENE	ug/L	10 U	10 U
	2,4,5- TRICHLOROPHENOL	ug/L	10 U	10 U
	2,4,6-TRICHLOROPHENOL	ug/L	10 U	10 U
	2,4-DICHLOROPHENOL	ug/L	10 U	10 U
	2,4-DIMETHYLPHENOL	ug/L	10 U	10 U
	2,4-DINITROPHENOL	ug/L	50 U	50 U
	2,4-DINITROTOLUENE	ug/L	10 U	10 U
	2,6-DINITROTOLUENE	ug/L	10 U	10 U
	2-CHLORONAPHTHALENE	ug/L	10 U	10 U
	2-CHLOROPHENOL	ug/L	10 U	10 U
	2-METHYLNAPHTHALENE	ug/L	10 U	10 U
	2-METHYLPHENOL	ug/L	10 U	10 U
	2-NITROANILINE	ug/L	50 U	50 U
	2-NITROPHENOL	ug/L	10 U	10 U
	3,3-DICHLOROBENZIDINE	ug/L	20 U	20 U
	3-NITROANILINE	ug/L	50 U	50 U
	4,6-DINITRO-2-METHYLPHENOL	ug/L	50 U	50 U
	4-BROMOPHENYL-PHENYL ETHER	ug/L	10 U	10 U
	4-CHLORO-3-METHYLPHENOL	ug/L	50 U	50 U
	4-CHLOROANILINE	ug/L	20 U	20 U
	4-CHLOROPHENYL-PHENYL ETHER	ug/L	10 U	10 U
	4-METHYLPHENOL	ug/L	10 U	10 U
	4-NITROANILINE	ug/L	20 U	20 U
	4-NITROPHENOL	ug/L	50 U	50 U
	ACENAPHTHENE (ETHYLENE NAPHTHALENE)	ug/L	10 U	10 U
	ACENAPHTHYLENE	ug/L	10 U	10 U
	ANTHRACENE	ug/L	10 U	10 U
	BENZIDINE	ug/L	50 U	50 U
	BENZO(A)ANTHRACENE	ug/L	10 U	10 U
	BENZO(A)PYRENE	ug/L	10 U	10 U
	BENZO(B)FLUORANTHENE	ug/L	10 U	10 U
	BENZO(G,H,I)PERYLENE	ug/L	10 U	10 U
	BENZO(K)FLUORANTHENE	ug/L	10 U	10 U
	BENZOIC ACID	ug/L	50 U	50 U

Table 3-4
Groundwater Analytical Summary - General Chemistry, Metals, and SVOCs
Pilot Test
Omega Chemical Superfund Site, Whittier, CA

Method	Parameter	Units	Influent 9/20/2006, 11:00 AM	Effluent 9/20/2006, 11:00 AM
SVOCs				
	BENZYL ALCOHOL (PHENYLMETHANOL)	ug/L	20 U	20 U
	BIS(2-CHLOROETHOXY)METHANE	ug/L	10 U	10 U
	BIS(2-CHLOROETHYL)ETHER	ug/L	10 U	10 U
	BIS(2-CHLOROISOPROPYL)ETHER	ug/L	10 U	10 U
	BIS(2-ETHYLHEXYL)PHTHALATE	ug/L	10 U	10 U
	BUTYLBENZYL PHTHALATE	ug/L	10 U	10 U
	CHRYSENE	ug/L	10 U	10 U
	DIBENZO(A,H)ANTHRACENE	ug/L	10 U	10 U
	DIBENZOFURAN (DIPHENYLENE OXIDE)	ug/L	10 U	10 U
	DIETHYL PHTHALATE	ug/L	10 U	10 U
	DIMETHYL PHTHALATE	ug/L	10 U	10 U
	DI-N-BUTYLPHTHALATE	ug/L	10 U	10 U
	DI-N-OCTYL PHTHALATE (DIOCTYL PHTHALATE)	ug/L	10 U	10 U
	FLUORANTHENE (IDRYL)	ug/L	10 U	10 U
	FLUORENE (ALPHA-DIPHENYLENEMETHANE)	ug/L	10 U	10 U
	HEXACHLOROBENZENE (PERCHLOROBENZENE)	ug/L	10 U	10 U
	HEXACHLOROBUTADIENE	ug/L	20 U	20 U
	HEXACHLOROCYCLOPENTADIENE	ug/L	10 U	10 U
	HEXACHLOROETHANE (PERCHLOROETHANE)	ug/L	10 U	10 U
	INDENO(1,2,3-C,D)PYRENE	ug/L	10 U	10 U
	ISOPHORONE	ug/L	10 U	10 U
	NAPHTHALENE	ug/L	10 U	10 U
	NITROBENZENE (OIL OF MIRBANE)	ug/L	10 U	10 U
	N-NITROSODI-N-PROPYLAMINE	ug/L	10 U	10 U
	N-NITROSODIPHENYLAMINE	ug/L	10 U	10 U
	PENTACHLOROPHENOL (PCP)	ug/L	50 U	50 U
	PHENANTHRENE	ug/L	10 U	10 U
	PHENOL	ug/L	10 U	10 U
	PYRENE	ug/L	10 U	10 U

Notes:
U = Not detected at a concentration greater than the reporting limit shown
ug/L = micrograms per liter
mg/L = milligrams per liter

Table 3-5
Stripper Off-Gas Vapor Analytical Summary - VOCs
Omega Chemical Superfund Site, Whittier, CA

Location ID	Sample Date	Sample Time	Sample Type	Analytical Method	Units	1,1,1-TCA	1,1,2-Trichloro-1,2,2-Trifluoroethane (Freon 113)	1,1-DCA	1,1-DCE	1,2,4-TMB	1,2-Dibromo-ethane	1,2-DCA	1,3,5-TMB	Chloroform	Cyclo-hexane	Ethyl-benzene	Heptane	Hexane	m,p-Xylenes	Methylene Chloride	o-Xylene	PCE	Toluene	TCE	Trichloro-fluoromethane (Freon 11)
GAC-1	9/19/2006	13:23	IN	TO-14	ppb(v/v)	50 U	240	50 U	1500	50 U	69	50 U	50 U	390	50 U	50 U	50 U	50 U	50 U	250	50 U	7400	50 U	650	160
GAC-1	9/19/2006	16:50	IN	TO-14	ppb(v/v)	50 U	240	50 U	1500	50 U	50 U	66	50 U	380	50 U	50 U	50 U	50 U	50 U	230	50 U	7000	50 U	640	150
GAC-1	9/20/2006	0:10	IN	TO-14	ppb(v/v)	50 U	260	50 U	1600	110	50 U	50 U	50 U	410	50 U	110	50 U	50 U	260	270	190	8200	400	700	160
GAC-1	9/20/2006	4:10	IN	TO-14	ppb(v/v)	50 U	230	50 U	1400	50 U	50 U	50 U	50 U	380	50 U	50 U	50 U	50 U	50 U	250	50 U	7000	50 U	610	150
GAC-1	9/20/2006	8:00	IN	TO-14	ppb(v/v)	50 U	210	50 U	1400	50 U	50 U	50 U	50 U	390	50 U	50 U	50 U	50 U	50 U	230	50 U	7800	50 U	640	150
GAC-1	9/20/2006	11:12	IN	TO-14	ppb(v/v)	50 U	220	50 U	1300	50 U	50 U	63	50 U	340	50 U	50 U	50 U	50 U	50 U	210	50 U	6600	50 U	560	130
GAC-1	9/20/2006	14:50	IN	TO-14	ppb(v/v)	99	530	58	950	50 U	50 U	250	50 U	1100	50 U	50 U	50 U	50 U	50 U	1000	50 U	17000	60	750	210
GAC-1	9/20/2006	19:05	IN	TO-14	ppb(v/v)	100	560	50 U	1100	50 U	50 U	250	50 U	1200	50 U	50 U	50 U	50 U	50 U	1100	50 U	18000	68	810	210
GAC-1	9/20/2006	23:00	IN	TO-14	ppb(v/v)	96	520	55	960	50 U	50 U	240	50 U	1100	50 U	50 U	50 U	50 U	50 U	1000	50 U	17000	59	760	200
GAC-1	9/21/2006	3:10	IN	TO-14	ppb(v/v)	89	480	50 U	890	50 U	50 U	230	50 U	1000	50 U	50 U	50 U	50 U	50 U	950	50 U	17000	54	710	180
GAC-1	9/21/2006	7:00	IN	TO-14	ppb(v/v)	86	430	50 U	750	50 U	50 U	210	50 U	920	50 U	50 U	50 U	50 U	50 U	850	50 U	14000	53	610	160
GAC-1	9/21/2006	8:45	IN	TO-14	ppb(v/v)	74	400	50 U	710	50 U	50 U	200	50 U	880	50 U	50 U	50 U	50 U	50 U	760	50 U	13000	50 U	590	160
GAC-2	9/19/2006	13:22	IN	TO-14	ppb(v/v)	50 U	50 U	50 U	50 U	50 U	50 U	50 U	50 U	50 U	50 U	50 U	50 U	50 U	50 U	50 U	50 U	50 U	50 U	50 U	50 U
GAC-2	9/19/2006	16:50	IN	TO-14	ppb(v/v)	50 U	50 U	50 U	50 U	50 U	50 U	50 U	50 U	50 U	50 U	50 U	50 U	50 U	50 U	50 U	50 U	50 U	50 U	50 U	50 U
GAC-2	9/20/2006	0:12	IN	TO-14	ppb(v/v)	50 U	50 U	50 U	50 U	50 U	50 U	50 U	50 U	50 U	50 U	50 U	50 U	50 U	50 U	50 U	50 U	50 U	50 U	50 U	50 U
GAC-2	9/20/2006	4:10	IN	TO-14	ppb(v/v)	50 U	50 U	50 U	50 U	50 U	50 U	50 U	50 U	50 U	50 U	50 U	50 U	50 U	50 U	50 U	50 U	50 U	50 U	50 U	50 U
GAC-2	9/20/2006	8:00	IN	TO-14	ppb(v/v)	50 U	50 U	50 U	50 U	50 U	50 U	50 U	54	50 U	50 U	50 U	50 U	50 U	50 U	50 U	50 U	50 U	50 U	50 U	50 U
GAC-2	9/20/2006	11:12	IN	TO-14	ppb(v/v)	50 U	50 U	50 U	50 U	50 U	50 U	50 U	50 U	50 U	50 U	50 U	50 U	50 U	50 U	50 U	50 U	50 U	50 U	50 U	50 U
GAC-2	9/20/2006	14:52	IN	TO-14	ppb(v/v)	50 U	50 U	50 U	50 U	50 U	50 U	50 U	50 U	50 U	50 U	50 U	50 U	50 U	50 U	50 U	50 U	50 U	50 U	50 U	50 U
GAC-2	9/20/2006	19:05	IN	TO-14	ppb(v/v)	50 U	50 U	50 U	50 U	50 U	50 U	50 U	50 U	50 U	50 U	50 U	50 U	50 U	50 U	50 U	50 U	50 U	50 U	50 U	50 U
GAC-2	9/20/2006	23:00	IN	TO-14	ppb(v/v)	50 U	50 U	50 U	50 U	50 U	50 U	50 U	50 U	50 U	50 U	50 U	50 U	50 U	50 U	50 U	50 U	50 U	50 U	50 U	50 U
GAC-2	9/21/2006	3:10	IN	TO-14	ppb(v/v)	50 U	50 U	50 U	50 U	50 U	50 U	50 U	50 U	50 U	50 U	50 U	50 U	50 U	50 U	50 U	50 U	50 U	50 U	50 U	50 U
GAC-2	9/21/2006	7:00	IN	TO-14	ppb(v/v)	50 U	50 U	50 U	50 U	50 U	50 U	50 U	50 U	50 U	50 U	50 U	50 U	50 U	50 U	50 U	50 U	50 U	50 U	50 U	50 U
GAC-2	9/21/2006	8:45	IN	TO-14	ppb(v/v)	50 U	50 U	50 U	50 U	50 U	50 U	50 U	50 U	50 U	50 U	50 U	50 U	50 U	50 U	50 U	50 U	50 U	50 U	50 U	50 U
GAC-2	9/19/2006	13:20	EFF	TO-14	ppb(v/v)	50 U	50 U	50 U	50 U	50 U	50 U	50 U	50 U	50 U	50 U	50 U	50 U	50 U	50 U	50 U	50 U	50 U	50 U	50 U	50 U
GAC-2	9/19/2006	16:50	EFF	TO-14	ppb(v/v)	50 U	50 U	50 U	50 U	50 U	50 U	50 U	50 U	50 U	50 U	50 U	50 U	50 U	50 U	50 U	50 U	50 U	50 U	50 U	50 U
GAC-2	9/20/2006	0:14	EFF	TO-14	ppb(v/v)	50 U	50 U	50 U	50 U	50 U	50 U	50 U	50 U	50 U	50 U	50 U	50 U	50 U	50 U	50 U	50 U	50 U	50 U	50 U	50 U
GAC-2	9/20/2006	4:10	EFF	TO-14	ppb(v/v)	50 U	50 U	50 U	50 U	50 U	50 U	50 U	50 U	50 U	50 U	50 U	50 U	50 U	50 U	50 U	50 U	50 U	50 U	50 U	50 U
GAC-2	9/20/2006	8:00	EFF	TO-14	ppb(v/v)	50 U	50 U	50 U	50 U	50 U	50 U	50 U	50 U	50 U	50 U	50 U	50 U	50 U	50 U	50 U	50 U	50 U	50 U	50 U	50 U
GAC-2	9/20/2006	11:12	EFF	TO-14	ppb(v/v)	50 U	50 U	50 U	50 U	50 U	50 U	50 U	50 U	50 U	50 U	50 U	50 U	50 U	50 U	50 U	50 U	50 U	50 U	50 U	50 U
GAC-2	9/20/2006	14:54	EFF	TO-14	ppb(v/v)	50 U	50 U	50 U	50 U	50 U	50 U	50 U	50 U	50 U	50 U	50 U	50 U	50 U	50 U	50 U	50 U	50 U	50 U	50 U	50 U
GAC-2	9/20/2006	19:05	EFF	TO-14	ppb(v/v)	50 U	50 U	50 U	50 U	50 U	50 U	50 U	50 U	50 U	50 U	50 U	50 U	50 U	50 U	50 U	50 U	50 U	50 U	50 U	50 U
GAC-2	9/20/2006	23:00	EFF	TO-14	ppb(v/v)	50 U	50 U	50 U	50 U	50 U	50 U	50 U	50 U	50 U	50 U	50 U	50 U	50 U	50 U	50 U	50 U	50 U	50 U	50 U	50 U
GAC-2	9/21/2006	3:10	EFF	TO-14	ppb(v/v)	50 U	50 U	50 U	50 U	50 U	50 U	50 U	50 U	50 U	50 U	50 U	50 U	50 U	50 U	50 U	50 U	50 U	50 U	50 U	50 U
GAC-2	9/21/2006	7:00	EFF	TO-14	ppb(v/v)	50 U	50 U	50 U	50 U	59	50 U	50 U	50 U	50 U	120	50 U	110	220	130	50 U	50	50 U	88	50 U	50 U
GAC-2	9/21/2006	8:45	EFF	TO-14	ppb(v/v)	50 U	50 U	50 U	50 U	50 U	50 U	50 U	50 U	50 U	50 U	50 U	50 U	50 U	50 U	50 U	50 U	50 U	50 U	50 U	50 U

Notes:
TCA = Trichloroethane; DCA = Dichloroethane; DCE = Dichloroethene; TMB = Trimethylbenzene; PCE = Tetrachloroethene; TCE = Trichloroethene
Only compounds detected in one or more GAC samples are shown
ppb(v/v) = parts per billion by volume
INF = Influent
EFF = Effluent

Table 4-1
Aquaifer Characteristics Summary
Omega Chemical Superfund Site, Whittier, CA

Wells	Transmissivity (ft^2/day)	Saturated thickness (ft)	Hydraulic conducitivity (ft/day)	Storativity (dimensionless)
OW-2	2347	18	130	0.02
OW-3	1050	18	58	0.02
OW-8	4000	18	222	0.02
PZ-1	5890	18	327	0.02
PZ-2	unable to analyze			

Notes:

All analysis were analysed using Theis (1935) method

NA = No drawdown effect was observed

Table 4-2
VOC concentrations in Groundwater and Vapor
Pilot Test
Omega Chemical Superfund Site, Whittier, CA

	Measured Groundwater Concentrations (ug/L)									Measured Stripper Off-Gas (VPGAC Influent) Concentrations (ppbv)		
	Stripper Groundwater Influent			Extraction Wells								
Compound	Minimum	Average	Maximum	EW-1	EW-2	EW-3	EW-4	EW-5	Flow-based weighted average	Minimum	Average	Maximum
First Half of Pilot Test												
1,1,1-TCA	5	5	5	2	150	4	4	1	42	50	70	100
Freon 113	97	161	230	210	780	120	170	190	340	210	360	560
1,1-DCA	5	7	10	1	46	6	3	1	14	50	51	58
1,1-DCE	140	277	360	84	930	500	720	360	454	710	1172	1600
1,2,4-TMB	5	5	5	1	20	10	2	1	8	50	55	110
1,2-Dibromoethane (EDB)	5	5	5	1	20	10	2	1	8	50	52	69
1,2-DCA	21	44	70	1	340	5	1	1	92	50	142	250
1,3,5-TMB	5	5	5	1	20	10	2	1	8	50	50	50
Chloroform	84	173	270	7	1500	71	19	1	418	340	708	1200
Cyclo-hexane	0	0	0	-	-	-	-	-	-	50	50	50
Ethyl-benzene	0	0	0	-	-	-	-	-	-	50	55	110
Heptane	0	0	0	-	-	-	-	-	-	50	50	50
Hexane	0	0	0	-	-	-	-	-	-	50	50	50
m,p-Xylenes	10	10	10	1	20	10	2	1	8	50	68	260
Methylene Chloride	47	128	220	5	750	50	10	5	213	210	592	1100
o-Xylene	5	5	5	1	20	10	2	1	8	50	62	190
PCE	3000	4975	7300	600	42000	4800	2200	450	12577	6600	11667	18000
Toluene	5	8	12	1	56	10	2	1	18	50	83	400
TCE	160	187	210	52	960	370	220	39	368	560	669	810
Freon 11	53	67	82	62	310	85	90	92	137	130	168	210
1,1,2-TCA	5	5	5	1	14	10	2	1	6	-	-	-
Trans-1,2-DCE	5	5	7	1	29	10	1	1	10	-	-	-
Total	**3,657**	**6,072**	**8,810**	**717**	**43,369**	**5,285**	**2,515**	**584**	**14,728**	**9,410**	**16,172**	**25,227**

Table 4-2
VOC concentrations in Groundwater and Vapor
Pilot Test
Omega Chemical Superfund Site, Whittier, CA

	Measured Groundwater Concentrations (ug/L)									Measured Stripper Off-Gas (VPGAC Influent) Concentrations (ppbv)		
	Stripper Groundwater Influent			Extraction Wells								
Compound	Minimum	Average	Maximum	EW-1	EW-2	EW-3	EW-4	EW-5	Flow-based weighted average	Minimum	Average	Maximum
Second Half of Pilot Test												
1,1,1-TCA	5	1	5	2	150	4	4	1	42	74	91	100
Freon 113	200	215	230	210	780	120	170	190	340	400	487	560
1,1-DCA	8	9	10	1	46	6	3	1	14	50	52	58
1,1-DCE	140	207	240	84	930	500	720	360	454	710	893	1100
1,2,4-TMB	5	5	5	1	20	10	2	1	8	50	50	50
1,2-Dibromoethane (EDB)	5	5	5	1	20	10	2	1	8	50	50	50
1,2-DCA	59	65	70	1	340	5	1	1	92	200	230	250
1,3,5-TMB	5	5	5	1	20	10	2	1	8	50	50	50
Chloroform	230	252	270	7	1500	71	19	1	418	880	1033	1200
Cyclo-hexane	0	0	0	-	-	-	-	-	-	50	50	50
Ethyl-benzene	0	0	0	-	-	-	-	-	-	50	50	50
Heptane	0	0	0	-	-	-	-	-	-	50	50	50
Hexane	0	0	0	-	-	-	-	-	-	50	50	50
m,p-Xylenes	10	10	10	1	20	10	2	1	8	50	50	50
Methylene Chloride	180	203	220	5	750	50	10	5	213	760	943	1100
o-Xylene	5	5	5	1	20	10	2	1	8	50	50	50
PCE	6100	6750	7300	600	42000	4800	2200	450	12577	13000	16000	18000
Toluene	10	11	12	1	56	10	2	1	18	50	57	68
TCE	170	190	210	52	960	370	220	39	368	590	705	810
Freon 11	69	77	82	62	310	85	90	92	137	160	187	210
1,1,2-TCA	5	5	5	1	14	10	2	1	6	-	-	-
Trans-1,2-DCE	5	6	7	1	29	10	1	1	10	-	-	-
Total	**7,211**	**8,020**	**8,690**	**717**	**43,369**	**5,285**	**2,515**	**584**	**14,728**	**17,324**	**21,129**	**23,906**

Table 4-3
Preliminary Design Basis
Full-Scale Treatment System
Omega Chemical Superfund Site, Whittier, CA

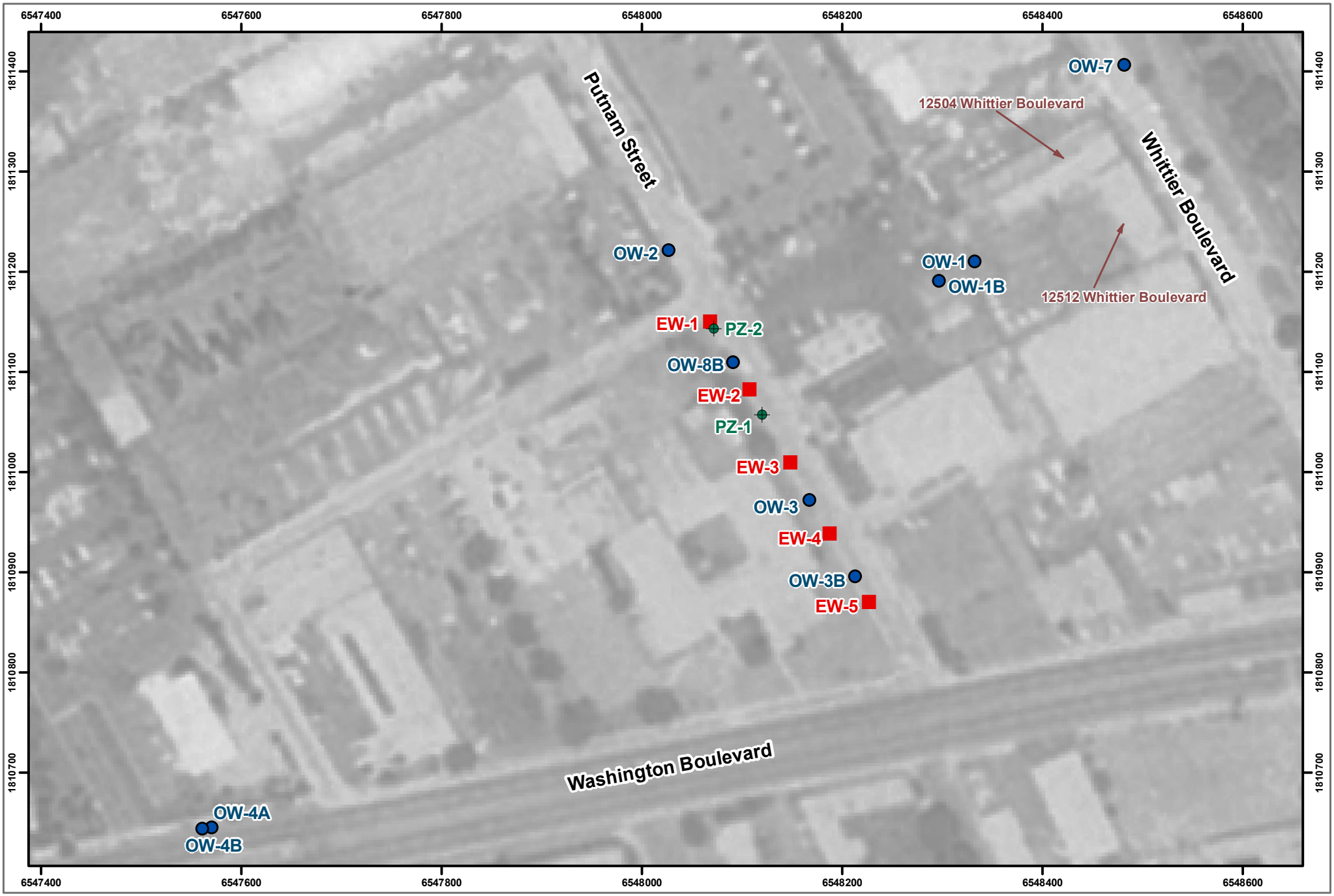
Design Basis	Average	Air stripper modeling surrogate
Flow (gpm)	30	
Compound	Concentration (ug/L or ppb)	
1,1,1,2-TETRACHLOROETHANE	6	-
1,1,1-TRICHLOROETHANE	61	-
1,1,2-TRICHLORO-1,2,2-TRIFLUOROETHANE	503	1,1,2-trichlorotriflouroethane
1,1,2-TRICHLOROETHANE	16	-
1,1-DICHLOROETHANE	20	-
1,1-DICHLOROETHENE	721	-
1,2,4-TRIMETHYLBENZENE	10	-
1,2-DIBROMO-3-CHLOROPROPANE	40	-
1,2-DICHLORO-1,1,2-TRIFLUOROETHANE	31	2,2-dichloro-1,1,1-trifluoroethane
1,2-DICHLOROBENZENE	7	-
1,2-DICHLOROETHANE	154	-
1,3,5-TRIMETHYLBENZENE	8	-
1,3-DICHLOROBENZENE	6	-
1,4-DICHLOROBENZENE	6	-
2-CHLOROTOLUENE	8	-
BENZENE	4	-
BROMOFORM	6	-
BROMOMETHANE	6	-
CARBON TETRACHLORIDE	3	(not included in modeling)
CHLOROBENZENE	8	-
CHLORODIBROMOMETHANE	6	-
CHLOROETHANE	8	-
CHLOROFORM	490	-
CHLOROMETHANE	6	-
CIS-1,2-DICHLOROETHENE	7	-
CYCLOHEXANE	NA	(not included in modeling)
DICHLORODIFLUOROMETHANE	27	-
DIBROMOMETHANE	9	(not included in modeling)
ETHYLBENZENE	9	-
ISOPHORONE	3	-
ISOPROPYLBENZENE	6	-
M,P-XYLENES	16	(split evenly between m- and p-xylenes)
METHYL ACETATE	780	-
METHYL TERT-BUTYL ETHER	6	-
METHYLENE CHLORIDE	839	-
NAPHTHALENE	6	(not included in modeling)
N-PROPYLBENZENE	6	-
O-XYLENE	12	-
P-ISOPROPYLTOLUENE	6	(not included in modeling)
SEC-BUTYLBENZENE	6	(not included in modeling)
TETRACHLOROETHENE	14018	-
TOLUENE	110	-
TRANS-1,2-DICHLOROETHENE	17	-
TRICHLOROETHENE	554	-
TRICHLOROFLUOROMETHANE (FREON 11)	192	-
VINYL CHLORIDE	3	-
TOTAL VOCS	**18,766**	
TOTAL VOCS (EXCEPT PCE)	**4,747**	

Notes:
NA = Not analyzed

Table 4-4
Preliminary Vapor-Phase GAC Usage Estimates
Omega Chemical Superfund Site, Whittier, CA

Design Basis	Operational Method	SWTC Estimate	
		Total VOC Influent (ppmv)	Usage Estimate (lbs GAC / day)
Average @ 30 gpm	Full Loading	28	378
	PCE loading only	19	16

Figures



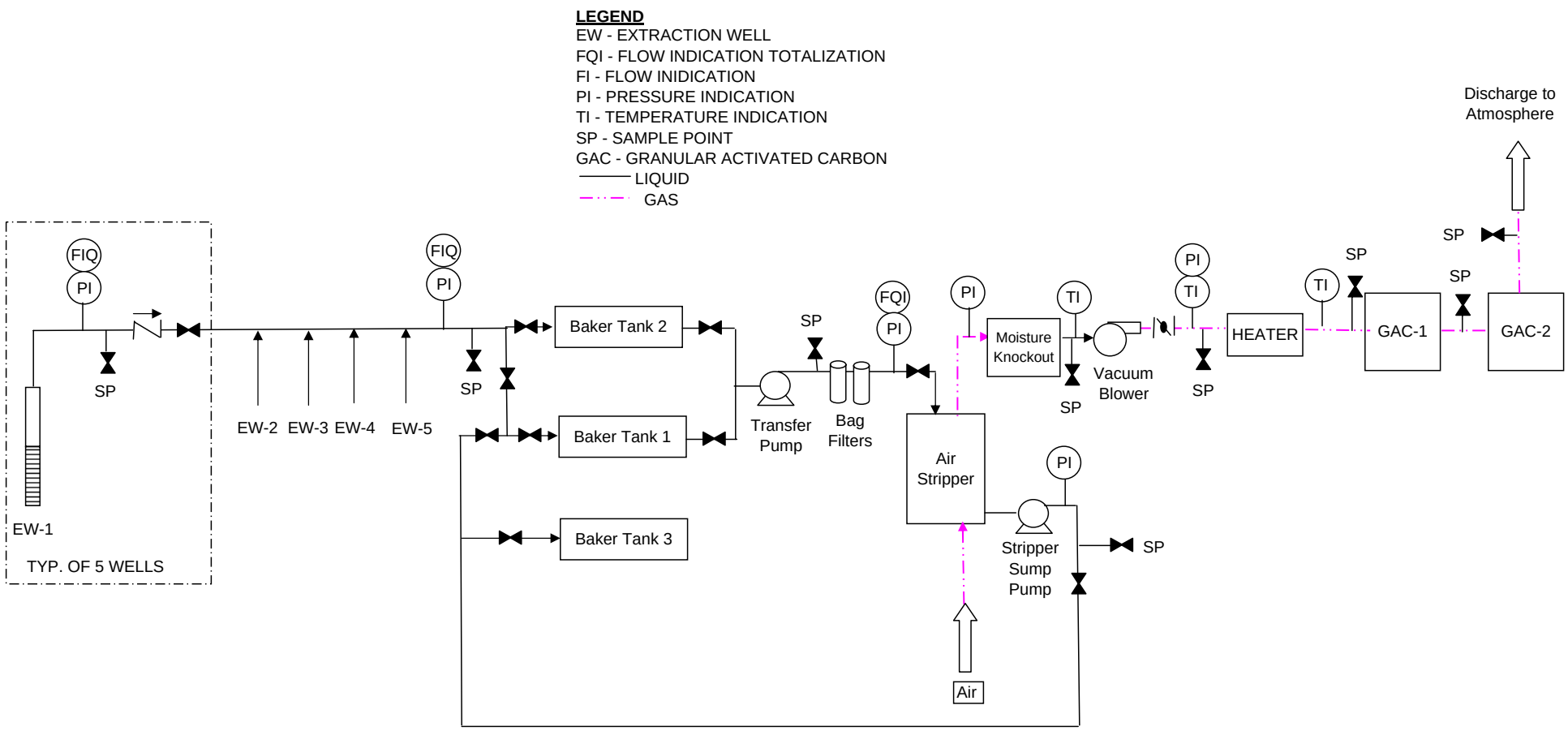
Legend

- Extraction Well
- Observation Well
- Piezometers

0 50 100 200
Feet

N
W E
S

Omega Chemical Superfund Site
Whittier, California
Extraction and Observation Well Locations
Figure 2-1



CDM	OMEGA CHEMICAL SUPERFUND SITE 12504/12512 EAST WHITTIER BOULEVARD WHITTIER, CALIFORNIA	PILOT GROUNDWATER TREATMENT SYSTEM SCHEMATIC	Figure No. 2-2

P:\10500 - Omega\Reports\AQTST_PilotTestTM\Figures\Figure 2-2_PFD.xls

Figure 4-1: Observation Well OW-2

Constant Rate Test for EW-1 through EW-5: Q=25.5 gpm

Omega Chemical Superfund Site, Whittier, CA September 12, 2006

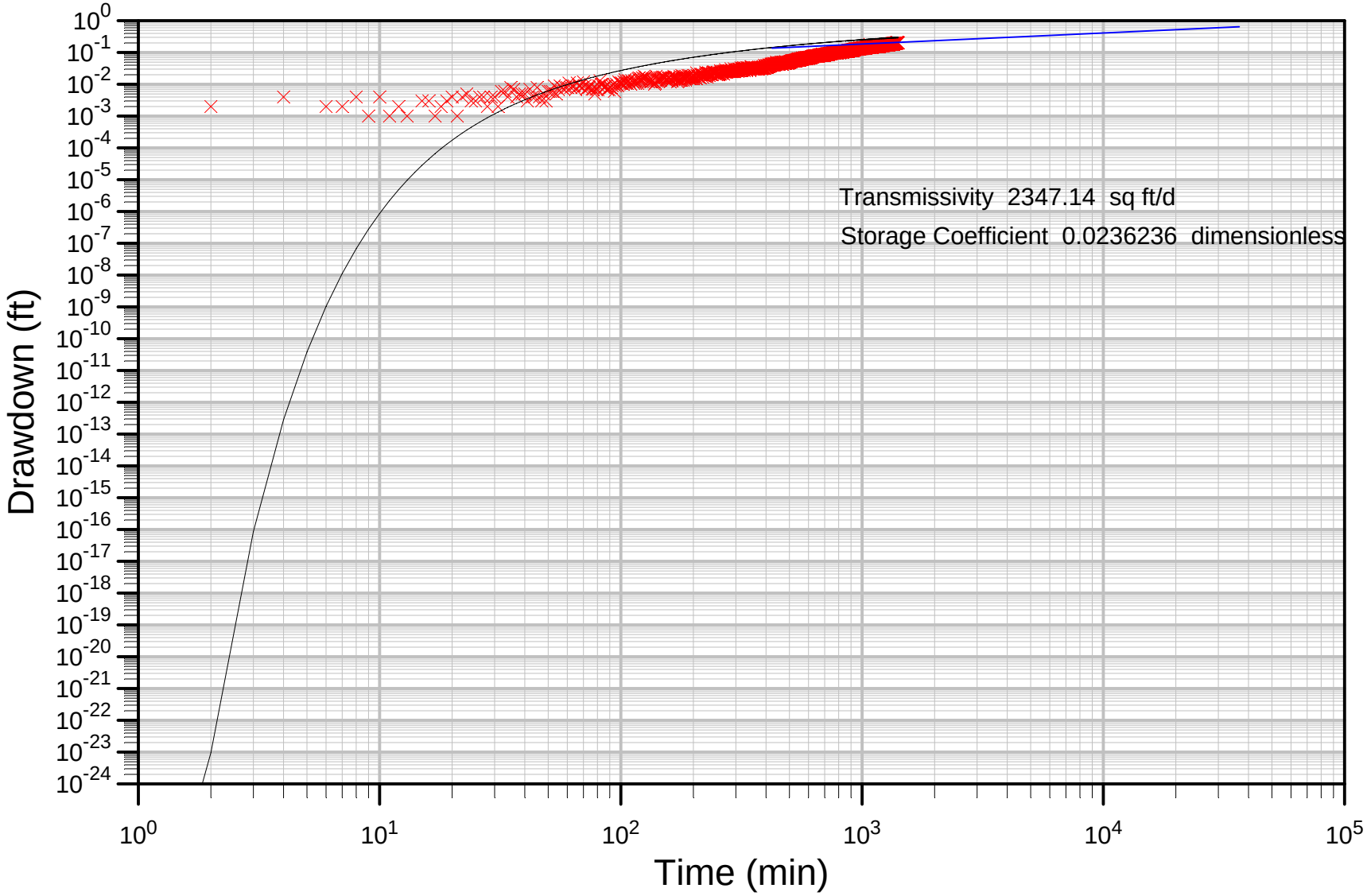


Figure 4-2: Observation Well OW-3

Constant Rate Test for EW-1 through EW-5: Q = 25.5 gpm

Omega Chemicals Superfund Site, Whittier, CA September 12, 2006

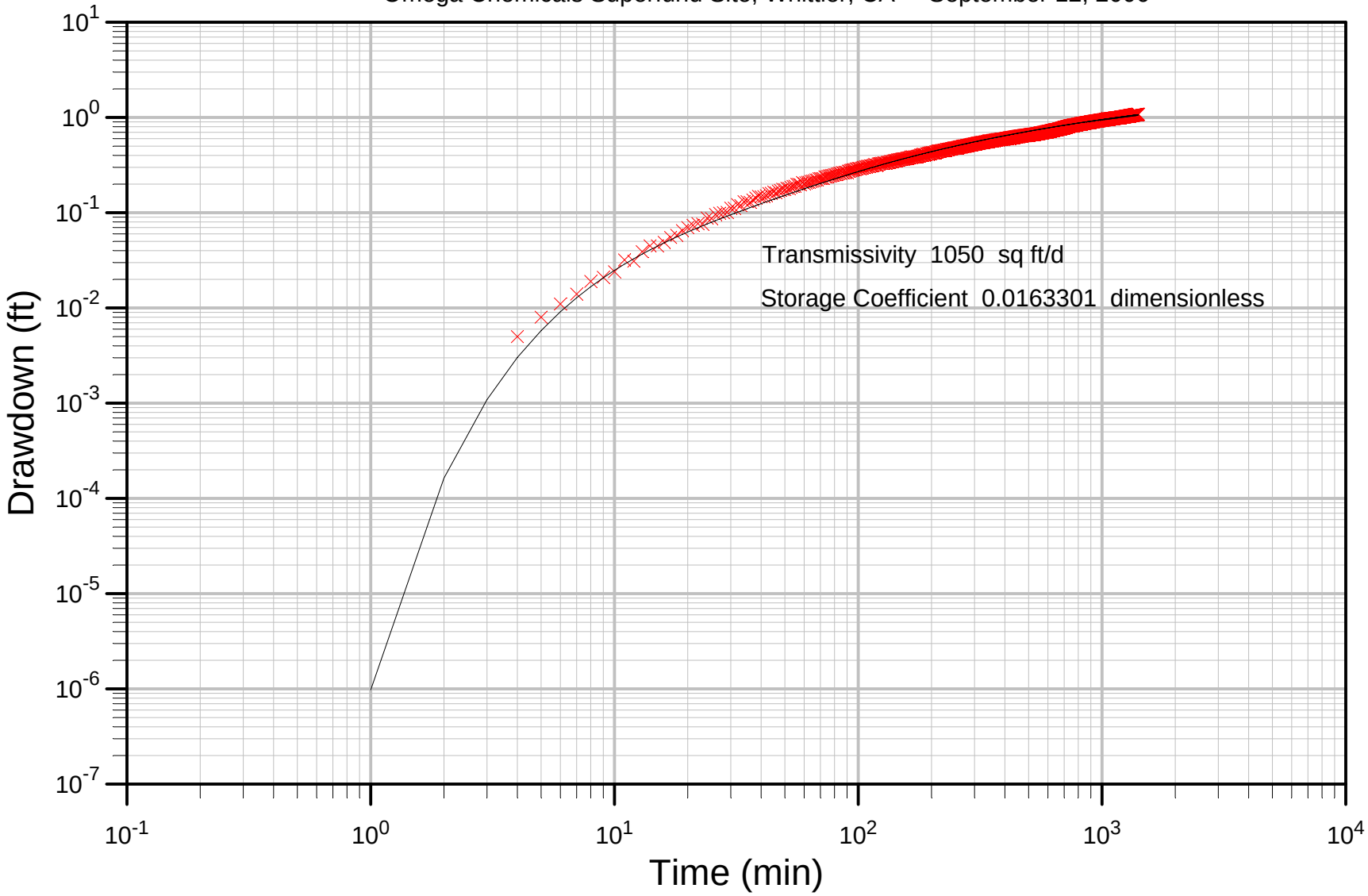


Figure 4-3: Observation Well OW-8

Constant Rate Test for EW-1 through EW-5: Q=25.5 gpm

Omega Chemicals Superfund Site, Whittier, CA September 12, 2006

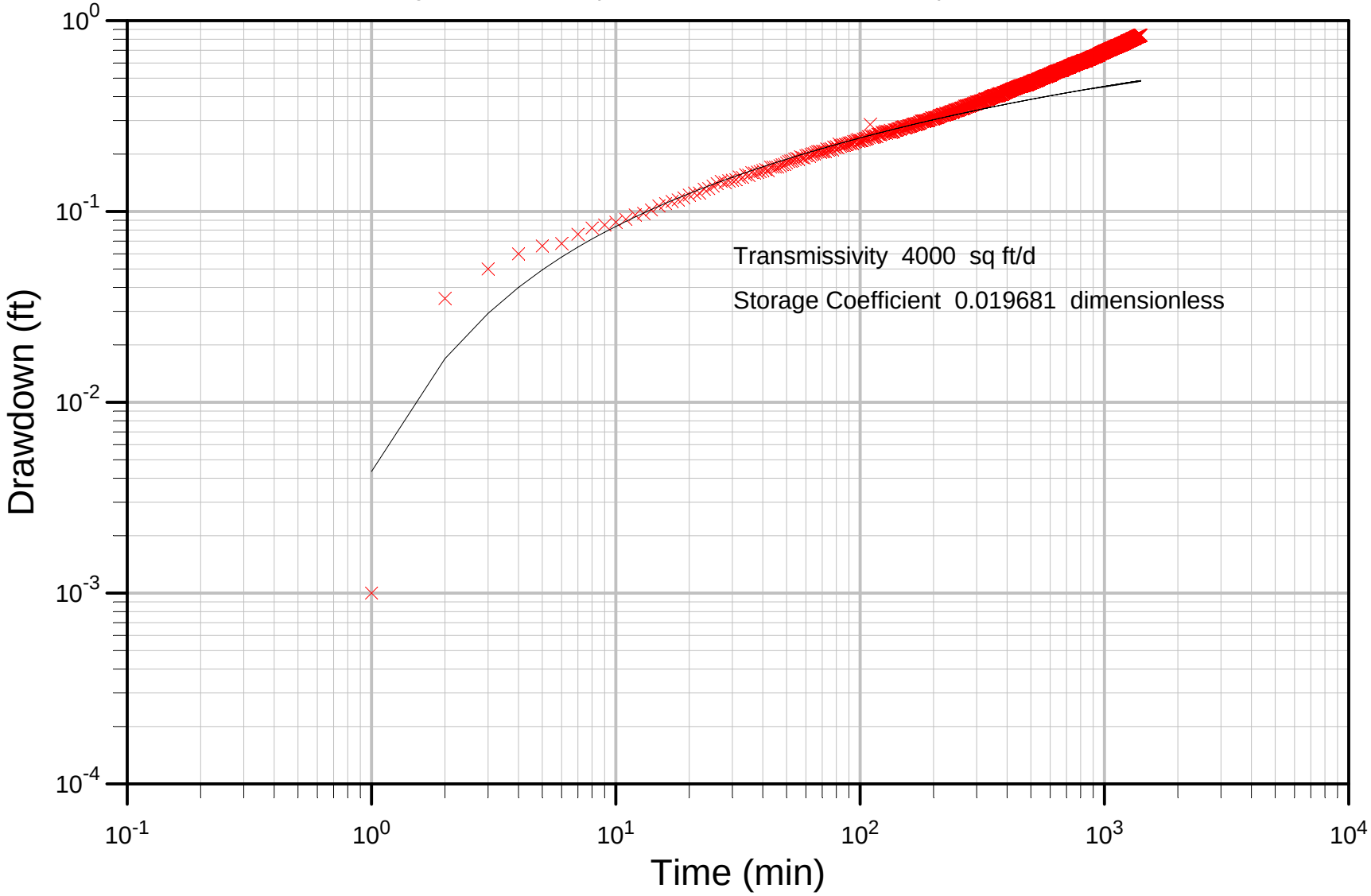
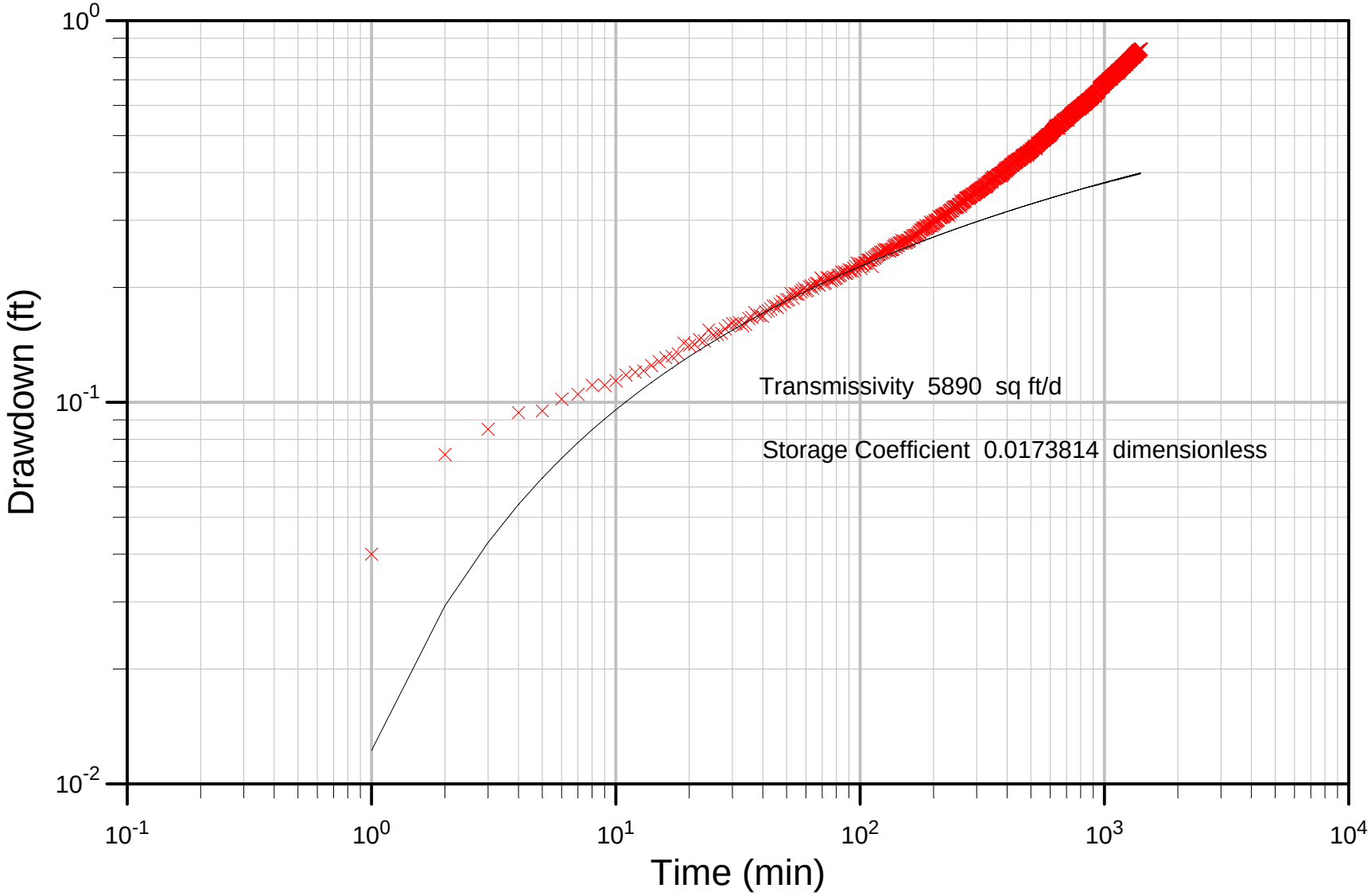


Figure 4-4: Observation Well PZ-1

Constant Rate Test for EW-1 through EW-5: Q=25.5 gpm

Omega Chemicals Superfund Site, Whittier, CA September 12, 2006



Transmissivity 5890 sq ft/d

Figure 4-5: Observation Well PZ-2

Constant Rate Pump Test for EW-1 through EW-5: Q = 25.5 gpm

Omega Chemicals Superfund Site, Whittier, CA September 12, 2006

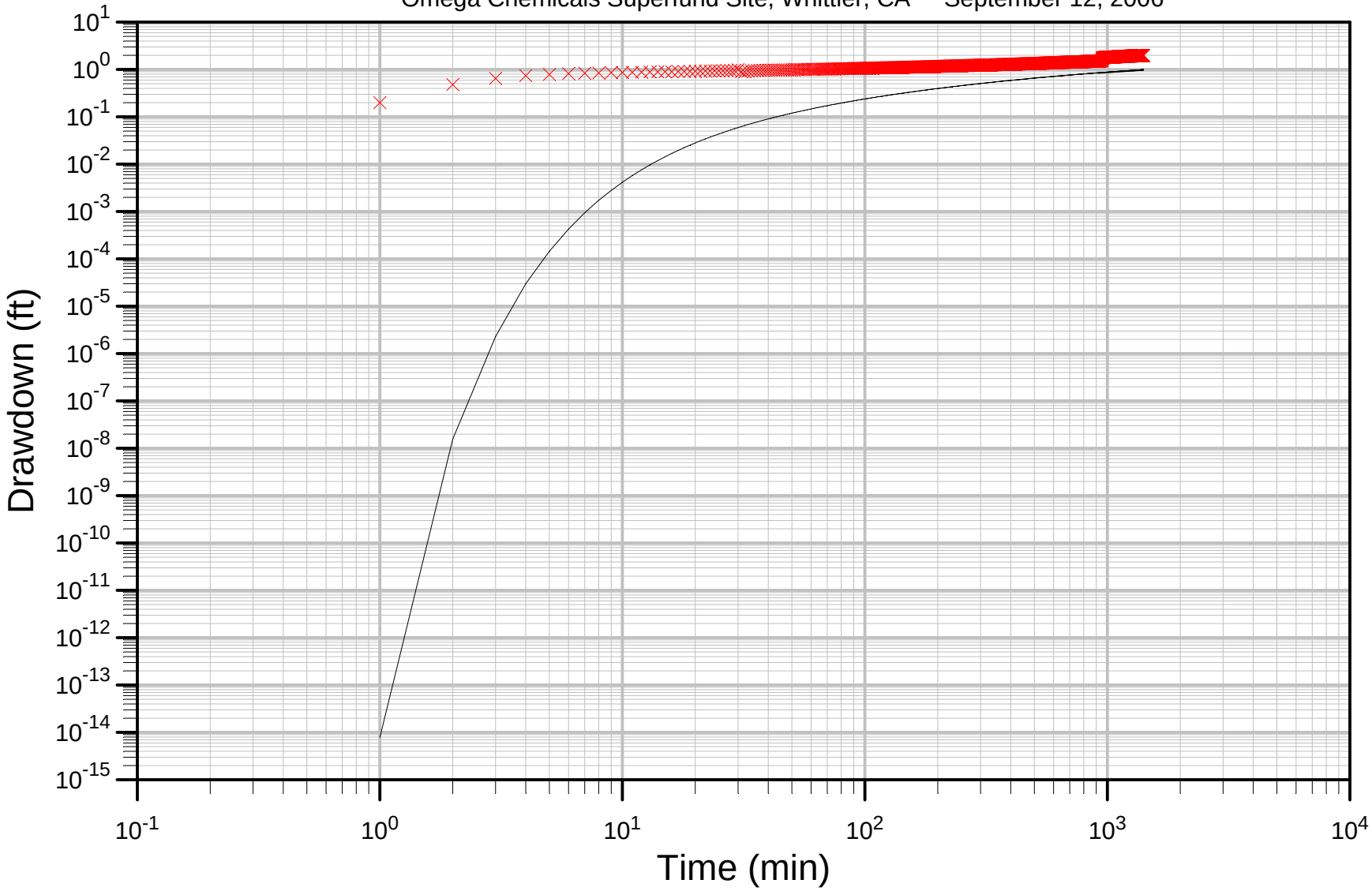


Figure 4-6 : Extraction Well EW-1
Constant Rate Pumping Test for EW-1 through EW-5: Q = 25.5 gpm
Omega Chemical Superfund Site, Whittier, CA September 13, 2006

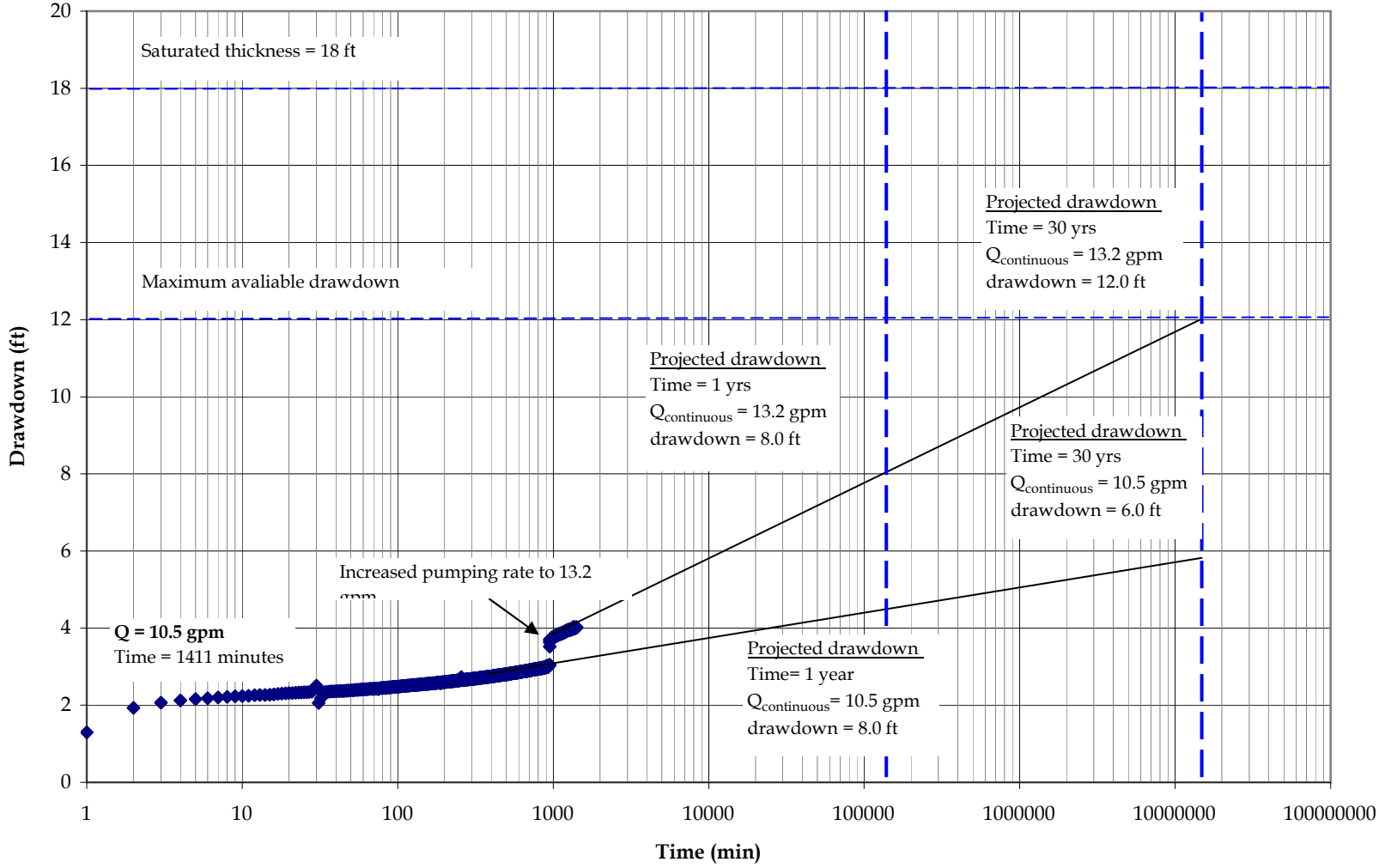


Figure 4-7 : Extraction Well EW-2
Constant Rate Pumping Test for EW-1 through EW-5: Q = 25.5 gpm
Omega Chemical Superfund Site, Whittier, CA September 13, 2006

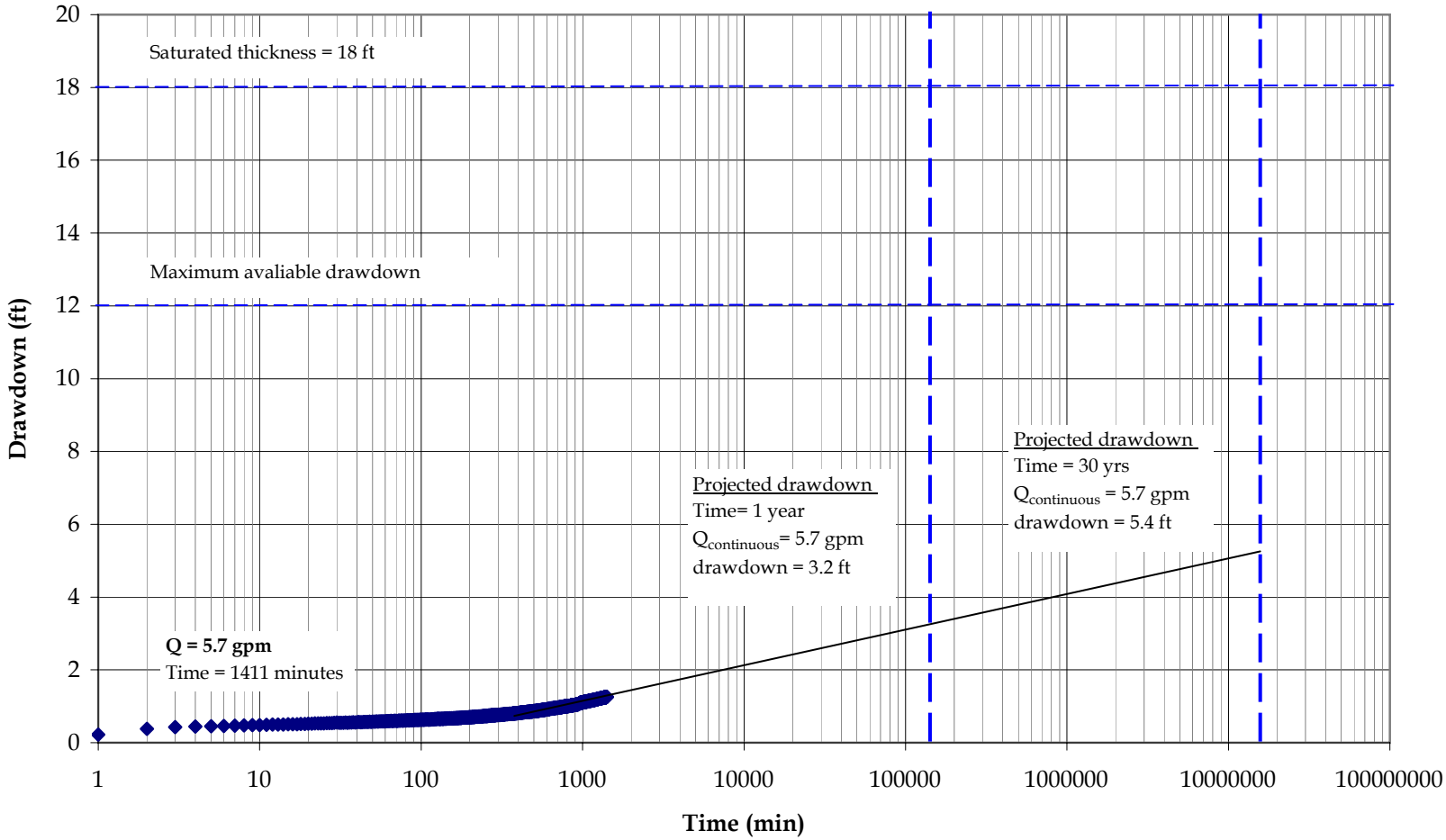


Figure 4-8 : Extraction Well EW-3
Constant Rate Pumping Test for EW-1 through EW-5: Q = 25.5 gpm
Omega Chemical Superfund Site, Whittier, CA September 13, 2006

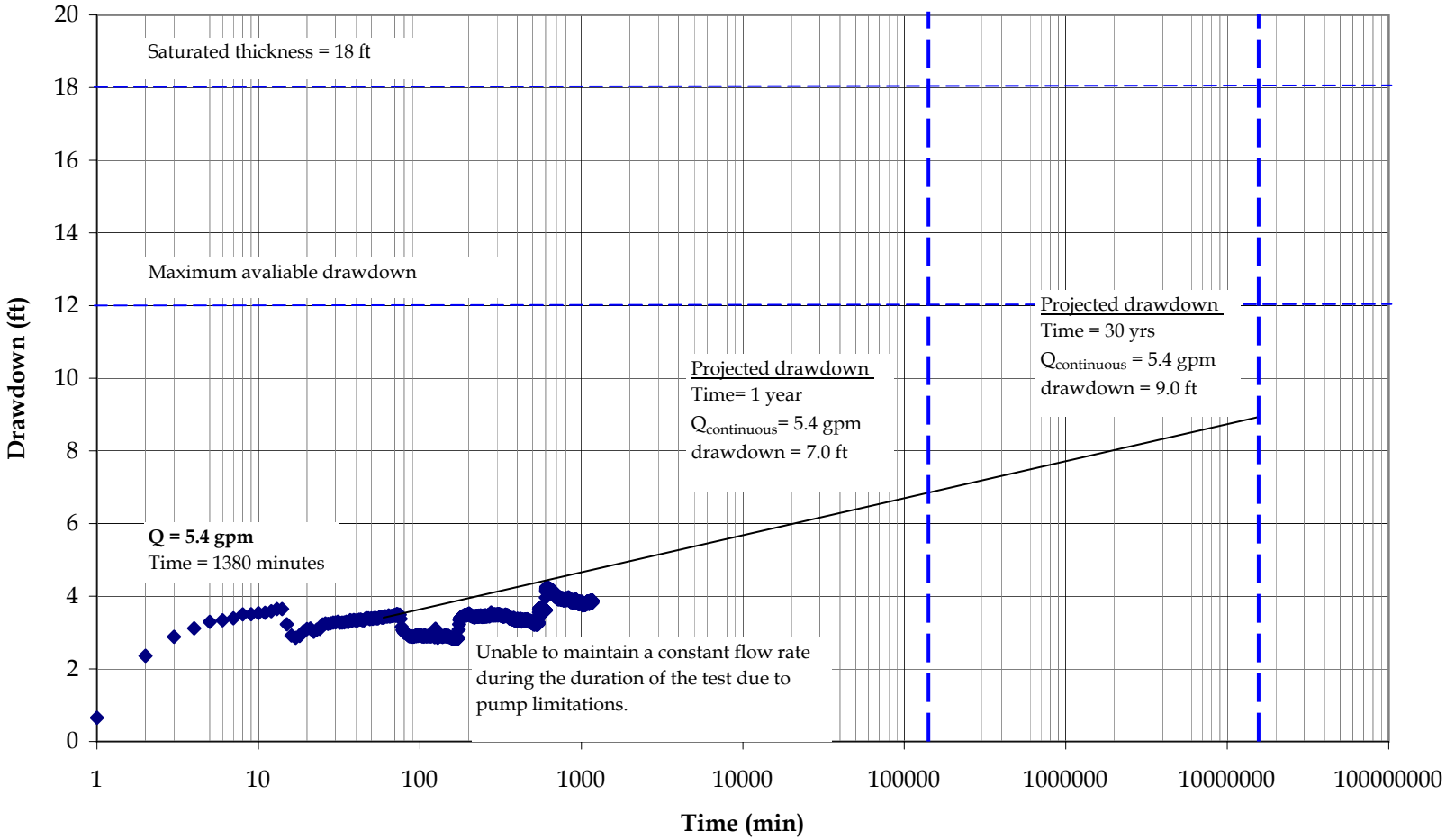


Figure 4-9 : Extraction Well EW-4
Constant Rate Pumping Test for EW-1 through EW-5: Q = 25.5 gpm
Omega Chemical Superfund Site, Whittier, CA September 13, 2006

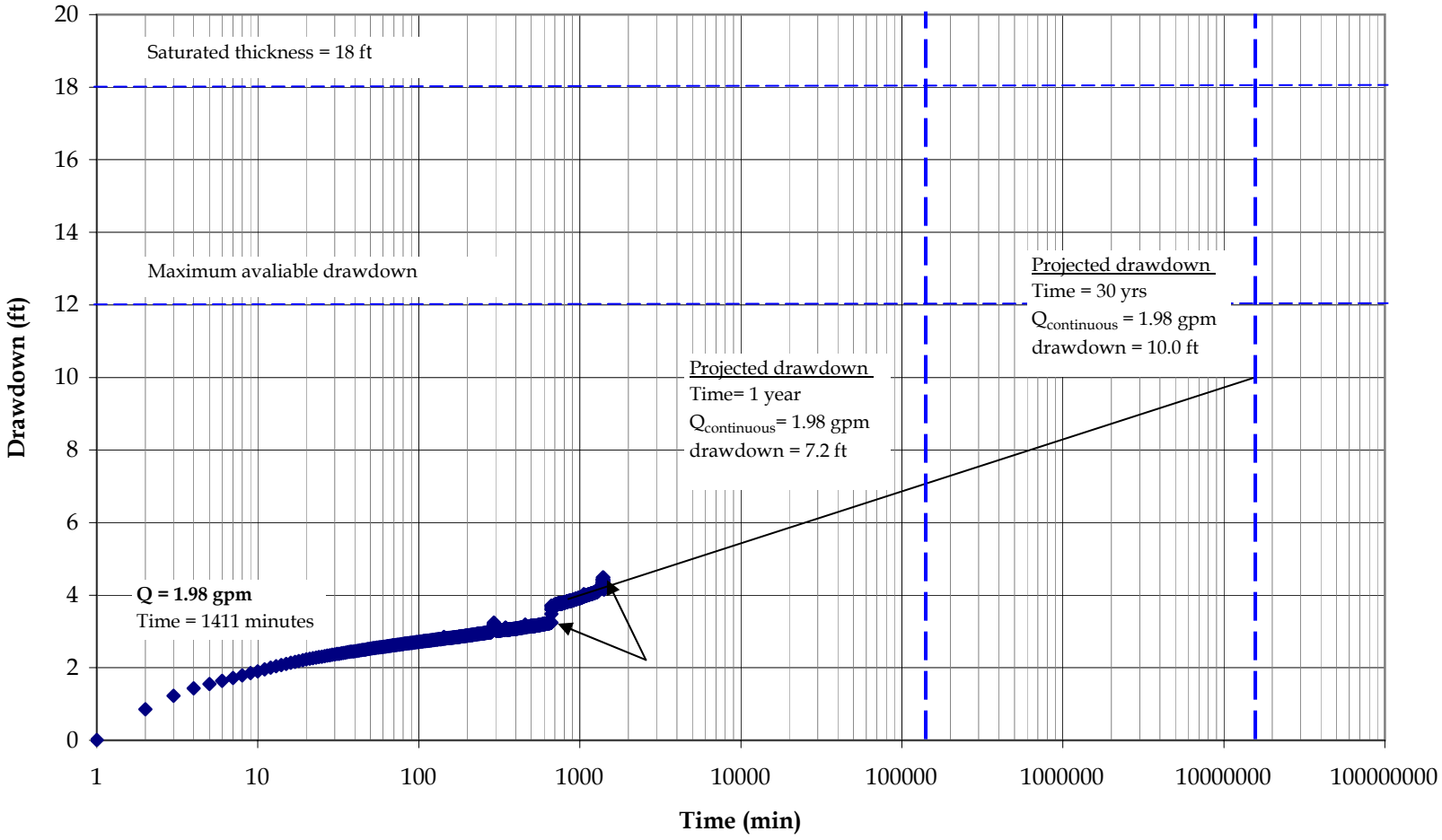


Figure 4-10 : Extraction Well EW-5
Constant Rate Pumping Test for EW-1 through EW-5: Q = 25.5 gpm
Omega Chemical Superfund Site, Whittier, CA September 13, 2006

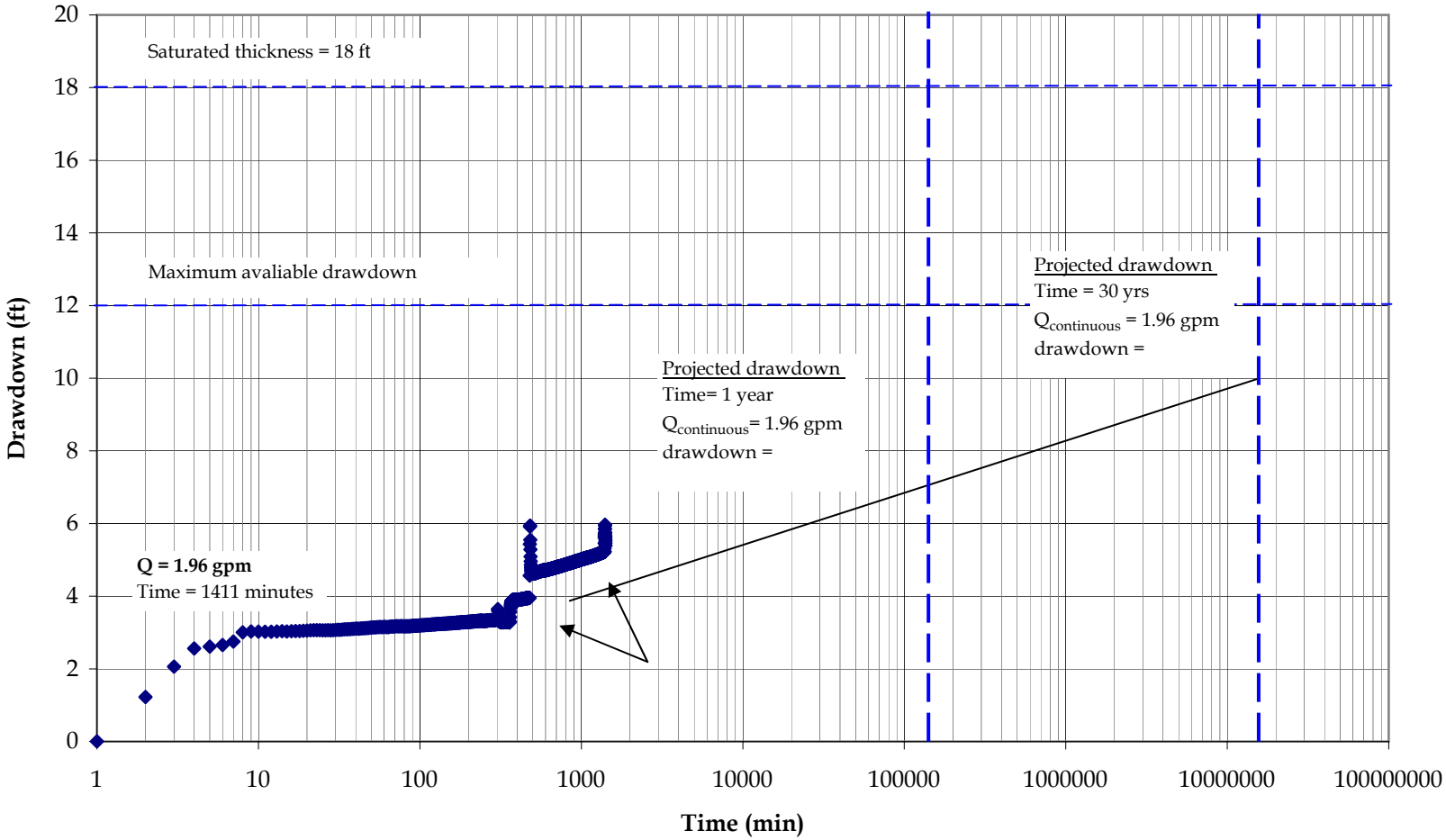


Figure 4-11: Aqueous-phase VOC concentrations observed during Pilot Test
Omega Chemical Superfund Site, Whittier, CA

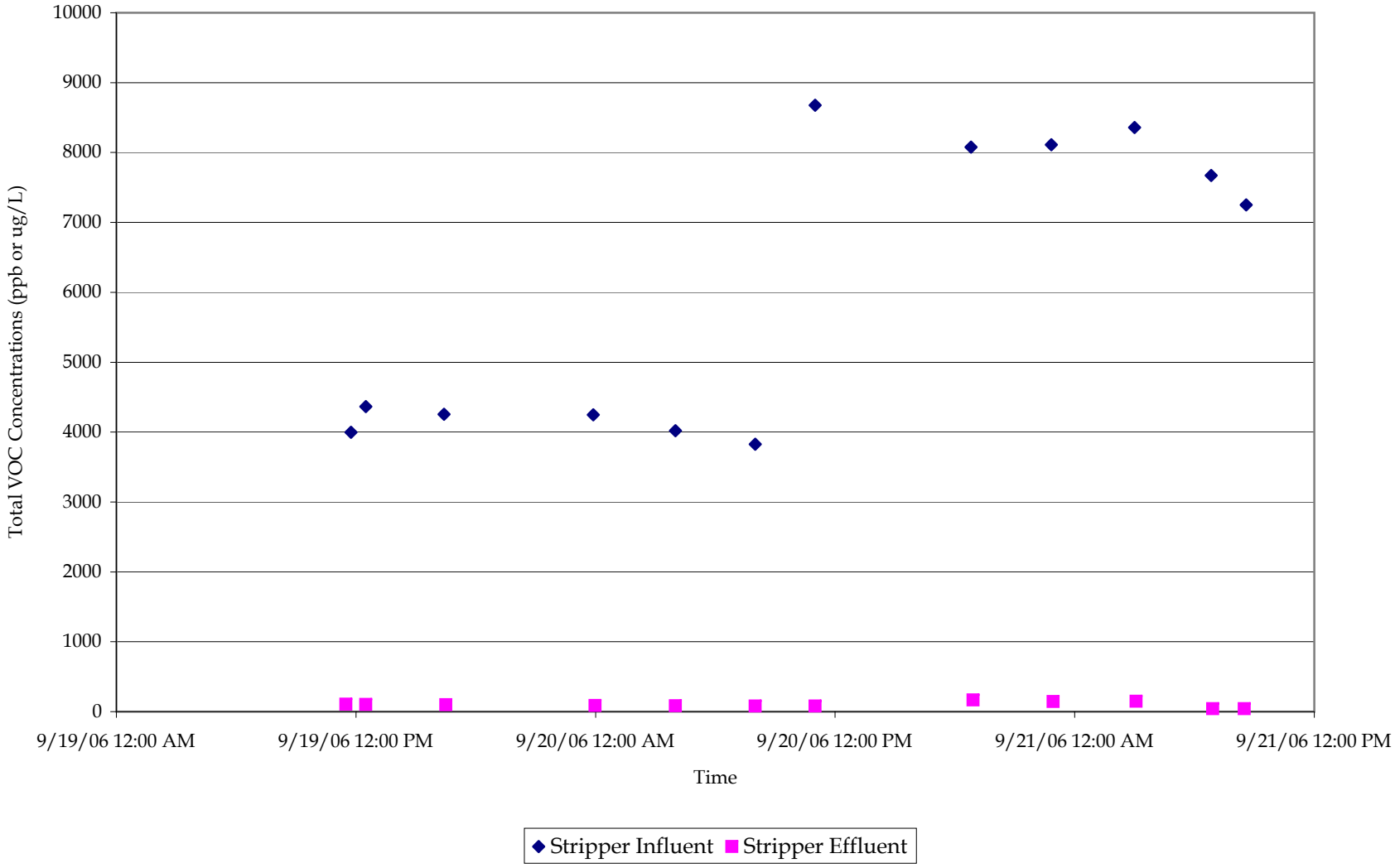


Figure 4-12: Vapor-phase PCE concentrations measured during Pilot Test
Omega Chemical Superfund Site, Whittier, CA

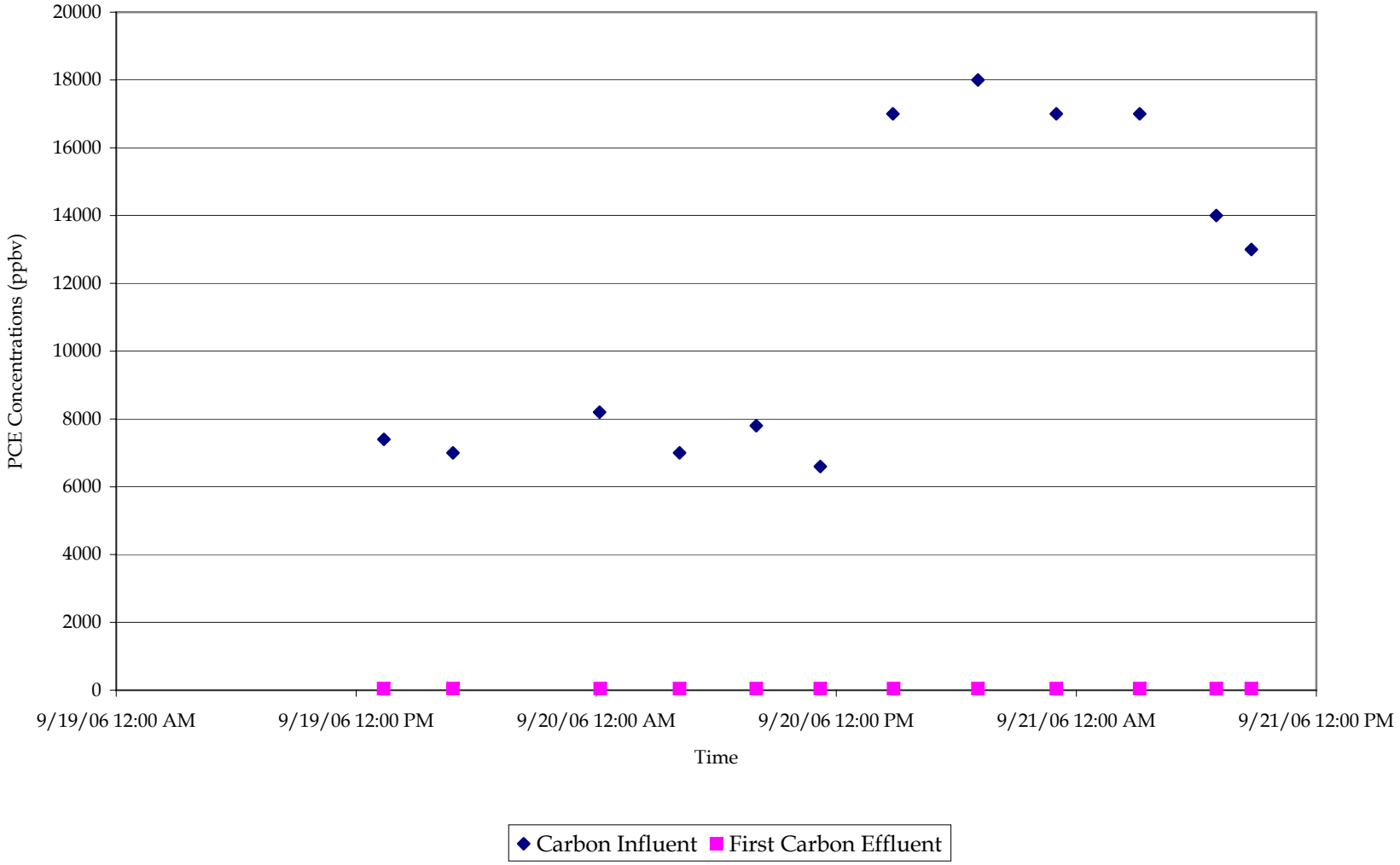


Figure 4-13: Vapor-phase Total VOC concentrations measured during Pilot Test
Omega Chemical Superfund Site, Whittier, CA

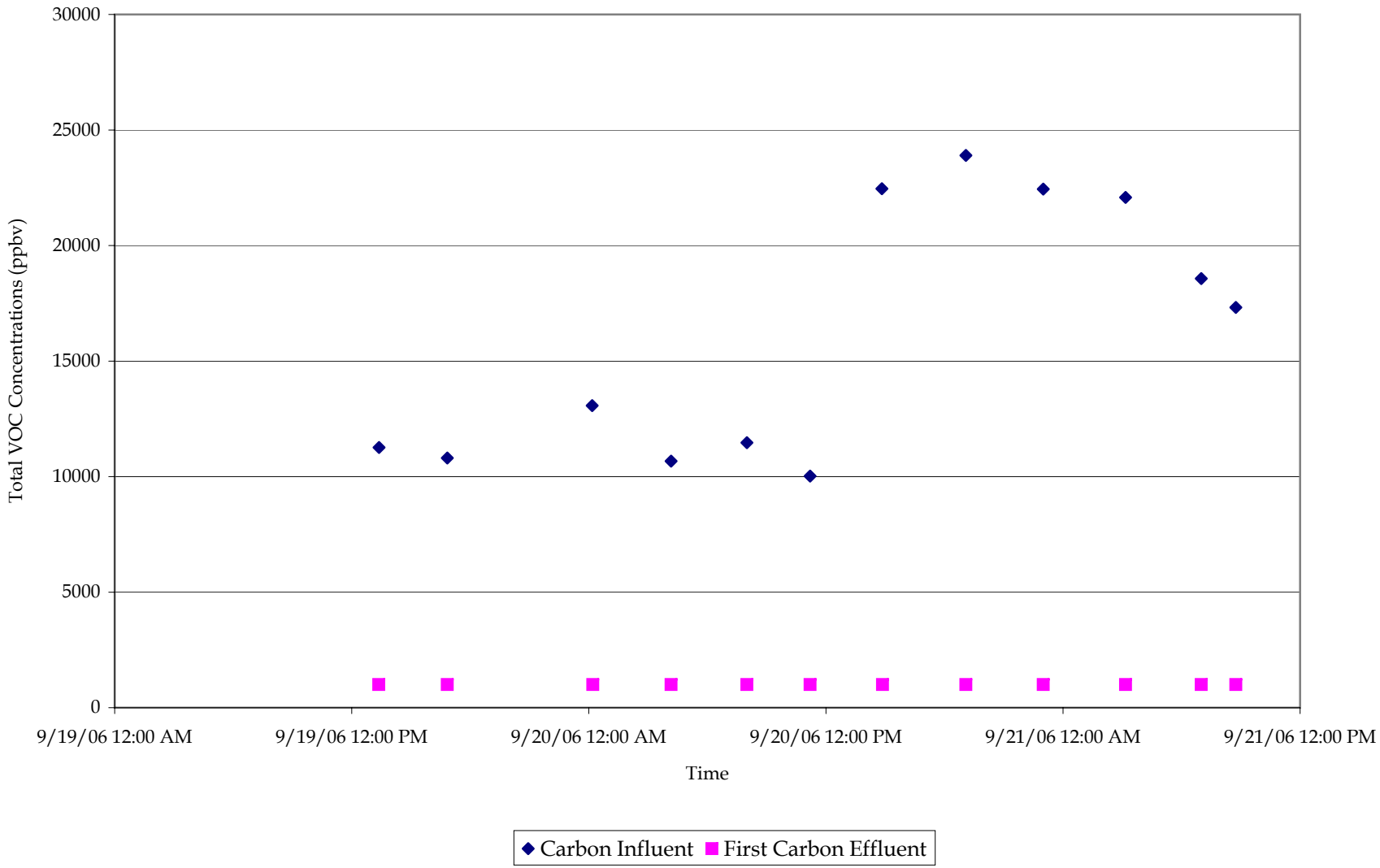


Figure 4-14: Vapor-phase VOC mass flow measured during Pilot Test
Omega Chemical Superfund Site, Whittier, CA

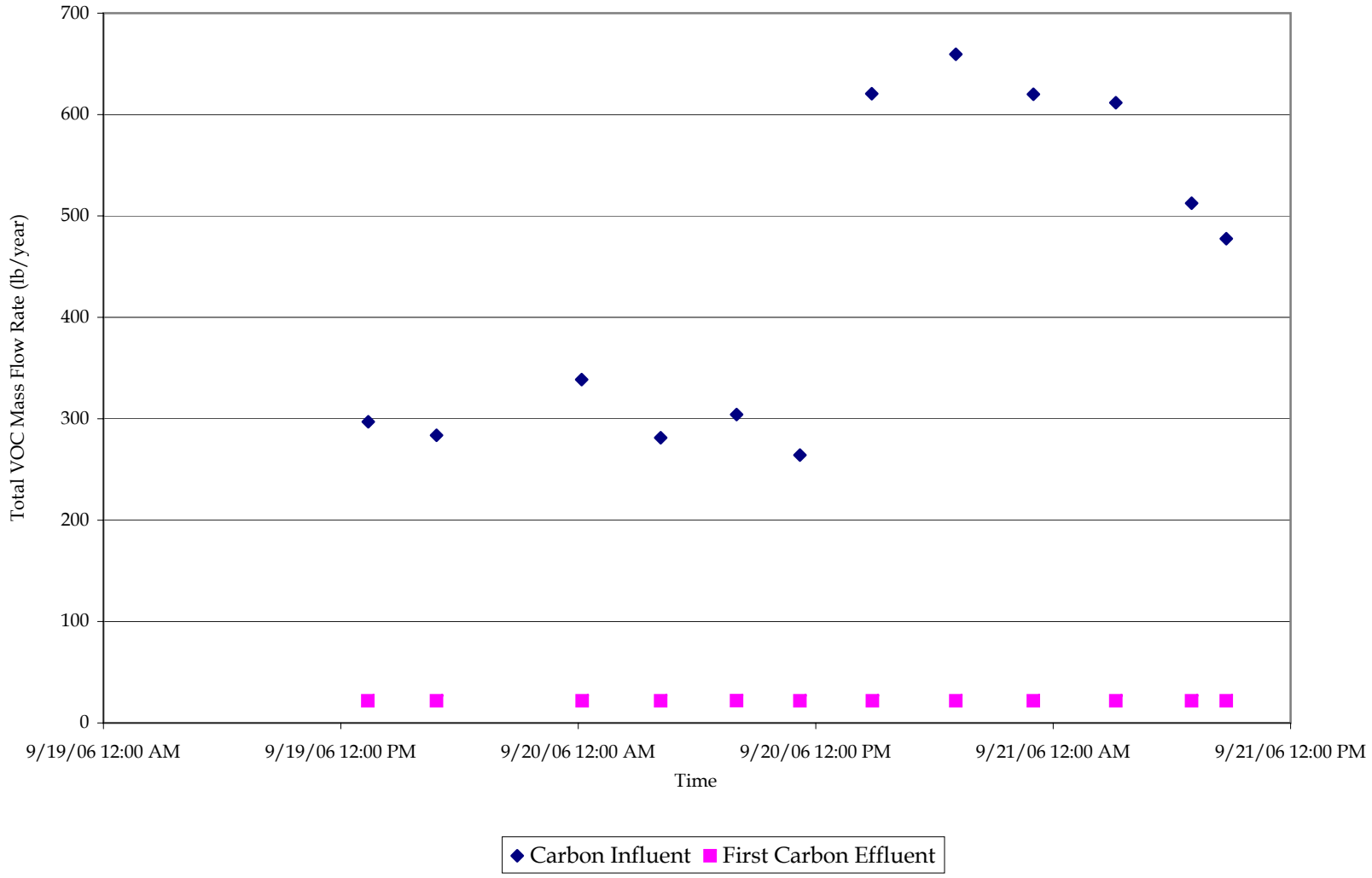
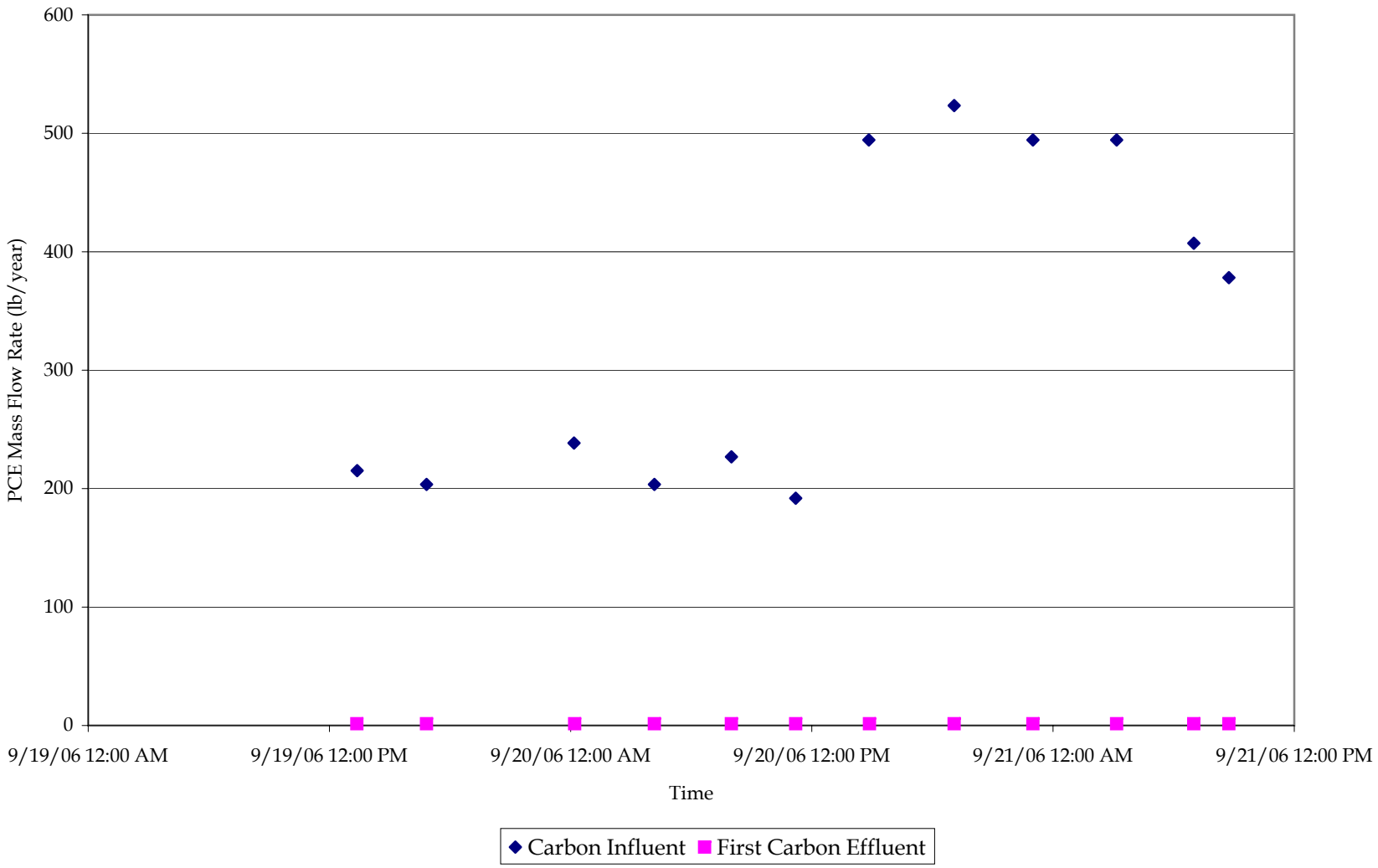


Figure 4-15: Vapor-phase PCE mass flow measured during Pilot Test
Omega Chemical Superfund Site, Whittier, CA



Attachment A
Treatability Study Results

18581 Teller Avenue, Suite 200
Irvine, California 92612
tel: 949 752-5452
fax: 949 752-1307

November 7, 2006

Mr. Edward Modiano
OPOG Project Coordinator
De Maximis, Inc.
5225 Canyon Crest Drive, Building 200, Suite 253
Riverside, CA 92507

Subject: Treatability Testing Summary
Omega Chemical Site
12504/12512 Whittier Boulevard
Whittier, CA 90602

Dear Mr. Modiano:

Camp Dresser & McKee Inc. (CDM) has conducted preliminary treatability studies as part of the design process for the groundwater removal action for Operable Unit One (OU-1) of the Omega Chemical Superfund Site (Site). This letter summarizes the results of these treatability studies.

Treatment Requirements

Groundwater treatment followed by discharge to Los Angeles County Sanitation District (LACSD) treatment plants either in Los Coyotes Water Reclamation Plant (WRP) or the Joint Water Pollution Control Plant (JWPCP) in Carson is anticipated to be the most likely discharge scenario. Alternative discharge points including surface water or groundwater are likely to be impractical because of more stringent treatment and permitting requirements and resultant significant delay in schedule. Discussions with the LACSD have indicated the following key treatment requirements for discharge to the WRP:

- Total volatile organic compounds (VOC) less than 1,000 micrograms per liter (µg/L). This list includes the EPA list of Priority Pollutants
- Total semivolatile organic compounds (SVOC) less than 1,000 µg/L
- 1,4-dioxane less than 5 µg/L
- N-nitrosodimethylamine (NDMA) less than 0.01 µg/L

Additional permit limits for other constituents, including pH (6.0) and sulfide (100 µg/L) will also apply. Less stringent permit limits for 1,4-dioxane and NDMA may exist for the JWPCP but would be decided on a case-by-case basis by the LACSD. Therefore, this treatment evaluation was conducted using the above-listed limits. At this time, acetone and other ketones, which are present in groundwater, are not anticipated to be regulated and therefore will not be included in the total VOC or SVOC permit limits. However, as discussed below, the presence of these biodegradable compounds likely limit ability to treat 1,4-dioxane and NDMA and therefore may require treatment.

Treatability Testing Summary

Treatability tests were conducted on groundwater samples collected from wells OW-1 and OW-8 by Applied Process Technology, Inc. (APT) and Trojan. APT evaluated their HiPOx™ technology that is an advanced oxidation process (AOP) using hydrogen peroxide and ozone. Trojan evaluated their AOP based on use of ultraviolet light generated by medium pressure lamps in combination with hydrogen peroxide. Analytical data for the groundwater samples collected by CDM and reports from APT and Trojan are included as attachments to this letter.

Table 1 summarizes data for representative VOCs and 1,4-dioxane. These data demonstrate that 1,4-dioxane in OW-1 groundwater was reduced to less than 5 µg/L only by APT; however, Trojan did significantly reduce the 1,4-dioxane concentration (to 14 µg/L) . Similarly, OW-1 concentrations of tetrachloroethene (PCE) were low in the APT study but not in the Trojan study. 1,1,1-Trichloroethane (TCA) was not significantly removed in either study because AOP is ineffective for chlorinated ethanes. Groundwater from OW-8 was more difficult to treat by both AOP vendors. Difficulty was encountered treating chlorinated ethenes, chlorinated ethanes, 1,4-dioxane, and acetone.

Table 1 – Abbreviated Summary of APT and Trojan Treatability Testing

	OW-1			OW-8		
Analyte (µg/L)	Groundwater	APT	Trojan	Groundwater	APT	Trojan
Tetrachloroethene	100000	17	840	27000	740	760
Trichloroethene	2200	< 8.3	7	1200	14	120
1,1,1-Trichloroethane	2700	1400	1300	< 200	16	72
1,1-Dichloroethane	<630	< 8.3	17	< 200	42	44
1,1-Dichloroethene	1500	< 8.3	< 6.3	860	< 5	< 13
Chloroform	<630	44	53	1100	740	680
Methylene chloride	< 13000	< 170	< 130	4600	2700	2500
1,4-Dioxane	3100	< 1.2	14	2800	320	1000
Acetone	< 13000	< 170	< 130	5700	4000	3700

As stated in the APT report, various chemicals act as radical scavengers and are the likely cause of poor performance with groundwater from OW-8. Groundwater at the site contains a multitude of chemicals many of which demonstrate chemical oxygen demand (COD) and biochemical oxygen demand (BOD). Table 2 shows groundwater has demonstrable COD and BOD . These summary statistics are based on the previous 5 years of analytical data for groundwater samples from wells OW-2, OW-3, and OW-8. These three wells are the most representative of groundwater that is proposed to be extracted in a hydraulic barrier system along Putnam Street. Two scenarios are presented in Table 2. The equal flow scenario is based on extracted groundwater having a composition that is equivalent to an equal volume mixture of groundwater from the three monitoring wells. The second scenario is more conservative and is based on 60% of the extracted water being similar to OW-8 and the remainder being similar to OW-2 and OW-3.

Table 2 – Anticipated Groundwater Treatment Influent Scenarios

		Equal Flows OW 2,3,8		60% OW8, 40% OW 2,3	
Parameter	**Units**	**Average**	**Maximum**	**Average**	**Maximum**
Total VOC	mg/L	17	37	28	60
Total Ketones	mg/L	1.8	3.9	3.3	7.1
Total SVOC	mg/L	0.21	0.23	0.37	0.41
Dioxane	ug/L	786	2305	1414	4143
BOD	mg/L	18	27	31	47
COD	mg/L	59	105	101	183

The total COD and BOD concentrations in Table 2 would be consistent with the listed VOC concentrations if all of the VOCs were aerobically biodegradable. However, PCE and other aerobically unbiodegradable compounds comprise the VOCs. The significance of this observation is that unidentified organic compounds are likely present in groundwater that contribute to the BOD and COD. These compounds may include easily biodegradable organic acids and alcohols that can act as radical scavengers. Pretreatment to remove these scavengers appears to be necessary in order to successfully use AOP to treat 1,4-dioxane. A similar situation exists for treatment of NDMA.

Please contact Pat Evans at 425-453-8383 or Ravi Subramanian at 949-752-5452 with any questions.

Sincerely,

CAMP DRESSER & MCKEE INC.

Patrick J. Evans, Ph.D.
Associate
Camp Dresser & McKee Inc.

Ravi Subramanian, P.E.
Principal
Camp Dresser & McKee Inc.

Attachments

cc: Dave Chamberlin, CDM
Sharon Wallin, P.G., CDM

Applied Project Number P-1700

HiPOx™ Technology Lab Testing:

Omega Chemical Superfund Site

Prepared for

Ravi Subramanian

CDM

18581 Teller Avenue, Irvine, CA 92612

Report Authors: Bak Srikanth, Keel Robinson and Reid H. Bowman

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1.0 Background Information

1.1 HiPOx Technology

The HiPOx™ process developed by Applied Process Technology, Inc. (Applied) is an Advanced Oxidation Process (AOP) that uses ozone (O_3) and hydrogen peroxide (H_2O_2) to destroy organic compounds. Ozone dissociates as well as reacts with hydrogen peroxide to produce an intermediate, hydroxyl radical (•OH). Hydroxyl radicals are the second most powerful oxidizing agent found in nature. These hydroxyl radicals react very rapidly to oxidize organic contaminants to non-hazardous compounds, carbon dioxide, and water.[1] The oxidation of the organic contaminants does not increase the temperature or pressure of the treated water due to the low mg/L or sub-mg/L concentration of contaminants.

The chemistry of the Advanced Oxidation process using ozone and hydrogen peroxide to generate hydroxyl free radicals is base-catalyzed and is well established. The overall balanced equation for ozone and hydrogen peroxide to yield hydroxyl radical is:

$$2O_3 + H_2O_2 \rightarrow 2\bullet OH + 3O_2$$

1.2 Objective of Evaluation

The objective of this laboratory trial was to determine the efficiency of the HiPOx technology utilizing ozone and hydrogen peroxide to reduce the concentration of chlorinated ethylenes, 1,4-dioxane, benzenes and ketones to their discharge requirements. The impact the HiPOx Technology had on reducing the chlorinated alkanes and NDMA concentrations was also to be determined.

1.3 Process Water Information

The tests were conducted on water supplied by Erik Jorgensen. Two water samples OW-1 and OW-8 were received on March 14, 2006, and were labeled P-1700-OW-1 and P-1700-OW-8, respectively. The samples, once received, were logged and stored in a refrigerator until tests were performed.

2.0 Test Equipment and Procedures

2.1 Test Equipment Description

The HiPOx reactor is constructed of PVC. All ozone piping is constructed of either 316 Stainless Steel or Teflon. The hydrogen peroxide piping is constructed of either 316 Stainless Steel or polyethylene. The ozone generator utilized was an ASTeX Model 8200. The ozone is injected under pressure into the water to be treated. Mixing of the ozone into the water is accomplished with an in-line static mixer. The vent from the system is passed through an ozone destruct unit manufactured by Pacific Ozone.

2.2 Test Procedures

Test Conditions

The P-1700-OW-1 and P-1700-OW-8 water samples were tested for pH, alkalinity and turbidity. The HiPOx treatment test was conducted on March 15, 2006.

The test procedures for all samples followed the procedure described below and were identical. Sample designations reflect sample and treatment levels. For example, SP-20-1700-OW-1 represents water sample P-1700-OW-1 treated with 20 mg/L of ozone. The test procedure was as follows: A sample (2.0 liters) was treated with hydrogen peroxide (2.0 mls, 1.0% by wt, 10.0 mg/L). This mixture was then treated with ozone

[1] W. Glaze and J. Kang, *J.Amer. Water Works Assoc*., **80**, 51, (1988).

(302 mls, 10.03% by wt in oxygen, 20.1 mg/L). A sample of the treated water (SP-20-1700-OW-1) was taken and submitted for VOC's, 1,4-dioxane and NDMA analysis. A total of 4 runs were conducted on P-1700-OW-1. The amounts of ozone and hydrogen peroxide applied during each run are summarized in Table 1. The same procedure was conducted on sample P-1700-OW-8. The experimental conditions for P-1700-OW-1 are shown in Table 2.

Table 1. Summary of Experimental Conditions for P-1700-OW-1

Sample Log #	Run #	Ozone Dose (mg/L)	Ozone Conc. (wt%)	Volume of Ozone Added (mls)	H2O2 Conc (wt%)	H2O2 (mg/L)	Volume H2O2 (mls)	Reactor Volume (L)	Residual H2O2 (mg/L) [1]	Residual O3 (mg/L) [1]
P-1700-OW-8	1	30.1	10.05	452	1.0	15.0	3.0	2	0.5	>2.3
P-1700-OW-8	2	60.3	10.05	903	1.0	42.5	8.5	2	2	0.8
P-1700-OW-8	3	90.2	10.02	1,355	1.0	64.0	12.8	2	2	0.6
P-1700-OW-8	4	150.0	10.00	2,258	1.0	106.5	21.3	2	0.5	>2.3

[1] Residual at the end of the Run

Table 2. Summary of Experimental Conditions for P-1700-OW-8

Sample Log #	Run #	Ozone Dose (mg/L)	Ozone Conc. (wt%)	Volume of Ozone Added (mls)	H2O2 Conc (wt%)	H2O2 (mg/L)	Volume H2O2 (mls)	Reactor Volume (L)	Residual H2O2 (mg/L) [1]	Residual O3 (mg/L) [1]
P-1700-OW-8	1	30.1	10.05	452	1.0	15.0	3.0	2	0.5	>2.3
P-1700-OW-8	2	60.3	10.05	903	1.0	42.5	8.5	2	2	0.8
P-1700-OW-8	3	90.2	10.02	1,355	1.0	64.0	12.8	2	2	0.6
P-1700-OW-8	4	150.0	10.00	2,258	1.0	106.5	21.3	2	0.5	>2.3

[1] Residual at the end of the Run

Analytical Testing

All samples from the HiPOx test conducted on March 15, 2006 were sent for analysis to Curtis & Tompkins, 2323 Fifth Street, Berkeley, CA 94710, Berkeley, CA 94710 (510) 486-0900

The turbidity meter used was an Orbeco-Hellige Model 965-10 Serial # 2222. The pH was measured with an Oakton Model Ph Testr 3^{+}. Alkalinity was measured using a Hach Model 5-EP test kit. Hydrogen peroxide residuals were measured with Quantofix Peroxid 25 test strips. Ozone residual was measured with a Hach Model OZ-2 test kit.

3.0 Discussion

The results and conditions for the treatment of P-1700-OW-1 and OW-8 with ozone and hydrogen peroxide are summarized in Tables 3 and 4, respectively. A sample was sent directly to the Curtis and Tompkins by CDM. The results of this analysis are also summarized in Table 3 and 4 and are identified as "Raw Water". There are differences in the concentrations of several of the contaminants in the "Raw Water" and the samples identified as SP-0-1700-OW-1 and SP-0-1700-OW-8. This is surprising because the SP-0-1700 samples were refrigerated when received by Applied then submitted for analysis on March 15, 2006 and analyzed on March 20, 2006. The concentration should not have changed. The Tetrachloroethene (PCE) concentration in both SP-0-1700-OW-1 and SP-0-1700-OW-8 changed greater than 70% as compared to the "Raw Water". Curtis and Tompkins were consulted and they found no errors in their analysis or QA/QC. At this time there is no plausible explanation for the observed change in concentration of PCE.

P-1700-OW-1

The sample P-1700-OW-1 had a sight odor and was light yellowish brown in color. The sample when received had a small amount of sediment at the bottom of the container. On treatment with ozone and hydrogen peroxide the color changed to a slight pink. This change is attributed the oxidation of the manganese to permanganate. There was no odor present in any of the treated samples of P-1700-OW-1. The residual concentrations of ozone and hydrogen peroxide observed in the treated samples of P-1700-OW-1 are higher than typical. The explanation for the high residual concentrations is that the pH of the water was neutral or slightly acidic. The reaction of ozone and hydrogen peroxide is base-catalyzed. The neutral pH retards hydroxyl radical formation.

The results for OW-1 in Table 3 can be used to develop empirical models by plotting the contaminant concentration as a function of applied ozone. These plots of contaminant concentration as a function of applied ozone are destruction curves. Figure 1 shows the destruction curve for PCE in P-1700-OW-1. Figure 2 shows the destruction curves for Trichloroethene (TCE) and 1,4-Dioxane. These destruction curves can be used to develop an empirical model that can estimate the amount of ozone required to treat varying influent concentrations of PCE, TCE or 1,4-Dioxane. Table 4 has the results of the empirical models for PCE, TCE and 1,4-Dioxane for OW-1. The ozone required to treat the contaminants to their discharge limits is shown. PCE, due to its high concentration, required the highest ozone dose (108.8 mg/L) to reduce its concentration from 26,000 µg/L to <0.8 µg/L. It needs to be pointed out that the empirical models are limited to the concentrations tested. Using these empirical models with significantly higher influent concentrations will lead to underestimates of the ozone required to meet a specific effluent concentration. If the objective was to treat the 1,4-Dioxane to below discharge limits, the empirical models can be used to determine the concentrations of TCE and PCE. Example; if the 1,4-Dioxane influent concentration was 2,100 µg/L and the effluent 1,4-dioxane of <3 µg/L was required, the ozone required would be 48.2 mg/L (Table 5). Using an ozone dose of 48.2 mg/L and the influent concentrations of 26,000 µg/L and 1,200 µg/L for PCE and TCE, respectively, the estimate on the effluent PCE and TCE concentrations can be made as shown in Table 6.

N-nitrosodimethylamine (NDMA) was not detected in P-1700-OW-1 or any of the ozone and hydrogen peroxide treated samples. The Lab Reporting Limit for NDMA was 9.5 µg/L and the Method Detection Limit (MDL) was 1.5 µg/L. However based on the results in this lab test for TCE and the results observed in another lab test with water containing both TCE and NDMA, the concentration of NDMA was estimated. It was assumed the influent NDMA concentration was 0.750 µg/L for this estimate.[2] Two different scenarios were evaluated. In the first scenario in Table 7, the ozone dose is 48.2 mg/L which would reduce the 1,4-dioxane concentration to <3 µg/L the effluent NDMA concentration is estimated to be in the range of 0.067 to 0.321 µg/L. In the second scenario in Table 7 the ozone dose is 108.8 mg/L which would reduce the PCE concentration to <0.8 µg/L, the effluent NDMA concentration is estimated to be in the range of 0.003 to 0.110 µg/L. The two scenarios described in Table 7 are only estimates of NDMA concentrations and not based on NDMA results from OW-1. The actual NDMA destruction efficiency may be better or worse depending on site-specific chemistry and AOP dosing levels. This may or may not be true until confirmed by testing.

In P-1700-OW-1 there were only three chlorinated alkanes detected: chloroform; 1,1-DCA and 1,1,1-TCA. The concentration of 1,1,1-TCA was reduced ~ 50% after P-1700-OW-1 was treated with 80 mg/L of ozone. The exact degree of reduction in concentration of chloroform and 1,1-DCA is hampered because they were not detected in P-1700-OW-1 because of dilution. However, the concentration of 1,1-DCA and chloroform were detected in P-1700-OW-1 after treatment with 20 mg/L of ozone. The concentration of 1,1-DCA was reduced from 24 µg/L to < 8.3 µg/L and the concentration of chloroform was reduced from 57 µg/L to 44 µg/L when P-20-1700-OW-1 was treated with additional 60 mg/L of ozone.

[2] The influent NDMA concentration was provided by Pat Evans at CDM.

The total concentration of chlorinated alkanes and 1,4 –Dioxane in P-1700-OW-1 was 32,760 µg/L and after treatment with 80 mg/L of ozone the total concentration of chlorinated solvents and 1,4 –Dioxane in P-80-1700-OW-1 was 1,461 µg/L. This is a 95% reduction of VOC's.[3]

The comparison of AOP efficiency of the HiPOx technology in treating the contaminants at OW-1 with other sites is best made by comparing the exponents of the destruction curves in Figures 1 and 2. This comparison is made in Table 8. The exponents observed with OW-1 were lower than what has been typically observed for a majority of groundwater treatment applications. The cause of the low AOP efficiency is attributed to radical scavengers.[4] Radical scavengers can be a multitude of chemicals: bicarbonate, alcohols, glycols, polyglycols, sugars, polysaccharides, phenols, hydroxyl acids, or Natural Organic Matter (NOM). These radical scavengers frequently result in high Chemical Oxygen Demand (COD) and Biological Oxygen Demand (BOD) concentrations. Historical at the Omega site, the COD concentration has ranged from 4.6 to 301 mg/L with an average of 67.65 mg/L and the BOD concentration has ranged from 2.0 to 77 mg/L with an average of 18.167 mg/L.[5] Typical COD and BOD concentrations seen at other sites are less than 5 mg/L. The COD concentration of OW-1 was 26 mg/L.

P-1700-OW-8

The sample P-1700-OW-8 had no odor, was water white in color and there were no sediments in the shipping container. Treatment of P-1700-OW-8 with ozone (30 mg/L) and hydrogen peroxide (15 mg/L) in sample P-30-1700-OW-8 (Table 4) resulted in the formation of a brown precipitate. The amount of precipitate formed was small but was not quantified. The precipitate is suspected to be metal oxides but no qualitative analysis was conducted. Increasing the hydrogen peroxide /ozone mole ratio from 0.7 to 1.0 in the subsequent runs, no precipitate was observed. Ozone reacts with metals to form metal oxides which are insoluble and precipitate. Hydroxyl radicals react slower with metals than organic compounds.[6] If there is material that reacts with the hydrogen peroxide before the ozone, then there will be excess ozone to react with the metals. Increasing the amount of hydrogen peroxide converts all the ozone to hydroxyl radical and the ozone is therefore not available to react with the metals.

The results for OW-8 in Table 4 can be used to develop empirical models by plotting the contaminant concentration as a function of applied ozone. These plots of contaminant concentration as a function of applied ozone are destruction curves. Figure 3 has the destruction curves for PCE, TCE and 1,4-Dioxane. As with P-1700-OW-1, the destruction curves can be used to develop an empirical model that can estimate the amount of ozone required to treat varying influent concentrations of PCE, TCE or 1,4-Dioxane. Table 9 has the results of the empirical models for PCE, TCE or 1,4-Dioxane for OW-8. The empirical models show that 458.2 mg/L of ozone would be required to reduce the 1,4-Dioxane to < 3 µg/L in water from OW-8. The ozone doses required to reduce the PCE to <0.8 µg/L and the TCE to less than 2.7 µg/L are: 629 mg/L and 210.6 mg/L, respectively. The ozone demand of OW-8 appears to be significantly higher than that of water from OW-1. The cause of the higher ozone demand for the OW-8 water could be higher COD and DOC concentrations in OW-8 compared to OW-1. The COD concentrations were 26 mg/L and 110 mg/L for OW-1 and OW-8, respectively. The DOC concentrations were 5.1 mg/L and 43 mg/L for OW-1 and OW-8, respectively. The difference in the metals concentration between OW-1 and OW-8 would not be expected to result in the higher ozone demand.

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[3] The reduction in the concentration of the contaminants is not caused by air stripping. Previous lab test have shown that TCE and PCE concentration were not significantly reduced when treated with oxygen only. The influent PCE and TCE concentration were 192 µg/L and 179 µg/L, respectively. The concentrations of PCE and TCE after sparging with oxygen (100 mls/min) for 8 minutes were: 184 µg/L and 172 µg/L, respectively.

[4] J. Hoigne and H. Bader, *Water Res.*, **10**, 377 (1976), J. Hoigne and H. Bader, *Vom Wasser*, **48**, 283 (1977) and Reference 1.

[5] Private communication from Pat Evans at CDM.

[6] The rate of hydroxyl radical with iron is: $\cdot OH + Fe^{2+} \rightarrow FeOH^{2+}$ ($k = 3.2 \times 10^8$(L mol^{-1} s^{-1}), pH = 7) Z. Stuglik, and Z. P. Zagorski, *Radiat. Phys. Chem*. **17**, 229-233 (1981). For comparison, the rate of hydroxyl radical with TCE is: $ClCH{=}CCl_2 + \cdot OH \rightarrow \cdot CCl_2CHClOH$ ($k = 2.9 \times 10^9$(L mol^{-1} s^{-1}) N. Getoff, *Appl. Radiat. Isot.* **40**, 585-594 (1989)

Table 10 presents an estimate of the PCE and TCE effluent concentrations when the 1,4-dioxane has been reduced to < 3 µg/L.

NDMA was not detected in P-1700-OW-8 or any of the ozone and hydrogen peroxide treated samples. The Lab Reporting Limit was 9.5 µg/L and the MDL was 1.5 µg/L.

In P-1700-OW-8 there were nine halogenated alkanes detected: chloroform; bromoform; 1,1-DCA; 1,2-DCA; 1,1,2-TCA; 1,1,1-TCA; methylene chloride; Freon 113 and trichlorofluoromethane. Only trichlorofluoromethane, 1,2-DCA, methylene chloride and chloroform were detected in P-1700-OW-8. Of the four halogenated alkanes detected in P-1700-OW-8, only the trichlorofluoromethane concentration was significantly reduced when treated with ozone and hydrogen peroxide. The degree of reduction in concentration of the remaining halogenated alkanes detected during the treatment with ozone and hydrogen peroxide is summarized in Table 4.

The total concentration of halogenated alkanes and 1,4 –Dioxane in P-1700-OW-8 was 44,131 µg/L and after treatment with 150 mg/L of ozone the total concentration of chlorinated solvents and 1,4 –Dioxane in P-150-1700-OW-8 was 9,181 µg/L. This represents a 79% reduction of VOC's.

Table 3. Summary of Results and Conditions for OW-1

Sample ID #	SP-0-1700-OW-1[1,3]	SP-0-1700-OW-1 [2,3]	SP-20-1700-OW-1[3,4]	SP-40-1700-OW-1[3,4]	SP-60-1700-OW-1[3,4]	SP-80-1700-OW-1[3,4]
Run #	Raw Water	--	1	2	3	4
Ozone Dose (mg/L)	--	0	20.1	40.3	60.1	80.7
H2O2 (mg/L)	--	--	9.9	20.0	30.0	39.5
Mole Ratio	--	--	0.70	0.70	0.70	0.69
Residual H2O2 (mg/L)	--	--	5	5	5	2
Residual O3 (mg/L)	--	--	2.3+	2.3+	2.3+	2.3+
pH	7	7.01	6.98	6.97	7.01	6.99
Alkalinity (mg/L)	560	480	460	480	460	460
Turbidity (NTU)	--	33.5	20	24	41.5	45.7
TDS (mg/L)	1,140	--	--	--	--	--
Boron (µg/L)	290	--	--	--	--	--
Iron (µg/L)	1,900	--	--	--	--	--
Manganese (µg/L)	320	--	--	--	--	--
DOC (mg/L) [5]	5.1	--	--	--	--	--
COD (mg/L) [5]	26	--	--	--	--	--
1,4-Dioxane	3,100	2,100	370	2.5	< 1.2	< 1.2
PCE	100,000	26,000	6,600	280	53	17
TCE	2,200	1,200	72	<10	<7.1	<8.3
1,1,1-TCA	2,700	2,700	1,800	1,800	1,600	1,400
1,1-DCE	1,500	760	<20	<10	<7.1	<8.3
1,1-DCA	<630	<200	24	19	13	<8.3
Chloroform	<630	<200	57	56	50	44

[1] Results from sample taken by CDM on 3/13/06 and submitted to Curtis and Tompkins Analytical Labs for Analysis

[2] Sample was yellow brown in color and a slight odor. The was a sediment in the sample container when received

[3] Only compounds that were detected are reported as (µg/L)

[4] The color changed to a slight pink color.

[5] Results provide by Pat Evans at CDM who had received the values from Trojan

Table 4. Summary of Results and Conditions for OW-8

Sample ID #	SP-0-1700-OW-8	SP-0-1700-OW-8 [2,3]	SP-30-1700-OW-8 [3]	SP-60-1700-OW-8 [3]	SP-90-1700-OW-8 [3]	SP-150-1700-OW-8 [3]
Run #	Raw Water [1]	--	1	2	3	4
Ozone Dose (mg/L)	--	0	30.1	60.3	90.2	150.0
H2O2 (mg/L)	--	--	15.0	42.5	64.0	106.5
Mole Ratio	--	--	0.70 [4]	1.00	1.00	1.00
Residual H2O2 (mg/L)	--	--	0.5	2	2	0.5
Residual O3 (mg/L)	--	--	2.3+	0.8	0.6	2.3+
pH	6.70	6.77	6.86	6.95	7.00	7.07
Alkalinity (mg/L)	840	420	400	400	420	420
Turbidity (NTU)	--	3.4	1.5	4.1	4.0	9.8
TDS (mg/L)	780	--	--	--	--	--
Boron (µg/L)	310	--	--	--	--	--
Iron (µg/L)	1,300	--	--	--	--	--
Manganese (µg/L)	3,500	--	--	--	--	--
DOC (mg/L)[5]	43	--	--	--	--	--
COD (mg/L)[5]	110	--	--	--	--	--
1,4-Dioxane	2,800	2,900	2,000	1,200	710	320
PCE	27,000	6,400	4,300	2,900	1,800	740
TCE	1,200	750	410	200	80	14
1,1,1-TCA	<200	<63	30	<31	20	16
1,1,2-TCA	<200	70	63	66	60	55
1,1-DCE	860	490	20	<31	<5	<5
1,1-DCA	<200	69	53	57	50	42
1,2-DCA	450	450	410	410	390	340
Chloroform	1,100	920	820	830	800	740
Bromoform	<200	<130	<40	<20	10	18
Methylene Chloride	4,600	3,200	2,900	3,000	2,900	2,700
Freon 113	<2,000	820	<200	<310	<50	<50
Trichlorofluoromethane	410	320	130	83	83	16
Toluene	<200	99	37	<5	<5	<5
Acetone	5,700	4,400	4,300	4,300	4,300	4,000
2-Butanone (MEK)	<4,000	<1,300	<200	<630	220	180
Phenol	11	14	<120	<12	<120	<120

[1] Results from sample taken by CDM on 3/13/06 and submitted to Curtis and Tompkins Analytical Labs for Analysis

[2] The sample was water white, had no odor and there was no sediment

[3] Only compounds that were detected are reported as (µg/L)

[4] A dark brown precipitate formed

[5] Results provide by Pat Evans at CDM who had received the values from Trojan

Table 5. Empirical Models for PCE, TCE and 1,4-Dioxane OW-1

PCE OW-1 Model			TCE OW-1 Model			1,4-Dioxane OW-1 Model		
Applied O_3 (mg/L)	Influent PCE (µg/L)	Effluent PCE (µg/L)[1]	Applied O_3 (mg/L)	Influent TCE (µg/L)	Effluent TCE (µg/L)[1]	Applied O_3 (mg/L)	Influent 1,4-Dioxane (µg/L)	Effluent 1,4-Dioxane (µg/L)[1]
108.8	26,000	0.70	44.4	1,200	2.60	48.2	2,100	2.90

[1] Discharge Limits were specified in communication from CDM:
PCE <0.8 µg/L, TCE <2.7 µg/L and 1,4-Dioxane <3 µg/L

Table 6. Estimate of PCE and TCE Effluent Concentration with 1,4-Dioxane Control OW-1

PCE OW-1 Model			TCE OW-1 Model			1,4-Dioxane OW-1 Model		
Applied O_3 (mg/L)	Influent PCE (µg/L)	Effluent PCE (µg/L)	Applied O_3 (mg/L)	Influent TCE (µg/L)	Effluent TCE (µg/L)	Applied O_3 (mg/L)	Influent 1,4-Dioxane (µg/L)	Effluent 1,4-Dioxane (µg/L)
48.2	26,000	246.59	48.2	1,200	1.53	48.2	2,100	2.90

Table 7. Estimates of NDMA Effluent Concentration

NDMA OW-1 Model				
Scenario	Applied O_3 (mg/L)	Influent NDMA (µg/L)	Range of NDMA Effluent (µg/L)	
1	48.2	0.750	0.321	0.067
2	108.8	0.750	0.110	0.003

Table 8. Comparison of Exponents for PCE, TCE and 1,4-Dioxane at OW-1

	PCE Exponent	TCE Exponent	1,4-Dioxane Exponent
Average	0.1739	0.3358	0.2803
Low	0.0917	0.143	0.161
OW-1	0.0967	0.1383	0.1367

Table 9. Empirical Models for PCE, TCE and 1,4-Dioxane in for OW-8

PCE OW-8 Model			TCE OW-8 Model			1,4-Dioxane OW-8 Model		
Applied O_3 (mg/L)	Influent PCE (µg/L)	Effluent PCE (µg/L)	Applied O_3 (mg/L)	Influent TCE (µg/L)	Effluent TCE (µg/L)	Applied O_3 (mg/L)	Influent 1,4-Dioxane (µg/L)	Effluent 1,4-Dioxane (µg/L)
629.0	6,400	0.70	210.6	750	2.60	458.2	2,800	2.90

[1] Discharge Limits were specified in communication from CDM:
PCE <0.8 µg/L, TCE <2.7 µg/L and 1,4-Dioxane <3 µg/L

Table 10. Estimate of PCE and TCE Effluent Concentration with 1,4-Dioxane Control OW-8

PCE OW-8 Model			TCE OW-8 Model			1,4-Dioxane OW-8 Model		
Applied O_3 (mg/L)	Influent PCE (µg/L)	Effluent PCE (µg/L)	Applied O_3 (mg/L)	Influent TCE (µg/L)	Effluent TCE (µg/L)	Applied O_3 (mg/L)	Influent 1,4-Dioxane (µg/L)	Effluent 1,4-Dioxane (µg/L)
458.2	6,400	8.34	458.2	750	0.00	458.2	2,800	2.90

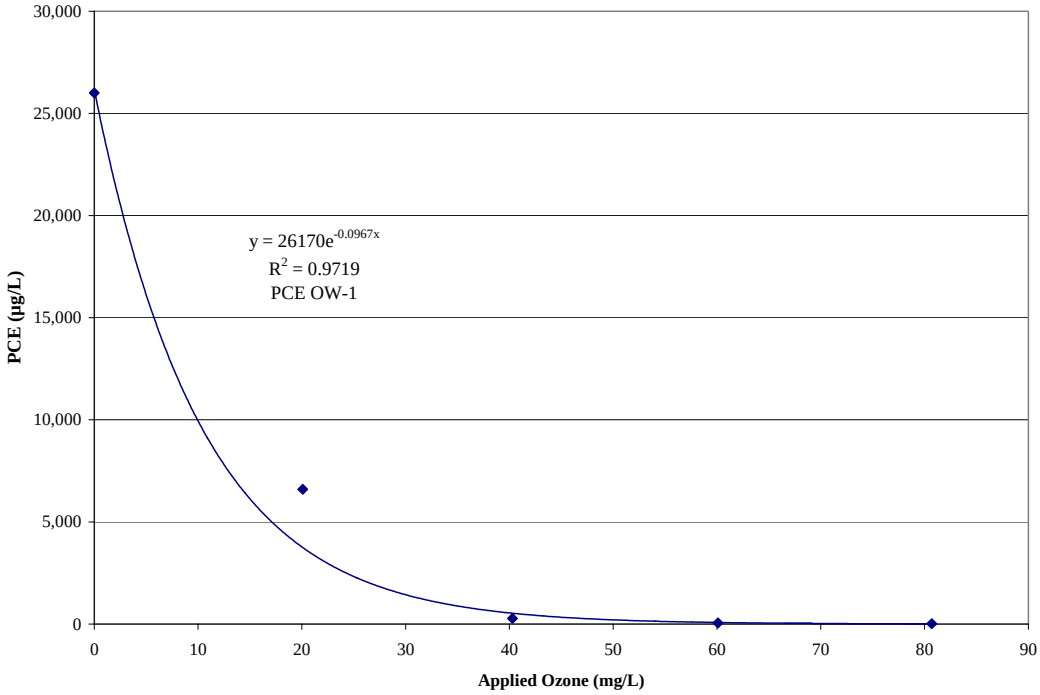


Figure 1. PCE Destruction Curve OW-1

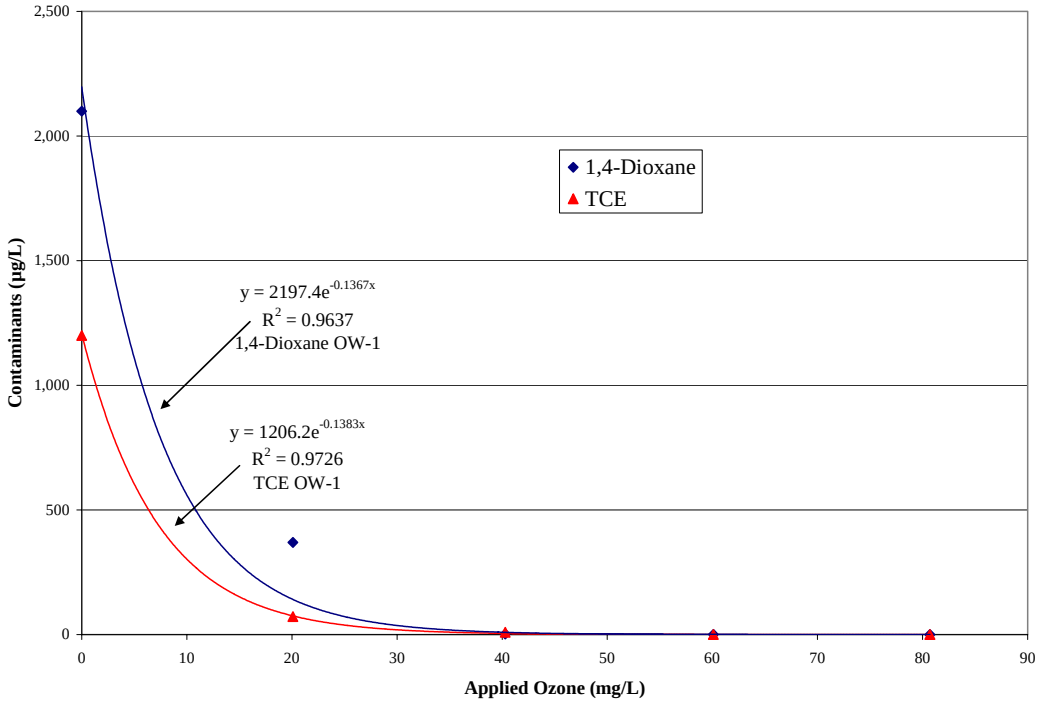


Figure 2. TCE and 1,4-Dioxane Destruction Curves for OW-1

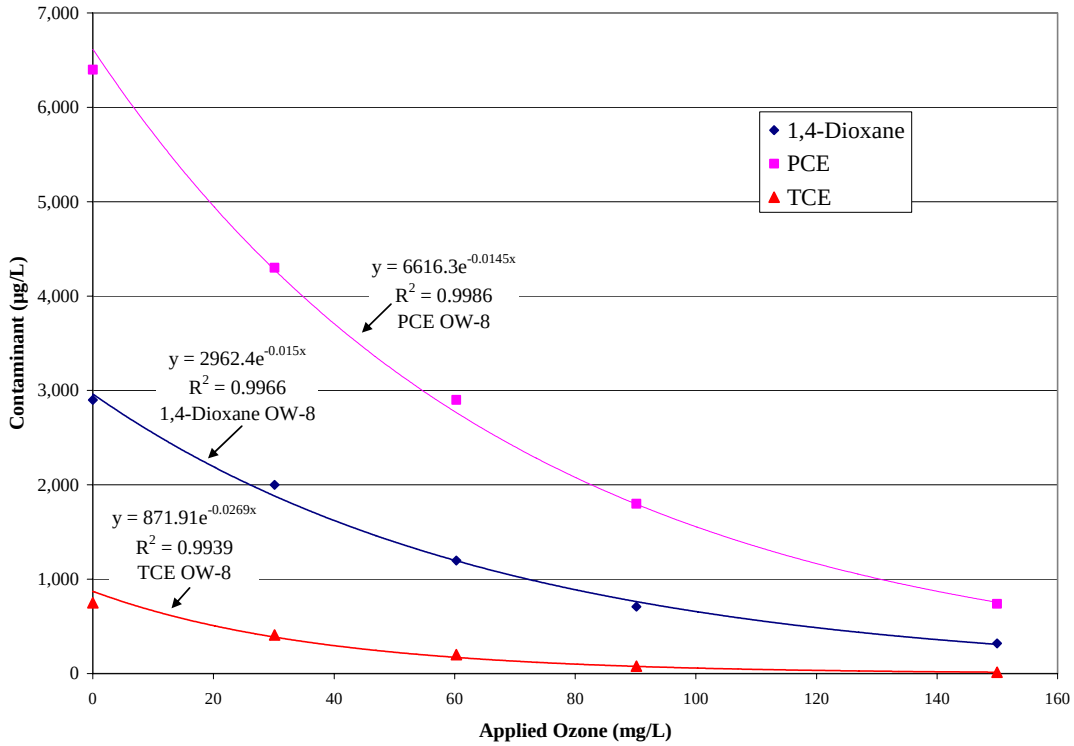


Figure 3. Destruction Curves for PCE, TCE and 1,4-Dioxane in P-1700-OW-8

4.0 Conclusion

HiPOx technology, which uses ozone and hydrogen peroxide, was an effective process in the oxidation of chlorinated ethenes and 1,4-dioxane in water from OW-1. Although complete reduction of the PCE was not demonstrated in P-1700-OW-1, an empirical model was developed to estimate the ozone dose required to reduce the PCE influent concentration from 26,000 µg/L to <0.8 µg/L. Furthermore the empirical model allows an estimation of the PCE and TCE concentration if only the 1,4-Dioxane was treated with HiPOx. The treatment of P-1700-OW-1 with 80 mg/L of ozone reduced the total VOC concentration by 95%.

The HiPOx treatment of water from OW-8 reduced the concentration of chlorinated ethenes and 1,4-dioxane, but P-1700-OW-8 has a much higher ozone demand than P-1700-OW-1. The higher ozone demand is attributed to higher COD and DOC concentration in P-1700-OW-8. An empirical model was developed for P-1700-OW-8 to estimate the ozone dose required to reduce the PCE, TCE and the 1,4-Dioxane concentrations to below the discharge limits. Furthermore the empirical model allows an estimation of the PCE and TCE concentration if only the 1,4-Dioxane was treated with HiPOx. The treatment of P-1700-OW-8 with 150 mg/L of ozone reduced the total VOC concentration by 79%

Appendix
Analytical Reports

Curtis & Tompkins, Ltd.
Analytical Laboratories, Since 1878

Purgeable Organics by GC/MS

Lab #:	185570	Prep:	EPA 5030B
Client:	Camp, Dresser & McKee	Analysis:	EPA 8260B
Project#:	STANDARD		
Field ID:	SP-0-1700-OW-1	Batch#:	111448
Lab ID:	185570-001	Sampled:	03/15/06
Matrix:	Water	Received:	03/15/06
Units:	ug/L	Analyzed:	03/20/06
Diln Fac:	400.0		

Analyte	Result	RL
Freon 12	ND	400
Chloromethane	ND	400
Vinyl Chloride	ND	200
Bromomethane	ND	400
Chloroethane	ND	400
Trichlorofluoromethane	ND	400
Acetone	ND	4,000
Freon 113	ND	2,000
1,1-Dichloroethene	760	200
Methylene Chloride	ND	4,000
Carbon Disulfide	ND	200
MTBE	ND	200
trans-1,2-Dichloroethene	ND	200
Vinyl Acetate	ND	4,000
1,1-Dichloroethane	ND	200
2-Butanone	ND	4,000
cis-1,2-Dichloroethene	ND	200
2,2-Dichloropropane	ND	200
Chloroform	ND	200
Bromochloromethane	ND	200
1,1,1-Trichloroethane	2,700	200
1,1-Dichloropropene	ND	200
Carbon Tetrachloride	ND	200
1,2-Dichloroethane	ND	200
Benzene	ND	200
Trichloroethene	1,200	200
1,2-Dichloropropane	ND	200
Bromodichloromethane	ND	200
Dibromomethane	ND	200
4-Methyl-2-Pentanone	ND	4,000
cis-1,3-Dichloropropene	ND	200
Toluene	ND	200
trans-1,3-Dichloropropene	ND	200
1,1,2-Trichloroethane	ND	200
2-Hexanone	ND	4,000
1,3-Dichloropropane	ND	200
Tetrachloroethene	26,000	200

ND= Not Detected
RL= Reporting Limit

Curtis & Tompkins, Ltd.
Analytical Laboratories, Since 1878

Purgeable Organics by GC/MS

Lab #:	185570	Prep:	EPA 5030B
Client:	Camp, Dresser & McKee	Analysis:	EPA 8260B
Project#:	STANDARD		
Field ID:	SP-0-1700-OW-1	Batch#:	111448
Lab ID:	185570-001	Sampled:	03/15/06
Matrix:	Water	Received:	03/15/06
Units:	ug/L	Analyzed:	03/20/06
Diln Fac:	400.0		

Analyte	Result	RL
Dibromochloromethane	ND	200
1,2-Dibromoethane	ND	200
Chlorobenzene	ND	200
1,1,1,2-Tetrachloroethane	ND	200
Ethylbenzene	ND	200
m,p-Xylenes	ND	200
o-Xylene	ND	200
Styrene	ND	200
Bromoform	ND	400
Isopropylbenzene	ND	200
1,1,2,2-Tetrachloroethane	ND	200
1,2,3-Trichloropropane	ND	200
Propylbenzene	ND	200
Bromobenzene	ND	200
1,3,5-Trimethylbenzene	ND	200
2-Chlorotoluene	ND	200
4-Chlorotoluene	ND	200
tert-Butylbenzene	ND	200
1,2,4-Trimethylbenzene	ND	200
sec-Butylbenzene	ND	200
para-Isopropyl Toluene	ND	200
1,3-Dichlorobenzene	ND	200
1,4-Dichlorobenzene	ND	200
n-Butylbenzene	ND	200
1,2-Dichlorobenzene	ND	200
1,2-Dibromo-3-Chloropropane	ND	200
1,2,4-Trichlorobenzene	ND	200
Hexachlorobutadiene	ND	200
Naphthalene	ND	800
1,2,3-Trichlorobenzene	ND	200

Surrogate	%REC	Limits
Dibromofluoromethane	101	80-120
1,2-Dichloroethane-d4	107	80-130
Toluene-d8	99	80-120
Bromofluorobenzene	102	80-122

ND= Not Detected
RL= Reporting Limit

Curtis & Tompkins, Ltd.
Analytical Laboratories, Since 1878

Purgeable Organics by GC/MS

Lab #:	185570	Prep:	EPA 5030B
Client:	Camp, Dresser & McKee	Analysis:	EPA 8260B
Project#:	STANDARD		
Field ID:	SP-20-1700-OW-1	Units:	ug/L
Lab ID:	185570-002	Sampled:	03/15/06
Matrix:	Water	Received:	03/15/06

Analyte	Result	RL	Diln Fac	Batch#	Analyzed
Freon 12	ND	40	40.00	111448	03/20/06
Chloromethane	ND	40	40.00	111448	03/20/06
Vinyl Chloride	ND	20	40.00	111448	03/20/06
Bromomethane	ND	40	40.00	111448	03/20/06
Chloroethane	ND	40	40.00	111448	03/20/06
Trichlorofluoromethane	ND	40	40.00	111448	03/20/06
Acetone	ND	400	40.00	111448	03/20/06
Freon 113	ND	200	40.00	111448	03/20/06
1,1-Dichloroethene	ND	20	40.00	111448	03/20/06
Methylene Chloride	ND	400	40.00	111448	03/20/06
Carbon Disulfide	ND	20	40.00	111448	03/20/06
MTBE	ND	20	40.00	111448	03/20/06
trans-1,2-Dichloroethene	ND	20	40.00	111448	03/20/06
Vinyl Acetate	ND	400	40.00	111448	03/20/06
1,1-Dichloroethane	24	20	40.00	111448	03/20/06
2-Butanone	ND	400	40.00	111448	03/20/06
cis-1,2-Dichloroethene	ND	20	40.00	111448	03/20/06
2,2-Dichloropropane	ND	20	40.00	111448	03/20/06
Chloroform	57	20	40.00	111448	03/20/06
Bromochloromethane	ND	20	40.00	111448	03/20/06
1,1,1-Trichloroethane	1,800	20	40.00	111448	03/20/06
1,1-Dichloropropene	ND	20	40.00	111448	03/20/06
Carbon Tetrachloride	ND	20	40.00	111448	03/20/06
1,2-Dichloroethane	ND	20	40.00	111448	03/20/06
Benzene	ND	20	40.00	111448	03/20/06
Trichloroethene	72	20	40.00	111448	03/20/06
1,2-Dichloropropane	ND	20	40.00	111448	03/20/06
Bromodichloromethane	ND	20	40.00	111448	03/20/06
Dibromomethane	ND	20	40.00	111448	03/20/06
4-Methyl-2-Pentanone	ND	400	40.00	111448	03/20/06
cis-1,3-Dichloropropene	ND	20	40.00	111448	03/20/06
Toluene	ND	20	40.00	111448	03/20/06
trans-1,3-Dichloropropene	ND	20	40.00	111448	03/20/06
1,1,2-Trichloroethane	ND	20	40.00	111448	03/20/06
2-Hexanone	ND	400	40.00	111448	03/20/06
1,3-Dichloropropane	ND	20	40.00	111448	03/20/06
Tetrachloroethene	6,600	50	100.0	111489	03/21/06
Dibromochloromethane	ND	20	40.00	111448	03/20/06
1,2-Dibromoethane	ND	20	40.00	111448	03/20/06

ND= Not Detected
RL= Reporting Limit

Curtis & Tompkins, Ltd.
Analytical Laboratories, Since 1878

Purgeable Organics by GC/MS

Lab #:	185570	Prep:	EPA 5030B
Client:	Camp, Dresser & McKee	Analysis:	EPA 8260B
Project#:	STANDARD		
Field ID:	SP-20-1700-OW-1	Units:	ug/L
Lab ID:	185570-002	Sampled:	03/15/06
Matrix:	Water	Received:	03/15/06

Analyte	Result	RL	Diln Fac	Batch#	Analyzed
Chlorobenzene	ND	20	40.00	111448	03/20/06
1,1,1,2-Tetrachloroethane	ND	20	40.00	111448	03/20/06
Ethylbenzene	ND	20	40.00	111448	03/20/06
m,p-Xylenes	ND	20	40.00	111448	03/20/06
o-Xylene	ND	20	40.00	111448	03/20/06
Styrene	ND	20	40.00	111448	03/20/06
Bromoform	ND	40	40.00	111448	03/20/06
Isopropylbenzene	ND	20	40.00	111448	03/20/06
1,1,2,2-Tetrachloroethane	ND	20	40.00	111448	03/20/06
1,2,3-Trichloropropane	ND	20	40.00	111448	03/20/06
Propylbenzene	ND	20	40.00	111448	03/20/06
Bromobenzene	ND	20	40.00	111448	03/20/06
1,3,5-Trimethylbenzene	ND	20	40.00	111448	03/20/06
2-Chlorotoluene	ND	20	40.00	111448	03/20/06
4-Chlorotoluene	ND	20	40.00	111448	03/20/06
tert-Butylbenzene	ND	20	40.00	111448	03/20/06
1,2,4-Trimethylbenzene	ND	20	40.00	111448	03/20/06
sec-Butylbenzene	ND	20	40.00	111448	03/20/06
para-Isopropyl Toluene	ND	20	40.00	111448	03/20/06
1,3-Dichlorobenzene	ND	20	40.00	111448	03/20/06
1,4-Dichlorobenzene	ND	20	40.00	111448	03/20/06
n-Butylbenzene	ND	20	40.00	111448	03/20/06
1,2-Dichlorobenzene	ND	20	40.00	111448	03/20/06
1,2-Dibromo-3-Chloropropane	ND	20	40.00	111448	03/20/06
1,2,4-Trichlorobenzene	ND	20	40.00	111448	03/20/06
Hexachlorobutadiene	ND	20	40.00	111448	03/20/06
Naphthalene	ND	80	40.00	111448	03/20/06
1,2,3-Trichlorobenzene	ND	20	40.00	111448	03/20/06

Surrogate	%REC	Limits	Diln Fac	Batch#	Analyzed
Dibromofluoromethane	102	80-120	40.00	111448	03/20/06
1,2-Dichloroethane-d4	110	80-130	40.00	111448	03/20/06
Toluene-d8	99	80-120	40.00	111448	03/20/06
Bromofluorobenzene	105	80-122	40.00	111448	03/20/06

ND= Not Detected
RL= Reporting Limit

Curtis & Tompkins, Ltd.
Analytical Laboratories, Since 1878

Purgeable Organics by GC/MS

Lab #:	185570	Prep:	EPA 5030B
Client:	Camp, Dresser & McKee	Analysis:	EPA 8260B
Project#:	STANDARD		
Field ID:	SP-40-1700-OW-1	Batch#:	111448
Lab ID:	185570-003	Sampled:	03/15/06
Matrix:	Water	Received:	03/15/06
Units:	ug/L	Analyzed:	03/20/06
Diln Fac:	20.00		

Analyte	Result	RL
Freon 12	ND	20
Chloromethane	ND	20
Vinyl Chloride	ND	10
Bromomethane	ND	20
Chloroethane	ND	20
Trichlorofluoromethane	ND	20
Acetone	ND	200
Freon 113	ND	100
1,1-Dichloroethene	ND	10
Methylene Chloride	ND	200
Carbon Disulfide	ND	10
MTBE	ND	10
trans-1,2-Dichloroethene	ND	10
Vinyl Acetate	ND	200
1,1-Dichloroethane	19	10
2-Butanone	ND	200
cis-1,2-Dichloroethene	ND	10
2,2-Dichloropropane	ND	10
Chloroform	56	10
Bromochloromethane	ND	10
1,1,1-Trichloroethane	1,800	10
1,1-Dichloropropene	ND	10
Carbon Tetrachloride	ND	10
1,2-Dichloroethane	ND	10
Benzene	ND	10
Trichloroethene	ND	10
1,2-Dichloropropane	ND	10
Bromodichloromethane	ND	10
Dibromomethane	ND	10
4-Methyl-2-Pentanone	ND	200
cis-1,3-Dichloropropene	ND	10
Toluene	ND	10
trans-1,3-Dichloropropene	ND	10
1,1,2-Trichloroethane	ND	10
2-Hexanone	ND	200
1,3-Dichloropropane	ND	10
Tetrachloroethene	280	10

ND= Not Detected
RL= Reporting Limit

Curtis & Tompkins, Ltd.
Analytical Laboratories, Since 1878

Purgeable Organics by GC/MS

Lab #:	185570	Prep:	EPA 5030B
Client:	Camp, Dresser & McKee	Analysis:	EPA 8260B
Project#:	STANDARD		
Field ID:	SP-40-1700-OW-1	Batch#:	111448
Lab ID:	185570-003	Sampled:	03/15/06
Matrix:	Water	Received:	03/15/06
Units:	ug/L	Analyzed:	03/20/06
Diln Fac:	20.00		

Analyte	Result	RL
Dibromochloromethane	ND	10
1,2-Dibromoethane	ND	10
Chlorobenzene	ND	10
1,1,1,2-Tetrachloroethane	ND	10
Ethylbenzene	ND	10
m,p-Xylenes	ND	10
o-Xylene	ND	10
Styrene	ND	10
Bromoform	ND	20
Isopropylbenzene	ND	10
1,1,2,2-Tetrachloroethane	ND	10
1,2,3-Trichloropropane	ND	10
Propylbenzene	ND	10
Bromobenzene	ND	10
1,3,5-Trimethylbenzene	ND	10
2-Chlorotoluene	ND	10
4-Chlorotoluene	ND	10
tert-Butylbenzene	ND	10
1,2,4-Trimethylbenzene	ND	10
sec-Butylbenzene	ND	10
para-Isopropyl Toluene	ND	10
1,3-Dichlorobenzene	ND	10
1,4-Dichlorobenzene	ND	10
n-Butylbenzene	ND	10
1,2-Dichlorobenzene	ND	10
1,2-Dibromo-3-Chloropropane	ND	10
1,2,4-Trichlorobenzene	ND	10
Hexachlorobutadiene	ND	10
Naphthalene	ND	40
1,2,3-Trichlorobenzene	ND	10

Surrogate	%REC	Limits
Dibromofluoromethane	103	80-120
1,2-Dichloroethane-d4	114	80-130
Toluene-d8	101	80-120
Bromofluorobenzene	105	80-122

ND= Not Detected
RL= Reporting Limit

Curtis & Tompkins, Ltd.
Analytical Laboratories, Since 1878

Purgeable Organics by GC/MS

Lab #:	185570	Prep:	EPA 5030B
Client:	Camp, Dresser & McKee	Analysis:	EPA 8260B
Project#:	STANDARD		
Field ID:	SP-60-1700-OW-1	Units:	ug/L
Lab ID:	185570-004	Sampled:	03/15/06
Matrix:	Water	Received:	03/15/06

Analyte	Result	RL	Diln Fac	Batch#	Analyzed
Freon 12	ND	14	14.29	111448	03/20/06
Chloromethane	ND	14	14.29	111448	03/20/06
Vinyl Chloride	ND	7.1	14.29	111448	03/20/06
Bromomethane	ND	14	14.29	111448	03/20/06
Chloroethane	ND	14	14.29	111448	03/20/06
Trichlorofluoromethane	ND	14	14.29	111448	03/20/06
Acetone	ND	140	14.29	111448	03/20/06
Freon 113	ND	71	14.29	111448	03/20/06
1,1-Dichloroethene	ND	7.1	14.29	111448	03/20/06
Methylene Chloride	ND	140	14.29	111448	03/20/06
Carbon Disulfide	ND	7.1	14.29	111448	03/20/06
MTBE	ND	7.1	14.29	111448	03/20/06
trans-1,2-Dichloroethene	ND	7.1	14.29	111448	03/20/06
Vinyl Acetate	ND	140	14.29	111448	03/20/06
1,1-Dichloroethane	13	7.1	14.29	111448	03/20/06
2-Butanone	ND	140	14.29	111448	03/20/06
cis-1,2-Dichloroethene	ND	7.1	14.29	111448	03/20/06
2,2-Dichloropropane	ND	7.1	14.29	111448	03/20/06
Chloroform	50	7.1	14.29	111448	03/20/06
Bromochloromethane	ND	7.1	14.29	111448	03/20/06
1,1,1-Trichloroethane	1,600	13	25.00	111489	03/21/06
1,1-Dichloropropene	ND	7.1	14.29	111448	03/20/06
Carbon Tetrachloride	ND	7.1	14.29	111448	03/20/06
1,2-Dichloroethane	ND	7.1	14.29	111448	03/20/06
Benzene	ND	7.1	14.29	111448	03/20/06
Trichloroethene	ND	7.1	14.29	111448	03/20/06
1,2-Dichloropropane	ND	7.1	14.29	111448	03/20/06
Bromodichloromethane	ND	7.1	14.29	111448	03/20/06
Dibromomethane	ND	7.1	14.29	111448	03/20/06
4-Methyl-2-Pentanone	ND	140	14.29	111448	03/20/06
cis-1,3-Dichloropropene	ND	7.1	14.29	111448	03/20/06
Toluene	ND	7.1	14.29	111448	03/20/06
trans-1,3-Dichloropropene	ND	7.1	14.29	111448	03/20/06
1,1,2-Trichloroethane	ND	7.1	14.29	111448	03/20/06
2-Hexanone	ND	140	14.29	111448	03/20/06
1,3-Dichloropropane	ND	7.1	14.29	111448	03/20/06
Tetrachloroethene	53	7.1	14.29	111448	03/20/06
Dibromochloromethane	ND	7.1	14.29	111448	03/20/06
1,2-Dibromoethane	ND	7.1	14.29	111448	03/20/06

ND= Not Detected
RL= Reporting Limit

Curtis & Tompkins, Ltd.
Analytical Laboratories, Since 1878

Purgeable Organics by GC/MS

Lab #:	185570	Prep:	EPA 5030B
Client:	Camp, Dresser & McKee	Analysis:	EPA 8260B
Project#:	STANDARD		
Field ID:	SP-60-1700-OW-1	Units:	ug/L
Lab ID:	185570-004	Sampled:	03/15/06
Matrix:	Water	Received:	03/15/06

Analyte	Result	RL	Diln Fac	Batch#	Analyzed
Chlorobenzene	ND	7.1	14.29	111448	03/20/06
1,1,1,2-Tetrachloroethane	ND	7.1	14.29	111448	03/20/06
Ethylbenzene	ND	7.1	14.29	111448	03/20/06
m,p-Xylenes	ND	7.1	14.29	111448	03/20/06
o-Xylene	ND	7.1	14.29	111448	03/20/06
Styrene	ND	7.1	14.29	111448	03/20/06
Bromoform	ND	14	14.29	111448	03/20/06
Isopropylbenzene	ND	7.1	14.29	111448	03/20/06
1,1,2,2-Tetrachloroethane	ND	7.1	14.29	111448	03/20/06
1,2,3-Trichloropropane	ND	7.1	14.29	111448	03/20/06
Propylbenzene	ND	7.1	14.29	111448	03/20/06
Bromobenzene	ND	7.1	14.29	111448	03/20/06
1,3,5-Trimethylbenzene	ND	7.1	14.29	111448	03/20/06
2-Chlorotoluene	ND	7.1	14.29	111448	03/20/06
4-Chlorotoluene	ND	7.1	14.29	111448	03/20/06
tert-Butylbenzene	ND	7.1	14.29	111448	03/20/06
1,2,4-Trimethylbenzene	ND	7.1	14.29	111448	03/20/06
sec-Butylbenzene	ND	7.1	14.29	111448	03/20/06
para-Isopropyl Toluene	ND	7.1	14.29	111448	03/20/06
1,3-Dichlorobenzene	ND	7.1	14.29	111448	03/20/06
1,4-Dichlorobenzene	ND	7.1	14.29	111448	03/20/06
n-Butylbenzene	ND	7.1	14.29	111448	03/20/06
1,2-Dichlorobenzene	ND	7.1	14.29	111448	03/20/06
1,2-Dibromo-3-Chloropropane	ND	7.1	14.29	111448	03/20/06
1,2,4-Trichlorobenzene	ND	7.1	14.29	111448	03/20/06
Hexachlorobutadiene	ND	7.1	14.29	111448	03/20/06
Naphthalene	ND	29	14.29	111448	03/20/06
1,2,3-Trichlorobenzene	ND	7.1	14.29	111448	03/20/06

Surrogate	%REC	Limits	Diln Fac	Batch#	Analyzed
Dibromofluoromethane	103	80-120	14.29	111448	03/20/06
1,2-Dichloroethane-d4	115	80-130	14.29	111448	03/20/06
Toluene-d8	101	80-120	14.29	111448	03/20/06
Bromofluorobenzene	107	80-122	14.29	111448	03/20/06

ND= Not Detected
RL= Reporting Limit

Curtis & Tompkins, Ltd.
Analytical Laboratories, Since 1878

Purgeable Organics by GC/MS

Lab #:	185570	Prep:	EPA 5030B
Client:	Camp, Dresser & McKee	Analysis:	EPA 8260B
Project#:	STANDARD		
Field ID:	SP-80-1700-OW-1	Batch#:	111489
Lab ID:	185570-005	Sampled:	03/15/06
Matrix:	Water	Received:	03/15/06
Units:	ug/L	Analyzed:	03/21/06
Diln Fac:	16.67		

Analyte	Result	RL
Freon 12	ND	17
Chloromethane	ND	17
Vinyl Chloride	ND	8.3
Bromomethane	ND	17
Chloroethane	ND	17
Trichlorofluoromethane	ND	17
Acetone	ND	170
Freon 113	ND	83
1,1-Dichloroethene	ND	8.3
Methylene Chloride	ND	170
Carbon Disulfide	ND	8.3
MTBE	ND	8.3
trans-1,2-Dichloroethene	ND	8.3
Vinyl Acetate	ND	170
1,1-Dichloroethane	ND	8.3
2-Butanone	ND	170
cis-1,2-Dichloroethene	ND	8.3
2,2-Dichloropropane	ND	8.3
Chloroform	44	8.3
Bromochloromethane	ND	8.3
1,1,1-Trichloroethane	1,400	8.3
1,1-Dichloropropene	ND	8.3
Carbon Tetrachloride	ND	8.3
1,2-Dichloroethane	ND	8.3
Benzene	ND	8.3
Trichloroethene	ND	8.3
1,2-Dichloropropane	ND	8.3
Bromodichloromethane	ND	8.3
Dibromomethane	ND	8.3
4-Methyl-2-Pentanone	ND	170
cis-1,3-Dichloropropene	ND	8.3
Toluene	ND	8.3
trans-1,3-Dichloropropene	ND	8.3
1,1,2-Trichloroethane	ND	8.3
2-Hexanone	ND	170
1,3-Dichloropropane	ND	8.3
Tetrachloroethene	17	8.3

ND= Not Detected
RL= Reporting Limit

Curtis & Tompkins, Ltd.
Analytical Laboratories, Since 1878

Purgeable Organics by GC/MS

Lab #:	185570	Prep:	EPA 5030B
Client:	Camp, Dresser & McKee	Analysis:	EPA 8260B
Project#:	STANDARD		
Field ID:	SP-80-1700-OW-1	Batch#:	111489
Lab ID:	185570-005	Sampled:	03/15/06
Matrix:	Water	Received:	03/15/06
Units:	ug/L	Analyzed:	03/21/06
Diln Fac:	16.67		

Analyte	Result	RL
Dibromochloromethane	ND	8.3
1,2-Dibromoethane	ND	8.3
Chlorobenzene	ND	8.3
1,1,1,2-Tetrachloroethane	ND	8.3
Ethylbenzene	ND	8.3
m,p-Xylenes	ND	8.3
o-Xylene	ND	8.3
Styrene	ND	8.3
Bromoform	ND	17
Isopropylbenzene	ND	8.3
1,1,2,2-Tetrachloroethane	ND	8.3
1,2,3-Trichloropropane	ND	8.3
Propylbenzene	ND	8.3
Bromobenzene	ND	8.3
1,3,5-Trimethylbenzene	ND	8.3
2-Chlorotoluene	ND	8.3
4-Chlorotoluene	ND	8.3
tert-Butylbenzene	ND	8.3
1,2,4-Trimethylbenzene	ND	8.3
sec-Butylbenzene	ND	8.3
para-Isopropyl Toluene	ND	8.3
1,3-Dichlorobenzene	ND	8.3
1,4-Dichlorobenzene	ND	8.3
n-Butylbenzene	ND	8.3
1,2-Dichlorobenzene	ND	8.3
1,2-Dibromo-3-Chloropropane	ND	8.3
1,2,4-Trichlorobenzene	ND	8.3
Hexachlorobutadiene	ND	8.3
Naphthalene	ND	33
1,2,3-Trichlorobenzene	ND	8.3

Surrogate	%REC	Limits
Dibromofluoromethane	105	80-120
1,2-Dichloroethane-d4	117	80-130
Toluene-d8	102	80-120
Bromofluorobenzene	105	80-122

ND= Not Detected
RL= Reporting Limit

Curtis & Tompkins, Ltd.
Analytical Laboratories, Since 1878

Purgeable Organics by GC/MS

Lab #:	185570	Prep:	EPA 5030B
Client:	Camp, Dresser & McKee	Analysis:	EPA 8260B
Project#:	STANDARD		
Field ID:	SP-0-1700-OW-8	Batch#:	111489
Lab ID:	185570-006	Sampled:	03/15/06
Matrix:	Water	Received:	03/15/06
Units:	ug/L	Analyzed:	03/21/06
Diln Fac:	125.0		

Analyte	Result	RL
Freon 12	ND	130
Chloromethane	ND	130
Vinyl Chloride	ND	63
Bromomethane	ND	130
Chloroethane	ND	130
Trichlorofluoromethane	320	130
Acetone	4,400	1,300
Freon 113	820	630
1,1-Dichloroethene	490	63
Methylene Chloride	3,200	1,300
Carbon Disulfide	ND	63
MTBE	ND	63
trans-1,2-Dichloroethene	ND	63
Vinyl Acetate	ND	1,300
1,1-Dichloroethane	69	63
2-Butanone	ND	1,300
cis-1,2-Dichloroethene	ND	63
2,2-Dichloropropane	ND	63
Chloroform	920	63
Bromochloromethane	ND	63
1,1,1-Trichloroethane	ND	63
1,1-Dichloropropene	ND	63
Carbon Tetrachloride	ND	63
1,2-Dichloroethane	450	63
Benzene	ND	63
Trichloroethene	750	63
1,2-Dichloropropane	ND	63
Bromodichloromethane	ND	63
Dibromomethane	ND	63
4-Methyl-2-Pentanone	ND	1,300
cis-1,3-Dichloropropene	ND	63
Toluene	99	63
trans-1,3-Dichloropropene	ND	63
1,1,2-Trichloroethane	70	63
2-Hexanone	ND	1,300
1,3-Dichloropropane	ND	63
Tetrachloroethene	6,400	63

ND= Not Detected
RL= Reporting Limit

Curtis & Tompkins, Ltd.
Analytical Laboratories, Since 1878

Purgeable Organics by GC/MS

Lab #:	185570	Prep:	EPA 5030B
Client:	Camp, Dresser & McKee	Analysis:	EPA 8260B
Project#:	STANDARD		
Field ID:	SP-0-1700-OW-8	Batch#:	111489
Lab ID:	185570-006	Sampled:	03/15/06
Matrix:	Water	Received:	03/15/06
Units:	ug/L	Analyzed:	03/21/06
Diln Fac:	125.0		

Analyte	Result	RL
Dibromochloromethane	ND	63
1,2-Dibromoethane	ND	63
Chlorobenzene	ND	63
1,1,1,2-Tetrachloroethane	ND	63
Ethylbenzene	ND	63
m,p-Xylenes	ND	63
o-Xylene	ND	63
Styrene	ND	63
Bromoform	ND	130
Isopropylbenzene	ND	63
1,1,2,2-Tetrachloroethane	ND	63
1,2,3-Trichloropropane	ND	63
Propylbenzene	ND	63
Bromobenzene	ND	63
1,3,5-Trimethylbenzene	ND	63
2-Chlorotoluene	ND	63
4-Chlorotoluene	ND	63
tert-Butylbenzene	ND	63
1,2,4-Trimethylbenzene	ND	63
sec-Butylbenzene	ND	63
para-Isopropyl Toluene	ND	63
1,3-Dichlorobenzene	ND	63
1,4-Dichlorobenzene	ND	63
n-Butylbenzene	ND	63
1,2-Dichlorobenzene	ND	63
1,2-Dibromo-3-Chloropropane	ND	63
1,2,4-Trichlorobenzene	ND	63
Hexachlorobutadiene	ND	63
Naphthalene	ND	250
1,2,3-Trichlorobenzene	ND	63

Surrogate	%REC	Limits
Dibromofluoromethane	108	80-120
1,2-Dichloroethane-d4	118	80-130
Toluene-d8	103	80-120
Bromofluorobenzene	108	80-122

ND= Not Detected
RL= Reporting Limit

Curtis & Tompkins, Ltd.
Analytical Laboratories, Since 1878

Purgeable Organics by GC/MS

Lab #:	185570	Prep:	EPA 5030B
Client:	Camp, Dresser & McKee	Analysis:	EPA 8260B
Project#:	STANDARD		
Field ID:	SP-30-1700-OW-8	Units:	ug/L
Lab ID:	185570-007	Sampled:	03/15/06
Matrix:	Water	Received:	03/15/06

Analyte	Result	RL	Diln Fac	Batch#	Analyzed
Freon 12	ND	40	40.00	111448	03/20/06
Chloromethane	ND	40	40.00	111448	03/20/06
Vinyl Chloride	ND	20	40.00	111448	03/20/06
Bromomethane	ND	40	40.00	111448	03/20/06
Chloroethane	ND	40	40.00	111448	03/20/06
Trichlorofluoromethane	130	71	71.43	111489	03/21/06
Acetone	4,100	710	71.43	111489	03/21/06
Freon 113	ND	200	40.00	111448	03/20/06
1,1-Dichloroethene	20	20	40.00	111448	03/20/06
Methylene Chloride	2,900	400	40.00	111448	03/20/06
Carbon Disulfide	ND	20	40.00	111448	03/20/06
MTBE	ND	20	40.00	111448	03/20/06
trans-1,2-Dichloroethene	ND	20	40.00	111448	03/20/06
Vinyl Acetate	ND	400	40.00	111448	03/20/06
1,1-Dichloroethane	53	20	40.00	111448	03/20/06
2-Butanone	ND	400	40.00	111448	03/20/06
cis-1,2-Dichloroethene	ND	20	40.00	111448	03/20/06
2,2-Dichloropropane	ND	20	40.00	111448	03/20/06
Chloroform	820	20	40.00	111448	03/20/06
Bromochloromethane	ND	20	40.00	111448	03/20/06
1,1,1-Trichloroethane	30	20	40.00	111448	03/20/06
1,1-Dichloropropene	ND	20	40.00	111448	03/20/06
Carbon Tetrachloride	ND	20	40.00	111448	03/20/06
1,2-Dichloroethane	410	20	40.00	111448	03/20/06
Benzene	ND	20	40.00	111448	03/20/06
Trichloroethene	410	20	40.00	111448	03/20/06
1,2-Dichloropropane	ND	20	40.00	111448	03/20/06
Bromodichloromethane	ND	20	40.00	111448	03/20/06
Dibromomethane	ND	20	40.00	111448	03/20/06
4-Methyl-2-Pentanone	ND	400	40.00	111448	03/20/06
cis-1,3-Dichloropropene	ND	20	40.00	111448	03/20/06
Toluene	37	20	40.00	111448	03/20/06
trans-1,3-Dichloropropene	ND	20	40.00	111448	03/20/06
1,1,2-Trichloroethane	63	20	40.00	111448	03/20/06
2-Hexanone	ND	400	40.00	111448	03/20/06
1,3-Dichloropropane	ND	20	40.00	111448	03/20/06
Tetrachloroethene	4,100	36	71.43	111489	03/21/06
Dibromochloromethane	ND	20	40.00	111448	03/20/06
1,2-Dibromoethane	ND	20	40.00	111448	03/20/06

ND= Not Detected
RL= Reporting Limit

Curtis & Tompkins, Ltd.
Analytical Laboratories, Since 1878

Purgeable Organics by GC/MS

Lab #:	185570	Prep:	EPA 5030B
Client:	Camp, Dresser & McKee	Analysis:	EPA 8260B
Project#:	STANDARD		
Field ID:	SP-30-1700-OW-8	Units:	ug/L
Lab ID:	185570-007	Sampled:	03/15/06
Matrix:	Water	Received:	03/15/06

Analyte	Result	RL	Diln Fac	Batch#	Analyzed
Chlorobenzene	ND	20	40.00	111448	03/20/06
1,1,1,2-Tetrachloroethane	ND	20	40.00	111448	03/20/06
Ethylbenzene	ND	20	40.00	111448	03/20/06
m,p-Xylenes	ND	20	40.00	111448	03/20/06
o-Xylene	ND	20	40.00	111448	03/20/06
Styrene	ND	20	40.00	111448	03/20/06
Bromoform	ND	40	40.00	111448	03/20/06
Isopropylbenzene	ND	20	40.00	111448	03/20/06
1,1,2,2-Tetrachloroethane	ND	20	40.00	111448	03/20/06
1,2,3-Trichloropropane	ND	20	40.00	111448	03/20/06
Propylbenzene	ND	20	40.00	111448	03/20/06
Bromobenzene	ND	20	40.00	111448	03/20/06
1,3,5-Trimethylbenzene	ND	20	40.00	111448	03/20/06
2-Chlorotoluene	ND	20	40.00	111448	03/20/06
4-Chlorotoluene	ND	20	40.00	111448	03/20/06
tert-Butylbenzene	ND	20	40.00	111448	03/20/06
1,2,4-Trimethylbenzene	ND	20	40.00	111448	03/20/06
sec-Butylbenzene	ND	20	40.00	111448	03/20/06
para-Isopropyl Toluene	ND	20	40.00	111448	03/20/06
1,3-Dichlorobenzene	ND	20	40.00	111448	03/20/06
1,4-Dichlorobenzene	ND	20	40.00	111448	03/20/06
n-Butylbenzene	ND	20	40.00	111448	03/20/06
1,2-Dichlorobenzene	ND	20	40.00	111448	03/20/06
1,2-Dibromo-3-Chloropropane	ND	20	40.00	111448	03/20/06
1,2,4-Trichlorobenzene	ND	20	40.00	111448	03/20/06
Hexachlorobutadiene	ND	20	40.00	111448	03/20/06
Naphthalene	ND	80	40.00	111448	03/20/06
1,2,3-Trichlorobenzene	ND	20	40.00	111448	03/20/06

Surrogate	%REC	Limits	Diln Fac	Batch#	Analyzed
Dibromofluoromethane	105	80-120	40.00	111448	03/20/06
1,2-Dichloroethane-d4	116	80-130	40.00	111448	03/20/06
Toluene-d8	102	80-120	40.00	111448	03/20/06
Bromofluorobenzene	107	80-122	40.00	111448	03/20/06

ND= Not Detected
RL= Reporting Limit

Curtis & Tompkins, Ltd.
Analytical Laboratories, Since 1878

Purgeable Organics by GC/MS

Lab #:	185570	Prep:	EPA 5030B
Client:	Camp, Dresser & McKee	Analysis:	EPA 8260B
Project#:	STANDARD		
Field ID:	SP-60-1700-OW-8	Batch#:	111489
Lab ID:	185570-008	Sampled:	03/15/06
Matrix:	Water	Received:	03/15/06
Units:	ug/L	Analyzed:	03/21/06
Diln Fac:	62.50		

Analyte	Result	RL
Freon 12	ND	63
Chloromethane	ND	63
Vinyl Chloride	ND	31
Bromomethane	ND	63
Chloroethane	ND	63
Trichlorofluoromethane	83	63
Acetone	4,300	630
Freon 113	ND	310
1,1-Dichloroethene	ND	31
Methylene Chloride	3,000	630
Carbon Disulfide	ND	31
MTBE	ND	31
trans-1,2-Dichloroethene	ND	31
Vinyl Acetate	ND	630
1,1-Dichloroethane	57	31
2-Butanone	ND	630
cis-1,2-Dichloroethene	ND	31
2,2-Dichloropropane	ND	31
Chloroform	830	31
Bromochloromethane	ND	31
1,1,1-Trichloroethane	ND	31
1,1-Dichloropropene	ND	31
Carbon Tetrachloride	ND	31
1,2-Dichloroethane	410	31
Benzene	ND	31
Trichloroethene	200	31
1,2-Dichloropropane	ND	31
Bromodichloromethane	ND	31
Dibromomethane	ND	31
4-Methyl-2-Pentanone	ND	630
cis-1,3-Dichloropropene	ND	31
Toluene	ND	31
trans-1,3-Dichloropropene	ND	31
1,1,2-Trichloroethane	66	31
2-Hexanone	ND	630
1,3-Dichloropropane	ND	31
Tetrachloroethene	2,900	31

ND= Not Detected
RL= Reporting Limit

Curtis & Tompkins, Ltd.
Analytical Laboratories, Since 1878

Purgeable Organics by GC/MS

Lab #:	185570	Prep:	EPA 5030B
Client:	Camp, Dresser & McKee	Analysis:	EPA 8260B
Project#:	STANDARD		
Field ID:	SP-60-1700-OW-8	Batch#:	111489
Lab ID:	185570-008	Sampled:	03/15/06
Matrix:	Water	Received:	03/15/06
Units:	ug/L	Analyzed:	03/21/06
Diln Fac:	62.50		

Analyte	Result	RL
Dibromochloromethane	ND	31
1,2-Dibromoethane	ND	31
Chlorobenzene	ND	31
1,1,1,2-Tetrachloroethane	ND	31
Ethylbenzene	ND	31
m,p-Xylenes	ND	31
o-Xylene	ND	31
Styrene	ND	31
Bromoform	ND	63
Isopropylbenzene	ND	31
1,1,2,2-Tetrachloroethane	ND	31
1,2,3-Trichloropropane	ND	31
Propylbenzene	ND	31
Bromobenzene	ND	31
1,3,5-Trimethylbenzene	ND	31
2-Chlorotoluene	ND	31
4-Chlorotoluene	ND	31
tert-Butylbenzene	ND	31
1,2,4-Trimethylbenzene	ND	31
sec-Butylbenzene	ND	31
para-Isopropyl Toluene	ND	31
1,3-Dichlorobenzene	ND	31
1,4-Dichlorobenzene	ND	31
n-Butylbenzene	ND	31
1,2-Dichlorobenzene	ND	31
1,2-Dibromo-3-Chloropropane	ND	31
1,2,4-Trichlorobenzene	ND	31
Hexachlorobutadiene	ND	31
Naphthalene	ND	130
1,2,3-Trichlorobenzene	ND	31

Surrogate	%REC	Limits
Dibromofluoromethane	106	80-120
1,2-Dichloroethane-d4	116	80-130
Toluene-d8	102	80-120
Bromofluorobenzene	107	80-122

ND= Not Detected
RL= Reporting Limit

Curtis & Tompkins, Ltd.
Analytical Laboratories, Since 1878

Purgeable Organics by GC/MS

Lab #:	185570	Prep:	EPA 5030B
Client:	Camp, Dresser & McKee	Analysis:	EPA 8260B
Project#:	STANDARD		
Field ID:	SP-90-1700-OW-8	Units:	ug/L
Lab ID:	185570-009	Sampled:	03/15/06
Matrix:	Water	Received:	03/15/06

Analyte	Result	RL	Diln Fac	Batch#	Analyzed
Freon 12	ND	10	10.00	111448	03/20/06
Chloromethane	ND	10	10.00	111448	03/20/06
Vinyl Chloride	ND	5.0	10.00	111448	03/20/06
Bromomethane	ND	10	10.00	111448	03/20/06
Chloroethane	ND	10	10.00	111448	03/20/06
Trichlorofluoromethane	ND	63	62.50	111489	03/21/06
Acetone	4,300	630	62.50	111489	03/21/06
Freon 113	ND	50	10.00	111448	03/20/06
1,1-Dichloroethene	ND	5.0	10.00	111448	03/20/06
Methylene Chloride	2,900	630	62.50	111489	03/21/06
Carbon Disulfide	ND	5.0	10.00	111448	03/20/06
MTBE	ND	5.0	10.00	111448	03/20/06
trans-1,2-Dichloroethene	ND	5.0	10.00	111448	03/20/06
Vinyl Acetate	ND	100	10.00	111448	03/20/06
1,1-Dichloroethane	50	5.0	10.00	111448	03/20/06
2-Butanone	220	100	10.00	111448	03/20/06
cis-1,2-Dichloroethene	ND	5.0	10.00	111448	03/20/06
2,2-Dichloropropane	ND	5.0	10.00	111448	03/20/06
Chloroform	800	5.0	10.00	111448	03/20/06
Bromochloromethane	ND	5.0	10.00	111448	03/20/06
1,1,1-Trichloroethane	20	5.0	10.00	111448	03/20/06
1,1-Dichloropropene	ND	5.0	10.00	111448	03/20/06
Carbon Tetrachloride	ND	5.0	10.00	111448	03/20/06
1,2-Dichloroethane	390	5.0	10.00	111448	03/20/06
Benzene	ND	5.0	10.00	111448	03/20/06
Trichloroethene	80	5.0	10.00	111448	03/20/06
1,2-Dichloropropane	ND	5.0	10.00	111448	03/20/06
Bromodichloromethane	ND	5.0	10.00	111448	03/20/06
Dibromomethane	ND	5.0	10.00	111448	03/20/06
4-Methyl-2-Pentanone	ND	100	10.00	111448	03/20/06
cis-1,3-Dichloropropene	ND	5.0	10.00	111448	03/20/06
Toluene	ND	5.0	10.00	111448	03/20/06
trans-1,3-Dichloropropene	ND	5.0	10.00	111448	03/20/06
1,1,2-Trichloroethane	60	5.0	10.00	111448	03/20/06
2-Hexanone	ND	100	10.00	111448	03/20/06
1,3-Dichloropropane	ND	5.0	10.00	111448	03/20/06
Tetrachloroethene	1,800	31	62.50	111489	03/21/06
Dibromochloromethane	ND	5.0	10.00	111448	03/20/06
1,2-Dibromoethane	ND	5.0	10.00	111448	03/20/06

ND= Not Detected
RL= Reporting Limit

Curtis & Tompkins, Ltd.
Analytical Laboratories, Since 1878

Purgeable Organics by GC/MS

Lab #:	185570	Prep:	EPA 5030B
Client:	Camp, Dresser & McKee	Analysis:	EPA 8260B
Project#:	STANDARD		
Field ID:	SP-90-1700-OW-8	Units:	ug/L
Lab ID:	185570-009	Sampled:	03/15/06
Matrix:	Water	Received:	03/15/06

Analyte	Result	RL	Diln Fac	Batch#	Analyzed
Chlorobenzene	ND	5.0	10.00	111448	03/20/06
1,1,1,2-Tetrachloroethane	ND	5.0	10.00	111448	03/20/06
Ethylbenzene	ND	5.0	10.00	111448	03/20/06
m,p-Xylenes	ND	5.0	10.00	111448	03/20/06
o-Xylene	ND	5.0	10.00	111448	03/20/06
Styrene	ND	5.0	10.00	111448	03/20/06
Bromoform	10	10	10.00	111448	03/20/06
Isopropylbenzene	ND	5.0	10.00	111448	03/20/06
1,1,2,2-Tetrachloroethane	ND	5.0	10.00	111448	03/20/06
1,2,3-Trichloropropane	ND	5.0	10.00	111448	03/20/06
Propylbenzene	ND	5.0	10.00	111448	03/20/06
Bromobenzene	ND	5.0	10.00	111448	03/20/06
1,3,5-Trimethylbenzene	ND	5.0	10.00	111448	03/20/06
2-Chlorotoluene	ND	5.0	10.00	111448	03/20/06
4-Chlorotoluene	ND	5.0	10.00	111448	03/20/06
tert-Butylbenzene	ND	5.0	10.00	111448	03/20/06
1,2,4-Trimethylbenzene	ND	5.0	10.00	111448	03/20/06
sec-Butylbenzene	ND	5.0	10.00	111448	03/20/06
para-Isopropyl Toluene	ND	5.0	10.00	111448	03/20/06
1,3-Dichlorobenzene	ND	5.0	10.00	111448	03/20/06
1,4-Dichlorobenzene	ND	5.0	10.00	111448	03/20/06
n-Butylbenzene	ND	5.0	10.00	111448	03/20/06
1,2-Dichlorobenzene	ND	5.0	10.00	111448	03/20/06
1,2-Dibromo-3-Chloropropane	ND	5.0	10.00	111448	03/20/06
1,2,4-Trichlorobenzene	ND	5.0	10.00	111448	03/20/06
Hexachlorobutadiene	ND	5.0	10.00	111448	03/20/06
Naphthalene	ND	20	10.00	111448	03/20/06
1,2,3-Trichlorobenzene	ND	5.0	10.00	111448	03/20/06

Surrogate	%REC	Limits	Diln Fac	Batch#	Analyzed
Dibromofluoromethane	105	80-120	10.00	111448	03/20/06
1,2-Dichloroethane-d4	118	80-130	10.00	111448	03/20/06
Toluene-d8	101	80-120	10.00	111448	03/20/06
Bromofluorobenzene	107	80-122	10.00	111448	03/20/06

ND= Not Detected
RL= Reporting Limit

Curtis & Tompkins, Ltd.
Analytical Laboratories, Since 1878

Purgeable Organics by GC/MS

Lab #:	185570	Prep:	EPA 5030B
Client:	Camp, Dresser & McKee	Analysis:	EPA 8260B
Project#:	STANDARD		
Field ID:	SP-150-1700-OW-8	Units:	ug/L
Lab ID:	185570-010	Sampled:	03/15/06
Matrix:	Water	Received:	03/15/06

Analyte	Result	RL	Diln Fac	Batch#	Analyzed
Freon 12	ND	10	10.00	111489	03/21/06
Chloromethane	ND	10	10.00	111489	03/21/06
Vinyl Chloride	ND	5.0	10.00	111489	03/21/06
Bromomethane	ND	10	10.00	111489	03/21/06
Chloroethane	ND	10	10.00	111489	03/21/06
Trichlorofluoromethane	16	10	10.00	111489	03/21/06
Acetone	4,000	630	62.50	111541	03/22/06
Freon 113	ND	50	10.00	111489	03/21/06
1,1-Dichloroethene	ND	5.0	10.00	111489	03/21/06
Methylene Chloride	2,700	630	62.50	111541	03/22/06
Carbon Disulfide	ND	5.0	10.00	111489	03/21/06
MTBE	ND	5.0	10.00	111489	03/21/06
trans-1,2-Dichloroethene	ND	5.0	10.00	111489	03/21/06
Vinyl Acetate	ND	100	10.00	111489	03/21/06
1,1-Dichloroethane	42	5.0	10.00	111489	03/21/06
2-Butanone	180	100	10.00	111489	03/21/06
cis-1,2-Dichloroethene	ND	5.0	10.00	111489	03/21/06
2,2-Dichloropropane	ND	5.0	10.00	111489	03/21/06
Chloroform	740	5.0	10.00	111489	03/21/06
Bromochloromethane	ND	5.0	10.00	111489	03/21/06
1,1,1-Trichloroethane	16	5.0	10.00	111489	03/21/06
1,1-Dichloropropene	ND	5.0	10.00	111489	03/21/06
Carbon Tetrachloride	ND	5.0	10.00	111489	03/21/06
1,2-Dichloroethane	340	5.0	10.00	111489	03/21/06
Benzene	ND	5.0	10.00	111489	03/21/06
Trichloroethene	14	5.0	10.00	111489	03/21/06
1,2-Dichloropropane	ND	5.0	10.00	111489	03/21/06
Bromodichloromethane	ND	5.0	10.00	111489	03/21/06
Dibromomethane	ND	5.0	10.00	111489	03/21/06
4-Methyl-2-Pentanone	ND	100	10.00	111489	03/21/06
cis-1,3-Dichloropropene	ND	5.0	10.00	111489	03/21/06
Toluene	ND	5.0	10.00	111489	03/21/06
trans-1,3-Dichloropropene	ND	5.0	10.00	111489	03/21/06
1,1,2-Trichloroethane	55	5.0	10.00	111489	03/21/06
2-Hexanone	ND	100	10.00	111489	03/21/06
1,3-Dichloropropane	ND	5.0	10.00	111489	03/21/06
Tetrachloroethene	720	5.0	10.00	111489	03/21/06
Dibromochloromethane	ND	5.0	10.00	111489	03/21/06
1,2-Dibromoethane	ND	5.0	10.00	111489	03/21/06

ND= Not Detected
RL= Reporting Limit

Curtis & Tompkins, Ltd.
Analytical Laboratories, Since 1878

Purgeable Organics by GC/MS

Lab #:	185570	Prep:	EPA 5030B
Client:	Camp, Dresser & McKee	Analysis:	EPA 8260B
Project#:	STANDARD		
Field ID:	SP-150-1700-OW-8	Units:	ug/L
Lab ID:	185570-010	Sampled:	03/15/06
Matrix:	Water	Received:	03/15/06

Analyte	Result	RL	Diln Fac	Batch#	Analyzed
Chlorobenzene	ND	5.0	10.00	111489	03/21/06
1,1,1,2-Tetrachloroethane	ND	5.0	10.00	111489	03/21/06
Ethylbenzene	ND	5.0	10.00	111489	03/21/06
m,p-Xylenes	ND	5.0	10.00	111489	03/21/06
o-Xylene	ND	5.0	10.00	111489	03/21/06
Styrene	ND	5.0	10.00	111489	03/21/06
Bromoform	18	10	10.00	111489	03/21/06
Isopropylbenzene	ND	5.0	10.00	111489	03/21/06
1,1,2,2-Tetrachloroethane	ND	5.0	10.00	111489	03/21/06
1,2,3-Trichloropropane	ND	5.0	10.00	111489	03/21/06
Propylbenzene	ND	5.0	10.00	111489	03/21/06
Bromobenzene	ND	5.0	10.00	111489	03/21/06
1,3,5-Trimethylbenzene	ND	5.0	10.00	111489	03/21/06
2-Chlorotoluene	ND	5.0	10.00	111489	03/21/06
4-Chlorotoluene	ND	5.0	10.00	111489	03/21/06
tert-Butylbenzene	ND	5.0	10.00	111489	03/21/06
1,2,4-Trimethylbenzene	ND	5.0	10.00	111489	03/21/06
sec-Butylbenzene	ND	5.0	10.00	111489	03/21/06
para-Isopropyl Toluene	ND	5.0	10.00	111489	03/21/06
1,3-Dichlorobenzene	ND	5.0	10.00	111489	03/21/06
1,4-Dichlorobenzene	ND	5.0	10.00	111489	03/21/06
n-Butylbenzene	ND	5.0	10.00	111489	03/21/06
1,2-Dichlorobenzene	ND	5.0	10.00	111489	03/21/06
1,2-Dibromo-3-Chloropropane	ND	5.0	10.00	111489	03/21/06
1,2,4-Trichlorobenzene	ND	5.0	10.00	111489	03/21/06
Hexachlorobutadiene	ND	5.0	10.00	111489	03/21/06
Naphthalene	ND	20	10.00	111489	03/21/06
1,2,3-Trichlorobenzene	ND	5.0	10.00	111489	03/21/06

Surrogate	%REC	Limits	Diln Fac	Batch#	Analyzed
Dibromofluoromethane	106	80-120	10.00	111489	03/21/06
1,2-Dichloroethane-d4	115	80-130	10.00	111489	03/21/06
Toluene-d8	102	80-120	10.00	111489	03/21/06
Bromofluorobenzene	108	80-122	10.00	111489	03/21/06

ND= Not Detected
RL= Reporting Limit

Curtis & Tompkins, Ltd.
Analytical Laboratories, Since 1878

Semivolatile Organics by GC/MS

Lab #:	185570	Prep:	EPA 3520C
Client:	Camp, Dresser & McKee	Analysis:	EPA 8270C
Project#:	STANDARD		
Field ID:	SP-0-1700-OW-1	Batch#:	111514
Lab ID:	185570-001	Sampled:	03/15/06
Matrix:	Water	Received:	03/15/06
Units:	ug/L	Prepared:	03/21/06
Diln Fac:	1.000	Analyzed:	03/22/06

Analyte	Result	RL	MDL
N-Nitrosodimethylamine	ND	9.7	1.5
Phenol	ND	9.7	
bis(2-Chloroethyl)ether	ND	9.7	
2-Chlorophenol	ND	9.7	
1,3-Dichlorobenzene	ND	9.7	
1,4-Dichlorobenzene	ND	9.7	
Benzyl alcohol	ND	9.7	
1,2-Dichlorobenzene	ND	9.7	
2-Methylphenol	ND	9.7	
bis(2-Chloroisopropyl) ether	ND	9.7	
4-Methylphenol	ND	9.7	
N-Nitroso-di-n-propylamine	ND	9.7	
Hexachloroethane	ND	9.7	
Nitrobenzene	ND	9.7	
Isophorone	ND	9.7	
2-Nitrophenol	ND	19	
2,4-Dimethylphenol	ND	9.7	
Benzoic acid	ND	49	
bis(2-Chloroethoxy)methane	ND	9.7	
2,4-Dichlorophenol	ND	9.7	
1,2,4-Trichlorobenzene	ND	9.7	
Naphthalene	ND	9.7	
4-Chloroaniline	ND	9.7	
Hexachlorobutadiene	ND	9.7	
4-Chloro-3-methylphenol	ND	9.7	
2-Methylnaphthalene	ND	9.7	
Hexachlorocyclopentadiene	ND	19	
2,4,6-Trichlorophenol	ND	9.7	
2,4,5-Trichlorophenol	ND	9.7	
2-Chloronaphthalene	ND	9.7	
2-Nitroaniline	ND	19	
Dimethylphthalate	ND	9.7	
Acenaphthylene	ND	9.7	
2,6-Dinitrotoluene	ND	9.7	
3-Nitroaniline	ND	19	
Acenaphthene	ND	9.7	
2,4-Dinitrophenol	ND	19	
4-Nitrophenol	ND	19	
Dibenzofuran	ND	9.7	
2,4-Dinitrotoluene	ND	9.7	
Diethylphthalate	ND	9.7	
Fluorene	ND	9.7	
4-Chlorophenyl-phenylether	ND	9.7	
4-Nitroaniline	ND	19	
4,6-Dinitro-2-methylphenol	ND	19	
N-Nitrosodiphenylamine	ND	9.7	
Azobenzene	ND	9.7	
4-Bromophenyl-phenylether	ND	9.7	
Hexachlorobenzene	ND	9.7	
Pentachlorophenol	ND	19	
Phenanthrene	ND	9.7	
Anthracene	ND	9.7	
Di-n-butylphthalate	ND	9.7	

ND= Not Detected
RL= Reporting Limit
MDL= Method Detection Limit

Curtis & Tompkins, Ltd.
Analytical Laboratories, Since 1878

Semivolatile Organics by GC/MS

Lab #:	185570	Prep:	EPA 3520C
Client:	Camp, Dresser & McKee	Analysis:	EPA 8270C
Project#:	STANDARD		
Field ID:	SP-0-1700-OW-1	Batch#:	111514
Lab ID:	185570-001	Sampled:	03/15/06
Matrix:	Water	Received:	03/15/06
Units:	ug/L	Prepared:	03/21/06
Diln Fac:	1.000	Analyzed:	03/22/06

Analyte	Result	RL	MDL
Fluoranthene	ND	9.7	
Pyrene	ND	9.7	
Butylbenzylphthalate	ND	9.7	
3,3'-Dichlorobenzidine	ND	19	
Benzo(a)anthracene	ND	9.7	
Chrysene	ND	9.7	
bis(2-Ethylhexyl)phthalate	ND	9.7	
Di-n-octylphthalate	ND	9.7	
Benzo(b)fluoranthene	ND	9.7	
Benzo(k)fluoranthene	ND	9.7	
Benzo(a)pyrene	ND	9.7	
Indeno(1,2,3-cd)pyrene	ND	9.7	
Dibenz(a,h)anthracene	ND	9.7	
Benzo(g,h,i)perylene	ND	9.7	

Surrogate	%REC	Limits
2-Fluorophenol	76	36-120
Phenol-d5	81	32-120
2,4,6-Tribromophenol	87	37-120
Nitrobenzene-d5	84	48-120
2-Fluorobiphenyl	89	49-120
Terphenyl-d14	67	22-120

ND= Not Detected
RL= Reporting Limit
MDL= Method Detection Limit

Curtis & Tompkins, Ltd.
Analytical Laboratories, Since 1878

Semivolatile Organics by GC/MS

Lab #:	185570	Prep:	EPA 3520C
Client:	Camp, Dresser & McKee	Analysis:	EPA 8270C
Project#:	STANDARD		
Field ID:	SP-20-1700-OW-1	Batch#:	111514
Lab ID:	185570-002	Sampled:	03/15/06
Matrix:	Water	Received:	03/15/06
Units:	ug/L	Prepared:	03/21/06
Diln Fac:	1.000	Analyzed:	03/22/06

Analyte	Result	RL	MDL
N-Nitrosodimethylamine	ND	12	1.8
Phenol	ND	12	
bis(2-Chloroethyl)ether	ND	12	
2-Chlorophenol	ND	12	
1,3-Dichlorobenzene	ND	12	
1,4-Dichlorobenzene	ND	12	
Benzyl alcohol	ND	12	
1,2-Dichlorobenzene	ND	12	
2-Methylphenol	ND	12	
bis(2-Chloroisopropyl) ether	ND	12	
4-Methylphenol	ND	12	
N-Nitroso-di-n-propylamine	ND	12	
Hexachloroethane	ND	12	
Nitrobenzene	ND	12	
Isophorone	ND	12	
2-Nitrophenol	ND	24	
2,4-Dimethylphenol	ND	12	
Benzoic acid	ND	59	
bis(2-Chloroethoxy)methane	ND	12	
2,4-Dichlorophenol	ND	12	
1,2,4-Trichlorobenzene	ND	12	
Naphthalene	ND	12	
4-Chloroaniline	ND	12	
Hexachlorobutadiene	ND	12	
4-Chloro-3-methylphenol	ND	12	
2-Methylnaphthalene	ND	12	
Hexachlorocyclopentadiene	ND	24	
2,4,6-Trichlorophenol	ND	12	
2,4,5-Trichlorophenol	ND	12	
2-Chloronaphthalene	ND	12	
2-Nitroaniline	ND	24	
Dimethylphthalate	ND	12	
Acenaphthylene	ND	12	
2,6-Dinitrotoluene	ND	12	
3-Nitroaniline	ND	24	
Acenaphthene	ND	12	
2,4-Dinitrophenol	ND	24	
4-Nitrophenol	ND	24	
Dibenzofuran	ND	12	
2,4-Dinitrotoluene	ND	12	
Diethylphthalate	ND	12	
Fluorene	ND	12	
4-Chlorophenyl-phenylether	ND	12	
4-Nitroaniline	ND	24	
4,6-Dinitro-2-methylphenol	ND	24	
N-Nitrosodiphenylamine	ND	12	
Azobenzene	ND	12	
4-Bromophenyl-phenylether	ND	12	
Hexachlorobenzene	ND	12	
Pentachlorophenol	ND	24	
Phenanthrene	ND	12	
Anthracene	ND	12	
Di-n-butylphthalate	ND	12	

ND= Not Detected
RL= Reporting Limit
MDL= Method Detection Limit

Curtis & Tompkins, Ltd.
Analytical Laboratories, Since 1878

Semivolatile Organics by GC/MS

Lab #:	185570	Prep:	EPA 3520C
Client:	Camp, Dresser & McKee	Analysis:	EPA 8270C
Project#:	STANDARD		
Field ID:	SP-20-1700-OW-1	Batch#:	111514
Lab ID:	185570-002	Sampled:	03/15/06
Matrix:	Water	Received:	03/15/06
Units:	ug/L	Prepared:	03/21/06
Diln Fac:	1.000	Analyzed:	03/22/06

Analyte	Result	RL	MDL
Fluoranthene	ND	12	
Pyrene	ND	12	
Butylbenzylphthalate	ND	12	
3,3'-Dichlorobenzidine	ND	24	
Benzo(a)anthracene	ND	12	
Chrysene	ND	12	
bis(2-Ethylhexyl)phthalate	ND	12	
Di-n-octylphthalate	ND	12	
Benzo(b)fluoranthene	ND	12	
Benzo(k)fluoranthene	ND	12	
Benzo(a)pyrene	ND	12	
Indeno(1,2,3-cd)pyrene	ND	12	
Dibenz(a,h)anthracene	ND	12	
Benzo(g,h,i)perylene	ND	12	

Surrogate	%REC	Limits
2-Fluorophenol	97	36-120
Phenol-d5	100	32-120
2,4,6-Tribromophenol	105	37-120
Nitrobenzene-d5	105	48-120
2-Fluorobiphenyl	110	49-120
Terphenyl-d14	84	22-120

ND= Not Detected
RL= Reporting Limit
MDL= Method Detection Limit

Curtis & Tompkins, Ltd.
Analytical Laboratories, Since 1878

Semivolatile Organics by GC/MS

Lab #:	185570	Prep:	EPA 3520C
Client:	Camp, Dresser & McKee	Analysis:	EPA 8270C
Project#:	STANDARD		
Field ID:	SP-40-1700-OW-1	Batch#:	111514
Lab ID:	185570-003	Sampled:	03/15/06
Matrix:	Water	Received:	03/15/06
Units:	ug/L	Prepared:	03/21/06
Diln Fac:	1.000	Analyzed:	03/22/06

Analyte	Result	RL	MDL
N-Nitrosodimethylamine	ND	9.6	1.5
Phenol	ND	9.6	
bis(2-Chloroethyl)ether	ND	9.6	
2-Chlorophenol	ND	9.6	
1,3-Dichlorobenzene	ND	9.6	
1,4-Dichlorobenzene	ND	9.6	
Benzyl alcohol	ND	9.6	
1,2-Dichlorobenzene	ND	9.6	
2-Methylphenol	ND	9.6	
bis(2-Chloroisopropyl) ether	ND	9.6	
4-Methylphenol	ND	9.6	
N-Nitroso-di-n-propylamine	ND	9.6	
Hexachloroethane	ND	9.6	
Nitrobenzene	ND	9.6	
Isophorone	ND	9.6	
2-Nitrophenol	ND	19	
2,4-Dimethylphenol	ND	9.6	
Benzoic acid	ND	48	
bis(2-Chloroethoxy)methane	ND	9.6	
2,4-Dichlorophenol	ND	9.6	
1,2,4-Trichlorobenzene	ND	9.6	
Naphthalene	ND	9.6	
4-Chloroaniline	ND	9.6	
Hexachlorobutadiene	ND	9.6	
4-Chloro-3-methylphenol	ND	9.6	
2-Methylnaphthalene	ND	9.6	
Hexachlorocyclopentadiene	ND	19	
2,4,6-Trichlorophenol	ND	9.6	
2,4,5-Trichlorophenol	ND	9.6	
2-Chloronaphthalene	ND	9.6	
2-Nitroaniline	ND	19	
Dimethylphthalate	ND	9.6	
Acenaphthylene	ND	9.6	
2,6-Dinitrotoluene	ND	9.6	
3-Nitroaniline	ND	19	
Acenaphthene	ND	9.6	
2,4-Dinitrophenol	ND	19	
4-Nitrophenol	ND	19	
Dibenzofuran	ND	9.6	
2,4-Dinitrotoluene	ND	9.6	
Diethylphthalate	ND	9.6	
Fluorene	ND	9.6	
4-Chlorophenyl-phenylether	ND	9.6	
4-Nitroaniline	ND	19	
4,6-Dinitro-2-methylphenol	ND	19	
N-Nitrosodiphenylamine	ND	9.6	
Azobenzene	ND	9.6	
4-Bromophenyl-phenylether	ND	9.6	
Hexachlorobenzene	ND	9.6	
Pentachlorophenol	ND	19	
Phenanthrene	ND	9.6	
Anthracene	ND	9.6	
Di-n-butylphthalate	ND	9.6	

ND= Not Detected
RL= Reporting Limit
MDL= Method Detection Limit

Curtis & Tompkins, Ltd.
Analytical Laboratories, Since 1878

Semivolatile Organics by GC/MS

Lab #:	185570	Prep:	EPA 3520C
Client:	Camp, Dresser & McKee	Analysis:	EPA 8270C
Project#:	STANDARD		
Field ID:	SP-40-1700-OW-1	Batch#:	111514
Lab ID:	185570-003	Sampled:	03/15/06
Matrix:	Water	Received:	03/15/06
Units:	ug/L	Prepared:	03/21/06
Diln Fac:	1.000	Analyzed:	03/22/06

Analyte	Result	RL	MDL
Fluoranthene	ND	9.6	
Pyrene	ND	9.6	
Butylbenzylphthalate	ND	9.6	
3,3'-Dichlorobenzidine	ND	19	
Benzo(a)anthracene	ND	9.6	
Chrysene	ND	9.6	
bis(2-Ethylhexyl)phthalate	ND	9.6	
Di-n-octylphthalate	ND	9.6	
Benzo(b)fluoranthene	ND	9.6	
Benzo(k)fluoranthene	ND	9.6	
Benzo(a)pyrene	ND	9.6	
Indeno(1,2,3-cd)pyrene	ND	9.6	
Dibenz(a,h)anthracene	ND	9.6	
Benzo(g,h,i)perylene	ND	9.6	

Surrogate	%REC	Limits
2-Fluorophenol	68	36-120
Phenol-d5	70	32-120
2,4,6-Tribromophenol	76	37-120
Nitrobenzene-d5	76	48-120
2-Fluorobiphenyl	77	49-120
Terphenyl-d14	62	22-120

ND= Not Detected
RL= Reporting Limit
MDL= Method Detection Limit

Curtis & Tompkins, Ltd.
Analytical Laboratories, Since 1878

Semivolatile Organics by GC/MS

Lab #:	185570	Prep:	EPA 3520C
Client:	Camp, Dresser & McKee	Analysis:	EPA 8270C
Project#:	STANDARD		
Field ID:	SP-60-1700-OW-1	Batch#:	111514
Lab ID:	185570-004	Sampled:	03/15/06
Matrix:	Water	Received:	03/15/06
Units:	ug/L	Prepared:	03/21/06
Diln Fac:	1.000	Analyzed:	03/22/06

Analyte	Result	RL	MDL
N-Nitrosodimethylamine	ND	9.5	1.4
Phenol	ND	9.5	
bis(2-Chloroethyl)ether	ND	9.5	
2-Chlorophenol	ND	9.5	
1,3-Dichlorobenzene	ND	9.5	
1,4-Dichlorobenzene	ND	9.5	
Benzyl alcohol	ND	9.5	
1,2-Dichlorobenzene	ND	9.5	
2-Methylphenol	ND	9.5	
bis(2-Chloroisopropyl) ether	ND	9.5	
4-Methylphenol	ND	9.5	
N-Nitroso-di-n-propylamine	ND	9.5	
Hexachloroethane	ND	9.5	
Nitrobenzene	ND	9.5	
Isophorone	ND	9.5	
2-Nitrophenol	ND	19	
2,4-Dimethylphenol	ND	9.5	
Benzoic acid	ND	48	
bis(2-Chloroethoxy)methane	ND	9.5	
2,4-Dichlorophenol	ND	9.5	
1,2,4-Trichlorobenzene	ND	9.5	
Naphthalene	ND	9.5	
4-Chloroaniline	ND	9.5	
Hexachlorobutadiene	ND	9.5	
4-Chloro-3-methylphenol	ND	9.5	
2-Methylnaphthalene	ND	9.5	
Hexachlorocyclopentadiene	ND	19	
2,4,6-Trichlorophenol	ND	9.5	
2,4,5-Trichlorophenol	ND	9.5	
2-Chloronaphthalene	ND	9.5	
2-Nitroaniline	ND	19	
Dimethylphthalate	ND	9.5	
Acenaphthylene	ND	9.5	
2,6-Dinitrotoluene	ND	9.5	
3-Nitroaniline	ND	19	
Acenaphthene	ND	9.5	
2,4-Dinitrophenol	ND	19	
4-Nitrophenol	ND	19	
Dibenzofuran	ND	9.5	
2,4-Dinitrotoluene	ND	9.5	
Diethylphthalate	ND	9.5	
Fluorene	ND	9.5	
4-Chlorophenyl-phenylether	ND	9.5	
4-Nitroaniline	ND	19	
4,6-Dinitro-2-methylphenol	ND	19	
N-Nitrosodiphenylamine	ND	9.5	
Azobenzene	ND	9.5	
4-Bromophenyl-phenylether	ND	9.5	
Hexachlorobenzene	ND	9.5	
Pentachlorophenol	ND	19	
Phenanthrene	ND	9.5	
Anthracene	ND	9.5	
Di-n-butylphthalate	ND	9.5	

ND= Not Detected
RL= Reporting Limit
MDL= Method Detection Limit

Curtis & Tompkins, Ltd.
Analytical Laboratories, Since 1878

Semivolatile Organics by GC/MS

Lab #:	185570	Prep:	EPA 3520C
Client:	Camp, Dresser & McKee	Analysis:	EPA 8270C
Project#:	STANDARD		
Field ID:	SP-60-1700-OW-1	Batch#:	111514
Lab ID:	185570-004	Sampled:	03/15/06
Matrix:	Water	Received:	03/15/06
Units:	ug/L	Prepared:	03/21/06
Diln Fac:	1.000	Analyzed:	03/22/06

Analyte	Result	RL	MDL
Fluoranthene	ND	9.5	
Pyrene	ND	9.5	
Butylbenzylphthalate	ND	9.5	
3,3'-Dichlorobenzidine	ND	19	
Benzo(a)anthracene	ND	9.5	
Chrysene	ND	9.5	
bis(2-Ethylhexyl)phthalate	ND	9.5	
Di-n-octylphthalate	ND	9.5	
Benzo(b)fluoranthene	ND	9.5	
Benzo(k)fluoranthene	ND	9.5	
Benzo(a)pyrene	ND	9.5	
Indeno(1,2,3-cd)pyrene	ND	9.5	
Dibenz(a,h)anthracene	ND	9.5	
Benzo(g,h,i)perylene	ND	9.5	

Surrogate	%REC	Limits
2-Fluorophenol	64	36-120
Phenol-d5	67	32-120
2,4,6-Tribromophenol	79	37-120
Nitrobenzene-d5	79	48-120
2-Fluorobiphenyl	81	49-120
Terphenyl-d14	62	22-120

ND= Not Detected
RL= Reporting Limit
MDL= Method Detection Limit

24.0

Curtis & Tompkins, Ltd.
Analytical Laboratories, Since 1878

Semivolatile Organics by GC/MS

Lab #:	185570	Prep:	EPA 3520C
Client:	Camp, Dresser & McKee	Analysis:	EPA 8270C
Project#:	STANDARD		
Field ID:	SP-80-1700-OW-1	Batch#:	111514
Lab ID:	185570-005	Sampled:	03/15/06
Matrix:	Water	Received:	03/15/06
Units:	ug/L	Prepared:	03/21/06
Diln Fac:	1.000	Analyzed:	03/22/06

Analyte	Result	RL	MDL
N-Nitrosodimethylamine	ND	9.5	1.4
Phenol	ND	9.5	
bis(2-Chloroethyl)ether	ND	9.5	
2-Chlorophenol	ND	9.5	
1,3-Dichlorobenzene	ND	9.5	
1,4-Dichlorobenzene	ND	9.5	
Benzyl alcohol	ND	9.5	
1,2-Dichlorobenzene	ND	9.5	
2-Methylphenol	ND	9.5	
bis(2-Chloroisopropyl) ether	ND	9.5	
4-Methylphenol	ND	9.5	
N-Nitroso-di-n-propylamine	ND	9.5	
Hexachloroethane	ND	9.5	
Nitrobenzene	ND	9.5	
Isophorone	ND	9.5	
2-Nitrophenol	ND	19	
2,4-Dimethylphenol	ND	9.5	
Benzoic acid	ND	48	
bis(2-Chloroethoxy)methane	ND	9.5	
2,4-Dichlorophenol	ND	9.5	
1,2,4-Trichlorobenzene	ND	9.5	
Naphthalene	ND	9.5	
4-Chloroaniline	ND	9.5	
Hexachlorobutadiene	ND	9.5	
4-Chloro-3-methylphenol	ND	9.5	
2-Methylnaphthalene	ND	9.5	
Hexachlorocyclopentadiene	ND	19	
2,4,6-Trichlorophenol	ND	9.5	
2,4,5-Trichlorophenol	ND	9.5	
2-Chloronaphthalene	ND	9.5	
2-Nitroaniline	ND	19	
Dimethylphthalate	ND	9.5	
Acenaphthylene	ND	9.5	
2,6-Dinitrotoluene	ND	9.5	
3-Nitroaniline	ND	19	
Acenaphthene	ND	9.5	
2,4-Dinitrophenol	ND	19	
4-Nitrophenol	ND	19	
Dibenzofuran	ND	9.5	
2,4-Dinitrotoluene	ND	9.5	
Diethylphthalate	ND	9.5	
Fluorene	ND	9.5	
4-Chlorophenyl-phenylether	ND	9.5	
4-Nitroaniline	ND	19	
4,6-Dinitro-2-methylphenol	ND	19	
N-Nitrosodiphenylamine	ND	9.5	
Azobenzene	ND	9.5	
4-Bromophenyl-phenylether	ND	9.5	
Hexachlorobenzene	ND	9.5	
Pentachlorophenol	ND	19	
Phenanthrene	ND	9.5	
Anthracene	ND	9.5	
Di-n-butylphthalate	ND	9.5	

ND= Not Detected
RL= Reporting Limit
MDL= Method Detection Limit

Curtis & Tompkins, Ltd.
Analytical Laboratories, Since 1878

Semivolatile Organics by GC/MS

Lab #:	185570	Prep:	EPA 3520C
Client:	Camp, Dresser & McKee	Analysis:	EPA 8270C
Project#:	STANDARD		
Field ID:	SP-80-1700-OW-1	Batch#:	111514
Lab ID:	185570-005	Sampled:	03/15/06
Matrix:	Water	Received:	03/15/06
Units:	ug/L	Prepared:	03/21/06
Diln Fac:	1.000	Analyzed:	03/22/06

Analyte	Result	RL	MDL
Fluoranthene	ND	9.5	
Pyrene	ND	9.5	
Butylbenzylphthalate	ND	9.5	
3,3'-Dichlorobenzidine	ND	19	
Benzo(a)anthracene	ND	9.5	
Chrysene	ND	9.5	
bis(2-Ethylhexyl)phthalate	ND	9.5	
Di-n-octylphthalate	ND	9.5	
Benzo(b)fluoranthene	ND	9.5	
Benzo(k)fluoranthene	ND	9.5	
Benzo(a)pyrene	ND	9.5	
Indeno(1,2,3-cd)pyrene	ND	9.5	
Dibenz(a,h)anthracene	ND	9.5	
Benzo(g,h,i)perylene	ND	9.5	

Surrogate	%REC	Limits
2-Fluorophenol	59	36-120
Phenol-d5	64	32-120
2,4,6-Tribromophenol	67	37-120
Nitrobenzene-d5	85	48-120
2-Fluorobiphenyl	88	49-120
Terphenyl-d14	67	22-120

ND= Not Detected
RL= Reporting Limit
MDL= Method Detection Limit

Curtis & Tompkins, Ltd.
Analytical Laboratories, Since 1878

Semivolatile Organics by GC/MS

Lab #:	185570	Prep:	EPA 3520C
Client:	Camp, Dresser & McKee	Analysis:	EPA 8270C
Project#:	STANDARD		
Field ID:	SP-0-1700-OW-8	Batch#:	111514
Lab ID:	185570-006	Sampled:	03/15/06
Matrix:	Water	Received:	03/15/06
Units:	ug/L	Prepared:	03/21/06
Diln Fac:	1.000	Analyzed:	03/22/06

Analyte	Result	RL	MDL
N-Nitrosodimethylamine	ND	9.5	1.4
Phenol	14	9.5	
bis(2-Chloroethyl)ether	ND	9.5	
2-Chlorophenol	ND	9.5	
1,3-Dichlorobenzene	ND	9.5	
1,4-Dichlorobenzene	ND	9.5	
Benzyl alcohol	ND	9.5	
1,2-Dichlorobenzene	ND	9.5	
2-Methylphenol	ND	9.5	
bis(2-Chloroisopropyl) ether	ND	9.5	
4-Methylphenol	ND	9.5	
N-Nitroso-di-n-propylamine	ND	9.5	
Hexachloroethane	ND	9.5	
Nitrobenzene	ND	9.5	
Isophorone	ND	9.5	
2-Nitrophenol	ND	19	
2,4-Dimethylphenol	ND	9.5	
Benzoic acid	ND	48	
bis(2-Chloroethoxy)methane	ND	9.5	
2,4-Dichlorophenol	ND	9.5	
1,2,4-Trichlorobenzene	ND	9.5	
Naphthalene	ND	9.5	
4-Chloroaniline	ND	9.5	
Hexachlorobutadiene	ND	9.5	
4-Chloro-3-methylphenol	ND	9.5	
2-Methylnaphthalene	ND	9.5	
Hexachlorocyclopentadiene	ND	19	
2,4,6-Trichlorophenol	ND	9.5	
2,4,5-Trichlorophenol	ND	9.5	
2-Chloronaphthalene	ND	9.5	
2-Nitroaniline	ND	19	
Dimethylphthalate	ND	9.5	
Acenaphthylene	ND	9.5	
2,6-Dinitrotoluene	ND	9.5	
3-Nitroaniline	ND	19	
Acenaphthene	ND	9.5	
2,4-Dinitrophenol	ND	19	
4-Nitrophenol	ND	19	
Dibenzofuran	ND	9.5	
2,4-Dinitrotoluene	ND	9.5	
Diethylphthalate	ND	9.5	
Fluorene	ND	9.5	
4-Chlorophenyl-phenylether	ND	9.5	
4-Nitroaniline	ND	19	
4,6-Dinitro-2-methylphenol	ND	19	
N-Nitrosodiphenylamine	ND	9.5	
Azobenzene	ND	9.5	
4-Bromophenyl-phenylether	ND	9.5	
Hexachlorobenzene	ND	9.5	
Pentachlorophenol	ND	19	
Phenanthrene	ND	9.5	
Anthracene	ND	9.5	

*= Value outside of QC limits; see narrative
ND= Not Detected
RL= Reporting Limit
MDL= Method Detection Limit

Curtis & Tompkins, Ltd.
Analytical Laboratories, Since 1878

Semivolatile Organics by GC/MS

Lab #:	185570	Prep:	EPA 3520C
Client:	Camp, Dresser & McKee	Analysis:	EPA 8270C
Project#:	STANDARD		
Field ID:	SP-0-1700-OW-8	Batch#:	111514
Lab ID:	185570-006	Sampled:	03/15/06
Matrix:	Water	Received:	03/15/06
Units:	ug/L	Prepared:	03/21/06
Diln Fac:	1.000	Analyzed:	03/22/06

Analyte	Result	RL	MDL
Di-n-butylphthalate	ND	9.5	
Fluoranthene	ND	9.5	
Pyrene	ND	9.5	
Butylbenzylphthalate	ND	9.5	
3,3'-Dichlorobenzidine	ND	19	
Benzo(a)anthracene	ND	9.5	
Chrysene	ND	9.5	
bis(2-Ethylhexyl)phthalate	ND	9.5	
Di-n-octylphthalate	ND	9.5	
Benzo(b)fluoranthene	ND	9.5	
Benzo(k)fluoranthene	ND	9.5	
Benzo(a)pyrene	ND	9.5	
Indeno(1,2,3-cd)pyrene	ND	9.5	
Dibenz(a,h)anthracene	ND	9.5	
Benzo(g,h,i)perylene	ND	9.5	

Surrogate	%REC	Limits
2-Fluorophenol	1 *	36-120
Phenol-d5	77	32-120
2,4,6-Tribromophenol	89	37-120
Nitrobenzene-d5	82	48-120
2-Fluorobiphenyl	87	49-120
Terphenyl-d14	56	22-120

*= Value outside of QC limits; see narrative
ND= Not Detected
RL= Reporting Limit
MDL= Method Detection Limit

Curtis & Tompkins, Ltd.
Analytical Laboratories, Since 1878

Semivolatile Organics by GC/MS

Lab #:	185570	Prep:	EPA 3520C
Client:	Camp, Dresser & McKee	Analysis:	EPA 8270C
Project#:	STANDARD		
Field ID:	SP-30-1700-OW-8	Batch#:	111514
Lab ID:	185570-007	Sampled:	03/15/06
Matrix:	Water	Received:	03/15/06
Units:	ug/L	Prepared:	03/21/06
Diln Fac:	10.00	Analyzed:	03/23/06

Analyte	Result	RL	MDL
N-Nitrosodimethylamine	ND	120	4.1
Phenol	ND	120	
bis(2-Chloroethyl)ether	ND	120	
2-Chlorophenol	ND	120	
1,3-Dichlorobenzene	ND	120	
1,4-Dichlorobenzene	ND	120	
Benzyl alcohol	ND	120	
1,2-Dichlorobenzene	ND	120	
2-Methylphenol	ND	120	
bis(2-Chloroisopropyl) ether	ND	120	
4-Methylphenol	ND	120	
N-Nitroso-di-n-propylamine	ND	120	
Hexachloroethane	ND	120	
Nitrobenzene	ND	120	
Isophorone	ND	120	
2-Nitrophenol	ND	240	
2,4-Dimethylphenol	ND	120	
Benzoic acid	ND	590	
bis(2-Chloroethoxy)methane	ND	120	
2,4-Dichlorophenol	ND	120	
1,2,4-Trichlorobenzene	ND	120	
Naphthalene	ND	120	
4-Chloroaniline	ND	120	
Hexachlorobutadiene	ND	120	
4-Chloro-3-methylphenol	ND	120	
2-Methylnaphthalene	ND	120	
Hexachlorocyclopentadiene	ND	240	
2,4,6-Trichlorophenol	ND	120	
2,4,5-Trichlorophenol	ND	120	
2-Chloronaphthalene	ND	120	
2-Nitroaniline	ND	240	
Dimethylphthalate	ND	120	
Acenaphthylene	ND	120	
2,6-Dinitrotoluene	ND	120	
3-Nitroaniline	ND	240	
Acenaphthene	ND	120	
2,4-Dinitrophenol	ND	240	
4-Nitrophenol	ND	240	
Dibenzofuran	ND	120	
2,4-Dinitrotoluene	ND	120	
Diethylphthalate	ND	120	
Fluorene	ND	120	
4-Chlorophenyl-phenylether	ND	120	
4-Nitroaniline	ND	240	
4,6-Dinitro-2-methylphenol	ND	240	
N-Nitrosodiphenylamine	ND	120	
Azobenzene	ND	120	
4-Bromophenyl-phenylether	ND	120	
Hexachlorobenzene	ND	120	
Pentachlorophenol	ND	240	
Phenanthrene	ND	120	
Anthracene	ND	120	

*= Value outside of QC limits; see narrative
ND= Not Detected
RL= Reporting Limit
MDL= Method Detection Limit

Curtis & Tompkins, Ltd.
Analytical Laboratories, Since 1878

Semivolatile Organics by GC/MS

Lab #:	185570	Prep:	EPA 3520C
Client:	Camp, Dresser & McKee	Analysis:	EPA 8270C
Project#:	STANDARD		
Field ID:	SP-30-1700-OW-8	Batch#:	111514
Lab ID:	185570-007	Sampled:	03/15/06
Matrix:	Water	Received:	03/15/06
Units:	ug/L	Prepared:	03/21/06
Diln Fac:	10.00	Analyzed:	03/23/06

Analyte	Result	RL	MDL
Di-n-butylphthalate	ND	120	
Fluoranthene	ND	120	
Pyrene	ND	120	
Butylbenzylphthalate	ND	120	
3,3'-Dichlorobenzidine	ND	240	
Benzo(a)anthracene	ND	120	
Chrysene	ND	120	
bis(2-Ethylhexyl)phthalate	ND	120	
Di-n-octylphthalate	ND	120	
Benzo(b)fluoranthene	ND	120	
Benzo(k)fluoranthene	ND	120	
Benzo(a)pyrene	ND	120	
Indeno(1,2,3-cd)pyrene	ND	120	
Dibenz(a,h)anthracene	ND	120	
Benzo(g,h,i)perylene	ND	120	

Surrogate	%REC	Limits
2-Fluorophenol	0 *	36-120
Phenol-d5	6 *	32-120
2,4,6-Tribromophenol	13 *	37-120
Nitrobenzene-d5	65	48-120
2-Fluorobiphenyl	78	49-120
Terphenyl-d14	64	22-120

*= Value outside of QC limits; see narrative
ND= Not Detected
RL= Reporting Limit
MDL= Method Detection Limit

Curtis & Tompkins, Ltd.
Analytical Laboratories, Since 1878

Semivolatile Organics by GC/MS

Lab #:	185570	Prep:	EPA 3520C
Client:	Camp, Dresser & McKee	Analysis:	EPA 8270C
Project#:	STANDARD		
Field ID:	SP-60-1700-OW-8	Sampled:	03/15/06
Lab ID:	185570-008	Received:	03/15/06
Matrix:	Water	Prepared:	03/21/06
Units:	ug/L	Analyzed:	03/23/06
Batch#:	111514		

Analyte	Result	RL	MDL	Diln Fac
N-Nitrosodimethylamine	ND	12	1.8	1.000
Phenol	ND	12		1.000
bis(2-Chloroethyl)ether	ND	12		1.000
2-Chlorophenol	ND	12		1.000
1,3-Dichlorobenzene	ND	12		1.000
1,4-Dichlorobenzene	ND	12		1.000
Benzyl alcohol	ND	12		1.000
1,2-Dichlorobenzene	ND	12		1.000
2-Methylphenol	ND	12		1.000
bis(2-Chloroisopropyl) ether	ND	12		1.000
4-Methylphenol	ND	12		1.000
N-Nitroso-di-n-propylamine	ND	12		1.000
Hexachloroethane	ND	12		1.000
Nitrobenzene	ND	12		1.000
Isophorone	ND	12		1.000
2-Nitrophenol	ND	24		1.000
2,4-Dimethylphenol	ND	12		1.000
Benzoic acid	ND	59		1.000
bis(2-Chloroethoxy)methane	ND	12		1.000
2,4-Dichlorophenol	ND	12		1.000
1,2,4-Trichlorobenzene	ND	12		1.000
Naphthalene	ND	12		1.000
4-Chloroaniline	ND	12		1.000
Hexachlorobutadiene	ND	12		1.000
4-Chloro-3-methylphenol	ND	12		1.000
2-Methylnaphthalene	ND	12		1.000
Hexachlorocyclopentadiene	ND	24		1.000
2,4,6-Trichlorophenol	ND	12		1.000
2,4,5-Trichlorophenol	ND	12		1.000
2-Chloronaphthalene	ND	12		1.000
2-Nitroaniline	ND	24		1.000
Dimethylphthalate	ND	12		1.000
Acenaphthylene	ND	12		1.000
2,6-Dinitrotoluene	ND	12		1.000
3-Nitroaniline	ND	24		1.000
Acenaphthene	ND	12		1.000
2,4-Dinitrophenol	ND	24		1.000
4-Nitrophenol	ND	24		1.000
Dibenzofuran	ND	12		1.000
2,4-Dinitrotoluene	ND	12		1.000
Diethylphthalate	ND	12		1.000
Fluorene	ND	12		1.000
4-Chlorophenyl-phenylether	ND	12		1.000
4-Nitroaniline	ND	24		1.000
4,6-Dinitro-2-methylphenol	ND	24		1.000
N-Nitrosodiphenylamine	ND	12		1.000
Azobenzene	ND	12		1.000
4-Bromophenyl-phenylether	ND	12		1.000
Hexachlorobenzene	ND	12		1.000
Pentachlorophenol	ND	24		1.000
Phenanthrene	ND	12		1.000
Anthracene	ND	12		1.000
Di-n-butylphthalate	ND	12		1.000

ND= Not Detected
RL= Reporting Limit
MDL= Method Detection Limit

Curtis & Tompkins, Ltd.
Analytical Laboratories, Since 1878

Semivolatile Organics by GC/MS

Lab #:	185570	Prep:	EPA 3520C
Client:	Camp, Dresser & McKee	Analysis:	EPA 8270C
Project#:	STANDARD		
Field ID:	SP-60-1700-OW-8	Sampled:	03/15/06
Lab ID:	185570-008	Received:	03/15/06
Matrix:	Water	Prepared:	03/21/06
Units:	ug/L	Analyzed:	03/23/06
Batch#:	111514		

Analyte	Result	RL	MDL	Diln Fac
Fluoranthene	ND	12		1.000
Pyrene	ND	12		1.000
Butylbenzylphthalate	ND	12		1.000
3,3'-Dichlorobenzidine	ND	24		1.000
Benzo(a)anthracene	ND	12		1.000
Chrysene	ND	12		1.000
bis(2-Ethylhexyl)phthalate	ND	12		1.000
Di-n-octylphthalate	ND	120		10.00
Benzo(b)fluoranthene	ND	120		10.00
Benzo(k)fluoranthene	ND	120		10.00
Benzo(a)pyrene	ND	120		10.00
Indeno(1,2,3-cd)pyrene	ND	120		10.00
Dibenz(a,h)anthracene	ND	120		10.00
Benzo(g,h,i)perylene	ND	120		10.00

Surrogate	%REC	Limits	Diln Fac
2-Fluorophenol	52	36-120	1.000
Phenol-d5	62	32-120	1.000
2,4,6-Tribromophenol	60	37-120	1.000
Nitrobenzene-d5	51	48-120	1.000
2-Fluorobiphenyl	87	49-120	1.000
Terphenyl-d14	50	22-120	10.00

ND= Not Detected
RL= Reporting Limit
MDL= Method Detection Limit

28.0

Curtis & Tompkins, Ltd.
Analytical Laboratories, Since 1878

Semivolatile Organics by GC/MS

Lab #:	185570	Prep:	EPA 3520C
Client:	Camp, Dresser & McKee	Analysis:	EPA 8270C
Project#:	STANDARD		
Field ID:	SP-90-1700-OW-8	Batch#:	111514
Lab ID:	185570-009	Sampled:	03/15/06
Matrix:	Water	Received:	03/15/06
Units:	ug/L	Prepared:	03/21/06
Diln Fac:	10.00	Analyzed:	03/23/06

Analyte	Result	RL	MDL
N-Nitrosodimethylamine	ND	120	4.1
Phenol	ND	120	
bis(2-Chloroethyl)ether	ND	120	
2-Chlorophenol	ND	120	
1,3-Dichlorobenzene	ND	120	
1,4-Dichlorobenzene	ND	120	
Benzyl alcohol	ND	120	
1,2-Dichlorobenzene	ND	120	
2-Methylphenol	ND	120	
bis(2-Chloroisopropyl) ether	ND	120	
4-Methylphenol	ND	120	
N-Nitroso-di-n-propylamine	ND	120	
Hexachloroethane	ND	120	
Nitrobenzene	ND	120	
Isophorone	ND	120	
2-Nitrophenol	ND	240	
2,4-Dimethylphenol	ND	120	
Benzoic acid	ND	590	
bis(2-Chloroethoxy)methane	ND	120	
2,4-Dichlorophenol	ND	120	
1,2,4-Trichlorobenzene	ND	120	
Naphthalene	ND	120	
4-Chloroaniline	ND	120	
Hexachlorobutadiene	ND	120	
4-Chloro-3-methylphenol	ND	120	
2-Methylnaphthalene	ND	120	
Hexachlorocyclopentadiene	ND	240	
2,4,6-Trichlorophenol	ND	120	
2,4,5-Trichlorophenol	ND	120	
2-Chloronaphthalene	ND	120	
2-Nitroaniline	ND	240	
Dimethylphthalate	ND	120	
Acenaphthylene	ND	120	
2,6-Dinitrotoluene	ND	120	
3-Nitroaniline	ND	240	
Acenaphthene	ND	120	
2,4-Dinitrophenol	ND	240	
4-Nitrophenol	ND	240	
Dibenzofuran	ND	120	
2,4-Dinitrotoluene	ND	120	
Diethylphthalate	ND	120	
Fluorene	ND	120	
4-Chlorophenyl-phenylether	ND	120	
4-Nitroaniline	ND	240	
4,6-Dinitro-2-methylphenol	ND	240	
N-Nitrosodiphenylamine	ND	120	
Azobenzene	ND	120	
4-Bromophenyl-phenylether	ND	120	
Hexachlorobenzene	ND	120	
Pentachlorophenol	ND	240	
Phenanthrene	ND	120	
Anthracene	ND	120	
Di-n-butylphthalate	ND	120	

ND= Not Detected
RL= Reporting Limit
MDL= Method Detection Limit

Curtis & Tompkins, Ltd.
Analytical Laboratories, Since 1878

Semivolatile Organics by GC/MS

Lab #:	185570	Prep:	EPA 3520C
Client:	Camp, Dresser & McKee	Analysis:	EPA 8270C
Project#:	STANDARD		
Field ID:	SP-90-1700-OW-8	Batch#:	111514
Lab ID:	185570-009	Sampled:	03/15/06
Matrix:	Water	Received:	03/15/06
Units:	ug/L	Prepared:	03/21/06
Diln Fac:	10.00	Analyzed:	03/23/06

Analyte	Result	RL	MDL
Fluoranthene	ND	120	
Pyrene	ND	120	
Butylbenzylphthalate	ND	120	
3,3'-Dichlorobenzidine	ND	240	
Benzo(a)anthracene	ND	120	
Chrysene	ND	120	
bis(2-Ethylhexyl)phthalate	ND	120	
Di-n-octylphthalate	ND	120	
Benzo(b)fluoranthene	ND	120	
Benzo(k)fluoranthene	ND	120	
Benzo(a)pyrene	ND	120	
Indeno(1,2,3-cd)pyrene	ND	120	
Dibenz(a,h)anthracene	ND	120	
Benzo(g,h,i)perylene	ND	120	

Surrogate	%REC	Limits
2-Fluorophenol	50	36-120
Phenol-d5	46	32-120
2,4,6-Tribromophenol	78	37-120
Nitrobenzene-d5	55	48-120
2-Fluorobiphenyl	69	49-120
Terphenyl-d14	64	22-120

ND= Not Detected
RL= Reporting Limit
MDL= Method Detection Limit

Curtis & Tompkins, Ltd.
Analytical Laboratories, Since 1878

Semivolatile Organics by GC/MS

Lab #:	185570	Prep:	EPA 3520C
Client:	Camp, Dresser & McKee	Analysis:	EPA 8270C
Project#:	STANDARD		
Field ID:	SP-150-1700-OW-8	Batch#:	111514
Lab ID:	185570-010	Sampled:	03/15/06
Matrix:	Water	Received:	03/15/06
Units:	ug/L	Prepared:	03/21/06
Diln Fac:	10.00	Analyzed:	03/23/06

Analyte	Result	RL	MDL
N-Nitrosodimethylamine	ND	120	4.1
Phenol	ND	120	
bis(2-Chloroethyl)ether	ND	120	
2-Chlorophenol	ND	120	
1,3-Dichlorobenzene	ND	120	
1,4-Dichlorobenzene	ND	120	
Benzyl alcohol	ND	120	
1,2-Dichlorobenzene	ND	120	
2-Methylphenol	ND	120	
bis(2-Chloroisopropyl) ether	ND	120	
4-Methylphenol	ND	120	
N-Nitroso-di-n-propylamine	ND	120	
Hexachloroethane	ND	120	
Nitrobenzene	ND	120	
Isophorone	ND	120	
2-Nitrophenol	ND	240	
2,4-Dimethylphenol	ND	120	
Benzoic acid	ND	590	
bis(2-Chloroethoxy)methane	ND	120	
2,4-Dichlorophenol	ND	120	
1,2,4-Trichlorobenzene	ND	120	
Naphthalene	ND	120	
4-Chloroaniline	ND	120	
Hexachlorobutadiene	ND	120	
4-Chloro-3-methylphenol	ND	120	
2-Methylnaphthalene	ND	120	
Hexachlorocyclopentadiene	ND	240	
2,4,6-Trichlorophenol	ND	120	
2,4,5-Trichlorophenol	ND	120	
2-Chloronaphthalene	ND	120	
2-Nitroaniline	ND	240	
Dimethylphthalate	ND	120	
Acenaphthylene	ND	120	
2,6-Dinitrotoluene	ND	120	
3-Nitroaniline	ND	240	
Acenaphthene	ND	120	
2,4-Dinitrophenol	ND	240	
4-Nitrophenol	ND	240	
Dibenzofuran	ND	120	
2,4-Dinitrotoluene	ND	120	
Diethylphthalate	ND	120	
Fluorene	ND	120	
4-Chlorophenyl-phenylether	ND	120	
4-Nitroaniline	ND	240	
4,6-Dinitro-2-methylphenol	ND	240	
N-Nitrosodiphenylamine	ND	120	
Azobenzene	ND	120	
4-Bromophenyl-phenylether	ND	120	
Hexachlorobenzene	ND	120	
Pentachlorophenol	ND	240	
Phenanthrene	ND	120	
Anthracene	ND	120	

*= Value outside of QC limits; see narrative
ND= Not Detected
RL= Reporting Limit
MDL= Method Detection Limit

Curtis & Tompkins, Ltd.
Analytical Laboratories, Since 1878

Semivolatile Organics by GC/MS

Lab #:	185570	Prep:	EPA 3520C
Client:	Camp, Dresser & McKee	Analysis:	EPA 8270C
Project#:	STANDARD		
Field ID:	SP-150-1700-OW-8	Batch#:	111514
Lab ID:	185570-010	Sampled:	03/15/06
Matrix:	Water	Received:	03/15/06
Units:	ug/L	Prepared:	03/21/06
Diln Fac:	10.00	Analyzed:	03/23/06

Analyte	Result	RL	MDL
Di-n-butylphthalate	ND	120	
Fluoranthene	ND	120	
Pyrene	ND	120	
Butylbenzylphthalate	ND	120	
3,3'-Dichlorobenzidine	ND	240	
Benzo(a)anthracene	ND	120	
Chrysene	ND	120	
bis(2-Ethylhexyl)phthalate	ND	120	
Di-n-octylphthalate	ND	120	
Benzo(b)fluoranthene	ND	120	
Benzo(k)fluoranthene	ND	120	
Benzo(a)pyrene	ND	120	
Indeno(1,2,3-cd)pyrene	ND	120	
Dibenz(a,h)anthracene	ND	120	
Benzo(g,h,i)perylene	ND	120	

Surrogate	%REC	Limits
2-Fluorophenol	13 *	36-120
Phenol-d5	12 *	32-120
2,4,6-Tribromophenol	26 *	37-120
Nitrobenzene-d5	55	48-120
2-Fluorobiphenyl	67	49-120
Terphenyl-d14	62	22-120

*= Value outside of QC limits; see narrative
ND= Not Detected
RL= Reporting Limit
MDL= Method Detection Limit

Curtis & Tompkins, Ltd.
Analytical Laboratories, Since 1878

1,4-Dioxane by 8270-SIM

Lab #:	185570	Prep:	EPA 3520C
Client:	Camp, Dresser & McKee	Analysis:	EPA 8270C-SIM
Project#:	STANDARD		
Matrix:	Water	Sampled:	03/15/06
Units:	ug/L	Received:	03/15/06
Batch#:	111438	Prepared:	03/19/06

Field ID:	SP-0-1700-OW-1	Diln Fac:	2,000
Type:	SAMPLE	Analyzed:	03/21/06
Lab ID:	185570-001		

Analyte	Result	RL
1,4-Dioxane	2,100	1,900

Surrogate	%REC	Limits
Nitrobenzene-d5	DO	43-146
2-Fluorobiphenyl	DO	40-120

Field ID:	SP-20-1700-OW-1	Diln Fac:	80.00
Type:	SAMPLE	Analyzed:	03/21/06
Lab ID:	185570-002		

Analyte	Result	RL
1,4-Dioxane	370	87

Surrogate	%REC	Limits
Nitrobenzene-d5	DO	43-146
2-Fluorobiphenyl	DO	40-120

Field ID:	SP-40-1700-OW-1	Diln Fac:	1.000
Type:	SAMPLE	Analyzed:	03/20/06
Lab ID:	185570-003		

Analyte	Result	RL
1,4-Dioxane	2.5	1.2

Surrogate	%REC	Limits
Nitrobenzene-d5	134	43-146
2-Fluorobiphenyl	74	40-120

Field ID:	SP-60-1700-OW-1	Diln Fac:	1.000
Type:	SAMPLE	Analyzed:	03/20/06
Lab ID:	185570-004		

Analyte	Result	RL
1,4-Dioxane	ND	1.2

Surrogate	%REC	Limits
Nitrobenzene-d5	132	43-146
2-Fluorobiphenyl	73	40-120

DO= Diluted Out
ND= Not Detected
RL= Reporting Limit

Curtis & Tompkins, Ltd.
Analytical Laboratories, Since 1878

1,4-Dioxane by 8270-SIM

Lab #:	185570	Prep:	EPA 3520C
Client:	Camp, Dresser & McKee	Analysis:	EPA 8270C-SIM
Project#:	STANDARD		
Matrix:	Water	Sampled:	03/15/06
Units:	ug/L	Received:	03/15/06
Batch#:	111438	Prepared:	03/19/06

Field ID:	SP-80-1700-OW-1	Diln Fac:	1.000
Type:	SAMPLE	Analyzed:	03/20/06
Lab ID:	185570-005		

Analyte	Result	RL
1,4-Dioxane	ND	1.2

Surrogate	%REC	Limits
Nitrobenzene-d5	145	43-146
2-Fluorobiphenyl	76	40-120

Field ID:	SP-0-1700-OW-8	Diln Fac:	1,500
Type:	SAMPLE	Analyzed:	03/21/06
Lab ID:	185570-006		

Analyte	Result	RL
1,4-Dioxane	2,900	1,400

Surrogate	%REC	Limits
Nitrobenzene-d5	DO	43-146
2-Fluorobiphenyl	DO	40-120

Field ID:	SP-30-1700-OW-8	Diln Fac:	1,000
Type:	SAMPLE	Analyzed:	03/21/06
Lab ID:	185570-007		

Analyte	Result	RL
1,4-Dioxane	2,000	950

Surrogate	%REC	Limits
Nitrobenzene-d5	DO	43-146
2-Fluorobiphenyl	DO	40-120

Field ID:	SP-60-1700-OW-8	Diln Fac:	400.0
Type:	SAMPLE	Analyzed:	03/21/06
Lab ID:	185570-008		

Analyte	Result	RL
1,4-Dioxane	1,200	380

Surrogate	%REC	Limits
Nitrobenzene-d5	DO	43-146
2-Fluorobiphenyl	DO	40-120

DO= Diluted Out
ND= Not Detected
RL= Reporting Limit

Curtis & Tompkins, Ltd.
Analytical Laboratories, Since 1878

1,4-Dioxane by 8270-SIM

Lab #:	185570	Prep:	EPA 3520C
Client:	Camp, Dresser & McKee	Analysis:	EPA 8270C-SIM
Project#:	STANDARD		
Matrix:	Water	Sampled:	03/15/06
Units:	ug/L	Received:	03/15/06
Batch#:	111438	Prepared:	03/19/06

Field ID:	SP-90-1700-OW-8	Diln Fac:	300.0
Type:	SAMPLE	Analyzed:	03/21/06
Lab ID:	185570-009		

Analyte	Result	RL
1,4-Dioxane	710	290

Surrogate	%REC	Limits
Nitrobenzene-d5	DO	43-146
2-Fluorobiphenyl	DO	40-120

Field ID:	SP-150-1700-OW-8	Diln Fac:	50.00
Type:	SAMPLE	Analyzed:	03/22/06
Lab ID:	185570-010		

Analyte	Result	RL
1,4-Dioxane	320	48

Surrogate	%REC	Limits
Nitrobenzene-d5	DO	43-146
2-Fluorobiphenyl	DO	40-120

Type:	BLANK	Diln Fac:	1.000
Lab ID:	QC332065	Analyzed:	03/20/06

Analyte	Result	RL
1,4-Dioxane	ND	1.0

Surrogate	%REC	Limits
Nitrobenzene-d5	127	43-146
2-Fluorobiphenyl	76	40-120

DO= Diluted Out
ND= Not Detected
RL= Reporting Limit

Curtis & Tompkins, Ltd.
Analytical Laboratories, Since 1878

Purgeable Organics by GC/MS

Lab #:	185504	Prep:	EPA 5030B
Client:	Camp, Dresser & McKee	Analysis:	EPA 8260B
Project#:	STANDARD		
Field ID:	OW-8	Batch#:	111401
Lab ID:	185504-001	Sampled:	03/13/06
Matrix:	Water	Received:	03/14/06
Units:	ug/L	Analyzed:	03/17/06
Diln Fac:	400.0		

Analyte	Result	RL
Freon 12	ND	400
Chloromethane	ND	400
Vinyl Chloride	ND	200
Bromomethane	ND	400
Chloroethane	ND	400
Trichlorofluoromethane	410	400
Acetone	5,700	4,000
Freon 113	ND	2,000
1,1-Dichloroethene	860	200
Methylene Chloride	4,600	4,000
Carbon Disulfide	ND	200
MTBE	ND	200
trans-1,2-Dichloroethene	ND	200
Vinyl Acetate	ND	4,000
1,1-Dichloroethane	ND	200
2-Butanone	ND	4,000
cis-1,2-Dichloroethene	ND	200
2,2-Dichloropropane	ND	200
Chloroform	1,100	200
Bromochloromethane	ND	200
1,1,1-Trichloroethane	ND	200
1,1-Dichloropropene	ND	200
Carbon Tetrachloride	ND	200
1,2-Dichloroethane	450	200
Benzene	ND	200
Trichloroethene	1,200	200
1,2-Dichloropropane	ND	200
Bromodichloromethane	ND	200
Dibromomethane	ND	200
4-Methyl-2-Pentanone	ND	4,000
cis-1,3-Dichloropropene	ND	200
Toluene	ND	200
trans-1,3-Dichloropropene	ND	200
1,1,2-Trichloroethane	ND	200
2-Hexanone	ND	4,000
1,3-Dichloropropane	ND	200
Tetrachloroethene	27,000	200

ND= Not Detected
RL= Reporting Limit

Curtis & Tompkins, Ltd.
Analytical Laboratories, Since 1878

Purgeable Organics by GC/MS

Lab #:	185504	Prep:	EPA 5030B
Client:	Camp, Dresser & McKee	Analysis:	EPA 8260B
Project#:	STANDARD		
Field ID:	OW-8	Batch#:	111401
Lab ID:	185504-001	Sampled:	03/13/06
Matrix:	Water	Received:	03/14/06
Units:	ug/L	Analyzed:	03/17/06
Diln Fac:	400.0		

Analyte	Result	RL
Dibromochloromethane	ND	200
1,2-Dibromoethane	ND	200
Chlorobenzene	ND	200
1,1,1,2-Tetrachloroethane	ND	200
Ethylbenzene	ND	200
m,p-Xylenes	ND	200
o-Xylene	ND	200
Styrene	ND	200
Bromoform	ND	400
Isopropylbenzene	ND	200
1,1,2,2-Tetrachloroethane	ND	200
1,2,3-Trichloropropane	ND	200
Propylbenzene	ND	200
Bromobenzene	ND	200
1,3,5-Trimethylbenzene	ND	200
2-Chlorotoluene	ND	200
4-Chlorotoluene	ND	200
tert-Butylbenzene	ND	200
1,2,4-Trimethylbenzene	ND	200
sec-Butylbenzene	ND	200
para-Isopropyl Toluene	ND	200
1,3-Dichlorobenzene	ND	200
1,4-Dichlorobenzene	ND	200
n-Butylbenzene	ND	200
1,2-Dichlorobenzene	ND	200
1,2-Dibromo-3-Chloropropane	ND	200
1,2,4-Trichlorobenzene	ND	200
Hexachlorobutadiene	ND	200
Naphthalene	ND	800
1,2,3-Trichlorobenzene	ND	200

Surrogate	%REC	Limits
Dibromofluoromethane	118	80-120
1,2-Dichloroethane-d4	110	80-130
Toluene-d8	97	80-120
Bromofluorobenzene	99	80-122

ND= Not Detected
RL= Reporting Limit

Curtis & Tompkins, Ltd.
Analytical Laboratories, Since 1878

Purgeable Organics by GC/MS

Lab #:	185504	Prep:	EPA 5030B
Client:	Camp, Dresser & McKee	Analysis:	EPA 8260B
Project#:	STANDARD		
Field ID:	OW-1	Units:	ug/L
Lab ID:	185504-002	Sampled:	03/13/06
Matrix:	Water	Received:	03/14/06

Analyte	Result	RL	Diln Fac	Batch#	Analyzed
Freon 12	ND	1,300	1,250	111401	03/17/06
Chloromethane	ND	1,300	1,250	111401	03/17/06
Vinyl Chloride	ND	630	1,250	111401	03/17/06
Bromomethane	ND	1,300	1,250	111401	03/17/06
Chloroethane	ND	1,300	1,250	111401	03/17/06
Trichlorofluoromethane	ND	1,300	1,250	111401	03/17/06
Acetone	ND	13,000	1,250	111401	03/17/06
Freon 113	ND	6,300	1,250	111401	03/17/06
1,1-Dichloroethene	1,500	630	1,250	111401	03/17/06
Methylene Chloride	ND	13,000	1,250	111401	03/17/06
Carbon Disulfide	ND	630	1,250	111401	03/17/06
MTBE	ND	630	1,250	111401	03/17/06
trans-1,2-Dichloroethene	ND	630	1,250	111401	03/17/06
Vinyl Acetate	ND	13,000	1,250	111401	03/17/06
1,1-Dichloroethane	ND	630	1,250	111401	03/17/06
2-Butanone	ND	13,000	1,250	111401	03/17/06
cis-1,2-Dichloroethene	ND	630	1,250	111401	03/17/06
2,2-Dichloropropane	ND	630	1,250	111401	03/17/06
Chloroform	ND	630	1,250	111401	03/17/06
Bromochloromethane	ND	630	1,250	111401	03/17/06
1,1,1-Trichloroethane	3,700	630	1,250	111401	03/17/06
1,1-Dichloropropene	ND	630	1,250	111401	03/17/06
Carbon Tetrachloride	ND	630	1,250	111401	03/17/06
1,2-Dichloroethane	ND	630	1,250	111401	03/17/06
Benzene	ND	630	1,250	111401	03/17/06
Trichloroethene	2,200	630	1,250	111401	03/17/06
1,2-Dichloropropane	ND	630	1,250	111401	03/17/06
Bromodichloromethane	ND	630	1,250	111401	03/17/06
Dibromomethane	ND	630	1,250	111401	03/17/06
4-Methyl-2-Pentanone	ND	13,000	1,250	111401	03/17/06
cis-1,3-Dichloropropene	ND	630	1,250	111401	03/17/06
Toluene	ND	630	1,250	111401	03/17/06
trans-1,3-Dichloropropene	ND	630	1,250	111401	03/17/06
1,1,2-Trichloroethane	ND	630	1,250	111401	03/17/06
2-Hexanone	ND	13,000	1,250	111401	03/17/06
1,3-Dichloropropane	ND	630	1,250	111401	03/17/06
Tetrachloroethene	100,000	1,000	2,000	111489	03/21/06
Dibromochloromethane	ND	630	1,250	111401	03/17/06
1,2-Dibromoethane	ND	630	1,250	111401	03/17/06

ND= Not Detected
RL= Reporting Limit

Curtis & Tompkins, Ltd.
Analytical Laboratories, Since 1878

Purgeable Organics by GC/MS

Lab #:	185504	Prep:	EPA 5030B
Client:	Camp, Dresser & McKee	Analysis:	EPA 8260B
Project#:	STANDARD		
Field ID:	OW-1	Units:	ug/L
Lab ID:	185504-002	Sampled:	03/13/06
Matrix:	Water	Received:	03/14/06

Analyte	Result	RL	Diln Fac	Batch#	Analyzed
Chlorobenzene	ND	630	1,250	111401	03/17/06
1,1,1,2-Tetrachloroethane	ND	630	1,250	111401	03/17/06
Ethylbenzene	ND	630	1,250	111401	03/17/06
m,p-Xylenes	ND	630	1,250	111401	03/17/06
o-Xylene	ND	630	1,250	111401	03/17/06
Styrene	ND	630	1,250	111401	03/17/06
Bromoform	ND	1,300	1,250	111401	03/17/06
Isopropylbenzene	ND	630	1,250	111401	03/17/06
1,1,2,2-Tetrachloroethane	ND	630	1,250	111401	03/17/06
1,2,3-Trichloropropane	ND	630	1,250	111401	03/17/06
Propylbenzene	ND	630	1,250	111401	03/17/06
Bromobenzene	ND	630	1,250	111401	03/17/06
1,3,5-Trimethylbenzene	ND	630	1,250	111401	03/17/06
2-Chlorotoluene	ND	630	1,250	111401	03/17/06
4-Chlorotoluene	ND	630	1,250	111401	03/17/06
tert-Butylbenzene	ND	630	1,250	111401	03/17/06
1,2,4-Trimethylbenzene	ND	630	1,250	111401	03/17/06
sec-Butylbenzene	ND	630	1,250	111401	03/17/06
para-Isopropyl Toluene	ND	630	1,250	111401	03/17/06
1,3-Dichlorobenzene	ND	630	1,250	111401	03/17/06
1,4-Dichlorobenzene	ND	630	1,250	111401	03/17/06
n-Butylbenzene	ND	630	1,250	111401	03/17/06
1,2-Dichlorobenzene	ND	630	1,250	111401	03/17/06
1,2-Dibromo-3-Chloropropane	ND	630	1,250	111401	03/17/06
1,2,4-Trichlorobenzene	ND	630	1,250	111401	03/17/06
Hexachlorobutadiene	ND	630	1,250	111401	03/17/06
Naphthalene	ND	2,500	1,250	111401	03/17/06
1,2,3-Trichlorobenzene	ND	630	1,250	111401	03/17/06

Surrogate	%REC	Limits	Diln Fac	Batch#	Analyzed
Dibromofluoromethane	119	80-120	1,250	111401	03/17/06
1,2-Dichloroethane-d4	110	80-130	1,250	111401	03/17/06
Toluene-d8	96	80-120	1,250	111401	03/17/06
Bromofluorobenzene	97	80-122	1,250	111401	03/17/06

ND= Not Detected
RL= Reporting Limit

Curtis & Tompkins, Ltd.
Analytical Laboratories, Since 1878

Semivolatile Organics by GC/MS

Lab #:	185504	Prep:	EPA 3520C
Client:	Camp, Dresser & McKee	Analysis:	EPA 8270C
Project#:	STANDARD		
Field ID:	OW-8	Batch#:	111390
Lab ID:	185504-001	Sampled:	03/13/06
Matrix:	Water	Received:	03/14/06
Units:	ug/L	Prepared:	03/16/06
Diln Fac:	1.000	Analyzed:	03/20/06

Analyte	Result	RL	MDL
N-Nitrosodimethylamine	ND	10	0.54
Phenol	11	10	
bis(2-Chloroethyl)ether	ND	10	
2-Chlorophenol	ND	10	
1,3-Dichlorobenzene	ND	10	
1,4-Dichlorobenzene	ND	10	
Benzyl alcohol	ND	10	
1,2-Dichlorobenzene	ND	10	
2-Methylphenol	ND	10	
bis(2-Chloroisopropyl) ether	ND	10	
4-Methylphenol	ND	10	
N-Nitroso-di-n-propylamine	ND	10	
Hexachloroethane	ND	10	
Nitrobenzene	ND	10	
Isophorone	ND	10	
2-Nitrophenol	ND	20	
2,4-Dimethylphenol	ND	10	
Benzoic acid	ND	50	
bis(2-Chloroethoxy)methane	ND	10	
2,4-Dichlorophenol	ND	10	
1,2,4-Trichlorobenzene	ND	10	
Naphthalene	ND	10	
4-Chloroaniline	ND	10	
Hexachlorobutadiene	ND	10	
4-Chloro-3-methylphenol	ND	10	
2-Methylnaphthalene	ND	10	
Hexachlorocyclopentadiene	ND	20	
2,4,6-Trichlorophenol	ND	10	
2,4,5-Trichlorophenol	ND	10	
2-Chloronaphthalene	ND	10	
2-Nitroaniline	ND	20	
Dimethylphthalate	ND	10	
Acenaphthylene	ND	10	
2,6-Dinitrotoluene	ND	10	
3-Nitroaniline	ND	20	
Acenaphthene	ND	10	
2,4-Dinitrophenol	ND	20	
4-Nitrophenol	ND	20	
Dibenzofuran	ND	10	
2,4-Dinitrotoluene	ND	10	
Diethylphthalate	ND	10	
Fluorene	ND	10	
4-Chlorophenyl-phenylether	ND	10	
4-Nitroaniline	ND	20	
4,6-Dinitro-2-methylphenol	ND	20	
N-Nitrosodiphenylamine	ND	10	
Azobenzene	ND	10	
4-Bromophenyl-phenylether	ND	10	
Hexachlorobenzene	ND	10	
Pentachlorophenol	ND	20	
Phenanthrene	ND	10	
Anthracene	ND	10	

*= Value outside of QC limits; see narrative
ND= Not Detected
RL= Reporting Limit
MDL= Method Detection Limit

Curtis & Tompkins, Ltd.
Analytical Laboratories, Since 1878

Semivolatile Organics by GC/MS

Lab #:	185504	Prep:	EPA 3520C
Client:	Camp, Dresser & McKee	Analysis:	EPA 8270C
Project#:	STANDARD		
Field ID:	OW-8	Batch#:	111390
Lab ID:	185504-001	Sampled:	03/13/06
Matrix:	Water	Received:	03/14/06
Units:	ug/L	Prepared:	03/16/06
Diln Fac:	1.000	Analyzed:	03/20/06

Analyte	Result	RL	MDL
Di-n-butylphthalate	ND	10	
Fluoranthene	ND	10	
Pyrene	ND	10	
Butylbenzylphthalate	ND	10	
3,3'-Dichlorobenzidine	ND	20	
Benzo(a)anthracene	ND	10	
Chrysene	ND	10	
bis(2-Ethylhexyl)phthalate	ND	10	
Di-n-octylphthalate	ND	10	
Benzo(b)fluoranthene	ND	10	
Benzo(k)fluoranthene	ND	10	
Benzo(a)pyrene	ND	10	
Indeno(1,2,3-cd)pyrene	ND	10	
Dibenz(a,h)anthracene	ND	10	
Benzo(g,h,i)perylene	ND	10	

Surrogate	%REC	Limits
2-Fluorophenol	3 *	36-120
Phenol-d5	76	32-120
2,4,6-Tribromophenol	94	37-120
Nitrobenzene-d5	69	48-120
2-Fluorobiphenyl	68	49-120
Terphenyl-d14	64	22-120

*= Value outside of QC limits; see narrative
ND= Not Detected
RL= Reporting Limit
MDL= Method Detection Limit

27.1

Curtis & Tompkins, Ltd.
Analytical Laboratories, Since 1878

Semivolatile Organics by GC/MS

Lab #:	185504	Prep:	EPA 3520C
Client:	Camp, Dresser & McKee	Analysis:	EPA 8270C
Project#:	STANDARD		
Field ID:	OW-1	Batch#:	111390
Lab ID:	185504-002	Sampled:	03/13/06
Matrix:	Water	Received:	03/14/06
Units:	ug/L	Prepared:	03/16/06
Diln Fac:	1.000	Analyzed:	03/20/06

Analyte	Result	RL	MDL
N-Nitrosodimethylamine	ND	10	0.54
Phenol	ND	10	
bis(2-Chloroethyl)ether	ND	10	
2-Chlorophenol	ND	10	
1,3-Dichlorobenzene	ND	10	
1,4-Dichlorobenzene	ND	10	
Benzyl alcohol	ND	10	
1,2-Dichlorobenzene	ND	10	
2-Methylphenol	ND	10	
bis(2-Chloroisopropyl) ether	ND	10	
4-Methylphenol	ND	10	
N-Nitroso-di-n-propylamine	ND	10	
Hexachloroethane	ND	10	
Nitrobenzene	ND	10	
Isophorone	ND	10	
2-Nitrophenol	ND	20	
2,4-Dimethylphenol	ND	10	
Benzoic acid	ND	50	
bis(2-Chloroethoxy)methane	ND	10	
2,4-Dichlorophenol	ND	10	
1,2,4-Trichlorobenzene	ND	10	
Naphthalene	ND	10	
4-Chloroaniline	ND	10	
Hexachlorobutadiene	ND	10	
4-Chloro-3-methylphenol	ND	10	
2-Methylnaphthalene	ND	10	
Hexachlorocyclopentadiene	ND	20	
2,4,6-Trichlorophenol	ND	10	
2,4,5-Trichlorophenol	ND	10	
2-Chloronaphthalene	ND	10	
2-Nitroaniline	ND	20	
Dimethylphthalate	ND	10	
Acenaphthylene	ND	10	
2,6-Dinitrotoluene	ND	10	
3-Nitroaniline	ND	20	
Acenaphthene	ND	10	
2,4-Dinitrophenol	ND	20	
4-Nitrophenol	ND	20	
Dibenzofuran	ND	10	
2,4-Dinitrotoluene	ND	10	
Diethylphthalate	ND	10	
Fluorene	ND	10	
4-Chlorophenyl-phenylether	ND	10	
4-Nitroaniline	ND	20	
4,6-Dinitro-2-methylphenol	ND	20	
N-Nitrosodiphenylamine	ND	10	
Azobenzene	ND	10	
4-Bromophenyl-phenylether	ND	10	
Hexachlorobenzene	ND	10	
Pentachlorophenol	ND	20	
Phenanthrene	ND	10	
Anthracene	ND	10	
Di-n-butylphthalate	ND	10	

ND= Not Detected
RL= Reporting Limit
MDL= Method Detection Limit

Curtis & Tompkins, Ltd.
Analytical Laboratories, Since 1878

Semivolatile Organics by GC/MS

Lab #:	185504	Prep:	EPA 3520C
Client:	Camp, Dresser & McKee	Analysis:	EPA 8270C
Project#:	STANDARD		
Field ID:	OW-1	Batch#:	111390
Lab ID:	185504-002	Sampled:	03/13/06
Matrix:	Water	Received:	03/14/06
Units:	ug/L	Prepared:	03/16/06
Diln Fac:	1.000	Analyzed:	03/20/06

Analyte	Result	RL	MDL
Fluoranthene	ND	10	
Pyrene	ND	10	
Butylbenzylphthalate	ND	10	
3,3'-Dichlorobenzidine	ND	20	
Benzo(a)anthracene	ND	10	
Chrysene	ND	10	
bis(2-Ethylhexyl)phthalate	ND	10	
Di-n-octylphthalate	ND	10	
Benzo(b)fluoranthene	ND	10	
Benzo(k)fluoranthene	ND	10	
Benzo(a)pyrene	ND	10	
Indeno(1,2,3-cd)pyrene	ND	10	
Dibenz(a,h)anthracene	ND	10	
Benzo(g,h,i)perylene	ND	10	

Surrogate	%REC	Limits
2-Fluorophenol	76	36-120
Phenol-d5	86	32-120
2,4,6-Tribromophenol	103	37-120
Nitrobenzene-d5	73	48-120
2-Fluorobiphenyl	74	49-120
Terphenyl-d14	85	22-120

ND= Not Detected
RL= Reporting Limit
MDL= Method Detection Limit

Curtis & Tompkins, Ltd.
Analytical Laboratories, Since 1878

1,4-Dioxane by 8270-SIM

Lab #:	185504	Prep:	EPA 3520C
Client:	Camp, Dresser & McKee	Analysis:	EPA 8270C-SIM
Project#:	STANDARD		
Matrix:	Water	Sampled:	03/13/06
Units:	ug/L	Received:	03/14/06
Batch#:	111438	Prepared:	03/19/06

Field ID:	OW-8	Diln Fac:	2,000
Type:	SAMPLE	Analyzed:	03/21/06
Lab ID:	185504-001		

Analyte	Result	RL
1,4-Dioxane	2,800	2,000

Surrogate	%REC	Limits
Nitrobenzene-d5	DO	43-146
2-Fluorobiphenyl	DO	40-120

Field ID:	OW-1	Diln Fac:	500.0
Type:	SAMPLE	Analyzed:	03/22/06
Lab ID:	185504-002		

Analyte	Result	RL
1,4-Dioxane	3,100	500

Surrogate	%REC	Limits
Nitrobenzene-d5	DO	43-146
2-Fluorobiphenyl	DO	40-120

Type:	BLANK	Diln Fac:	1.000
Lab ID:	QC332065	Analyzed:	03/20/06

Analyte	Result	RL
1,4-Dioxane	ND	1.0

Surrogate	%REC	Limits
Nitrobenzene-d5	127	43-146
2-Fluorobiphenyl	76	40-120

DO= Diluted Out
ND= Not Detected
RL= Reporting Limit

Curtis & Tompkins, Ltd.
Analytical Laboratories, Since 1878

Metals Analytical Report

Lab #:	185504	Prep:	EPA 3010A
Client:	Camp, Dresser & McKee	Analysis:	EPA 6010B
Project#:	STANDARD		
Matrix:	Water	Sampled:	03/13/06
Units:	ug/L	Received:	03/14/06
Diln Fac:	1.000	Prepared:	03/15/06
Batch#:	111325	Analyzed:	03/17/06

Field ID: OW-8 Lab ID: 185504-001
Type: SAMPLE

Analyte	Result	RL
Boron	310	100
Iron	1,300	100
Manganese	3,500	10

Field ID: OW-1 Lab ID: 185504-002
Type: SAMPLE

Analyte	Result	RL
Boron	290	100
Iron	1,900	100
Manganese	320	10

Type: BLANK Lab ID: QC331561

Analyte	Result	RL
Boron	ND	100
Iron	ND	100
Manganese	ND	10

ND= Not Detected
RL= Reporting Limit

Curtis & Tompkins, Ltd.
Analytical Laboratories, Since 1878

Hardness (Total)

Lab #:	185504	Prep:	EPA 3010A
Client:	Camp, Dresser & McKee	Analysis:	SM 2340B
Project#:	STANDARD		
Analyte:	Hardness as CaCO3	Sampled:	03/13/06
Matrix:	Water	Received:	03/14/06
Units:	mg/L	Prepared:	03/15/06
Batch#:	111325	Analyzed:	03/17/06

Field ID	Type	Lab ID	Result	RL	Diln Fac
OW-8	SAMPLE	185504-001	840	3.3	10.00
OW-1	SAMPLE	185504-002	560	3.3	10.00
	BLANK	QC331561	ND	3.3	1.000

ND= Not Detected
RL= Reporting Limit

Curtis & Tompkins, Ltd.
Analytical Laboratories, Since 1878

California Title 26 Metals

Lab #:	185504	Project#:	STANDARD
Client:	Camp, Dresser & McKee		
Field ID:	OW-8	Diln Fac:	1.000
Lab ID:	185504-001	Sampled:	03/13/06
Matrix:	Water	Received:	03/14/06
Units:	ug/L		

Analyte	Result	RL	Batch#	Prepared	Analyzed	Prep	Analysis
Antimony	ND	60	111325	03/15/06	03/17/06	EPA 3010A	EPA 6010B
Arsenic	ND	5.0	111325	03/15/06	03/17/06	EPA 3010A	EPA 6010B
Barium	47	10	111325	03/15/06	03/17/06	EPA 3010A	EPA 6010B
Beryllium	ND	2.0	111325	03/15/06	03/17/06	EPA 3010A	EPA 6010B
Cadmium	ND	5.0	111325	03/15/06	03/17/06	EPA 3010A	EPA 6010B
Chromium	ND	10	111325	03/15/06	03/17/06	EPA 3010A	EPA 6010B
Cobalt	ND	20	111325	03/15/06	03/17/06	EPA 3010A	EPA 6010B
Copper	ND	10	111325	03/15/06	03/17/06	EPA 3010A	EPA 6010B
Lead	ND	3.0	111325	03/15/06	03/17/06	EPA 3010A	EPA 6010B
Mercury	0.22	0.20	111370	03/16/06	03/16/06	METHOD	EPA 7470A
Molybdenum	ND	20	111325	03/15/06	03/17/06	EPA 3010A	EPA 6010B
Nickel	ND	20	111325	03/15/06	03/17/06	EPA 3010A	EPA 6010B
Selenium	ND	5.0	111325	03/15/06	03/17/06	EPA 3010A	EPA 6010B
Silver	ND	5.0	111325	03/15/06	03/17/06	EPA 3010A	EPA 6010B
Thallium	ND	5.0	111325	03/15/06	03/17/06	EPA 3010A	EPA 6010B
Vanadium	ND	10	111325	03/15/06	03/17/06	EPA 3010A	EPA 6010B
Zinc	ND	20	111325	03/15/06	03/17/06	EPA 3010A	EPA 6010B

ND= Not Detected
RL= Reporting Limit

Curtis & Tompkins, Ltd.
Analytical Laboratories, Since 1878

California Title 26 Metals

Lab #:	185504	Project#:	STANDARD
Client:	Camp, Dresser & McKee		
Field ID:	OW-1	Diln Fac:	1.000
Lab ID:	185504-002	Sampled:	03/13/06
Matrix:	Water	Received:	03/14/06
Units:	ug/L		

Analyte	Result	RL	Batch#	Prepared	Analyzed	Prep	Analysis
Antimony	ND	60	111325	03/15/06	03/17/06	EPA 3010A	EPA 6010B
Arsenic	ND	5.0	111325	03/15/06	03/17/06	EPA 3010A	EPA 6010B
Barium	51	10	111325	03/15/06	03/17/06	EPA 3010A	EPA 6010B
Beryllium	ND	2.0	111325	03/15/06	03/17/06	EPA 3010A	EPA 6010B
Cadmium	ND	5.0	111325	03/15/06	03/17/06	EPA 3010A	EPA 6010B
Chromium	ND	10	111325	03/15/06	03/17/06	EPA 3010A	EPA 6010B
Cobalt	ND	20	111325	03/15/06	03/17/06	EPA 3010A	EPA 6010B
Copper	ND	10	111325	03/15/06	03/17/06	EPA 3010A	EPA 6010B
Lead	ND	3.0	111325	03/15/06	03/17/06	EPA 3010A	EPA 6010B
Mercury	ND	0.20	111370	03/16/06	03/16/06	METHOD	EPA 7470A
Molybdenum	ND	20	111325	03/15/06	03/17/06	EPA 3010A	EPA 6010B
Nickel	ND	20	111325	03/15/06	03/17/06	EPA 3010A	EPA 6010B
Selenium	ND	5.0	111325	03/15/06	03/17/06	EPA 3010A	EPA 6010B
Silver	ND	5.0	111325	03/15/06	03/17/06	EPA 3010A	EPA 6010B
Thallium	ND	5.0	111325	03/15/06	03/17/06	EPA 3010A	EPA 6010B
Vanadium	ND	10	111325	03/15/06	03/17/06	EPA 3010A	EPA 6010B
Zinc	ND	20	111325	03/15/06	03/17/06	EPA 3010A	EPA 6010B

ND= Not Detected
RL= Reporting Limit

Curtis & Tompkins, Ltd.
Analytical Laboratories, Since 1878

Sulfate

Lab #:	185504	Prep:	METHOD
Client:	Camp, Dresser & McKee	Analysis:	EPA 300.0
Project#:	STANDARD		
Analyte:	Sulfate	Batch#:	111306
Matrix:	Water	Received:	03/14/06
Units:	mg/L		

Field ID	Type	Lab ID	Result	RL	Diln Fac	Sampled	Analyzed
OW-8	SAMPLE	185504-001	310	5.0	10.00	03/13/06 09:35	03/14/06 18:54
OW-1	SAMPLE	185504-002	190	2.5	5.000	03/13/06 13:35	03/14/06 16:50
	BLANK	QC331502	ND	0.50	1.000		03/14/06 14:59

ND= Not Detected
RL= Reporting Limit

Curtis & Tompkins, Ltd.
Analytical Laboratories, Since 1878

pH

Lab #:	185504	Prep:	METHOD
Client:	Camp, Dresser & McKee	Analysis:	EPA 9040B
Project#:	STANDARD		
Analyte:	pH	Batch#:	111308
Matrix:	Water	Received:	03/14/06
Units:	SU	Analyzed:	03/14/06 19:20
Diln Fac:	1.000		

Field ID	Lab ID	Result	RL	Sampled
OW-8	185504-001	6.7	1.0	03/13/06 09:35
OW-1	185504-002	6.8	1.0	03/13/06 13:35

RL= Reporting Limit

Curtis & Tompkins, Ltd.
Analytical Laboratories, Since 1878

Total Dissolved Solids (TDS)

Lab #:	185504	Prep:	METHOD
Client:	Camp, Dresser & McKee	Analysis:	EPA 160.1
Project#:	STANDARD		
Analyte:	Total Dissolved Solids	Sampled:	03/13/06
Matrix:	Water	Received:	03/14/06
Units:	mg/L	Analyzed:	03/20/06
Batch#:	111467		

Field ID	Type	Lab ID	Result	RL	Diln Fac
OW-8	SAMPLE	185504-001	1,140	50	5.000
OW-1	SAMPLE	185504-002	780	50	5.000
	BLANK	QC332180	ND	10	1.000

ND= Not Detected
RL= Reporting Limit

18.0

April 21, 2006

Ravi Subramanian, P.E.
CDM
18581 Teller Avenue, Suite 200
Irvine, California 92612

Dear Mr. Subramanian,

Trojan Technologies Inc. is pleased to submit this demonstration testing and recommendations report to CDM describing the performance of bench scale treatability testing and recommending sizing for the treatment of water for the chlorinated solvents/industrial contaminants treatment project. As a result of these tests, Trojan is able to make sizing recommendations for OW-1. It was determined that water testing was inconclusive for water collected from OW-8, and therefore Trojan will not present sizing estimates for water collected from OW-8. The reasons for these conclusions are described below.

DESCRIPTION OF TESTING

Water was sent to Trojan Technologies' headquarters in London, Ontario, Canada in March 2006. Two complete sets of tests were performed on these water samples collected from two on-site wells:

1. OW-1 and
2. OW-8.

For each sample, Trojan performed the following tests. Each test is briefly described.

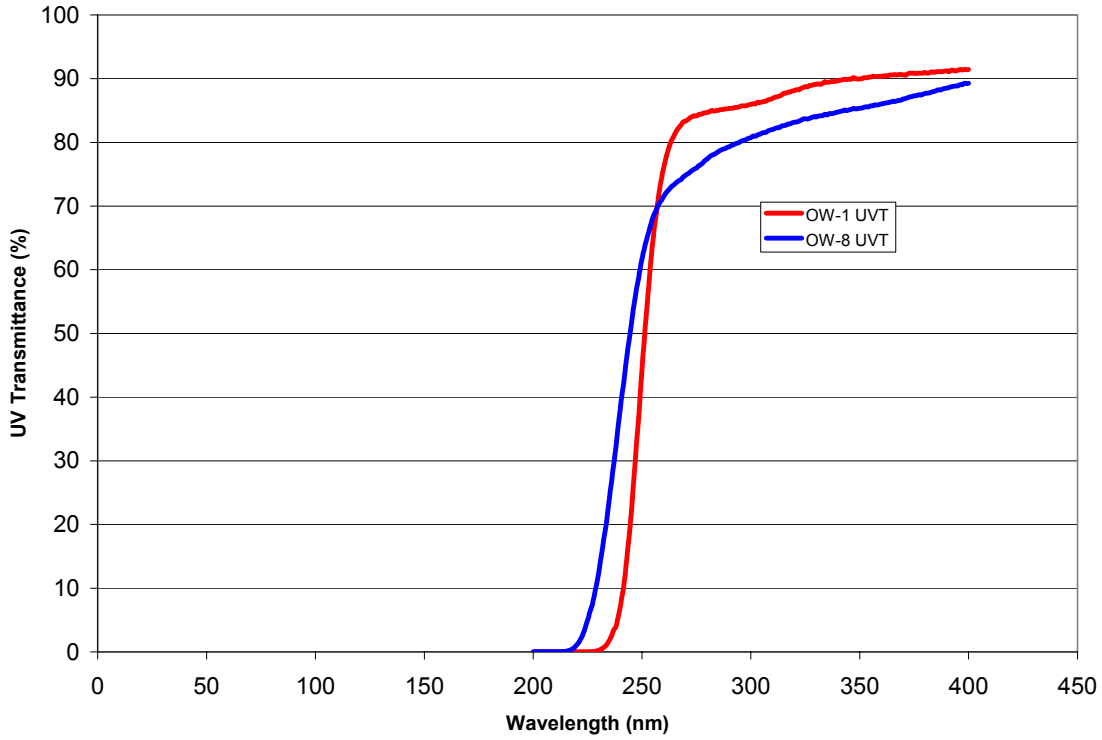
1. UV transmittance (UVT) analysis over the germicidal wavelength range (200-400 nanometers). A Cary 100 Spectrophotometer using a 1 cm-pathlength quartz cuvette was used to measure the absorbance of the water. Absorbance (A) was measured between 200 and 400 nm. Calibration of the instrument prior to each run was performed using Milli-Q water in the same 1 cm-pathlength cuvette.
2. Determination of background hydroxyl radical scavenging demand. To determine background hydroxyl scavenging demand, water samples were spiked with hydrogen peroxide and a photochemical reagent (parachlorobenzoic acid or PCBA) and exposed to a known amount of UV light (intensity and exposure time). Using Trojan's in-house GC/MS, concentrations of reagent were measured before and after irradiation.
3. Bench scale tests with Trojan's bench scale testing apparatus. Water was dosed with 80 parts per million (ppm) hydrogen peroxide and exposed to UV light in Trojan's bench-scale UV reactor. Water was then recirculated through the system using a centrifugal pump. Treatment of each sample was performed for a pre-determined length of time, a time based on current knowledge of water quality and that was thought to be required to reduce the concentration of 1,4-dioxane to below 3 micrograms per liter (µg/L). The predetermined procedure was to analyze treated water for 1,4-dioxane periodically to ensure that treatment to below 3 µg/L had been accomplished. However, this in practice was complicated by high concentrations of trichloroethylene (TCE), which interfered with the accurate measurement of 1,4-dioxane concentrations in Trojan's lab. Following treatment, water was sent to Curtis and Tompkins, 2323 5th Street, Berkeley, California 94710 for analysis.

RESULTS

UVT Measurements

A plot of untreated water UVT is shown in Figure 1 for samples collected from OW-1 and OW-8, respectively. UVT at 254 nanometers (nm), a key reference wavelength and the wavelength at which TrojanUVPhox™ UV lamps emit UV light, was measured at 61% and 67% for OW-1 and OW-8, respectively (over a 1 cm pathlength). These UVT values are relatively low.

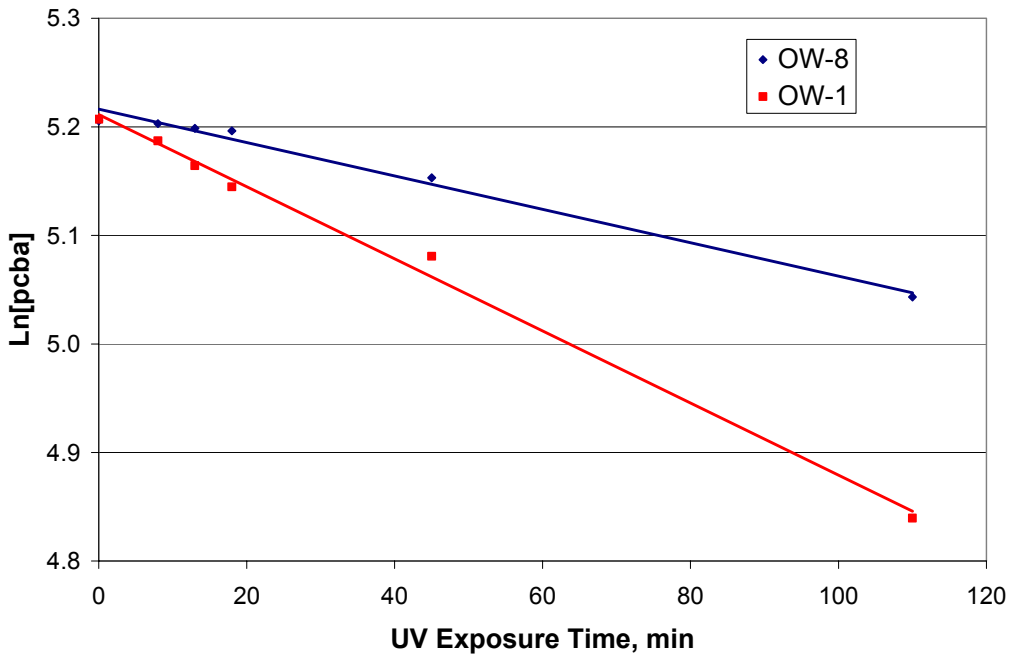
Figure 1. UVT of Untreated OW-1 and OW-8 samples



Hydroxyl Radical Scavenging Demand

Results of hydroxyl radical scavenging demand test are presented in Figure 2. The figure shows the natural log of the concentration of target reagent (PCBA) versus exposure time. The more rapid degradation of the target reagent compound in the OW-1 water indicates a smaller hydroxyl radical scavenging demand for that sample relative to the OW-8 sample. The high scavenging demand of OW-8 water is demonstrated by the relative difficulty observed in reducing the concentration of PCBA in the OW-8 sample versus the OW-1 sample. This is due to the presence of large amounts of organic compounds (as measured by the TOC measurement, reported after the tests at 26 ppm). The scavenging demand of OW-1 is much lower, as indicated by the more rapid degradation of the target reagent and is supported by the much lower TOC measurement (5.1 ppm).

Figure 2. Hydroxyl Radical Scavenging Capacity, Comparison of OW-1 & OW-8



Bench Scale Recirculation Tests

Selected analytical results for several key compounds pre- and post-treatment are listed below in Tables 1 and 2 for samples collected from OW-1 and OW-8, respectively.

Table 1. Selected results of pre- and post analytical testing for sample collected from OW-1

Compound	Untreated Water	Treated Water	Log Reduction	Notes
1,4-Dioxane	3,100	14	2.3	
TCE	2,200	7	2.5	
PCE	100,000	840	2.1	
1,1-DCE	1,500	6.3	2.4	(Treated Water is ND - RL listed)
1,1,1-TCA	3,700	1,300	0.5	
TOC	NA	5	NA	

Table 2. Selected results of pre- and post analytical testing for sample collected from OW-8

Compound	Untreated Water	Treated Water	Log Reduction	Notes
1,4-Dioxane	2,800	1,000	0.4	
TCE	1,200	120	1.0	
PCE	27,000	760	1.6	
1,1-DCE	860	13.0	1.8	(Treated Water is ND - RL listed)
1,1,1-TCA	200	72	NA	(Untreated Water is ND - RL listed)
TOC	NA	26	NA	

The bench-scale UV-oxidation system was able to achieve a 2.3 log reduction in 1,4-dioxane concentrations in water collected from OW-1. While the treated effluent concentrations were above the target (14 µg/L vs. a target of 3 µg/L), the significant log reduction allows Trojan to extrapolate to estimate full-scale treatment requirements. Also providing a measure of confidence in the overall results are the relatively consistent log reductions observed for TCE, PCE and 1,1-DCE. These reductions are in line with estimates. A sizing recommendation and quotation for the treatment of 1,4-dioxine in water represented by OW-1 is presented below.

Treatment of water collected from OW-8 was generally less successful. Due to the high background hydroxyl radical scavenging demand resulting from the high organic compound content, the UV-oxidation system achieved only a 0.4 log reduction in 1,4-dioxane concentrations. Due to the problems encountered with the GC-MS (interference of 1,4-dioxane measurement by TCE during the testing), Trojan increased the amount of recirculation time. However, even this increase was insufficient to treat 1,4-dioxane to the desired 3 ppb in the OW-8 test. Casting some doubt on the accuracy of the analytical results is the inconsistent log reductions observed for TCE, PCE and 1,1-DCE listed in Table 3. Theory predicts that the log reduction of 1,4-dioxane would be nearly equivalent to that of TCE in the same water (as observed in the treatment of OW-1), as the rate constants for hydroxyl radical degradation are nearly equivalent. Because that was not the case in the treatment of OW-8, some analytical complications may be present. In all, Trojan is not confident in the results of the testing of water collected from OW-8 and therefore will not present a sizing estimate.

RECOMMENDATIONS

Trojan recommends that the water collected from both OW-1 and OW-8 be treated with a biological or other pretreatment technology to increase the UVT and reduce the TOC present (and therefore the hydroxyl radical scavenging demand). An extrapolated sizing recommendation and quotation is presented below for water represented by the OW-1 sample. It is Trojan's belief that testing of water represented by OW-8 was inconclusive and therefore no sizing recommendation is provided.

QUOTATION

Trojan is pleased to provide this quotation for a TrojanUVPhox™ UV-oxidation system designed to treat 1,4-dioxane in water represented by the water sample collected from well OW-1. In addition to the treatment of 1,4-dioxane, significant degradation of *N*-nitrosodimethylamine (NDMA) will be achieved by the TrojanUVPhox™ system as well (>2 log reduction).

Treatment Scenario

Table 3 describes the design parameters considered.

Table 3. Design Parameters

Flow rate	30 GPM
UVT @ 254 nanometers	>60%
Target Contaminant	1,4-dioxane
Influent Concentration of Target Contaminant	3,100 µg/L
Required Effluent Concentration of Target Contaminant	<3 µg/L
Cost of electricity	$0.12 per kWh

Proposed TrojanUVPhox™ System Description

The proposed TrojanUVPhox™ UV-oxidation System consists of one (1) TrojanUVPhox™ Model D72AL75 reactor plus one (1) TrojanUVPhox™ Model D72AL75 reactor half-filled (operated in series), a hydrogen peroxide dosing and storage system, and a one-year supply of hydrogen peroxide. The pressurized UV system consists of a stainless steel reactor chamber, lamps, appropriate flanges, power distribution and control systems. The second D72AL75 consists of a single lamp bundle housed in chamber equivalent in size to the chamber used to house the D72AL75. This leaves one half of the chamber open for expansion in the event that treatment conditions change. An optional quartz sleeve wiping system is available. The hydrogen peroxide dosing and storage system consists of the primary and secondary metering pumps, interconnecting piping, remote monitoring equipment and a 3,000 gallon double-contained HDPE storage tank. The one year supply of hydrogen peroxide consists of 50% technical-grade hydrogen peroxide delivered to the site (limit 2,100 gallons). A device, such as a static mixer (not provided by Trojan), may be required to achieve uniform distribution of the hydrogen peroxide in the water stream. The hydrogen peroxide will be dosed upstream of the TrojanUVPhox™. All equipment has a one-year manufacturer's equipment warranty.

As part of the TrojanUVPhox™ UV-oxidation system, Trojan provides ongoing supply of hydrogen peroxide. Also, Trojan provides ongoing service support and application optimization as part of the hydrogen peroxide supply package. This includes remote monitoring through the ChemWatch™ system, automatically scheduled deliveries, automatic invoicing, remote diagnostics, and all handling of hydrogen peroxide (plant operators never need to come in direct contact with hydrogen peroxide). **This quotation includes hydrogen peroxide and the associated service program for the first year** (12 months following system start-up). In subsequent years, the package can be continued simply by purchasing hydrogen peroxide from Trojan. Due to the large volume of hydrogen peroxide delivered through Trojan, hydrogen peroxide can be provided at the lowest market prices.

The following (Table 4) are estimated power demand requirements and corresponding annual operation and maintenance costs:

Table 4. Estimated Operation and Maintenance Costs

Maximum Power Draw (kW)	55.5 kW
Annual Power Costs	$58,300
First year Hydrogen Peroxide Costs (80 ppm)	Included
Year 2+ Hydrogen Peroxide Costs (80 ppm)	$9,500
Annual Lamp Replacement Costs	$27,600
Total Annual O&M Costs (Year 1)	**$85,900**
Total Annual O&M Costs (Year 2+)	**$95,400**

Capital Equipment Quotation

The equipment purchase price of the system described above, including delivery to the site and two man-days of startup assistance, is $635,584.

Should you have any comments or questions please feel free to contact me anytime at 520-297-3637.

Sincerely,

Adam D. Festger, M.S.
Communications Coordinator, Environmental Contaminant Treatment
Trojan Technologies Inc.

Curtis & Tompkins, Ltd.
Analytical Laboratories, Since 1878

Purgeable Organics by GC/MS

Lab #:	185504	Prep:	EPA 5030B
Client:	Camp, Dresser & McKee	Analysis:	EPA 8260B
Project#:	STANDARD		
Field ID:	OW-8	Batch#:	111401
Lab ID:	185504-001	Sampled:	03/13/06
Matrix:	Water	Received:	03/14/06
Units:	ug/L	Analyzed:	03/17/06
Diln Fac:	400.0		

Analyte	Result	RL
Freon 12	ND	400
Chloromethane	ND	400
Vinyl Chloride	ND	200
Bromomethane	ND	400
Chloroethane	ND	400
Trichlorofluoromethane	410	400
Acetone	5,700	4,000
Freon 113	ND	2,000
1,1-Dichloroethene	860	200
Methylene Chloride	4,600	4,000
Carbon Disulfide	ND	200
MTBE	ND	200
trans-1,2-Dichloroethene	ND	200
Vinyl Acetate	ND	4,000
1,1-Dichloroethane	ND	200
2-Butanone	ND	4,000
cis-1,2-Dichloroethene	ND	200
2,2-Dichloropropane	ND	200
Chloroform	1,100	200
Bromochloromethane	ND	200
1,1,1-Trichloroethane	ND	200
1,1-Dichloropropene	ND	200
Carbon Tetrachloride	ND	200
1,2-Dichloroethane	450	200
Benzene	ND	200
Trichloroethene	1,200	200
1,2-Dichloropropane	ND	200
Bromodichloromethane	ND	200
Dibromomethane	ND	200
4-Methyl-2-Pentanone	ND	4,000
cis-1,3-Dichloropropene	ND	200
Toluene	ND	200
trans-1,3-Dichloropropene	ND	200
1,1,2-Trichloroethane	ND	200
2-Hexanone	ND	4,000
1,3-Dichloropropane	ND	200
Tetrachloroethene	27,000	200

ND= Not Detected
RL= Reporting Limit

Curtis & Tompkins, Ltd.
Analytical Laboratories, Since 1878

Purgeable Organics by GC/MS

Lab #:	185504	Prep:	EPA 5030B
Client:	Camp, Dresser & McKee	Analysis:	EPA 8260B
Project#:	STANDARD		
Field ID:	OW-8	Batch#:	111401
Lab ID:	185504-001	Sampled:	03/13/06
Matrix:	Water	Received:	03/14/06
Units:	ug/L	Analyzed:	03/17/06
Diln Fac:	400.0		

Analyte	Result	RL
Dibromochloromethane	ND	200
1,2-Dibromoethane	ND	200
Chlorobenzene	ND	200
1,1,1,2-Tetrachloroethane	ND	200
Ethylbenzene	ND	200
m,p-Xylenes	ND	200
o-Xylene	ND	200
Styrene	ND	200
Bromoform	ND	400
Isopropylbenzene	ND	200
1,1,2,2-Tetrachloroethane	ND	200
1,2,3-Trichloropropane	ND	200
Propylbenzene	ND	200
Bromobenzene	ND	200
1,3,5-Trimethylbenzene	ND	200
2-Chlorotoluene	ND	200
4-Chlorotoluene	ND	200
tert-Butylbenzene	ND	200
1,2,4-Trimethylbenzene	ND	200
sec-Butylbenzene	ND	200
para-Isopropyl Toluene	ND	200
1,3-Dichlorobenzene	ND	200
1,4-Dichlorobenzene	ND	200
n-Butylbenzene	ND	200
1,2-Dichlorobenzene	ND	200
1,2-Dibromo-3-Chloropropane	ND	200
1,2,4-Trichlorobenzene	ND	200
Hexachlorobutadiene	ND	200
Naphthalene	ND	800
1,2,3-Trichlorobenzene	ND	200

Surrogate	%REC	Limits
Dibromofluoromethane	118	80-120
1,2-Dichloroethane-d4	110	80-130
Toluene-d8	97	80-120
Bromofluorobenzene	99	80-122

ND= Not Detected
RL= Reporting Limit

Curtis & Tompkins, Ltd.
Analytical Laboratories, Since 1878

Purgeable Organics by GC/MS

Lab #:	185504	Prep:	EPA 5030B
Client:	Camp, Dresser & McKee	Analysis:	EPA 8260B
Project#:	STANDARD		
Field ID:	OW-1	Units:	ug/L
Lab ID:	185504-002	Sampled:	03/13/06
Matrix:	Water	Received:	03/14/06

Analyte	Result	RL	Diln Fac	Batch#	Analyzed
Freon 12	ND	1,300	1,250	111401	03/17/06
Chloromethane	ND	1,300	1,250	111401	03/17/06
Vinyl Chloride	ND	630	1,250	111401	03/17/06
Bromomethane	ND	1,300	1,250	111401	03/17/06
Chloroethane	ND	1,300	1,250	111401	03/17/06
Trichlorofluoromethane	ND	1,300	1,250	111401	03/17/06
Acetone	ND	13,000	1,250	111401	03/17/06
Freon 113	ND	6,300	1,250	111401	03/17/06
1,1-Dichloroethene	1,500	630	1,250	111401	03/17/06
Methylene Chloride	ND	13,000	1,250	111401	03/17/06
Carbon Disulfide	ND	630	1,250	111401	03/17/06
MTBE	ND	630	1,250	111401	03/17/06
trans-1,2-Dichloroethene	ND	630	1,250	111401	03/17/06
Vinyl Acetate	ND	13,000	1,250	111401	03/17/06
1,1-Dichloroethane	ND	630	1,250	111401	03/17/06
2-Butanone	ND	13,000	1,250	111401	03/17/06
cis-1,2-Dichloroethene	ND	630	1,250	111401	03/17/06
2,2-Dichloropropane	ND	630	1,250	111401	03/17/06
Chloroform	ND	630	1,250	111401	03/17/06
Bromochloromethane	ND	630	1,250	111401	03/17/06
1,1,1-Trichloroethane	3,700	630	1,250	111401	03/17/06
1,1-Dichloropropene	ND	630	1,250	111401	03/17/06
Carbon Tetrachloride	ND	630	1,250	111401	03/17/06
1,2-Dichloroethane	ND	630	1,250	111401	03/17/06
Benzene	ND	630	1,250	111401	03/17/06
Trichloroethene	2,200	630	1,250	111401	03/17/06
1,2-Dichloropropane	ND	630	1,250	111401	03/17/06
Bromodichloromethane	ND	630	1,250	111401	03/17/06
Dibromomethane	ND	630	1,250	111401	03/17/06
4-Methyl-2-Pentanone	ND	13,000	1,250	111401	03/17/06
cis-1,3-Dichloropropene	ND	630	1,250	111401	03/17/06
Toluene	ND	630	1,250	111401	03/17/06
trans-1,3-Dichloropropene	ND	630	1,250	111401	03/17/06
1,1,2-Trichloroethane	ND	630	1,250	111401	03/17/06
2-Hexanone	ND	13,000	1,250	111401	03/17/06
1,3-Dichloropropane	ND	630	1,250	111401	03/17/06
Tetrachloroethene	100,000	1,000	2,000	111489	03/21/06
Dibromochloromethane	ND	630	1,250	111401	03/17/06
1,2-Dibromoethane	ND	630	1,250	111401	03/17/06

ND= Not Detected
RL= Reporting Limit

Curtis & Tompkins, Ltd.
Analytical Laboratories, Since 1878

Purgeable Organics by GC/MS

Lab #:	185504	Prep:	EPA 5030B
Client:	Camp, Dresser & McKee	Analysis:	EPA 8260B
Project#:	STANDARD		
Field ID:	OW-1	Units:	ug/L
Lab ID:	185504-002	Sampled:	03/13/06
Matrix:	Water	Received:	03/14/06

Analyte	Result	RL	Diln Fac	Batch#	Analyzed
Chlorobenzene	ND	630	1,250	111401	03/17/06
1,1,1,2-Tetrachloroethane	ND	630	1,250	111401	03/17/06
Ethylbenzene	ND	630	1,250	111401	03/17/06
m,p-Xylenes	ND	630	1,250	111401	03/17/06
o-Xylene	ND	630	1,250	111401	03/17/06
Styrene	ND	630	1,250	111401	03/17/06
Bromoform	ND	1,300	1,250	111401	03/17/06
Isopropylbenzene	ND	630	1,250	111401	03/17/06
1,1,2,2-Tetrachloroethane	ND	630	1,250	111401	03/17/06
1,2,3-Trichloropropane	ND	630	1,250	111401	03/17/06
Propylbenzene	ND	630	1,250	111401	03/17/06
Bromobenzene	ND	630	1,250	111401	03/17/06
1,3,5-Trimethylbenzene	ND	630	1,250	111401	03/17/06
2-Chlorotoluene	ND	630	1,250	111401	03/17/06
4-Chlorotoluene	ND	630	1,250	111401	03/17/06
tert-Butylbenzene	ND	630	1,250	111401	03/17/06
1,2,4-Trimethylbenzene	ND	630	1,250	111401	03/17/06
sec-Butylbenzene	ND	630	1,250	111401	03/17/06
para-Isopropyl Toluene	ND	630	1,250	111401	03/17/06
1,3-Dichlorobenzene	ND	630	1,250	111401	03/17/06
1,4-Dichlorobenzene	ND	630	1,250	111401	03/17/06
n-Butylbenzene	ND	630	1,250	111401	03/17/06
1,2-Dichlorobenzene	ND	630	1,250	111401	03/17/06
1,2-Dibromo-3-Chloropropane	ND	630	1,250	111401	03/17/06
1,2,4-Trichlorobenzene	ND	630	1,250	111401	03/17/06
Hexachlorobutadiene	ND	630	1,250	111401	03/17/06
Naphthalene	ND	2,500	1,250	111401	03/17/06
1,2,3-Trichlorobenzene	ND	630	1,250	111401	03/17/06

Surrogate	%REC	Limits	Diln Fac	Batch#	Analyzed
Dibromofluoromethane	119	80-120	1,250	111401	03/17/06
1,2-Dichloroethane-d4	110	80-130	1,250	111401	03/17/06
Toluene-d8	96	80-120	1,250	111401	03/17/06
Bromofluorobenzene	97	80-122	1,250	111401	03/17/06

ND= Not Detected
RL= Reporting Limit

Curtis & Tompkins, Ltd.
Analytical Laboratories, Since 1878

Semivolatile Organics by GC/MS

Lab #:	185504	Prep:	EPA 3520C
Client:	Camp, Dresser & McKee	Analysis:	EPA 8270C
Project#:	STANDARD		
Field ID:	OW-8	Batch#:	111390
Lab ID:	185504-001	Sampled:	03/13/06
Matrix:	Water	Received:	03/14/06
Units:	ug/L	Prepared:	03/16/06
Diln Fac:	1.000	Analyzed:	03/20/06

Analyte	Result	RL	MDL
N-Nitrosodimethylamine	ND	10	0.54
Phenol	11	10	
bis(2-Chloroethyl)ether	ND	10	
2-Chlorophenol	ND	10	
1,3-Dichlorobenzene	ND	10	
1,4-Dichlorobenzene	ND	10	
Benzyl alcohol	ND	10	
1,2-Dichlorobenzene	ND	10	
2-Methylphenol	ND	10	
bis(2-Chloroisopropyl) ether	ND	10	
4-Methylphenol	ND	10	
N-Nitroso-di-n-propylamine	ND	10	
Hexachloroethane	ND	10	
Nitrobenzene	ND	10	
Isophorone	ND	10	
2-Nitrophenol	ND	20	
2,4-Dimethylphenol	ND	10	
Benzoic acid	ND	50	
bis(2-Chloroethoxy)methane	ND	10	
2,4-Dichlorophenol	ND	10	
1,2,4-Trichlorobenzene	ND	10	
Naphthalene	ND	10	
4-Chloroaniline	ND	10	
Hexachlorobutadiene	ND	10	
4-Chloro-3-methylphenol	ND	10	
2-Methylnaphthalene	ND	10	
Hexachlorocyclopentadiene	ND	20	
2,4,6-Trichlorophenol	ND	10	
2,4,5-Trichlorophenol	ND	10	
2-Chloronaphthalene	ND	10	
2-Nitroaniline	ND	20	
Dimethylphthalate	ND	10	
Acenaphthylene	ND	10	
2,6-Dinitrotoluene	ND	10	
3-Nitroaniline	ND	20	
Acenaphthene	ND	10	
2,4-Dinitrophenol	ND	20	
4-Nitrophenol	ND	20	
Dibenzofuran	ND	10	
2,4-Dinitrotoluene	ND	10	
Diethylphthalate	ND	10	
Fluorene	ND	10	
4-Chlorophenyl-phenylether	ND	10	
4-Nitroaniline	ND	20	
4,6-Dinitro-2-methylphenol	ND	20	
N-Nitrosodiphenylamine	ND	10	
Azobenzene	ND	10	
4-Bromophenyl-phenylether	ND	10	
Hexachlorobenzene	ND	10	
Pentachlorophenol	ND	20	
Phenanthrene	ND	10	
Anthracene	ND	10	

*= Value outside of QC limits; see narrative
ND= Not Detected
RL= Reporting Limit
MDL= Method Detection Limit

Curtis & Tompkins, Ltd.
Analytical Laboratories, Since 1878

Semivolatile Organics by GC/MS

Lab #:	185504	Prep:	EPA 3520C
Client:	Camp, Dresser & McKee	Analysis:	EPA 8270C
Project#:	STANDARD		
Field ID:	OW-8	Batch#:	111390
Lab ID:	185504-001	Sampled:	03/13/06
Matrix:	Water	Received:	03/14/06
Units:	ug/L	Prepared:	03/16/06
Diln Fac:	1.000	Analyzed:	03/20/06

Analyte	Result	RL	MDL
Di-n-butylphthalate	ND	10	
Fluoranthene	ND	10	
Pyrene	ND	10	
Butylbenzylphthalate	ND	10	
3,3'-Dichlorobenzidine	ND	20	
Benzo(a)anthracene	ND	10	
Chrysene	ND	10	
bis(2-Ethylhexyl)phthalate	ND	10	
Di-n-octylphthalate	ND	10	
Benzo(b)fluoranthene	ND	10	
Benzo(k)fluoranthene	ND	10	
Benzo(a)pyrene	ND	10	
Indeno(1,2,3-cd)pyrene	ND	10	
Dibenz(a,h)anthracene	ND	10	
Benzo(g,h,i)perylene	ND	10	

Surrogate	%REC	Limits
2-Fluorophenol	3 *	36-120
Phenol-d5	76	32-120
2,4,6-Tribromophenol	94	37-120
Nitrobenzene-d5	69	48-120
2-Fluorobiphenyl	68	49-120
Terphenyl-d14	64	22-120

*= Value outside of QC limits; see narrative
ND= Not Detected
RL= Reporting Limit
MDL= Method Detection Limit

27.1

Curtis & Tompkins, Ltd.
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Semivolatile Organics by GC/MS

Lab #:	185504	Prep:	EPA 3520C
Client:	Camp, Dresser & McKee	Analysis:	EPA 8270C
Project#:	STANDARD		
Field ID:	OW-1	Batch#:	111390
Lab ID:	185504-002	Sampled:	03/13/06
Matrix:	Water	Received:	03/14/06
Units:	ug/L	Prepared:	03/16/06
Diln Fac:	1.000	Analyzed:	03/20/06

Analyte	Result	RL	MDL
N-Nitrosodimethylamine	ND	10	0.54
Phenol	ND	10	
bis(2-Chloroethyl)ether	ND	10	
2-Chlorophenol	ND	10	
1,3-Dichlorobenzene	ND	10	
1,4-Dichlorobenzene	ND	10	
Benzyl alcohol	ND	10	
1,2-Dichlorobenzene	ND	10	
2-Methylphenol	ND	10	
bis(2-Chloroisopropyl) ether	ND	10	
4-Methylphenol	ND	10	
N-Nitroso-di-n-propylamine	ND	10	
Hexachloroethane	ND	10	
Nitrobenzene	ND	10	
Isophorone	ND	10	
2-Nitrophenol	ND	20	
2,4-Dimethylphenol	ND	10	
Benzoic acid	ND	50	
bis(2-Chloroethoxy)methane	ND	10	
2,4-Dichlorophenol	ND	10	
1,2,4-Trichlorobenzene	ND	10	
Naphthalene	ND	10	
4-Chloroaniline	ND	10	
Hexachlorobutadiene	ND	10	
4-Chloro-3-methylphenol	ND	10	
2-Methylnaphthalene	ND	10	
Hexachlorocyclopentadiene	ND	20	
2,4,6-Trichlorophenol	ND	10	
2,4,5-Trichlorophenol	ND	10	
2-Chloronaphthalene	ND	10	
2-Nitroaniline	ND	20	
Dimethylphthalate	ND	10	
Acenaphthylene	ND	10	
2,6-Dinitrotoluene	ND	10	
3-Nitroaniline	ND	20	
Acenaphthene	ND	10	
2,4-Dinitrophenol	ND	20	
4-Nitrophenol	ND	20	
Dibenzofuran	ND	10	
2,4-Dinitrotoluene	ND	10	
Diethylphthalate	ND	10	
Fluorene	ND	10	
4-Chlorophenyl-phenylether	ND	10	
4-Nitroaniline	ND	20	
4,6-Dinitro-2-methylphenol	ND	20	
N-Nitrosodiphenylamine	ND	10	
Azobenzene	ND	10	
4-Bromophenyl-phenylether	ND	10	
Hexachlorobenzene	ND	10	
Pentachlorophenol	ND	20	
Phenanthrene	ND	10	
Anthracene	ND	10	
Di-n-butylphthalate	ND	10	

ND= Not Detected
RL= Reporting Limit
MDL= Method Detection Limit

Curtis & Tompkins, Ltd.
Analytical Laboratories, Since 1878

Semivolatile Organics by GC/MS

Lab #:	185504	Prep:	EPA 3520C
Client:	Camp, Dresser & McKee	Analysis:	EPA 8270C
Project#:	STANDARD		
Field ID:	OW-1	Batch#:	111390
Lab ID:	185504-002	Sampled:	03/13/06
Matrix:	Water	Received:	03/14/06
Units:	ug/L	Prepared:	03/16/06
Diln Fac:	1.000	Analyzed:	03/20/06

Analyte	Result	RL	MDL
Fluoranthene	ND	10	
Pyrene	ND	10	
Butylbenzylphthalate	ND	10	
3,3'-Dichlorobenzidine	ND	20	
Benzo(a)anthracene	ND	10	
Chrysene	ND	10	
bis(2-Ethylhexyl)phthalate	ND	10	
Di-n-octylphthalate	ND	10	
Benzo(b)fluoranthene	ND	10	
Benzo(k)fluoranthene	ND	10	
Benzo(a)pyrene	ND	10	
Indeno(1,2,3-cd)pyrene	ND	10	
Dibenz(a,h)anthracene	ND	10	
Benzo(g,h,i)perylene	ND	10	

Surrogate	%REC	Limits
2-Fluorophenol	76	36-120
Phenol-d5	86	32-120
2,4,6-Tribromophenol	103	37-120
Nitrobenzene-d5	73	48-120
2-Fluorobiphenyl	74	49-120
Terphenyl-d14	85	22-120

ND= Not Detected
RL= Reporting Limit
MDL= Method Detection Limit

Curtis & Tompkins, Ltd.
Analytical Laboratories, Since 1878

1,4-Dioxane by 8270-SIM

Lab #:	185504	Prep:	EPA 3520C
Client:	Camp, Dresser & McKee	Analysis:	EPA 8270C-SIM
Project#:	STANDARD		
Matrix:	Water	Sampled:	03/13/06
Units:	ug/L	Received:	03/14/06
Batch#:	111438	Prepared:	03/19/06

Field ID:	OW-8	Diln Fac:	2,000
Type:	SAMPLE	Analyzed:	03/21/06
Lab ID:	185504-001		

Analyte	Result	RL
1,4-Dioxane	2,800	2,000

Surrogate	%REC	Limits
Nitrobenzene-d5	DO	43-146
2-Fluorobiphenyl	DO	40-120

Field ID:	OW-1	Diln Fac:	500.0
Type:	SAMPLE	Analyzed:	03/22/06
Lab ID:	185504-002		

Analyte	Result	RL
1,4-Dioxane	3,100	500

Surrogate	%REC	Limits
Nitrobenzene-d5	DO	43-146
2-Fluorobiphenyl	DO	40-120

Type:	BLANK	Diln Fac:	1.000
Lab ID:	QC332065	Analyzed:	03/20/06

Analyte	Result	RL
1,4-Dioxane	ND	1.0

Surrogate	%REC	Limits
Nitrobenzene-d5	127	43-146
2-Fluorobiphenyl	76	40-120

DO= Diluted Out
ND= Not Detected
RL= Reporting Limit

Curtis & Tompkins, Ltd.
Analytical Laboratories, Since 1878

Metals Analytical Report

Lab #:	185504	Prep:	EPA 3010A
Client:	Camp, Dresser & McKee	Analysis:	EPA 6010B
Project#:	STANDARD		
Matrix:	Water	Sampled:	03/13/06
Units:	ug/L	Received:	03/14/06
Diln Fac:	1.000	Prepared:	03/15/06
Batch#:	111325	Analyzed:	03/17/06

Field ID: OW-8 Lab ID: 185504-001
Type: SAMPLE

Analyte	Result	RL
Boron	310	100
Iron	1,300	100
Manganese	3,500	10

Field ID: OW-1 Lab ID: 185504-002
Type: SAMPLE

Analyte	Result	RL
Boron	290	100
Iron	1,900	100
Manganese	320	10

Type: BLANK Lab ID: QC331561

Analyte	Result	RL
Boron	ND	100
Iron	ND	100
Manganese	ND	10

ND= Not Detected
RL= Reporting Limit

Curtis & Tompkins, Ltd.
Analytical Laboratories, Since 1878

Hardness (Total)

Lab #:	185504	Prep:	EPA 3010A
Client:	Camp, Dresser & McKee	Analysis:	SM 2340B
Project#:	STANDARD		
Analyte:	Hardness as CaCO3	Sampled:	03/13/06
Matrix:	Water	Received:	03/14/06
Units:	mg/L	Prepared:	03/15/06
Batch#:	111325	Analyzed:	03/17/06

Field ID	Type	Lab ID	Result	RL	Diln Fac
OW-8	SAMPLE	185504-001	840	3.3	10.00
OW-1	SAMPLE	185504-002	560	3.3	10.00
	BLANK	QC331561	ND	3.3	1.000

ND= Not Detected
RL= Reporting Limit

Curtis & Tompkins, Ltd.
Analytical Laboratories, Since 1878

California Title 26 Metals

Lab #:	185504	Project#:	STANDARD
Client:	Camp, Dresser & McKee		
Field ID:	OW-8	Diln Fac:	1.000
Lab ID:	185504-001	Sampled:	03/13/06
Matrix:	Water	Received:	03/14/06
Units:	ug/L		

Analyte	Result	RL	Batch#	Prepared	Analyzed	Prep	Analysis
Antimony	ND	60	111325	03/15/06	03/17/06	EPA 3010A	EPA 6010B
Arsenic	ND	5.0	111325	03/15/06	03/17/06	EPA 3010A	EPA 6010B
Barium	47	10	111325	03/15/06	03/17/06	EPA 3010A	EPA 6010B
Beryllium	ND	2.0	111325	03/15/06	03/17/06	EPA 3010A	EPA 6010B
Cadmium	ND	5.0	111325	03/15/06	03/17/06	EPA 3010A	EPA 6010B
Chromium	ND	10	111325	03/15/06	03/17/06	EPA 3010A	EPA 6010B
Cobalt	ND	20	111325	03/15/06	03/17/06	EPA 3010A	EPA 6010B
Copper	ND	10	111325	03/15/06	03/17/06	EPA 3010A	EPA 6010B
Lead	ND	3.0	111325	03/15/06	03/17/06	EPA 3010A	EPA 6010B
Mercury	0.22	0.20	111370	03/16/06	03/16/06	METHOD	EPA 7470A
Molybdenum	ND	20	111325	03/15/06	03/17/06	EPA 3010A	EPA 6010B
Nickel	ND	20	111325	03/15/06	03/17/06	EPA 3010A	EPA 6010B
Selenium	ND	5.0	111325	03/15/06	03/17/06	EPA 3010A	EPA 6010B
Silver	ND	5.0	111325	03/15/06	03/17/06	EPA 3010A	EPA 6010B
Thallium	ND	5.0	111325	03/15/06	03/17/06	EPA 3010A	EPA 6010B
Vanadium	ND	10	111325	03/15/06	03/17/06	EPA 3010A	EPA 6010B
Zinc	ND	20	111325	03/15/06	03/17/06	EPA 3010A	EPA 6010B

ND= Not Detected
RL= Reporting Limit

Curtis & Tompkins, Ltd.
Analytical Laboratories, Since 1878

California Title 26 Metals

Lab #:	185504	Project#:	STANDARD
Client:	Camp, Dresser & McKee		
Field ID:	OW-1	Diln Fac:	1.000
Lab ID:	185504-002	Sampled:	03/13/06
Matrix:	Water	Received:	03/14/06
Units:	ug/L		

Analyte	Result	RL	Batch#	Prepared	Analyzed	Prep	Analysis
Antimony	ND	60	111325	03/15/06	03/17/06	EPA 3010A	EPA 6010B
Arsenic	ND	5.0	111325	03/15/06	03/17/06	EPA 3010A	EPA 6010B
Barium	51	10	111325	03/15/06	03/17/06	EPA 3010A	EPA 6010B
Beryllium	ND	2.0	111325	03/15/06	03/17/06	EPA 3010A	EPA 6010B
Cadmium	ND	5.0	111325	03/15/06	03/17/06	EPA 3010A	EPA 6010B
Chromium	ND	10	111325	03/15/06	03/17/06	EPA 3010A	EPA 6010B
Cobalt	ND	20	111325	03/15/06	03/17/06	EPA 3010A	EPA 6010B
Copper	ND	10	111325	03/15/06	03/17/06	EPA 3010A	EPA 6010B
Lead	ND	3.0	111325	03/15/06	03/17/06	EPA 3010A	EPA 6010B
Mercury	ND	0.20	111370	03/16/06	03/16/06	METHOD	EPA 7470A
Molybdenum	ND	20	111325	03/15/06	03/17/06	EPA 3010A	EPA 6010B
Nickel	ND	20	111325	03/15/06	03/17/06	EPA 3010A	EPA 6010B
Selenium	ND	5.0	111325	03/15/06	03/17/06	EPA 3010A	EPA 6010B
Silver	ND	5.0	111325	03/15/06	03/17/06	EPA 3010A	EPA 6010B
Thallium	ND	5.0	111325	03/15/06	03/17/06	EPA 3010A	EPA 6010B
Vanadium	ND	10	111325	03/15/06	03/17/06	EPA 3010A	EPA 6010B
Zinc	ND	20	111325	03/15/06	03/17/06	EPA 3010A	EPA 6010B

ND= Not Detected
RL= Reporting Limit

Curtis & Tompkins, Ltd.
Analytical Laboratories, Since 1878

Sulfate

Lab #:	185504	Prep:	METHOD
Client:	Camp, Dresser & McKee	Analysis:	EPA 300.0
Project#:	STANDARD		
Analyte:	Sulfate	Batch#:	111306
Matrix:	Water	Received:	03/14/06
Units:	mg/L		

Field ID	Type	Lab ID	Result	RL	Diln Fac	Sampled	Analyzed
OW-8	SAMPLE	185504-001	310	5.0	10.00	03/13/06 09:35	03/14/06 18:54
OW-1	SAMPLE	185504-002	190	2.5	5.000	03/13/06 13:35	03/14/06 16:50
	BLANK	QC331502	ND	0.50	1.000		03/14/06 14:59

ND= Not Detected
RL= Reporting Limit

Curtis & Tompkins, Ltd.
Analytical Laboratories, Since 1878

pH

Lab #:	185504	Prep:	METHOD
Client:	Camp, Dresser & McKee	Analysis:	EPA 9040B
Project#:	STANDARD		
Analyte:	pH	Batch#:	111308
Matrix:	Water	Received:	03/14/06
Units:	SU	Analyzed:	03/14/06 19:20
Diln Fac:	1.000		

Field ID	Lab ID	Result	RL	Sampled
OW-8	185504-001	6.7	1.0	03/13/06 09:35
OW-1	185504-002	6.8	1.0	03/13/06 13:35

RL= Reporting Limit

Curtis & Tompkins, Ltd.
Analytical Laboratories, Since 1878

Total Dissolved Solids (TDS)

Lab #:	185504	Prep:	METHOD
Client:	Camp, Dresser & McKee	Analysis:	EPA 160.1
Project#:	STANDARD		
Analyte:	Total Dissolved Solids	Sampled:	03/13/06
Matrix:	Water	Received:	03/14/06
Units:	mg/L	Analyzed:	03/20/06
Batch#:	111467		

Field ID	Type	Lab ID	Result	RL	Diln Fac
OW-8	SAMPLE	185504-001	1,140	50	5.000
OW-1	SAMPLE	185504-002	780	50	5.000
	BLANK	QC332180	ND	10	1.000

ND= Not Detected
RL= Reporting Limit

18.0

Attachment B
Field Data

CDM

EW-1

AQUIFER PUMP TEST DATA

24 HR PUMP TEST EW1 - EW5
EW1 = 10 gpm

PAGE 1 OF ____

SITE NUMBER ____ CLIENT OMEGA LOCATION WHITCHER PERSONNEL [illegible]
JOB NUMBER 10500 ELEVATIONS: MEASURING POINT TO-[illegible] FT GROUND SURFACE ____ FT
PUMPED WELL NUMBER EW-1 STATIC WATER LEVEL 67.86 FT
OBSERVATION WELL NUMBER ____ THICKNESS OF SCREENED INTERVAL ____ RADIUS OF PUMPED WELL Ø = 6" FT
DISTANCE BETWEEN PUMPED & OBSERVATION WELLS ____ FT

DATE	HOUR	TIME MINUTES PUMPING t	TIME MINUTES RECOVERY t'	t/t'	DEPTH TO WATER BMP (FEET)	WATER LEVEL ELEVATION (FEET)	DRAWDOWN s (FEET)	Δs	RESIDUAL DRAWDOWN s' (FEET)	DISCHARGE (GPM)	REMARKS
9/13/06	1845	Start test			67.86	[illegible]					TOT [illegible] gal
	1958				70.33					9.93	TOT = 1,301
	2100				70.40						TOT = 1,926
	2154				70.46						TOT = 2,470
	2251				70.51						TOT = 3,045
9/14/06	0005				70.55						TOT = 3,795
	0058				70.60					10.07	TOT = 4,331
	0156				70.64						TOT 4,919
	0300				70.69					10.17	TOT = 5,570
	0356				70.75						TOT = 6,138
	0500				70.74						T = 6690
	0600				70.79					10.1	T = 7370
	0756				70.79					10.3	
	0856				70.81					10.2	
	0956				70.84					10.2	
	1037				71.50	CHANGED	FLOW RATE	@ 1034	Q = 13.2 gpm		T = 1024
	1204				71.62					13.3	
	1304				71.69					13.2	
	1400				71.68						T = 1292.5

CAMP DRESSER & McKEE INC.

EW-1

AQUIFER PUMP TEST DATA

PROJECT OMEGA

WELL NO. EW-1

PAGE 2 OF

DATE	HOUR	TIME MINUTES PUMPING	TIME MINUTES RECOVERY	t/t'	DEPTH TO WATER BMP (FEET)	WATER LEVEL ELEVATION (FEET)	DRAWDOWN s (FEET)	Δs	RESIDUAL DRAWDOWN s' (FEET)	DISCHARGE (GPM)	REMARKS
9/14/06	1452				71.79						
	1552				71.80						T= 13639
	1656				71.82					13.1gpm	T= 14418
	1816	Stop	test							~~5.16~~	T= 15267
	1915				68.61						
	2014				68.58						
	2116				68.56						

CAMP DRESSER & McKEE INC.

EW-2

AQUIFER PUMP TEST DATA

24 HR APT EW1 - EW2
EW2 = 6.0 gpm

PAGE 1 OF ____

SITE NUMBER ____ CLIENT OMEGA LOCATION [illegible] PERSONNEL KELLY / PEARL
JOB NUMBER ____ ELEVATIONS: MEASURING POINT TOS FT GROUND SURFACE ____ FT
PUMPED WELL NUMBER EW-2 STATIC WATER LEVEL 66.53 FT
OBSERVATION WELL NUMBER ____ THICKNESS OF SCREENED INTERVAL ____ RADIUS OF PUMPED WELL Ø=6" FT
DISTANCE BETWEEN PUMPED & OBSERVATION WELLS ____ FT

* Q cannot be adjusted - valve completely OPEN

DATE	HOUR	TIME MINUTES PUMPING t	TIME MINUTES RECOVERY t'	t/t'	DEPTH TO WATER BMP (FEET)	WATER LEVEL ELEVATION (FEET)	DRAWDOWN s (FEET)	Δs	RESIDUAL DRAWDOWN s' (FEET)	DISCHARGE (GPM)	REMARKS
9/13/06	1845	Start test			66.53	(STATIC)					TOT = 726 gal
	1956				69.25?	Bad WL meter?				5.5*	TOT = 1,120 gal
	2057				67.31						TOT 1,466
	2151				67.36						TOT 1767
	2249				67.40						TOT 2092
9/14/06	002				67.44						TOT 2500
	055				67.46					6.0	TOT 2797
	153				67.49						TOT 3120
	258				67.53					5.6	TOT 3484
	354				67.57						TOT 3796
	0454				67.60						T = 4105
	0554				67.62					5.7	T = 4470
	0755				67.69					5.6	
	0855				67.78					5.6	
	0954				67.65					5.6	
	1052				67.77					5.6	
	1202				67.71					5.6	
	1303				67.84					5.6	
	1358				67.84						T = 7155

CAMP DRESSER & McKEE INC.

EW-2

AQUIFER PUMP TEST DATA

PROJECT OMEGA

WELL NO. EW-2

PAGE 2 OF

DATE	HOUR	TIME MINUTES PUMPING	TIME MINUTES RECOVERY	t/t'	DEPTH TO WATER BMP (FEET)	WATER LEVEL ELEVATION (FEET)	DRAWDOWN S (FEET)	ΔS	RESIDUAL DRAWDOWN S' (FEET)	DISCHARGE (GPM)	REMARKS
9/14/06	1451				67.81						
	1551				67.91						T= 7451
	1655				6791						T= 7775
	1816	Stop test									T= 8128
	1917				67.38						
	2015				67.27						
	2118				67.31						

CAMP DRESSER & McKEE INC.

EW-3

AQUIFER PUMP TEST DATA

24 HR APT EW1 EW3

EW3 = 6.0 gpm

PAGE 1 OF ____

SITE NUMBER ____ CLIENT OMEGA LOCATION [illegible] PERSONNEL PEARL P / KELLY

JOB NUMBER ____ ELEVATIONS: MEASURING POINT TOS FT GROUND SURFACE ____ FT

PUMPED WELL NUMBER EW-3 STATIC WATER LEVEL 65.03 FT

OBSERVATION WELL NUMBER ____ THICKNESS OF SCREENED INTERVAL ____ RADIUS OF PUMPED WELL Φ=6" FT

DISTANCE BETWEEN PUMPED & OBSERVATION WELLS ____ FT

DATE	HOUR	TIME MINUTES PUMPING t	TIME MINUTES RECOVERY t'	t/t'	DEPTH TO WATER BMP (FEET)	WATER LEVEL ELEVATION (FEET)	DRAWDOWN s (FEET)	Δs	RESIDUAL DRAWDOWN s' (FEET)	DISCHARGE (GPM)	REMARKS
9/13/06	1845	Start test			65.03	(STATIC)					TOT=746 gal
	1950				81.98?					6.3	TOT=1,155
	2000	slowed pump to ~			5.1 gpm						
	2055				68.08						TOT 1,486 gal
	2149				68.62						TOT 1753
	2246				68.61						TOT 2075
	2359				68.64						TOT 2482
9/14/06	052				68.54	turned ↓				5.51	TOT 2770
	150				68.48						TOT 3074
	255				68.46					5.06	TOT 3403
	348				68.41	↑ to ~ 5.8 gpm					TOT 3664
	0448				67.79						T=3980
	0548				69.29					6.0	T=4410
	0753				69.1					5.7	
	0853				69.11					5.6	
	0951				69.04					5.6	
	1050				69.00					5.7	
	1200				68.96					5.6	
	1300				69.02					5.7	

CAMP DRESSER & McKEE INC.

EW-3

AQUIFER PUMP TEST DATA

PROJECT _____

WELL NO. EW-3

PAGE 2 OF ___

DATE	HOUR	TIME MINUTES PUMPING	TIME MINUTES RECOVERY	t/t'	DEPTH TO WATER BMP (FEET)	WATER LEVEL ELEVATION (FEET)	DRAWDOWN s (FEET)	Δs	RESIDUAL DRAWDOWN s' (FEET)	DISCHARGE (GPM)	REMARKS
09/24/06	1356				69.03						
	1448				69.03						T = 7120
	1558				69.09						T = 7401
	1654				69.04						T = 7735
	1816	Step test									T = 8078
	1919				67.17						
	2017				65.84						
	2119				65.76						

CAMP DRESSER & McKEE INC.

EW-4

AQUIFER PUMP TEST DATA

24 HR PUMP EW3

EW4 - 2.00 gpm

PAGE 1 OF ____

SITE NUMBER ____ CLIENT OMEGA LOCATION WHITTIER PERSONNEL PEARL / KELLY

JOB NUMBER ____ ELEVATIONS: MEASURING POINT TOS FT GROUND SURFACE ____ FT

PUMPED WELL NUMBER EW-4 STATIC WATER LEVEL 63.88 FT

OBSERVATION WELL NUMBER ____ THICKNESS OF SCREENED INTERVAL ____ RADIUS OF PUMPED WELL Ø = 6" FT

DISTANCE BETWEEN PUMPED & OBSERVATION WELLS ____ FT

DATE	HOUR	TIME MINUTES PUMPING t	TIME MINUTES RECOVERY t'	t/t'	DEPTH TO WATER BMP (FEET)	WATER LEVEL ELEVATION (FEET)	DRAWDOWN s (FEET)	Δs	RESIDUAL DRAWDOWN s' (FEET)	DISCHARGE (GPM)	REMARKS
9/13/06	1845	Start test			63.88	(static)					TOT: 344 gal
	1947				66.65					1.98	TOT 467 gal
	2047				66.85						TOT 578 gal
	2146				66.93						TOT 688 gal
	2144				66.99						TOT 785 gal
	2256				67.09						TOT 929
9/14/06	049				67.12					1.88	TOT 1028
	147				67.16						TOT 1124
	251				67.22					1.86	TOT 1243
	346				67.26						TOT = 1,344
	0446				67.30						T = 1445
	0546				67.25					Q = 1.2 ↑ Q = 2.0	T = 1575
	0748				67.85					2.1	
	0852				67.9					2.1	
	0946				67.93					2.1	
	1048				68.01					2.1	
	1156				68.09					2.1	
	1250				68.06					2.1	
	1353				68.09						T = 2590

CAMP DRESSER & McKEE INC.

EW-4

AQUIFER PUMP TEST DATA

PROJECT OMEGA

WELL NO. EW-4

PAGE 2 OF

DATE	HOUR	TIME MINUTES PUMPING	TIME MINUTES RECOVERY	t/t'	DEPTH TO WATER BMP (FEET)	WATER LEVEL ELEVATION (FEET)	DRAWDOWN s (FEET)	Δs	RESIDUAL DRAWDOWN s' (FEET)	DISCHARGE (GPM)	REMARKS
9/24/06	1455				68.11						
	1548				68.18						T=2716
	1650				68.28						T=2830
	1816	Step test									T: 2967
	1925				64.93						
	2020				64.78						
	2123				64.66						

CAMP DRESSER & McKEE INC.

EW-5

AQUIFER PUMP TEST DATA

24HR APT EW1 EW5

EW5 = 1.86 gpm

PAGE 1 OF ____

SITE NUMBER ____ CLIENT OMEGA LOCATION WHITTIER PERSONNEL KELLY K / PEARL P

JOB NUMBER 10500 ELEVATIONS: MEASURING POINT TOS FT GROUND SURFACE ____ FT

PUMPED WELL NUMBER EW-5 STATIC WATER LEVEL 62.25 FT

OBSERVATION WELL NUMBER ____ THICKNESS OF SCREENED INTERVAL ____ RADIUS OF PUMPED WELL Ø=6" FT

DISTANCE BETWEEN PUMPED & OBSERVATION WELLS ____ FT

DATE	HOUR	TIME MINUTES PUMPING t	TIME MINUTES RECOVERY t'	t/t'	DEPTH TO WATER BMP (FEET)	WATER LEVEL ELEVATION (FEET)	DRAWDOWN s (FEET)	Δs	RESIDUAL DRAWDOWN s' (FEET)	DISCHARGE (GPM)	REMARKS
9/13/06	1845	Start test			62.25	(STATIC)					TOT = 200 gal
	1944				65.40					1.66	TOT = 298
	2044				65.56						TOT = 397
	2144				65.51						TOT 496
	2241				65.59						TOT 591
	2354				65.65						TOT 711
9/14/06	0046				65.58					1.65	TOT 795
	144				66.18						TOT 904
	243				66.25	turned up	pump ~	2.2 gpm		1.86	TOT = 1014
	0343				66.96						TOT 1144
	0445				67.04						T = 1260
	0545				67.11						T = 1405
	0751				67.14					2.1	
	0848				67.21					2.1	
	0950				67.21					2.1	
	1046				67.27					2.1	
	1148				67.30					2.1	
	1248				67.35					2.1	
	1355				67.39						T = 2425

CAMP DRESSER & McKEE INC.

EW-5

AQUIFER PUMP TEST DATA

PROJECT OMEGA

WELL NO. EW-5

PAGE 2 OF

DATE	HOUR	TIME MINUTES PUMPING	TIME MINUTES RECOVERY	t/t'	DEPTH TO WATER BMP (FEET)	WATER LEVEL ELEVATION (FEET)	DRAWDOWN s (FEET)	Δs	RESIDUAL DRAWDOWN s' (FEET)	DISCHARGE (GPM)	REMARKS
9/14/06	1457				67.39						
	1547				67.43						T = 2554
	1652				67.44						T = 2665
	1816	Stop test									T = 2792
	1923				62.85						
	2022				62.64						
	2120				62.71						

CAMP DRESSER & McKEE INC.

OW-1

AQUIFER PUMP TEST DATA

PAGE 1 OF ____

SITE NUMBER ____ CLIENT ____ LOCATION ____ PERSONNEL ____

JOB NUMBER ____ ELEVATIONS: MEASURING POINT ____ FT GROUND SURFACE ____ FT

PUMPED WELL NUMBER ____ STATIC WATER LEVEL DRY FT

OBSERVATION WELL NUMBER OW-1 THICKNESS OF SCREENED INTERVAL ____ RADIUS OF PUMPED WELL ____ FT

DISTANCE BETWEEN PUMPED & OBSERVATION WELLS ____ FT

DATE	HOUR	TIME MINUTES PUMPING t	TIME MINUTES RECOVERY t'	t/t'	DEPTH TO WATER BMP (FEET)	WATER LEVEL ELEVATION (FEET)	DRAWDOWN s (FEET)	Δs	RESIDUAL DRAWDOWN s' (FEET)	DISCHARGE (GPM)	REMARKS
9/13/06	1845	Start test			75.06	(STATIC)					
	2125				75.03						
9/14/06	013				75.03						
	202				75.03						
	0600				75.03						
	0800				75.05						
	1000				75.08						
	1200				75.08						
	1400				75.07						
	1600				75.06						
	1932				75.12						

CAMP DRESSER & McKEE INC.

OW-4A

AQUIFER PUMP TEST DATA

PAGE 1 OF ____

SITE NUMBER ____ CLIENT ____ LOCATION ____ PERSONNEL ____

JOB NUMBER ____ ELEVATIONS: MEASURING POINT ____ FT GROUND SURFACE ____ FT

PUMPED WELL NUMBER ____ STATIC WATER LEVEL 56.89 FT

OBSERVATION WELL NUMBER OW-4A THICKNESS OF SCREENED INTERVAL ____ RADIUS OF PUMPED WELL ____ FT

DISTANCE BETWEEN PUMPED & OBSERVATION WELLS ____ FT

DATE	HOUR	TIME MINUTES PUMPING t	TIME MINUTES RECOVERY t'	t/t'	DEPTH TO WATER BMP (FEET)	WATER LEVEL ELEVATION (FEET)	DRAWDOWN s (FEET)	Δs	RESIDUAL DRAWDOWN s' (FEET)	DISCHARGE (GPM)	REMARKS
9/13/06	1845	Start test			56.89	(STATIC)					
	2130				56.92						
9/14/06	0017				56.91						
	207				56.90						
	0610				56.92						
	0810				56.93						
	1010				56.89						
	1210				56.90						
	1410				56.91						
	1610				56.90						
	1936				56.91						

CAMP DRESSER & McKEE INC.

OW-4B

AQUIFER PUMP TEST DATA

PAGE 1 OF ____

SITE NUMBER ____ CLIENT ____ LOCATION ____ PERSONNEL ____

JOB NUMBER ____ ELEVATIONS: MEASURING POINT ____ FT GROUND SURFACE ____ FT

PUMPED WELL NUMBER ____ STATIC WATER LEVEL 61.54 FT

OBSERVATION WELL NUMBER OW-4B THICKNESS OF SCREENED INTERVAL ____ RADIUS OF PUMPED WELL ____ FT

DISTANCE BETWEEN PUMPED & OBSERVATION WELLS ____ FT

DATE	HOUR	TIME MINUTES PUMPING t	TIME MINUTES RECOVERY t'	t/t'	DEPTH TO WATER BMP (FEET)	WATER LEVEL ELEVATION (FEET)	DRAWDOWN s (FEET)	Δs	RESIDUAL DRAWDOWN s' (FEET)	DISCHARGE (GPM)	REMARKS
9/13/06	1845	Start test			61.54	(STATIC)					
	2132				61.56						
9/14/06	0020				61.56						
	209				6156						
	0611				61.56						
	0811				61.55						
	1011				61.55						
	1211				61.54						
	1411				61.56						
	1611				61.55						
	1940				61.55						

CAMP DRESSER & McKEE INC.

Groundwater Treatment Pilot Test - Process Monitoring
Omega Chemical Superfund Site, Whittier, California

		TANK[1]	TOTAL VOCs (ppmv)[2]			pH[3]		Temp °C[3]	
DATE	TIME	VOLUME	GAC-1-IN	GAC-2-IN	GAC-2-OUT	IN	OUT	IN	OUT
9/19/2006	Tank 1 (Baker Tank # 116)								
	9:30	20332	42.5	15.9	6.9	7.06	7.39	23.5	23.3
	10:30	20142	106	267	41.8	7.78	8.19	23.9	23.9
	11:29	--	62.5	26.6	17.4	7.73	8.23	23.9	24.2
	12:30	19335	47.2	17	11.1	--	--	--	--
	14:27	18523	37.7	6.6	7.6	7.85	8.28	24.3	24.2
	16:10	17615	35.7	1.1	2.5	--	--	--	--
	22:13	--	156	86.2	2.2	7.7	8.14	23.3	23.6
	22:44	--	303	319	82.2	--	--	--	--
	23:17	14465	53.6	17	42.4	7.82	8.12	23.7	24
	23:47	--	60.2	29.5	59.6	--	--	--	--
9/20/2006	0:30	13475	117	99.3	79.8	7.83	8.17	23.6	23.8
	1:30	12530	542	831	189	7.82	8.14	23.7	23.6
	2:30	11690	93.9	69.5	42.7	7.81	8.1	23.6	23.1
	3:50	11025	101.2	70.3	54.3	7.82	8.11	23.6	23.2
	6:45	8925	122	86.3	48.6	7.88	8.13	23.2	23.1
	7:45	7175	186	99.8	54.3	7.63	7.99	23.6	23.1
	10:28	3325	118	68.3	55.4	7.77	8.12	23.3	23.4
	11:48	1925	17.6	0.6	2.6	7.53	8.11	24.1	23.2
	12:18	525	20.2	1.8	6.6	7.77	8.21	23.2	23.4
	13:50	Changed to Tank 2 (Baker Tank# 2537)							
	14:35	--	25.3	2.2	1.8	7.13	8.11	23.2	23.8
	15:36	--	56.3	5.9	6.9	7.67	8.04	25.1	24.6
	16:29	--	62.8	34.7	6.6	7.7	8.12	24.9	24.7
	17:40	--	79.3	18.5	5.2	7.8	8.11	23.9	24.6
	18:42	16793	68.3	36.2	7.5	7.7	8.06	25	24.8
	19:33	15925	46.9	38.3	21.1	7.7	8.06	24.8	25.1
	20:41	14875	67.7	36.5	24.6	7.65	8.04	24.9	24.8
	21:35	14000	50.8	37.7	12.6	7.64	7.99	24.9	24.8
	22:35	12950	55.3	14.5	8.5	7.65	8.03	24.9	24.7
	23:35	12250	45.5	16.3	5	7.69	8.01	24.6	24.7
9/21/2006	0:35	11375	35.4	24.5	8.8	7.71	8.02	24.6	24.3
	1:40	10325	36.9	28.7	10.2	7.7	8.01	24.7	24.4
	2:48	9275	49.4	19.7	5	7.65	7.96	23.7	23.9
	3:45	8575	55.2	25.9	6.7	7.69	7.98	23.9	24.1
	4:48	--	62	28.6	7.8	7.66	7.98	23.7	24.2
	5:50	--	58.3	22.1	8.3	7.63	7.88	23.2	24.1
	6:35	3850	63.4	11.8	2.6	7.62	7.91	23.2	23.9
	7:47	2275	87.3	22.8	6.6	7.62	7.88	23.2	23.8
	8:47	1750	99.3	35.6	10.8	7.66	7.98	23.4	23.4

NOTES:
1) Tank Volume: Depth to water measured using WLI and conversion charts on Baker Tank.
2) Total VOCs: Measured using dedicated 1L Tedlar bags, PID=MimiRae 2000 (RAE 2000.19) calibrated to 100 ppm isobutylene and Portavac pump (11.12) for sample port GAC2-OUT
3) pH & Temp: Oakton (pH/CON 10) meter

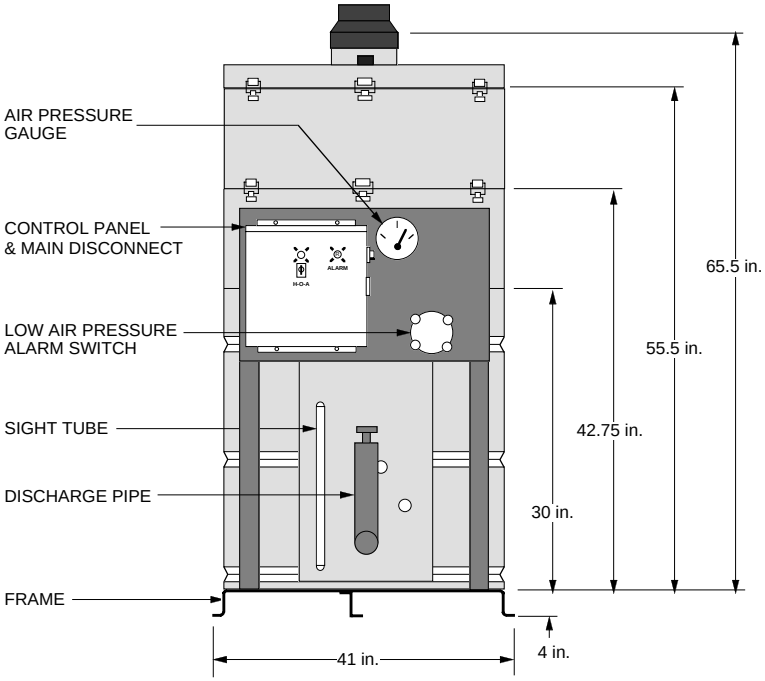
Groundwater Treatment Pilot Test - Process Monitoring
Omega Chemical Superfund Site, Whittier, California

							Temperature (°F)					Air Pressure (" H_2O)				RH (%)
Date	Time	Bag Filter (psi)	Q[1] (gpm)	Air Velocity W[2] (ft/min)	Air Flow (cfm) - Calculated	Air/Water Ratio - Calculated	Stripper OUT (°F)	Heater IN (°F)	Heater OUT (°F)	GAC-2 IN[3]	GAC-2 OUT	Stripper OUT	Heater IN	GAC-1 IN	GAC-2 IN[4]	Heater OUT[5]
9/19/2006	8:47	19.5	13.5	6000	131	73	69	120	114	106	84	25	25	16	5.5	28.6
	10:28	22	14.5	--	--	--	76	130	118	104	106	24	25	16	5	21.1
	11:56	21	14.2	--	--	--	74	128	114	112	110	24	25	15	5.5	26.7
	14:16	18	13	5800	126	73	74	130	112	112	100	25	24	15	5.5	28.5
	16:05	18	13	5800	126	73	72	128	110	98	96	24	24	15	5	25.5
	22:06	23	14.75	5500	120	61	70	120	100	80	78	30	21	13	5	33.5
	23:13	23	14.6	5900	129	66	70	125	106	88	82	34	20	13	5	31
9/20/2006	0:25	23	15	6000	131	65	70	124	104	85	82	34	20	13.5	5	31.2
	21:26	22	14.2	5900	129	68	68	122	104	85	82	32	21	14	5	31.6
	2:28	22.5	14.4	6000	131	68	68	122	102	84	82	32	20	14	5	32
	3:45	23	15	5900	129	64	67	122	102	84	82	32	20	13	5	31.3
	4:45	23	14	5600	122	65	66	122	98	84	82	32	20	13	5	33.4
	5:45	23	14	5600	122	65	66	122	98	84	80	32	20	13	5	33.3
	6:45	23	14	6000	131	70	66	122	100	84	80	32	20	13	5	33.6
	7:45	23	14.5	6000	131	68	66	122	100	84	80	32	20	13	5	33.4
	10:28	22	14	5500	120	64	70	132	116	104	104	34	20	13.5	5	25.7
	11:37	22	14	5500	120	64	70	136	116	104	104	34	20	13.5	5	25.3
	12:28	23	14.5	5500	120	62	70	138	116	102	104	34	20	13	4	26.2
	13:27	23	15	5500	120	60	70	140	118	102	104	36	20	12	4	26.4
	14:30	23	14.5	5000	109	56	70	136	114	100	98	34	20	12	5	28.3
	15:29	23	15	5200	113	57	72	134	113	92	97	34	20	13	5	27.9
	16:24	23	14.6	5500	120	61	72	131	113	98	94	34	20	13	5	28.7
	17:29	23.5	14.5	5500	120	62	72	116	102	90	92	26	23	15	5	35
	18:30	23	14.5	5600	122	63	72	128	115	90	92	34	18	15	5	25.1
	19:30	23	14.5	5600	122	63	72	126	114	89	92	34	18	15	5	25.2
	20:37	23	14.5	5500	120	62	72	126	112	90	88	36	19	15	5	25.1
	21:32	23	14.5	5500	120	62	70	125	112	90	85	34	18	15	5	25.6
	22:31	23	14.5	5500	120	62	70	125	112	90	85	34	18	15	5	25.4
	23:31	23	14.5	5900	129	66	70	125	112	90	84	34	19	15	5	25.7
9/21/2006	0:32	23	14.5	5800	126	65	70	124	110	90	84	34	19	15	5	26.1
	1:35	23	14.5	5800	126	65	70	122	110	90	84	34	19	15	5	26.3
	2:45	23	14.5	6000	131	68	70	122	110	88	84	34	19	15	5	26.4
	3:41	23	14.5	6000	131	68	70	122	110	88	84	34	19	15	5	26.1
	4:45	23	14.5	6000	131	68	68	120	109	98	82	34	20	15	5	26.4
	5:45	23	15	6000	131	65	66	118	88	98	80	28	24	16	5	33.8
	6:27	23	15	6500	142	71	66	118	84	98	79	26	24	16	5	34.9
	7:47	22	14.8	6500	142	72	66	119	100	88	82	24	24	16	5	33.5
	8:47	22	14.8	6500	142	72	66	120	100	88	82	24	24	16	5	34.9
NOTES:					142	73										

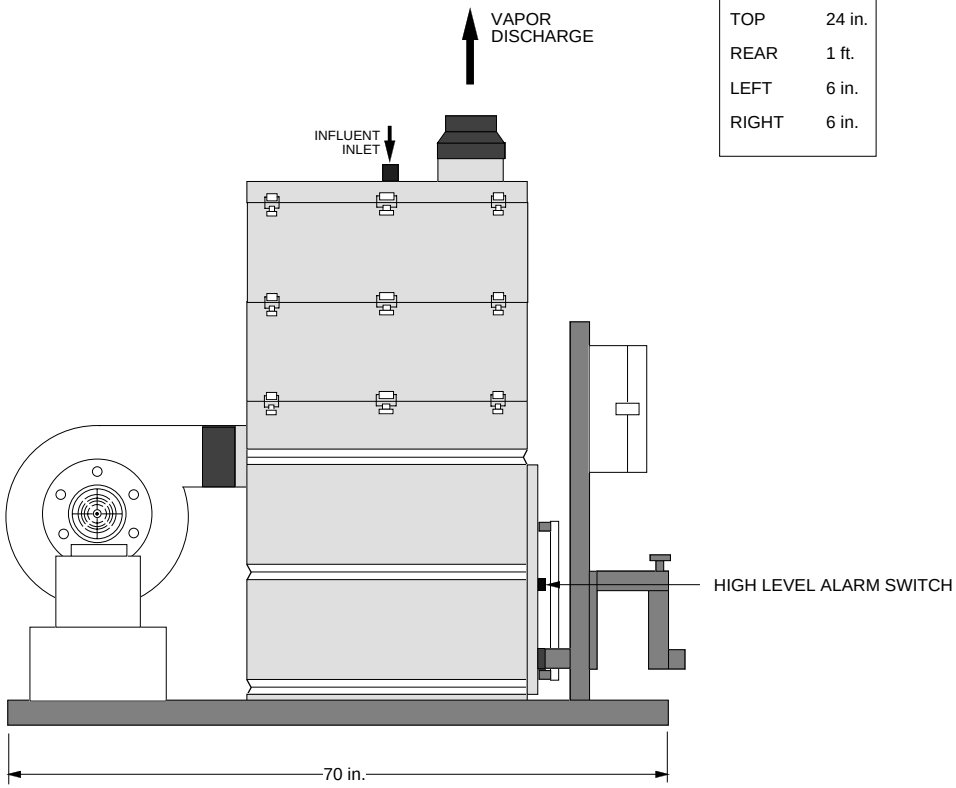
1) Q measured using totalizer and stopwatch (totalizer near bag filters).
2) Velocity measured using Air Velocity Meter (Modd 443), Kurz Instrument.
3) Temp GAC 1-IN not measured, sample located near Heater out temperature port.
4) Air pressure GAC 2-OUT not measured, no pressure gauge installed on the emission stack.
5) RH = Relative Humidity = VAISALA

Attachment C
Pilot Treatment Equipment Cut Sheets

FRONT



LEFT SIDE



MINIMUM CLEARANCE

FRONT	1.5 ft.
TOP	24 in.
REAR	1 ft.
LEFT	6 in.
RIGHT	6 in.

BASIC SYSTEM

- ✓ SUMP TANK
- ✓ STRIPPER TRAYS
- ✓ BLOWER
- ✓ MIST ELIMINATOR
- ✓ PIPING
- ✓ SPRAY NOZZLE
- ✓ WATER LEVEL SIGHT TUBE
- ✓ GASKETS
- ✓ LATCHES

STRIPPER CONSTRUCTION:

ROTATIONALLY MOLDED LOW DENSITY POLYETHYLENE (LDPE)

OPTIONAL ITEMS

- ✓ SKID & STANCHION
- ✓ GRAVITY DISCHARGE PIPING
- ___ DISCHARGE PUMP
- ___ FEED PUMP
- ___ ADDITIONAL BLOWER
- ___ EXPLOSION-PROOF MOTOR(S)
- ___ LOCAL DISCONNECT NEMA 7
- ✓ CONTROL PANEL
- ✓ MAIN DISCONNECT SWITCH
- ___ I.S. COMPONENTS/REMOTE MOUNT
- ✓ INTERMITTENT OPERATION
- ___ POWER LAPSE INDICATOR
- ___ STROBE LIGHT
- ___ ALARM HORN
- ✓ AIR PRESSURE GAUGE
- ✓ LOW AIR PRESSURE ALARM SWITCH
- ✓ HIGH WATER LEVEL ALARM SWITCH
- ___ DISCHARGE PUMP LEVEL SWITCH
- ___ WATER PRESSURE GAUGE(S)
- ___ DIGITAL WATER FLOW INDICATOR
- ___ AIR FLOW METER
- ___ TEMPERATURE GAUGE(S)
- ___ LINE SAMPLING PORT(S)
- ___ AIR BLOWER SILENCER
- ___ WASHER WAND
- ___ AUTO DIALER

NOTES: THIS DRAWING IS REPRESENTATIVE OF A STANDARD SHALLOWTRAY CONFIGURATION, AND IS NOT INTENDED FOR ENGINEERING DESIGN OR LAYOUT. ACTUAL ARRANGEMENT AND DIMENSIONS MAY VARY DEPENDING ON BLOWER SELECTION OR OTHER ACCESSORIES. PLEASE CONTACT NEEP FOR DETAILED DESIGN INFORMATION.

CONNECTION INFORMATION

ITEM	SIZE
GRAVITY DISCHARGE	2"Ø SOCKET, PVC80
DISCHARGE PUMP	1-1/4"Ø FNPT
WATER INLET	1"Ø FNPT
AIR EXHAUST NOZZLE	8"Ø STUB W/8x6 CPLG

POWER: 3Ø, 460 volts, 3 WIRE + GROUND, 60 Hz

*CONSULT N.E.E.P. FOR AMPACITIES AND OTHER VOLTAGE OPTIONS

STRIPPER CONSTRUCTION:

ROTATIONALLY MOLDED (~28"Ø)
LOW DENSITY POLYETHYLENE (LDPE)

NORTH EAST ENVIRONMENTAL PRODUCTS, INC.
7 COMMERCE AVENUE
WEST LEBANON, NEW HAMPSHIRE 03784
PHONE: 603-298-7061 FAX: 603-298-7063
http://www.neepsystems.com

©NEEP 2002

TOLERANCES UNLESS OTHERWISE SPECIFIED: ± 1 INCH

DRAWING NAME: **ShallowTray® Model 1331-P**

DRAWING #: **Proposal #Typical**

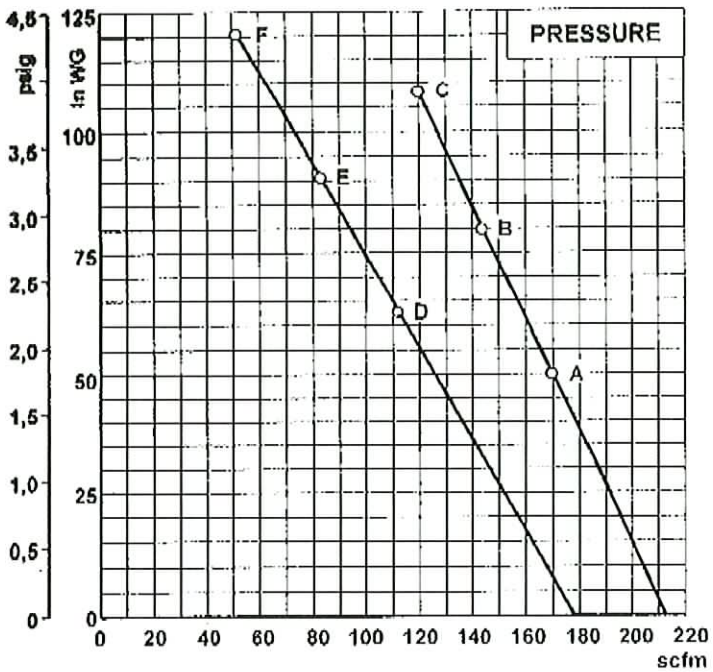
DRAWN: *DCS*

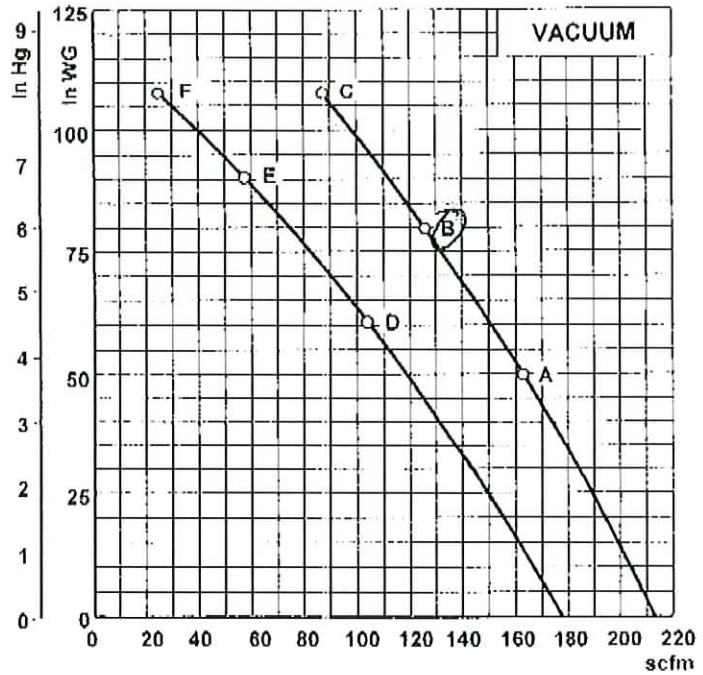
CUSTOMER: **NEEPSYSTEMS.com**

DATE: **09/17/02**

SCALE: NTS | SIZE: A | SHEET : 1 OF : 1

FPZ, Inc.





Notes:

- Curves indicate performance rated for continuous operation.
- Performance data based on ambient / inlet air temperature of 68 °F and barometric pressure of 29.92 In. Hg
- Performance values may vary by ±10%
- Sound level measured at 1 m distance with inlet and outlet piped.
- Specifications are subject to change without notice.

SCL V6

		60 Hz – 3500 rpm			
Reference		A		B	C
Maximum airflow	scfm	213		213	213
Maximum continuous pressure	In. WG	50		80	108
Maximum continuous vacuum	In. Hg	3.7		5.9	8.0
Maximum sound level	dB(A)	74		74	74
Motor horsepower	Hp	3		4	5
Standard voltage	Volt	115 or 208-230	208-230/460	208-230/460	208-230/460
Phase		1	3	3	3
Rated F.L. current	Amps	36,0 or 19,8-18,0	8,9-8,0/4,0	12,2-11,0/5,5	15,5-14,0/7,0
Rated locked rotor current	Amps	180 or 99-90	54-48/24	73-66/33	109-98/49
Insulation	Class	F	F	F	F
		50 Hz – 2900 rpm			
Reference		D		E	F
Maximum airflow	scfm	178		178	178
Maximum continuous pressure	In. WG	62		91	121
Maximum continuous vacuum	In. Hg	4.5		6.7	8.0
Maximum sound level	dB(A)	71		71	71
Motor horsepower	Hp	2 1/2		3 1/3	4 1/6
Standard voltage	Volt	230	200/400	200/400	200/400
Phase		1	3	3	3
Rated F.L. current	Amps	18,0	8,9/4,0	12,2/5,5	15,5/7,0
Rated locked rotor current	Amps	90	54/24	73/33	109/49
Insulation	Class	F	F	F	F

FPZ, Inc.

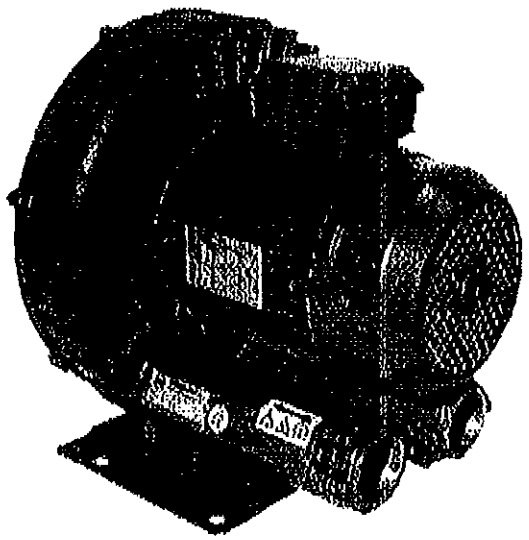
REGENERATIVE BLOWERS

SCL V6

Standard features

- Low weight die cast aluminum construction.
- Quiet operation with integral inlet and outlet muffling.
- Recognized TEFC motor.
- High efficiency / low noise impeller design.
- No lubrication / maintenance required.
- Allowed ambient: +5 °F to +105 °F.
- Mountable in any plane.

Max. continuous operating Pressure	4.4 psig / 121.0 In. WG
Vacuum	8.0 In. Hg / 108.8 In. WG

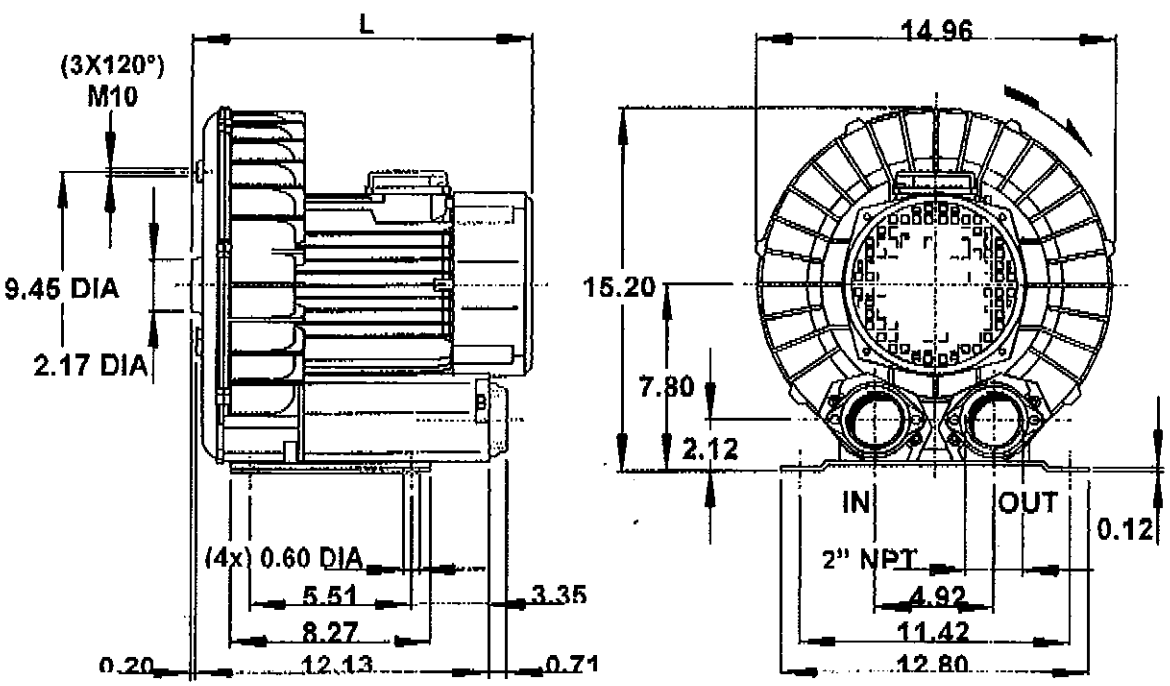


Options

- Remote drive models (belt or coupling).
- Special voltages.
- Surface treatment or plating.
- Gas tight sealing.
- Special designs available.

Accessories

- Inlet and/or inline filters.
- Additional inlet/outlet silencers.
- Safety valves.
- Flow converting devices.
- Optional connectors.



Dimensions in Inches

Motor power	Hp 60 Hz	3	4	5
	Hp 50 Hz	2 1/2	3 1/3	4 1/6
L	In	14.96	14.96	14.96

MAXIMUM FLOW AIR HEATERS

For Low Pressure, High Flow Air Heating

AHF Series Starts at

$94

MADE IN USA — 1 YEAR WARRANTY

- **4" OD Mounting Flange**
- **Air Flows Up To 200 CFM***
- **Exit Air Temperatures up to 315°C (600°F)**
- **Post Terminals Junction Box**

Nickel-Chrome Heating Element Insulated with Ceramic Beads

AHF10120, $123, shown smaller than actual size.

APPLICATIONS

The AHF series maximum flow air heaters are used with blowers or recirculating air in baking, drying, and preheating applications.

This air heater is designed with a 60 mm (2⅜") OD aluminum tube and a cross frame heating element for minimum resistance to air flow. The nickel-chrome heating element is insulated by ceramic beads on a stainless steel support frame which is firmly secured to the inside of the tube. Post terminals enclosed in a junction box simplify the wiring. A 102 mm (4") round flange with pre-drilled holes at the inlet side are used for mounting the heater. It has a practical operating range of up to 200 CFM with temperatures up to 315°C (600°F).

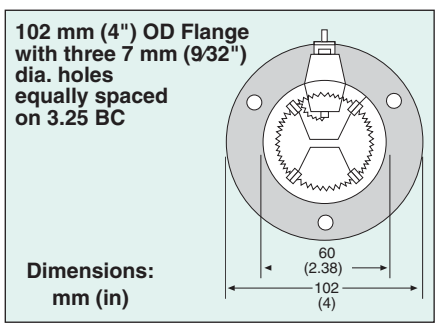
Calculate the flow rate, temperature rise, or power requirement as follows:

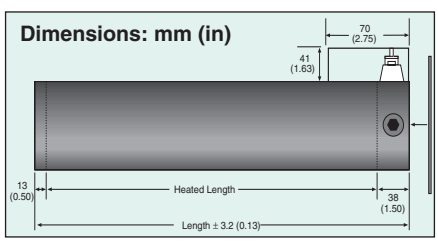
Watts = SCFM x ΔT / 3
SCFM = Standard Cubic Feet Per Minute
ΔT = Temperature Rise in Degrees F from the Inlet to the Outlet

Minimum flow rates are given in the table to right.

SPECIFICATIONS

Maximum Amperage: 15
Cross Sectional Flow Area: 3.5 square inches
Threaded Terminals: 6-32





CFM	Max. Watts/Linear Inch of Heated Length
1	150
2	150
4	150
6	150
8	150
10	150
20	175
30	275
40	350
50	450
60	525

MOST POPULAR MODELS HIGHLIGHTED!

To Order (*Specify Model Number*)

Model Number	Volts	Watts	Heated Length mm (in)	Watts/ Inch**	Maximum CFM	Length mm (in)	Price	Weight kg (lb)
120 Vac Models								
AHF-06120	120	600	102 (4)	150	200	152 (6)	**$94**	0.23 (0.5)
AHF-10120	120	1000	203 (8)	125	200	254 (10)	**123**	0.57 (1.25)
120/240 Vac Models*								
AHF-12240	120 240	375 1500	254 (10) 254 (10)	38 150	200 200	305 (12)	**139**	0.68 (1.5)
AHF-14240	120 240	500 2000	305 (12) 305 (12)	42 166	200 200	356 (14)	**153**	0.79 (1.75)

** These air heaters can be operated on either 120 or 240 Volts. Specifications are given for operation on both 120 and 240 Volts.*
*** Indicates Watts per inch of heated length. Use the table above to determine minimum required flow rates. The watts per inch of heated length can be changed by reducing the operating voltage or by ordering a custom made heater. Stainless steel construction also available. Consult Engineering.*
***Ordering Example: AHF-12240,** air heater, 240 Vac, 1500 W, **$139**.*

Rugged Bulb and Capillary Thermostats

AR Series
$191
Basic Unit

1 YEAR WARRANTY — MADE IN USA

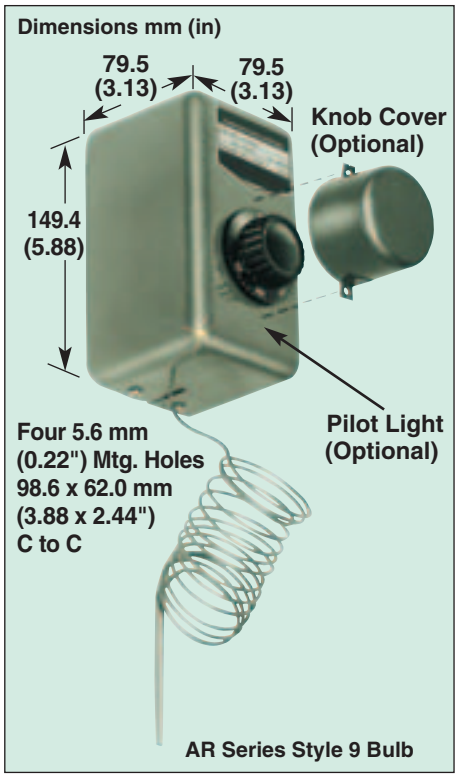
AR Series

- Bulb & Capillary Design
- Long-Lasting Snap-Action Mechanism
- Double Pole, Single Throw Contacts
- Three Different Bulb Styles Available
- Optional Knob Cover and Pilot Light

Typical Applications

- Temperature Control of Any Electrically Heated Solid, Liquid or Gas
- Excellent for Ovens or Sterilizers
- Molding Machines
- Heat Exchangers
- Labeling Machines
- Water Baths
- Heat Sealers
- ARR Series May Be Used to Control Refrigerating, Ventilating, and Alarm Systems

CAUTION AND WARNING!
Fire and electrical shock may result if products are used improperly or installed or used by non-qualified personnel.



Shown smaller than actual size

MOST POPULAR MODELS HIGHLIGHTED!

To Order *(Specify Model Number)*

Model Number	Price	Temp Range °C (°F)	Amp Rating 120-277 V	Amp Rating 480 V	Bulb Style	Dimensions (inches) Dia	Dimensions (inches) Lgth.	Cap (ft) Lgth.
Single phase AR								
AR-115	$191	-20 to 40 (-4 to 104)	30	10	5	⅜	3⅞	7
AR-115A	191	-20 to 40 (-4 to 104)	30	10	5	⅜	3⅞	2
AR-115C	210	-20 to 40 (-4 to 104)	30	10	5	⅜	3⅞	12
AR-214	191	10 to 120 (59 to 248)	30	10	4	¼	5 5/32	7
AR-214D	210	10 to 120 (59 to 248)	30	10	4	¼	5 5/32	15
AR-215	191	10 to 120 (59 to 248)	30	10	5	⅜	4	7
AR-215A	191	15 to 120 (59 to 248)	30	10	5	⅜	4	2
AR-219	191	15 to 120 (59 to 248)	30	10	9	3/16	10¾	7
AR-219D	210	15 to 120 (59 to 248)	30	10	9	3/16	10¾	15
AR-514	191	95 to 290 (200 to 550)	30	10	4	¼	5⅝	7
AR-515	191	95 to 290 (200 to 550)	30	10	5	⅜	3¼	7
AR-515A	191	95 to 290 (200 to 550)	30	10	5	⅜	3¼	2
AR-519	191	95 to 290 (200 to 550)	30	10	9	3/16	9	7
AR-519D	210	95 to 290 (200 to 550)	30	10	9	3/16	9	15
AR-715	191	150 to 370 (302 to 698)	30	10	5	⅜	3 11/16	7
AR-719	191	150 to 370 (302 to 698)	30	10	9	3/16	11 13/16	7
Three phase AR-3								
AR-2153	229	10 to 120 (59 to 248)	30**	-	5	⅜	4¼	7
AR-5153	229	95 to 290 (200 to 550)	30**	-	5	⅜	3¼	7
AR-5193	229	95 to 290 (200 to 550)	30**	-	9	3/16	9	7
Single phase ARR inverse action								
ARR-215	191	10 to 120 (59 to 248)	30	-	5	⅜	4¼	7
ARR-219	191	10 to 120 (59 to 248)	30	-	9	3/16	16 3/32	7
ARR-515	191	95 to 290 (200 to 550)	30	-	5	⅜	3¼	7
ARR-519	191	95 to 290 (200 to 550)	30	-	9	3/16	11¼	7

***120 to 250 V*
*To order any unit above with optional knob cover, add suffix "**-KC**" to model no. and add **$15** to price. To order any unit above with optional pilot light, add suffix "**-P**" to model no. and call for price. **Ordering Example: Model AR-115KC**, single-phase AR thermostat, temperature range -20 to 40°C (-4 to 104°F), style 5 bulb, with optional knob cover, $191 + 15 = **$206***

These thermostats use sensitive bulbs that can be used in confined locations. Styles 4 and 5 bulbs are designed for inserting in drilled holes in platens and dies or for direct immersion.

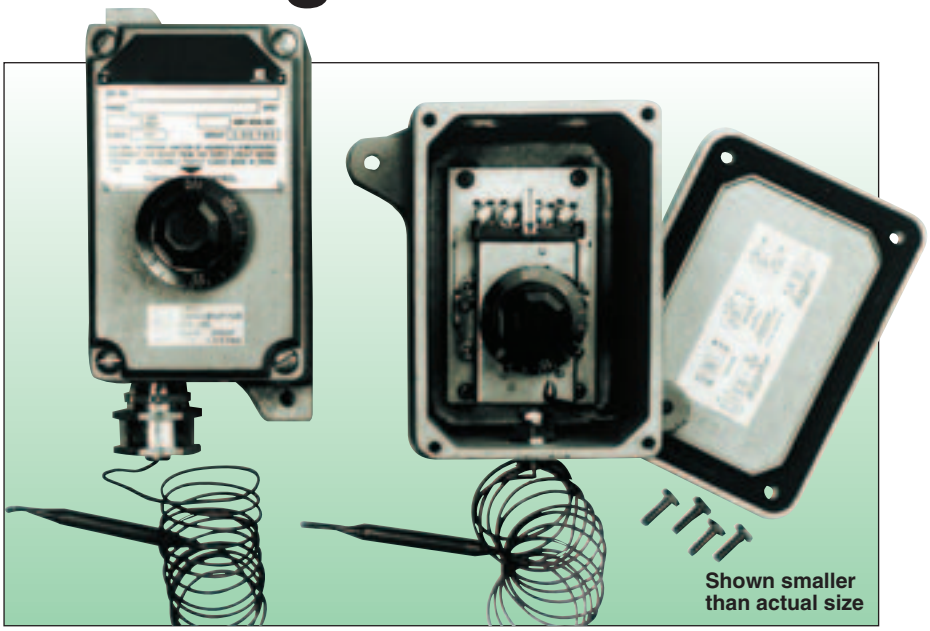
Sensors for air and pipeline heating applications (style 9) can be coiled to inside radii as small as 13 mm (½").

Specifications

Temperature Range:
-20 to 370°C (-4 to 698°F)
Operating Voltage: single phase, 120 to 480 Volts; three phase, 120 to 277 Volts.
Enclosure: General purpose
Contacts: DPST, open on temperature rise. At positive off position, contacts cannot close
Differential: ±4% of scale
Bulb & Capillary: copper for units rated at 120°C (248°F) and lower; nickel-plated copper for units between 95°C (203°F) and 290°C (504°F); tin-plated steel for units between 150°C (302°F) and 370°C (698°F)
Weight:
AR and ARR Series, 1.14 kg (2.5 lb); AR-LT and AR-EP Series, 2.27 kg (5 lb)

Explosion Resistant* or Watertight Thermostats

AR-LT Series
$510
Basic Unit



AR-EP, AR-LT Series

These models add a weather resistant enclosure (AR-LT series) or an explosion proof enclosure (AREP series) to the AR Series shown in the P Section. With the exception of the enclosure type, specifications are the same as listed. AR-EP models are UL listed for use on Class I, groups C & D, and Class II, groups E, F and G hazardous locations.

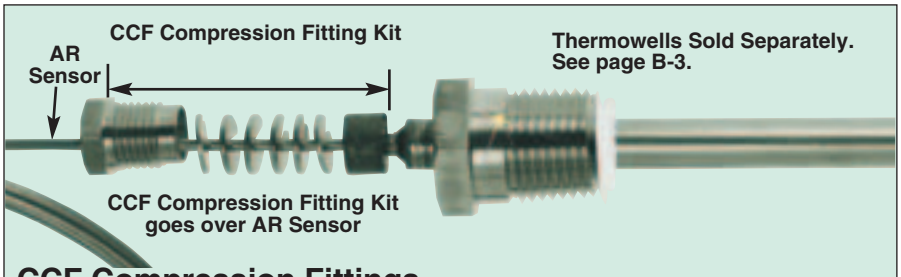
To Order *(Specify Model Number)*

Watertight Model Number	Watertight Price	Expl. Resistant* Model Number	Expl. Resistant* Price	Temp Range °C (°F)	Amp Rating 120-277V	Amp Rating 480V	Bulb Style	Dimensions mm (in) Dia.	Dimensions mm (in) Length	Cap m (ft) Length
AR-115LT	$510	AR-115EP	$809	-18 to 38 (0 to 100)	30	10	5	⅜"	98.6 (3.88)	2.1 (7)
AR-115ALT	510	AR-115AEP	809	-18 to 38 (0 to 100)	30	10	5	⅜"	98.6 (3.88)	0.6 (2)
AR-115CLT	520	AR-115CEP	821	-18 to 38 (0 to 100)	30	10	5	⅜"	98.6 (3.88)	3.6 (12)
AR-214LT	510	AR-214EP	809	16 to 121 (160 to 250)	30	10	4	¼"	131.1 (5.16)	2.1 (7)
AR-214DLT	520	AR-214DEP	821	16 to 121 (160 to 250)	30	10	4	¼"	131.1 (5.16)	4.5 (15)
AR-215LT	510	AR-215EP	809	16 to 121 (160 to 250)	30	10	5	⅜"	101.6 (4.0)	2.1 (7)
AR-215ALT	510	AR-215AEP	809	16 to 121 (160 to 250)	30	10	5	⅜"	101.6 (4.0)	0.6 (2)
AR-219LT	510	AR-219EP	809	16 to 121 (160 to 250)	30	10	9	3/16"	237.1 (10.75)	2.1 (7)
AR-514LT	510	AR-514EP	809	93 to 288 (200 to 550)	30	10	4	¼"	143.0 (5.63)	2.1 (7)
AR-515LT	510	AR-515EP	809	93 to 288 (200 to 550)	30	10	5	⅜"	82.6 (3.25)	2.1 (7)
AR-515ALT	510	AR-515AEP	809	93 to 288 (200 to 550)	30	10	5	⅜"	82.6 (3.25)	0.6 (2)
AR-519LT	510	AR-519EP	809	93 to 288 (200 to 550)	30	10	9	3/16"	228.6 (9.0)	2.1 (7)
AR-519DLT	520	AR-519DEP	821	93 to 288 (200 to 550)	30	10	9	3/16"	228.6 (9.0)	4.5 (15)
AR-715LT	510	AR-715EP	809	149 to 371 (300 to 700)	30	10	5	⅜"	93.7 (3.69)	2.1(7)
AR-719LT	510	AR-719EP	809	149 to 371 (300 to 700)	30	10	9	3/16"	300.0 (11.81)	2.1 (7)

Caution Hazard of Fire:

Types AR, ARR, AR-LT and AR-EP thermostats do not provide failsafe temperature controls for heating. If the thermostat bulb ruptures, the controller senses that the temperature is not at the setpoint and heat stays on. A backup high limit temperature controller is recommended for safety.

**Not intended for use in Hazardous Areas*



CCF Compression Fittings

To Order *(Specify Model Number)*

Model Number	Price	Material	NPT Size	Weight
CCF-25A	$28	Nickel plated brass	⅜-18	45 g (1.6 oz)
CCF-25D	61	300 Series S/Stl.	⅜-18	45 g (1.6 oz)
CCF-25F	87	300 Series S/Stl.	½-14	45 g (1.6 oz)

Type CCF compression fittings are recommended for use with the AR thermostats shown on this page and in Section B. These fittings contain special slotted washers that allow the fitting to slide over the thermostat bulb and tighten down on the capillary tube.

CAUTION AND WARNING!
Fire and electrical shock may result if products are used improperly or installed or used by non-qualified personnel.

For Additional Controllers and Indicators, See Section M

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Appendix B.2

WELL LOGS

CDM
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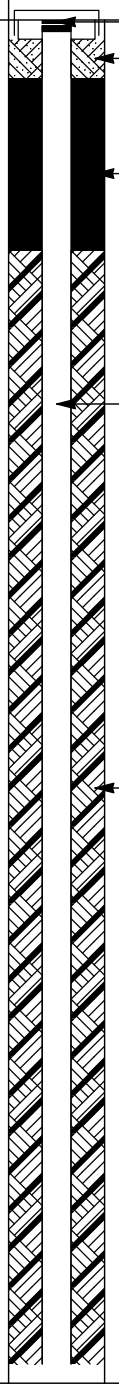
BORING/WELL CONSTRUCTION LOG

PROJECT NUMBER 10500-53426
PROJECT NAME Omega Chemical
LOCATION Putnam St.
DRILLING METHOD Air Rotary Casing Hammer
SAMPLING METHOD Cuttings
GROUND SURFACE ELEVATION (FT MSL) NA
TOP OF CASING ELEVATION (FT MSL) NA
LOGGED BY Andy Horn
REMARKS Key #3232

BORING/WELL NUMBER EW-1
DATE DRILLED 7/13/06
CASING TYPE/DIAMETER Sch 80, PVC / 6"
SCREEN TYPE/SLOT 6" Stainless Steel Wire Wrap / 0.020"
GRAVEL PACK TYPE #2/12
GROUT TYPE/QUANTITY Portland Cement 5% Bentonite
STATIC WATER LEVEL (FT BELOW TOC) 66.66
GROUND WATER ELEVATION (FT MSL)

PID (ppm)	BLOW COUNTS	RECOVERY (inches)	SAMPLE ID.	EXTENT	DEPTH (ft. bgs)	U.S.C.S.	GRAPHIC LOG	LITHOLOGIC DESCRIPTION	CONTACT DEPTH
								6" Concrete	0.5
						CL		CLAY: brown (7.5YR4/2); silty, slightly moist, moderate plasticity.	5.0
					5			SILT: brown (7.5YR4/2); clayey, slightly moist, low to moderate plasticity.	
					10				
					15	ML			
					20				
					25			CLAY: brown (7.5YR4/2); silty, slightly moist, low to moderate plasticity.	25.0
					30	CL			
					35				35.0

WELL DIAGRAM



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BORING/WELL CONSTRUCTION LOG

PROJECT NUMBER 10500-53426 **BORING/WELL NUMBER** EW-1
PROJECT NAME Omega Chemical **DATE DRILLED** 7/13/06

Continued from Previous Page

PID (ppm)	BLOW COUNTS	RECOVERY (inches)	SAMPLE ID.	EXTENT	DEPTH (ft. bgs)	U.S.C.S.	GRAPHIC LOG	LITHOLOGIC DESCRIPTION	CONTACT DEPTH	WELL DIAGRAM
					40, 45, 50, 55	CL		CLAY: brown (7.5YR5/4); silty and trace sand, slightly moist, moderate plasticity.	55.0	6", Sch 80, PVC Riser (0.68-72 ft bgs). Portland Cement w/ 5% Bentonite Grout (6-72 ft bgs).
					55, 60	ML		SILT: brown (7.5YR5/4); with some clay, slightly moist, low plasticity,	60.0	Bentonite Chips (53.5-57 ft bgs). #60 Mesh Sand (57-60 ft bgs).
					60, 65, 70, 75	SP		SAND: light brown (7.5YR6/4); poorly graded, fine, with silt, slightly moist.		#2/12 Filter Pack (60-92 ft bgs). 6", 20-slot, SS Wire Wrap Screen (72-87 ft bgs).

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BORING/WELL CONSTRUCTION LOG

PROJECT NUMBER 10500-53426 **BORING/WELL NUMBER** EW-1
PROJECT NAME Omega Chemical **DATE DRILLED** 7/13/06

Continued from Previous Page

PID (ppm)	BLOW COUNTS	RECOVERY (inches)	SAMPLE ID.	EXTENT	DEPTH (ft. bgs)	U.S.C.S.	GRAPHIC LOG	LITHOLOGIC DESCRIPTION	CONTACT DEPTH	WELL DIAGRAM
									77.0	
						CL		CLAY: brown (7.5YR5/4); silty with trace very fine sandy, moist, moderate plasticity, water added to boring,	80.0	
					80	SP		SAND: brown (7.5YR5/4); with gravel, silt and clay, appears to be clayey matrix clasts are ~0.5"-1" at most.		6", 20-slot, SS Wire Wrap Screen (72-87 ft bgs).
					85					#2/12 Filter Pack (60-92 ft bgs).
									87.0	
						CL		CLAY: light brown (7.5YR4/4); silty sandy, moist, moderate plasticity.	90.0	6", Sch 40, PVC Sump (87-92 ft bgs).
					90	GP		GRAVEL: light brown (7.5YR6/4); with coarse sand, silt and clay.	92.0	End Cap (92 ft bgs).
					95					
					100					
					105					
					110					
					115					

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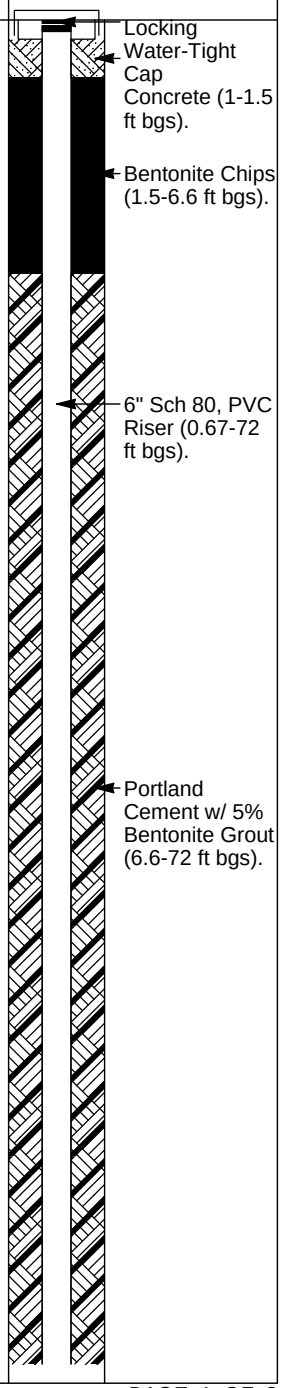
BORING/WELL CONSTRUCTION LOG

PROJECT NUMBER 10500-53426
PROJECT NAME Omega Chemical
LOCATION Putnam St.
DRILLING METHOD Air Rotary Casing Hammer
SAMPLING METHOD Cuttings
GROUND SURFACE ELEVATION (FT MSL) NA
TOP OF CASING ELEVATION (FT MSL) NA
LOGGED BY Andy Horn
REMARKS Key #3232

BORING/WELL NUMBER EW-2
DATE DRILLED 7/13/06
CASING TYPE/DIAMETER Sch 80, PVC / 6"
SCREEN TYPE/SLOT 6" Stainless Steel Wire Wrap / 0.020"
GRAVEL PACK TYPE #2/12
GROUT TYPE/QUANTITY Portland Cement 5% Bentonite
STATIC WATER LEVEL (FT BELOW TOC) 65.51
GROUND WATER ELEVATION (FT MSL)

PID (ppm)	BLOW COUNTS	RECOVERY (inches)	SAMPLE ID.	EXTENT	DEPTH (ft. bgs)	U.S.C.S.	GRAPHIC LOG	LITHOLOGIC DESCRIPTION	CONTACT DEPTH
								6" Concrete.	0.5
						CL		CLAY: brown (7.5YR4/2); with silt, slightly moist firm, moderate plasticity.	5.0
					5	ML		SILT: brown (7.5YR5/4); with trace clay, slightly moist, non plastic	15.0
					10				
					15	CL		CLAY: brown (7.5YR4/4); silty, with trace sand, moderate plasticity,	
					20				
					25				
					30				
					35				



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BORING/WELL CONSTRUCTION LOG

PROJECT NUMBER 10500-53426 **BORING/WELL NUMBER** EW-2
PROJECT NAME Omega Chemical **DATE DRILLED** 7/13/06

Continued from Previous Page

PID (ppm)	BLOW COUNTS	RECOVERY (inches)	SAMPLE ID.	EXTENT	DEPTH (ft. bgs)	U.S.C.S.	GRAPHIC LOG	LITHOLOGIC DESCRIPTION	CONTACT DEPTH	WELL DIAGRAM
					40					6" Sch 80, PVC Riser (0.67-72 ft bgs).
					45				45.0	Portland Cement w/ 5% Bentonite Grout (6.6-72 ft bgs).
								SILT: brown (7.5YR4/4); with clay, slightly moist, low plasticity.		
					50					
						ML				
					55			SILT: brown (7.5YR5/4); with very fine sand, trace clay, slightly moist, low plasticity.		Bentonite Chips (54-57.5 ft bgs).
										#60 Mesh Sand (60-92 ft bgs).
					60				60.0	
								SAND: light brown (7.5YR6/4); very fine, dry, non-plastic, poorly graded.		
										#2/12 Filter Pack (57.5-92 ft bgs).
					65					
						SP				
					70			SAND: light brown (7.5YR6/4); fine to medium, non-plastic.		
										6", 20-slot, SS Wire Wrap Screen (72-87).
					75					

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BORING/WELL CONSTRUCTION LOG

PROJECT NUMBER 10500-53426 **BORING/WELL NUMBER** EW-2
PROJECT NAME Omega Chemical **DATE DRILLED** 7/13/06

Continued from Previous Page

PID (ppm)	BLOW COUNTS	RECOVERY (inches)	SAMPLE ID.	EXTENT	DEPTH (ft. bgs)	U.S.C.S.	GRAPHIC LOG	LITHOLOGIC DESCRIPTION	CONTACT DEPTH	WELL DIAGRAM
								SAND: light brown (7.5YR6/4); medium to coarse, moist, non-plastic.	78.0	
					80	ML		SILT: light brown (7.5YR6/4); sandy, water added to boring.	83.0	6", 20-slot, SS Wire Wrap Screen (72-87).
					85	GP		Driller reports cobble at 83'. GRAVEL: with silt and sand.	87.0	
					90	CL		Driller reports smooth drilling silt/clay CLAY: brown (7.5YR4/4); silty with sand, trace gravel, wet, moderate plasticity.	92.0	6" Sch 40, PVC Sump (87-92 ft bgs). #2/12 Filter Pack (57.5-92 ft bgs). End Cap (92 ft bgs).
					95					
					100					
					105					
					110					
					115					

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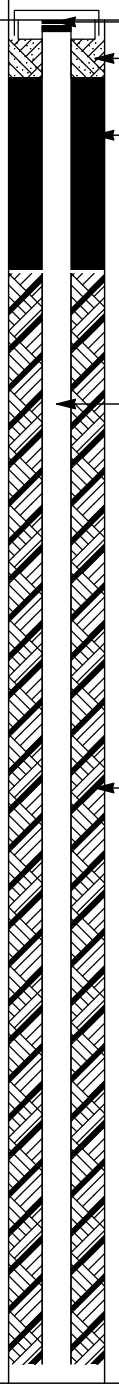
BORING/WELL CONSTRUCTION LOG

PROJECT NUMBER 10500-53426
PROJECT NAME Omega Chemical
LOCATION Putnam St.
DRILLING METHOD Air Rotary Casing Hammer
SAMPLING METHOD Cuttings
GROUND SURFACE ELEVATION (FT MSL) NA
TOP OF CASING ELEVATION (FT MSL) NA
LOGGED BY Andy Horn
REMARKS Key #3232

BORING/WELL NUMBER EW-3
DATE DRILLED 7/11/06
CASING TYPE/DIAMETER Sch 80, PVC / 6"
SCREEN TYPE/SLOT 6" Stainless Steel Wire Wrap / 0.020"
GRAVEL PACK TYPE #2/12
GROUT TYPE/QUANTITY Portland Cement 5% Bentonite
STATIC WATER LEVEL (FT BELOW TOC) 64.08
GROUND WATER ELEVATION (FT MSL)

PID (ppm)	BLOW COUNTS	RECOVERY (inches)	SAMPLE ID.	EXTENT	DEPTH (ft. bgs)	U.S.C.S.	GRAPHIC LOG	LITHOLOGIC DESCRIPTION	CONTACT DEPTH
						CL		Concrete 6" thick CLAY: dark brown (7.5YR3/2); with traces of caliche nodules ~0.5mm, firm, moderate plasticity, moist.	0.5
					5	ML		SILT: brown (7.5YR4/2); sandy, slightly moist, low plasticity. SILT: brown (7.5YR4/2); clayey, with sand.	2.5
						GP		COBBLE: rock crystalline	8.0
					10	ML		SILT: brown (7.5YR4/2); clayey, trace sand, trace rock clippings, dry, non-plastic.	10.0
					15	CL		CLAY: brown (7.5YR6/4); silty, sandy w/ gravel, moist, medium to low plasticity.	15.0
					20				
					25				
					30				
					35				

WELL DIAGRAM



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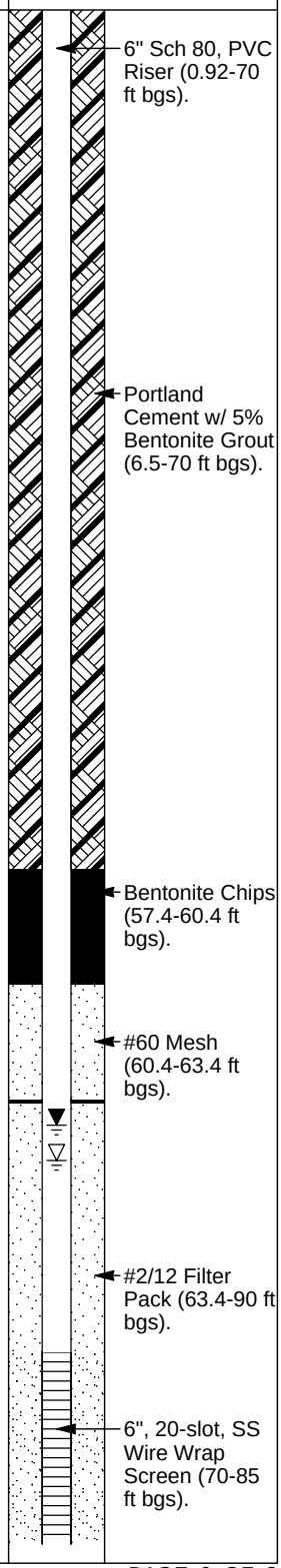
BORING/WELL CONSTRUCTION LOG

PROJECT NUMBER 10500-53426 **BORING/WELL NUMBER** EW-3
PROJECT NAME Omega Chemical **DATE DRILLED** 7/11/06

Continued from Previous Page

PID (ppm)	BLOW COUNTS	RECOVERY (inches)	SAMPLE ID.	EXTENT	DEPTH (ft. bgs)	U.S.C.S.	GRAPHIC LOG	LITHOLOGIC DESCRIPTION	CONTACT DEPTH
					40, 45				47.0
						ML		SILT: brown (7.5YR5/6); sandy, dry, non-plasticity.	50.0
					50, 55, 60	SP		SAND: light brown (7.5YR5/4); poorly sorted, with trace silt, dry, non-plastic, angular to subrounded.	65.0
					65	GP		GRAVEL: brown (7.5YR5/4); with clay, silt, sand, slightly moist, low plasticity.	70.0
					70	ML		SILT: light brown (7.5YR6/4); sandy trace clay, moist, low plasticity.	75.0
					75				



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BORING/WELL CONSTRUCTION LOG

PROJECT NUMBER 10500-53426 **BORING/WELL NUMBER** EW-3
PROJECT NAME Omega Chemical **DATE DRILLED** 7/11/06

Continued from Previous Page

PID (ppm)	BLOW COUNTS	RECOVERY (inches)	SAMPLE ID.	EXTENT	DEPTH (ft. bgs)	U.S.C.S.	GRAPHIC LOG	LITHOLOGIC DESCRIPTION	CONTACT DEPTH	WELL DIAGRAM
						GP		GRAVEL: light brown (7.5YR6/4); sandy, silty, with trace clay, wet, non-plastic, angular to subangular.	78.0	#2/12 Filter Pack (63.4-90 ft bgs).
						ML		SILT: light brown (7.5YR6/4); sandy.	80.0	
					80	SP		SAND: brown (7.5YR5/4); silty and clay, trace fine gravel, wet, angular grains, non-plastic, water added to boring at 80'.	85.0	6", 20-slot, SS Wire Wrap Screen (70-85 ft bgs).
					85	CL		CLAY: light brown (7.5YR6/4); silty, sandy, with trace gravel, wet, low plasticity.	90.0	6" Sch 40, PVC Sump (85-90 ft bgs).
					90			CLAY: light brown (7.5YR6/4); silty, sandy, with trace gravel, wet, medium plasticity.		End Cap (90 ft bgs).
					95					
					100					
					105					
					110					
					115					

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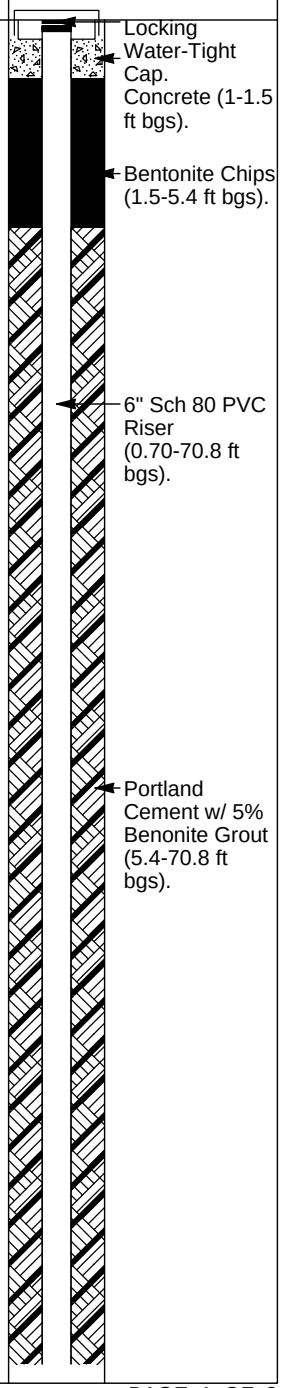
BORING/WELL CONSTRUCTION LOG

PROJECT NUMBER 10500-53426
PROJECT NAME Omega Chemical
LOCATION Putnam St.
DRILLING METHOD Air Rotary Casing Hammer
SAMPLING METHOD Cuttings
GROUND SURFACE ELEVATION (FT MSL) NA
TOP OF CASING ELEVATION (FT MSL) NA
LOGGED BY Andy Horn
REMARKS Key #3232

BORING/WELL NUMBER EW-4
DATE DRILLED 7/17/06
CASING TYPE/DIAMETER Sch 80, PVC / 6"
SCREEN TYPE/SLOT 6" Stainless Steel Wire Wrap / 0.020"
GRAVEL PACK TYPE #2/12
GROUT TYPE/QUANTITY Portland Cement 5% Bentonite
STATIC WATER LEVEL (FT BELOW TOC) 63.11
GROUND WATER ELEVATION (FT MSL)

PID (ppm)	BLOW COUNTS	RECOVERY (inches)	SAMPLE ID.	EXTENT	DEPTH (ft. bgs)	U.S.C.S.	GRAPHIC LOG	LITHOLOGIC DESCRIPTION	CONTACT DEPTH
								6" Concrete	0.5
								SILT: dark brown (7.5YR5/4); clayey, moderate plasticity, slightly moist.	
					5				
					10				
					15			Trace gravel.	
						ML			
					20			Trace sand.	
					25			Trace sand.	
					30				
					35				35.0



WELL DIAGRAM

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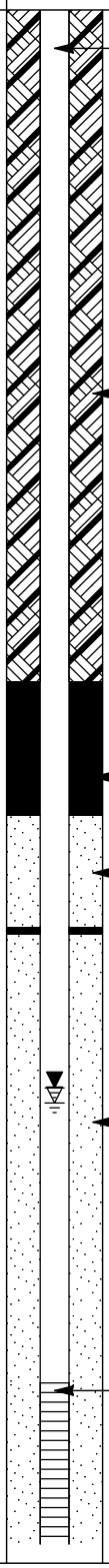
BORING/WELL CONSTRUCTION LOG

PROJECT NUMBER 10500-53426 **BORING/WELL NUMBER** EW-4
PROJECT NAME Omega Chemical **DATE DRILLED** 7/17/06

Continued from Previous Page

PID (ppm)	BLOW COUNTS	RECOVERY (inches)	SAMPLE ID.	EXTENT	DEPTH (ft. bgs)	U.S.C.S.	GRAPHIC LOG	LITHOLOGIC DESCRIPTION	CONTACT DEPTH
								Water added to boring.	
					40			Trace sand.	
					45	ML		Trace sand.	
					50			SILT: brown (7.5YR4/6); sandy, fine sand, no plasticity determination, wet.	
					55			SAND: brown (7.5YR5/4); fine to medium, silty, wet, smooth.	55.0
					60	SP			
					65			SILT: brown (7.5YR5/6); with medium to fine sand, wet.	65.0
					70	ML			
					75				75.0



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BORING/WELL CONSTRUCTION LOG

PROJECT NUMBER 10500-53426 **BORING/WELL NUMBER** EW-4
PROJECT NAME Omega Chemical **DATE DRILLED** 7/17/06

Continued from Previous Page

PID (ppm)	BLOW COUNTS	RECOVERY (inches)	SAMPLE ID.	EXTENT	DEPTH (ft. bgs)	U.S.C.S.	GRAPHIC LOG	LITHOLOGIC DESCRIPTION	CONTACT DEPTH	WELL DIAGRAM
						ML		SILT: brown (7.5YR5/6); with medium to fine sand, no plasticity determination, wet.		#2/12 Filter Pack (59-90.8 ft bgs).
					80				80.0	6", 20-slot, SS Wire Wrap Screen (70.8-85.8 ft bgs).
						CL		CLAY: brown (7.5YR4/4); silty, medium to high plasticity, moist.		
					85					6" Sch 40 PVC Sump (85.8-90.8 ft bgs).
					90				90.0	
						ML		SILT: brown (7.5YR5/4); with very fine sand, non-plastic, wet.	90.8	End Cap (90.8 ft bgs).
					95					
					100					
					105					
					110					
					115					

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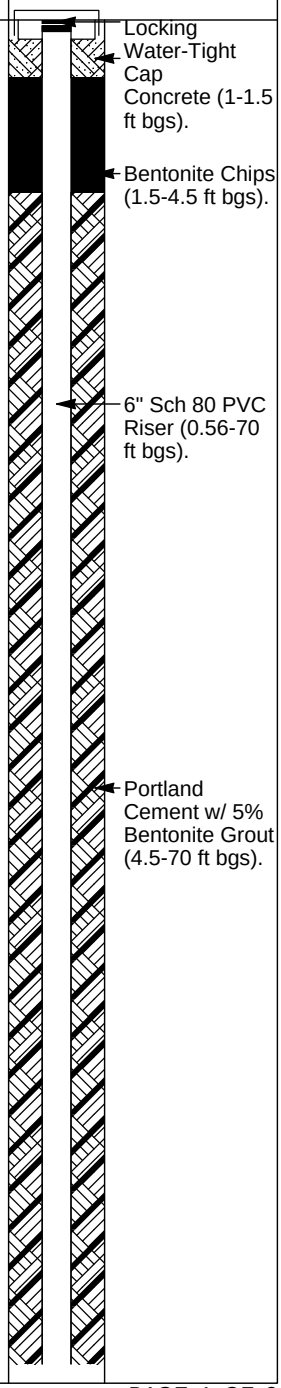
BORING/WELL CONSTRUCTION LOG

PROJECT NUMBER 10500-53426
PROJECT NAME Omega Chemical
LOCATION Putnam St.
DRILLING METHOD Air Rotary Casing Hammer
SAMPLING METHOD Cuttings
GROUND SURFACE ELEVATION (FT MSL) NA
TOP OF CASING ELEVATION (FT MSL) NA
LOGGED BY Andy Horn
REMARKS Key #3232

BORING/WELL NUMBER EW-5
DATE DRILLED 7/17/06
CASING TYPE/DIAMETER Sch 80, PVC / 6"
SCREEN TYPE/SLOT 6" Stainless Steel Wire Wrap / 0.020"
GRAVEL PACK TYPE #2/12
GROUT TYPE/QUANTITY Portland Cement 5% Bentonite
STATIC WATER LEVEL (FT BELOW TOC) 61.55
GROUND WATER ELEVATION (FT MSL)

PID (ppm)	BLOW COUNTS	RECOVERY (inches)	SAMPLE ID.	EXTENT	DEPTH (ft. bgs)	U.S.C.S.	GRAPHIC LOG	LITHOLOGIC DESCRIPTION	CONTACT DEPTH
								6" Concrete	0.5
						ML		SILT: brown (7.5YR4/4); clayey, moderate plasticity, slightly moist.	
					5				
					10			Trace gravel.	
					15			Trace fine gravel.	
					20				
					25			SILT: brown (7.5YR4/4); sandy, with clay, moderate plasticity, slightly moist.	27.0
						SP		SAND: strong brown (7.5YR4/6); with silt and gravel, sand is fine to coarse, non-plastic, slightly moist.	30.0
					30			SILT: brown (7.5YR4/4); with clay and gravel, moderate plasticity, slightly moist.	
					35				



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BORING/WELL CONSTRUCTION LOG

PROJECT NUMBER 10500-53426 **BORING/WELL NUMBER** EW-5
PROJECT NAME Omega Chemical **DATE DRILLED** 7/17/06

Continued from Previous Page

PID (ppm)	BLOW COUNTS	RECOVERY (inches)	SAMPLE ID.	EXTENT	DEPTH (ft. bgs)	U.S.C.S.	GRAPHIC LOG	LITHOLOGIC DESCRIPTION	CONTACT DEPTH	WELL DIAGRAM
								SILT: brown (7.5YR4/2); with clay, moderate plasticity, slightly moist.		6" Sch 80 PVC Riser (0.56-70 ft bgs).
					40			SILT: brown (7.5YR4/4); with clay and very fine sand, moderate to low plasticity, slightly moist.		
					45	ML				Portland Cement w/ 5% Bentonite Grout (4.5-70 ft bgs).
					50					
										Bentonite Chips (51.5-55 ft bgs).
					55					
										#60 Mesh Sand (55-60 ft bgs).
					60				60.0	
								SAND: strong brown (7.5YR5/6); fine to medium, with silt, non-plastic, slightly moist.		
					65	SP				#2/12 Filter Pack (60-90 ft bgs).
					70				70.0	
								SILT: brown (7.5YR5/4); clayey, with medium sand, trace gravel, moderate to high plasticity, moist.		
						ML				6" 20=slot, SS Wire Wrap Screen (70-85 ft bgs).
					75				75.0	

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BORING/WELL CONSTRUCTION LOG

PROJECT NUMBER 10500-53426 **BORING/WELL NUMBER** EW-5
PROJECT NAME Omega Chemical **DATE DRILLED** 7/17/06

Continued from Previous Page

PID (ppm)	BLOW COUNTS	RECOVERY (inches)	SAMPLE ID.	EXTENT	DEPTH (ft. bgs)	U.S.C.S.	GRAPHIC LOG	LITHOLOGIC DESCRIPTION	CONTACT DEPTH	WELL DIAGRAM
								CLAY: brown (7.5YR5/4); silty, with fine to medium sand, moderate plasticity, moist.		#2/12 Filter Pack (60-90 ft bgs).
					80			CLAY: strong brown (7.5YR5/6); silty, with fine sand and gravel, medium to high plasticity, moist.		6" 20=slot, SS Wire Wrap Screen (70-85 ft bgs).
						CL		Water added to boring.		
					85			CLAY: strong brown (7.5YR5/6); silty, with very fine sand, trace gravel, high plasticity, moist.		6" Sch 40, PVC Sump (85-90 ft bgs).
					90	CL		CLAY: strong brown (7.5YR5/8); silty, with very fine to medium sand, trace gravel, wet.	90.0 90.0	End Cap (90 ft bgs).
					95					
					100					
					105					
					110					
					115					

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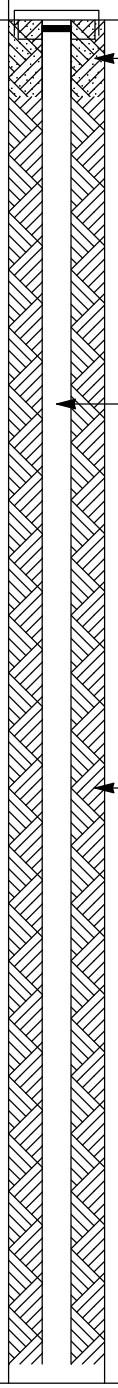
BORING/WELL CONSTRUCTION LOG

PROJECT NUMBER	10500-64614.DRILL	**BORING/WELL NUMBER**	OW-9
PROJECT NAME	Omega Chemical	**DATE DRILLED**	12/22/08
LOCATION	Omega/Star City Auto	**CASING TYPE/DIAMETER**	4" Sch 40 PVC
DRILLING METHOD	Hollow Stem Auger	**SCREEN TYPE/SLOT**	4" Stainless Steel 0.020 " slot
SAMPLING METHOD	Modified CA-Split Spoon (No Sleeves)	**GRAVEL PACK TYPE**	#2/12 Monterey Sand
GROUND SURFACE ELEVATION (FT MSL)	NA	**GROUT TYPE/QUANTITY**	Portland Cement with 5% Bentonite
TOP OF CASING ELEVATION (FT MSL)	NA	**STATIC WATER LEVEL (FT BELOW TOC)**	69.34
LOGGED BY	K.Klepinger	**GROUND WATER ELEVATION (FT MSL)**	0.00
REMARKS			

PID (ppm)	BLOW COUNTS	RECOVERY (inches)	SAMPLE ID.	EXTENT	DEPTH (ft. bgs)	U.S.C.S.	GRAPHIC LOG	LITHOLOGIC DESCRIPTION	CONTACT DEPTH
								Top four inches is asphalt.	0.3
								Top 1 foot is road base.	1.0
						ML		SILT; brown (10YR4/3); 80% silt; 10% clay, nonplastic; 10% fine-grained sand, subangular to rounded; trace medium-grained sand; moist, no odor.	
	4,5,7				5				6.0
	5,6,7							CLAY; brown (10YR4/3); 60% clay, firm, low plasticity; 30% silt; 10 fine- to medium-grained sand, mostly fine-grained sand, subangular to rounded; moist, no odor.	
	4,6,6, 8								
	4,5,7				10				
	4,4,6							CLAY; as above.	
	3,5,7, 10								
	5,7,8				15				
	5,6,9							CLAY; dark grayish brown (10YR4/2); 90% clay, hard, moderate plasticity; 10% silt; trace medium-grained sand, subangular to subrounded; moist, no odor.	
	6,8,9, 11								
	7,9,11				20	CL		CLAY; dark grayish brown (10YR4/2); 60% clay, firm, low plasticity; 30% silt; 10 fine- to medium-grained sand, mostly fine-grained sand, subangular to rounded; moist, no odor.	
	6,10,13								
	7,9,12, 16								
	8,12,13				25				
	9,13,18								
	8,11,14, 17								
	7,10,13				30			CLAY; as above.	
	9,13,18								
	9,13,17, 25								
					35				35.0



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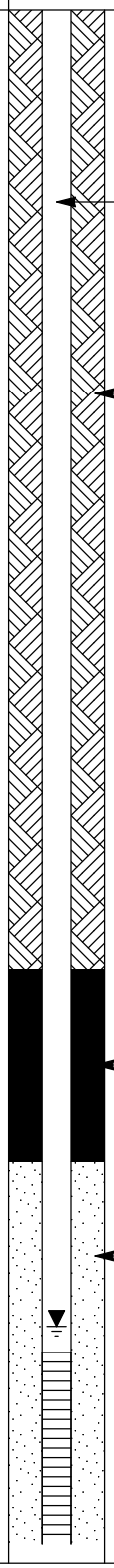
BORING/WELL CONSTRUCTION LOG

PROJECT NUMBER 10500-64614.DRILL **BORING/WELL NUMBER** OW-9
PROJECT NAME Omega Chemical **DATE DRILLED** 12/22/08

Continued from Previous Page

PID (ppm)	BLOW COUNTS	RECOVERY (inches)	SAMPLE ID.	EXTENT	DEPTH (ft. bgs)	U.S.C.S.	GRAPHIC LOG	LITHOLOGIC DESCRIPTION	CONTACT DEPTH
	8,12,16					CL		CLAY WITH SAND; brown (10YR4/3); 70% clay, firm, low plasticity; 15% silt; 15% fine- to medium-grained sand, subangular to subrounded; moist, no odor.	
	7,11,17								38.0
	7,10,13, 14					CL		CLAY; dark grayish brown (10YR4/2); 90% clay, hard, moderate plasticity; 10% silt; trace medium-grained sand, subangular to subrounded; moist, no odor.	
	8,9,12				40				
	10,14,20								
	9,13,17, 23								
	8,19,17				45				
	10,12,20								48.0
	10,14,19, 25					SW		WELL GRADED SAND; dark yellowish brown (10YR4/4); 100% fine- to coarse-grained sand, subangular to subrounded; trace gravel, diameter to 1/2 inch, angular to subangular; moist, no odor.	
	8,11,14				50				
	9,10,13								
	11,14,17, 23								
					55				55.0
	6,23,28					CL		CLAY; dark grayish brown (10YR4/2); 60% clay, hard, low plasticity; 30% silt; 10% fine- to medium-grained sand, mostly fine-grained sand; moist, no odor.	
	14,20,25								
	12,18,24								
	6,8,13				60				
	7,12,14								
	8,10,13, 16								
	6,9,11				65				
	6,10,12								68.0
	6,8,10,14					CL		CLAY WITH SAND; dark yellowish sand (10YR4/4); 60% clay, firm, low plasticity; 20% silt; 20% fine- to medium-grained sand, subangular to subrounded; moist, no odor.	
	5,7,10				70				70.0
	6,7,10							CLAY; dark grayish brown (10YR4/2); 60% clay, hard, low plasticity; 30% silt; 10% fine- to medium-grained sand, mostly fine-grained sand; moist, no odor.	
	6,7,10, 12				75				



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BORING/WELL CONSTRUCTION LOG

PROJECT NUMBER 10500-64614.DRILL **BORING/WELL NUMBER** OW-9
PROJECT NAME Omega Chemical **DATE DRILLED** 12/22/08

Continued from Previous Page

PID (ppm)	BLOW COUNTS	RECOVERY (inches)	SAMPLE ID.	EXTENT	DEPTH (ft. bgs)	U.S.C.S.	GRAPHIC LOG	LITHOLOGIC DESCRIPTION	CONTACT DEPTH	WELL DIAGRAM
	6,9,12					CL		CLAY; as above except wet.		
	5,6,8									
	4,6,8, 12							CLAY; as above except saturated.		
	4,6,8				80					4", 0.020"slot, Stainless Steel Wire Wrap Screen (70-90 ft bgs).
	5,5,7							CLAYEY SAND; dark yellowish brown (10YR4/4); 70% fine- to coarse-grained sand, subangular to subrounded; 30% clay, soft, low plasticity; wet, no odor.	81.5	
	4,5,8, 12					SC				
	5,5,7				85			CLAY; brown (10YR4/3); 70% clay, firm, low plasticity; 20% silt; 10% fine- to medium-grained sand, subangular to subrounded; moist, no odor.	85.0	
	6,8,10					CL		CLAY; as above except dark grayish brown (10YR3/2).		
	5,7,8, 11					CL		CLAY WITH GRAVEL; dark grayish brown (10YR3/2); 60% clay, firm, low plasticity; 20% gravel, diameter to 3/4 inches, angular to subangular; 20% fine- to coarse-grained sand, angular to subrounded; wet, no odor. 3" Gravel lense at 89.5 feet bgs.	88.0	
					90				90.2	

Total Depth = 90.2 feet below ground surface (bgs).
Groundwater encountered at approximately 76 feet bgs.
Static groundwater level at 69.73 feet bgs.

95
100
105
110
115

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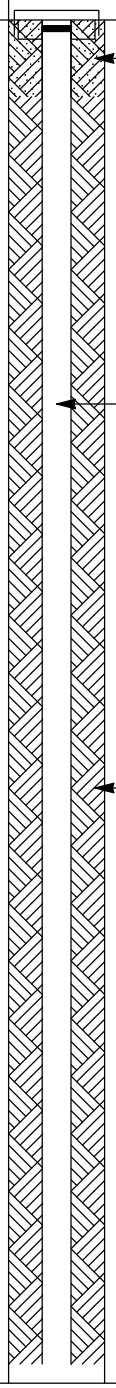
BORING/WELL CONSTRUCTION LOG

PROJECT NUMBER	10500-64614.DRILL	**BORING/WELL NUMBER**	OW-10
PROJECT NAME	Omega Chemical	**DATE DRILLED**	12/23/08
LOCATION	Omega/Star City Auto	**CASING TYPE/DIAMETER**	4" Sch 40 PVC
DRILLING METHOD	Hollow Stem Auger	**SCREEN TYPE/SLOT**	4" Stainless Steel 0.020 " slot
SAMPLING METHOD	Modified CA-Split Spoon (No Sleeves)	**GRAVEL PACK TYPE**	#2/12 Monterey Sand
GROUND SURFACE ELEVATION (FT MSL)	NA	**GROUT TYPE/QUANTITY**	Portland Cement with 5% Bentonite
TOP OF CASING ELEVATION (FT MSL)	NA	**STATIC WATER LEVEL (FT BELOW TOC)**	73.64
LOGGED BY	K.Klepinger	**GROUND WATER ELEVATION (FT MSL)**	0.00
REMARKS			

PID (ppm)	BLOW COUNTS	RECOVERY (inches)	SAMPLE ID.	EXTENT	DEPTH (ft. bgs)	U.S.C.S.	GRAPHIC LOG	LITHOLOGIC DESCRIPTION	CONTACT DEPTH
								Top three inches is asphalt.	0.3
								Top 1 foot is road base.	1.0
						CL		CLAY; dark grayish brown (10YR4/2); 90% clay, firm, moderate plasticity; 10% silt; trace fine- to medium-grained sand, subangular to subrounded; moist, no odor.	
	4,5,7				5				
	5,5,7							CLAY; dark grayish brown (10YR4/2); 75% clay, firm, moderate plasticity; 25% silt; trace fine- to medium-grained sand, subangular to subrounded; moist, no odor.	8.0
	4,5,7, 10					ML		SILT; brown (10YR4/3); 70% silt; 30% clay; trace fine-grained sand, subangular to subrounded; moist, no odor.	10.0
	5,6,7				10	ML		SILT WITH GRAVEL; brown (10YR4/3); 70% silt; 20% gravel, diameter to 3/4 inches, angular to subangular; 10% clay; moist, no odor.	11.5
	4,5,7					ML		SILT; brown (10YR4/3); 70% silt; 30% clay; trace fine-grained sand, subangular to subrounded; moist, no odor.	13.0
	4,5,5, 6								
	3,5,7				15			CLAY; brown (10YR4/3); 60% clay, firm, low plasticity; 40% silt; trace fine- to medium-grained sand, subangular to subrounded; moist, no odor.	
	4,5,5							CLAY; as above except clay is stiff.	
	4,6,7, 9							CLAY; as above except dark grayish brown (10YR4/2).	
	5,6,9				20				
	7,10,14							CLAY; as above except dark yellowish brown (10YR3/4).	
	7,9,12, 15								
	6,8,12				25				
	4,5,7							CLAY; as above except clay is firm.	
	4,6,8, 8							CLAY; as above except clay is very stiff.	
	4,5,6				30	CL		CLAY; dark yellowish brown (10YR3/4); 70% clay, very stiff, moderate plasticity; 30% silt; trace fine- to medium-grained; trace mica; moist, no odor.	
	5,7,8								
	5,7,10, 13								
					35				

WELL DIAGRAM



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BORING/WELL CONSTRUCTION LOG

PROJECT NUMBER 10500-64614.DRILL **BORING/WELL NUMBER** OW-10
PROJECT NAME Omega Chemical **DATE DRILLED** 12/23/08

Continued from Previous Page

PID (ppm)	BLOW COUNTS	RECOVERY (inches)	SAMPLE ID.	EXTENT	DEPTH (ft. bgs)	U.S.C.S.	GRAPHIC LOG	LITHOLOGIC DESCRIPTION	CONTACT DEPTH	WELL DIAGRAM
	5,8,10									
	5,6,9							CLAY; as above except clay is low plasticity.		
	6,8,10, 14									
	5,7,10				40					4" Schedule 40 PVC Blank (0-69.5 ft bgs)
	6,8,11									
	6,8,10, 12									
	7,10,14				45					Portland Cement w/5% Bentonite Grout (2-59.5 ft bgs)
	6,9,12					ML		SILT; dark yellowish brown (10YR3/4); 60% silt, soft; 40% clay, low plasticity; trace mica; trace fine- to medium-grained sand; moist, no odor.	46.5	
	7,10,13, 17					ML		SILT WITH SAND; dark yellowish brown (10YR3/4); 75% silt, soft, friable; 25% fine-grained sand, subangular to subrounded; trace medium-grained sand; trace gravel, angular to subangular, diameter to 1/2 inch; some mica; moist, no odor.	48.0	
	7,11,14				50					
	7,10,13							CLAY; brown (10YR4/3); 60% clay, firm, low plasticity; 40% silt; trace fine- to medium-grained sand, subangular to subrounded; moist, no odor.	51.5	
	8,11,14, 19									
	6,9,11				55					
	7,9,13									
	6,9,11, 15									
	5,7,10				60			CLAY; dark yellowish brown (10YR3/4); 70% clay, stiff, low to moderate plasticity; 30% silt; trace mica; trace fine- to medium-grained sand, subangular to subrounded; moist, no odor.		
	6,9,12									Hydrated Bentonite Chips (59.5-64.5 ft bgs)
	5,7,10, 12							CLAY; dark yellowish brown (10YR3/4); 60% clay, very stiff, low to moderate plasticity; 40% silt; trace mica; trace fine- to medium-grained sand, subangular to subrounded; trace gravel, diameter to 1/2 inch, angular to subangular; moist, no odor.		
	5,7,8				65					
	4,7,8					CL				#2/12 Monterey Sand (64.5 - 89.5 ft bgs)
	3,4,6, 9							CLAY; as above except wet. Color is brown (10YR4/3).		
	5,7,9				70					
	3,5,6									
	4,5,5, 7									
					75					

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BORING/WELL CONSTRUCTION LOG

PROJECT NUMBER 10500-64614.DRILL **BORING/WELL NUMBER** OW-10
PROJECT NAME Omega Chemical **DATE DRILLED** 12/23/08

Continued from Previous Page

PID (ppm)	BLOW COUNTS	RECOVERY (inches)	SAMPLE ID.	EXTENT	DEPTH (ft. bgs)	U.S.C.S.	GRAPHIC LOG	LITHOLOGIC DESCRIPTION	CONTACT DEPTH	WELL DIAGRAM
	3,4,6									
	4,4,6							CLAY; brown (10YR4/3); 60% clay, firm, low plasticity; 25% silt; 25% gravel, diameter to 3/4 inches, angular to subangular; saturated, no odor.		
	4,5,6, 8							CLAY; dark yellowish brown (10YR3/4); 60% clay, very stiff, low to moderate plasticity; 40% silt; trace mica; trace fine- to medium-grained sand, subangular to subrounded; trace gravel, diameter to 1/2 inch, angular to subangular; moist, no odor.		4", 0.020"slot, Stainless Steel Wire Wrap Screen (69.5-89.5 ft bgs).
	5,7,8				80					
	4,6,8							CLAY; brown (10YR4/3); 60% clay, firm, low plasticity; 25% silt; 25% gravel, diameter to 3/4 inches, angular to subangular; saturated, no odor.	81.5	
	4,5,7, 8							CLAY WITH SAND; 80% clay, firm, moderate plasticity; 20% fine- to medium-grained sand, subangular to subrounded; trace mica; wet; no odor.		
	4,6,6				85	CL				
	3,5,6									
	4,5,7, 9									
					90				90.0	Sluff
								Total Depth = 90.2 feet below ground surface (bgs). Groundwater encountered at approximately 68 feet bgs. Static groundwater level at 73.64 feet bgs.		
					95					
					100					
					105					
					110					
					115					

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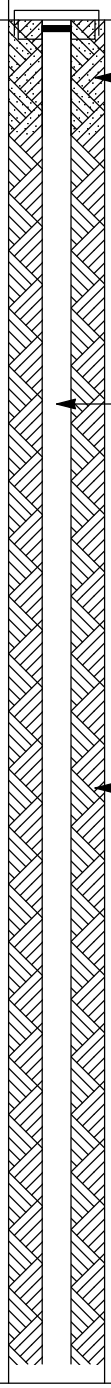
BORING/WELL CONSTRUCTION LOG

PROJECT NUMBER 10500-64614.PIEZOMETERS
PROJECT NAME Omega Chemical
LOCATION Putnam Street
DRILLING METHOD Hollow Stem Auger
SAMPLING METHOD Modified CA-Split Spoon (No Sleeves)
GROUND SURFACE ELEVATION (FT MSL) N/A
TOP OF CASING ELEVATION (FT MSL) N/A
LOGGED BY K.Klepinger
REMARKS

BORING/WELL NUMBER PZ-3
DATE DRILLED 6/2/09
CASING TYPE/DIAMETER 2" Sch 40 PVC
SCREEN TYPE/SLOT 2" Schedule 40 PVC 0.010" Slot
GRAVEL PACK TYPE Monterey #2/12
GROUT TYPE/QUANTITY Portland Cement with 5% Bentonite
STATIC WATER LEVEL (FT BELOW TOC)
GROUND WATER ELEVATION (FT MSL)

PID (ppm)	BLOW COUNTS	RECOVERY (inches)	SAMPLE ID.	EXTENT	DEPTH (ft. bgs)	U.S.C.S.	GRAPHIC LOG	LITHOLOGIC DESCRIPTION	CONTACT DEPTH
								Top 8 inches is concrete.	0.7
						CL		CLAY; dark grayish brown (10YR4/2); 75% clay, firm, low plasticity; 20% silt; 5% fine- to medium-grained sand, subangular to subrounded; moist, no odor.	
	4,4, 6				5			CLAY; as above except 60% clay; 35% silt; 5% sand.	6.5
	7,9, 11					ML		SANDY SILT; brown (10YR4/3); 50% silt, soft , crumbly; 30% fine-grained sand, subangular to subrounded; 20% clay; moist, no odor.	
	8,11, 15,20								10.0
	11,17, 19				10	CL		CLAY WITH SAND; brown (10YR4/3); 50% clay, soft, low plasticity; 30% silt; 20% fine- to medium-grained sand, mostly fine-grained sand, subangular to subrounded; moist, no odor.	
	10,11, 15								13.0
	10,15, 19,25							CLAY; dark brown (10YR3/3); 70% clay, very stiff, low plasticity; 30% silt; trace fine- to coarse-grained sand, subangular to subrounded; moist, no odor.	
	15,19, 20				15				
	13,19, 20								
	11,17, 20,26	18						CLAY; as above.	
	12,14, 17				20				
	14,19, 23							CLAY; as above except trace gravel, angular to subangular, diameter to 1/4 inches. Color is brown (10YR4/3).	
	15,21, 29,33								
	9,15, 20				25				
	11,14, 21							CLAY; brown (10YR4/3); 85% clay, very stiff, moderate plasticity; 15% silt; trace fine- to coarse-grained sand, subangular to subrounded; moist, no odor.	
	11,17, 23,33							CLAY; brown (10YR4/3); 85% clay, very stiff, moderate plasticity; 15% silt; trace fine- to coarse-grained sand, subangular to subrounded; trace gravel, angular to subangular, diameter to 1/4 inches; moist, no odor.	
	13,19, 22				30				
	14,19, 27					CL		CLAY; dark grayish brown (10YR42); 75% clay, very stiff, low plasticity; 25% silt; trace fine- to medium-grained sand, subangular to subrounded; moist, no odor.	
	11,14, 19,23				35				

WELL DIAGRAM



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CDM
111 Academy, Suite 150
Irvine, CA 92617
(949) 752-5452
(949) 752-3790 (FAX)

BORING/WELL CONSTRUCTION LOG

PROJECT NUMBER 10500-64614.PIEZOMETERS **BORING/WELL NUMBER** PZ-3
PROJECT NAME Omega Chemical **DATE DRILLED** 6/2/09

Continued from Previous Page

PID (ppm)	BLOW COUNTS	RECOVERY (inches)	SAMPLE ID.	EXTENT	DEPTH (ft. bgs)	U.S.C.S.	GRAPHIC LOG	LITHOLOGIC DESCRIPTION	CONTACT DEPTH	WELL DIAGRAM
	14,19, 25					CL		CLAY; brown (10YR4/3); 70% clay, very stiff, low plasticity; 20% silt; 10% fine- to coarse-grained sand, subangular to subrounded; trace gravel, angular to subangular, diameter to 1/4 inches; moist, no odor.		
	13,17, 20									
	6,7, 9,12									
					80					2", 0.020"slot, Schedule 40 PVC Screen (69.8-89.8 ft bgs).
	9,11, 12									
	8,11, 14								82.5	
						SM		SILTY SAND; very dark grayish brown (10YR3/2); 60% silt; 40% fine- to coarse-grained sand, subangular to subrounded; wet, no odor.	83.0	
	10,12, 14,17									
					85			SANDY CLAY; dark yellowish brown (10YR4/4); 60% clay, soft, moderate plasticity; 20% silt; 20% fine- to coarse-grained sand, subangular to subrounded; wet, no odor.		
	18,19, 25	6				CL				
	9,12, 15	0								
	7,8, 12	18								
					90				90.0	Sluff
								Total Depth = 90 feet below ground surface (ft bgs).		
					95					
					100					
					105					
					110					
					115					

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Irvine, CA 92617
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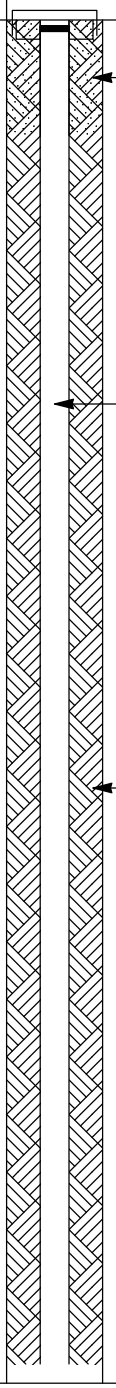
BORING/WELL CONSTRUCTION LOG

PROJECT NUMBER 10500-64614.PIEZOMETERS
PROJECT NAME Omega Chemical
LOCATION Putnam Street
DRILLING METHOD Hollow Stem Auger
SAMPLING METHOD Modified CA-Split Spoon (No Sleeves)
GROUND SURFACE ELEVATION (FT MSL) N/A
TOP OF CASING ELEVATION (FT MSL) N/A
LOGGED BY K.Klepinger
REMARKS

BORING/WELL NUMBER PZ-4
DATE DRILLED 6/1/09
CASING TYPE/DIAMETER 2" Sch 40 PVC
SCREEN TYPE/SLOT 2" Schedule 40 PVC 0.010" Slot
GRAVEL PACK TYPE Monterey #2/12
GROUT TYPE/QUANTITY Portland Cement with 5% Bentonite
STATIC WATER LEVEL (FT BELOW TOC)
GROUND WATER ELEVATION (FT MSL)

PID (ppm)	BLOW COUNTS	RECOVERY (inches)	SAMPLE ID.	EXTENT	DEPTH (ft. bgs)	U.S.C.S.	GRAPHIC LOG	LITHOLOGIC DESCRIPTION	CONTACT DEPTH
								Top 10 inches is concrete.	0.8
								Next 1 foot is road base.	1.8
						CL		CLAY; dark grayish brown (10YR4/2); 75% clay, firm, low plasticity; 20% silt; 5% fine- to medium-grained sand, subangular to subrounded; moist, no odor.	
	4,5, 6				5				
	6,7, 9								8.0
	6,11, 12,14	12				CL		CLAY WITH SAND; brown (10YR4/3); 60% clay, firm, low plasticity; 20% silt; 20% fine- to coarse-grained sand, subangular to subrounded; trace gravel, angular to subangular, diameter to 1 inch; moist, no odor.	
	6,9, 11				10				11.5
	7,9, 12							CLAY; brown (10YR4/3); 70% clay, soft, moderate plasticity; 30% silt; trace fine- to coarse-grained sand, subangular to subrounded; moist, no odor.	
	6,8, 12,18							CLAY; as above except very stiff; trace gravel, angular to subangular, diameter to 1/2 inch.	
	8,11, 14				15			CLAY; as above except no gravel.	
	7,11, 13					CL			
	8,11, 14,16							CLAY; dark grayish brown (10YR4/2); 80% clay, very stiff, low plasticity; 20% silt; trace fine- to medium-grained sand, subangular to subrounded; moist, no odor.	
	9,13, 16				20				21.5
	7,11, 14					CL		SANDY CLAY; brown (10YR4/4); 50% clay, firm, low plasticity; 30% fine- to medium-grained sand, mostly fine-grained, subangular to subrounded; 20% silt; moist, no odor.	23.0
	7,9, 11,14	18						CLAY; brown (10YR4/3); 70% clay, firm, moderate plasticity; 30% silt; trace fine- to coarse-grained sand, subangular to subrounded; moist, no odor.	
	8,10, 13				25			CLAY; dark grayish brown (10YR4/2); 80% clay, very stiff, low plasticity; 20% silt; trace fine- to medium-grained sand, subangular to subrounded; moist, no odor.	
	10,12, 15								
	9,11, 14,16								
	9,11, 13				30				
	11,14, 18							CLAY; dark grayish brown (10YR4/2); 70% clay, very stiff, low plasticity; 30% silt; trace fine- to coarse-grained sand, subangular to subrounded; moist, no odor.	
	10,15, 16,19					CL			
					35				



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(949) 752-3790 (FAX)

BORING/WELL CONSTRUCTION LOG

PROJECT NUMBER 10500-64614.PIEZOMETERS **BORING/WELL NUMBER** PZ-4
PROJECT NAME Omega Chemical **DATE DRILLED** 6/1/09

Continued from Previous Page

PID (ppm)	BLOW COUNTS	RECOVERY (inches)	SAMPLE ID.	EXTENT	DEPTH (ft. bgs)	U.S.C.S.	GRAPHIC LOG	LITHOLOGIC DESCRIPTION	CONTACT DEPTH	WELL DIAGRAM
	7,14, 17									
	7,9, 13									
	7,9, 12,14									
	6,7, 10				40			CLAY; as above.		2" Schedule 40 PVC Blank (0-70 ft bgs)
	8,10, 11									
	5,11, 14,17	18								
	6,9, 11				45	CL		CLAY WITH SAND; dark grayish brown (10YR4/2); 60% clay, very stiff, low plasticity; 20% silt; 20% fine-grained sand, subangular to subrounded; moist, no odor.	45.0	Portland Cement w/5% Bentonite Grout (3-60 ft bgs)
	7,11, 13							SILTY SAND; dark yellowish brown (10YR4/4); 70% fine- to medium-grained sand, mostly fine-grained sand, subangular to subrounded; 30% silt; moist, no odor.	46.5	
	6,10, 14,16									
	7,9, 11				50	SM		SILTY SAND; as above.		
	6,7, 10									
	9,11, 14,18	18								
	10,13, 14				55	SP		POORLY GRADED SAND; grayish brown (10YR5/2); 95% fine- to medium-grained sand, subangular to subrounded; 5% silt; moist, no odor.	55.0	
	25,50	12						WELL GRADED SAND; grayish brown (10YR5/2); 100% fine- to coarse-grained sand, subangular to subrounded; 5% silt; moist, no odor.	58.0	
	10,14, 16				60	SW		WELL GRADED SAND; as above except trace gravel, angular to subangular, diameter to 1/2 inch.		
	10,17, 20	6							63.0	Hydrated Bentonite Chips (60-65 ft bgs)
	10,14, 17,20							CLAY; brown (10YR4/4); 90% clay, firm, moderate plasticity; 10% silt; trace medium-grained sand, subangular to subrounded; trace mica; moist, no odor.		
	10,12, 16				65					
	11,14, 16					CL				#2/12 Monterey Sand (65 - 90 ft bgs)
	11,14, 17,21							CLAY; as above 70% clay, very stiff; 30% silt.		
	10,14, 17				70			CLAY; brown (10YR4/4); 75% clay, very stiff, moderate plasticity; 20% silt; 5% fine to medium-grained sand, subangular to subrounded; trace mica; moist, no odor.		
	12,14, 18								73.0	
	10,12, 14,16				75			CLAY WITH SAND; brown (10YR4/4); 80% clay, very stiff, moderate plasticity; 20% fine to medium-grained sand, subangular to subrounded; trace mica; wet, no odor.		

Continued Next Page

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111 Academy, Suite 150
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BORING/WELL CONSTRUCTION LOG

PROJECT NUMBER 10500-64614.PIEZOMETERS **BORING/WELL NUMBER** PZ-4
PROJECT NAME Omega Chemical **DATE DRILLED** 6/1/09

Continued from Previous Page

PID (ppm)	BLOW COUNTS	RECOVERY (inches)	SAMPLE ID.	EXTENT	DEPTH (ft. bgs)	U.S.C.S.	GRAPHIC LOG	LITHOLOGIC DESCRIPTION	CONTACT DEPTH	WELL DIAGRAM
	10,14, 16									
	9,14, 17									
	9,14, 18,19					CL		CLAY WITH SAND; as above.		
					80					2", 0.020"slot, Schedule 40 PVC Screen (70-90 ft bgs).
	10,14, 18									
	10,14, 17								83.0	
	10,14, 17,21							CLAY; brown (10YR4/4); 75% clay, very stiff, moderate plasticity; 20% silt; 5% fine to medium-grained sand, subangular to subrounded; trace mica; moist, no odor.		
	7,17, 19				85					
	10,14, 16					CL				
	11,17, 20,21									
					90				90.0	
								Total Depth = 90 feet below ground surface (ft bgs).		
					95					
					100					
					105					
					110					
					115					

Appendix C
Excavated Soil Analytical Results During Excavation of the Treatment Plant Foundation

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Appendix C.1

January 8, 2008
Excavated Soil
Analytical Results

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Calscience Environmental Laboratories, Inc.

January 10, 2008

Dale Strieter
Patriot Environmental Services
1900 West Anaheim St.
Long Beach, CA 90813-4043

Subject: **Calscience Work Order No.: 08-01-0405**
Client Reference: WAR-OMEGA / LB80022

Dear Client:

Enclosed is an analytical report for the above-referenced project. The samples included in this report were received 1/8/2008 and analyzed in accordance with the attached chain-of-custody.

Unless otherwise noted, all analytical testing was accomplished in accordance with the guidelines established in our Quality Systems Manual, applicable standard operating procedures, and other related documentation. The original report of subcontracted analysis, if any, is provided herein, and follows the standard Calscience data package. The results in this analytical report are limited to the samples tested and any reproduction thereof must be made in its entirety.

If you have any questions regarding this report, please do not hesitate to contact the undersigned.

Sincerely,

Calscience Environmental
Laboratories, Inc.
Stephen Nowak
Project Manager

Calscience Environmental Laboratories, Inc.

Analytical Report

Patriot Environmental Services
1900 West Anaheim St.
Long Beach, CA 90813-4043

Date Received: 01/08/08
Work Order No: 08-01-0405
Preparation: EPA 3050B / EPA 7471A Total
Method: EPA 6010B / EPA 7471A
Units: mg/kg

Project: WAR-OMEGA / LB80022

Client Sample Number	Lab Sample Number	Date Collected	Matrix	Instrument	Date Prepared	Date/Time Analyzed	QC Batch ID
NW-5'	**08-01-0405-1-A**	**01/08/08**	**Solid**	**ICP 5300**	**01/08/08**	**01/08/08 17:18**	**080108L03**

Comment(s): -Mercury was analyzed on 1/8/2008 2:34:30 PM with batch 080108L01

Parameter	Result	RL	DF	Qual	Parameter	Result	RL	DF	Qual
Antimony	ND	0.750	1		Mercury	ND	0.0835	1	
Arsenic	5.46	0.750	1		Molybdenum	1.76	0.250	1	
Barium	144	0.500	1		Nickel	27.2	0.250	1	
Beryllium	0.648	0.250	1		Selenium	ND	0.750	1	
Cadmium	1.32	0.500	1		Silver	ND	0.250	1	
Chromium	16.7	0.250	1		Thallium	ND	0.750	1	
Cobalt	10.3	0.250	1		Vanadium	41.7	0.250	1	
Copper	25.0	0.500	1		Zinc	59.0	1.00	1	
Lead	9.60	0.500	1						

NW-10'	**08-01-0405-2-A**	**01/08/08**	**Solid**	**ICP 5300**	**01/08/08**	**01/08/08 17:20**	**080108L03**

Comment(s): -Mercury was analyzed on 1/8/2008 2:36:43 PM with batch 080108L01

Parameter	Result	RL	DF	Qual	Parameter	Result	RL	DF	Qual
Antimony	ND	0.750	1		Mercury	ND	0.0835	1	
Arsenic	4.74	0.750	1		Molybdenum	1.78	0.250	1	
Barium	127	0.500	1		Nickel	20.9	0.250	1	
Beryllium	0.471	0.250	1		Selenium	ND	0.750	1	
Cadmium	1.05	0.500	1		Silver	ND	0.250	1	
Chromium	12.6	0.250	1		Thallium	ND	0.750	1	
Cobalt	7.90	0.250	1		Vanadium	32.0	0.250	1	
Copper	18.8	0.500	1		Zinc	44.2	1.00	1	
Lead	5.04	0.500	1						

NE-5'	**08-01-0405-3-A**	**01/08/08**	**Solid**	**ICP 5300**	**01/08/08**	**01/08/08 17:23**	**080108L03**

Comment(s): -Mercury was analyzed on 1/8/2008 2:38:57 PM with batch 080108L01

Parameter	Result	RL	DF	Qual	Parameter	Result	RL	DF	Qual
Antimony	ND	0.750	1		Mercury	ND	0.0835	1	
Arsenic	3.52	0.750	1		Molybdenum	0.971	0.250	1	
Barium	163	0.500	1		Nickel	24.1	0.250	1	
Beryllium	0.577	0.250	1		Selenium	ND	0.750	1	
Cadmium	1.32	0.500	1		Silver	ND	0.250	1	
Chromium	15.4	0.250	1		Thallium	ND	0.750	1	
Cobalt	9.20	0.250	1		Vanadium	36.8	0.250	1	
Copper	21.6	0.500	1		Zinc	55.1	1.00	1	
Lead	13.3	0.500	1						

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

Calscience Environmental Laboratories, Inc.

Analytical Report

Patriot Environmental Services
1900 West Anaheim St.
Long Beach, CA 90813-4043

Date Received: 01/08/08
Work Order No: 08-01-0405
Preparation: EPA 3050B / EPA 7471A Total
Method: EPA 6010B / EPA 7471A
Units: mg/kg

Project: WAR-OMEGA / LB80022

Client Sample Number	Lab Sample Number	Date Collected	Matrix	Instrument	Date Prepared	Date/Time Analyzed	QC Batch ID
NE-10'	**08-01-0405-4-A**	**01/08/08**	**Solid**	**ICP 5300**	**01/08/08**	**01/08/08 17:25**	**080108L03**

Comment(s): -Mercury was analyzed on 1/8/2008 2:41:11 PM with batch 080108L01

Parameter	Result	RL	DF	Qual	Parameter	Result	RL	DF	Qual
Antimony	ND	0.750	1		Mercury	ND	0.0835	1	
Arsenic	4.88	0.750	1		Molybdenum	1.64	0.250	1	
Barium	122	0.500	1		Nickel	21.5	0.250	1	
Beryllium	0.499	0.250	1		Selenium	ND	0.750	1	
Cadmium	1.05	0.500	1		Silver	ND	0.250	1	
Chromium	12.9	0.250	1		Thallium	ND	0.750	1	
Cobalt	8.56	0.250	1		Vanadium	32.6	0.250	1	
Copper	19.8	0.500	1		Zinc	46.5	1.00	1	
Lead	5.96	0.500	1						

SW-5'	**08-01-0405-5-A**	**01/08/08**	**Solid**	**ICP 5300**	**01/08/08**	**01/08/08 17:27**	**080108L03**

Comment(s): -Mercury was analyzed on 1/8/2008 2:43:26 PM with batch 080108L01

Parameter	Result	RL	DF	Qual	Parameter	Result	RL	DF	Qual
Antimony	ND	0.750	1		Mercury	ND	0.0835	1	
Arsenic	5.16	0.750	1		Molybdenum	1.34	0.250	1	
Barium	129	0.500	1		Nickel	24.5	0.250	1	
Beryllium	0.592	0.250	1		Selenium	ND	0.750	1	
Cadmium	0.994	0.500	1		Silver	ND	0.250	1	
Chromium	15.2	0.250	1		Thallium	ND	0.750	1	
Cobalt	9.24	0.250	1		Vanadium	38.3	0.250	1	
Copper	21.7	0.500	1		Zinc	51.0	1.00	1	
Lead	6.66	0.500	1						

SW-10'	**08-01-0405-6-A**	**01/08/08**	**Solid**	**ICP 5300**	**01/08/08**	**01/08/08 17:29**	**080108L03**

Comment(s): -Mercury was analyzed on 1/8/2008 2:45:41 PM with batch 080108L01

Parameter	Result	RL	DF	Qual	Parameter	Result	RL	DF	Qual
Antimony	ND	0.750	1		Mercury	ND	0.0835	1	
Arsenic	4.46	0.750	1		Molybdenum	1.76	0.250	1	
Barium	128	0.500	1		Nickel	22.4	0.250	1	
Beryllium	0.529	0.250	1		Selenium	ND	0.750	1	
Cadmium	1.06	0.500	1		Silver	ND	0.250	1	
Chromium	14.6	0.250	1		Thallium	ND	0.750	1	
Cobalt	8.63	0.250	1		Vanadium	35.8	0.250	1	
Copper	21.1	0.500	1		Zinc	48.4	1.00	1	
Lead	5.74	0.500	1						

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

Calscience Environmental Laboratories, Inc.

Analytical Report

Patriot Environmental Services
1900 West Anaheim St.
Long Beach, CA 90813-4043

Date Received: 01/08/08
Work Order No: 08-01-0405
Preparation: EPA 3050B / EPA 7471A Total
Method: EPA 6010B / EPA 7471A
Units: mg/kg

Project: WAR-OMEGA / LB80022

Client Sample Number	Lab Sample Number	Date Collected	Matrix	Instrument	Date Prepared	Date/Time Analyzed	QC Batch ID
SE-5'	**08-01-0405-7-A**	**01/08/08**	**Solid**	**ICP 5300**	**01/08/08**	**01/08/08 17:31**	**080108L03**

Comment(s): -Mercury was analyzed on 1/8/2008 2:47:56 PM with batch 080108L01

Parameter	Result	RL	DF	Qual	Parameter	Result	RL	DF	Qual
Antimony	ND	0.750	1		Mercury	ND	0.0835	1	
Arsenic	5.14	0.750	1		Molybdenum	1.35	0.250	1	
Barium	136	0.500	1		Nickel	25.2	0.250	1	
Beryllium	0.582	0.250	1		Selenium	ND	0.750	1	
Cadmium	1.10	0.500	1		Silver	ND	0.250	1	
Chromium	15.8	0.250	1		Thallium	ND	0.750	1	
Cobalt	9.93	0.250	1		Vanadium	38.2	0.250	1	
Copper	22.4	0.500	1		Zinc	55.2	1.00	1	
Lead	7.09	0.500	1						

SE-10'	**08-01-0405-8-A**	**01/08/08**	**Solid**	**ICP 5300**	**01/08/08**	**01/08/08 17:34**	**080108L03**

Comment(s): -Mercury was analyzed on 1/8/2008 2:50:13 PM with batch 080108L01

Parameter	Result	RL	DF	Qual	Parameter	Result	RL	DF	Qual
Antimony	ND	0.750	1		Mercury	ND	0.0835	1	
Arsenic	3.75	0.750	1		Molybdenum	1.42	0.250	1	
Barium	100	0.500	1		Nickel	17.4	0.250	1	
Beryllium	0.402	0.250	1		Selenium	ND	0.750	1	
Cadmium	0.843	0.500	1		Silver	ND	0.250	1	
Chromium	10.6	0.250	1		Thallium	ND	0.750	1	
Cobalt	6.76	0.250	1		Vanadium	26.9	0.250	1	
Copper	15.8	0.500	1		Zinc	37.4	1.00	1	
Lead	4.30	0.500	1						

Method Blank	**099-04-007-5,229**	**N/A**	**Solid**	**Mercury**	**01/08/08**	**01/08/08 12:27**	**080108L01**

Parameter	Result	RL	DF	Qual
Mercury	ND	0.0835	1	

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

Calscience Environmental Laboratories, Inc.

Analytical Report

Patriot Environmental Services
1900 West Anaheim St.
Long Beach, CA 90813-4043

Date Received: 01/08/08
Work Order No: 08-01-0405
Preparation: EPA 3050B / EPA 7471A Total
Method: EPA 6010B / EPA 7471A
Units: mg/kg

Project: WAR-OMEGA / LB80022

Client Sample Number	Lab Sample Number	Date Collected	Matrix	Instrument	Date Prepared	Date/Time Analyzed	QC Batch ID
Method Blank	**097-01-002-10,259**	**N/A**	**Solid**	**ICP 5300**	**01/08/08**	**01/08/08 16:52**	**080108L03**

Parameter	Result	RL	DF	Qual	Parameter	Result	RL	DF	Qual
Antimony	ND	0.750	1		Lead	ND	0.500	1	
Arsenic	ND	0.750	1		Molybdenum	ND	0.250	1	
Barium	ND	0.500	1		Nickel	ND	0.250	1	
Beryllium	ND	0.250	1		Selenium	ND	0.750	1	
Cadmium	ND	0.500	1		Silver	ND	0.250	1	
Chromium	ND	0.250	1		Thallium	ND	0.750	1	
Cobalt	ND	0.250	1		Vanadium	ND	0.250	1	
Copper	ND	0.500	1		Zinc	ND	1.00	1	

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

Calscience Environmental Laboratories, Inc.

Analytical Report

Patriot Environmental Services
1900 West Anaheim St.
Long Beach, CA 90813-4043

Date Received: 01/08/08
Work Order No: 08-01-0405
Preparation: EPA 3545
Method: EPA 8270C(M) Isotope Dilution

Project: WAR-OMEGA / LB80022

Client Sample Number	Lab Sample Number	Date Collected	Matrix	Instrument	Date Prepared	Date/Time Analyzed	QC Batch ID
NW-5'	**08-01-0405-1-A**	**01/08/08**	**Solid**	**GC/MS J**	**01/08/08**	**01/09/08 0:11**	**080108L05D**

Parameter	Result	RL	DF	Qual	Units
1,4-Dioxane	ND	0.20	1		mg/kg

Surrogates:	REC (%)	Control Limits	Qual
Nitrobenzene-d5	108	28-139	

Client Sample Number	Lab Sample Number	Date Collected	Matrix	Instrument	Date Prepared	Date/Time Analyzed	QC Batch ID
NW-10'	**08-01-0405-2-A**	**01/08/08**	**Solid**	**GC/MS J**	**01/08/08**	**01/09/08 0:38**	**080108L05D**

Parameter	Result	RL	DF	Qual	Units
1,4-Dioxane	ND	0.20	1		mg/kg

Surrogates:	REC (%)	Control Limits	Qual
Nitrobenzene-d5	106	28-139	

Client Sample Number	Lab Sample Number	Date Collected	Matrix	Instrument	Date Prepared	Date/Time Analyzed	QC Batch ID
NE-5'	**08-01-0405-3-A**	**01/08/08**	**Solid**	**GC/MS J**	**01/08/08**	**01/09/08 1:04**	**080108L05D**

Parameter	Result	RL	DF	Qual	Units
1,4-Dioxane	ND	0.20	1		mg/kg

Surrogates:	REC (%)	Control Limits	Qual
Nitrobenzene-d5	113	28-139	

Client Sample Number	Lab Sample Number	Date Collected	Matrix	Instrument	Date Prepared	Date/Time Analyzed	QC Batch ID
NE-10'	**08-01-0405-4-A**	**01/08/08**	**Solid**	**GC/MS J**	**01/08/08**	**01/09/08 1:31**	**080108L05D**

Parameter	Result	RL	DF	Qual	Units
1,4-Dioxane	ND	0.20	1		mg/kg

Surrogates:	REC (%)	Control Limits	Qual
Nitrobenzene-d5	94	28-139	

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

Calscience Environmental Laboratories, Inc.

Analytical Report

Patriot Environmental Services
1900 West Anaheim St.
Long Beach, CA 90813-4043

Date Received: 01/08/08
Work Order No: 08-01-0405
Preparation: EPA 3545
Method: EPA 8270C(M) Isotope Dilution

Project: WAR-OMEGA / LB80022

Client Sample Number	Lab Sample Number	Date Collected	Matrix	Instrument	Date Prepared	Date/Time Analyzed	QC Batch ID
SW-5'	**08-01-0405-5-A**	**01/08/08**	**Solid**	**GC/MS J**	**01/08/08**	**01/09/08 2:50**	**080108L05D**

Parameter	Result	RL	DF	Qual	Units
1,4-Dioxane	ND	0.20	1		mg/kg

Surrogates:	REC (%)	Control Limits	Qual
Nitrobenzene-d5	113	28-139	

SW-10'	08-01-0405-6-A	01/08/08	Solid	GC/MS J	01/08/08	01/09/08 3:16	080108L05D

Parameter	Result	RL	DF	Qual	Units
1,4-Dioxane	ND	0.20	1		mg/kg

Surrogates:	REC (%)	Control Limits	Qual
Nitrobenzene-d5	111	28-139	

SE-5'	08-01-0405-7-A	01/08/08	Solid	GC/MS J	01/08/08	01/09/08 3:43	080108L05D

Parameter	Result	RL	DF	Qual	Units
1,4-Dioxane	ND	0.20	1		mg/kg

Surrogates:	REC (%)	Control Limits	Qual
Nitrobenzene-d5	116	28-139	

SE-10'	08-01-0405-8-A	01/08/08	Solid	GC/MS J	01/08/08	01/09/08 4:10	080108L05D

Parameter	Result	RL	DF	Qual	Units
1,4-Dioxane	ND	0.20	1		mg/kg

Surrogates:	REC (%)	Control Limits	Qual
Nitrobenzene-d5	113	28-139	

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

Calscience Environmental Laboratories, Inc.

Analytical Report

Patriot Environmental Services		Date Received:	01/08/08
1900 West Anaheim St.		Work Order No:	08-01-0405
Long Beach, CA 90813-4043		Preparation:	EPA 3545
		Method:	EPA 8270C(M) Isotope Dilution
Project: WAR-OMEGA / LB80022			Page 3 of 3

Client Sample Number	Lab Sample Number	Date Collected	Matrix	Instrument	Date Prepared	Date/Time Analyzed	QC Batch ID
Method Blank	**099-09-005-160**	**N/A**	**Solid**	**GC/MS J**	**01/08/08**	**01/08/08 18:24**	**080108L05D**

Parameter	Result	RL	DF	Qual	Units
1,4-Dioxane	ND	0.20	1		mg/kg

Surrogates:	REC (%)	Control Limits	Qual
Nitrobenzene-d5	109	28-139	

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

Calscience Environmental Laboratories, Inc.

Analytical Report

Patriot Environmental Services		Date Received:	01/08/08
1900 West Anaheim St.		Work Order No:	08-01-0405
Long Beach, CA 90813-4043		Preparation:	EPA 5035
		Method:	EPA 8260B
		Units:	ug/kg
Project: WAR-OMEGA / LB80022			Page 1 of 9

Client Sample Number	Lab Sample Number	Date Collected	Matrix	Instrument	Date Prepared	Date/Time Analyzed	QC Batch ID
NW-5'	**08-01-0405-1-C**	**01/08/08**	**Solid**	**GC/MS W**	**01/08/08**	**01/08/08 14:40**	**080108L01**

Parameter	Result	RL	DF	Qual	Parameter	Result	RL	DF	Qual
Acetone	ND	41	0.829		1,3-Dichloropropane	ND	0.83	0.829	
Benzene	ND	0.83	0.829		2,2-Dichloropropane	ND	4.1	0.829	
Bromobenzene	ND	0.83	0.829		1,1-Dichloropropene	ND	1.7	0.829	
Bromochloromethane	ND	1.7	0.829		c-1,3-Dichloropropene	ND	0.83	0.829	
Bromodichloromethane	ND	0.83	0.829		t-1,3-Dichloropropene	ND	1.7	0.829	
Bromoform	ND	4.1	0.829		Ethylbenzene	ND	0.83	0.829	
Bromomethane	ND	17	0.829		2-Hexanone	ND	17	0.829	
2-Butanone	ND	17	0.829		Isopropylbenzene	ND	0.83	0.829	
n-Butylbenzene	ND	0.83	0.829		p-Isopropyltoluene	ND	0.83	0.829	
sec-Butylbenzene	ND	0.83	0.829		Methylene Chloride	ND	8.3	0.829	
tert-Butylbenzene	ND	0.83	0.829		4-Methyl-2-Pentanone	ND	17	0.829	
Carbon Disulfide	ND	8.3	0.829		Naphthalene	ND	8.3	0.829	
Carbon Tetrachloride	ND	0.83	0.829		n-Propylbenzene	ND	0.83	0.829	
Chlorobenzene	ND	0.83	0.829		Styrene	ND	0.83	0.829	
Chloroethane	ND	1.7	0.829		1,1,1,2-Tetrachloroethane	ND	0.83	0.829	
Chloroform	ND	0.83	0.829		1,1,2,2-Tetrachloroethane	ND	1.7	0.829	
Chloromethane	ND	17	0.829		Tetrachloroethene	52	0.83	0.829	
2-Chlorotoluene	ND	0.83	0.829		Toluene	ND	0.83	0.829	
4-Chlorotoluene	ND	0.83	0.829		1,2,3-Trichlorobenzene	ND	1.7	0.829	
Dibromochloromethane	ND	1.7	0.829		1,2,4-Trichlorobenzene	ND	1.7	0.829	
1,2-Dibromo-3-Chloropropane	ND	4.1	0.829		1,1,1-Trichloroethane	ND	0.83	0.829	
1,2-Dibromoethane	ND	0.83	0.829		1,1,2-Trichloroethane	ND	0.83	0.829	
Dibromomethane	ND	0.83	0.829		1,1,2-Trichloro-1,2,2-Trifluoroethane	ND	8.3	0.829	
1,2-Dichlorobenzene	ND	0.83	0.829		Trichloroethene	ND	1.7	0.829	
1,3-Dichlorobenzene	ND	0.83	0.829		Trichlorofluoromethane	ND	8.3	0.829	
1,4-Dichlorobenzene	ND	0.83	0.829		1,2,3-Trichloropropane	ND	1.7	0.829	
Dichlorodifluoromethane	ND	1.7	0.829		1,2,4-Trimethylbenzene	ND	1.7	0.829	
1,1-Dichloroethane	ND	0.83	0.829		1,3,5-Trimethylbenzene	ND	1.7	0.829	
1,2-Dichloroethane	ND	0.83	0.829		Vinyl Acetate	ND	8.3	0.829	
1,1-Dichloroethene	4.1	0.83	0.829		Vinyl Chloride	ND	0.83	0.829	
c-1,2-Dichloroethene	ND	0.83	0.829		p/m-Xylene	ND	1.7	0.829	
t-1,2-Dichloroethene	ND	0.83	0.829		o-Xylene	ND	0.83	0.829	
1,2-Dichloropropane	ND	0.83	0.829		Methyl-t-Butyl Ether (MTBE)	ND	1.7	0.829	

Surrogates:	REC (%)	Control Limits	Qual	Surrogates:	REC (%)	Control Limits	Qual
Dibromofluoromethane	121	71-137		1,2-Dichloroethane-d4	137	58-160	
1,4-Bromofluorobenzene	95	66-126		Toluene-d8	100	87-111	

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

Calscience Environmental Laboratories, Inc.

Analytical Report

Patriot Environmental Services		Date Received:	01/08/08
1900 West Anaheim St.		Work Order No:	08-01-0405
Long Beach, CA 90813-4043		Preparation:	EPA 5035
		Method:	EPA 8260B
		Units:	ug/kg
Project: WAR-OMEGA / LB80022			Page 2 of 9

Client Sample Number	Lab Sample Number	Date Collected	Matrix	Instrument	Date Prepared	Date/Time Analyzed	QC Batch ID
NW-10'	**08-01-0405-2-C**	**01/08/08**	**Solid**	**GC/MS W**	**01/08/08**	**01/08/08 15:10**	**080108L01**

Parameter	Result	RL	DF	Qual	Parameter	Result	RL	DF	Qual
Acetone	ND	54	1.08		1,3-Dichloropropane	ND	1.1	1.08	
Benzene	1.4	1.1	1.08		2,2-Dichloropropane	ND	5.4	1.08	
Bromobenzene	ND	1.1	1.08		1,1-Dichloropropene	ND	2.2	1.08	
Bromochloromethane	ND	2.2	1.08		c-1,3-Dichloropropene	ND	1.1	1.08	
Bromodichloromethane	ND	1.1	1.08		t-1,3-Dichloropropene	ND	2.2	1.08	
Bromoform	ND	5.4	1.08		Ethylbenzene	ND	1.1	1.08	
Bromomethane	ND	22	1.08		2-Hexanone	ND	22	1.08	
2-Butanone	ND	22	1.08		Isopropylbenzene	ND	1.1	1.08	
n-Butylbenzene	ND	1.1	1.08		p-Isopropyltoluene	ND	1.1	1.08	
sec-Butylbenzene	ND	1.1	1.08		Methylene Chloride	ND	11	1.08	
tert-Butylbenzene	ND	1.1	1.08		4-Methyl-2-Pentanone	ND	22	1.08	
Carbon Disulfide	ND	11	1.08		Naphthalene	ND	11	1.08	
Carbon Tetrachloride	ND	1.1	1.08		n-Propylbenzene	ND	1.1	1.08	
Chlorobenzene	ND	1.1	1.08		Styrene	ND	1.1	1.08	
Chloroethane	ND	2.2	1.08		1,1,1,2-Tetrachloroethane	ND	1.1	1.08	
Chloroform	ND	1.1	1.08		1,1,2,2-Tetrachloroethane	ND	2.2	1.08	
Chloromethane	ND	22	1.08		Tetrachloroethene	43	1.1	1.08	
2-Chlorotoluene	ND	1.1	1.08		Toluene	ND	1.1	1.08	
4-Chlorotoluene	ND	1.1	1.08		1,2,3-Trichlorobenzene	ND	2.2	1.08	
Dibromochloromethane	ND	2.2	1.08		1,2,4-Trichlorobenzene	ND	2.2	1.08	
1,2-Dibromo-3-Chloropropane	ND	5.4	1.08		1,1,1-Trichloroethane	ND	1.1	1.08	
1,2-Dibromoethane	ND	1.1	1.08		1,1,2-Trichloroethane	ND	1.1	1.08	
Dibromomethane	ND	1.1	1.08		1,1,2-Trichloro-1,2,2-Trifluoroethane	ND	11	1.08	
1,2-Dichlorobenzene	ND	1.1	1.08		Trichloroethene	ND	2.2	1.08	
1,3-Dichlorobenzene	ND	1.1	1.08		Trichlorofluoromethane	ND	11	1.08	
1,4-Dichlorobenzene	ND	1.1	1.08		1,2,3-Trichloropropane	ND	2.2	1.08	
Dichlorodifluoromethane	ND	2.2	1.08		1,2,4-Trimethylbenzene	ND	2.2	1.08	
1,1-Dichloroethane	ND	1.1	1.08		1,3,5-Trimethylbenzene	ND	2.2	1.08	
1,2-Dichloroethane	ND	1.1	1.08		Vinyl Acetate	ND	11	1.08	
1,1-Dichloroethene	1.7	1.1	1.08		Vinyl Chloride	ND	1.1	1.08	
c-1,2-Dichloroethene	ND	1.1	1.08		p/m-Xylene	ND	2.2	1.08	
t-1,2-Dichloroethene	ND	1.1	1.08		o-Xylene	ND	1.1	1.08	
1,2-Dichloropropane	ND	1.1	1.08		Methyl-t-Butyl Ether (MTBE)	ND	2.2	1.08	

Surrogates:	REC (%)	Control Limits	Qual	Surrogates:	REC (%)	Control Limits	Qual
Dibromofluoromethane	113	71-137		1,2-Dichloroethane-d4	139	58-160	
1,4-Bromofluorobenzene	102	66-126		Toluene-d8	102	87-111	

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

Calscience Environmental Laboratories, Inc.

Analytical Report

Patriot Environmental Services		Date Received:	01/08/08
1900 West Anaheim St.		Work Order No:	08-01-0405
Long Beach, CA 90813-4043		Preparation:	EPA 5035
		Method:	EPA 8260B
		Units:	ug/kg
Project: WAR-OMEGA / LB80022			Page 3 of 9

Client Sample Number	Lab Sample Number	Date Collected	Matrix	Instrument	Date Prepared	Date/Time Analyzed	QC Batch ID
NE-5'	**08-01-0405-3-C**	**01/08/08**	**Solid**	**GC/MS W**	**01/08/08**	**01/08/08 15:40**	**080108L01**

Parameter	Result	RL	DF	Qual	Parameter	Result	RL	DF	Qual
Acetone	ND	50	0.99		1,3-Dichloropropane	ND	0.99	0.99	
Benzene	ND	0.99	0.99		2,2-Dichloropropane	ND	5.0	0.99	
Bromobenzene	ND	0.99	0.99		1,1-Dichloropropene	ND	2.0	0.99	
Bromochloromethane	ND	2.0	0.99		c-1,3-Dichloropropene	ND	0.99	0.99	
Bromodichloromethane	ND	0.99	0.99		t-1,3-Dichloropropene	ND	2.0	0.99	
Bromoform	ND	5.0	0.99		Ethylbenzene	ND	0.99	0.99	
Bromomethane	ND	20	0.99		2-Hexanone	ND	20	0.99	
2-Butanone	ND	20	0.99		Isopropylbenzene	ND	0.99	0.99	
n-Butylbenzene	ND	0.99	0.99		p-Isopropyltoluene	ND	0.99	0.99	
sec-Butylbenzene	ND	0.99	0.99		Methylene Chloride	ND	9.9	0.99	
tert-Butylbenzene	ND	0.99	0.99		4-Methyl-2-Pentanone	ND	20	0.99	
Carbon Disulfide	ND	9.9	0.99		Naphthalene	ND	9.9	0.99	
Carbon Tetrachloride	ND	0.99	0.99		n-Propylbenzene	ND	0.99	0.99	
Chlorobenzene	ND	0.99	0.99		Styrene	ND	0.99	0.99	
Chloroethane	ND	2.0	0.99		1,1,1,2-Tetrachloroethane	ND	0.99	0.99	
Chloroform	ND	0.99	0.99		1,1,2,2-Tetrachloroethane	ND	2.0	0.99	
Chloromethane	ND	20	0.99		Tetrachloroethene	60	0.99	0.99	
2-Chlorotoluene	ND	0.99	0.99		Toluene	ND	0.99	0.99	
4-Chlorotoluene	ND	0.99	0.99		1,2,3-Trichlorobenzene	ND	2.0	0.99	
Dibromochloromethane	ND	2.0	0.99		1,2,4-Trichlorobenzene	ND	2.0	0.99	
1,2-Dibromo-3-Chloropropane	ND	5.0	0.99		1,1,1-Trichloroethane	ND	0.99	0.99	
1,2-Dibromoethane	ND	0.99	0.99		1,1,2-Trichloroethane	ND	0.99	0.99	
Dibromomethane	ND	0.99	0.99		1,1,2-Trichloro-1,2,2-Trifluoroethane	ND	9.9	0.99	
1,2-Dichlorobenzene	ND	0.99	0.99		Trichloroethene	4.8	2.0	0.99	
1,3-Dichlorobenzene	ND	0.99	0.99		Trichlorofluoromethane	ND	9.9	0.99	
1,4-Dichlorobenzene	ND	0.99	0.99		1,2,3-Trichloropropane	ND	2.0	0.99	
Dichlorodifluoromethane	ND	2.0	0.99		1,2,4-Trimethylbenzene	ND	2.0	0.99	
1,1-Dichloroethane	ND	0.99	0.99		1,3,5-Trimethylbenzene	ND	2.0	0.99	
1,2-Dichloroethane	ND	0.99	0.99		Vinyl Acetate	ND	9.9	0.99	
1,1-Dichloroethene	2.3	0.99	0.99		Vinyl Chloride	ND	0.99	0.99	
c-1,2-Dichloroethene	ND	0.99	0.99		p/m-Xylene	ND	2.0	0.99	
t-1,2-Dichloroethene	ND	0.99	0.99		o-Xylene	ND	0.99	0.99	
1,2-Dichloropropane	ND	0.99	0.99		Methyl-t-Butyl Ether (MTBE)	ND	2.0	0.99	

Surrogates:	REC (%)	Control Limits	Qual	Surrogates:	REC (%)	Control Limits	Qual
Dibromofluoromethane	120	71-137		1,2-Dichloroethane-d4	140	58-160	
1,4-Bromofluorobenzene	96	66-126		Toluene-d8	101	87-111	

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

Calscience Environmental Laboratories, Inc.

Analytical Report

Patriot Environmental Services		Date Received:	01/08/08
1900 West Anaheim St.		Work Order No:	08-01-0405
Long Beach, CA 90813-4043		Preparation:	EPA 5035
		Method:	EPA 8260B
		Units:	ug/kg
Project: WAR-OMEGA / LB80022			Page 4 of 9

Client Sample Number	Lab Sample Number	Date Collected	Matrix	Instrument	Date Prepared	Date/Time Analyzed	QC Batch ID
NE-10'	**08-01-0405-4-C**	**01/08/08**	**Solid**	**GC/MS W**	**01/08/08**	**01/08/08 16:10**	**080108L01**

Parameter	Result	RL	DF	Qual	Parameter	Result	RL	DF	Qual
Acetone	ND	50	1.01		1,3-Dichloropropane	ND	1.0	1.01	
Benzene	ND	1.0	1.01		2,2-Dichloropropane	ND	5.0	1.01	
Bromobenzene	ND	1.0	1.01		1,1-Dichloropropene	ND	2.0	1.01	
Bromochloromethane	ND	2.0	1.01		c-1,3-Dichloropropene	ND	1.0	1.01	
Bromodichloromethane	ND	1.0	1.01		t-1,3-Dichloropropene	ND	2.0	1.01	
Bromoform	ND	5.0	1.01		Ethylbenzene	ND	1.0	1.01	
Bromomethane	ND	20	1.01		2-Hexanone	ND	20	1.01	
2-Butanone	ND	20	1.01		Isopropylbenzene	ND	1.0	1.01	
n-Butylbenzene	ND	1.0	1.01		p-Isopropyltoluene	ND	1.0	1.01	
sec-Butylbenzene	ND	1.0	1.01		Methylene Chloride	ND	10	1.01	
tert-Butylbenzene	ND	1.0	1.01		4-Methyl-2-Pentanone	ND	20	1.01	
Carbon Disulfide	ND	10	1.01		Naphthalene	ND	10	1.01	
Carbon Tetrachloride	ND	1.0	1.01		n-Propylbenzene	ND	1.0	1.01	
Chlorobenzene	ND	1.0	1.01		Styrene	ND	1.0	1.01	
Chloroethane	ND	2.0	1.01		1,1,1,2-Tetrachloroethane	ND	1.0	1.01	
Chloroform	ND	1.0	1.01		1,1,2,2-Tetrachloroethane	ND	2.0	1.01	
Chloromethane	ND	20	1.01		Tetrachloroethene	61	1.0	1.01	
2-Chlorotoluene	ND	1.0	1.01		Toluene	ND	1.0	1.01	
4-Chlorotoluene	ND	1.0	1.01		1,2,3-Trichlorobenzene	ND	2.0	1.01	
Dibromochloromethane	ND	2.0	1.01		1,2,4-Trichlorobenzene	ND	2.0	1.01	
1,2-Dibromo-3-Chloropropane	ND	5.0	1.01		1,1,1-Trichloroethane	ND	1.0	1.01	
1,2-Dibromoethane	ND	1.0	1.01		1,1,2-Trichloroethane	ND	1.0	1.01	
Dibromomethane	ND	1.0	1.01		1,1,2-Trichloro-1,2,2-Trifluoroethane	ND	10	1.01	
1,2-Dichlorobenzene	ND	1.0	1.01		Trichloroethene	3.7	2.0	1.01	
1,3-Dichlorobenzene	ND	1.0	1.01		Trichlorofluoromethane	ND	10	1.01	
1,4-Dichlorobenzene	ND	1.0	1.01		1,2,3-Trichloropropane	ND	2.0	1.01	
Dichlorodifluoromethane	ND	2.0	1.01		1,2,4-Trimethylbenzene	ND	2.0	1.01	
1,1-Dichloroethane	ND	1.0	1.01		1,3,5-Trimethylbenzene	ND	2.0	1.01	
1,2-Dichloroethane	ND	1.0	1.01		Vinyl Acetate	ND	10	1.01	
1,1-Dichloroethene	2.6	1.0	1.01		Vinyl Chloride	ND	1.0	1.01	
c-1,2-Dichloroethene	ND	1.0	1.01		p/m-Xylene	ND	2.0	1.01	
t-1,2-Dichloroethene	ND	1.0	1.01		o-Xylene	ND	1.0	1.01	
1,2-Dichloropropane	ND	1.0	1.01		Methyl-t-Butyl Ether (MTBE)	ND	2.0	1.01	

Surrogates:	REC (%)	Control Limits	Qual	Surrogates:	REC (%)	Control Limits	Qual
Dibromofluoromethane	125	71-137		1,2-Dichloroethane-d4	144	58-160	
1,4-Bromofluorobenzene	98	66-126		Toluene-d8	99	87-111	

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

Calscience Environmental Laboratories, Inc.

Analytical Report

Patriot Environmental Services		Date Received:	01/08/08
1900 West Anaheim St.		Work Order No:	08-01-0405
Long Beach, CA 90813-4043		Preparation:	EPA 5035
		Method:	EPA 8260B
		Units:	ug/kg
Project: WAR-OMEGA / LB80022			Page 5 of 9

Client Sample Number	Lab Sample Number	Date Collected	Matrix	Instrument	Date Prepared	Date/Time Analyzed	QC Batch ID
SW-5'	**08-01-0405-5-C**	**01/08/08**	**Solid**	**GC/MS W**	**01/08/08**	**01/08/08 16:40**	**080108L01**

Parameter	Result	RL	DF	Qual	Parameter	Result	RL	DF	Qual
Acetone	ND	44	0.88		1,3-Dichloropropane	ND	0.88	0.88	
Benzene	ND	0.88	0.88		2,2-Dichloropropane	ND	4.4	0.88	
Bromobenzene	ND	0.88	0.88		1,1-Dichloropropene	ND	1.8	0.88	
Bromochloromethane	ND	1.8	0.88		c-1,3-Dichloropropene	ND	0.88	0.88	
Bromodichloromethane	ND	0.88	0.88		t-1,3-Dichloropropene	ND	1.8	0.88	
Bromoform	ND	4.4	0.88		Ethylbenzene	ND	0.88	0.88	
Bromomethane	ND	18	0.88		2-Hexanone	ND	18	0.88	
2-Butanone	ND	18	0.88		Isopropylbenzene	ND	0.88	0.88	
n-Butylbenzene	ND	0.88	0.88		p-Isopropyltoluene	ND	0.88	0.88	
sec-Butylbenzene	ND	0.88	0.88		Methylene Chloride	ND	8.8	0.88	
tert-Butylbenzene	ND	0.88	0.88		4-Methyl-2-Pentanone	ND	18	0.88	
Carbon Disulfide	ND	8.8	0.88		Naphthalene	ND	8.8	0.88	
Carbon Tetrachloride	ND	0.88	0.88		n-Propylbenzene	ND	0.88	0.88	
Chlorobenzene	ND	0.88	0.88		Styrene	ND	0.88	0.88	
Chloroethane	ND	1.8	0.88		1,1,1,2-Tetrachloroethane	ND	0.88	0.88	
Chloroform	ND	0.88	0.88		1,1,2,2-Tetrachloroethane	ND	1.8	0.88	
Chloromethane	ND	18	0.88		Tetrachloroethene	130	0.88	0.88	
2-Chlorotoluene	ND	0.88	0.88		Toluene	ND	0.88	0.88	
4-Chlorotoluene	ND	0.88	0.88		1,2,3-Trichlorobenzene	ND	1.8	0.88	
Dibromochloromethane	ND	1.8	0.88		1,2,4-Trichlorobenzene	ND	1.8	0.88	
1,2-Dibromo-3-Chloropropane	ND	4.4	0.88		1,1,1-Trichloroethane	ND	0.88	0.88	
1,2-Dibromoethane	ND	0.88	0.88		1,1,2-Trichloroethane	ND	0.88	0.88	
Dibromomethane	ND	0.88	0.88		1,1,2-Trichloro-1,2,2-Trifluoroethane	ND	8.8	0.88	
1,2-Dichlorobenzene	ND	0.88	0.88		Trichloroethene	9.3	1.8	0.88	
1,3-Dichlorobenzene	ND	0.88	0.88		Trichlorofluoromethane	ND	8.8	0.88	
1,4-Dichlorobenzene	ND	0.88	0.88		1,2,3-Trichloropropane	ND	1.8	0.88	
Dichlorodifluoromethane	ND	1.8	0.88		1,2,4-Trimethylbenzene	ND	1.8	0.88	
1,1-Dichloroethane	ND	0.88	0.88		1,3,5-Trimethylbenzene	ND	1.8	0.88	
1,2-Dichloroethane	ND	0.88	0.88		Vinyl Acetate	ND	8.8	0.88	
1,1-Dichloroethene	10	0.88	0.88		Vinyl Chloride	ND	0.88	0.88	
c-1,2-Dichloroethene	ND	0.88	0.88		p/m-Xylene	ND	1.8	0.88	
t-1,2-Dichloroethene	ND	0.88	0.88		o-Xylene	ND	0.88	0.88	
1,2-Dichloropropane	ND	0.88	0.88		Methyl-t-Butyl Ether (MTBE)	ND	1.8	0.88	

Surrogates:	REC (%)	Control Limits	Qual	Surrogates:	REC (%)	Control Limits	Qual
Dibromofluoromethane	134	71-137		1,2-Dichloroethane-d4	151	58-160	
1,4-Bromofluorobenzene	90	66-126		Toluene-d8	104	87-111	

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

Calscience Environmental Laboratories, Inc.

Analytical Report

Patriot Environmental Services		Date Received:	01/08/08
1900 West Anaheim St.		Work Order No:	08-01-0405
Long Beach, CA 90813-4043		Preparation:	EPA 5035
		Method:	EPA 8260B
		Units:	ug/kg
Project: WAR-OMEGA / LB80022			Page 6 of 9

Client Sample Number	Lab Sample Number	Date Collected	Matrix	Instrument	Date Prepared	Date/Time Analyzed	QC Batch ID
SW-10'	**08-01-0405-6-C**	**01/08/08**	**Solid**	**GC/MS W**	**01/08/08**	**01/08/08 17:09**	**080108L01**

Parameter	Result	RL	DF	Qual	Parameter	Result	RL	DF	Qual
Acetone	ND	45	0.899		1,3-Dichloropropane	ND	0.90	0.899	
Benzene	0.92	0.90	0.899		2,2-Dichloropropane	ND	4.5	0.899	
Bromobenzene	ND	0.90	0.899		1,1-Dichloropropene	ND	1.8	0.899	
Bromochloromethane	ND	1.8	0.899		c-1,3-Dichloropropene	ND	0.90	0.899	
Bromodichloromethane	ND	0.90	0.899		t-1,3-Dichloropropene	ND	1.8	0.899	
Bromoform	ND	4.5	0.899		Ethylbenzene	ND	0.90	0.899	
Bromomethane	ND	18	0.899		2-Hexanone	ND	18	0.899	
2-Butanone	ND	18	0.899		Isopropylbenzene	ND	0.90	0.899	
n-Butylbenzene	ND	0.90	0.899		p-Isopropyltoluene	ND	0.90	0.899	
sec-Butylbenzene	ND	0.90	0.899		Methylene Chloride	ND	9.0	0.899	
tert-Butylbenzene	ND	0.90	0.899		4-Methyl-2-Pentanone	ND	18	0.899	
Carbon Disulfide	ND	9.0	0.899		Naphthalene	ND	9.0	0.899	
Carbon Tetrachloride	ND	0.90	0.899		n-Propylbenzene	ND	0.90	0.899	
Chlorobenzene	ND	0.90	0.899		Styrene	ND	0.90	0.899	
Chloroethane	ND	1.8	0.899		1,1,1,2-Tetrachloroethane	ND	0.90	0.899	
Chloroform	ND	0.90	0.899		1,1,2,2-Tetrachloroethane	ND	1.8	0.899	
Chloromethane	ND	18	0.899		Tetrachloroethene	70	0.90	0.899	
2-Chlorotoluene	ND	0.90	0.899		Toluene	ND	0.90	0.899	
4-Chlorotoluene	ND	0.90	0.899		1,2,3-Trichlorobenzene	ND	1.8	0.899	
Dibromochloromethane	ND	1.8	0.899		1,2,4-Trichlorobenzene	ND	1.8	0.899	
1,2-Dibromo-3-Chloropropane	ND	4.5	0.899		1,1,1-Trichloroethane	ND	0.90	0.899	
1,2-Dibromoethane	ND	0.90	0.899		1,1,2-Trichloroethane	ND	0.90	0.899	
Dibromomethane	ND	0.90	0.899		1,1,2-Trichloro-1,2,2-Trifluoroethane	ND	9.0	0.899	
1,2-Dichlorobenzene	ND	0.90	0.899		Trichloroethene	3.2	1.8	0.899	
1,3-Dichlorobenzene	ND	0.90	0.899		Trichlorofluoromethane	ND	9.0	0.899	
1,4-Dichlorobenzene	ND	0.90	0.899		1,2,3-Trichloropropane	ND	1.8	0.899	
Dichlorodifluoromethane	ND	1.8	0.899		1,2,4-Trimethylbenzene	ND	1.8	0.899	
1,1-Dichloroethane	ND	0.90	0.899		1,3,5-Trimethylbenzene	ND	1.8	0.899	
1,2-Dichloroethane	ND	0.90	0.899		Vinyl Acetate	ND	9.0	0.899	
1,1-Dichloroethene	6.1	0.90	0.899		Vinyl Chloride	ND	0.90	0.899	
c-1,2-Dichloroethene	ND	0.90	0.899		p/m-Xylene	ND	1.8	0.899	
t-1,2-Dichloroethene	ND	0.90	0.899		o-Xylene	ND	0.90	0.899	
1,2-Dichloropropane	ND	0.90	0.899		Methyl-t-Butyl Ether (MTBE)	ND	1.8	0.899	

Surrogates:	REC (%)	Control Limits	Qual	Surrogates:	REC (%)	Control Limits	Qual
Dibromofluoromethane	123	71-137		1,2-Dichloroethane-d4	144	58-160	
1,4-Bromofluorobenzene	97	66-126		Toluene-d8	100	87-111	

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

Calscience Environmental Laboratories, Inc.

Analytical Report

Patriot Environmental Services		Date Received:	01/08/08
1900 West Anaheim St.		Work Order No:	08-01-0405
Long Beach, CA 90813-4043		Preparation:	EPA 5035
		Method:	EPA 8260B
		Units:	ug/kg
Project: WAR-OMEGA / LB80022			Page 7 of 9

Client Sample Number	Lab Sample Number	Date Collected	Matrix	Instrument	Date Prepared	Date/Time Analyzed	QC Batch ID
SE-5'	**08-01-0405-7-C**	**01/08/08**	**Solid**	**GC/MS W**	**01/08/08**	**01/08/08 17:39**	**080108L01**

Parameter	Result	RL	DF	Qual	Parameter	Result	RL	DF	Qual
Acetone	ND	68	1.37		1,3-Dichloropropane	ND	1.4	1.37	
Benzene	ND	1.4	1.37		2,2-Dichloropropane	ND	6.8	1.37	
Bromobenzene	ND	1.4	1.37		1,1-Dichloropropene	ND	2.7	1.37	
Bromochloromethane	ND	2.7	1.37		c-1,3-Dichloropropene	ND	1.4	1.37	
Bromodichloromethane	ND	1.4	1.37		t-1,3-Dichloropropene	ND	2.7	1.37	
Bromoform	ND	6.8	1.37		Ethylbenzene	ND	1.4	1.37	
Bromomethane	ND	27	1.37		2-Hexanone	ND	27	1.37	
2-Butanone	ND	27	1.37		Isopropylbenzene	ND	1.4	1.37	
n-Butylbenzene	ND	1.4	1.37		p-Isopropyltoluene	ND	1.4	1.37	
sec-Butylbenzene	ND	1.4	1.37		Methylene Chloride	ND	14	1.37	
tert-Butylbenzene	ND	1.4	1.37		4-Methyl-2-Pentanone	ND	27	1.37	
Carbon Disulfide	ND	14	1.37		Naphthalene	ND	14	1.37	
Carbon Tetrachloride	ND	1.4	1.37		n-Propylbenzene	ND	1.4	1.37	
Chlorobenzene	ND	1.4	1.37		Styrene	ND	1.4	1.37	
Chloroethane	ND	2.7	1.37		1,1,1,2-Tetrachloroethane	ND	1.4	1.37	
Chloroform	ND	1.4	1.37		1,1,2,2-Tetrachloroethane	ND	2.7	1.37	
Chloromethane	ND	27	1.37		Tetrachloroethene	59	1.4	1.37	
2-Chlorotoluene	ND	1.4	1.37		Toluene	ND	1.4	1.37	
4-Chlorotoluene	ND	1.4	1.37		1,2,3-Trichlorobenzene	ND	2.7	1.37	
Dibromochloromethane	ND	2.7	1.37		1,2,4-Trichlorobenzene	ND	2.7	1.37	
1,2-Dibromo-3-Chloropropane	ND	6.8	1.37		1,1,1-Trichloroethane	ND	1.4	1.37	
1,2-Dibromoethane	ND	1.4	1.37		1,1,2-Trichloroethane	ND	1.4	1.37	
Dibromomethane	ND	1.4	1.37		1,1,2-Trichloro-1,2,2-Trifluoroethane	ND	14	1.37	
1,2-Dichlorobenzene	ND	1.4	1.37		Trichloroethene	5.5	2.7	1.37	
1,3-Dichlorobenzene	ND	1.4	1.37		Trichlorofluoromethane	ND	14	1.37	
1,4-Dichlorobenzene	ND	1.4	1.37		1,2,3-Trichloropropane	ND	2.7	1.37	
Dichlorodifluoromethane	ND	2.7	1.37		1,2,4-Trimethylbenzene	ND	2.7	1.37	
1,1-Dichloroethane	ND	1.4	1.37		1,3,5-Trimethylbenzene	ND	2.7	1.37	
1,2-Dichloroethane	ND	1.4	1.37		Vinyl Acetate	ND	14	1.37	
1,1-Dichloroethene	2.4	1.4	1.37		Vinyl Chloride	ND	1.4	1.37	
c-1,2-Dichloroethene	ND	1.4	1.37		p/m-Xylene	ND	2.7	1.37	
t-1,2-Dichloroethene	ND	1.4	1.37		o-Xylene	ND	1.4	1.37	
1,2-Dichloropropane	ND	1.4	1.37		Methyl-t-Butyl Ether (MTBE)	ND	2.7	1.37	

Surrogates:	REC (%)	Control Limits	Qual	Surrogates:	REC (%)	Control Limits	Qual
Dibromofluoromethane	126	71-137		1,2-Dichloroethane-d4	140	58-160	
1,4-Bromofluorobenzene	98	66-126		Toluene-d8	103	87-111	

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

Calscience Environmental Laboratories, Inc.

Analytical Report

Patriot Environmental Services		Date Received:	01/08/08
1900 West Anaheim St.		Work Order No:	08-01-0405
Long Beach, CA 90813-4043		Preparation:	EPA 5035
		Method:	EPA 8260B
		Units:	ug/kg
Project: WAR-OMEGA / LB80022			Page 8 of 9

Client Sample Number	Lab Sample Number	Date Collected	Matrix	Instrument	Date Prepared	Date/Time Analyzed	QC Batch ID
SE-10'	**08-01-0405-8-C**	**01/08/08**	**Solid**	**GC/MS W**	**01/08/08**	**01/08/08 18:09**	**080108L01**

Parameter	Result	RL	DF	Qual	Parameter	Result	RL	DF	Qual
Acetone	ND	57	1.14		1,3-Dichloropropane	ND	1.1	1.14	
Benzene	ND	1.1	1.14		2,2-Dichloropropane	ND	5.7	1.14	
Bromobenzene	ND	1.1	1.14		1,1-Dichloropropene	ND	2.3	1.14	
Bromochloromethane	ND	2.3	1.14		c-1,3-Dichloropropene	ND	1.1	1.14	
Bromodichloromethane	ND	1.1	1.14		t-1,3-Dichloropropene	ND	2.3	1.14	
Bromoform	ND	5.7	1.14		Ethylbenzene	ND	1.1	1.14	
Bromomethane	ND	23	1.14		2-Hexanone	ND	23	1.14	
2-Butanone	ND	23	1.14		Isopropylbenzene	ND	1.1	1.14	
n-Butylbenzene	ND	1.1	1.14		p-Isopropyltoluene	ND	1.1	1.14	
sec-Butylbenzene	ND	1.1	1.14		Methylene Chloride	ND	11	1.14	
tert-Butylbenzene	ND	1.1	1.14		4-Methyl-2-Pentanone	ND	23	1.14	
Carbon Disulfide	ND	11	1.14		Naphthalene	ND	11	1.14	
Carbon Tetrachloride	ND	1.1	1.14		n-Propylbenzene	ND	1.1	1.14	
Chlorobenzene	ND	1.1	1.14		Styrene	ND	1.1	1.14	
Chloroethane	ND	2.3	1.14		1,1,1,2-Tetrachloroethane	ND	1.1	1.14	
Chloroform	ND	1.1	1.14		1,1,2,2-Tetrachloroethane	ND	2.3	1.14	
Chloromethane	ND	23	1.14		Tetrachloroethene	53	1.1	1.14	
2-Chlorotoluene	ND	1.1	1.14		Toluene	ND	1.1	1.14	
4-Chlorotoluene	ND	1.1	1.14		1,2,3-Trichlorobenzene	ND	2.3	1.14	
Dibromochloromethane	ND	2.3	1.14		1,2,4-Trichlorobenzene	ND	2.3	1.14	
1,2-Dibromo-3-Chloropropane	ND	5.7	1.14		1,1,1-Trichloroethane	ND	1.1	1.14	
1,2-Dibromoethane	ND	1.1	1.14		1,1,2-Trichloroethane	ND	1.1	1.14	
Dibromomethane	ND	1.1	1.14		1,1,2-Trichloro-1,2,2-Trifluoroethane	ND	11	1.14	
1,2-Dichlorobenzene	ND	1.1	1.14		Trichloroethene	3.6	2.3	1.14	
1,3-Dichlorobenzene	ND	1.1	1.14		Trichlorofluoromethane	ND	11	1.14	
1,4-Dichlorobenzene	ND	1.1	1.14		1,2,3-Trichloropropane	ND	2.3	1.14	
Dichlorodifluoromethane	ND	2.3	1.14		1,2,4-Trimethylbenzene	ND	2.3	1.14	
1,1-Dichloroethane	ND	1.1	1.14		1,3,5-Trimethylbenzene	ND	2.3	1.14	
1,2-Dichloroethane	ND	1.1	1.14		Vinyl Acetate	ND	11	1.14	
1,1-Dichloroethene	1.3	1.1	1.14		Vinyl Chloride	ND	1.1	1.14	
c-1,2-Dichloroethene	ND	1.1	1.14		p/m-Xylene	ND	2.3	1.14	
t-1,2-Dichloroethene	ND	1.1	1.14		o-Xylene	ND	1.1	1.14	
1,2-Dichloropropane	ND	1.1	1.14		Methyl-t-Butyl Ether (MTBE)	ND	2.3	1.14	

Surrogates:	REC (%)	Control Limits	Qual	Surrogates:	REC (%)	Control Limits	Qual
Dibromofluoromethane	125	71-137		1,2-Dichloroethane-d4	140	58-160	
1,4-Bromofluorobenzene	98	66-126		Toluene-d8	102	87-111	

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

Calscience Environmental Laboratories, Inc.

Analytical Report

Patriot Environmental Services		Date Received:	01/08/08
1900 West Anaheim St.		Work Order No:	08-01-0405
Long Beach, CA 90813-4043		Preparation:	EPA 5035
		Method:	EPA 8260B
		Units:	ug/kg
Project: WAR-OMEGA / LB80022			Page 9 of 9

Client Sample Number	Lab Sample Number	Date Collected	Matrix	Instrument	Date Prepared	Date/Time Analyzed	QC Batch ID
Method Blank	**095-01-025-15,337**	**N/A**	**Solid**	**GC/MS W**	**01/08/08**	**01/08/08 13:40**	**080108L01**

Parameter	Result	RL	DF	Qual	Parameter	Result	RL	DF	Qual
Acetone	ND	50	1		1,3-Dichloropropane	ND	1.0	1	
Benzene	ND	1.0	1		2,2-Dichloropropane	ND	5.0	1	
Bromobenzene	ND	1.0	1		1,1-Dichloropropene	ND	2.0	1	
Bromochloromethane	ND	2.0	1		c-1,3-Dichloropropene	ND	1.0	1	
Bromodichloromethane	ND	1.0	1		t-1,3-Dichloropropene	ND	2.0	1	
Bromoform	ND	5.0	1		Ethylbenzene	ND	1.0	1	
Bromomethane	ND	20	1		2-Hexanone	ND	20	1	
2-Butanone	ND	20	1		Isopropylbenzene	ND	1.0	1	
n-Butylbenzene	ND	1.0	1		p-Isopropyltoluene	ND	1.0	1	
sec-Butylbenzene	ND	1.0	1		Methylene Chloride	ND	10	1	
tert-Butylbenzene	ND	1.0	1		4-Methyl-2-Pentanone	ND	20	1	
Carbon Disulfide	ND	10	1		Naphthalene	ND	10	1	
Carbon Tetrachloride	ND	1.0	1		n-Propylbenzene	ND	1.0	1	
Chlorobenzene	ND	1.0	1		Styrene	ND	1.0	1	
Chloroethane	ND	2.0	1		1,1,1,2-Tetrachloroethane	ND	1.0	1	
Chloroform	ND	1.0	1		1,1,2,2-Tetrachloroethane	ND	2.0	1	
Chloromethane	ND	20	1		Tetrachloroethene	ND	1.0	1	
2-Chlorotoluene	ND	1.0	1		Toluene	ND	1.0	1	
4-Chlorotoluene	ND	1.0	1		1,2,3-Trichlorobenzene	ND	2.0	1	
Dibromochloromethane	ND	2.0	1		1,2,4-Trichlorobenzene	ND	2.0	1	
1,2-Dibromo-3-Chloropropane	ND	5.0	1		1,1,1-Trichloroethane	ND	1.0	1	
1,2-Dibromoethane	ND	1.0	1		1,1,2-Trichloroethane	ND	1.0	1	
Dibromomethane	ND	1.0	1		1,1,2-Trichloro-1,2,2-Trifluoroethane	ND	10	1	
1,2-Dichlorobenzene	ND	1.0	1		Trichloroethene	ND	2.0	1	
1,3-Dichlorobenzene	ND	1.0	1		Trichlorofluoromethane	ND	10	1	
1,4-Dichlorobenzene	ND	1.0	1		1,2,3-Trichloropropane	ND	2.0	1	
Dichlorodifluoromethane	ND	2.0	1		1,2,4-Trimethylbenzene	ND	2.0	1	
1,1-Dichloroethane	ND	1.0	1		1,3,5-Trimethylbenzene	ND	2.0	1	
1,2-Dichloroethane	ND	1.0	1		Vinyl Acetate	ND	10	1	
1,1-Dichloroethene	ND	1.0	1		Vinyl Chloride	ND	1.0	1	
c-1,2-Dichloroethene	ND	1.0	1		p/m-Xylene	ND	2.0	1	
t-1,2-Dichloroethene	ND	1.0	1		o-Xylene	ND	1.0	1	
1,2-Dichloropropane	ND	1.0	1		Methyl-t-Butyl Ether (MTBE)	ND	2.0	1	

Surrogates:	REC (%)	Control Limits	Qual	Surrogates:	REC (%)	Control Limits	Qual
Dibromofluoromethane	116	71-137		1,2-Dichloroethane-d4	120	58-160	
1,4-Bromofluorobenzene	92	66-126		Toluene-d8	98	87-111	

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

Calscience Environmental Laboratories, Inc.

Quality Control - Spike/Spike Duplicate

Patriot Environmental Services
1900 West Anaheim St.
Long Beach, CA 90813-4043

Date Received:	01/08/08
Work Order No:	08-01-0405
Preparation:	EPA 3050B
Method:	EPA 6010B

Project WAR-OMEGA / LB80022

Quality Control Sample ID	Matrix	Instrument	Date Prepared	Date Analyzed	MS/MSD Batch Number
SE-10'	**Solid**	**ICP 5300**	**01/08/08**	**01/08/08**	**080108S03**

Parameter	MS %REC	MSD %REC	%REC CL	RPD	RPD CL	Qualifiers
Antimony	27	26	50-115	2	0-20	3
Arsenic	96	99	75-125	2	0-20	
Barium	4X	4X	75-125	4X	0-20	Q
Beryllium	96	97	75-125	0	0-20	
Cadmium	94	94	75-125	0	0-20	
Chromium	109	103	75-125	4	0-20	
Cobalt	100	97	75-125	3	0-20	
Copper	113	104	75-125	5	0-20	
Lead	96	94	75-125	2	0-20	
Molybdenum	88	89	75-125	1	0-20	
Nickel	109	104	75-125	3	0-20	
Selenium	82	83	75-125	2	0-20	
Silver	89	88	75-125	0	0-20	
Thallium	89	88	75-125	1	0-20	
Vanadium	124	109	75-125	7	0-20	
Zinc	127	109	75-125	7	0-20	3

RPD - Relative Percent Difference , CL - Control Limit

Calscience Environmental Laboratories, Inc.

Quality Control - Spike/Spike Duplicate

Patriot Environmental Services
1900 West Anaheim St.
Long Beach, CA 90813-4043

Date Received:	01/08/08
Work Order No:	08-01-0405
Preparation:	EPA 7471A Total
Method:	EPA 7471A

Project WAR-OMEGA / LB80022

Quality Control Sample ID	Matrix	Instrument	Date Prepared	Date Analyzed	MS/MSD Batch Number
08-01-0369-1	**Solid**	**Mercury**	**01/08/08**	**01/08/08**	**080108S01**

Parameter	MS %REC	MSD %REC	%REC CL	RPD	RPD CL	Qualifiers
Mercury	88	89	84-138	0	0-7	

RPD - Relative Percent Difference , CL - Control Limit

Calscience Environmental Laboratories, Inc.

Quality Control - PDS / PDSD

Patriot Environmental Services		Date Received	01/08/08
1900 West Anaheim St.		Work Order No:	08-01-0405
Long Beach, CA 90813-4043		Preparation:	EPA 7471A Total
		Method:	EPA 7471A

Project: WAR-OMEGA / LB80022

Quality Control Sample ID	Matrix	Instrument	Date Prepared	Date Analyzed	PDS/PDSD Batch Number
08-01-0369-1	**Solid**	**Mercury**	**01/08/08**	**01/08/08**	**080108S01**

Parameter	PDS %REC	PDSD %REC	%REC CL	RPD	RPD CL	Qualifiers
Mercury	97	97	75-125	0	0-7	

RPD - Relative Percent Difference , CL - Control Limit

Calscience Environmental Laboratories, Inc.

Quality Control - Spike/Spike Duplicate

Patriot Environmental Services
1900 West Anaheim St.
Long Beach, CA 90813-4043

Date Received: 01/08/08
Work Order No: 08-01-0405
Preparation: EPA 3545
Method: EPA 8270C(M) Isotope Dilution

Project WAR-OMEGA / LB80022

Quality Control Sample ID	Matrix	Instrument	Date Prepared	Date Analyzed	MS/MSD Batch Number
NE-10'	**Solid**	**GC/MS J**	**01/08/08**	**01/09/08**	**080108S05**

Parameter	MS %REC	MSD %REC	%REC CL	RPD	RPD CL	Qualifiers
1,4-Dioxane	89	92	50-130	3	0-20	

RPD - Relative Percent Difference , CL - Control Limit

Calscience Environmental Laboratories, Inc.

Quality Control - Laboratory Control Sample

Patriot Environmental Services		Date Received:	N/A
1900 West Anaheim St.		Work Order No:	08-01-0405
Long Beach, CA 90813-4043		Preparation:	EPA 3050B
		Method:	EPA 6010B

Project: WAR-OMEGA / LB80022

Quality Control Sample ID	Matrix	Instrument	Date Analyzed	Lab File ID	LCS Batch Number
097-01-002-10,259	**Solid**	**ICP 5300**	**01/08/08**	**080108-I-03**	**080108L03**

Parameter	Conc Added	Conc Recovered	LCS %Rec	%Rec CL	Qualifiers
Antimony	25.0	26.0	104	80-120	
Arsenic	25.0	24.9	99	80-120	
Barium	25.0	26.4	105	80-120	
Beryllium	25.0	24.7	99	80-120	
Cadmium	25.0	26.6	106	80-120	
Chromium	25.0	26.7	107	80-120	
Cobalt	25.0	27.3	109	80-120	
Copper	25.0	25.2	101	80-120	
Lead	25.0	26.8	107	80-120	
Molybdenum	25.0	26.4	106	80-120	
Nickel	25.0	28.1	112	80-120	
Selenium	25.0	24.7	99	80-120	
Silver	12.5	12.3	98	80-120	
Thallium	25.0	26.1	105	80-120	
Vanadium	25.0	25.7	103	80-120	
Zinc	25.0	27.3	109	80-120	

RPD - Relative Percent Difference , CL - Control Limit

Calscience Environmental Laboratories, Inc.

Quality Control - LCS/LCS Duplicate

Patriot Environmental Services		Date Received:	N/A
1900 West Anaheim St.		Work Order No:	08-01-0405
Long Beach, CA 90813-4043		Preparation:	EPA 7471A Total
		Method:	EPA 7471A

Project: WAR-OMEGA / LB80022

Quality Control Sample ID	Matrix	Instrument	Date Prepared	Date Analyzed	LCS/LCSD Batch Number
099-04-007-5,229	**Solid**	**Mercury**	**01/08/08**	**01/08/08**	**080108L01**

Parameter	LCS %REC	LCSD %REC	%REC CL	RPD	RPD CL	Qualifiers
Mercury	100	100	87-117	0	0-3	

RPD - Relative Percent Difference , CL - Control Limit

Calscience Environmental Laboratories, Inc.

Quality Control - LCS/LCS Duplicate

Patriot Environmental Services
1900 West Anaheim St.
Long Beach, CA 90813-4043

Date Received: N/A
Work Order No: 08-01-0405
Preparation: EPA 3545
Method: EPA 8270C(M) Isotope Dilution

Project: WAR-OMEGA / LB80022

Quality Control Sample ID	Matrix	Instrument	Date Prepared	Date Analyzed	LCS/LCSD Batch Number
099-09-005-160	**Solid**	**GC/MS J**	**01/08/08**	**01/08/08**	**080108L05D**

Parameter	LCS %REC	LCSD %REC	%REC CL	RPD	RPD CL	Qualifiers
1,4-Dioxane	85	84	50-130	1	0-20	

RPD - Relative Percent Difference , CL - Control Limit

Calscience Environmental Laboratories, Inc.

Quality Control - LCS/LCS Duplicate

Patriot Environmental Services
1900 West Anaheim St.
Long Beach, CA 90813-4043

Date Received: N/A
Work Order No: 08-01-0405
Preparation: EPA 5035
Method: EPA 8260B

Project: WAR-OMEGA / LB80022

Quality Control Sample ID	Matrix	Instrument	Date Prepared	Date Analyzed	LCS/LCSD Batch Number
095-01-025-15,337	**Solid**	**GC/MS W**	**01/08/08**	**01/08/08**	**080108L01**

Parameter	LCS %REC	LCSD %REC	%REC CL	RPD	RPD CL	Qualifiers
Benzene	100	107	85-115	7	0-11	
Carbon Tetrachloride	108	120	68-134	10	0-14	
Chlorobenzene	99	103	83-119	4	0-9	
1,2-Dibromoethane	100	104	80-120	3	0-20	
1,2-Dichlorobenzene	97	101	57-135	4	0-10	
1,1-Dichloroethene	103	107	72-120	4	0-10	
Ethylbenzene	100	106	80-120	6	0-20	
Toluene	102	107	67-127	6	0-10	
Trichloroethene	104	109	88-112	5	0-9	
Vinyl Chloride	86	86	57-129	1	0-16	
Methyl-t-Butyl Ether (MTBE)	107	106	76-124	1	0-12	
Tert-Butyl Alcohol (TBA)	81	93	31-145	14	0-23	
Diisopropyl Ether (DIPE)	95	98	74-128	4	0-10	
Ethyl-t-Butyl Ether (ETBE)	101	103	77-125	3	0-9	
Tert-Amyl-Methyl Ether (TAME)	104	109	81-123	5	0-10	
Ethanol	83	89	44-152	6	0-24	

RPD - Relative Percent Difference , CL - Control Limit

Calscience Environmental Laboratories, Inc.

Glossary of Terms and Qualifiers

Work Order Number: 08-01-0405

Qualifier	Definition
*	See applicable analysis comment.
1	Surrogate compound recovery was out of control due to a required sample dilution, therefore, the sample data was reported without further clarification.
2	Surrogate compound recovery was out of control due to matrix interference. The associated method blank surrogate spike compound was in control and, therefore, the sample data was reported without further clarification.
3	Recovery of the Matrix Spike (MS) or Matrix Spike Duplicate (MSD) compound was out of control due to matrix interference. The associated LCS and/or LCSD was in control and, therefore, the sample data was reported without further clarification.
4	The MS/MSD RPD was out of control due to matrix interference. The LCS/LCSD RPD was in control and, therefore, the sample data was reported without further clarification.
5	The PDS/PDSD associated with this batch of samples was out of control due to a matrix interference effect. The associated batch LCS/LCSD was in control and, hence, the associated sample data was reported with no further corrective action required.
A	Result is the average of all dilutions, as defined by the method.
B	Analyte was present in the associated method blank.
C	Analyte presence was not confirmed on primary column.
E	Concentration exceeds the calibration range.
H	Sample received and/or analyzed past the recommended holding time.
J	Analyte was detected at a concentration below the reporting limit and above the laboratory method detection limit. Reported value is estimated.
N	Nontarget Analyte.
ND	Parameter not detected at the indicated reporting limit.
Q	Spike recovery and RPD control limits do not apply resulting from the parameter concentration in the sample exceeding the spike concentration by a factor of four or greater.
U	Undetected at the laboratory method detection limit.
X	% Recovery and/or RPD out-of-range.
Z	Analyte presence was not confirmed by second column or GC/MS analysis.

CALSCIENCE ENVIRONMENTAL LABORATORIES, INC.
7440 LINCOLN WAY
GARDEN GROVE, CA 92841-1427
TEL: (714) 895-5494 • FAX: (714) 894-7501

CHAIN OF CUSTODY RECORD

Date 1/8/08

Page 1 of 1

LABORATORY CLIENT: PATRIOT ENVIRONMENTAL

ADDRESS:

CITY: LONG BEACH STATE: ZIP:

TEL: FAX: E-MAIL:

TURNAROUND TIME: ☐ SAME DAY ☐ 24 HR ☒ 48 HR ☐ 72 HR ☐ 5 DAYS ☐ 10 DAYS

SPECIAL REQUIREMENTS (ADDITIONAL COSTS MAY APPLY): ☐ RWQCB REPORTING FORMS ☐ COELT EDF ☐

SPECIAL INSTRUCTIONS: 48 HR TAT

CLIENT PROJECT NAME / NUMBER: WAR-OMEGA / LB80022

PROJECT CONTACT: DALE STRIETER

SAMPLER(S): (SIGNATURE) Dale Strieter

COELT LOG CODE ☐☐☐☐

P.O. NO.:

LAB USE ONLY: 0 1 - 0 4 0 5

COOLER RECEIPT TEMP = °C

REQUESTED ANALYSES

LAB USE ONLY	SAMPLE ID	FIELD POINT NAME (FOR COELT EDF)	SAMPLING DATE	SAMPLING TIME	MATRIX	NO. OF CONT.	TPH (G)	TPH (D) or	BTEX / MTBE (8260B) or	OXYGENATES (8260B)	VOCs (8260B)	5035 ENCORE PREP	SVOCs (8270C) 1-4 DIOXANE	PEST (8081A)	PCBs (8082)	CAC, T22 METALS (6010B) / 747	PNAs (8310) or (8270C)	VOCs (TO-14A) or (TO-15)	TPH(G) (TO-3M)
1	NW -5'		1/8/08	0935	S	4					X		X			X			
2	NW -10'			0941															
3	NE -5'			0956															
4	NE -10'			1003															
5	SW -5'			1014															
6	SW -10'			1021															
7	SE -5'			1031															
8	SE -10'			1036															

Relinquished by: (Signature)	Received by: (Signature)	Date:	Time:
Dale Strieter	[illegible]	01.08.08	1218
Relinquished by: (Signature)	Received by: (Signature)	Date:	Time:
Relinquished by: (Signature)	Received for Laboratory by: (Signature)	Date:	Time:

DISTRIBUTION: When with final report, Green to file, Yellow to Client.
Please note that pages 1 and 2 of 2 of our T/Cs are printed on the reverse side of the Green and Yellow copies respectively.

10/20/04 Revision

Q&Q Graphic 714-898-9702

Calscience Environmental Laboratories, Inc.

WORK ORDER #: 08 - 01 - 0405

Cooler 1 of 1

SAMPLE RECEIPT FORM

CLIENT: Patriot

DATE: 01.08.08

TEMPERATURE – SAMPLES RECEIVED BY:

CALSCIENCE COURIER:

_____ Chilled, cooler with temperature blank provided.
_____ Chilled, cooler without temperature blank.
_____ Chilled and placed in cooler with wet ice.
_____ Ambient and placed in cooler with wet ice.
_____ Ambient temperature.

_____ °C Temperature blank.

LABORATORY (Other than Calscience Courier):

_____ °C Temperature blank.
4.3 °C IR thermometer.
_____ Ambient temperature.

Initial: [illegible]

CUSTODY SEAL INTACT:

Sample(s): _____ Cooler: _____ No (Not Intact) : _____ Not Present: ✓

Initial: [illegible]

SAMPLE CONDITION:

	Yes	No	N/A
Chain-Of-Custody document(s) received with samples	✓		
Sampler's name indicated on COC	✓		
Sample container label(s) consistent with custody papers	✓		
Sample container(s) intact and good condition	✓		
Correct containers and volume for analyses requested	✓		
Proper preservation noted on sample label(s)			✓
VOA vial(s) free of headspace.			✓
Tedlar bag(s) free of condensation			✓

Initial: [illegible]

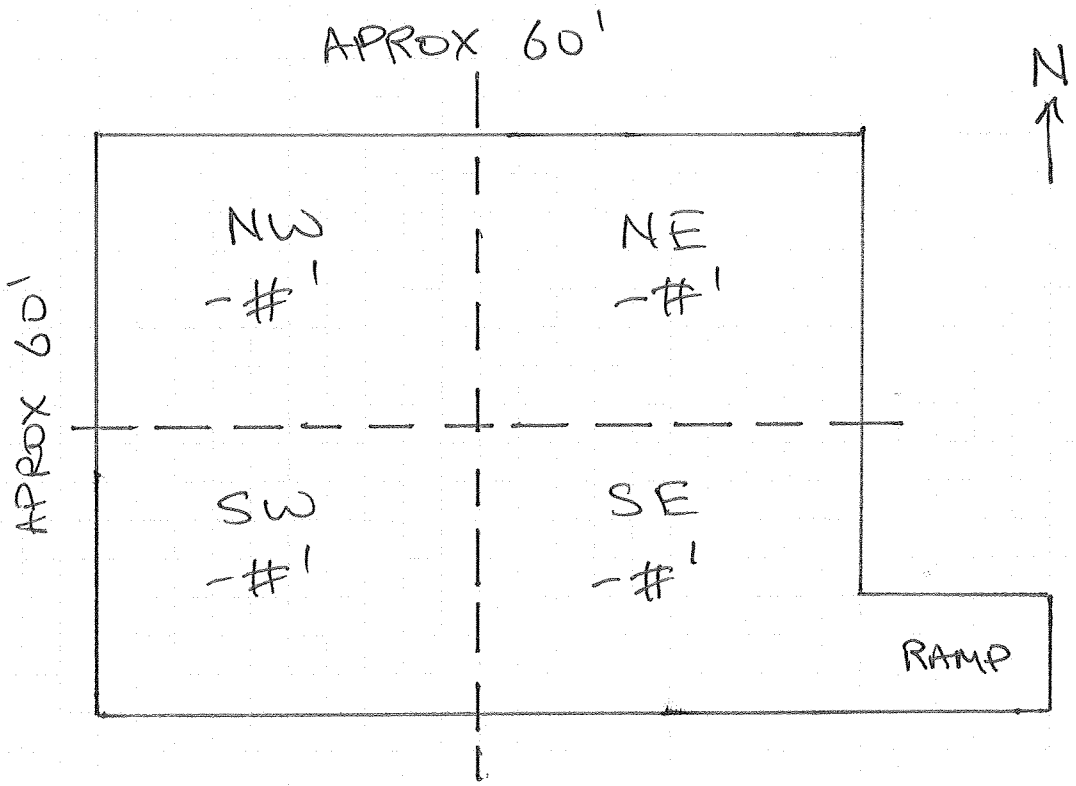
COMMENTS:

CDM

CLIENT Omega
PROJECT
DETAIL

JOB NO.
DATE CHECKED
CHECKED BY

COMPUTED BY M. Goh
DATE Jan 2008
PAGE NO.



SAMPLING SITE PLAN
DURING EXCAVATION
Jan 2008

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Appendix C.2

January 17, 2008
Excavated Soil
Analytical Results

Calscience Environmental Laboratories, Inc.

January 17, 2008

Dale Strieter
Patriot Environmental Services
1900 West Anaheim St.
Long Beach, CA 90813-4043

Subject: **Calscience Work Order No.: 08-01-0980**
Client Reference: WAR-OMEGA / LB80022

Dear Client:

Enclosed is an analytical report for the above-referenced project. The samples included in this report were received 1/15/2008 and analyzed in accordance with the attached chain-of-custody.

Unless otherwise noted, all analytical testing was accomplished in accordance with the guidelines established in our Quality Systems Manual, applicable standard operating procedures, and other related documentation. The original report of subcontracted analysis, if any, is provided herein, and follows the standard Calscience data package. The results in this analytical report are limited to the samples tested and any reproduction thereof must be made in its entirety.

If you have any questions regarding this report, please do not hesitate to contact the undersigned.

Sincerely,

Calscience Environmental
Laboratories, Inc.
Stephen Nowak
Project Manager

Calscience Environmental Laboratories, Inc.

Analytical Report

Patriot Environmental Services
1900 West Anaheim St.
Long Beach, CA 90813-4043

Date Received: 01/15/08
Work Order No: 08-01-0980
Preparation: EPA 3050B / EPA 7471A Total
Method: EPA 6010B / EPA 7471A
Units: mg/kg

Project: WAR-OMEGA / LB80022

Client Sample Number	Lab Sample Number	Date Collected	Matrix	Instrument	Date Prepared	Date/Time Analyzed	QC Batch ID
OMEGA SP-1	**08-01-0980-1-A**	**01/15/08**	**Solid**	**ICP 5300**	**01/15/08**	**01/15/08 20:42**	**080115L05**

Comment(s): -Mercury was analyzed on 1/15/2008 4:52:42 PM with batch 080115L04

Parameter	Result	RL	DF	Qual	Parameter	Result	RL	DF	Qual
Antimony	ND	0.750	1		Mercury	ND	0.0835	1	
Arsenic	3.68	0.750	1		Molybdenum	1.33	0.250	1	
Barium	169	0.500	1		Nickel	23.1	0.250	1	
Beryllium	0.540	0.250	1		Selenium	ND	0.750	1	
Cadmium	0.916	0.500	1		Silver	ND	0.250	1	
Chromium	15.5	0.250	1		Thallium	ND	0.750	1	
Cobalt	8.74	0.250	1		Vanadium	37.8	0.250	1	
Copper	21.7	0.500	1		Zinc	69.9	1.00	1	
Lead	20.4	0.500	1						

OMEGA SP-2	**08-01-0980-2-A**	**01/15/08**	**Solid**	**ICP 5300**	**01/15/08**	**01/15/08 20:44**	**080115L05**

Comment(s): -Mercury was analyzed on 1/15/2008 4:59:24 PM with batch 080115L04

Parameter	Result	RL	DF	Qual	Parameter	Result	RL	DF	Qual
Antimony	ND	0.750	1		Mercury	ND	0.0835	1	
Arsenic	4.23	0.750	1		Molybdenum	1.60	0.250	1	
Barium	154	0.500	1		Nickel	22.1	0.250	1	
Beryllium	0.529	0.250	1		Selenium	ND	0.750	1	
Cadmium	0.969	0.500	1		Silver	ND	0.250	1	
Chromium	14.4	0.250	1		Thallium	ND	0.750	1	
Cobalt	8.32	0.250	1		Vanadium	36.0	0.250	1	
Copper	20.9	0.500	1		Zinc	68.0	1.00	1	
Lead	8.47	0.500	1						

OMEGA SP-3	**08-01-0980-3-A**	**01/15/08**	**Solid**	**ICP 5300**	**01/15/08**	**01/15/08 20:46**	**080115L05**

Comment(s): -Mercury was analyzed on 1/15/2008 5:01:37 PM with batch 080115L04

Parameter	Result	RL	DF	Qual	Parameter	Result	RL	DF	Qual
Antimony	ND	0.750	1		Mercury	ND	0.0835	1	
Arsenic	3.77	0.750	1		Molybdenum	1.37	0.250	1	
Barium	166	0.500	1		Nickel	24.3	0.250	1	
Beryllium	0.572	0.250	1		Selenium	ND	0.750	1	
Cadmium	1.02	0.500	1		Silver	ND	0.250	1	
Chromium	16.0	0.250	1		Thallium	ND	0.750	1	
Cobalt	8.81	0.250	1		Vanadium	38.9	0.250	1	
Copper	22.2	0.500	1		Zinc	68.3	1.00	1	
Lead	8.51	0.500	1						

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

Calscience Environmental Laboratories, Inc.

Analytical Report

Patriot Environmental Services
1900 West Anaheim St.
Long Beach, CA 90813-4043

Date Received: 01/15/08
Work Order No: 08-01-0980
Preparation: EPA 3050B / EPA 7471A Total
Method: EPA 6010B / EPA 7471A
Units: mg/kg

Project: WAR-OMEGA / LB80022

Client Sample Number	Lab Sample Number	Date Collected	Matrix	Instrument	Date Prepared	Date/Time Analyzed	QC Batch ID
OMEGA SP-4	**08-01-0980-4-A**	**01/15/08**	**Solid**	**ICP 5300**	**01/15/08**	**01/15/08 20:48**	**080115L05**

Comment(s): -Mercury was analyzed on 1/15/2008 5:03:51 PM with batch 080115L04

Parameter	Result	RL	DF	Qual	Parameter	Result	RL	DF	Qual
Antimony	ND	0.750	1		Mercury	ND	0.0835	1	
Arsenic	4.25	0.750	1		Molybdenum	1.46	0.250	1	
Barium	171	0.500	1		Nickel	24.0	0.250	1	
Beryllium	0.578	0.250	1		Selenium	ND	0.750	1	
Cadmium	1.01	0.500	1		Silver	ND	0.250	1	
Chromium	15.8	0.250	1		Thallium	ND	0.750	1	
Cobalt	9.18	0.250	1		Vanadium	39.3	0.250	1	
Copper	22.7	0.500	1		Zinc	69.5	1.00	1	
Lead	9.69	0.500	1						

OMEGA SP-5	**08-01-0980-5-A**	**01/15/08**	**Solid**	**ICP 5300**	**01/15/08**	**01/15/08 20:55**	**080115L05**

Comment(s): -Mercury was analyzed on 1/15/2008 5:06:05 PM with batch 080115L04

Parameter	Result	RL	DF	Qual	Parameter	Result	RL	DF	Qual
Antimony	ND	0.750	1		Mercury	ND	0.0835	1	
Arsenic	5.06	0.750	1		Molybdenum	1.33	0.250	1	
Barium	169	0.500	1		Nickel	23.4	0.250	1	
Beryllium	0.560	0.250	1		Selenium	ND	0.750	1	
Cadmium	0.973	0.500	1		Silver	ND	0.250	1	
Chromium	15.8	0.250	1		Thallium	ND	0.750	1	
Cobalt	8.64	0.250	1		Vanadium	38.4	0.250	1	
Copper	22.0	0.500	1		Zinc	68.0	1.00	1	
Lead	14.3	0.500	1						

OMEGA SP-6	**08-01-0980-6-A**	**01/15/08**	**Solid**	**ICP 5300**	**01/15/08**	**01/15/08 20:57**	**080115L05**

Comment(s): -Mercury was analyzed on 1/15/2008 5:08:20 PM with batch 080115L04

Parameter	Result	RL	DF	Qual	Parameter	Result	RL	DF	Qual
Antimony	ND	0.750	1		Mercury	ND	0.0835	1	
Arsenic	4.32	0.750	1		Molybdenum	1.13	0.250	1	
Barium	160	0.500	1		Nickel	20.6	0.250	1	
Beryllium	0.520	0.250	1		Selenium	ND	0.750	1	
Cadmium	0.688	0.500	1		Silver	ND	0.250	1	
Chromium	15.2	0.250	1		Thallium	ND	0.750	1	
Cobalt	8.77	0.250	1		Vanadium	36.5	0.250	1	
Copper	22.5	0.500	1		Zinc	67.3	1.00	1	
Lead	14.8	0.500	1						

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

Calscience Environmental Laboratories, Inc.

Analytical Report

Patriot Environmental Services
1900 West Anaheim St.
Long Beach, CA 90813-4043

Date Received: 01/15/08
Work Order No: 08-01-0980
Preparation: EPA 3050B / EPA 7471A Total
Method: EPA 6010B / EPA 7471A
Units: mg/kg

Project: WAR-OMEGA / LB80022

Client Sample Number	Lab Sample Number	Date Collected	Matrix	Instrument	Date Prepared	Date/Time Analyzed	QC Batch ID
OMEGA SP-7	**08-01-0980-7-A**	**01/15/08**	**Solid**	**ICP 5300**	**01/15/08**	**01/15/08 20:59**	**080115L05**

Comment(s): -Mercury was analyzed on 1/15/2008 5:10:35 PM with batch 080115L04

Parameter	Result	RL	DF	Qual	Parameter	Result	RL	DF	Qual
Antimony	ND	0.750	1		Mercury	ND	0.0835	1	
Arsenic	3.18	0.750	1		Molybdenum	1.12	0.250	1	
Barium	170	0.500	1		Nickel	22.5	0.250	1	
Beryllium	0.551	0.250	1		Selenium	ND	0.750	1	
Cadmium	0.937	0.500	1		Silver	ND	0.250	1	
Chromium	15.4	0.250	1		Thallium	ND	0.750	1	
Cobalt	8.58	0.250	1		Vanadium	37.7	0.250	1	
Copper	21.8	0.500	1		Zinc	75.1	1.00	1	
Lead	24.4	0.500	1						

OMEGA SP-8	**08-01-0980-8-A**	**01/15/08**	**Solid**	**ICP 5300**	**01/15/08**	**01/15/08 21:01**	**080115L05**

Comment(s): -Mercury was analyzed on 1/15/2008 5:12:51 PM with batch 080115L04

Parameter	Result	RL	DF	Qual	Parameter	Result	RL	DF	Qual
Antimony	ND	0.750	1		Mercury	ND	0.0835	1	
Arsenic	3.79	0.750	1		Molybdenum	1.90	0.250	1	
Barium	175	0.500	1		Nickel	24.5	0.250	1	
Beryllium	0.597	0.250	1		Selenium	ND	0.750	1	
Cadmium	1.03	0.500	1		Silver	ND	0.250	1	
Chromium	15.4	0.250	1		Thallium	ND	0.750	1	
Cobalt	9.02	0.250	1		Vanadium	40.0	0.250	1	
Copper	23.6	0.500	1		Zinc	70.9	1.00	1	
Lead	11.8	0.500	1						

Method Blank	**099-04-007-5,238**	**N/A**	**Solid**	**Mercury**	**01/15/08**	**01/15/08 16:32**	**080115L04**

Parameter	Result	RL	DF	Qual
Mercury	ND	0.0835	1	

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

Calscience Environmental Laboratories, Inc.

Analytical Report

Patriot Environmental Services
1900 West Anaheim St.
Long Beach, CA 90813-4043

Date Received: 01/15/08
Work Order No: 08-01-0980
Preparation: EPA 3050B / EPA 7471A Total
Method: EPA 6010B / EPA 7471A
Units: mg/kg

Project: WAR-OMEGA / LB80022

Client Sample Number	Lab Sample Number	Date Collected	Matrix	Instrument	Date Prepared	Date/Time Analyzed	QC Batch ID
Method Blank	**097-01-002-10,289**	**N/A**	**Solid**	**ICP 5300**	**01/15/08**	**01/15/08 19:29**	**080115L05**

Parameter	Result	RL	DF	Qual	Parameter	Result	RL	DF	Qual
Antimony	ND	0.750	1		Lead	ND	0.500	1	
Arsenic	ND	0.750	1		Molybdenum	ND	0.250	1	
Barium	ND	0.500	1		Nickel	ND	0.250	1	
Beryllium	ND	0.250	1		Selenium	ND	0.750	1	
Cadmium	ND	0.500	1		Silver	ND	0.250	1	
Chromium	ND	0.250	1		Thallium	ND	0.750	1	
Cobalt	ND	0.250	1		Vanadium	ND	0.250	1	
Copper	ND	0.500	1		Zinc	ND	1.00	1	

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

Calscience Environmental Laboratories, Inc.

Analytical Report

Patriot Environmental Services
1900 West Anaheim St.
Long Beach, CA 90813-4043

Date Received: 01/15/08
Work Order No: 08-01-0980
Preparation: EPA 3545
Method: EPA 8270C(M) Isotope Dilution

Project: WAR-OMEGA / LB80022

Client Sample Number	Lab Sample Number	Date Collected	Matrix	Instrument	Date Prepared	Date/Time Analyzed	QC Batch ID
OMEGA SP-1	**08-01-0980-1-A**	**01/15/08**	**Solid**	**GC/MS J**	**01/15/08**	**01/16/08 10:55**	**080115L09D**

Parameter	Result	RL	DF	Qual	Units
1,4-Dioxane	ND	0.20	1		mg/kg

Surrogates:	REC (%)	Control Limits	Qual
Nitrobenzene-d5	68	28-139	

Client Sample Number	Lab Sample Number	Date Collected	Matrix	Instrument	Date Prepared	Date/Time Analyzed	QC Batch ID
OMEGA SP-2	**08-01-0980-2-A**	**01/15/08**	**Solid**	**GC/MS J**	**01/15/08**	**01/16/08 11:20**	**080115L09D**

Parameter	Result	RL	DF	Qual	Units
1,4-Dioxane	ND	0.20	1		mg/kg

Surrogates:	REC (%)	Control Limits	Qual
Nitrobenzene-d5	79	28-139	

Client Sample Number	Lab Sample Number	Date Collected	Matrix	Instrument	Date Prepared	Date/Time Analyzed	QC Batch ID
OMEGA SP-3	**08-01-0980-3-A**	**01/15/08**	**Solid**	**GC/MS J**	**01/15/08**	**01/16/08 11:47**	**080115L09D**

Parameter	Result	RL	DF	Qual	Units
1,4-Dioxane	ND	0.20	1		mg/kg

Surrogates:	REC (%)	Control Limits	Qual
Nitrobenzene-d5	74	28-139	

Client Sample Number	Lab Sample Number	Date Collected	Matrix	Instrument	Date Prepared	Date/Time Analyzed	QC Batch ID
OMEGA SP-4	**08-01-0980-4-A**	**01/15/08**	**Solid**	**GC/MS J**	**01/15/08**	**01/16/08 12:15**	**080115L09D**

Parameter	Result	RL	DF	Qual	Units
1,4-Dioxane	ND	0.20	1		mg/kg

Surrogates:	REC (%)	Control Limits	Qual
Nitrobenzene-d5	66	28-139	

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

Calscience Environmental Laboratories, Inc.

Analytical Report

Patriot Environmental Services
1900 West Anaheim St.
Long Beach, CA 90813-4043

Date Received: 01/15/08
Work Order No: 08-01-0980
Preparation: EPA 3545
Method: EPA 8270C(M) Isotope Dilution

Project: WAR-OMEGA / LB80022

Client Sample Number	Lab Sample Number	Date Collected	Matrix	Instrument	Date Prepared	Date/Time Analyzed	QC Batch ID
OMEGA SP-5	**08-01-0980-5-A**	**01/15/08**	**Solid**	**GC/MS J**	**01/15/08**	**01/16/08 14:56**	**080115L09D**

Parameter	Result	RL	DF	Qual	Units
1,4-Dioxane	ND	0.20	1		mg/kg

Surrogates:	REC (%)	Control Limits	Qual
Nitrobenzene-d5	65	28-139	

Client Sample Number	Lab Sample Number	Date Collected	Matrix	Instrument	Date Prepared	Date/Time Analyzed	QC Batch ID
OMEGA SP-6	**08-01-0980-6-A**	**01/15/08**	**Solid**	**GC/MS J**	**01/15/08**	**01/16/08 13:08**	**080115L09D**

Parameter	Result	RL	DF	Qual	Units
1,4-Dioxane	ND	0.20	1		mg/kg

Surrogates:	REC (%)	Control Limits	Qual
Nitrobenzene-d5	71	28-139	

Client Sample Number	Lab Sample Number	Date Collected	Matrix	Instrument	Date Prepared	Date/Time Analyzed	QC Batch ID
OMEGA SP-7	**08-01-0980-7-A**	**01/15/08**	**Solid**	**GC/MS J**	**01/15/08**	**01/16/08 13:35**	**080115L09D**

Parameter	Result	RL	DF	Qual	Units
1,4-Dioxane	ND	0.20	1		mg/kg

Surrogates:	REC (%)	Control Limits	Qual
Nitrobenzene-d5	66	28-139	

Client Sample Number	Lab Sample Number	Date Collected	Matrix	Instrument	Date Prepared	Date/Time Analyzed	QC Batch ID
OMEGA SP-8	**08-01-0980-8-A**	**01/15/08**	**Solid**	**GC/MS J**	**01/15/08**	**01/16/08 14:29**	**080115L09D**

Parameter	Result	RL	DF	Qual	Units
1,4-Dioxane	ND	0.20	1		mg/kg

Surrogates:	REC (%)	Control Limits	Qual
Nitrobenzene-d5	72	28-139	

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

Calscience Environmental Laboratories, Inc.

Analytical Report

Patriot Environmental Services		Date Received:	01/15/08
1900 West Anaheim St.		Work Order No:	08-01-0980
Long Beach, CA 90813-4043		Preparation:	EPA 3545
		Method:	EPA 8270C(M) Isotope Dilution
Project: WAR-OMEGA / LB80022			Page 3 of 3

Client Sample Number	Lab Sample Number	Date Collected	Matrix	Instrument	Date Prepared	Date/Time Analyzed	QC Batch ID
Method Blank	**099-09-005-165**	**N/A**	**Solid**	**GC/MS J**	**01/15/08**	**01/15/08 21:49**	**080115L09D**

Parameter	Result	RL	DF	Qual	Units
1,4-Dioxane	ND	0.20	1		mg/kg

Surrogates:	REC (%)	Control Limits	Qual
Nitrobenzene-d5	94	28-139	

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

Calscience Environmental Laboratories, Inc.

Analytical Report

Patriot Environmental Services		Date Received:	01/15/08
1900 West Anaheim St.		Work Order No:	08-01-0980
Long Beach, CA 90813-4043		Preparation:	EPA 5035
		Method:	EPA 8260B
		Units:	ug/kg
Project: WAR-OMEGA / LB80022			Page 1 of 10

Client Sample Number	Lab Sample Number	Date Collected	Matrix	Instrument	Date Prepared	Date/Time Analyzed	QC Batch ID
OMEGA SP-1	**08-01-0980-1-C**	**01/15/08**	**Solid**	**GC/MS W**	**01/15/08**	**01/16/08 16:33**	**080116L01**

Parameter	Result	RL	DF	Qual	Parameter	Result	RL	DF	Qual
Acetone	ND	48	0.962		1,3-Dichloropropane	ND	0.96	0.962	
Benzene	ND	0.96	0.962		2,2-Dichloropropane	ND	4.8	0.962	
Bromobenzene	ND	0.96	0.962		1,1-Dichloropropene	ND	1.9	0.962	
Bromochloromethane	ND	1.9	0.962		c-1,3-Dichloropropene	ND	0.96	0.962	
Bromodichloromethane	ND	0.96	0.962		t-1,3-Dichloropropene	ND	1.9	0.962	
Bromoform	ND	4.8	0.962		Ethylbenzene	ND	0.96	0.962	
Bromomethane	ND	19	0.962		2-Hexanone	ND	19	0.962	
2-Butanone	ND	19	0.962		Isopropylbenzene	ND	0.96	0.962	
n-Butylbenzene	ND	0.96	0.962		p-Isopropyltoluene	ND	0.96	0.962	
sec-Butylbenzene	ND	0.96	0.962		Methylene Chloride	ND	9.6	0.962	
tert-Butylbenzene	ND	0.96	0.962		4-Methyl-2-Pentanone	ND	19	0.962	
Carbon Disulfide	ND	9.6	0.962		Naphthalene	ND	9.6	0.962	
Carbon Tetrachloride	ND	0.96	0.962		n-Propylbenzene	ND	0.96	0.962	
Chlorobenzene	ND	0.96	0.962		Styrene	ND	0.96	0.962	
Chloroethane	ND	1.9	0.962		1,1,1,2-Tetrachloroethane	ND	0.96	0.962	
Chloroform	ND	0.96	0.962		1,1,2,2-Tetrachloroethane	ND	1.9	0.962	
Chloromethane	ND	19	0.962		Tetrachloroethene	40	0.96	0.962	
2-Chlorotoluene	ND	0.96	0.962		Toluene	ND	0.96	0.962	
4-Chlorotoluene	ND	0.96	0.962		1,2,3-Trichlorobenzene	ND	1.9	0.962	
Dibromochloromethane	ND	1.9	0.962		1,2,4-Trichlorobenzene	ND	1.9	0.962	
1,2-Dibromo-3-Chloropropane	ND	4.8	0.962		1,1,1-Trichloroethane	ND	0.96	0.962	
1,2-Dibromoethane	ND	0.96	0.962		1,1,2-Trichloroethane	ND	0.96	0.962	
Dibromomethane	ND	0.96	0.962		1,1,2-Trichloro-1,2,2-Trifluoroethane	ND	9.6	0.962	
1,2-Dichlorobenzene	ND	0.96	0.962		Trichloroethene	3.2	1.9	0.962	
1,3-Dichlorobenzene	ND	0.96	0.962		Trichlorofluoromethane	ND	9.6	0.962	
1,4-Dichlorobenzene	ND	0.96	0.962		1,2,3-Trichloropropane	ND	1.9	0.962	
Dichlorodifluoromethane	ND	1.9	0.962		1,2,4-Trimethylbenzene	ND	1.9	0.962	
1,1-Dichloroethane	ND	0.96	0.962		1,3,5-Trimethylbenzene	ND	1.9	0.962	
1,2-Dichloroethane	ND	0.96	0.962		Vinyl Acetate	ND	9.6	0.962	
1,1-Dichloroethene	2.1	0.96	0.962		Vinyl Chloride	ND	0.96	0.962	
c-1,2-Dichloroethene	ND	0.96	0.962		p/m-Xylene	ND	1.9	0.962	
t-1,2-Dichloroethene	ND	0.96	0.962		o-Xylene	ND	0.96	0.962	
1,2-Dichloropropane	ND	0.96	0.962		Methyl-t-Butyl Ether (MTBE)	ND	1.9	0.962	

Surrogates:	REC (%)	Control Limits	Qual	Surrogates:	REC (%)	Control Limits	Qual
Dibromofluoromethane	114	71-137		1,2-Dichloroethane-d4	147	58-160	
1,4-Bromofluorobenzene	102	66-126		Toluene-d8	95	87-111	

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

Calscience Environmental Laboratories, Inc.

Analytical Report

Patriot Environmental Services		Date Received:	01/15/08
1900 West Anaheim St.		Work Order No:	08-01-0980
Long Beach, CA 90813-4043		Preparation:	EPA 5035
		Method:	EPA 8260B
		Units:	ug/kg
Project: WAR-OMEGA / LB80022			Page 2 of 10

Client Sample Number	Lab Sample Number	Date Collected	Matrix	Instrument	Date Prepared	Date/Time Analyzed	QC Batch ID
OMEGA SP-2	**08-01-0980-2-C**	**01/15/08**	**Solid**	**GC/MS W**	**01/15/08**	**01/16/08 17:03**	**080116L01**

Parameter	Result	RL	DF	Qual	Parameter	Result	RL	DF	Qual
Acetone	ND	48	0.951		1,3-Dichloropropane	ND	0.95	0.951	
Benzene	ND	0.95	0.951		2,2-Dichloropropane	ND	4.8	0.951	
Bromobenzene	ND	0.95	0.951		1,1-Dichloropropene	ND	1.9	0.951	
Bromochloromethane	ND	1.9	0.951		c-1,3-Dichloropropene	ND	0.95	0.951	
Bromodichloromethane	ND	0.95	0.951		t-1,3-Dichloropropene	ND	1.9	0.951	
Bromoform	ND	4.8	0.951		Ethylbenzene	ND	0.95	0.951	
Bromomethane	ND	19	0.951		2-Hexanone	ND	19	0.951	
2-Butanone	ND	19	0.951		Isopropylbenzene	ND	0.95	0.951	
n-Butylbenzene	ND	0.95	0.951		p-Isopropyltoluene	ND	0.95	0.951	
sec-Butylbenzene	ND	0.95	0.951		Methylene Chloride	ND	9.5	0.951	
tert-Butylbenzene	ND	0.95	0.951		4-Methyl-2-Pentanone	ND	19	0.951	
Carbon Disulfide	ND	9.5	0.951		Naphthalene	ND	9.5	0.951	
Carbon Tetrachloride	ND	0.95	0.951		n-Propylbenzene	ND	0.95	0.951	
Chlorobenzene	ND	0.95	0.951		Styrene	ND	0.95	0.951	
Chloroethane	ND	1.9	0.951		1,1,1,2-Tetrachloroethane	ND	0.95	0.951	
Chloroform	ND	0.95	0.951		1,1,2,2-Tetrachloroethane	ND	1.9	0.951	
Chloromethane	ND	19	0.951		Tetrachloroethene	15	0.95	0.951	
2-Chlorotoluene	ND	0.95	0.951		Toluene	ND	0.95	0.951	
4-Chlorotoluene	ND	0.95	0.951		1,2,3-Trichlorobenzene	ND	1.9	0.951	
Dibromochloromethane	ND	1.9	0.951		1,2,4-Trichlorobenzene	ND	1.9	0.951	
1,2-Dibromo-3-Chloropropane	ND	4.8	0.951		1,1,1-Trichloroethane	ND	0.95	0.951	
1,2-Dibromoethane	ND	0.95	0.951		1,1,2-Trichloroethane	ND	0.95	0.951	
Dibromomethane	ND	0.95	0.951		1,1,2-Trichloro-1,2,2-Trifluoroethane	ND	9.5	0.951	
1,2-Dichlorobenzene	ND	0.95	0.951		Trichloroethene	ND	1.9	0.951	
1,3-Dichlorobenzene	ND	0.95	0.951		Trichlorofluoromethane	ND	9.5	0.951	
1,4-Dichlorobenzene	ND	0.95	0.951		1,2,3-Trichloropropane	ND	1.9	0.951	
Dichlorodifluoromethane	ND	1.9	0.951		1,2,4-Trimethylbenzene	ND	1.9	0.951	
1,1-Dichloroethane	ND	0.95	0.951		1,3,5-Trimethylbenzene	ND	1.9	0.951	
1,2-Dichloroethane	ND	0.95	0.951		Vinyl Acetate	ND	9.5	0.951	
1,1-Dichloroethene	ND	0.95	0.951		Vinyl Chloride	ND	0.95	0.951	
c-1,2-Dichloroethene	ND	0.95	0.951		p/m-Xylene	ND	1.9	0.951	
t-1,2-Dichloroethene	ND	0.95	0.951		o-Xylene	ND	0.95	0.951	
1,2-Dichloropropane	ND	0.95	0.951		Methyl-t-Butyl Ether (MTBE)	ND	1.9	0.951	

Surrogates:	REC (%)	Control Limits	Qual	Surrogates:	REC (%)	Control Limits	Qual
Dibromofluoromethane	112	71-137		1,2-Dichloroethane-d4	149	58-160	
1,4-Bromofluorobenzene	97	66-126		Toluene-d8	95	87-111	

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

Calscience Environmental Laboratories, Inc.

Analytical Report

Patriot Environmental Services		Date Received:	01/15/08
1900 West Anaheim St.		Work Order No:	08-01-0980
Long Beach, CA 90813-4043		Preparation:	EPA 5035
		Method:	EPA 8260B
		Units:	ug/kg
Project: WAR-OMEGA / LB80022			Page 3 of 10

Client Sample Number	Lab Sample Number	Date Collected	Matrix	Instrument	Date Prepared	Date/Time Analyzed	QC Batch ID
OMEGA SP-3	**08-01-0980-3-C**	**01/15/08**	**Solid**	**GC/MS W**	**01/15/08**	**01/16/08 17:33**	**080116L01**

Parameter	Result	RL	DF	Qual	Parameter	Result	RL	DF	Qual
Acetone	ND	76	1.52		1,3-Dichloropropane	ND	1.5	1.52	
Benzene	ND	1.5	1.52		2,2-Dichloropropane	ND	7.6	1.52	
Bromobenzene	ND	1.5	1.52		1,1-Dichloropropene	ND	3.0	1.52	
Bromochloromethane	ND	3.0	1.52		c-1,3-Dichloropropene	ND	1.5	1.52	
Bromodichloromethane	ND	1.5	1.52		t-1,3-Dichloropropene	ND	3.0	1.52	
Bromoform	ND	7.6	1.52		Ethylbenzene	ND	1.5	1.52	
Bromomethane	ND	30	1.52		2-Hexanone	ND	30	1.52	
2-Butanone	ND	30	1.52		Isopropylbenzene	ND	1.5	1.52	
n-Butylbenzene	ND	1.5	1.52		p-Isopropyltoluene	ND	1.5	1.52	
sec-Butylbenzene	ND	1.5	1.52		Methylene Chloride	ND	15	1.52	
tert-Butylbenzene	ND	1.5	1.52		4-Methyl-2-Pentanone	ND	30	1.52	
Carbon Disulfide	ND	15	1.52		Naphthalene	ND	15	1.52	
Carbon Tetrachloride	ND	1.5	1.52		n-Propylbenzene	ND	1.5	1.52	
Chlorobenzene	ND	1.5	1.52		Styrene	ND	1.5	1.52	
Chloroethane	ND	3.0	1.52		1,1,1,2-Tetrachloroethane	ND	1.5	1.52	
Chloroform	ND	1.5	1.52		1,1,2,2-Tetrachloroethane	ND	3.0	1.52	
Chloromethane	ND	30	1.52		Tetrachloroethene	30	1.5	1.52	
2-Chlorotoluene	ND	1.5	1.52		Toluene	ND	1.5	1.52	
4-Chlorotoluene	ND	1.5	1.52		1,2,3-Trichlorobenzene	ND	3.0	1.52	
Dibromochloromethane	ND	3.0	1.52		1,2,4-Trichlorobenzene	ND	3.0	1.52	
1,2-Dibromo-3-Chloropropane	ND	7.6	1.52		1,1,1-Trichloroethane	ND	1.5	1.52	
1,2-Dibromoethane	ND	1.5	1.52		1,1,2-Trichloroethane	ND	1.5	1.52	
Dibromomethane	ND	1.5	1.52		1,1,2-Trichloro-1,2,2-Trifluoroethane	ND	15	1.52	
1,2-Dichlorobenzene	ND	1.5	1.52		Trichloroethene	3.2	3.0	1.52	
1,3-Dichlorobenzene	ND	1.5	1.52		Trichlorofluoromethane	ND	15	1.52	
1,4-Dichlorobenzene	ND	1.5	1.52		1,2,3-Trichloropropane	ND	3.0	1.52	
Dichlorodifluoromethane	ND	3.0	1.52		1,2,4-Trimethylbenzene	ND	3.0	1.52	
1,1-Dichloroethane	ND	1.5	1.52		1,3,5-Trimethylbenzene	ND	3.0	1.52	
1,2-Dichloroethane	ND	1.5	1.52		Vinyl Acetate	ND	15	1.52	
1,1-Dichloroethene	1.7	1.5	1.52		Vinyl Chloride	ND	1.5	1.52	
c-1,2-Dichloroethene	ND	1.5	1.52		p/m-Xylene	ND	3.0	1.52	
t-1,2-Dichloroethene	ND	1.5	1.52		o-Xylene	ND	1.5	1.52	
1,2-Dichloropropane	ND	1.5	1.52		Methyl-t-Butyl Ether (MTBE)	ND	3.0	1.52	

Surrogates:	REC (%)	Control Limits	Qual	Surrogates:	REC (%)	Control Limits	Qual
Dibromofluoromethane	111	71-137		1,2-Dichloroethane-d4	152	58-160	
1,4-Bromofluorobenzene	103	66-126		Toluene-d8	96	87-111	

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

Calscience Environmental Laboratories, Inc.

Analytical Report

Patriot Environmental Services		Date Received:	01/15/08
1900 West Anaheim St.		Work Order No:	08-01-0980
Long Beach, CA 90813-4043		Preparation:	EPA 5035
		Method:	EPA 8260B
		Units:	ug/kg
Project: WAR-OMEGA / LB80022			Page 4 of 10

Client Sample Number	Lab Sample Number	Date Collected	Matrix	Instrument	Date Prepared	Date/Time Analyzed	QC Batch ID
OMEGA SP-4	**08-01-0980-4-D**	**01/15/08**	**Solid**	**GC/MS X**	**01/15/08**	**01/16/08 20:20**	**080116L01**

Parameter	Result	RL	DF	Qual	Parameter	Result	RL	DF	Qual
Acetone	ND	47	0.94		1,3-Dichloropropane	ND	0.94	0.94	
Benzene	ND	0.94	0.94		2,2-Dichloropropane	ND	4.7	0.94	
Bromobenzene	ND	0.94	0.94		1,1-Dichloropropene	ND	1.9	0.94	
Bromochloromethane	ND	1.9	0.94		c-1,3-Dichloropropene	ND	0.94	0.94	
Bromodichloromethane	ND	0.94	0.94		t-1,3-Dichloropropene	ND	1.9	0.94	
Bromoform	ND	4.7	0.94		Ethylbenzene	ND	0.94	0.94	
Bromomethane	ND	19	0.94		2-Hexanone	ND	19	0.94	
2-Butanone	ND	19	0.94		Isopropylbenzene	ND	0.94	0.94	
n-Butylbenzene	ND	0.94	0.94		p-Isopropyltoluene	ND	0.94	0.94	
sec-Butylbenzene	ND	0.94	0.94		Methylene Chloride	ND	9.4	0.94	
tert-Butylbenzene	ND	0.94	0.94		4-Methyl-2-Pentanone	ND	19	0.94	
Carbon Disulfide	ND	9.4	0.94		Naphthalene	ND	9.4	0.94	
Carbon Tetrachloride	ND	0.94	0.94		n-Propylbenzene	ND	0.94	0.94	
Chlorobenzene	ND	0.94	0.94		Styrene	ND	0.94	0.94	
Chloroethane	ND	1.9	0.94		1,1,1,2-Tetrachloroethane	ND	0.94	0.94	
Chloroform	ND	0.94	0.94		1,1,2,2-Tetrachloroethane	ND	1.9	0.94	
Chloromethane	ND	19	0.94		Tetrachloroethene	49	0.94	0.94	
2-Chlorotoluene	ND	0.94	0.94		Toluene	ND	0.94	0.94	
4-Chlorotoluene	ND	0.94	0.94		1,2,3-Trichlorobenzene	ND	1.9	0.94	
Dibromochloromethane	ND	1.9	0.94		1,2,4-Trichlorobenzene	ND	1.9	0.94	
1,2-Dibromo-3-Chloropropane	ND	4.7	0.94		1,1,1-Trichloroethane	ND	0.94	0.94	
1,2-Dibromoethane	ND	0.94	0.94		1,1,2-Trichloroethane	ND	0.94	0.94	
Dibromomethane	ND	0.94	0.94		1,1,2-Trichloro-1,2,2-Trifluoroethane	ND	9.4	0.94	
1,2-Dichlorobenzene	ND	0.94	0.94		Trichloroethene	8.9	1.9	0.94	
1,3-Dichlorobenzene	ND	0.94	0.94		Trichlorofluoromethane	ND	9.4	0.94	
1,4-Dichlorobenzene	ND	0.94	0.94		1,2,3-Trichloropropane	ND	1.9	0.94	
Dichlorodifluoromethane	ND	1.9	0.94		1,2,4-Trimethylbenzene	ND	1.9	0.94	
1,1-Dichloroethane	ND	0.94	0.94		1,3,5-Trimethylbenzene	ND	1.9	0.94	
1,2-Dichloroethane	ND	0.94	0.94		Vinyl Acetate	ND	9.4	0.94	
1,1-Dichloroethene	3.8	0.94	0.94		Vinyl Chloride	ND	0.94	0.94	
c-1,2-Dichloroethene	ND	0.94	0.94		p/m-Xylene	ND	1.9	0.94	
t-1,2-Dichloroethene	ND	0.94	0.94		o-Xylene	ND	0.94	0.94	
1,2-Dichloropropane	ND	0.94	0.94		Methyl-t-Butyl Ether (MTBE)	ND	1.9	0.94	

Surrogates:	REC (%)	Control Limits	Qual	Surrogates:	REC (%)	Control Limits	Qual
Dibromofluoromethane	123	71-137		1,2-Dichloroethane-d4	143	58-160	
1,4-Bromofluorobenzene	94	66-126		Toluene-d8	101	87-111	

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

Calscience Environmental Laboratories, Inc.

Analytical Report

Patriot Environmental Services		Date Received:	01/15/08
1900 West Anaheim St.		Work Order No:	08-01-0980
Long Beach, CA 90813-4043		Preparation:	EPA 5035
		Method:	EPA 8260B
		Units:	ug/kg
Project: WAR-OMEGA / LB80022			Page 5 of 10

Client Sample Number	Lab Sample Number	Date Collected	Matrix	Instrument	Date Prepared	Date/Time Analyzed	QC Batch ID
OMEGA SP-5	**08-01-0980-5-C**	**01/15/08**	**Solid**	**GC/MS W**	**01/15/08**	**01/16/08 18:32**	**080116L01**

Parameter	Result	RL	DF	Qual	Parameter	Result	RL	DF	Qual
Acetone	ND	46	0.914		1,3-Dichloropropane	ND	0.91	0.914	
Benzene	ND	0.91	0.914		2,2-Dichloropropane	ND	4.6	0.914	
Bromobenzene	ND	0.91	0.914		1,1-Dichloropropene	ND	1.8	0.914	
Bromochloromethane	ND	1.8	0.914		c-1,3-Dichloropropene	ND	0.91	0.914	
Bromodichloromethane	ND	0.91	0.914		t-1,3-Dichloropropene	ND	1.8	0.914	
Bromoform	ND	4.6	0.914		Ethylbenzene	ND	0.91	0.914	
Bromomethane	ND	18	0.914		2-Hexanone	ND	18	0.914	
2-Butanone	ND	18	0.914		Isopropylbenzene	ND	0.91	0.914	
n-Butylbenzene	ND	0.91	0.914		p-Isopropyltoluene	ND	0.91	0.914	
sec-Butylbenzene	ND	0.91	0.914		Methylene Chloride	ND	9.1	0.914	
tert-Butylbenzene	ND	0.91	0.914		4-Methyl-2-Pentanone	ND	18	0.914	
Carbon Disulfide	ND	9.1	0.914		Naphthalene	ND	9.1	0.914	
Carbon Tetrachloride	ND	0.91	0.914		n-Propylbenzene	ND	0.91	0.914	
Chlorobenzene	ND	0.91	0.914		Styrene	ND	0.91	0.914	
Chloroethane	ND	1.8	0.914		1,1,1,2-Tetrachloroethane	ND	0.91	0.914	
Chloroform	ND	0.91	0.914		1,1,2,2-Tetrachloroethane	ND	1.8	0.914	
Chloromethane	ND	18	0.914		Tetrachloroethene	47	0.91	0.914	
2-Chlorotoluene	ND	0.91	0.914		Toluene	ND	0.91	0.914	
4-Chlorotoluene	ND	0.91	0.914		1,2,3-Trichlorobenzene	ND	1.8	0.914	
Dibromochloromethane	ND	1.8	0.914		1,2,4-Trichlorobenzene	ND	1.8	0.914	
1,2-Dibromo-3-Chloropropane	ND	4.6	0.914		1,1,1-Trichloroethane	ND	0.91	0.914	
1,2-Dibromoethane	ND	0.91	0.914		1,1,2-Trichloroethane	ND	0.91	0.914	
Dibromomethane	ND	0.91	0.914		1,1,2-Trichloro-1,2,2-Trifluoroethane	ND	9.1	0.914	
1,2-Dichlorobenzene	ND	0.91	0.914		Trichloroethene	3.0	1.8	0.914	
1,3-Dichlorobenzene	ND	0.91	0.914		Trichlorofluoromethane	ND	9.1	0.914	
1,4-Dichlorobenzene	ND	0.91	0.914		1,2,3-Trichloropropane	ND	1.8	0.914	
Dichlorodifluoromethane	ND	1.8	0.914		1,2,4-Trimethylbenzene	ND	1.8	0.914	
1,1-Dichloroethane	ND	0.91	0.914		1,3,5-Trimethylbenzene	ND	1.8	0.914	
1,2-Dichloroethane	ND	0.91	0.914		Vinyl Acetate	ND	9.1	0.914	
1,1-Dichloroethene	1.6	0.91	0.914		Vinyl Chloride	ND	0.91	0.914	
c-1,2-Dichloroethene	ND	0.91	0.914		p/m-Xylene	ND	1.8	0.914	
t-1,2-Dichloroethene	ND	0.91	0.914		o-Xylene	ND	0.91	0.914	
1,2-Dichloropropane	ND	0.91	0.914		Methyl-t-Butyl Ether (MTBE)	ND	1.8	0.914	

Surrogates:	REC (%)	Control Limits	Qual	Surrogates:	REC (%)	Control Limits	Qual
Dibromofluoromethane	116	71-137		1,2-Dichloroethane-d4	157	58-160	
1,4-Bromofluorobenzene	103	66-126		Toluene-d8	97	87-111	

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

Calscience Environmental Laboratories, Inc.

Analytical Report

Patriot Environmental Services		Date Received:	01/15/08
1900 West Anaheim St.		Work Order No:	08-01-0980
Long Beach, CA 90813-4043		Preparation:	EPA 5035
		Method:	EPA 8260B
		Units:	ug/kg
Project: WAR-OMEGA / LB80022			Page 6 of 10

Client Sample Number	Lab Sample Number	Date Collected	Matrix	Instrument	Date Prepared	Date/Time Analyzed	QC Batch ID
OMEGA SP-6	**08-01-0980-6-C**	**01/15/08**	**Solid**	**GC/MS W**	**01/15/08**	**01/16/08 20:02**	**080116L01**

Parameter	Result	RL	DF	Qual	Parameter	Result	RL	DF	Qual
Acetone	ND	48	0.967		1,3-Dichloropropane	ND	0.97	0.967	
Benzene	2.5	0.97	0.967		2,2-Dichloropropane	ND	4.8	0.967	
Bromobenzene	ND	0.97	0.967		1,1-Dichloropropene	ND	1.9	0.967	
Bromochloromethane	ND	1.9	0.967		c-1,3-Dichloropropene	ND	0.97	0.967	
Bromodichloromethane	ND	0.97	0.967		t-1,3-Dichloropropene	ND	1.9	0.967	
Bromoform	ND	4.8	0.967		Ethylbenzene	1.2	0.97	0.967	
Bromomethane	ND	19	0.967		2-Hexanone	ND	19	0.967	
2-Butanone	ND	19	0.967		Isopropylbenzene	ND	0.97	0.967	
n-Butylbenzene	ND	0.97	0.967		p-Isopropyltoluene	ND	0.97	0.967	
sec-Butylbenzene	ND	0.97	0.967		Methylene Chloride	ND	9.7	0.967	
tert-Butylbenzene	ND	0.97	0.967		4-Methyl-2-Pentanone	ND	19	0.967	
Carbon Disulfide	ND	9.7	0.967		Naphthalene	ND	9.7	0.967	
Carbon Tetrachloride	ND	0.97	0.967		n-Propylbenzene	ND	0.97	0.967	
Chlorobenzene	ND	0.97	0.967		Styrene	ND	0.97	0.967	
Chloroethane	ND	1.9	0.967		1,1,1,2-Tetrachloroethane	ND	0.97	0.967	
Chloroform	ND	0.97	0.967		1,1,2,2-Tetrachloroethane	ND	1.9	0.967	
Chloromethane	ND	19	0.967		Tetrachloroethene	39	0.97	0.967	
2-Chlorotoluene	ND	0.97	0.967		Toluene	4.5	0.97	0.967	
4-Chlorotoluene	ND	0.97	0.967		1,2,3-Trichlorobenzene	ND	1.9	0.967	
Dibromochloromethane	ND	1.9	0.967		1,2,4-Trichlorobenzene	ND	1.9	0.967	
1,2-Dibromo-3-Chloropropane	ND	4.8	0.967		1,1,1-Trichloroethane	ND	0.97	0.967	
1,2-Dibromoethane	ND	0.97	0.967		1,1,2-Trichloroethane	ND	0.97	0.967	
Dibromomethane	ND	0.97	0.967		1,1,2-Trichloro-1,2,2-Trifluoroethane	ND	9.7	0.967	
1,2-Dichlorobenzene	ND	0.97	0.967		Trichloroethene	2.1	1.9	0.967	
1,3-Dichlorobenzene	ND	0.97	0.967		Trichlorofluoromethane	ND	9.7	0.967	
1,4-Dichlorobenzene	ND	0.97	0.967		1,2,3-Trichloropropane	ND	1.9	0.967	
Dichlorodifluoromethane	ND	1.9	0.967		1,2,4-Trimethylbenzene	ND	1.9	0.967	
1,1-Dichloroethane	ND	0.97	0.967		1,3,5-Trimethylbenzene	ND	1.9	0.967	
1,2-Dichloroethane	ND	0.97	0.967		Vinyl Acetate	ND	9.7	0.967	
1,1-Dichloroethene	1.5	0.97	0.967		Vinyl Chloride	ND	0.97	0.967	
c-1,2-Dichloroethene	ND	0.97	0.967		p/m-Xylene	3.9	1.9	0.967	
t-1,2-Dichloroethene	ND	0.97	0.967		o-Xylene	1.8	0.97	0.967	
1,2-Dichloropropane	ND	0.97	0.967		Methyl-t-Butyl Ether (MTBE)	ND	1.9	0.967	

Surrogates:	REC (%)	Control Limits	Qual	Surrogates:	REC (%)	Control Limits	Qual
Dibromofluoromethane	111	71-137		1,2-Dichloroethane-d4	141	58-160	
1,4-Bromofluorobenzene	104	66-126		Toluene-d8	93	87-111	

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

Calscience Environmental Laboratories, Inc.

Analytical Report

Patriot Environmental Services		Date Received:	01/15/08
1900 West Anaheim St.		Work Order No:	08-01-0980
Long Beach, CA 90813-4043		Preparation:	EPA 5035
		Method:	EPA 8260B
		Units:	ug/kg
Project: WAR-OMEGA / LB80022			Page 7 of 10

Client Sample Number	Lab Sample Number	Date Collected	Matrix	Instrument	Date Prepared	Date/Time Analyzed	QC Batch ID
OMEGA SP-7	**08-01-0980-7-C**	**01/15/08**	**Solid**	**GC/MS W**	**01/15/08**	**01/16/08 20:32**	**080116L01**

Parameter	Result	RL	DF	Qual	Parameter	Result	RL	DF	Qual
Acetone	ND	46	0.919		1,3-Dichloropropane	ND	0.92	0.919	
Benzene	ND	0.92	0.919		2,2-Dichloropropane	ND	4.6	0.919	
Bromobenzene	ND	0.92	0.919		1,1-Dichloropropene	ND	1.8	0.919	
Bromochloromethane	ND	1.8	0.919		c-1,3-Dichloropropene	ND	0.92	0.919	
Bromodichloromethane	ND	0.92	0.919		t-1,3-Dichloropropene	ND	1.8	0.919	
Bromoform	ND	4.6	0.919		Ethylbenzene	ND	0.92	0.919	
Bromomethane	ND	18	0.919		2-Hexanone	ND	18	0.919	
2-Butanone	ND	18	0.919		Isopropylbenzene	ND	0.92	0.919	
n-Butylbenzene	ND	0.92	0.919		p-Isopropyltoluene	ND	0.92	0.919	
sec-Butylbenzene	ND	0.92	0.919		Methylene Chloride	ND	9.2	0.919	
tert-Butylbenzene	ND	0.92	0.919		4-Methyl-2-Pentanone	ND	18	0.919	
Carbon Disulfide	ND	9.2	0.919		Naphthalene	ND	9.2	0.919	
Carbon Tetrachloride	ND	0.92	0.919		n-Propylbenzene	ND	0.92	0.919	
Chlorobenzene	ND	0.92	0.919		Styrene	ND	0.92	0.919	
Chloroethane	ND	1.8	0.919		1,1,1,2-Tetrachloroethane	ND	0.92	0.919	
Chloroform	ND	0.92	0.919		1,1,2,2-Tetrachloroethane	ND	1.8	0.919	
Chloromethane	ND	18	0.919		Tetrachloroethene	78	0.92	0.919	
2-Chlorotoluene	ND	0.92	0.919		Toluene	ND	0.92	0.919	
4-Chlorotoluene	ND	0.92	0.919		1,2,3-Trichlorobenzene	ND	1.8	0.919	
Dibromochloromethane	ND	1.8	0.919		1,2,4-Trichlorobenzene	ND	1.8	0.919	
1,2-Dibromo-3-Chloropropane	ND	4.6	0.919		1,1,1-Trichloroethane	ND	0.92	0.919	
1,2-Dibromoethane	ND	0.92	0.919		1,1,2-Trichloroethane	ND	0.92	0.919	
Dibromomethane	ND	0.92	0.919		1,1,2-Trichloro-1,2,2-Trifluoroethane	ND	9.2	0.919	
1,2-Dichlorobenzene	ND	0.92	0.919		Trichloroethene	8.4	1.8	0.919	
1,3-Dichlorobenzene	ND	0.92	0.919		Trichlorofluoromethane	ND	9.2	0.919	
1,4-Dichlorobenzene	ND	0.92	0.919		1,2,3-Trichloropropane	ND	1.8	0.919	
Dichlorodifluoromethane	ND	1.8	0.919		1,2,4-Trimethylbenzene	ND	1.8	0.919	
1,1-Dichloroethane	ND	0.92	0.919		1,3,5-Trimethylbenzene	ND	1.8	0.919	
1,2-Dichloroethane	ND	0.92	0.919		Vinyl Acetate	ND	9.2	0.919	
1,1-Dichloroethene	3.2	0.92	0.919		Vinyl Chloride	ND	0.92	0.919	
c-1,2-Dichloroethene	ND	0.92	0.919		p/m-Xylene	ND	1.8	0.919	
t-1,2-Dichloroethene	ND	0.92	0.919		o-Xylene	ND	0.92	0.919	
1,2-Dichloropropane	ND	0.92	0.919		Methyl-t-Butyl Ether (MTBE)	ND	1.8	0.919	

Surrogates:	REC (%)	Control Limits	Qual	Surrogates:	REC (%)	Control Limits	Qual
Dibromofluoromethane	112	71-137		1,2-Dichloroethane-d4	152	58-160	
1,4-Bromofluorobenzene	102	66-126		Toluene-d8	96	87-111	

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

Calscience Environmental Laboratories, Inc.

Analytical Report

Patriot Environmental Services		Date Received:	01/15/08
1900 West Anaheim St.		Work Order No:	08-01-0980
Long Beach, CA 90813-4043		Preparation:	EPA 5035
		Method:	EPA 8260B
		Units:	ug/kg
Project: WAR-OMEGA / LB80022			Page 8 of 10

Client Sample Number	Lab Sample Number	Date Collected	Matrix	Instrument	Date Prepared	Date/Time Analyzed	QC Batch ID
OMEGA SP-8	**08-01-0980-8-C**	**01/15/08**	**Solid**	**GC/MS W**	**01/15/08**	**01/16/08 21:02**	**080116L01**

Parameter	Result	RL	DF	Qual	Parameter	Result	RL	DF	Qual
Acetone	ND	66	1.33		1,3-Dichloropropane	ND	1.3	1.33	
Benzene	ND	1.3	1.33		2,2-Dichloropropane	ND	6.6	1.33	
Bromobenzene	ND	1.3	1.33		1,1-Dichloropropene	ND	2.7	1.33	
Bromochloromethane	ND	2.7	1.33		c-1,3-Dichloropropene	ND	1.3	1.33	
Bromodichloromethane	ND	1.3	1.33		t-1,3-Dichloropropene	ND	2.7	1.33	
Bromoform	ND	6.6	1.33		Ethylbenzene	ND	1.3	1.33	
Bromomethane	ND	27	1.33		2-Hexanone	ND	27	1.33	
2-Butanone	ND	27	1.33		Isopropylbenzene	ND	1.3	1.33	
n-Butylbenzene	ND	1.3	1.33		p-Isopropyltoluene	ND	1.3	1.33	
sec-Butylbenzene	ND	1.3	1.33		Methylene Chloride	ND	13	1.33	
tert-Butylbenzene	ND	1.3	1.33		4-Methyl-2-Pentanone	ND	27	1.33	
Carbon Disulfide	ND	13	1.33		Naphthalene	ND	13	1.33	
Carbon Tetrachloride	ND	1.3	1.33		n-Propylbenzene	ND	1.3	1.33	
Chlorobenzene	ND	1.3	1.33		Styrene	ND	1.3	1.33	
Chloroethane	ND	2.7	1.33		1,1,1,2-Tetrachloroethane	ND	1.3	1.33	
Chloroform	ND	1.3	1.33		1,1,2,2-Tetrachloroethane	ND	2.7	1.33	
Chloromethane	ND	27	1.33		Tetrachloroethene	51	1.3	1.33	
2-Chlorotoluene	ND	1.3	1.33		Toluene	ND	1.3	1.33	
4-Chlorotoluene	ND	1.3	1.33		1,2,3-Trichlorobenzene	ND	2.7	1.33	
Dibromochloromethane	ND	2.7	1.33		1,2,4-Trichlorobenzene	ND	2.7	1.33	
1,2-Dibromo-3-Chloropropane	ND	6.6	1.33		1,1,1-Trichloroethane	ND	1.3	1.33	
1,2-Dibromoethane	ND	1.3	1.33		1,1,2-Trichloroethane	ND	1.3	1.33	
Dibromomethane	ND	1.3	1.33		1,1,2-Trichloro-1,2,2-Trifluoroethane	ND	13	1.33	
1,2-Dichlorobenzene	ND	1.3	1.33		Trichloroethene	5.8	2.7	1.33	
1,3-Dichlorobenzene	ND	1.3	1.33		Trichlorofluoromethane	ND	13	1.33	
1,4-Dichlorobenzene	ND	1.3	1.33		1,2,3-Trichloropropane	ND	2.7	1.33	
Dichlorodifluoromethane	ND	2.7	1.33		1,2,4-Trimethylbenzene	ND	2.7	1.33	
1,1-Dichloroethane	ND	1.3	1.33		1,3,5-Trimethylbenzene	ND	2.7	1.33	
1,2-Dichloroethane	ND	1.3	1.33		Vinyl Acetate	ND	13	1.33	
1,1-Dichloroethene	2.4	1.3	1.33		Vinyl Chloride	ND	1.3	1.33	
c-1,2-Dichloroethene	ND	1.3	1.33		p/m-Xylene	ND	2.7	1.33	
t-1,2-Dichloroethene	ND	1.3	1.33		o-Xylene	ND	1.3	1.33	
1,2-Dichloropropane	ND	1.3	1.33		Methyl-t-Butyl Ether (MTBE)	ND	2.7	1.33	

Surrogates:	REC (%)	Control Limits	Qual	Surrogates:	REC (%)	Control Limits	Qual
Dibromofluoromethane	118	71-137		1,2-Dichloroethane-d4	154	58-160	
1,4-Bromofluorobenzene	103	66-126		Toluene-d8	96	87-111	

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

Calscience Environmental Laboratories, Inc.

Analytical Report

Patriot Environmental Services		Date Received:	01/15/08
1900 West Anaheim St.		Work Order No:	08-01-0980
Long Beach, CA 90813-4043		Preparation:	EPA 5035
		Method:	EPA 8260B
		Units:	ug/kg
Project: WAR-OMEGA / LB80022			Page 9 of 10

Client Sample Number	Lab Sample Number	Date Collected	Matrix	Instrument	Date Prepared	Date/Time Analyzed	QC Batch ID
Method Blank	**095-01-025-15,365**	**N/A**	**Solid**	**GC/MS W**	**01/16/08**	**01/16/08 13:33**	**080116L01**

Parameter	Result	RL	DF	Qual	Parameter	Result	RL	DF	Qual
Acetone	ND	50	1		1,3-Dichloropropane	ND	1.0	1	
Benzene	ND	1.0	1		2,2-Dichloropropane	ND	5.0	1	
Bromobenzene	ND	1.0	1		1,1-Dichloropropene	ND	2.0	1	
Bromochloromethane	ND	2.0	1		c-1,3-Dichloropropene	ND	1.0	1	
Bromodichloromethane	ND	1.0	1		t-1,3-Dichloropropene	ND	2.0	1	
Bromoform	ND	5.0	1		Ethylbenzene	ND	1.0	1	
Bromomethane	ND	20	1		2-Hexanone	ND	20	1	
2-Butanone	ND	20	1		Isopropylbenzene	ND	1.0	1	
n-Butylbenzene	ND	1.0	1		p-Isopropyltoluene	ND	1.0	1	
sec-Butylbenzene	ND	1.0	1		Methylene Chloride	ND	10	1	
tert-Butylbenzene	ND	1.0	1		4-Methyl-2-Pentanone	ND	20	1	
Carbon Disulfide	ND	10	1		Naphthalene	ND	10	1	
Carbon Tetrachloride	ND	1.0	1		n-Propylbenzene	ND	1.0	1	
Chlorobenzene	ND	1.0	1		Styrene	ND	1.0	1	
Chloroethane	ND	2.0	1		1,1,1,2-Tetrachloroethane	ND	1.0	1	
Chloroform	ND	1.0	1		1,1,2,2-Tetrachloroethane	ND	2.0	1	
Chloromethane	ND	20	1		Tetrachloroethene	ND	1.0	1	
2-Chlorotoluene	ND	1.0	1		Toluene	ND	1.0	1	
4-Chlorotoluene	ND	1.0	1		1,2,3-Trichlorobenzene	ND	2.0	1	
Dibromochloromethane	ND	2.0	1		1,2,4-Trichlorobenzene	ND	2.0	1	
1,2-Dibromo-3-Chloropropane	ND	5.0	1		1,1,1-Trichloroethane	ND	1.0	1	
1,2-Dibromoethane	ND	1.0	1		1,1,2-Trichloroethane	ND	1.0	1	
Dibromomethane	ND	1.0	1		1,1,2-Trichloro-1,2,2-Trifluoroethane	ND	10	1	
1,2-Dichlorobenzene	ND	1.0	1		Trichloroethene	ND	2.0	1	
1,3-Dichlorobenzene	ND	1.0	1		Trichlorofluoromethane	ND	10	1	
1,4-Dichlorobenzene	ND	1.0	1		1,2,3-Trichloropropane	ND	2.0	1	
Dichlorodifluoromethane	ND	2.0	1		1,2,4-Trimethylbenzene	ND	2.0	1	
1,1-Dichloroethane	ND	1.0	1		1,3,5-Trimethylbenzene	ND	2.0	1	
1,2-Dichloroethane	ND	1.0	1		Vinyl Acetate	ND	10	1	
1,1-Dichloroethene	ND	1.0	1		Vinyl Chloride	ND	1.0	1	
c-1,2-Dichloroethene	ND	1.0	1		p/m-Xylene	ND	2.0	1	
t-1,2-Dichloroethene	ND	1.0	1		o-Xylene	ND	1.0	1	
1,2-Dichloropropane	ND	1.0	1		Methyl-t-Butyl Ether (MTBE)	ND	2.0	1	

Surrogates:	REC (%)	Control Limits	Qual	Surrogates:	REC (%)	Control Limits	Qual
Dibromofluoromethane	113	71-137		1,2-Dichloroethane-d4	136	58-160	
1,4-Bromofluorobenzene	100	66-126		Toluene-d8	97	87-111	

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

Calscience Environmental Laboratories, Inc.

Analytical Report

Patriot Environmental Services		Date Received:	01/15/08
1900 West Anaheim St.		Work Order No:	08-01-0980
Long Beach, CA 90813-4043		Preparation:	EPA 5035
		Method:	EPA 8260B
		Units:	ug/kg
Project: WAR-OMEGA / LB80022			Page 10 of 10

Client Sample Number	Lab Sample Number	Date Collected	Matrix	Instrument	Date Prepared	Date/Time Analyzed	QC Batch ID
Method Blank	**095-01-025-15,368**	**N/A**	**Solid**	**GC/MS X**	**01/16/08**	**01/16/08 14:48**	**080116L01**

Parameter	Result	RL	DF	Qual	Parameter	Result	RL	DF	Qual
Acetone	ND	50	1		1,3-Dichloropropane	ND	1.0	1	
Benzene	ND	1.0	1		2,2-Dichloropropane	ND	5.0	1	
Bromobenzene	ND	1.0	1		1,1-Dichloropropene	ND	2.0	1	
Bromochloromethane	ND	2.0	1		c-1,3-Dichloropropene	ND	1.0	1	
Bromodichloromethane	ND	1.0	1		t-1,3-Dichloropropene	ND	2.0	1	
Bromoform	ND	5.0	1		Ethylbenzene	ND	1.0	1	
Bromomethane	ND	20	1		2-Hexanone	ND	20	1	
2-Butanone	ND	20	1		Isopropylbenzene	ND	1.0	1	
n-Butylbenzene	ND	1.0	1		p-Isopropyltoluene	ND	1.0	1	
sec-Butylbenzene	ND	1.0	1		Methylene Chloride	ND	10	1	
tert-Butylbenzene	ND	1.0	1		4-Methyl-2-Pentanone	ND	20	1	
Carbon Disulfide	ND	10	1		Naphthalene	ND	10	1	
Carbon Tetrachloride	ND	1.0	1		n-Propylbenzene	ND	1.0	1	
Chlorobenzene	ND	1.0	1		Styrene	ND	1.0	1	
Chloroethane	ND	2.0	1		1,1,1,2-Tetrachloroethane	ND	1.0	1	
Chloroform	ND	1.0	1		1,1,2,2-Tetrachloroethane	ND	2.0	1	
Chloromethane	ND	20	1		Tetrachloroethene	ND	1.0	1	
2-Chlorotoluene	ND	1.0	1		Toluene	ND	1.0	1	
4-Chlorotoluene	ND	1.0	1		1,2,3-Trichlorobenzene	ND	2.0	1	
Dibromochloromethane	ND	2.0	1		1,2,4-Trichlorobenzene	ND	2.0	1	
1,2-Dibromo-3-Chloropropane	ND	5.0	1		1,1,1-Trichloroethane	ND	1.0	1	
1,2-Dibromoethane	ND	1.0	1		1,1,2-Trichloroethane	ND	1.0	1	
Dibromomethane	ND	1.0	1		1,1,2-Trichloro-1,2,2-Trifluoroethane	ND	10	1	
1,2-Dichlorobenzene	ND	1.0	1		Trichloroethene	ND	2.0	1	
1,3-Dichlorobenzene	ND	1.0	1		Trichlorofluoromethane	ND	10	1	
1,4-Dichlorobenzene	ND	1.0	1		1,2,3-Trichloropropane	ND	2.0	1	
Dichlorodifluoromethane	ND	2.0	1		1,2,4-Trimethylbenzene	ND	2.0	1	
1,1-Dichloroethane	ND	1.0	1		1,3,5-Trimethylbenzene	ND	2.0	1	
1,2-Dichloroethane	ND	1.0	1		Vinyl Acetate	ND	10	1	
1,1-Dichloroethene	ND	1.0	1		Vinyl Chloride	ND	1.0	1	
c-1,2-Dichloroethene	ND	1.0	1		p/m-Xylene	ND	2.0	1	
t-1,2-Dichloroethene	ND	1.0	1		o-Xylene	ND	1.0	1	
1,2-Dichloropropane	ND	1.0	1		Methyl-t-Butyl Ether (MTBE)	ND	2.0	1	

Surrogates:	REC (%)	Control Limits	Qual	Surrogates:	REC (%)	Control Limits	Qual
Dibromofluoromethane	109	71-137		1,2-Dichloroethane-d4	114	58-160	
1,4-Bromofluorobenzene	93	66-126		Toluene-d8	96	87-111	

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

Calscience Environmental Laboratories, Inc.

Quality Control - Spike/Spike Duplicate

Patriot Environmental Services
1900 West Anaheim St.
Long Beach, CA 90813-4043

Date Received: 01/15/08
Work Order No: 08-01-0980
Preparation: EPA 3050B
Method: EPA 6010B

Project WAR-OMEGA / LB80022

Quality Control Sample ID	Matrix	Instrument	Date Prepared	Date Analyzed	MS/MSD Batch Number
08-01-0886-34	**Solid**	**ICP 5300**	**01/15/08**	**01/15/08**	**080115S05**

Parameter	MS %REC	MSD %REC	%REC CL	RPD	RPD CL	Qualifiers
Antimony	32	30	50-115	4	0-20	3
Arsenic	91	89	75-125	2	0-20	
Barium	4X	4X	75-125	4X	0-20	Q
Beryllium	99	99	75-125	0	0-20	
Cadmium	92	92	75-125	0	0-20	
Chromium	97	97	75-125	0	0-20	
Cobalt	85	84	75-125	1	0-20	
Copper	92	91	75-125	1	0-20	
Lead	91	89	75-125	1	0-20	
Molybdenum	88	87	75-125	1	0-20	
Nickel	95	94	75-125	0	0-20	
Selenium	64	64	75-125	0	0-20	3
Silver	93	92	75-125	1	0-20	
Thallium	93	95	75-125	2	0-20	
Vanadium	98	97	75-125	0	0-20	
Zinc	33	32	75-125	0	0-20	3

RPD - Relative Percent Difference , CL - Control Limit

Calscience Environmental Laboratories, Inc.

Quality Control - PDS / PDSD

Patriot Environmental Services		Date Received	01/15/08
1900 West Anaheim St.		Work Order No:	08-01-0980
Long Beach, CA 90813-4043		Preparation:	EPA 3050B
		Method:	EPA 6010B

Project: WAR-OMEGA / LB80022

Quality Control Sample ID	Matrix	Instrument	Date Prepared	Date Analyzed	PDS/PDSD Batch Number
08-01-0886-34	**Solid**	**ICP 5300**	**01/15/08**	**01/15/08**	**080115S05**

Parameter	PDS %REC	PDSD %REC	%REC CL	RPD	RPD CL	Qualifiers
Antimony	103	105	75-125	2	0-20	
Arsenic	90	89	75-125	1	0-20	
Barium	4X	4X	75-125	4X	0-20	Q
Beryllium	94	96	75-125	2	0-20	
Cadmium	88	89	75-125	0	0-20	
Chromium	92	95	75-125	2	0-20	
Cobalt	86	88	75-125	1	0-20	
Copper	91	94	75-125	2	0-20	
Lead	89	90	75-125	1	0-20	
Molybdenum	94	94	75-125	0	0-20	
Nickel	90	91	75-125	0	0-20	
Selenium	78	75	75-125	4	0-20	
Silver	90	92	75-125	3	0-20	
Thallium	90	89	75-125	1	0-20	
Vanadium	91	96	75-125	2	0-20	
Zinc	58	65	75-125	2	0-20	5

RPD - Relative Percent Difference , CL - Control Limit

Calscience Environmental Laboratories, Inc.

Quality Control - Spike/Spike Duplicate

Patriot Environmental Services
1900 West Anaheim St.
Long Beach, CA 90813-4043

Date Received:	01/15/08
Work Order No:	08-01-0980
Preparation:	EPA 7471A Total
Method:	EPA 7471A

Project WAR-OMEGA / LB80022

Quality Control Sample ID	Matrix	Instrument	Date Prepared	Date Analyzed	MS/MSD Batch Number
OMEGA SP-2	**Solid**	**Mercury**	**01/15/08**	**01/15/08**	**080115S04**

Parameter	MS %REC	MSD %REC	%REC CL	RPD	RPD CL	Qualifiers
Mercury	114	115	84-138	1	0-7	

RPD - Relative Percent Difference , CL - Control Limit

Calscience Environmental Laboratories, Inc.

Quality Control - Spike/Spike Duplicate

Patriot Environmental Services
1900 West Anaheim St.
Long Beach, CA 90813-4043

Date Received: 01/15/08
Work Order No: 08-01-0980
Preparation: EPA 3545
Method: EPA 8270C(M) Isotope Dilution

Project WAR-OMEGA / LB80022

Quality Control Sample ID	Matrix	Instrument	Date Prepared	Date Analyzed	MS/MSD Batch Number
OMEGA SP-8	**Solid**	**GC/MS J**	**01/15/08**	**01/16/08**	**080115S09**

Parameter	MS %REC	MSD %REC	%REC CL	RPD	RPD CL	Qualifiers
1,4-Dioxane	94	94	50-130	1	0-20	

RPD - Relative Percent Difference , CL - Control Limit

Calscience Environmental Laboratories, Inc.

Quality Control - LCS/LCS Duplicate

Patriot Environmental Services		Date Received:	N/A
1900 West Anaheim St.		Work Order No:	08-01-0980
Long Beach, CA 90813-4043		Preparation:	EPA 3050B
		Method:	EPA 6010B

Project: WAR-OMEGA / LB80022

Quality Control Sample ID	Matrix	Instrument	Date Prepared	Date Analyzed	LCS/LCSD Batch Number
097-01-002-10,289	**Solid**	**ICP 5300**	**01/15/08**	**01/15/08**	**080115L05**

Parameter	LCS %REC	LCSD %REC	%REC CL	RPD	RPD CL	Qualifiers
Antimony	97	99	80-120	2	0-20	
Arsenic	95	95	80-120	1	0-20	
Barium	106	106	80-120	0	0-20	
Beryllium	99	99	80-120	0	0-20	
Cadmium	103	103	80-120	0	0-20	
Chromium	104	104	80-120	0	0-20	
Cobalt	103	103	80-120	1	0-20	
Copper	94	94	80-120	1	0-20	
Lead	104	105	80-120	0	0-20	
Molybdenum	104	104	80-120	0	0-20	
Nickel	108	109	80-120	1	0-20	
Selenium	96	98	80-120	2	0-20	
Silver	97	97	80-120	0	0-20	
Thallium	101	101	80-120	0	0-20	
Vanadium	101	100	80-120	0	0-20	
Zinc	109	109	80-120	0	0-20	

RPD - Relative Percent Difference , CL - Control Limit

Calscience Environmental Laboratories, Inc.

Quality Control - LCS/LCS Duplicate

Patriot Environmental Services		Date Received:	N/A
1900 West Anaheim St.		Work Order No:	08-01-0980
Long Beach, CA 90813-4043		Preparation:	EPA 7471A Total
		Method:	EPA 7471A

Project: WAR-OMEGA / LB80022

Quality Control Sample ID	Matrix	Instrument	Date Prepared	Date Analyzed	LCS/LCSD Batch Number
099-04-007-5,238	**Solid**	**Mercury**	**01/15/08**	**01/15/08**	**080115L04**

Parameter	LCS %REC	LCSD %REC	%REC CL	RPD	RPD CL	Qualifiers
Mercury	104	106	87-117	2	0-3	

RPD - Relative Percent Difference , CL - Control Limit

Calscience Environmental Laboratories, Inc.

Quality Control - LCS/LCS Duplicate

Patriot Environmental Services
1900 West Anaheim St.
Long Beach, CA 90813-4043

Date Received: N/A
Work Order No: 08-01-0980
Preparation: EPA 3545
Method: EPA 8270C(M) Isotope Dilution

Project: WAR-OMEGA / LB80022

Quality Control Sample ID	Matrix	Instrument	Date Prepared	Date Analyzed	LCS/LCSD Batch Number
099-09-005-165	**Solid**	**GC/MS J**	**01/15/08**	**01/15/08**	**080115L09D**

Parameter	LCS %REC	LCSD %REC	%REC CL	RPD	RPD CL	Qualifiers
1,4-Dioxane	90	92	50-130	2	0-20	

RPD - Relative Percent Difference , CL - Control Limit

Calscience Environmental Laboratories, Inc.

Quality Control - LCS/LCS Duplicate

Patriot Environmental Services
1900 West Anaheim St.
Long Beach, CA 90813-4043

Date Received: N/A
Work Order No: 08-01-0980
Preparation: EPA 5035
Method: EPA 8260B

Project: WAR-OMEGA / LB80022

Quality Control Sample ID	Matrix	Instrument	Date Prepared	Date Analyzed	LCS/LCSD Batch Number
095-01-025-15,365	**Solid**	**GC/MS W**	**01/16/08**	**01/16/08**	**080116L01**

Parameter	LCS %REC	LCSD %REC	%REC CL	RPD	RPD CL	Qualifiers
Benzene	88	86	85-115	2	0-11	
Carbon Tetrachloride	111	111	68-134	0	0-14	
Chlorobenzene	94	93	83-119	1	0-9	
1,2-Dibromoethane	104	99	80-120	5	0-20	
1,2-Dichlorobenzene	98	96	57-135	2	0-10	
1,1-Dichloroethene	96	96	72-120	1	0-10	
Ethylbenzene	99	98	80-120	0	0-20	
Toluene	95	93	67-127	1	0-10	
Trichloroethene	99	96	88-112	3	0-9	
Vinyl Chloride	78	75	57-129	3	0-16	
Methyl-t-Butyl Ether (MTBE)	96	101	76-124	6	0-12	
Tert-Butyl Alcohol (TBA)	92	93	31-145	1	0-23	
Diisopropyl Ether (DIPE)	87	90	74-128	3	0-10	
Ethyl-t-Butyl Ether (ETBE)	96	99	77-125	3	0-9	
Tert-Amyl-Methyl Ether (TAME)	107	107	81-123	1	0-10	
Ethanol	71	82	44-152	14	0-24	

RPD - Relative Percent Difference , CL - Control Limit

Calscience Environmental Laboratories, Inc.

Quality Control - LCS/LCS Duplicate

Patriot Environmental Services		Date Received:	N/A
1900 West Anaheim St.		Work Order No:	08-01-0980
Long Beach, CA 90813-4043		Preparation:	EPA 5035
		Method:	EPA 8260B

Project: WAR-OMEGA / LB80022

Quality Control Sample ID	Matrix	Instrument	Date Prepared	Date Analyzed	LCS/LCSD Batch Number
095-01-025-15,368	**Solid**	**GC/MS X**	**01/16/08**	**01/16/08**	**080116L01**

Parameter	LCS %REC	LCSD %REC	%REC CL	RPD	RPD CL	Qualifiers
Benzene	89	89	85-115	1	0-11	
Carbon Tetrachloride	83	86	68-134	3	0-14	
Chlorobenzene	90	92	83-119	2	0-9	
1,2-Dibromoethane	93	96	80-120	4	0-20	
1,2-Dichlorobenzene	94	93	57-135	0	0-10	
1,1-Dichloroethene	94	95	72-120	2	0-10	
Ethylbenzene	92	94	80-120	2	0-20	
Toluene	92	90	67-127	2	0-10	
Trichloroethene	91	91	88-112	0	0-9	
Vinyl Chloride	91	93	57-129	2	0-16	
Methyl-t-Butyl Ether (MTBE)	98	95	76-124	3	0-12	
Tert-Butyl Alcohol (TBA)	121	129	31-145	7	0-23	
Diisopropyl Ether (DIPE)	101	101	74-128	0	0-10	
Ethyl-t-Butyl Ether (ETBE)	99	98	77-125	1	0-9	
Tert-Amyl-Methyl Ether (TAME)	95	94	81-123	2	0-10	
Ethanol	109	120	44-152	10	0-24	

RPD - Relative Percent Difference , CL - Control Limit

Calscience Environmental Laboratories, Inc.

Glossary of Terms and Qualifiers

Work Order Number: 08-01-0980

Qualifier	Definition
*	See applicable analysis comment.
1	Surrogate compound recovery was out of control due to a required sample dilution, therefore, the sample data was reported without further clarification.
2	Surrogate compound recovery was out of control due to matrix interference. The associated method blank surrogate spike compound was in control and, therefore, the sample data was reported without further clarification.
3	Recovery of the Matrix Spike (MS) or Matrix Spike Duplicate (MSD) compound was out of control due to matrix interference. The associated LCS and/or LCSD was in control and, therefore, the sample data was reported without further clarification.
4	The MS/MSD RPD was out of control due to matrix interference. The LCS/LCSD RPD was in control and, therefore, the sample data was reported without further clarification.
5	The PDS/PDSD associated with this batch of samples was out of control due to a matrix interference effect. The associated batch LCS/LCSD was in control and, hence, the associated sample data was reported with no further corrective action required.
A	Result is the average of all dilutions, as defined by the method.
B	Analyte was present in the associated method blank.
C	Analyte presence was not confirmed on primary column.
E	Concentration exceeds the calibration range.
H	Sample received and/or analyzed past the recommended holding time.
J	Analyte was detected at a concentration below the reporting limit and above the laboratory method detection limit. Reported value is estimated.
N	Nontarget Analyte.
ND	Parameter not detected at the indicated reporting limit.
X	% Recovery and/or RPD out-of-range.
Z	Analyte presence was not confirmed by second column or GC/MS analysis.

Calscience Environmental Laboratories, Inc.

☐ SoCal Laboratory
7440 Lincoln Way
Garden Grove, CA 92841-1427
(714) 895-5494

☐ NorCal Service Center
5063 Commercial Circle, Suite H
Concord, CA 94520-8577
(925) 689-9022

CHAIN OF CUSTODY RECORD

Date 1-15-08

Page 1 of 1

LABORATORY CLIENT: PATRIOT ENVIRONMENTAL

ADDRESS:

CITY: LONG BEACH STATE: ZIP:

TEL: E-MAIL:

CLIENT PROJECT NAME / NUMBER: WAR-OMEGA / LB80022

P.O. NO.:

PROJECT CONTACT: DALE STRIETER

0 1 0 9 8 0

SAMPLER(S): (PRINT)

COELT LOG CODE

COOLER RECEIPT TEMP= °C

TURNAROUND TIME: ☐ SAME DAY ☐ 24 HR ☒ 48 HR ☐ 72 HR ☐ 5 DAYS ☐ 10 DAYS

SPECIAL REQUIREMENTS (ADDITIONAL COSTS MAY APPLY): ☐ RWQCB REPORTING FORMS ☐ COELT EDF ☐

SPECIAL INSTRUCTIONS: 48 HR TAT

(STOCKPILE @ ~~12504~~ 12512 E. WHITTIER, WHITTIER, CA)

REQUESTED ANALYSES

LAB USE ONLY	SAMPLE ID	FIELD POINT NAME (FOR COELT EDF)	SAMPLING DATE	SAMPLING TIME	MATRIX	NO. OF CONT.	TPH (g)	TPH (d) or (C7-C36) or (C7-C44)	TPH ( )	BTEX / MTBE (8260B) or ( )	VOCs (8260B)	Oxygenates (8260B)	Encore Prep (5035)	SVOCs (8270C) 1-4 DIOXANE	Pesticides (8081A)	PCBs (8082)	PNAs (8310) or (8270C)	T22 Metals (6010B/747X)	Cr(VI) [7196A or 7199 or 218.6]	VOCs (TO-14A) or (TO-15)	TPH (g) [TO-3]+			
1	OMEGA SP-1		1-15-08	0959	S	4					X			X				X						
2	SP-2			1015																				
3	SP-3			1031																				
4	SP-4			1046																				
5	SP-5			1103																				
6	SP-6			1115																				
7	SP-7			1129																				
8	SP-8			1149																				

Relinquished by: (Signature)	Received by: (Signature/Affiliation)	Date:	Time:
Dale Strieter	Kristina Mucha CEL	1/15/08	1325
Relinquished by: (Signature)	Received by: (Signature/Affiliation)	Date:	Time:
Relinquished by: (Signature)	Received by: (Signature/Affiliation)	Date:	Time:

DISTRIBUTION: White with final report, Green and Yellow to Client.
Please note that pages 1 and 2 of 2 of our T/Cs are printed on the reverse side of the Green and Yellow copies respectively.

10/01/07 Revision

Q&Q Graphic 714-898-9702

Calscience Environmental Laboratories, Inc.

WORK ORDER #: 08 - 0 1 - 0 9 8 0

Cooler 1 of 1

SAMPLE RECEIPT FORM

CLIENT: Patriot Environmental DATE: 01/15/08

TEMPERATURE – SAMPLES RECEIVED BY:

CALSCIENCE COURIER:

_____ Chilled, cooler with temperature blank provided.
_____ Chilled, cooler without temperature blank.
_____ Chilled and placed in cooler with wet ice.
_____ Ambient and placed in cooler with wet ice.
_____ Ambient temperature.

_____ °C Temperature blank.

LABORATORY (Other than Calscience Courier):

_____ °C Temperature blank.
3.8 °C IR thermometer.
_____ Ambient temperature.

Initial: KM

CUSTODY SEAL INTACT:

Sample(s): _____ Cooler: _____ No (Not Intact) : _____ Not Present: ✓

Initial: KM

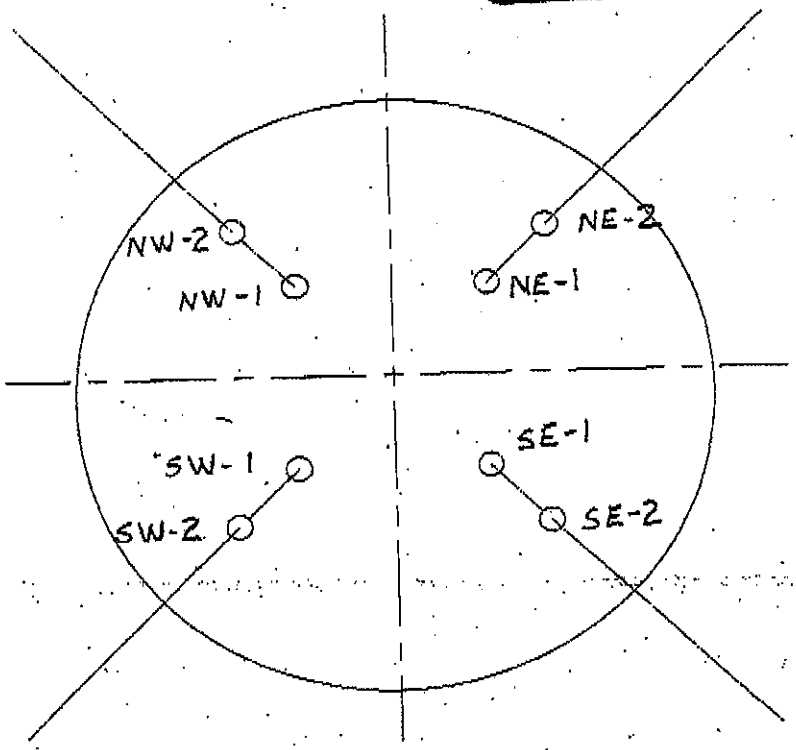
SAMPLE CONDITION:

	Yes	No	N/A
Chain-Of-Custody document(s) received with samples	✓		
Sampler's name indicated on COC	✓		
Sample container label(s) consistent with custody papers	✓		
Sample container(s) intact and good condition	✓		
Correct containers and volume for analyses requested	✓		
Proper preservation noted on sample label(s)			✓
VOA vial(s) free of headspace.			✓
Tedlar bag(s) free of condensation			✓

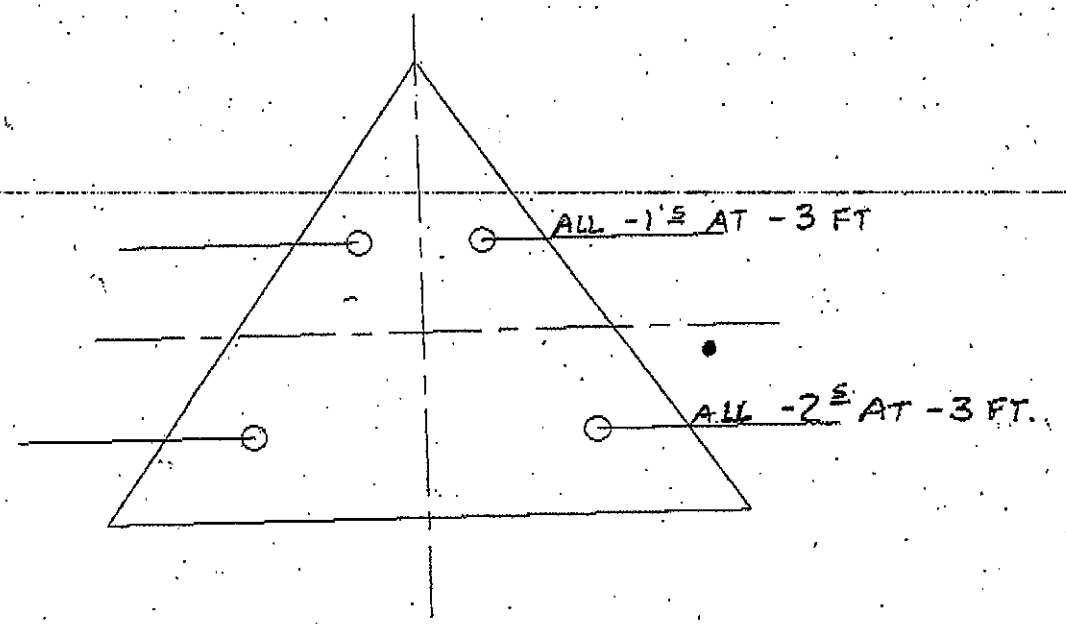
Initial: KM

COMMENTS:

W.A. RASIC



Plan View



Elevation

Omega - Stockpile Soil Composite Sampling

CDM

Appendix C.3

May 16, 2008
Excavated Soil
Analytical Results

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Calscience Environmental Laboratories, Inc.

May 16, 2008

Dale Strieter
Patriot Environmental Services
1900 West Anaheim St.
Long Beach, CA 90813-4043

Subject: **Calscience Work Order No.: 08-05-0237**
Client Reference: RASIC-WHITTIER / LB80389

Dear Client:

Enclosed is an analytical report for the above-referenced project. The samples included in this report were received 5/2/2008 and analyzed in accordance with the attached chain-of-custody.

Unless otherwise noted, all analytical testing was accomplished in accordance with the guidelines established in our Quality Systems Manual, applicable standard operating procedures, and other related documentation. The original report of subcontracted analysis, if any, is provided herein, and follows the standard Calscience data package. The results in this analytical report are limited to the samples tested and any reproduction thereof must be made in its entirety.

If you have any questions regarding this report, please do not hesitate to contact the undersigned.

Sincerely,

Calscience Environmental
Laboratories, Inc.
Stephen Nowak
Project Manager

Calscience Environmental Laboratories, Inc.

Analytical Report

Patriot Environmental Services
1900 West Anaheim St.
Long Beach, CA 90813-4043

Date Received: 05/02/08
Work Order No: 08-05-0237
Preparation: EPA 3050B / EPA 7471A Total
Method: EPA 6010B / EPA 7471A
Units: mg/kg

Project: RASIC-WHITTIER / LB80389

Client Sample Number	Lab Sample Number	Date /Time Collected	Matrix	Instrument	Date Prepared	Date/Time Analyzed	QC Batch ID
SE-1	**08-05-0237-1-A**	**05/02/08 07:07**	**Solid**	**ICP 5300**	**05/04/08**	**05/05/08 21:25**	**080504L13**

Comment(s): -Mercury was analyzed on 5/6/2008 5:49:42 PM with batch 080505L08

Parameter	Result	RL	DF	Qual	Parameter	Result	RL	DF	Qual
Antimony	ND	0.750	1		Mercury	ND	0.0835	1	
Arsenic	4.80	0.750	1		Molybdenum	1.58	0.250	1	
Barium	144	0.500	1		Nickel	21.3	0.250	1	
Beryllium	0.529	0.250	1		Selenium	ND	0.750	1	
Cadmium	1.23	0.500	1		Silver	ND	0.250	1	
Chromium	15.9	0.250	1		Thallium	ND	0.750	1	
Cobalt	8.37	0.250	1		Vanadium	38.8	0.250	1	
Copper	22.4	0.500	1		Zinc	55.9	1.00	1	
Lead	10.4	0.500	1						

SE-2	**08-05-0237-2-A**	**05/02/08 07:16**	**Solid**	**ICP 5300**	**05/04/08**	**05/05/08 21:31**	**080504L13**

Comment(s): -Mercury was analyzed on 5/6/2008 5:52:00 PM with batch 080505L08

Parameter	Result	RL	DF	Qual	Parameter	Result	RL	DF	Qual
Antimony	ND	0.750	1		Mercury	ND	0.0835	1	
Arsenic	6.21	0.750	1		Molybdenum	1.53	0.250	1	
Barium	145	0.500	1		Nickel	20.3	0.250	1	
Beryllium	0.504	0.250	1		Selenium	ND	0.750	1	
Cadmium	1.10	0.500	1		Silver	ND	0.250	1	
Chromium	15.6	0.250	1		Thallium	ND	0.750	1	
Cobalt	8.78	0.250	1		Vanadium	37.7	0.250	1	
Copper	21.8	0.500	1		Zinc	56.2	1.00	1	
Lead	17.2	0.500	1						

NE-1	**08-05-0237-3-A**	**05/02/08 07:22**	**Solid**	**ICP 5300**	**05/04/08**	**05/05/08 21:34**	**080504L13**

Comment(s): -Mercury was analyzed on 5/6/2008 5:54:14 PM with batch 080505L08

Parameter	Result	RL	DF	Qual	Parameter	Result	RL	DF	Qual
Antimony	ND	0.750	1		Mercury	ND	0.0835	1	
Arsenic	5.28	0.750	1		Molybdenum	1.89	0.250	1	
Barium	135	0.500	1		Nickel	22.3	0.250	1	
Beryllium	0.516	0.250	1		Selenium	ND	0.750	1	
Cadmium	1.33	0.500	1		Silver	ND	0.250	1	
Chromium	14.8	0.250	1		Thallium	ND	0.750	1	
Cobalt	8.45	0.250	1		Vanadium	36.3	0.250	1	
Copper	21.6	0.500	1		Zinc	51.6	1.00	1	
Lead	6.97	0.500	1						

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

Calscience Environmental Laboratories, Inc.

Analytical Report

Patriot Environmental Services
1900 West Anaheim St.
Long Beach, CA 90813-4043

Date Received: 05/02/08
Work Order No: 08-05-0237
Preparation: EPA 3050B / EPA 7471A Total
Method: EPA 6010B / EPA 7471A
Units: mg/kg

Project: RASIC-WHITTIER / LB80389

Client Sample Number	Lab Sample Number	Date /Time Collected	Matrix	Instrument	Date Prepared	Date/Time Analyzed	QC Batch ID
NE-2	**08-05-0237-4-A**	**05/02/08 07:26**	**Solid**	**ICP 5300**	**05/04/08**	**05/05/08 21:50**	**080504L13**

Comment(s): -Mercury was analyzed on 5/6/2008 5:56:25 PM with batch 080505L08

Parameter	Result	RL	DF	Qual	Parameter	Result	RL	DF	Qual
Antimony	ND	0.750	1		Mercury	ND	0.0835	1	
Arsenic	6.29	0.750	1		Molybdenum	1.76	0.250	1	
Barium	162	0.500	1		Nickel	24.1	0.250	1	
Beryllium	0.609	0.250	1		Selenium	ND	0.750	1	
Cadmium	1.48	0.500	1		Silver	ND	0.250	1	
Chromium	16.7	0.250	1		Thallium	ND	0.750	1	
Cobalt	9.25	0.250	1		Vanadium	40.9	0.250	1	
Copper	26.7	0.500	1		Zinc	69.9	1.00	1	
Lead	13.2	0.500	1						

NW-1	**08-05-0237-5-A**	**05/02/08 07:35**	**Solid**	**ICP 5300**	**05/04/08**	**05/05/08 21:52**	**080504L13**

Comment(s): -Mercury was analyzed on 5/6/2008 6:03:06 PM with batch 080505L08

Parameter	Result	RL	DF	Qual	Parameter	Result	RL	DF	Qual
Antimony	ND	0.750	1		Mercury	ND	0.0835	1	
Arsenic	6.37	0.750	1		Molybdenum	1.56	0.250	1	
Barium	156	0.500	1		Nickel	21.0	0.250	1	
Beryllium	0.548	0.250	1		Selenium	ND	0.750	1	
Cadmium	1.21	0.500	1		Silver	ND	0.250	1	
Chromium	16.8	0.250	1		Thallium	ND	0.750	1	
Cobalt	9.04	0.250	1		Vanadium	42.6	0.250	1	
Copper	22.4	0.500	1		Zinc	66.5	1.00	1	
Lead	12.8	0.500	1						

NW-2	**08-05-0237-6-A**	**05/02/08 07:44**	**Solid**	**ICP 5300**	**05/04/08**	**05/05/08 21:55**	**080504L13**

Comment(s): -Mercury was analyzed on 5/6/2008 6:05:18 PM with batch 080505L08

Parameter	Result	RL	DF	Qual	Parameter	Result	RL	DF	Qual
Antimony	ND	0.750	1		Mercury	ND	0.0835	1	
Arsenic	6.17	0.750	1		Molybdenum	1.69	0.250	1	
Barium	167	0.500	1		Nickel	23.2	0.250	1	
Beryllium	0.580	0.250	1		Selenium	ND	0.750	1	
Cadmium	1.37	0.500	1		Silver	ND	0.250	1	
Chromium	17.7	0.250	1		Thallium	ND	0.750	1	
Cobalt	10.3	0.250	1		Vanadium	43.1	0.250	1	
Copper	22.6	0.500	1		Zinc	66.0	1.00	1	
Lead	12.4	0.500	1						

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

Calscience Environmental Laboratories, Inc.

Analytical Report

Patriot Environmental Services
1900 West Anaheim St.
Long Beach, CA 90813-4043

Date Received: 05/02/08
Work Order No: 08-05-0237
Preparation: EPA 3050B / EPA 7471A Total
Method: EPA 6010B / EPA 7471A
Units: mg/kg

Project: RASIC-WHITTIER / LB80389

Client Sample Number	Lab Sample Number	Date /Time Collected	Matrix	Instrument	Date Prepared	Date/Time Analyzed	QC Batch ID
SW-1	**08-05-0237-7-A**	**05/02/08 07:48**	**Solid**	**ICP 5300**	**05/04/08**	**05/05/08 21:57**	**080504L13**

Comment(s): -Mercury was analyzed on 5/6/2008 6:07:30 PM with batch 080505L08

Parameter	Result	RL	DF	Qual	Parameter	Result	RL	DF	Qual
Antimony	ND	0.750	1		Mercury	ND	0.0835	1	
Arsenic	5.92	0.750	1		Molybdenum	1.83	0.250	1	
Barium	154	0.500	1		Nickel	23.9	0.250	1	
Beryllium	0.579	0.250	1		Selenium	ND	0.750	1	
Cadmium	1.37	0.500	1		Silver	ND	0.250	1	
Chromium	17.5	0.250	1		Thallium	ND	0.750	1	
Cobalt	9.15	0.250	1		Vanadium	42.3	0.250	1	
Copper	22.4	0.500	1		Zinc	60.5	1.00	1	
Lead	14.6	0.500	1						

SW-2	**08-05-0237-8-A**	**05/02/08 07:54**	**Solid**	**ICP 5300**	**05/04/08**	**05/05/08 21:59**	**080504L13**

Comment(s): -Mercury was analyzed on 5/6/2008 6:09:43 PM with batch 080505L08

Parameter	Result	RL	DF	Qual	Parameter	Result	RL	DF	Qual
Antimony	ND	0.750	1		Mercury	ND	0.0835	1	
Arsenic	3.94	0.750	1		Molybdenum	0.693	0.250	1	
Barium	146	0.500	1		Nickel	17.4	0.250	1	
Beryllium	0.474	0.250	1		Selenium	ND	0.750	1	
Cadmium	0.868	0.500	1		Silver	ND	0.250	1	
Chromium	19.8	0.250	1		Thallium	ND	0.750	1	
Cobalt	9.62	0.250	1		Vanadium	42.1	0.250	1	
Copper	18.3	0.500	1		Zinc	74.6	1.00	1	
Lead	22.1	0.500	1						

Method Blank	**099-04-007-5,472**	**N/A**	**Solid**	**Mercury**	**05/05/08**	**05/06/08 17:38**	**080505L08**

Parameter	Result	RL	DF	Qual
Mercury	ND	0.0835	1	

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

Calscience Environmental Laboratories, Inc.

Analytical Report

Patriot Environmental Services
1900 West Anaheim St.
Long Beach, CA 90813-4043

Date Received: 05/02/08
Work Order No: 08-05-0237
Preparation: EPA 3050B / EPA 7471A Total
Method: EPA 6010B / EPA 7471A
Units: mg/kg

Project: RASIC-WHITTIER / LB80389

Client Sample Number	Lab Sample Number	Date /Time Collected	Matrix	Instrument	Date Prepared	Date/Time Analyzed	QC Batch ID
Method Blank	**097-01-002-10,885**	**N/A**	**Solid**	**ICP 5300**	**05/04/08**	**05/05/08 21:20**	**080504L13**

Parameter	Result	RL	DF	Qual	Parameter	Result	RL	DF	Qual
Antimony	ND	0.750	1		Lead	ND	0.500	1	
Arsenic	ND	0.750	1		Molybdenum	ND	0.250	1	
Barium	ND	0.500	1		Nickel	ND	0.250	1	
Beryllium	ND	0.250	1		Selenium	ND	0.750	1	
Cadmium	ND	0.500	1		Silver	ND	0.250	1	
Chromium	ND	0.250	1		Thallium	ND	0.750	1	
Cobalt	ND	0.250	1		Vanadium	ND	0.250	1	
Copper	ND	0.500	1		Zinc	ND	1.00	1	

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

Calscience Environmental Laboratories, Inc.

Analytical Report

Patriot Environmental Services		Date Received:	05/02/08
1900 West Anaheim St.		Work Order No:	08-05-0237
Long Beach, CA 90813-4043		Preparation:	EPA 3550B
		Method:	EPA 8015B (M)
		Units:	mg/kg

Project: RASIC-WHITTIER / LB80389

Client Sample Number	Lab Sample Number	Date/Time Collected	Matrix	Instrument	Date Prepared	Date/Time Analyzed	QC Batch ID
SE-1	**08-05-0237-1-A**	**05/02/08 07:07**	**Solid**	**GC 3**	**05/07/08**	**05/08/08 07:03**	**080507B05**

Parameter	Result	RL	DF	Qual	Parameter	Result	RL	DF	Qual
C6	ND		1		C21-C22	2.3		1	
C7	ND		1		C23-C24	2.3		1	
C8	ND		1		C25-C28	4.5		1	
C9-C10	ND		1		C29-C32	5.3		1	
C11-C12	ND		1		C33-C36	4.8		1	
C13-C14	0.72		1		C37-C40	5.0		1	
C15-C16	1.1		1		C41-C44	3.8		1	
C17-C18	1.5		1		C6-C44 Total	34	5.0	1	
C19-C20	2.4		1						

Surrogates:	REC (%)	Control Limits	Qual
Decachlorobiphenyl	96	61-145	

Client Sample Number	Lab Sample Number	Date/Time Collected	Matrix	Instrument	Date Prepared	Date/Time Analyzed	QC Batch ID
SE-2	**08-05-0237-2-A**	**05/02/08 07:16**	**Solid**	**GC 3**	**05/07/08**	**05/08/08 07:42**	**080507B05**

Parameter	Result	RL	DF	Qual	Parameter	Result	RL	DF	Qual
C6	ND		1		C21-C22	4.9		1	
C7	ND		1		C23-C24	6.2		1	
C8	1.2		1		C25-C28	12		1	
C9-C10	0.44		1		C29-C32	13		1	
C11-C12	0.76		1		C33-C36	9.7		1	
C13-C14	0.99		1		C37-C40	8.8		1	
C15-C16	1.4		1		C41-C44	5.5		1	
C17-C18	2.4		1		C6-C44 Total	71	5.0	1	
C19-C20	4.3		1						

Surrogates:	REC (%)	Control Limits	Qual
Decachlorobiphenyl	94	61-145	

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

Calscience Environmental Laboratories, Inc.

Analytical Report

Patriot Environmental Services		Date Received:	05/02/08
1900 West Anaheim St.		Work Order No:	08-05-0237
Long Beach, CA 90813-4043		Preparation:	EPA 3550B
		Method:	EPA 8015B (M)
		Units:	mg/kg
Project: RASIC-WHITTIER / LB80389			Page 2 of 5

Client Sample Number	Lab Sample Number	Date/Time Collected	Matrix	Instrument	Date Prepared	Date/Time Analyzed	QC Batch ID
NE-1	**08-05-0237-3-A**	**05/02/08 07:22**	**Solid**	**GC 3**	**05/07/08**	**05/08/08 08:20**	**080507B05**

Parameter	Result	RL	DF	Qual	Parameter	Result	RL	DF	Qual
C6	ND		1		C21-C22	1.9		1	
C7	ND		1		C23-C24	2.0		1	
C8	ND		1		C25-C28	4.5		1	
C9-C10	0.085		1		C29-C32	5.8		1	
C11-C12	0.58		1		C33-C36	4.6		1	
C13-C14	0.47		1		C37-C40	5.1		1	
C15-C16	0.72		1		C41-C44	3.6		1	
C17-C18	0.76		1		C6-C44 Total	32	5.0	1	
C19-C20	1.7		1						

Surrogates:	REC (%)	Control Limits	Qual
Decachlorobiphenyl	96	61-145	

Client Sample Number	Lab Sample Number	Date/Time Collected	Matrix	Instrument	Date Prepared	Date/Time Analyzed	QC Batch ID
NE-2	**08-05-0237-4-A**	**05/02/08 07:26**	**Solid**	**GC 3**	**05/07/08**	**05/08/08 10:52**	**080507B05**

Parameter	Result	RL	DF	Qual	Parameter	Result	RL	DF	Qual
C6	ND		1		C21-C22	9.3		1	
C7	ND		1		C23-C24	9.8		1	
C8	0.68		1		C25-C28	16		1	
C9-C10	0.46		1		C29-C32	14		1	
C11-C12	0.94		1		C33-C36	11		1	
C13-C14	1.5		1		C37-C40	9.9		1	
C15-C16	2.4		1		C41-C44	8.1		1	
C17-C18	4.7		1		C6-C44 Total	98	5.0	1	
C19-C20	8.7		1						

Surrogates:	REC (%)	Control Limits	Qual
Decachlorobiphenyl	94	61-145	

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

Calscience Environmental Laboratories, Inc.

Analytical Report

Patriot Environmental Services		Date Received:	05/02/08
1900 West Anaheim St.		Work Order No:	08-05-0237
Long Beach, CA 90813-4043		Preparation:	EPA 3550B
		Method:	EPA 8015B (M)
		Units:	mg/kg
Project: RASIC-WHITTIER / LB80389			Page 3 of 5

Client Sample Number	Lab Sample Number	Date/Time Collected	Matrix	Instrument	Date Prepared	Date/Time Analyzed	QC Batch ID
NW-1	**08-05-0237-5-A**	**05/02/08 07:35**	**Solid**	**GC 3**	**05/07/08**	**05/08/08 11:29**	**080507B05**

Parameter	Result	RL	DF	Qual	Parameter	Result	RL	DF	Qual
C6	ND		1		C21-C22	3.8		1	
C7	ND		1		C23-C24	3.4		1	
C8	0.97		1		C25-C28	7.5		1	
C9-C10	0.44		1		C29-C32	7.2		1	
C11-C12	0.44		1		C33-C36	5.8		1	
C13-C14	0.98		1		C37-C40	5.5		1	
C15-C16	1.2		1		C41-C44	3.0		1	
C17-C18	2.6		1		C6-C44 Total	47	5.0	1	
C19-C20	3.9		1						

Surrogates:	REC (%)	Control Limits	Qual
Decachlorobiphenyl	94	61-145	

NW-2	**08-05-0237-6-A**	**05/02/08 07:44**	**Solid**	**GC 3**	**05/07/08**	**05/08/08 12:08**	**080507B05**

Parameter	Result	RL	DF	Qual	Parameter	Result	RL	DF	Qual
C6	ND		1		C21-C22	5.4		1	
C7	ND		1		C23-C24	4.7		1	
C8	0.94		1		C25-C28	9.2		1	
C9-C10	0.38		1		C29-C32	7.5		1	
C11-C12	0.24		1		C33-C36	5.5		1	
C13-C14	0.59		1		C37-C40	5.0		1	
C15-C16	1.1		1		C41-C44	2.7		1	
C17-C18	2.9		1		C6-C44 Total	51	5.0	1	
C19-C20	4.9		1						

Surrogates:	REC (%)	Control Limits	Qual
Decachlorobiphenyl	94	61-145	

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

Calscience Environmental Laboratories, Inc.

Analytical Report

Patriot Environmental Services		Date Received:	05/02/08
1900 West Anaheim St.		Work Order No:	08-05-0237
Long Beach, CA 90813-4043		Preparation:	EPA 3550B
		Method:	EPA 8015B (M)
		Units:	mg/kg
Project: RASIC-WHITTIER / LB80389			Page 4 of 5

Client Sample Number	Lab Sample Number	Date/Time Collected	Matrix	Instrument	Date Prepared	Date/Time Analyzed	QC Batch ID
SW-1	**08-05-0237-7-A**	**05/02/08 07:48**	**Solid**	**GC 3**	**05/07/08**	**05/08/08 12:47**	**080507B05**

Parameter	Result	RL	DF	Qual	Parameter	Result	RL	DF	Qual
C6	ND		1		C21-C22	2.1		1	
C7	ND		1		C23-C24	2.1		1	
C8	0.59		1		C25-C28	3.8		1	
C9-C10	0.40		1		C29-C32	3.3		1	
C11-C12	0.75		1		C33-C36	2.2		1	
C13-C14	0.69		1		C37-C40	2.5		1	
C15-C16	1.2		1		C41-C44	1.9		1	
C17-C18	1.1		1		C6-C44 Total	25	5.0	1	
C19-C20	2.1		1						

Surrogates:	REC (%)	Control Limits	Qual
Decachlorobiphenyl	91	61-145	

SW-2	**08-05-0237-8-A**	**05/02/08 07:54**	**Solid**	**GC 15**	**05/07/08**	**05/08/08 11:23**	**080507B06**

Parameter	Result	RL	DF	Qual	Parameter	Result	RL	DF	Qual
C6	ND		1		C21-C22	18		1	
C7	ND		1		C23-C24	3.1		1	
C8	1.2		1		C25-C28	13		1	
C9-C10	0.20		1		C29-C32	10		1	
C11-C12	1.8		1		C33-C36	4.1		1	
C13-C14	1.2		1		C37-C40	5.6		1	
C15-C16	2.8		1		C41-C44	2.1		1	
C17-C18	4.9		1		C6-C44 Total	73	5.0	1	
C19-C20	3.7		1						

Surrogates:	REC (%)	Control Limits	Qual
Decachlorobiphenyl	104	61-145	

Method Blank	**099-12-275-1,708**	**N/A**	**Solid**	**GC 3**	**05/07/08**	**05/07/08 18:53**	**080507B05**

Parameter	Result	RL	DF	Qual
TPH as Diesel	ND	5.0	1	

Surrogates:	REC (%)	Control Limits	Qual
Decachlorobiphenyl	99	61-145	

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

Calscience Environmental Laboratories, Inc.

Analytical Report

Patriot Environmental Services		Date Received:	05/02/08
1900 West Anaheim St.		Work Order No:	08-05-0237
Long Beach, CA 90813-4043		Preparation:	EPA 3550B
		Method:	EPA 8015B (M)
		Units:	mg/kg

Project: RASIC-WHITTIER / LB80389

Client Sample Number	Lab Sample Number	Date/Time Collected	Matrix	Instrument	Date Prepared	Date/Time Analyzed	QC Batch ID
Method Blank	**099-12-275-1,711**	**N/A**	**Solid**	**GC 15**	**05/07/08**	**05/08/08 07:20**	**080507B06**

Parameter	Result	RL	DF	Qual
TPH as Diesel	ND	5.0	1	

Surrogates:	REC (%)	Control Limits	Qual
Decachlorobiphenyl	96	61-145	

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

Calscience Environmental Laboratories, Inc.

Analytical Report

Patriot Environmental Services		Date Received:	05/02/08
1900 West Anaheim St.		Work Order No:	08-05-0237
Long Beach, CA 90813-4043		Preparation:	EPA 3545
		Method:	EPA 8270C(M) Isotope Dilution
Project: RASIC-WHITTIER / LB80389			Page 1 of 3

Client Sample Number	Lab Sample Number	Date/Time Collected	Matrix	Instrument	Date Prepared	Date/Time Analyzed	QC Batch ID
SE-1	**08-05-0237-1-A**	**05/02/08 07:07**	**Solid**	**GC/MS Y**	**05/13/08**	**05/15/08 15:20**	**080513L01D**

Parameter	Result	RL	DF	Qual	Units
1,4-Dioxane	ND	0.20	1		mg/kg

Surrogates:	REC (%)	Control Limits	Qual
Nitrobenzene-d5	68	28-139	

Client Sample Number	Lab Sample Number	Date/Time Collected	Matrix	Instrument	Date Prepared	Date/Time Analyzed	QC Batch ID
SE-2	**08-05-0237-2-A**	**05/02/08 07:16**	**Solid**	**GC/MS Y**	**05/13/08**	**05/15/08 15:47**	**080513L01D**

Parameter	Result	RL	DF	Qual	Units
1,4-Dioxane	ND	0.20	1		mg/kg

Surrogates:	REC (%)	Control Limits	Qual
Nitrobenzene-d5	64	28-139	

Client Sample Number	Lab Sample Number	Date/Time Collected	Matrix	Instrument	Date Prepared	Date/Time Analyzed	QC Batch ID
NE-1	**08-05-0237-3-A**	**05/02/08 07:22**	**Solid**	**GC/MS Y**	**05/13/08**	**05/15/08 16:15**	**080513L01D**

Parameter	Result	RL	DF	Qual	Units
1,4-Dioxane	ND	0.20	1		mg/kg

Surrogates:	REC (%)	Control Limits	Qual
Nitrobenzene-d5	76	28-139	

Client Sample Number	Lab Sample Number	Date/Time Collected	Matrix	Instrument	Date Prepared	Date/Time Analyzed	QC Batch ID
NE-2	**08-05-0237-4-A**	**05/02/08 07:26**	**Solid**	**GC/MS Y**	**05/13/08**	**05/15/08 16:42**	**080513L01D**

Parameter	Result	RL	DF	Qual	Units
1,4-Dioxane	ND	0.20	1		mg/kg

Surrogates:	REC (%)	Control Limits	Qual
Nitrobenzene-d5	71	28-139	

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

Calscience Environmental Laboratories, Inc.

Analytical Report

Patriot Environmental Services		Date Received:	05/02/08
1900 West Anaheim St.		Work Order No:	08-05-0237
Long Beach, CA 90813-4043		Preparation:	EPA 3545
		Method:	EPA 8270C(M) Isotope Dilution
Project: RASIC-WHITTIER / LB80389			Page 2 of 3

Client Sample Number	Lab Sample Number	Date/Time Collected	Matrix	Instrument	Date Prepared	Date/Time Analyzed	QC Batch ID
NW-1	**08-05-0237-5-A**	**05/02/08 07:35**	**Solid**	**GC/MS Y**	**05/13/08**	**05/15/08 17:10**	**080513L01D**

Parameter	Result	RL	DF	Qual	Units
1,4-Dioxane	ND	0.20	1		mg/kg

Surrogates:	REC (%)	Control Limits	Qual
Nitrobenzene-d5	74	28-139	

NW-2	**08-05-0237-6-A**	**05/02/08 07:44**	**Solid**	**GC/MS Y**	**05/13/08**	**05/15/08 17:38**	**080513L01D**

Parameter	Result	RL	DF	Qual	Units
1,4-Dioxane	ND	0.20	1		mg/kg

Surrogates:	REC (%)	Control Limits	Qual
Nitrobenzene-d5	76	28-139	

SW-1	**08-05-0237-7-A**	**05/02/08 07:48**	**Solid**	**GC/MS Y**	**05/13/08**	**05/15/08 18:05**	**080513L01D**

Parameter	Result	RL	DF	Qual	Units
1,4-Dioxane	ND	0.20	1		mg/kg

Surrogates:	REC (%)	Control Limits	Qual
Nitrobenzene-d5	79	28-139	

SW-2	**08-05-0237-8-A**	**05/02/08 07:54**	**Solid**	**GC/MS Y**	**05/13/08**	**05/15/08 18:33**	**080513L01D**

Parameter	Result	RL	DF	Qual	Units
1,4-Dioxane	ND	0.20	1		mg/kg

Surrogates:	REC (%)	Control Limits	Qual
Nitrobenzene-d5	80	28-139	

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

Calscience Environmental Laboratories, Inc.

Analytical Report

Patriot Environmental Services		Date Received:	05/02/08
1900 West Anaheim St.		Work Order No:	08-05-0237
Long Beach, CA 90813-4043		Preparation:	EPA 3545
		Method:	EPA 8270C(M) Isotope Dilution
Project: RASIC-WHITTIER / LB80389			Page 3 of 3

Client Sample Number	Lab Sample Number	Date/Time Collected	Matrix	Instrument	Date Prepared	Date/Time Analyzed	QC Batch ID
Method Blank	**099-09-005-172**	**N/A**	**Solid**	**GC/MS Y**	**05/13/08**	**05/15/08 13:57**	**080513L01D**

Parameter	Result	RL	DF	Qual	Units
1,4-Dioxane	ND	0.20	1		mg/kg

Surrogates:	REC (%)	Control Limits	Qual
Nitrobenzene-d5	71	28-139	

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

Calscience Environmental Laboratories, Inc.

Analytical Report

Patriot Environmental Services		Date Received:	05/02/08
1900 West Anaheim St.		Work Order No:	08-05-0237
Long Beach, CA 90813-4043		Preparation:	EPA 5035
		Method:	EPA 8260B
		Units:	ug/kg
Project: RASIC-WHITTIER / LB80389			Page 1 of 10

Client Sample Number	Lab Sample Number	Date/Time Collected	Matrix	Instrument	Date Prepared	Date/Time Analyzed	QC Batch ID
SE-1	**08-05-0237-1-C**	**05/02/08 07:07**	**Solid**	**GC/MS EE**	**05/02/08**	**05/07/08 20:37**	**080507L01**

Parameter	Result	RL	DF	Qual	Parameter	Result	RL	DF	Qual
Acetone	ND	45	0.899		1,3-Dichloropropane	ND	0.90	0.899	
Benzene	ND	0.90	0.899		2,2-Dichloropropane	ND	4.5	0.899	
Bromobenzene	ND	0.90	0.899		1,1-Dichloropropene	ND	1.8	0.899	
Bromochloromethane	ND	1.8	0.899		c-1,3-Dichloropropene	ND	0.90	0.899	
Bromodichloromethane	ND	0.90	0.899		t-1,3-Dichloropropene	ND	1.8	0.899	
Bromoform	ND	4.5	0.899		Ethylbenzene	ND	0.90	0.899	
Bromomethane	ND	18	0.899		2-Hexanone	ND	18	0.899	
2-Butanone	ND	18	0.899		Isopropylbenzene	ND	0.90	0.899	
n-Butylbenzene	ND	0.90	0.899		p-Isopropyltoluene	ND	0.90	0.899	
sec-Butylbenzene	ND	0.90	0.899		Methylene Chloride	ND	9.0	0.899	
tert-Butylbenzene	ND	0.90	0.899		4-Methyl-2-Pentanone	ND	18	0.899	
Carbon Disulfide	ND	9.0	0.899		Naphthalene	ND	9.0	0.899	
Carbon Tetrachloride	ND	0.90	0.899		n-Propylbenzene	ND	0.90	0.899	
Chlorobenzene	ND	0.90	0.899		Styrene	ND	0.90	0.899	
Chloroethane	ND	1.8	0.899		1,1,1,2-Tetrachloroethane	ND	0.90	0.899	
Chloroform	ND	0.90	0.899		1,1,2,2-Tetrachloroethane	ND	1.8	0.899	
Chloromethane	ND	18	0.899		Tetrachloroethene	11	0.90	0.899	
2-Chlorotoluene	ND	0.90	0.899		Toluene	ND	0.90	0.899	
4-Chlorotoluene	ND	0.90	0.899		1,2,3-Trichlorobenzene	ND	1.8	0.899	
Dibromochloromethane	ND	1.8	0.899		1,2,4-Trichlorobenzene	ND	1.8	0.899	
1,2-Dibromo-3-Chloropropane	ND	4.5	0.899		1,1,1-Trichloroethane	ND	0.90	0.899	
1,2-Dibromoethane	ND	0.90	0.899		1,1,2-Trichloroethane	ND	0.90	0.899	
Dibromomethane	ND	0.90	0.899		1,1,2-Trichloro-1,2,2-Trifluoroethane	ND	9.0	0.899	
1,2-Dichlorobenzene	ND	0.90	0.899		Trichloroethene	ND	1.8	0.899	
1,3-Dichlorobenzene	ND	0.90	0.899		Trichlorofluoromethane	ND	9.0	0.899	
1,4-Dichlorobenzene	ND	0.90	0.899		1,2,3-Trichloropropane	ND	1.8	0.899	
Dichlorodifluoromethane	ND	1.8	0.899		1,2,4-Trimethylbenzene	ND	1.8	0.899	
1,1-Dichloroethane	ND	0.90	0.899		1,3,5-Trimethylbenzene	ND	1.8	0.899	
1,2-Dichloroethane	ND	0.90	0.899		Vinyl Acetate	ND	9.0	0.899	
1,1-Dichloroethene	ND	0.90	0.899		Vinyl Chloride	ND	0.90	0.899	
c-1,2-Dichloroethene	ND	0.90	0.899		p/m-Xylene	ND	1.8	0.899	
t-1,2-Dichloroethene	ND	0.90	0.899		o-Xylene	ND	0.90	0.899	
1,2-Dichloropropane	ND	0.90	0.899		Methyl-t-Butyl Ether (MTBE)	ND	1.8	0.899	

Surrogates:	REC (%)	Control Limits	Qual	Surrogates:	REC (%)	Control Limits	Qual
Dibromofluoromethane	103	71-137		1,2-Dichloroethane-d4	121	58-160	
1,4-Bromofluorobenzene	96	66-126		Toluene-d8	97	87-111	

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

Calscience Environmental Laboratories, Inc.

Analytical Report

Patriot Environmental Services		Date Received:	05/02/08
1900 West Anaheim St.		Work Order No:	08-05-0237
Long Beach, CA 90813-4043		Preparation:	EPA 5035
		Method:	EPA 8260B
		Units:	ug/kg
Project: RASIC-WHITTIER / LB80389			Page 2 of 10

Client Sample Number	Lab Sample Number	Date/Time Collected	Matrix	Instrument	Date Prepared	Date/Time Analyzed	QC Batch ID
SE-2	**08-05-0237-2-C**	**05/02/08 07:16**	**Solid**	**GC/MS EE**	**05/02/08**	**05/07/08 21:08**	**080507L01**

Parameter	Result	RL	DF	Qual	Parameter	Result	RL	DF	Qual
Acetone	ND	45	0.901		1,3-Dichloropropane	ND	0.90	0.901	
Benzene	0.94	0.90	0.901		2,2-Dichloropropane	ND	4.5	0.901	
Bromobenzene	ND	0.90	0.901		1,1-Dichloropropene	ND	1.8	0.901	
Bromochloromethane	ND	1.8	0.901		c-1,3-Dichloropropene	ND	0.90	0.901	
Bromodichloromethane	ND	0.90	0.901		t-1,3-Dichloropropene	ND	1.8	0.901	
Bromoform	ND	4.5	0.901		Ethylbenzene	ND	0.90	0.901	
Bromomethane	ND	18	0.901		2-Hexanone	ND	18	0.901	
2-Butanone	ND	18	0.901		Isopropylbenzene	ND	0.90	0.901	
n-Butylbenzene	ND	0.90	0.901		p-Isopropyltoluene	ND	0.90	0.901	
sec-Butylbenzene	ND	0.90	0.901		Methylene Chloride	ND	9.0	0.901	
tert-Butylbenzene	ND	0.90	0.901		4-Methyl-2-Pentanone	ND	18	0.901	
Carbon Disulfide	ND	9.0	0.901		Naphthalene	ND	9.0	0.901	
Carbon Tetrachloride	ND	0.90	0.901		n-Propylbenzene	ND	0.90	0.901	
Chlorobenzene	ND	0.90	0.901		Styrene	ND	0.90	0.901	
Chloroethane	ND	1.8	0.901		1,1,1,2-Tetrachloroethane	ND	0.90	0.901	
Chloroform	ND	0.90	0.901		1,1,2,2-Tetrachloroethane	ND	1.8	0.901	
Chloromethane	ND	18	0.901		Tetrachloroethene	12	0.90	0.901	
2-Chlorotoluene	ND	0.90	0.901		Toluene	ND	0.90	0.901	
4-Chlorotoluene	ND	0.90	0.901		1,2,3-Trichlorobenzene	ND	1.8	0.901	
Dibromochloromethane	ND	1.8	0.901		1,2,4-Trichlorobenzene	ND	1.8	0.901	
1,2-Dibromo-3-Chloropropane	ND	4.5	0.901		1,1,1-Trichloroethane	ND	0.90	0.901	
1,2-Dibromoethane	ND	0.90	0.901		1,1,2-Trichloroethane	ND	0.90	0.901	
Dibromomethane	ND	0.90	0.901		1,1,2-Trichloro-1,2,2-Trifluoroethane	ND	9.0	0.901	
1,2-Dichlorobenzene	ND	0.90	0.901		Trichloroethene	ND	1.8	0.901	
1,3-Dichlorobenzene	ND	0.90	0.901		Trichlorofluoromethane	ND	9.0	0.901	
1,4-Dichlorobenzene	ND	0.90	0.901		1,2,3-Trichloropropane	ND	1.8	0.901	
Dichlorodifluoromethane	ND	1.8	0.901		1,2,4-Trimethylbenzene	ND	1.8	0.901	
1,1-Dichloroethane	ND	0.90	0.901		1,3,5-Trimethylbenzene	ND	1.8	0.901	
1,2-Dichloroethane	ND	0.90	0.901		Vinyl Acetate	ND	9.0	0.901	
1,1-Dichloroethene	1.2	0.90	0.901		Vinyl Chloride	ND	0.90	0.901	
c-1,2-Dichloroethene	ND	0.90	0.901		p/m-Xylene	ND	1.8	0.901	
t-1,2-Dichloroethene	ND	0.90	0.901		o-Xylene	ND	0.90	0.901	
1,2-Dichloropropane	ND	0.90	0.901		Methyl-t-Butyl Ether (MTBE)	ND	1.8	0.901	

Surrogates:	REC (%)	Control Limits	Qual	Surrogates:	REC (%)	Control Limits	Qual
Dibromofluoromethane	110	71-137		1,2-Dichloroethane-d4	125	58-160	
1,4-Bromofluorobenzene	93	66-126		Toluene-d8	99	87-111	

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

Calscience Environmental Laboratories, Inc.

Analytical Report

Patriot Environmental Services		Date Received:	05/02/08
1900 West Anaheim St.		Work Order No:	08-05-0237
Long Beach, CA 90813-4043		Preparation:	EPA 5035
		Method:	EPA 8260B
		Units:	ug/kg
Project: RASIC-WHITTIER / LB80389			Page 3 of 10

Client Sample Number	Lab Sample Number	Date/Time Collected	Matrix	Instrument	Date Prepared	Date/Time Analyzed	QC Batch ID
NE-1	**08-05-0237-3-C**	**05/02/08 07:22**	**Solid**	**GC/MS EE**	**05/02/08**	**05/07/08 21:39**	**080507L01**

Parameter	Result	RL	DF	Qual	Parameter	Result	RL	DF	Qual
Acetone	ND	45	0.894		1,3-Dichloropropane	ND	0.89	0.894	
Benzene	ND	0.89	0.894		2,2-Dichloropropane	ND	4.5	0.894	
Bromobenzene	ND	0.89	0.894		1,1-Dichloropropene	ND	1.8	0.894	
Bromochloromethane	ND	1.8	0.894		c-1,3-Dichloropropene	ND	0.89	0.894	
Bromodichloromethane	ND	0.89	0.894		t-1,3-Dichloropropene	ND	1.8	0.894	
Bromoform	ND	4.5	0.894		Ethylbenzene	ND	0.89	0.894	
Bromomethane	ND	18	0.894		2-Hexanone	ND	18	0.894	
2-Butanone	ND	18	0.894		Isopropylbenzene	ND	0.89	0.894	
n-Butylbenzene	ND	0.89	0.894		p-Isopropyltoluene	ND	0.89	0.894	
sec-Butylbenzene	ND	0.89	0.894		Methylene Chloride	ND	8.9	0.894	
tert-Butylbenzene	ND	0.89	0.894		4-Methyl-2-Pentanone	ND	18	0.894	
Carbon Disulfide	ND	8.9	0.894		Naphthalene	ND	8.9	0.894	
Carbon Tetrachloride	ND	0.89	0.894		n-Propylbenzene	ND	0.89	0.894	
Chlorobenzene	ND	0.89	0.894		Styrene	ND	0.89	0.894	
Chloroethane	ND	1.8	0.894		1,1,1,2-Tetrachloroethane	ND	0.89	0.894	
Chloroform	ND	0.89	0.894		1,1,2,2-Tetrachloroethane	ND	1.8	0.894	
Chloromethane	ND	18	0.894		Tetrachloroethene	10	0.89	0.894	
2-Chlorotoluene	ND	0.89	0.894		Toluene	ND	0.89	0.894	
4-Chlorotoluene	ND	0.89	0.894		1,2,3-Trichlorobenzene	ND	1.8	0.894	
Dibromochloromethane	ND	1.8	0.894		1,2,4-Trichlorobenzene	ND	1.8	0.894	
1,2-Dibromo-3-Chloropropane	ND	4.5	0.894		1,1,1-Trichloroethane	ND	0.89	0.894	
1,2-Dibromoethane	ND	0.89	0.894		1,1,2-Trichloroethane	ND	0.89	0.894	
Dibromomethane	ND	0.89	0.894		1,1,2-Trichloro-1,2,2-Trifluoroethane	ND	8.9	0.894	
1,2-Dichlorobenzene	ND	0.89	0.894		Trichloroethene	ND	1.8	0.894	
1,3-Dichlorobenzene	ND	0.89	0.894		Trichlorofluoromethane	ND	8.9	0.894	
1,4-Dichlorobenzene	ND	0.89	0.894		1,2,3-Trichloropropane	ND	1.8	0.894	
Dichlorodifluoromethane	ND	1.8	0.894		1,2,4-Trimethylbenzene	ND	1.8	0.894	
1,1-Dichloroethane	ND	0.89	0.894		1,3,5-Trimethylbenzene	ND	1.8	0.894	
1,2-Dichloroethane	ND	0.89	0.894		Vinyl Acetate	ND	8.9	0.894	
1,1-Dichloroethene	ND	0.89	0.894		Vinyl Chloride	ND	0.89	0.894	
c-1,2-Dichloroethene	ND	0.89	0.894		p/m-Xylene	ND	1.8	0.894	
t-1,2-Dichloroethene	ND	0.89	0.894		o-Xylene	ND	0.89	0.894	
1,2-Dichloropropane	ND	0.89	0.894		Methyl-t-Butyl Ether (MTBE)	ND	1.8	0.894	

Surrogates:	REC (%)	Control Limits	Qual	Surrogates:	REC (%)	Control Limits	Qual
Dibromofluoromethane	109	71-137		1,2-Dichloroethane-d4	121	58-160	
1,4-Bromofluorobenzene	96	66-126		Toluene-d8	101	87-111	

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

Calscience Environmental Laboratories, Inc.

Analytical Report

Patriot Environmental Services		Date Received:	05/02/08
1900 West Anaheim St.		Work Order No:	08-05-0237
Long Beach, CA 90813-4043		Preparation:	EPA 5035
		Method:	EPA 8260B
		Units:	ug/kg
Project: RASIC-WHITTIER / LB80389			Page 4 of 10

Client Sample Number	Lab Sample Number	Date/Time Collected	Matrix	Instrument	Date Prepared	Date/Time Analyzed	QC Batch ID
NE-2	**08-05-0237-4-C**	**05/02/08 07:26**	**Solid**	**GC/MS EE**	**05/02/08**	**05/07/08 22:10**	**080507L01**

Parameter	Result	RL	DF	Qual	Parameter	Result	RL	DF	Qual
Acetone	ND	49	0.971		1,3-Dichloropropane	ND	0.97	0.971	
Benzene	ND	0.97	0.971		2,2-Dichloropropane	ND	4.9	0.971	
Bromobenzene	ND	0.97	0.971		1,1-Dichloropropene	ND	1.9	0.971	
Bromochloromethane	ND	1.9	0.971		c-1,3-Dichloropropene	ND	0.97	0.971	
Bromodichloromethane	ND	0.97	0.971		t-1,3-Dichloropropene	ND	1.9	0.971	
Bromoform	ND	4.9	0.971		Ethylbenzene	ND	0.97	0.971	
Bromomethane	ND	19	0.971		2-Hexanone	ND	19	0.971	
2-Butanone	ND	19	0.971		Isopropylbenzene	ND	0.97	0.971	
n-Butylbenzene	ND	0.97	0.971		p-Isopropyltoluene	ND	0.97	0.971	
sec-Butylbenzene	ND	0.97	0.971		Methylene Chloride	ND	9.7	0.971	
tert-Butylbenzene	ND	0.97	0.971		4-Methyl-2-Pentanone	ND	19	0.971	
Carbon Disulfide	ND	9.7	0.971		Naphthalene	ND	9.7	0.971	
Carbon Tetrachloride	ND	0.97	0.971		n-Propylbenzene	ND	0.97	0.971	
Chlorobenzene	ND	0.97	0.971		Styrene	ND	0.97	0.971	
Chloroethane	ND	1.9	0.971		1,1,1,2-Tetrachloroethane	ND	0.97	0.971	
Chloroform	ND	0.97	0.971		1,1,2,2-Tetrachloroethane	ND	1.9	0.971	
Chloromethane	ND	19	0.971		Tetrachloroethene	23	0.97	0.971	
2-Chlorotoluene	ND	0.97	0.971		Toluene	ND	0.97	0.971	
4-Chlorotoluene	ND	0.97	0.971		1,2,3-Trichlorobenzene	ND	1.9	0.971	
Dibromochloromethane	ND	1.9	0.971		1,2,4-Trichlorobenzene	ND	1.9	0.971	
1,2-Dibromo-3-Chloropropane	ND	4.9	0.971		1,1,1-Trichloroethane	ND	0.97	0.971	
1,2-Dibromoethane	ND	0.97	0.971		1,1,2-Trichloroethane	ND	0.97	0.971	
Dibromomethane	ND	0.97	0.971		1,1,2-Trichloro-1,2,2-Trifluoroethane	ND	9.7	0.971	
1,2-Dichlorobenzene	ND	0.97	0.971		Trichloroethene	ND	1.9	0.971	
1,3-Dichlorobenzene	ND	0.97	0.971		Trichlorofluoromethane	ND	9.7	0.971	
1,4-Dichlorobenzene	ND	0.97	0.971		1,2,3-Trichloropropane	ND	1.9	0.971	
Dichlorodifluoromethane	ND	1.9	0.971		1,2,4-Trimethylbenzene	ND	1.9	0.971	
1,1-Dichloroethane	ND	0.97	0.971		1,3,5-Trimethylbenzene	ND	1.9	0.971	
1,2-Dichloroethane	ND	0.97	0.971		Vinyl Acetate	ND	9.7	0.971	
1,1-Dichloroethene	ND	0.97	0.971		Vinyl Chloride	ND	0.97	0.971	
c-1,2-Dichloroethene	ND	0.97	0.971		p/m-Xylene	ND	1.9	0.971	
t-1,2-Dichloroethene	ND	0.97	0.971		o-Xylene	ND	0.97	0.971	
1,2-Dichloropropane	ND	0.97	0.971		Methyl-t-Butyl Ether (MTBE)	ND	1.9	0.971	

Surrogates:	REC (%)	Control Limits	Qual	Surrogates:	REC (%)	Control Limits	Qual
Dibromofluoromethane	109	71-137		1,2-Dichloroethane-d4	118	58-160	
1,4-Bromofluorobenzene	93	66-126		Toluene-d8	99	87-111	

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

Calscience Environmental Laboratories, Inc.

Analytical Report

Patriot Environmental Services		Date Received:	05/02/08
1900 West Anaheim St.		Work Order No:	08-05-0237
Long Beach, CA 90813-4043		Preparation:	EPA 5035
		Method:	EPA 8260B
		Units:	ug/kg
Project: RASIC-WHITTIER / LB80389			Page 5 of 10

Client Sample Number	Lab Sample Number	Date/Time Collected	Matrix	Instrument	Date Prepared	Date/Time Analyzed	QC Batch ID
NW-1	**08-05-0237-5-C**	**05/02/08 07:35**	**Solid**	**GC/MS JJ**	**05/02/08**	**05/07/08 21:41**	**080507L01**

Parameter	Result	RL	DF	Qual	Parameter	Result	RL	DF	Qual
Acetone	ND	41	0.814		1,3-Dichloropropane	ND	0.81	0.814	
Benzene	ND	0.81	0.814		2,2-Dichloropropane	ND	4.1	0.814	
Bromobenzene	ND	0.81	0.814		1,1-Dichloropropene	ND	1.6	0.814	
Bromochloromethane	ND	1.6	0.814		c-1,3-Dichloropropene	ND	0.81	0.814	
Bromodichloromethane	ND	0.81	0.814		t-1,3-Dichloropropene	ND	1.6	0.814	
Bromoform	ND	4.1	0.814		Ethylbenzene	ND	0.81	0.814	
Bromomethane	ND	16	0.814		2-Hexanone	ND	16	0.814	
2-Butanone	ND	16	0.814		Isopropylbenzene	ND	0.81	0.814	
n-Butylbenzene	ND	0.81	0.814		p-Isopropyltoluene	ND	0.81	0.814	
sec-Butylbenzene	ND	0.81	0.814		Methylene Chloride	ND	8.1	0.814	
tert-Butylbenzene	ND	0.81	0.814		4-Methyl-2-Pentanone	ND	16	0.814	
Carbon Disulfide	ND	8.1	0.814		Naphthalene	ND	8.1	0.814	
Carbon Tetrachloride	ND	0.81	0.814		n-Propylbenzene	ND	0.81	0.814	
Chlorobenzene	ND	0.81	0.814		Styrene	ND	0.81	0.814	
Chloroethane	ND	1.6	0.814		1,1,1,2-Tetrachloroethane	ND	0.81	0.814	
Chloroform	ND	0.81	0.814		1,1,2,2-Tetrachloroethane	ND	1.6	0.814	
Chloromethane	ND	16	0.814		Tetrachloroethene	11	0.81	0.814	
2-Chlorotoluene	ND	0.81	0.814		Toluene	ND	0.81	0.814	
4-Chlorotoluene	ND	0.81	0.814		1,2,3-Trichlorobenzene	ND	1.6	0.814	
Dibromochloromethane	ND	1.6	0.814		1,2,4-Trichlorobenzene	ND	1.6	0.814	
1,2-Dibromo-3-Chloropropane	ND	4.1	0.814		1,1,1-Trichloroethane	ND	0.81	0.814	
1,2-Dibromoethane	ND	0.81	0.814		1,1,2-Trichloroethane	ND	0.81	0.814	
Dibromomethane	ND	0.81	0.814		1,1,2-Trichloro-1,2,2-Trifluoroethane	ND	8.1	0.814	
1,2-Dichlorobenzene	ND	0.81	0.814		Trichloroethene	2.0	1.6	0.814	
1,3-Dichlorobenzene	ND	0.81	0.814		Trichlorofluoromethane	ND	8.1	0.814	
1,4-Dichlorobenzene	ND	0.81	0.814		1,2,3-Trichloropropane	ND	1.6	0.814	
Dichlorodifluoromethane	ND	1.6	0.814		1,2,4-Trimethylbenzene	ND	1.6	0.814	
1,1-Dichloroethane	ND	0.81	0.814		1,3,5-Trimethylbenzene	ND	1.6	0.814	
1,2-Dichloroethane	ND	0.81	0.814		Vinyl Acetate	ND	8.1	0.814	
1,1-Dichloroethene	1.1	0.81	0.814		Vinyl Chloride	ND	0.81	0.814	
c-1,2-Dichloroethene	ND	0.81	0.814		p/m-Xylene	ND	1.6	0.814	
t-1,2-Dichloroethene	ND	0.81	0.814		o-Xylene	ND	0.81	0.814	
1,2-Dichloropropane	ND	0.81	0.814		Methyl-t-Butyl Ether (MTBE)	ND	1.6	0.814	

Surrogates:	REC (%)	Control Limits	Qual	Surrogates:	REC (%)	Control Limits	Qual
Dibromofluoromethane	112	71-137		1,2-Dichloroethane-d4	133	58-160	
1,4-Bromofluorobenzene	92	66-126		Toluene-d8	95	87-111	

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

Calscience Environmental Laboratories, Inc.

Analytical Report

Patriot Environmental Services		Date Received:	05/02/08
1900 West Anaheim St.		Work Order No:	08-05-0237
Long Beach, CA 90813-4043		Preparation:	EPA 5035
		Method:	EPA 8260B
		Units:	ug/kg
Project: RASIC-WHITTIER / LB80389			Page 6 of 10

Client Sample Number	Lab Sample Number	Date/Time Collected	Matrix	Instrument	Date Prepared	Date/Time Analyzed	QC Batch ID
NW-2	**08-05-0237-6-C**	**05/02/08 07:44**	**Solid**	**GC/MS JJ**	**05/02/08**	**05/07/08 22:10**	**080507L01**

Parameter	Result	RL	DF	Qual	Parameter	Result	RL	DF	Qual
Acetone	ND	47	0.933		1,3-Dichloropropane	ND	0.93	0.933	
Benzene	ND	0.93	0.933		2,2-Dichloropropane	ND	4.7	0.933	
Bromobenzene	ND	0.93	0.933		1,1-Dichloropropene	ND	1.9	0.933	
Bromochloromethane	ND	1.9	0.933		c-1,3-Dichloropropene	ND	0.93	0.933	
Bromodichloromethane	ND	0.93	0.933		t-1,3-Dichloropropene	ND	1.9	0.933	
Bromoform	ND	4.7	0.933		Ethylbenzene	ND	0.93	0.933	
Bromomethane	ND	19	0.933		2-Hexanone	ND	19	0.933	
2-Butanone	ND	19	0.933		Isopropylbenzene	ND	0.93	0.933	
n-Butylbenzene	ND	0.93	0.933		p-Isopropyltoluene	ND	0.93	0.933	
sec-Butylbenzene	ND	0.93	0.933		Methylene Chloride	ND	9.3	0.933	
tert-Butylbenzene	ND	0.93	0.933		4-Methyl-2-Pentanone	ND	19	0.933	
Carbon Disulfide	ND	9.3	0.933		Naphthalene	ND	9.3	0.933	
Carbon Tetrachloride	ND	0.93	0.933		n-Propylbenzene	ND	0.93	0.933	
Chlorobenzene	ND	0.93	0.933		Styrene	ND	0.93	0.933	
Chloroethane	ND	1.9	0.933		1,1,1,2-Tetrachloroethane	ND	0.93	0.933	
Chloroform	ND	0.93	0.933		1,1,2,2-Tetrachloroethane	ND	1.9	0.933	
Chloromethane	ND	19	0.933		Tetrachloroethene	18	0.93	0.933	
2-Chlorotoluene	ND	0.93	0.933		Toluene	ND	0.93	0.933	
4-Chlorotoluene	ND	0.93	0.933		1,2,3-Trichlorobenzene	ND	1.9	0.933	
Dibromochloromethane	ND	1.9	0.933		1,2,4-Trichlorobenzene	ND	1.9	0.933	
1,2-Dibromo-3-Chloropropane	ND	4.7	0.933		1,1,1-Trichloroethane	ND	0.93	0.933	
1,2-Dibromoethane	ND	0.93	0.933		1,1,2-Trichloroethane	ND	0.93	0.933	
Dibromomethane	ND	0.93	0.933		1,1,2-Trichloro-1,2,2-Trifluoroethane	ND	9.3	0.933	
1,2-Dichlorobenzene	ND	0.93	0.933		Trichloroethene	3.8	1.9	0.933	
1,3-Dichlorobenzene	ND	0.93	0.933		Trichlorofluoromethane	ND	9.3	0.933	
1,4-Dichlorobenzene	ND	0.93	0.933		1,2,3-Trichloropropane	ND	1.9	0.933	
Dichlorodifluoromethane	ND	1.9	0.933		1,2,4-Trimethylbenzene	ND	1.9	0.933	
1,1-Dichloroethane	ND	0.93	0.933		1,3,5-Trimethylbenzene	ND	1.9	0.933	
1,2-Dichloroethane	ND	0.93	0.933		Vinyl Acetate	ND	9.3	0.933	
1,1-Dichloroethene	2.4	0.93	0.933		Vinyl Chloride	ND	0.93	0.933	
c-1,2-Dichloroethene	ND	0.93	0.933		p/m-Xylene	ND	1.9	0.933	
t-1,2-Dichloroethene	ND	0.93	0.933		o-Xylene	ND	0.93	0.933	
1,2-Dichloropropane	ND	0.93	0.933		Methyl-t-Butyl Ether (MTBE)	ND	1.9	0.933	

Surrogates:	REC (%)	Control Limits	Qual	Surrogates:	REC (%)	Control Limits	Qual
Dibromofluoromethane	111	71-137		1,2-Dichloroethane-d4	136	58-160	
1,4-Bromofluorobenzene	92	66-126		Toluene-d8	94	87-111	

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

Calscience Environmental Laboratories, Inc.

Analytical Report

Patriot Environmental Services		Date Received:	05/02/08
1900 West Anaheim St.		Work Order No:	08-05-0237
Long Beach, CA 90813-4043		Preparation:	EPA 5035
		Method:	EPA 8260B
		Units:	ug/kg
Project: RASIC-WHITTIER / LB80389			Page 7 of 10

Client Sample Number	Lab Sample Number	Date/Time Collected	Matrix	Instrument	Date Prepared	Date/Time Analyzed	QC Batch ID
SW-1	**08-05-0237-7-C**	**05/02/08 07:48**	**Solid**	**GC/MS JJ**	**05/02/08**	**05/07/08 22:39**	**080507L01**

Parameter	Result	RL	DF	Qual	Parameter	Result	RL	DF	Qual
Acetone	ND	45	0.907		1,3-Dichloropropane	ND	0.91	0.907	
Benzene	ND	0.91	0.907		2,2-Dichloropropane	ND	4.5	0.907	
Bromobenzene	ND	0.91	0.907		1,1-Dichloropropene	ND	1.8	0.907	
Bromochloromethane	ND	1.8	0.907		c-1,3-Dichloropropene	ND	0.91	0.907	
Bromodichloromethane	ND	0.91	0.907		t-1,3-Dichloropropene	ND	1.8	0.907	
Bromoform	ND	4.5	0.907		Ethylbenzene	ND	0.91	0.907	
Bromomethane	ND	18	0.907		2-Hexanone	ND	18	0.907	
2-Butanone	ND	18	0.907		Isopropylbenzene	ND	0.91	0.907	
n-Butylbenzene	ND	0.91	0.907		p-Isopropyltoluene	ND	0.91	0.907	
sec-Butylbenzene	ND	0.91	0.907		Methylene Chloride	ND	9.1	0.907	
tert-Butylbenzene	ND	0.91	0.907		4-Methyl-2-Pentanone	ND	18	0.907	
Carbon Disulfide	ND	9.1	0.907		Naphthalene	ND	9.1	0.907	
Carbon Tetrachloride	ND	0.91	0.907		n-Propylbenzene	ND	0.91	0.907	
Chlorobenzene	ND	0.91	0.907		Styrene	ND	0.91	0.907	
Chloroethane	ND	1.8	0.907		1,1,1,2-Tetrachloroethane	ND	0.91	0.907	
Chloroform	ND	0.91	0.907		1,1,2,2-Tetrachloroethane	ND	1.8	0.907	
Chloromethane	ND	18	0.907		Tetrachloroethene	50	0.91	0.907	
2-Chlorotoluene	ND	0.91	0.907		Toluene	ND	0.91	0.907	
4-Chlorotoluene	ND	0.91	0.907		1,2,3-Trichlorobenzene	ND	1.8	0.907	
Dibromochloromethane	ND	1.8	0.907		1,2,4-Trichlorobenzene	ND	1.8	0.907	
1,2-Dibromo-3-Chloropropane	ND	4.5	0.907		1,1,1-Trichloroethane	ND	0.91	0.907	
1,2-Dibromoethane	ND	0.91	0.907		1,1,2-Trichloroethane	ND	0.91	0.907	
Dibromomethane	ND	0.91	0.907		1,1,2-Trichloro-1,2,2-Trifluoroethane	ND	9.1	0.907	
1,2-Dichlorobenzene	ND	0.91	0.907		Trichloroethene	4.3	1.8	0.907	
1,3-Dichlorobenzene	ND	0.91	0.907		Trichlorofluoromethane	ND	9.1	0.907	
1,4-Dichlorobenzene	ND	0.91	0.907		1,2,3-Trichloropropane	ND	1.8	0.907	
Dichlorodifluoromethane	ND	1.8	0.907		1,2,4-Trimethylbenzene	ND	1.8	0.907	
1,1-Dichloroethane	ND	0.91	0.907		1,3,5-Trimethylbenzene	ND	1.8	0.907	
1,2-Dichloroethane	ND	0.91	0.907		Vinyl Acetate	ND	9.1	0.907	
1,1-Dichloroethene	2.8	0.91	0.907		Vinyl Chloride	ND	0.91	0.907	
c-1,2-Dichloroethene	ND	0.91	0.907		p/m-Xylene	ND	1.8	0.907	
t-1,2-Dichloroethene	ND	0.91	0.907		o-Xylene	ND	0.91	0.907	
1,2-Dichloropropane	ND	0.91	0.907		Methyl-t-Butyl Ether (MTBE)	ND	1.8	0.907	

Surrogates:	REC (%)	Control Limits	Qual	Surrogates:	REC (%)	Control Limits	Qual
Dibromofluoromethane	112	71-137		1,2-Dichloroethane-d4	134	58-160	
1,4-Bromofluorobenzene	94	66-126		Toluene-d8	95	87-111	

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

Calscience Environmental Laboratories, Inc.

Analytical Report

Patriot Environmental Services		Date Received:	05/02/08
1900 West Anaheim St.		Work Order No:	08-05-0237
Long Beach, CA 90813-4043		Preparation:	EPA 5035
		Method:	EPA 8260B
		Units:	ug/kg
Project: RASIC-WHITTIER / LB80389			Page 8 of 10

Client Sample Number	Lab Sample Number	Date/Time Collected	Matrix	Instrument	Date Prepared	Date/Time Analyzed	QC Batch ID
SW-2	**08-05-0237-8-C**	**05/02/08 07:54**	**Solid**	**GC/MS JJ**	**05/02/08**	**05/07/08 23:07**	**080507L01**

Parameter	Result	RL	DF	Qual	Parameter	Result	RL	DF	Qual
Acetone	ND	48	0.951		1,3-Dichloropropane	ND	0.95	0.951	
Benzene	ND	0.95	0.951		2,2-Dichloropropane	ND	4.8	0.951	
Bromobenzene	ND	0.95	0.951		1,1-Dichloropropene	ND	1.9	0.951	
Bromochloromethane	ND	1.9	0.951		c-1,3-Dichloropropene	ND	0.95	0.951	
Bromodichloromethane	ND	0.95	0.951		t-1,3-Dichloropropene	ND	1.9	0.951	
Bromoform	ND	4.8	0.951		Ethylbenzene	ND	0.95	0.951	
Bromomethane	ND	19	0.951		2-Hexanone	ND	19	0.951	
2-Butanone	ND	19	0.951		Isopropylbenzene	ND	0.95	0.951	
n-Butylbenzene	ND	0.95	0.951		p-Isopropyltoluene	ND	0.95	0.951	
sec-Butylbenzene	ND	0.95	0.951		Methylene Chloride	ND	9.5	0.951	
tert-Butylbenzene	ND	0.95	0.951		4-Methyl-2-Pentanone	ND	19	0.951	
Carbon Disulfide	ND	9.5	0.951		Naphthalene	ND	9.5	0.951	
Carbon Tetrachloride	ND	0.95	0.951		n-Propylbenzene	ND	0.95	0.951	
Chlorobenzene	ND	0.95	0.951		Styrene	ND	0.95	0.951	
Chloroethane	ND	1.9	0.951		1,1,1,2-Tetrachloroethane	ND	0.95	0.951	
Chloroform	ND	0.95	0.951		1,1,2,2-Tetrachloroethane	ND	1.9	0.951	
Chloromethane	ND	19	0.951		Tetrachloroethene	5.7	0.95	0.951	
2-Chlorotoluene	ND	0.95	0.951		Toluene	ND	0.95	0.951	
4-Chlorotoluene	ND	0.95	0.951		1,2,3-Trichlorobenzene	ND	1.9	0.951	
Dibromochloromethane	ND	1.9	0.951		1,2,4-Trichlorobenzene	ND	1.9	0.951	
1,2-Dibromo-3-Chloropropane	ND	4.8	0.951		1,1,1-Trichloroethane	ND	0.95	0.951	
1,2-Dibromoethane	ND	0.95	0.951		1,1,2-Trichloroethane	ND	0.95	0.951	
Dibromomethane	ND	0.95	0.951		1,1,2-Trichloro-1,2,2-Trifluoroethane	ND	9.5	0.951	
1,2-Dichlorobenzene	ND	0.95	0.951		Trichloroethene	ND	1.9	0.951	
1,3-Dichlorobenzene	ND	0.95	0.951		Trichlorofluoromethane	ND	9.5	0.951	
1,4-Dichlorobenzene	ND	0.95	0.951		1,2,3-Trichloropropane	ND	1.9	0.951	
Dichlorodifluoromethane	ND	1.9	0.951		1,2,4-Trimethylbenzene	ND	1.9	0.951	
1,1-Dichloroethane	ND	0.95	0.951		1,3,5-Trimethylbenzene	ND	1.9	0.951	
1,2-Dichloroethane	ND	0.95	0.951		Vinyl Acetate	ND	9.5	0.951	
1,1-Dichloroethene	ND	0.95	0.951		Vinyl Chloride	ND	0.95	0.951	
c-1,2-Dichloroethene	ND	0.95	0.951		p/m-Xylene	ND	1.9	0.951	
t-1,2-Dichloroethene	ND	0.95	0.951		o-Xylene	ND	0.95	0.951	
1,2-Dichloropropane	ND	0.95	0.951		Methyl-t-Butyl Ether (MTBE)	ND	1.9	0.951	

Surrogates:	REC (%)	Control Limits	Qual	Surrogates:	REC (%)	Control Limits	Qual
Dibromofluoromethane	112	71-137		1,2-Dichloroethane-d4	136	58-160	
1,4-Bromofluorobenzene	96	66-126		Toluene-d8	96	87-111	

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

Calscience Environmental Laboratories, Inc.

Analytical Report

Patriot Environmental Services		Date Received:	05/02/08
1900 West Anaheim St.		Work Order No:	08-05-0237
Long Beach, CA 90813-4043		Preparation:	EPA 5035
		Method:	EPA 8260B
		Units:	ug/kg
Project: RASIC-WHITTIER / LB80389			Page 9 of 10

Client Sample Number	Lab Sample Number	Date/Time Collected	Matrix	Instrument	Date Prepared	Date/Time Analyzed	QC Batch ID
Method Blank	**095-01-025-15,977**	**N/A**	**Solid**	**GC/MS EE**	**05/07/08**	**05/07/08 13:53**	**080507L01**

Parameter	Result	RL	DF	Qual	Parameter	Result	RL	DF	Qual
Acetone	ND	50	1		1,3-Dichloropropane	ND	1.0	1	
Benzene	ND	1.0	1		2,2-Dichloropropane	ND	5.0	1	
Bromobenzene	ND	1.0	1		1,1-Dichloropropene	ND	2.0	1	
Bromochloromethane	ND	2.0	1		c-1,3-Dichloropropene	ND	1.0	1	
Bromodichloromethane	ND	1.0	1		t-1,3-Dichloropropene	ND	2.0	1	
Bromoform	ND	5.0	1		Ethylbenzene	ND	1.0	1	
Bromomethane	ND	20	1		2-Hexanone	ND	20	1	
2-Butanone	ND	20	1		Isopropylbenzene	ND	1.0	1	
n-Butylbenzene	ND	1.0	1		p-Isopropyltoluene	ND	1.0	1	
sec-Butylbenzene	ND	1.0	1		Methylene Chloride	ND	10	1	
tert-Butylbenzene	ND	1.0	1		4-Methyl-2-Pentanone	ND	20	1	
Carbon Disulfide	ND	10	1		Naphthalene	ND	10	1	
Carbon Tetrachloride	ND	1.0	1		n-Propylbenzene	ND	1.0	1	
Chlorobenzene	ND	1.0	1		Styrene	ND	1.0	1	
Chloroethane	ND	2.0	1		1,1,1,2-Tetrachloroethane	ND	1.0	1	
Chloroform	ND	1.0	1		1,1,2,2-Tetrachloroethane	ND	2.0	1	
Chloromethane	ND	20	1		Tetrachloroethene	ND	1.0	1	
2-Chlorotoluene	ND	1.0	1		Toluene	ND	1.0	1	
4-Chlorotoluene	ND	1.0	1		1,2,3-Trichlorobenzene	ND	2.0	1	
Dibromochloromethane	ND	2.0	1		1,2,4-Trichlorobenzene	ND	2.0	1	
1,2-Dibromo-3-Chloropropane	ND	5.0	1		1,1,1-Trichloroethane	ND	1.0	1	
1,2-Dibromoethane	ND	1.0	1		1,1,2-Trichloroethane	ND	1.0	1	
Dibromomethane	ND	1.0	1		1,1,2-Trichloro-1,2,2-Trifluoroethane	ND	10	1	
1,2-Dichlorobenzene	ND	1.0	1		Trichloroethene	ND	2.0	1	
1,3-Dichlorobenzene	ND	1.0	1		Trichlorofluoromethane	ND	10	1	
1,4-Dichlorobenzene	ND	1.0	1		1,2,3-Trichloropropane	ND	2.0	1	
Dichlorodifluoromethane	ND	2.0	1		1,2,4-Trimethylbenzene	ND	2.0	1	
1,1-Dichloroethane	ND	1.0	1		1,3,5-Trimethylbenzene	ND	2.0	1	
1,2-Dichloroethane	ND	1.0	1		Vinyl Acetate	ND	10	1	
1,1-Dichloroethene	ND	1.0	1		Vinyl Chloride	ND	1.0	1	
c-1,2-Dichloroethene	ND	1.0	1		p/m-Xylene	ND	2.0	1	
t-1,2-Dichloroethene	ND	1.0	1		o-Xylene	ND	1.0	1	
1,2-Dichloropropane	ND	1.0	1		Methyl-t-Butyl Ether (MTBE)	ND	2.0	1	

Surrogates:	REC (%)	Control Limits	Qual	Surrogates:	REC (%)	Control Limits	Qual
Dibromofluoromethane	101	71-137		1,2-Dichloroethane-d4	108	58-160	
1,4-Bromofluorobenzene	96	66-126		Toluene-d8	98	87-111	

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

Calscience Environmental Laboratories, Inc.

Analytical Report

Patriot Environmental Services		Date Received:	05/02/08
1900 West Anaheim St.		Work Order No:	08-05-0237
Long Beach, CA 90813-4043		Preparation:	EPA 5035
		Method:	EPA 8260B
		Units:	ug/kg
Project: RASIC-WHITTIER / LB80389			Page 10 of 10

Client Sample Number	Lab Sample Number	Date/Time Collected	Matrix	Instrument	Date Prepared	Date/Time Analyzed	QC Batch ID
Method Blank	**095-01-025-15,979**	**N/A**	**Solid**	**GC/MS JJ**	**05/07/08**	**05/07/08 14:31**	**080507L01**

Parameter	Result	RL	DF	Qual	Parameter	Result	RL	DF	Qual
Acetone	ND	50	1		1,3-Dichloropropane	ND	1.0	1	
Benzene	ND	1.0	1		2,2-Dichloropropane	ND	5.0	1	
Bromobenzene	ND	1.0	1		1,1-Dichloropropene	ND	2.0	1	
Bromochloromethane	ND	2.0	1		c-1,3-Dichloropropene	ND	1.0	1	
Bromodichloromethane	ND	1.0	1		t-1,3-Dichloropropene	ND	2.0	1	
Bromoform	ND	5.0	1		Ethylbenzene	ND	1.0	1	
Bromomethane	ND	20	1		2-Hexanone	ND	20	1	
2-Butanone	ND	20	1		Isopropylbenzene	ND	1.0	1	
n-Butylbenzene	ND	1.0	1		p-Isopropyltoluene	ND	1.0	1	
sec-Butylbenzene	ND	1.0	1		Methylene Chloride	ND	10	1	
tert-Butylbenzene	ND	1.0	1		4-Methyl-2-Pentanone	ND	20	1	
Carbon Disulfide	ND	10	1		Naphthalene	ND	10	1	
Carbon Tetrachloride	ND	1.0	1		n-Propylbenzene	ND	1.0	1	
Chlorobenzene	ND	1.0	1		Styrene	ND	1.0	1	
Chloroethane	ND	2.0	1		1,1,1,2-Tetrachloroethane	ND	1.0	1	
Chloroform	ND	1.0	1		1,1,2,2-Tetrachloroethane	ND	2.0	1	
Chloromethane	ND	20	1		Tetrachloroethene	ND	1.0	1	
2-Chlorotoluene	ND	1.0	1		Toluene	ND	1.0	1	
4-Chlorotoluene	ND	1.0	1		1,2,3-Trichlorobenzene	ND	2.0	1	
Dibromochloromethane	ND	2.0	1		1,2,4-Trichlorobenzene	ND	2.0	1	
1,2-Dibromo-3-Chloropropane	ND	5.0	1		1,1,1-Trichloroethane	ND	1.0	1	
1,2-Dibromoethane	ND	1.0	1		1,1,2-Trichloroethane	ND	1.0	1	
Dibromomethane	ND	1.0	1		1,1,2-Trichloro-1,2,2-Trifluoroethane	ND	10	1	
1,2-Dichlorobenzene	ND	1.0	1		Trichloroethene	ND	2.0	1	
1,3-Dichlorobenzene	ND	1.0	1		Trichlorofluoromethane	ND	10	1	
1,4-Dichlorobenzene	ND	1.0	1		1,2,3-Trichloropropane	ND	2.0	1	
Dichlorodifluoromethane	ND	2.0	1		1,2,4-Trimethylbenzene	ND	2.0	1	
1,1-Dichloroethane	ND	1.0	1		1,3,5-Trimethylbenzene	ND	2.0	1	
1,2-Dichloroethane	ND	1.0	1		Vinyl Acetate	ND	10	1	
1,1-Dichloroethene	ND	1.0	1		Vinyl Chloride	ND	1.0	1	
c-1,2-Dichloroethene	ND	1.0	1		p/m-Xylene	ND	2.0	1	
t-1,2-Dichloroethene	ND	1.0	1		o-Xylene	ND	1.0	1	
1,2-Dichloropropane	ND	1.0	1		Methyl-t-Butyl Ether (MTBE)	ND	2.0	1	

Surrogates:	REC (%)	Control Limits	Qual	Surrogates:	REC (%)	Control Limits	Qual
Dibromofluoromethane	107	71-137		1,2-Dichloroethane-d4	111	58-160	
1,4-Bromofluorobenzene	92	66-126		Toluene-d8	95	87-111	

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

Calscience Environmental Laboratories, Inc.

Quality Control - Spike/Spike Duplicate

Patriot Environmental Services
1900 West Anaheim St.
Long Beach, CA 90813-4043

Date Received:	05/02/08
Work Order No:	08-05-0237
Preparation:	EPA 3050B
Method:	EPA 6010B

Project RASIC-WHITTIER / LB80389

Quality Control Sample ID	Matrix	Instrument	Date Prepared	Date Analyzed	MS/MSD Batch Number
SE-1	**Solid**	**ICP 5300**	**05/04/08**	**05/05/08**	**080504S13**

Parameter	MS %REC	MSD %REC	%REC CL	RPD	RPD CL	Qualifiers
Antimony	39	41	50-115	7	0-20	3
Arsenic	95	94	75-125	1	0-20	
Barium	4X	4X	75-125	4X	0-20	Q
Beryllium	95	97	75-125	1	0-20	
Cadmium	95	95	75-125	0	0-20	
Chromium	95	95	75-125	0	0-20	
Cobalt	96	95	75-125	1	0-20	
Copper	99	103	75-125	2	0-20	
Lead	84	232	75-125	74	0-20	4,3
Molybdenum	86	87	75-125	1	0-20	
Nickel	96	94	75-125	1	0-20	
Selenium	86	84	75-125	3	0-20	
Silver	90	91	75-125	0	0-20	
Thallium	82	82	75-125	0	0-20	
Vanadium	98	95	75-125	1	0-20	
Zinc	76	86	75-125	3	0-20	

RPD - Relative Percent Difference , CL - Control Limit

Calscience Environmental Laboratories, Inc.

Quality Control - PDS / PDSD

Patriot Environmental Services		Date Received	05/02/08
1900 West Anaheim St.		Work Order No:	08-05-0237
Long Beach, CA 90813-4043		Preparation:	EPA 3050B
		Method:	EPA 6010B

Project: RASIC-WHITTIER / LB80389

Quality Control Sample ID	Matrix	Instrument	Date Prepared	Date Analyzed	PDS/PDSD Batch Number
SE-1	**Solid**	**ICP 5300**	**05/04/08**	**05/08/08**	**080504S13**

Parameter	PDS %REC	PDSD %REC	%REC CL	RPD	RPD CL	Qualifiers
Antimony	97	91	75-125	6	0-20	
Arsenic	100	98	75-125	2	0-20	
Barium	4X	4X	75-125	4X	0-20	Q
Beryllium	102	103	75-125	0	0-20	
Cadmium	99	99	75-125	0	0-20	
Chromium	102	102	75-125	0	0-20	
Cobalt	101	99	75-125	2	0-20	
Copper	110	109	75-125	1	0-20	
Lead	103	100	75-125	2	0-20	
Molybdenum	101	100	75-125	1	0-20	
Nickel	107	103	75-125	2	0-20	
Selenium	100	97	75-125	3	0-20	
Silver	94	94	75-125	0	0-20	
Thallium	82	81	75-125	2	0-20	
Vanadium	109	110	75-125	0	0-20	
Zinc	117	117	75-125	0	0-20	

RPD - Relative Percent Difference , CL - Control Limit

Calscience Environmental Laboratories, Inc.

Quality Control - Spike/Spike Duplicate

Patriot Environmental Services
1900 West Anaheim St.
Long Beach, CA 90813-4043

Date Received:	05/02/08
Work Order No:	08-05-0237
Preparation:	EPA 3550B
Method:	EPA 8015B (M)

Project RASIC-WHITTIER / LB80389

Quality Control Sample ID	Matrix	Instrument	Date Prepared	Date Analyzed	MS/MSD Batch Number
08-05-0320-15	**Solid**	**GC 3**	**05/07/08**	**05/08/08**	**080507S05**

Parameter	MS %REC	MSD %REC	%REC CL	RPD	RPD CL	Qualifiers
TPH as Diesel	91	90	64-130	2	0-15	

RPD - Relative Percent Difference , CL - Control Limit

Calscience Environmental Laboratories, Inc.

Quality Control - Spike/Spike Duplicate

Patriot Environmental Services
1900 West Anaheim St.
Long Beach, CA 90813-4043

Date Received:	05/02/08
Work Order No:	08-05-0237
Preparation:	EPA 3550B
Method:	EPA 8015B (M)

Project RASIC-WHITTIER / LB80389

Quality Control Sample ID	Matrix	Instrument	Date Prepared	Date Analyzed	MS/MSD Batch Number
08-05-0420-6	**Solid**	**GC 15**	**05/07/08**	**05/08/08**	**080507S06**

Parameter	MS %REC	MSD %REC	%REC CL	RPD	RPD CL	Qualifiers
TPH as Diesel	91	89	64-130	2	0-15	

RPD - Relative Percent Difference , CL - Control Limit

Calscience Environmental Laboratories, Inc.

Quality Control - Spike/Spike Duplicate

Patriot Environmental Services
1900 West Anaheim St.
Long Beach, CA 90813-4043

Date Received:	05/02/08
Work Order No:	08-05-0237
Preparation:	EPA 7471A Total
Method:	EPA 7471A

Project RASIC-WHITTIER / LB80389

Quality Control Sample ID	Matrix	Instrument	Date Prepared	Date Analyzed	MS/MSD Batch Number
SE-1	**Solid**	**Mercury**	**05/05/08**	**05/06/08**	**080505S08**

Parameter	MS %REC	MSD %REC	%REC CL	RPD	RPD CL	Qualifiers
Mercury	97	97	84-138	0	0-7	

RPD - Relative Percent Difference , CL - Control Limit

Calscience Environmental Laboratories, Inc.

Quality Control - Spike/Spike Duplicate

Patriot Environmental Services
1900 West Anaheim St.
Long Beach, CA 90813-4043

Date Received: 05/02/08
Work Order No: 08-05-0237
Preparation: EPA 3545
Method: EPA 8270C(M) Isotope Dilution

Project RASIC-WHITTIER / LB80389

Quality Control Sample ID	Matrix	Instrument	Date Prepared	Date Analyzed	MS/MSD Batch Number
SE-1	**Solid**	**GC/MS Y**	**05/13/08**	**05/15/08**	**080513S01D**

Parameter	MS %REC	MSD %REC	%REC CL	RPD	RPD CL	Qualifiers
1,4-Dioxane	117	113	50-130	4	0-20	

RPD - Relative Percent Difference , CL - Control Limit

Calscience Environmental Laboratories, Inc.

Quality Control - LCS/LCS Duplicate

Patriot Environmental Services
1900 West Anaheim St.
Long Beach, CA 90813-4043

Date Received: N/A
Work Order No: 08-05-0237
Preparation: EPA 3050B
Method: EPA 6010B

Project: RASIC-WHITTIER / LB80389

Quality Control Sample ID	Matrix	Instrument	Date Prepared	Date Analyzed	LCS/LCSD Batch Number
097-01-002-10,885	**Solid**	**ICP 5300**	**05/04/08**	**05/05/08**	**080504L13**

Parameter	LCS %REC	LCSD %REC	%REC CL	RPD	RPD CL	Qualifiers
Antimony	100	102	80-120	2	0-20	
Arsenic	98	101	80-120	3	0-20	
Barium	103	108	80-120	4	0-20	
Beryllium	96	102	80-120	6	0-20	
Cadmium	102	106	80-120	4	0-20	
Chromium	99	103	80-120	4	0-20	
Cobalt	103	107	80-120	4	0-20	
Copper	101	104	80-120	4	0-20	
Lead	103	107	80-120	4	0-20	
Molybdenum	99	104	80-120	4	0-20	
Nickel	104	110	80-120	6	0-20	
Selenium	91	97	80-120	7	0-20	
Silver	96	101	80-120	4	0-20	
Thallium	100	105	80-120	5	0-20	
Vanadium	98	102	80-120	4	0-20	
Zinc	102	105	80-120	3	0-20	

RPD - Relative Percent Difference , CL - Control Limit

Calscience Environmental Laboratories, Inc.

Quality Control - LCS/LCS Duplicate

Patriot Environmental Services		Date Received:	N/A
1900 West Anaheim St.		Work Order No:	08-05-0237
Long Beach, CA 90813-4043		Preparation:	EPA 3550B
		Method:	EPA 8015B (M)

Project: RASIC-WHITTIER / LB80389

Quality Control Sample ID	Matrix	Instrument	Date Prepared	Date Analyzed	LCS/LCSD Batch Number
099-12-275-1,708	**Solid**	**GC 3**	**05/07/08**	**05/07/08**	**080507B05**

Parameter	LCS %REC	LCSD %REC	%REC CL	RPD	RPD CL	Qualifiers
TPH as Diesel	93	92	75-123	1	0-12	

RPD - Relative Percent Difference , CL - Control Limit

Calscience Environmental Laboratories, Inc.

Quality Control - LCS/LCS Duplicate

Patriot Environmental Services		Date Received:	N/A
1900 West Anaheim St.		Work Order No:	08-05-0237
Long Beach, CA 90813-4043		Preparation:	EPA 3550B
		Method:	EPA 8015B (M)

Project: RASIC-WHITTIER / LB80389

Quality Control Sample ID	Matrix	Instrument	Date Prepared	Date Analyzed	LCS/LCSD Batch Number
099-12-275-1,711	**Solid**	**GC 15**	**05/07/08**	**05/08/08**	**080507B06**

Parameter	LCS %REC	LCSD %REC	%REC CL	RPD	RPD CL	Qualifiers
TPH as Diesel	96	97	75-123	1	0-12	

RPD - Relative Percent Difference , CL - Control Limit

Calscience Environmental Laboratories, Inc.

Quality Control - LCS/LCS Duplicate

Patriot Environmental Services		Date Received:	N/A
1900 West Anaheim St.		Work Order No:	08-05-0237
Long Beach, CA 90813-4043		Preparation:	EPA 7471A Total
		Method:	EPA 7471A

Project: RASIC-WHITTIER / LB80389

Quality Control Sample ID	Matrix	Instrument	Date Prepared	Date Analyzed	LCS/LCSD Batch Number
099-04-007-5,472	**Solid**	**Mercury**	**05/05/08**	**05/06/08**	**080505L08**

Parameter	LCS %REC	LCSD %REC	%REC CL	RPD	RPD CL	Qualifiers
Mercury	93	94	87-117	1	0-3	

RPD - Relative Percent Difference , CL - Control Limit

Calscience Environmental Laboratories, Inc.

Quality Control - Laboratory Control Sample

Patriot Environmental Services		Date Received:	N/A
1900 West Anaheim St.		Work Order No:	08-05-0237
Long Beach, CA 90813-4043		Preparation:	EPA 3545
		Method:	EPA 8270C(M) Isotope Dilution

Project: RASIC-WHITTIER / LB80389

Quality Control Sample ID	Matrix	Instrument	Date Analyzed	Lab File ID	LCS Batch Number
099-09-005-172	**Solid**	**GC/MS Y**	**05/15/08**	**15MAY004.rr**	**080513L01D**

Parameter	Conc Added	Conc Recovered	LCS %Rec	%Rec CL	Qualifiers
1,4-Dioxane	20.0	25.5	127	50-130	

RPD - Relative Percent Difference , CL - Control Limit

Calscience Environmental Laboratories, Inc.

Quality Control - LCS/LCS Duplicate

Patriot Environmental Services		Date Received:	N/A
1900 West Anaheim St.		Work Order No:	08-05-0237
Long Beach, CA 90813-4043		Preparation:	EPA 5035
		Method:	EPA 8260B

Project: RASIC-WHITTIER / LB80389

Quality Control Sample ID	Matrix	Instrument	Date Prepared	Date Analyzed	LCS/LCSD Batch Number
095-01-025-15,977	**Solid**	**GC/MS EE**	**05/07/08**	**05/07/08**	**080507L01**

Parameter	LCS %REC	LCSD %REC	%REC CL	RPD	RPD CL	Qualifiers
Benzene	101	107	85-115	6	0-11	
Carbon Tetrachloride	101	114	68-134	12	0-14	
Chlorobenzene	104	106	83-119	2	0-9	
1,2-Dibromoethane	104	107	80-120	3	0-20	
1,2-Dichlorobenzene	104	106	57-135	2	0-10	
1,1-Dichloroethene	102	111	72-120	9	0-10	
Ethylbenzene	108	112	80-120	4	0-20	
Toluene	104	106	67-127	2	0-10	
Trichloroethene	102	109	88-112	6	0-9	
Vinyl Chloride	100	106	57-129	7	0-16	
Methyl-t-Butyl Ether (MTBE)	104	105	76-124	1	0-12	
Tert-Butyl Alcohol (TBA)	109	125	31-145	14	0-23	
Diisopropyl Ether (DIPE)	93	102	74-128	10	0-10	
Ethyl-t-Butyl Ether (ETBE)	107	103	77-125	4	0-9	
Tert-Amyl-Methyl Ether (TAME)	103	103	81-123	1	0-10	
Ethanol	97	115	44-152	17	0-24	

RPD - Relative Percent Difference , CL - Control Limit

Calscience Environmental Laboratories, Inc.

Quality Control - LCS/LCS Duplicate

Patriot Environmental Services
1900 West Anaheim St.
Long Beach, CA 90813-4043

Date Received:	N/A
Work Order No:	08-05-0237
Preparation:	EPA 5035
Method:	EPA 8260B

Project: RASIC-WHITTIER / LB80389

Quality Control Sample ID	Matrix	Instrument	Date Prepared	Date Analyzed	LCS/LCSD Batch Number
095-01-025-15,979	**Solid**	**GC/MS JJ**	**05/07/08**	**05/07/08**	**080507L01**

Parameter	LCS %REC	LCSD %REC	%REC CL	RPD	RPD CL	Qualifiers
Benzene	109	105	85-115	4	0-11	
Carbon Tetrachloride	100	95	68-134	6	0-14	
Chlorobenzene	108	103	83-119	5	0-9	
1,2-Dibromoethane	110	107	80-120	3	0-20	
1,2-Dichlorobenzene	109	108	57-135	1	0-10	
1,1-Dichloroethene	104	99	72-120	5	0-10	
Ethylbenzene	114	107	80-120	7	0-20	
Toluene	108	103	67-127	4	0-10	
Trichloroethene	108	106	88-112	2	0-9	
Vinyl Chloride	100	95	57-129	6	0-16	
Methyl-t-Butyl Ether (MTBE)	118	120	76-124	2	0-12	
Tert-Butyl Alcohol (TBA)	159	131	31-145	20	0-23	X
Diisopropyl Ether (DIPE)	115	116	74-128	1	0-10	
Ethyl-t-Butyl Ether (ETBE)	123	126	77-125	3	0-9	X
Tert-Amyl-Methyl Ether (TAME)	121	122	81-123	1	0-10	
Ethanol	115	95	44-152	20	0-24	

RPD - Relative Percent Difference , CL - Control Limit

Calscience Environmental Laboratories, Inc.

Glossary of Terms and Qualifiers

Work Order Number: 08-05-0237

Qualifier	Definition
*	See applicable analysis comment.
1	Surrogate compound recovery was out of control due to a required sample dilution, therefore, the sample data was reported without further clarification.
2	Surrogate compound recovery was out of control due to matrix interference. The associated method blank surrogate spike compound was in control and, therefore, the sample data was reported without further clarification.
3	Recovery of the Matrix Spike (MS) or Matrix Spike Duplicate (MSD) compound was out of control due to matrix interference. The associated LCS and/or LCSD was in control and, therefore, the sample data was reported without further clarification.
4	The MS/MSD RPD was out of control due to matrix interference. The LCS/LCSD RPD was in control and, therefore, the sample data was reported without further clarification.
5	The PDS/PDSD associated with this batch of samples was out of control due to a matrix interference effect. The associated batch LCS/LCSD was in control and, hence, the associated sample data was reported with no further corrective action required.
A	Result is the average of all dilutions, as defined by the method.
B	Analyte was present in the associated method blank.
C	Analyte presence was not confirmed on primary column.
E	Concentration exceeds the calibration range.
H	Sample received and/or analyzed past the recommended holding time.
J	Analyte was detected at a concentration below the reporting limit and above the laboratory method detection limit. Reported value is estimated.
N	Nontarget Analyte.
ND	Parameter not detected at the indicated reporting limit.
Q	Spike recovery and RPD control limits do not apply resulting from the parameter concentration in the sample exceeding the spike concentration by a factor of four or greater.
U	Undetected at the laboratory method detection limit.
X	% Recovery and/or RPD out-of-range.
Z	Analyte presence was not confirmed by second column or GC/MS analysis.

Calscience Environmental Laboratories, Inc.

☒ SoCal Laboratory
7440 Lincoln Way
Garden Grove, CA 92841-1427
(714) 895-5494

☐ NorCal Service Center
5063 Commercial Circle, Suite H
Concord, CA 94520-8577
(925) 689-9022

CHAIN OF CUSTODY RECORD

Date 5/2/08

Page 1 of 1

LABORATORY CLIENT: PATRIOT ENVIRONMENTAL

ADDRESS:

CITY: LONG BEACH STATE: ZIP:

TEL: E-MAIL:

CLIENT PROJECT NAME / NUMBER: RASIC WHITIER / LB80389

P.O. NO.:

PROJECT CONTACT: DALE STRIETER

LAB USE ONLY: 05-0237

SAMPLER(S): (PRINT)

COELT LOG CODE

COOLER RECEIPT TEMP= °C

TURNAROUND TIME: ☐ SAME DAY ☐ 24 HR ☐ 48 HR ☐ 72 HR ☒ 5 DAYS ☐ 10 DAYS

SPECIAL REQUIREMENTS (ADDITIONAL COSTS MAY APPLY): ☐ RWQCB REPORTING FORMS ☐ COELT EDF ☐

SPECIAL INSTRUCTIONS: 3 ENCORE INSIDE EA BAG

REQUESTED ANALYSES

LAB USE ONLY	SAMPLE ID	FIELD POINT NAME (FOR COELT EDF)	SAMPLING DATE	SAMPLING TIME	MATRIX	NO. OF CONT.	TPH (g)	TPH (d) or (C7-C36) or (C7-C44)	TPH 8015 + CHAIN	BTEX / MTBE (8260B)	VOCs (8260B)	VOCs+Oxys (8260B)	Encore Prep (5035)	SVOCs (8270C) 1-4 DIOXANE ONLY	Pesticides (8181A)	PCBs (8082)	PNAs (8310) or (8270C)	T22 Metals (6010B/747X)	Cr(VI)[7196A or 7199 or 218.6]	VOCs (TO-14A) or (TO-15)	TPH (g)[TO-3]+			
	SE-1		5-2-08	0707	S	4			X		X			X				X						
	SE-2			0716	↓	↓			↓		↓			↓				↓						
	NE-1			0722																				
	NE-2			0726																				
	NW-1			0735																				
	NW-2			0744																				
	SW-1			0748																				
	SW-2			0754	↓	↓			↓		↓			↓				↓						

Relinquished by: (Signature)	Received by: (Signature/Affiliation)	Date:	Time:
Dale Strieter	[signature]	05/02/08	1145
[signature]	[signature] CEL	05/02/08	1445

DISTRIBUTION: White with final report, Green and Yellow to Client.
Please note that pages 1 and 2 of 2 of our T/Cs are printed on the reverse side of the green and Yellow copies respectively.

05/01/07 Revision

Calscience Environmental Laboratories, Inc.

WORK ORDER #: 08 - 05 - 0237

Cooler 1 of 1

SAMPLE RECEIPT FORM

CLIENT: PATRIOT DATE: 05/02/08

TEMPERATURE – SAMPLES RECEIVED BY:

CALSCIENCE COURIER:

- ____ Chilled, cooler with temperature blank provided.
- ____ Chilled, cooler without temperature blank.
- ✓ Chilled and placed in cooler with wet ice.
- ____ Ambient and placed in cooler with wet ice.
- ____ Ambient temperature.

LABORATORY (Other than Calscience Courier):

- ____ °C Temperature blank.
- ____ °C IR thermometer.
- ____ Ambient temperature.

3.7 °C Temperature blank. Initial: RB

CUSTODY SEAL INTACT:

Sample(s): ____ Cooler: ____ No (Not Intact) : ____ Not Present: ✓

Initial: RB

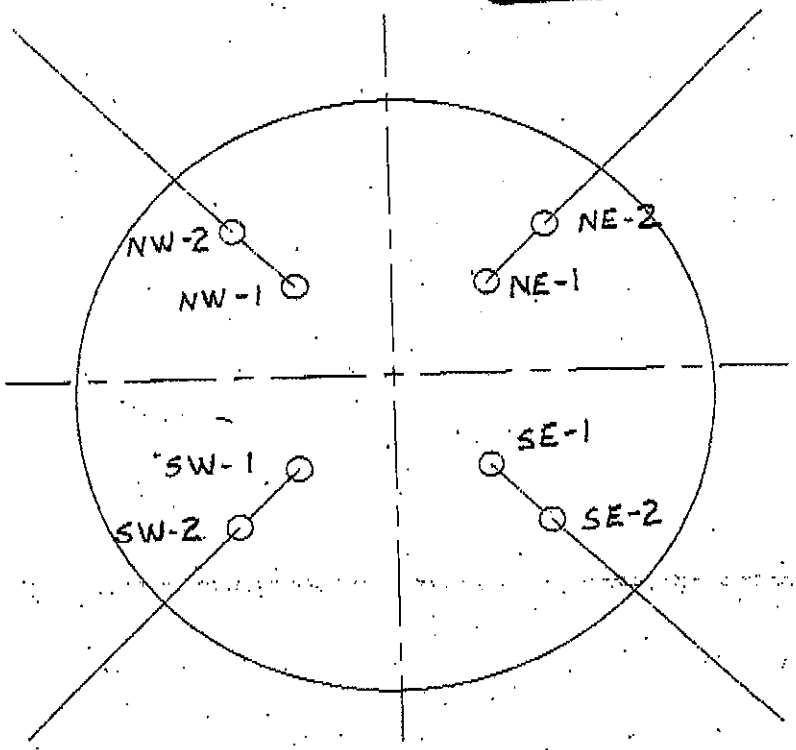
SAMPLE CONDITION:

	Yes	No	N/A
Chain-Of-Custody document(s) received with samples	✓		
Sampler's name indicated on COC	✓		
Sample container label(s) consistent with custody papers	✓		
Sample container(s) intact and good condition	✓		
Correct containers and volume for analyses requested	✓		
Proper preservation noted on sample label(s)			✓
VOA vial(s) free of headspace.			✓
Tedlar bag(s) free of condensation			✓

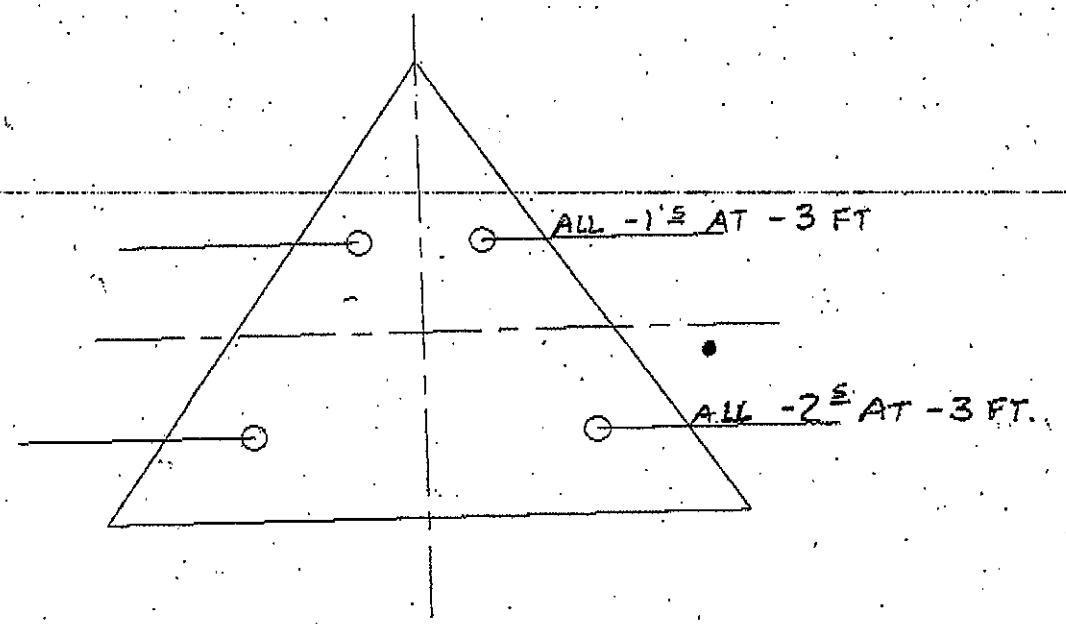
Initial: RB

COMMENTS:

W.A. RASIC



Plan View



Elevation

Omega - Stockpile Soil Composite Sampling

CDM

Appendix C.4

September 02, 2008
Excavated Soil
Analytical Results

Calscience Environmental Laboratories, Inc.

September 02, 2008

Dale Strieter
Patriot Environmental Services
1900 West Anaheim St.
Long Beach, CA 90813-4043

Subject: **Calscience Work Order No.: 08-08-1527**
Client Reference: WAR-OMEGA / LB80

Dear Client:

Enclosed is an analytical report for the above-referenced project. The samples included in this report were received 8/18/2008 and analyzed in accordance with the attached chain-of-custody.

Unless otherwise noted, all analytical testing was accomplished in accordance with the guidelines established in our Quality Systems Manual, applicable standard operating procedures, and other related documentation. The original report of subcontracted analysis, if any, is provided herein, and follows the standard Calscience data package. The results in this analytical report are limited to the samples tested and any reproduction thereof must be made in its entirety.

If you have any questions regarding this report, please do not hesitate to contact the undersigned.

Sincerely,

Calscience Environmental
Laboratories, Inc.
Stephen Nowak
Project Manager

Calscience Environmental Laboratories, Inc.

Analytical Report

Patriot Environmental Services
1900 West Anaheim St.
Long Beach, CA 90813-4043

Date Received: 08/18/08
Work Order No: 08-08-1527
Preparation: EPA 1311
Method: EPA 6010B / EPA 7470A
Units: mg/L

Project: WAR-OMEGA / LB80

Client Sample Number	Lab Sample Number	Date /Time Collected	Matrix	Instrument	Date Prepared	Date/Time Analyzed	QC Batch ID
NE-1	**08-08-1527-1-A**	**08/18/08 07:18**	**Solid**	**ICP 5300**	**08/18/08**	**08/20/08 13:04**	**080819LA1**

Comment(s): -Mercury was analyzed on 8/19/2008 1:35:01 PM with batch 080819L02

Parameter	Result	RL	DF	Qual	Parameter	Result	RL	DF	Qual
Arsenic	ND	0.150	1		Lead	ND	0.100	1	
Barium	1.26	0.100	1		Mercury	ND	0.00500	1	
Cadmium	ND	0.0500	1		Selenium	ND	0.150	1	
Chromium	ND	0.0500	1		Silver	ND	0.0500	1	

NE-2	**08-08-1527-2-A**	**08/18/08 07:24**	**Solid**	**ICP 5300**	**08/18/08**	**08/20/08 13:06**	**080819LA1**

Comment(s): -Mercury was analyzed on 8/19/2008 1:37:12 PM with batch 080819L02

Parameter	Result	RL	DF	Qual	Parameter	Result	RL	DF	Qual
Arsenic	ND	0.150	1		Lead	ND	0.100	1	
Barium	1.28	0.100	1		Mercury	ND	0.00500	1	
Cadmium	ND	0.0500	1		Selenium	ND	0.150	1	
Chromium	ND	0.0500	1		Silver	ND	0.0500	1	

NW-1	**08-08-1527-3-A**	**08/18/08 07:32**	**Solid**	**ICP 5300**	**08/18/08**	**08/20/08 13:13**	**080819LA1**

Comment(s): -Mercury was analyzed on 8/19/2008 1:43:54 PM with batch 080819L02

Parameter	Result	RL	DF	Qual	Parameter	Result	RL	DF	Qual
Arsenic	ND	0.150	1		Lead	ND	0.100	1	
Barium	1.23	0.100	1		Mercury	ND	0.00500	1	
Cadmium	ND	0.0500	1		Selenium	ND	0.150	1	
Chromium	ND	0.0500	1		Silver	ND	0.0500	1	

NW-2	**08-08-1527-4-A**	**08/18/08 07:40**	**Solid**	**ICP 5300**	**08/18/08**	**08/20/08 13:15**	**080819LA1**

Comment(s): -Mercury was analyzed on 8/19/2008 1:46:05 PM with batch 080819L02

Parameter	Result	RL	DF	Qual	Parameter	Result	RL	DF	Qual
Arsenic	ND	0.150	1		Lead	ND	0.100	1	
Barium	1.43	0.100	1		Mercury	ND	0.00500	1	
Cadmium	ND	0.0500	1		Selenium	ND	0.150	1	
Chromium	ND	0.0500	1		Silver	ND	0.0500	1	

SE-1	**08-08-1527-5-A**	**08/18/08 07:46**	**Solid**	**ICP 5300**	**08/18/08**	**08/20/08 13:17**	**080819LA1**

Comment(s): -Mercury was analyzed on 8/19/2008 1:48:18 PM with batch 080819L02

Parameter	Result	RL	DF	Qual	Parameter	Result	RL	DF	Qual
Arsenic	ND	0.150	1		Lead	ND	0.100	1	
Barium	1.34	0.100	1		Mercury	ND	0.00500	1	
Cadmium	ND	0.0500	1		Selenium	ND	0.150	1	
Chromium	ND	0.0500	1		Silver	ND	0.0500	1	

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

Calscience Environmental Laboratories, Inc.

Analytical Report

Patriot Environmental Services
1900 West Anaheim St.
Long Beach, CA 90813-4043

Date Received: 08/18/08
Work Order No: 08-08-1527
Preparation: EPA 1311
Method: EPA 6010B / EPA 7470A
Units: mg/L

Project: WAR-OMEGA / LB80

Client Sample Number	Lab Sample Number	Date /Time Collected	Matrix	Instrument	Date Prepared	Date/Time Analyzed	QC Batch ID
SE-2	**08-08-1527-6-A**	**08/18/08 07:33**	**Solid**	**ICP 5300**	**08/18/08**	**08/20/08 13:19**	**080819LA1**

Comment(s): -Mercury was analyzed on 8/19/2008 1:50:31 PM with batch 080819L02

Parameter	Result	RL	DF	Qual	Parameter	Result	RL	DF	Qual
Arsenic	ND	0.150	1		Lead	ND	0.100	1	
Barium	1.51	0.100	1		Mercury	ND	0.00500	1	
Cadmium	ND	0.0500	1		Selenium	ND	0.150	1	
Chromium	ND	0.0500	1		Silver	ND	0.0500	1	

SW-1	**08-08-1527-7-A**	**08/18/08 07:58**	**Solid**	**ICP 5300**	**08/18/08**	**08/20/08 13:21**	**080819LA1**

Comment(s): -Mercury was analyzed on 8/19/2008 1:52:44 PM with batch 080819L02

Parameter	Result	RL	DF	Qual	Parameter	Result	RL	DF	Qual
Arsenic	ND	0.150	1		Lead	ND	0.100	1	
Barium	1.34	0.100	1		Mercury	ND	0.00500	1	
Cadmium	ND	0.0500	1		Selenium	ND	0.150	1	
Chromium	ND	0.0500	1		Silver	ND	0.0500	1	

SW-2	**08-08-1527-8-A**	**08/18/08 08:05**	**Solid**	**ICP 5300**	**08/18/08**	**08/20/08 13:23**	**080819LA1**

Comment(s): -Mercury was analyzed on 8/19/2008 1:54:58 PM with batch 080819L02

Parameter	Result	RL	DF	Qual	Parameter	Result	RL	DF	Qual
Arsenic	ND	0.150	1		Lead	ND	0.100	1	
Barium	1.32	0.100	1		Mercury	ND	0.00500	1	
Cadmium	ND	0.0500	1		Selenium	ND	0.150	1	
Chromium	ND	0.0500	1		Silver	ND	0.0500	1	

Method Blank	**099-04-002-1,571**	**N/A**	**Solid**	**Mercury**	**08/18/08**	**08/19/08 13:19**	**080819L02**

Parameter	Result	RL	DF	Qual
Mercury	ND	0.00500	1	

Method Blank	**097-05-001-3,729**	**N/A**	**Solid**	**ICP 5300**	**08/18/08**	**08/20/08 12:47**	**080819LA1**

Parameter	Result	RL	DF	Qual	Parameter	Result	RL	DF	Qual
Arsenic	ND	0.150	1		Lead	ND	0.100	1	
Barium	ND	0.100	1		Selenium	ND	0.150	1	
Cadmium	ND	0.0500	1		Silver	ND	0.0500	1	
Chromium	ND	0.0500	1						

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

Calscience Environmental Laboratories, Inc.

Analytical Report

Patriot Environmental Services		Date Received:	08/18/08
1900 West Anaheim St.		Work Order No:	08-08-1527
Long Beach, CA 90813-4043		Preparation:	EPA 1311
		Method:	EPA 8081A
		Units:	ug/L
Project: WAR-OMEGA / LB80			Page 1 of 3

Client Sample Number	Lab Sample Number	Date/Time Collected	Matrix	Instrument	Date Prepared	Date/Time Analyzed	QC Batch ID
NE-1	**08-08-1527-1-A**	**08/18/08 07:18**	**Solid**	**GC 37**	**08/18/08**	**08/20/08 17:37**	**080819L05**

Parameter	Result	RL	DF	Qual	Parameter	Result	RL	DF	Qual
Gamma-BHC	ND	1.0	1		Methoxychlor	ND	1.0	1	
Heptachlor	ND	1.0	1		Chlordane	ND	10	1	
Heptachlor Epoxide	ND	1.0	1		Toxaphene	ND	10	1	
Endrin	ND	1.0	1						

Surrogates:	REC (%)	Control Limits	Qual	Surrogates:	REC (%)	Control Limits	Qual
Decachlorobiphenyl	91	50-135		2,4,5,6-Tetrachloro-m-Xylene	81	50-135	

NE-2	**08-08-1527-2-A**	**08/18/08 07:24**	**Solid**	**GC 37**	**08/18/08**	**08/20/08 18:05**	**080819L05**

Parameter	Result	RL	DF	Qual	Parameter	Result	RL	DF	Qual
Gamma-BHC	ND	1.0	1		Methoxychlor	ND	1.0	1	
Heptachlor	ND	1.0	1		Chlordane	ND	10	1	
Heptachlor Epoxide	ND	1.0	1		Toxaphene	ND	10	1	
Endrin	ND	1.0	1						

Surrogates:	REC (%)	Control Limits	Qual	Surrogates:	REC (%)	Control Limits	Qual
Decachlorobiphenyl	87	50-135		2,4,5,6-Tetrachloro-m-Xylene	78	50-135	

NW-1	**08-08-1527-3-A**	**08/18/08 07:32**	**Solid**	**GC 37**	**08/18/08**	**08/20/08 18:33**	**080819L05**

Parameter	Result	RL	DF	Qual	Parameter	Result	RL	DF	Qual
Gamma-BHC	ND	1.0	1		Methoxychlor	ND	1.0	1	
Heptachlor	ND	1.0	1		Chlordane	ND	10	1	
Heptachlor Epoxide	ND	1.0	1		Toxaphene	ND	10	1	
Endrin	ND	1.0	1						

Surrogates:	REC (%)	Control Limits	Qual	Surrogates:	REC (%)	Control Limits	Qual
Decachlorobiphenyl	90	50-135		2,4,5,6-Tetrachloro-m-Xylene	84	50-135	

NW-2	**08-08-1527-4-A**	**08/18/08 07:40**	**Solid**	**GC 37**	**08/18/08**	**08/20/08 19:01**	**080819L05**

Parameter	Result	RL	DF	Qual	Parameter	Result	RL	DF	Qual
Gamma-BHC	ND	1.0	1		Methoxychlor	ND	1.0	1	
Heptachlor	ND	1.0	1		Chlordane	ND	10	1	
Heptachlor Epoxide	ND	1.0	1		Toxaphene	ND	10	1	
Endrin	ND	1.0	1						

Surrogates:	REC (%)	Control Limits	Qual	Surrogates:	REC (%)	Control Limits	Qual
Decachlorobiphenyl	94	50-135		2,4,5,6-Tetrachloro-m-Xylene	82	50-135	

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

Calscience Environmental Laboratories, Inc.

Analytical Report

Patriot Environmental Services		Date Received:	08/18/08
1900 West Anaheim St.		Work Order No:	08-08-1527
Long Beach, CA 90813-4043		Preparation:	EPA 1311
		Method:	EPA 8081A
		Units:	ug/L
Project: WAR-OMEGA / LB80			Page 2 of 3

Client Sample Number	Lab Sample Number	Date/Time Collected	Matrix	Instrument	Date Prepared	Date/Time Analyzed	QC Batch ID
SE-1	**08-08-1527-5-A**	**08/18/08 07:46**	**Solid**	**GC 37**	**08/18/08**	**08/20/08 19:29**	**080819L05**

Parameter	Result	RL	DF	Qual	Parameter	Result	RL	DF	Qual
Gamma-BHC	ND	1.0	1		Methoxychlor	ND	1.0	1	
Heptachlor	ND	1.0	1		Chlordane	ND	10	1	
Heptachlor Epoxide	ND	1.0	1		Toxaphene	ND	10	1	
Endrin	ND	1.0	1						
Surrogates:	REC (%)	Control Limits		Qual	Surrogates:	REC (%)	Control Limits		Qual
Decachlorobiphenyl	89	50-135			2,4,5,6-Tetrachloro-m-Xylene	79	50-135		

SE-2	**08-08-1527-6-A**	**08/18/08 07:33**	**Solid**	**GC 37**	**08/18/08**	**08/20/08 19:57**	**080819L05**

Parameter	Result	RL	DF	Qual	Parameter	Result	RL	DF	Qual
Gamma-BHC	ND	1.0	1		Methoxychlor	ND	1.0	1	
Heptachlor	ND	1.0	1		Chlordane	ND	10	1	
Heptachlor Epoxide	ND	1.0	1		Toxaphene	ND	10	1	
Endrin	ND	1.0	1						
Surrogates:	REC (%)	Control Limits		Qual	Surrogates:	REC (%)	Control Limits		Qual
Decachlorobiphenyl	95	50-135			2,4,5,6-Tetrachloro-m-Xylene	86	50-135		

SW-1	**08-08-1527-7-A**	**08/18/08 07:58**	**Solid**	**GC 37**	**08/18/08**	**08/20/08 20:25**	**080819L05**

Parameter	Result	RL	DF	Qual	Parameter	Result	RL	DF	Qual
Gamma-BHC	ND	1.0	1		Methoxychlor	ND	1.0	1	
Heptachlor	ND	1.0	1		Chlordane	ND	10	1	
Heptachlor Epoxide	ND	1.0	1		Toxaphene	ND	10	1	
Endrin	ND	1.0	1						
Surrogates:	REC (%)	Control Limits		Qual	Surrogates:	REC (%)	Control Limits		Qual
Decachlorobiphenyl	96	50-135			2,4,5,6-Tetrachloro-m-Xylene	82	50-135		

SW-2	**08-08-1527-8-A**	**08/18/08 08:05**	**Solid**	**GC 37**	**08/18/08**	**08/20/08 20:53**	**080819L05**

Parameter	Result	RL	DF	Qual	Parameter	Result	RL	DF	Qual
Gamma-BHC	ND	1.0	1		Methoxychlor	ND	1.0	1	
Heptachlor	ND	1.0	1		Chlordane	ND	10	1	
Heptachlor Epoxide	ND	1.0	1		Toxaphene	ND	10	1	
Endrin	ND	1.0	1						
Surrogates:	REC (%)	Control Limits		Qual	Surrogates:	REC (%)	Control Limits		Qual
Decachlorobiphenyl	94	50-135			2,4,5,6-Tetrachloro-m-Xylene	83	50-135		

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

Calscience Environmental Laboratories, Inc.

Analytical Report

Patriot Environmental Services		Date Received:	08/18/08
1900 West Anaheim St.		Work Order No:	08-08-1527
Long Beach, CA 90813-4043		Preparation:	EPA 1311
		Method:	EPA 8081A
		Units:	ug/L
Project: WAR-OMEGA / LB80			Page 3 of 3

Client Sample Number	Lab Sample Number	Date/Time Collected	Matrix	Instrument	Date Prepared	Date/Time Analyzed	QC Batch ID
Method Blank	**095-01-012-42**	**N/A**	**Aqueous**	**GC 37**	**08/19/08**	**08/20/08 17:09**	**080819L05**

Parameter	Result	RL	DF	Qual	Parameter	Result	RL	DF	Qual
Gamma-BHC	ND	1.0	1		Methoxychlor	ND	1.0	1	
Heptachlor	ND	1.0	1		Chlordane	ND	10	1	
Heptachlor Epoxide	ND	1.0	1		Toxaphene	ND	10	1	
Endrin	ND	1.0	1						

Surrogates:	REC (%)	Control Limits	Qual	Surrogates:	REC (%)	Control Limits	Qual
Decachlorobiphenyl	85	50-135		2,4,5,6-Tetrachloro-m-Xylene	80	50-135	

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

Calscience Environmental Laboratories, Inc.

Analytical Report

Patriot Environmental Services		Date Received:	08/18/08
1900 West Anaheim St.		Work Order No:	08-08-1527
Long Beach, CA 90813-4043		Preparation:	EPA 1311
		Method:	EPA 8270C
		Units:	ug/L
Project: WAR-OMEGA / LB80			Page 1 of 3

Client Sample Number	Lab Sample Number	Date/Time Collected	Matrix	Instrument	Date Prepared	Date/Time Analyzed	QC Batch ID
NE-1	**08-08-1527-1-A**	**08/18/08 07:18**	**Solid**	**GC/MS SS**	**08/18/08**	**08/22/08 16:05**	**080819L02**

Parameter	Result	RL	DF	Qual	Parameter	Result	RL	DF	Qual
Pyridine	ND	250	1		Hexachloro-1,3-Butadiene	ND	250	1	
1,4-Dichlorobenzene	ND	250	1		2,4,6-Trichlorophenol	ND	250	1	
2-Methylphenol	ND	250	1		2,4,5-Trichlorophenol	ND	250	1	
3/4-Methylphenol	ND	250	1		2,4-Dinitrotoluene	ND	130	1	
Hexachloroethane	ND	250	1		Hexachlorobenzene	ND	130	1	
Nitrobenzene	ND	250	1		Pentachlorophenol	ND	500	1	

Surrogates:	REC (%)	Control Limits	Qual	Surrogates:	REC (%)	Control Limits	Qual
2-Fluorophenol	66	21-100		Phenol-d6	48	10-94	
Nitrobenzene-d5	90	35-114		2-Fluorobiphenyl	83	43-116	
2,4,6-Tribromophenol	96	10-123		p-Terphenyl-d14	98	33-141	

NE-2	**08-08-1527-2-A**	**08/18/08 07:24**	**Solid**	**GC/MS SS**	**08/18/08**	**08/21/08 21:15**	**080819L02**

Parameter	Result	RL	DF	Qual	Parameter	Result	RL	DF	Qual
Pyridine	ND	250	1		Hexachloro-1,3-Butadiene	ND	250	1	
1,4-Dichlorobenzene	ND	250	1		2,4,6-Trichlorophenol	ND	250	1	
2-Methylphenol	ND	250	1		2,4,5-Trichlorophenol	ND	250	1	
3/4-Methylphenol	ND	250	1		2,4-Dinitrotoluene	ND	130	1	
Hexachloroethane	ND	250	1		Hexachlorobenzene	ND	130	1	
Nitrobenzene	ND	250	1		Pentachlorophenol	ND	500	1	

Surrogates:	REC (%)	Control Limits	Qual	Surrogates:	REC (%)	Control Limits	Qual
2-Fluorophenol	67	21-100		Phenol-d6	48	10-94	
Nitrobenzene-d5	91	35-114		2-Fluorobiphenyl	87	43-116	
2,4,6-Tribromophenol	94	10-123		p-Terphenyl-d14	93	33-141	

NW-1	**08-08-1527-3-A**	**08/18/08 07:32**	**Solid**	**GC/MS SS**	**08/18/08**	**08/22/08 16:31**	**080819L02**

Parameter	Result	RL	DF	Qual	Parameter	Result	RL	DF	Qual
Pyridine	ND	250	1		Hexachloro-1,3-Butadiene	ND	250	1	
1,4-Dichlorobenzene	ND	250	1		2,4,6-Trichlorophenol	ND	250	1	
2-Methylphenol	ND	250	1		2,4,5-Trichlorophenol	ND	250	1	
3/4-Methylphenol	ND	250	1		2,4-Dinitrotoluene	ND	130	1	
Hexachloroethane	ND	250	1		Hexachlorobenzene	ND	130	1	
Nitrobenzene	ND	250	1		Pentachlorophenol	ND	500	1	

Surrogates:	REC (%)	Control Limits	Qual	Surrogates:	REC (%)	Control Limits	Qual
2-Fluorophenol	70	21-100		Phenol-d6	50	10-94	
Nitrobenzene-d5	89	35-114		2-Fluorobiphenyl	85	43-116	
2,4,6-Tribromophenol	92	10-123		p-Terphenyl-d14	96	33-141	

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

Calscience Environmental Laboratories, Inc.

Analytical Report

Patriot Environmental Services		Date Received:	08/18/08
1900 West Anaheim St.		Work Order No:	08-08-1527
Long Beach, CA 90813-4043		Preparation:	EPA 1311
		Method:	EPA 8270C
		Units:	ug/L
Project: WAR-OMEGA / LB80			Page 2 of 3

Client Sample Number	Lab Sample Number	Date/Time Collected	Matrix	Instrument	Date Prepared	Date/Time Analyzed	QC Batch ID
NW-2	**08-08-1527-4-A**	**08/18/08 07:40**	**Solid**	**GC/MS SS**	**08/18/08**	**08/22/08 16:57**	**080819L02**

Parameter	Result	RL	DF	Qual	Parameter	Result	RL	DF	Qual
Pyridine	ND	250	1		Hexachloro-1,3-Butadiene	ND	250	1	
1,4-Dichlorobenzene	ND	250	1		2,4,6-Trichlorophenol	ND	250	1	
2-Methylphenol	ND	250	1		2,4,5-Trichlorophenol	ND	250	1	
3/4-Methylphenol	ND	250	1		2,4-Dinitrotoluene	ND	130	1	
Hexachloroethane	ND	250	1		Hexachlorobenzene	ND	130	1	
Nitrobenzene	ND	250	1		Pentachlorophenol	ND	500	1	

Surrogates:	REC (%)	Control Limits	Qual	Surrogates:	REC (%)	Control Limits	Qual
2-Fluorophenol	70	21-100		Phenol-d6	50	10-94	
Nitrobenzene-d5	89	35-114		2-Fluorobiphenyl	82	43-116	
2,4,6-Tribromophenol	94	10-123		p-Terphenyl-d14	96	33-141	

SE-1	**08-08-1527-5-A**	**08/18/08 07:46**	**Solid**	**GC/MS SS**	**08/18/08**	**08/22/08 17:23**	**080819L02**

Parameter	Result	RL	DF	Qual	Parameter	Result	RL	DF	Qual
Pyridine	ND	250	1		Hexachloro-1,3-Butadiene	ND	250	1	
1,4-Dichlorobenzene	ND	250	1		2,4,6-Trichlorophenol	ND	250	1	
2-Methylphenol	ND	250	1		2,4,5-Trichlorophenol	ND	250	1	
3/4-Methylphenol	ND	250	1		2,4-Dinitrotoluene	ND	130	1	
Hexachloroethane	ND	250	1		Hexachlorobenzene	ND	130	1	
Nitrobenzene	ND	250	1		Pentachlorophenol	ND	500	1	

Surrogates:	REC (%)	Control Limits	Qual	Surrogates:	REC (%)	Control Limits	Qual
2-Fluorophenol	73	21-100		Phenol-d6	51	10-94	
Nitrobenzene-d5	88	35-114		2-Fluorobiphenyl	84	43-116	
2,4,6-Tribromophenol	89	10-123		p-Terphenyl-d14	92	33-141	

SE-2	**08-08-1527-6-A**	**08/18/08 07:33**	**Solid**	**GC/MS SS**	**08/18/08**	**08/22/08 17:49**	**080819L02**

Parameter	Result	RL	DF	Qual	Parameter	Result	RL	DF	Qual
Pyridine	ND	250	1		Hexachloro-1,3-Butadiene	ND	250	1	
1,4-Dichlorobenzene	ND	250	1		2,4,6-Trichlorophenol	ND	250	1	
2-Methylphenol	ND	250	1		2,4,5-Trichlorophenol	ND	250	1	
3/4-Methylphenol	ND	250	1		2,4-Dinitrotoluene	ND	130	1	
Hexachloroethane	ND	250	1		Hexachlorobenzene	ND	130	1	
Nitrobenzene	ND	250	1		Pentachlorophenol	ND	500	1	

Surrogates:	REC (%)	Control Limits	Qual	Surrogates:	REC (%)	Control Limits	Qual
2-Fluorophenol	79	21-100		Phenol-d6	56	10-94	
Nitrobenzene-d5	95	35-114		2-Fluorobiphenyl	91	43-116	
2,4,6-Tribromophenol	95	10-123		p-Terphenyl-d14	98	33-141	

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

Calscience Environmental Laboratories, Inc.

Analytical Report

Patriot Environmental Services		Date Received:	08/18/08
1900 West Anaheim St.		Work Order No:	08-08-1527
Long Beach, CA 90813-4043		Preparation:	EPA 1311
		Method:	EPA 8270C
		Units:	ug/L
Project: WAR-OMEGA / LB80			Page 3 of 3

Client Sample Number	Lab Sample Number	Date/Time Collected	Matrix	Instrument	Date Prepared	Date/Time Analyzed	QC Batch ID
SW-1	**08-08-1527-7-A**	**08/18/08 07:58**	**Solid**	**GC/MS SS**	**08/18/08**	**08/22/08 18:15**	**080819L02**

Parameter	Result	RL	DF	Qual	Parameter	Result	RL	DF	Qual
Pyridine	ND	250	1		Hexachloro-1,3-Butadiene	ND	250	1	
1,4-Dichlorobenzene	ND	250	1		2,4,6-Trichlorophenol	ND	250	1	
2-Methylphenol	ND	250	1		2,4,5-Trichlorophenol	ND	250	1	
3/4-Methylphenol	ND	250	1		2,4-Dinitrotoluene	ND	130	1	
Hexachloroethane	ND	250	1		Hexachlorobenzene	ND	130	1	
Nitrobenzene	ND	250	1		Pentachlorophenol	ND	500	1	

Surrogates:	REC (%)	Control Limits	Qual	Surrogates:	REC (%)	Control Limits	Qual
2-Fluorophenol	73	21-100		Phenol-d6	51	10-94	
Nitrobenzene-d5	82	35-114		2-Fluorobiphenyl	78	43-116	
2,4,6-Tribromophenol	81	10-123		p-Terphenyl-d14	86	33-141	

SW-2	**08-08-1527-8-A**	**08/18/08 08:05**	**Solid**	**GC/MS SS**	**08/18/08**	**08/22/08 18:42**	**080819L02**

Parameter	Result	RL	DF	Qual	Parameter	Result	RL	DF	Qual
Pyridine	ND	250	1		Hexachloro-1,3-Butadiene	ND	250	1	
1,4-Dichlorobenzene	ND	250	1		2,4,6-Trichlorophenol	ND	250	1	
2-Methylphenol	ND	250	1		2,4,5-Trichlorophenol	ND	250	1	
3/4-Methylphenol	ND	250	1		2,4-Dinitrotoluene	ND	130	1	
Hexachloroethane	ND	250	1		Hexachlorobenzene	ND	130	1	
Nitrobenzene	ND	250	1		Pentachlorophenol	ND	500	1	

Surrogates:	REC (%)	Control Limits	Qual	Surrogates:	REC (%)	Control Limits	Qual
2-Fluorophenol	87	21-100		Phenol-d6	63	10-94	
Nitrobenzene-d5	93	35-114		2-Fluorobiphenyl	86	43-116	
2,4,6-Tribromophenol	92	10-123		p-Terphenyl-d14	96	33-141	

Method Blank	**096-02-007-1,040**	**N/A**	**Aqueous**	**GC/MS SS**	**08/19/08**	**08/21/08 18:38**	**080819L02**

Parameter	Result	RL	DF	Qual	Parameter	Result	RL	DF	Qual
Pyridine	ND	250	1		Hexachloro-1,3-Butadiene	ND	250	1	
1,4-Dichlorobenzene	ND	250	1		2,4,6-Trichlorophenol	ND	250	1	
2-Methylphenol	ND	250	1		2,4,5-Trichlorophenol	ND	250	1	
3/4-Methylphenol	ND	250	1		2,4-Dinitrotoluene	ND	130	1	
Hexachloroethane	ND	250	1		Hexachlorobenzene	ND	130	1	
Nitrobenzene	ND	250	1		Pentachlorophenol	ND	500	1	

Surrogates:	REC (%)	Control Limits	Qual	Surrogates:	REC (%)	Control Limits	Qual
2-Fluorophenol	64	21-100		Phenol-d6	44	10-94	
Nitrobenzene-d5	99	35-114		2-Fluorobiphenyl	97	43-116	
2,4,6-Tribromophenol	98	10-123		p-Terphenyl-d14	102	33-141	

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

Calscience Environmental Laboratories, Inc.

Analytical Report

Patriot Environmental Services		Date Received:	08/18/08
1900 West Anaheim St.		Work Order No:	08-08-1527
Long Beach, CA 90813-4043		Preparation:	EPA 3545
		Method:	EPA 8270C(M) Isotope Dilution
Project: WAR-OMEGA / LB80			Page 1 of 3

Client Sample Number	Lab Sample Number	Date/Time Collected	Matrix	Instrument	Date Prepared	Date/Time Analyzed	QC Batch ID
NE-1	**08-08-1527-1-A**	**08/18/08 07:18**	**Solid**	**GC/MS Y**	**08/20/08**	**08/21/08 11:44**	**080820L02D**

Parameter	Result	RL	DF	Qual	Units
1,4-Dioxane	ND	0.20	1		mg/kg

Surrogates:	REC (%)	Control Limits	Qual
Nitrobenzene-d5	89	28-139	

Client Sample Number	Lab Sample Number	Date/Time Collected	Matrix	Instrument	Date Prepared	Date/Time Analyzed	QC Batch ID
NE-2	**08-08-1527-2-A**	**08/18/08 07:24**	**Solid**	**GC/MS Y**	**08/20/08**	**08/21/08 12:12**	**080820L02D**

Parameter	Result	RL	DF	Qual	Units
1,4-Dioxane	ND	0.20	1		mg/kg

Surrogates:	REC (%)	Control Limits	Qual
Nitrobenzene-d5	83	28-139	

Client Sample Number	Lab Sample Number	Date/Time Collected	Matrix	Instrument	Date Prepared	Date/Time Analyzed	QC Batch ID
NW-1	**08-08-1527-3-A**	**08/18/08 07:32**	**Solid**	**GC/MS Y**	**08/20/08**	**08/21/08 12:40**	**080820L02D**

Parameter	Result	RL	DF	Qual	Units
1,4-Dioxane	ND	0.20	1		mg/kg

Surrogates:	REC (%)	Control Limits	Qual
Nitrobenzene-d5	85	28-139	

Client Sample Number	Lab Sample Number	Date/Time Collected	Matrix	Instrument	Date Prepared	Date/Time Analyzed	QC Batch ID
NW-2	**08-08-1527-4-A**	**08/18/08 07:40**	**Solid**	**GC/MS Y**	**08/20/08**	**08/21/08 13:08**	**080820L02D**

Parameter	Result	RL	DF	Qual	Units
1,4-Dioxane	ND	0.20	1		mg/kg

Surrogates:	REC (%)	Control Limits	Qual
Nitrobenzene-d5	61	28-139	

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

Calscience Environmental Laboratories, Inc.

Analytical Report

Patriot Environmental Services		Date Received:	08/18/08
1900 West Anaheim St.		Work Order No:	08-08-1527
Long Beach, CA 90813-4043		Preparation:	EPA 3545
		Method:	EPA 8270C(M) Isotope Dilution
Project: WAR-OMEGA / LB80			Page 2 of 3

Client Sample Number	Lab Sample Number	Date/Time Collected	Matrix	Instrument	Date Prepared	Date/Time Analyzed	QC Batch ID
SE-1	**08-08-1527-5-A**	**08/18/08 07:46**	**Solid**	**GC/MS Y**	**08/20/08**	**08/21/08 13:35**	**080820L02D**

Parameter	Result	RL	DF	Qual	Units
1,4-Dioxane	ND	0.20	1		mg/kg

Surrogates:	REC (%)	Control Limits	Qual
Nitrobenzene-d5	79	28-139	

Client Sample Number	Lab Sample Number	Date/Time Collected	Matrix	Instrument	Date Prepared	Date/Time Analyzed	QC Batch ID
SE-2	**08-08-1527-6-A**	**08/18/08 07:33**	**Solid**	**GC/MS Y**	**08/20/08**	**08/21/08 14:03**	**080820L02D**

Parameter	Result	RL	DF	Qual	Units
1,4-Dioxane	ND	0.20	1		mg/kg

Surrogates:	REC (%)	Control Limits	Qual
Nitrobenzene-d5	93	28-139	

Client Sample Number	Lab Sample Number	Date/Time Collected	Matrix	Instrument	Date Prepared	Date/Time Analyzed	QC Batch ID
SW-1	**08-08-1527-7-A**	**08/18/08 07:58**	**Solid**	**GC/MS Y**	**08/20/08**	**08/21/08 14:31**	**080820L02D**

Parameter	Result	RL	DF	Qual	Units
1,4-Dioxane	ND	0.20	1		mg/kg

Surrogates:	REC (%)	Control Limits	Qual
Nitrobenzene-d5	78	28-139	

Client Sample Number	Lab Sample Number	Date/Time Collected	Matrix	Instrument	Date Prepared	Date/Time Analyzed	QC Batch ID
SW-2	**08-08-1527-8-A**	**08/18/08 08:05**	**Solid**	**GC/MS Y**	**08/20/08**	**08/21/08 14:59**	**080820L02D**

Parameter	Result	RL	DF	Qual	Units
1,4-Dioxane	ND	0.20	1		mg/kg

Surrogates:	REC (%)	Control Limits	Qual
Nitrobenzene-d5	89	28-139	

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

Calscience Environmental Laboratories, Inc.

Analytical Report

Patriot Environmental Services		Date Received:	08/18/08
1900 West Anaheim St.		Work Order No:	08-08-1527
Long Beach, CA 90813-4043		Preparation:	EPA 3545
		Method:	EPA 8270C(M) Isotope Dilution
Project: WAR-OMEGA / LB80			Page 3 of 3

Client Sample Number	Lab Sample Number	Date/Time Collected	Matrix	Instrument	Date Prepared	Date/Time Analyzed	QC Batch ID
Method Blank	**099-09-005-173**	**N/A**	**Solid**	**GC/MS Y**	**08/20/08**	**08/21/08 11:16**	**080820L02D**

Parameter	Result	RL	DF	Qual	Units
1,4-Dioxane	ND	0.20	1		mg/kg

Surrogates:	REC (%)	Control Limits	Qual
Nitrobenzene-d5	90	28-139	

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

Calscience Environmental Laboratories, Inc.

Analytical Report

Patriot Environmental Services		Date Received:	08/18/08
1900 West Anaheim St.		Work Order No:	08-08-1527
Long Beach, CA 90813-4043		Preparation:	EPA 1311
		Method:	EPA 8151A
		Units:	ug/L
Project: WAR-OMEGA / LB80			Page 1 of 2

Client Sample Number	Lab Sample Number	Date/Time Collected	Matrix	Instrument	Date Prepared	Date/Time Analyzed	QC Batch ID
NE-1	**08-08-1527-1-A**	**08/18/08 07:18**	**Solid**	**GC 40**	**08/19/08**	**08/21/08 12:46**	**080919L06**

Parameter	Result	RL	DF	Qual	Parameter	Result	RL	DF	Qual
2,4-D	ND	50	1		2,4,5-TP (Silvex)	ND	5.0	1	

Surrogates:	REC (%)	Control Limits	Qual
2,4-Dichlorophenylacetic acid	18	0-123	

Client Sample Number	Lab Sample Number	Date/Time Collected	Matrix	Instrument	Date Prepared	Date/Time Analyzed	QC Batch ID
NE-2	**08-08-1527-2-A**	**08/18/08 07:24**	**Solid**	**GC 40**	**08/19/08**	**08/21/08 13:18**	**080919L06**

Parameter	Result	RL	DF	Qual	Parameter	Result	RL	DF	Qual
2,4-D	ND	50	1		2,4,5-TP (Silvex)	ND	5.0	1	

Surrogates:	REC (%)	Control Limits	Qual
2,4-Dichlorophenylacetic acid	17	0-123	

Client Sample Number	Lab Sample Number	Date/Time Collected	Matrix	Instrument	Date Prepared	Date/Time Analyzed	QC Batch ID
NW-1	**08-08-1527-3-A**	**08/18/08 07:32**	**Solid**	**GC 40**	**08/19/08**	**08/21/08 17:04**	**080919L06**

Parameter	Result	RL	DF	Qual	Parameter	Result	RL	DF	Qual
2,4-D	ND	50	1		2,4,5-TP (Silvex)	ND	5.0	1	

Surrogates:	REC (%)	Control Limits	Qual
2,4-Dichlorophenylacetic acid	16	0-123	

Client Sample Number	Lab Sample Number	Date/Time Collected	Matrix	Instrument	Date Prepared	Date/Time Analyzed	QC Batch ID
NW-2	**08-08-1527-4-A**	**08/18/08 07:40**	**Solid**	**GC 40**	**08/19/08**	**08/21/08 17:37**	**080919L06**

Parameter	Result	RL	DF	Qual	Parameter	Result	RL	DF	Qual
2,4-D	ND	50	1		2,4,5-TP (Silvex)	ND	5.0	1	

Surrogates:	REC (%)	Control Limits	Qual
2,4-Dichlorophenylacetic acid	17	0-123	

Client Sample Number	Lab Sample Number	Date/Time Collected	Matrix	Instrument	Date Prepared	Date/Time Analyzed	QC Batch ID
SE-1	**08-08-1527-5-A**	**08/18/08 07:46**	**Solid**	**GC 40**	**08/19/08**	**08/21/08 14:55**	**080919L06**

Parameter	Result	RL	DF	Qual	Parameter	Result	RL	DF	Qual
2,4-D	ND	50	1		2,4,5-TP (Silvex)	ND	5.0	1	

Surrogates:	REC (%)	Control Limits	Qual
2,4-Dichlorophenylacetic acid	22	0-123	

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

Calscience Environmental Laboratories, Inc.

Analytical Report

Patriot Environmental Services		Date Received:	08/18/08
1900 West Anaheim St.		Work Order No:	08-08-1527
Long Beach, CA 90813-4043		Preparation:	EPA 1311
		Method:	EPA 8151A
		Units:	ug/L
Project: WAR-OMEGA / LB80			Page 2 of 2

Client Sample Number	Lab Sample Number	Date/Time Collected	Matrix	Instrument	Date Prepared	Date/Time Analyzed	QC Batch ID
SE-2	**08-08-1527-6-A**	**08/18/08 07:33**	**Solid**	**GC 40**	**08/19/08**	**08/21/08 18:09**	**080919L06**

Parameter	Result	RL	DF	Qual	Parameter	Result	RL	DF	Qual
2,4-D	ND	50	1		2,4,5-TP (Silvex)	ND	5.0	1	

Surrogates:	REC (%)	Control Limits	Qual
2,4-Dichlorophenylacetic acid	24	0-123	

Client Sample Number	Lab Sample Number	Date/Time Collected	Matrix	Instrument	Date Prepared	Date/Time Analyzed	QC Batch ID
SW-1	**08-08-1527-7-A**	**08/18/08 07:58**	**Solid**	**GC 40**	**08/19/08**	**08/21/08 16:00**	**080919L06**

Parameter	Result	RL	DF	Qual	Parameter	Result	RL	DF	Qual
2,4-D	ND	50	1		2,4,5-TP (Silvex)	ND	5.0	1	

Surrogates:	REC (%)	Control Limits	Qual
2,4-Dichlorophenylacetic acid	35	0-123	

Client Sample Number	Lab Sample Number	Date/Time Collected	Matrix	Instrument	Date Prepared	Date/Time Analyzed	QC Batch ID
SW-2	**08-08-1527-8-A**	**08/18/08 08:05**	**Solid**	**GC 40**	**08/19/08**	**08/21/08 18:41**	**080919L06**

Parameter	Result	RL	DF	Qual	Parameter	Result	RL	DF	Qual
2,4-D	ND	50	1		2,4,5-TP (Silvex)	ND	5.0	1	

Surrogates:	REC (%)	Control Limits	Qual	Surrogates:	REC (%)	Control Limits	Qual
2,4-Dichlorophenylacetic acid	27	0-123					

Client Sample Number	Lab Sample Number	Date/Time Collected	Matrix	Instrument	Date Prepared	Date/Time Analyzed	QC Batch ID
Method Blank	**099-12-097-8**	**N/A**	**Aqueous**	**GC 40**	**08/19/08**	**08/21/08 11:09**	**080919L06**

Parameter	Result	RL	DF	Qual	Parameter	Result	RL	DF	Qual
2,4-D	ND	50	1		2,4,5-TP (Silvex)	ND	5.0	1	

Surrogates:	REC (%)	Control Limits	Qual	Surrogates:	REC (%)	Control Limits	Qual
2,4-Dichlorophenylacetic acid	19	0-123	2				

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

Calscience Environmental Laboratories, Inc.

Analytical Report

Patriot Environmental Services		Date Received:	08/18/08
1900 West Anaheim St.		Work Order No:	08-08-1527
Long Beach, CA 90813-4043		Preparation:	EPA 1311
		Method:	EPA 8260B
		Units:	ug/L
Project: WAR-OMEGA / LB80			Page 1 of 3

Client Sample Number	Lab Sample Number	Date/Time Collected	Matrix	Instrument	Date Prepared	Date/Time Analyzed	QC Batch ID
NE-1	**08-08-1527-1-A**	**08/18/08 07:18**	**Solid**	**GC/MS S**	**08/18/08**	**08/20/08 01:39**	**080819L05**

Parameter	Result	RL	DF	Qual	Parameter	Result	RL	DF	Qual
Benzene	ND	50	1		1,2-Dichloroethane	ND	50	1	
2-Butanone	ND	1000	1		1,1-Dichloroethene	ND	100	1	
Carbon Tetrachloride	ND	50	1		Tetrachloroethene	ND	100	1	
Chlorobenzene	ND	100	1		Trichloroethene	ND	100	1	
Chloroform	ND	100	1		Vinyl Chloride	ND	50	1	
1,4-Dichlorobenzene	ND	100	1						

Surrogates:	REC (%)	Control Limits	Qual	Surrogates:	REC (%)	Control Limits	Qual
Dibromofluoromethane	104	82-130		1,2-Dichloroethane-d4	105	75-141	
Toluene-d8	100	83-113		1,4-Bromofluorobenzene	97	70-118	

NE-2	**08-08-1527-2-A**	**08/18/08 07:24**	**Solid**	**GC/MS S**	**08/18/08**	**08/20/08 02:09**	**080819L05**

Parameter	Result	RL	DF	Qual	Parameter	Result	RL	DF	Qual
Benzene	ND	50	1		1,2-Dichloroethane	ND	50	1	
2-Butanone	ND	1000	1		1,1-Dichloroethene	ND	100	1	
Carbon Tetrachloride	ND	50	1		Tetrachloroethene	ND	100	1	
Chlorobenzene	ND	100	1		Trichloroethene	ND	100	1	
Chloroform	ND	100	1		Vinyl Chloride	ND	50	1	
1,4-Dichlorobenzene	ND	100	1						

Surrogates:	REC (%)	Control Limits	Qual	Surrogates:	REC (%)	Control Limits	Qual
Dibromofluoromethane	102	82-130		1,2-Dichloroethane-d4	104	75-141	
Toluene-d8	99	83-113		1,4-Bromofluorobenzene	96	70-118	

NW-1	**08-08-1527-3-A**	**08/18/08 07:32**	**Solid**	**GC/MS S**	**08/18/08**	**08/20/08 02:39**	**080819L05**

Parameter	Result	RL	DF	Qual	Parameter	Result	RL	DF	Qual
Benzene	ND	50	1		1,2-Dichloroethane	ND	50	1	
2-Butanone	ND	1000	1		1,1-Dichloroethene	ND	100	1	
Carbon Tetrachloride	ND	50	1		Tetrachloroethene	ND	100	1	
Chlorobenzene	ND	100	1		Trichloroethene	ND	100	1	
Chloroform	ND	100	1		Vinyl Chloride	ND	50	1	
1,4-Dichlorobenzene	ND	100	1						

Surrogates:	REC (%)	Control Limits	Qual	Surrogates:	REC (%)	Control Limits	Qual
Dibromofluoromethane	107	82-130		1,2-Dichloroethane-d4	107	75-141	
Toluene-d8	100	83-113		1,4-Bromofluorobenzene	95	70-118	

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

Calscience Environmental Laboratories, Inc.

Analytical Report

Patriot Environmental Services		Date Received:	08/18/08
1900 West Anaheim St.		Work Order No:	08-08-1527
Long Beach, CA 90813-4043		Preparation:	EPA 1311
		Method:	EPA 8260B
		Units:	ug/L
Project: WAR-OMEGA / LB80			Page 2 of 3

Client Sample Number	Lab Sample Number	Date/Time Collected	Matrix	Instrument	Date Prepared	Date/Time Analyzed	QC Batch ID
NW-2	**08-08-1527-4-A**	**08/18/08 07:40**	**Solid**	**GC/MS S**	**08/18/08**	**08/20/08 03:09**	**080819L05**

Parameter	Result	RL	DF	Qual	Parameter	Result	RL	DF	Qual
Benzene	ND	50	1		1,2-Dichloroethane	ND	50	1	
2-Butanone	ND	1000	1		1,1-Dichloroethene	ND	100	1	
Carbon Tetrachloride	ND	50	1		Tetrachloroethene	ND	100	1	
Chlorobenzene	ND	100	1		Trichloroethene	ND	100	1	
Chloroform	ND	100	1		Vinyl Chloride	ND	50	1	
1,4-Dichlorobenzene	ND	100	1						

Surrogates:	REC (%)	Control Limits	Qual	Surrogates:	REC (%)	Control Limits	Qual
Dibromofluoromethane	105	82-130		1,2-Dichloroethane-d4	103	75-141	
Toluene-d8	100	83-113		1,4-Bromofluorobenzene	95	70-118	

SE-1	**08-08-1527-5-A**	**08/18/08 07:46**	**Solid**	**GC/MS S**	**08/18/08**	**08/20/08 03:40**	**080819L05**

Parameter	Result	RL	DF	Qual	Parameter	Result	RL	DF	Qual
Benzene	ND	50	1		1,2-Dichloroethane	ND	50	1	
2-Butanone	ND	1000	1		1,1-Dichloroethene	ND	100	1	
Carbon Tetrachloride	ND	50	1		Tetrachloroethene	ND	100	1	
Chlorobenzene	ND	100	1		Trichloroethene	ND	100	1	
Chloroform	ND	100	1		Vinyl Chloride	ND	50	1	
1,4-Dichlorobenzene	ND	100	1						

Surrogates:	REC (%)	Control Limits	Qual	Surrogates:	REC (%)	Control Limits	Qual
Dibromofluoromethane	103	82-130		1,2-Dichloroethane-d4	103	75-141	
Toluene-d8	99	83-113		1,4-Bromofluorobenzene	94	70-118	

SE-2	**08-08-1527-6-A**	**08/18/08 07:33**	**Solid**	**GC/MS S**	**08/18/08**	**08/20/08 04:10**	**080819L05**

Parameter	Result	RL	DF	Qual	Parameter	Result	RL	DF	Qual
Benzene	ND	50	1		1,2-Dichloroethane	ND	50	1	
2-Butanone	ND	1000	1		1,1-Dichloroethene	ND	100	1	
Carbon Tetrachloride	ND	50	1		Tetrachloroethene	ND	100	1	
Chlorobenzene	ND	100	1		Trichloroethene	ND	100	1	
Chloroform	ND	100	1		Vinyl Chloride	ND	50	1	
1,4-Dichlorobenzene	ND	100	1						

Surrogates:	REC (%)	Control Limits	Qual	Surrogates:	REC (%)	Control Limits	Qual
Dibromofluoromethane	103	82-130		1,2-Dichloroethane-d4	101	75-141	
Toluene-d8	100	83-113		1,4-Bromofluorobenzene	93	70-118	

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

Calscience Environmental Laboratories, Inc.

Analytical Report

Patriot Environmental Services		Date Received:	08/18/08
1900 West Anaheim St.		Work Order No:	08-08-1527
Long Beach, CA 90813-4043		Preparation:	EPA 1311
		Method:	EPA 8260B
		Units:	ug/L
Project: WAR-OMEGA / LB80			Page 3 of 3

Client Sample Number	Lab Sample Number	Date/Time Collected	Matrix	Instrument	Date Prepared	Date/Time Analyzed	QC Batch ID
SW-1	**08-08-1527-7-A**	**08/18/08 07:58**	**Solid**	**GC/MS S**	**08/18/08**	**08/20/08 04:40**	**080819L05**

Parameter	Result	RL	DF	Qual	Parameter	Result	RL	DF	Qual
Benzene	ND	50	1		1,2-Dichloroethane	ND	50	1	
2-Butanone	ND	1000	1		1,1-Dichloroethene	ND	100	1	
Carbon Tetrachloride	ND	50	1		Tetrachloroethene	ND	100	1	
Chlorobenzene	ND	100	1		Trichloroethene	ND	100	1	
Chloroform	ND	100	1		Vinyl Chloride	ND	50	1	
1,4-Dichlorobenzene	ND	100	1						

Surrogates:	REC (%)	Control Limits	Qual	Surrogates:	REC (%)	Control Limits	Qual
Dibromofluoromethane	101	82-130		1,2-Dichloroethane-d4	104	75-141	
Toluene-d8	99	83-113		1,4-Bromofluorobenzene	94	70-118	

SW-2	**08-08-1527-8-A**	**08/18/08 08:05**	**Solid**	**GC/MS S**	**08/18/08**	**08/20/08 05:10**	**080819L05**

Parameter	Result	RL	DF	Qual	Parameter	Result	RL	DF	Qual
Benzene	ND	50	1		1,2-Dichloroethane	ND	50	1	
2-Butanone	ND	1000	1		1,1-Dichloroethene	ND	100	1	
Carbon Tetrachloride	ND	50	1		Tetrachloroethene	ND	100	1	
Chlorobenzene	ND	100	1		Trichloroethene	ND	100	1	
Chloroform	ND	100	1		Vinyl Chloride	ND	50	1	
1,4-Dichlorobenzene	ND	100	1						

Surrogates:	REC (%)	Control Limits	Qual	Surrogates:	REC (%)	Control Limits	Qual
Dibromofluoromethane	105	82-130		1,2-Dichloroethane-d4	104	75-141	
Toluene-d8	100	83-113		1,4-Bromofluorobenzene	94	70-118	

Method Blank	**099-10-006-26,629**	**N/A**	**Aqueous**	**GC/MS S**	**08/18/08**	**08/20/08 00:38**	**080819L05**

Parameter	Result	RL	DF	Qual	Parameter	Result	RL	DF	Qual
Benzene	ND	50	1		1,2-Dichloroethane	ND	50	1	
2-Butanone	ND	1000	1		1,1-Dichloroethene	ND	100	1	
Carbon Tetrachloride	ND	50	1		Tetrachloroethene	ND	100	1	
Chlorobenzene	ND	100	1		Trichloroethene	ND	100	1	
Chloroform	ND	100	1		Vinyl Chloride	ND	50	1	
1,4-Dichlorobenzene	ND	100	1						

Surrogates:	REC (%)	Control Limits	Qual	Surrogates:	REC (%)	Control Limits	Qual
Dibromofluoromethane	101	82-130		1,2-Dichloroethane-d4	102	75-141	
Toluene-d8	99	83-113		1,4-Bromofluorobenzene	96	70-118	

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

Calscience Environmental Laboratories, Inc.

Quality Control - Spike/Spike Duplicate

Patriot Environmental Services
1900 West Anaheim St.
Long Beach, CA 90813-4043

Date Received:	08/18/08
Work Order No:	08-08-1527
Preparation:	EPA 1311
Method:	EPA 6010B

Project WAR-OMEGA / LB80

Quality Control Sample ID	Matrix	Instrument	Date Prepared	Date Analyzed	MS/MSD Batch Number
08-08-1418-1	**Solid**	**ICP 5300**	**08/18/08**	**08/20/08**	**080819SA1**

Parameter	MS %REC	MSD %REC	%REC CL	RPD	RPD CL	Qualifiers
Arsenic	94	98	75-125	4	0-20	
Barium	98	101	75-125	3	0-20	
Cadmium	100	103	75-125	3	0-20	
Chromium	91	94	75-125	3	0-20	
Lead	102	106	75-125	4	0-20	
Selenium	98	104	75-125	5	0-20	
Silver	94	97	75-125	3	0-20	

RPD - Relative Percent Difference , CL - Control Limit

Calscience Environmental Laboratories, Inc.

Quality Control - Spike/Spike Duplicate

Patriot Environmental Services
1900 West Anaheim St.
Long Beach, CA 90813-4043

Date Received:	08/18/08
Work Order No:	08-08-1527
Preparation:	EPA 1311
Method:	EPA 7470A

Project WAR-OMEGA / LB80

Quality Control Sample ID	Matrix	Instrument	Date Prepared	Date Analyzed	MS/MSD Batch Number
08-08-1418-1	**Solid**	**Mercury**	**08/18/08**	**08/19/08**	**080819S02**

Parameter	MS %REC	MSD %REC	%REC CL	RPD	RPD CL	Qualifiers
Mercury	96	96	71-134	0	0-14	

RPD - Relative Percent Difference , CL - Control Limit

Calscience Environmental Laboratories, Inc.

Quality Control - Spike/Spike Duplicate

Patriot Environmental Services
1900 West Anaheim St.
Long Beach, CA 90813-4043

Date Received:	08/18/08
Work Order No:	08-08-1527
Preparation:	EPA 1311
Method:	EPA 8081A

Project WAR-OMEGA / LB80

Quality Control Sample ID	Matrix	Instrument	Date Prepared	Date Analyzed	MS/MSD Batch Number
NE-2	**Solid**	**GC 37**	**08/18/08**	**08/20/08**	**080819S05**

Parameter	MS %REC	MSD %REC	%REC CL	RPD	RPD CL	Qualifiers
Gamma-BHC	85	81	50-135	5	0-25	
Heptachlor	85	81	50-135	5	0-25	
Endrin	75	73	50-135	3	0-25	

RPD - Relative Percent Difference , CL - Control Limit

Calscience Environmental Laboratories, Inc.

Quality Control - Spike/Spike Duplicate

Patriot Environmental Services
1900 West Anaheim St.
Long Beach, CA 90813-4043

Date Received:	08/18/08
Work Order No:	08-08-1527
Preparation:	EPA 1311
Method:	EPA 8270C

Project WAR-OMEGA / LB80

Quality Control Sample ID	Matrix	Instrument	Date Prepared	Date Analyzed	MS/MSD Batch Number
NE-2	**Solid**	**GC/MS SS**	**08/19/08**	**08/21/08**	**080819S02**

Parameter	MS %REC	MSD %REC	%REC CL	RPD	RPD CL	Qualifiers
Phenol	42	41	20-120	2	0-42	
2-Chlorophenol	91	90	23-134	2	0-40	
1,4-Dichlorobenzene	94	93	20-124	0	0-28	
N-Nitroso-di-n-propylamine	98	96	0-230	3	0-38	
1,2,4-Trichlorobenzene	91	91	44-142	1	0-28	
Acenaphthene	96	93	47-145	3	0-31	
2,4-Dinitrotoluene	93	90	39-139	4	0-38	

RPD - Relative Percent Difference , CL - Control Limit

Calscience Environmental Laboratories, Inc.

Quality Control - Spike/Spike Duplicate

Patriot Environmental Services
1900 West Anaheim St.
Long Beach, CA 90813-4043

Date Received: 08/18/08
Work Order No: 08-08-1527
Preparation: EPA 3545
Method: EPA 8270C(M) Isotope Dilution

Project WAR-OMEGA / LB80

Quality Control Sample ID	Matrix	Instrument	Date Prepared	Date Analyzed	MS/MSD Batch Number
NW-1	**Solid**	**GC/MS Y**	**08/20/08**	**08/20/08**	**080820S02D**

Parameter	MS %REC	MSD %REC	%REC CL	RPD	RPD CL	Qualifiers
1,4-Dioxane	100	97	50-130	2	0-20	

RPD - Relative Percent Difference , CL - Control Limit

Calscience Environmental Laboratories, Inc.

Quality Control - Spike/Spike Duplicate

Patriot Environmental Services
1900 West Anaheim St.
Long Beach, CA 90813-4043

Date Received:	08/18/08
Work Order No:	08-08-1527
Preparation:	EPA 1311
Method:	EPA 8151A

Project WAR-OMEGA / LB80

Quality Control Sample ID	Matrix	Instrument	Date Prepared	Date Analyzed	MS/MSD Batch Number
NW-1	**Solid**	**GC 40**	**08/19/08**	**08/21/08**	**080819S06**

Parameter	MS %REC	MSD %REC	%REC CL	RPD	RPD CL	Qualifiers
2,4-D	86	76	30-130	12	0-30	
2,4,5-T	98	93	30-130	5	0-30	
2,4-DB	40	35	30-130	14	0-30	

RPD - Relative Percent Difference , CL - Control Limit

Calscience Environmental Laboratories, Inc.

Quality Control - Spike/Spike Duplicate

Patriot Environmental Services
1900 West Anaheim St.
Long Beach, CA 90813-4043

Date Received:	08/18/08
Work Order No:	08-08-1527
Preparation:	EPA 1311
Method:	EPA 8260B

Project WAR-OMEGA / LB80

Quality Control Sample ID	Matrix	Instrument	Date Prepared	Date Analyzed	MS/MSD Batch Number
08-08-1019-1	**Solid**	**GC/MS S**	**08/12/08**	**08/19/08**	**080819S02**

Parameter	MS %REC	MSD %REC	%REC CL	RPD	RPD CL	Qualifiers
Benzene	95	94	88-118	1	0-7	
Carbon Tetrachloride	85	92	67-145	7	0-11	
Chlorobenzene	97	97	88-118	0	0-7	
1,2-Dibromoethane	100	99	70-130	1	0-30	
1,2-Dichlorobenzene	97	95	86-116	2	0-8	
1,1-Dichloroethene	89	92	70-130	3	0-25	
Ethylbenzene	100	99	70-130	1	0-30	
Toluene	97	97	87-123	0	0-8	
Trichloroethene	96	95	79-127	1	0-10	
Vinyl Chloride	92	93	69-129	1	0-13	
Methyl-t-Butyl Ether (MTBE)	95	98	71-131	4	0-13	
Tert-Butyl Alcohol (TBA)	85	87	36-168	3	0-45	
Diisopropyl Ether (DIPE)	92	105	81-123	13	0-9	4
Ethyl-t-Butyl Ether (ETBE)	102	103	72-126	1	0-12	
Tert-Amyl-Methyl Ether (TAME)	99	100	72-126	1	0-12	
Ethanol	83	79	53-149	6	0-31	

RPD - Relative Percent Difference , CL - Control Limit

Calscience Environmental Laboratories, Inc.

Quality Control - Laboratory Control Sample

Patriot Environmental Services		Date Received:	N/A
1900 West Anaheim St.		Work Order No:	08-08-1527
Long Beach, CA 90813-4043		Preparation:	EPA 1311
		Method:	EPA 6010B

Project: WAR-OMEGA / LB80

Quality Control Sample ID	Matrix	Instrument	Date Analyzed	Lab File ID	LCS Batch Number
097-05-001-3,729	**Solid**	**ICP 5300**	**08/20/08**	**080819-l a1**	**080819LA1**

Parameter	Conc Added	Conc Recovered	LCS %Rec	%Rec CL	Qualifiers
Arsenic	5.00	4.80	96	80-120	
Barium	5.00	5.30	106	80-120	
Cadmium	5.00	5.15	103	80-120	
Chromium	5.00	4.93	99	80-120	
Lead	5.00	5.33	107	80-120	
Selenium	5.00	4.74	95	80-120	
Silver	2.50	2.46	98	80-120	

RPD - Relative Percent Difference , CL - Control Limit

Calscience Environmental Laboratories, Inc.

Quality Control - LCS/LCS Duplicate

Patriot Environmental Services		Date Received:	N/A
1900 West Anaheim St.		Work Order No:	08-08-1527
Long Beach, CA 90813-4043		Preparation:	EPA 1311
		Method:	EPA 7470A

Project: WAR-OMEGA / LB80

Quality Control Sample ID	Matrix	Instrument	Date Prepared	Date Analyzed	LCS/LCSD Batch Number
099-04-002-1,571	**Solid**	**Mercury**	**08/18/08**	**08/19/08**	**080819L02**

Parameter	LCS %REC	LCSD %REC	%REC CL	RPD	RPD CL	Qualifiers
Mercury	97	97	90-122	0	0-14	

RPD - Relative Percent Difference , CL - Control Limit

Calscience Environmental Laboratories, Inc.

Quality Control - LCS/LCS Duplicate

Patriot Environmental Services		Date Received:	N/A
1900 West Anaheim St.		Work Order No:	08-08-1527
Long Beach, CA 90813-4043		Preparation:	EPA 1311
		Method:	EPA 8081A

Project: WAR-OMEGA / LB80

Quality Control Sample ID	Matrix	Instrument	Date Prepared	Date Analyzed	LCS/LCSD Batch Number
095-01-012-42	**Aqueous**	**GC 37**	**08/19/08**	**08/20/08**	**080819L05**

Parameter	LCS %REC	LCSD %REC	%REC CL	RPD	RPD CL	Qualifiers
Gamma-BHC	64	69	50-135	8	0-25	
Heptachlor	68	71	50-135	4	0-25	
Endrin	73	64	50-135	14	0-25	

RPD - Relative Percent Difference , CL - Control Limit

Calscience Environmental Laboratories, Inc.

Quality Control - LCS/LCS Duplicate

Patriot Environmental Services
1900 West Anaheim St.
Long Beach, CA 90813-4043

Date Received: N/A
Work Order No: 08-08-1527
Preparation: EPA 1311
Method: EPA 8270C

Project: WAR-OMEGA / LB80

Quality Control Sample ID	Matrix	Instrument	Date Prepared	Date Analyzed	LCS/LCSD Batch Number
096-02-007-1,040	**Aqueous**	**GC/MS SS**	**08/19/08**	**08/21/08**	**080819L02**

Parameter	LCS %REC	LCSD %REC	%REC CL	RPD	RPD CL	Qualifiers
Phenol	43	43	20-120	0	0-42	
2-Chlorophenol	94	94	23-134	0	0-40	
1,4-Dichlorobenzene	94	93	20-124	0	0-28	
N-Nitroso-di-n-propylamine	101	99	0-230	1	0-38	
1,2,4-Trichlorobenzene	90	89	44-142	0	0-28	
Acenaphthene	94	94	47-145	0	0-31	
2,4-Dinitrotoluene	92	91	39-139	1	0-38	

RPD - Relative Percent Difference , CL - Control Limit

Calscience Environmental Laboratories, Inc.

Quality Control - LCS/LCS Duplicate

Patriot Environmental Services
1900 West Anaheim St.
Long Beach, CA 90813-4043

Date Received: N/A
Work Order No: 08-08-1527
Preparation: EPA 3545
Method: EPA 8270C(M) Isotope Dilution

Project: WAR-OMEGA / LB80

Quality Control Sample ID	Matrix	Instrument	Date Prepared	Date Analyzed	LCS/LCSD Batch Number
099-09-005-173	**Solid**	**GC/MS Y**	**08/20/08**	**08/21/08**	**080820L02D**

Parameter	LCS %REC	LCSD %REC	%REC CL	RPD	RPD CL	Qualifiers
1,4-Dioxane	108	97	50-130	11	0-20	

RPD - Relative Percent Difference , CL - Control Limit

Calscience Environmental Laboratories, Inc.

Quality Control - LCS/LCS Duplicate

Patriot Environmental Services		Date Received:	N/A
1900 West Anaheim St.		Work Order No:	08-08-1527
Long Beach, CA 90813-4043		Preparation:	EPA 1311
		Method:	EPA 8151A

Project: WAR-OMEGA / LB80

Quality Control Sample ID	Matrix	Instrument	Date Prepared	Date Analyzed	LCS/LCSD Batch Number
099-12-097-8	**Aqueous**	**GC 40**	**08/19/08**	**08/21/08**	**080919L06**

Parameter	LCS %REC	LCSD %REC	%REC CL	RPD	RPD CL	Qualifiers
2,4-D	91	79	30-130	14	0-30	
2,4,5-T	106	102	30-130	4	0-30	
2,4-DB	42	38	30-130	8	0-30	

RPD - Relative Percent Difference , CL - Control Limit

Calscience Environmental Laboratories, Inc.

Quality Control - LCS/LCS Duplicate

Patriot Environmental Services		Date Received:	N/A
1900 West Anaheim St.		Work Order No:	08-08-1527
Long Beach, CA 90813-4043		Preparation:	EPA 5030B
		Method:	EPA 8260B

Project: WAR-OMEGA / LB80

Quality Control Sample ID	Matrix	Instrument	Date Prepared	Date Analyzed	LCS/LCSD Batch Number
099-10-006-26,629	**Aqueous**	**GC/MS S**	**08/19/08**	**08/19/08**	**080819L05**

Parameter	LCS %REC	LCSD %REC	%REC CL	ME_CL	RPD	RPD CL	Qualifiers
Benzene	94	94	84-120	78-126	0	0-8	
Carbon Tetrachloride	89	84	63-147	49-161	6	0-10	
Chlorobenzene	96	95	89-119	84-124	1	0-7	
1,2-Dibromoethane	98	98	80-120	73-127	0	0-20	
1,2-Dichlorobenzene	94	94	89-119	84-124	0	0-9	
1,1-Dichloroethene	92	89	77-125	69-133	4	0-16	
Ethylbenzene	97	96	80-120	73-127	1	0-20	
Toluene	96	96	83-125	76-132	1	0-9	
Trichloroethene	98	98	89-119	84-124	0	0-8	
Vinyl Chloride	87	92	63-135	51-147	5	0-13	
Methyl-t-Butyl Ether (MTBE)	99	94	82-118	76-124	4	0-13	
Tert-Butyl Alcohol (TBA)	87	81	46-154	28-172	8	0-32	
Diisopropyl Ether (DIPE)	105	99	81-123	74-130	6	0-11	
Ethyl-t-Butyl Ether (ETBE)	96	97	74-122	66-130	1	0-12	
Tert-Amyl-Methyl Ether (TAME)	100	99	76-124	68-132	1	0-10	
Ethanol	94	87	60-138	47-151	8	0-32	

Total number of LCS compounds : 16

Total number of ME compounds : 0

Total number of ME compounds allowed : 1

LCS ME CL validation result : Pass

RPD - Relative Percent Difference , CL - Control Limit

Calscience Environmental Laboratories, Inc.

Glossary of Terms and Qualifiers

Work Order Number: 08-08-1527

Qualifier	Definition
*	See applicable analysis comment.
1	Surrogate compound recovery was out of control due to a required sample dilution, therefore, the sample data was reported without further clarification.
2	Surrogate compound recovery was out of control due to matrix interference. The associated method blank surrogate spike compound was in control and, therefore, the sample data was reported without further clarification.
3	Recovery of the Matrix Spike (MS) or Matrix Spike Duplicate (MSD) compound was out of control due to matrix interference. The associated LCS and/or LCSD was in control and, therefore, the sample data was reported without further clarification.
4	The MS/MSD RPD was out of control due to matrix interference. The LCS/LCSD RPD was in control and, therefore, the sample data was reported without further clarification.
5	The PDS/PDSD associated with this batch of samples was out of control due to a matrix interference effect. The associated batch LCS/LCSD was in control and, hence, the associated sample data was reported with no further corrective action required.
A	Result is the average of all dilutions, as defined by the method.
B	Analyte was present in the associated method blank.
C	Analyte presence was not confirmed on primary column.
E	Concentration exceeds the calibration range.
H	Sample received and/or analyzed past the recommended holding time.
J	Analyte was detected at a concentration below the reporting limit and above the laboratory method detection limit. Reported value is estimated.
ME	LCS Recovery Percentage is within LCS ME Control Limit range.
N	Nontarget Analyte.
ND	Parameter not detected at the indicated reporting limit.
Q	Spike recovery and RPD control limits do not apply resulting from the parameter concentration in the sample exceeding the spike concentration by a factor of four or greater.
U	Undetected at the laboratory method detection limit.
X	% Recovery and/or RPD out-of-range.
Z	Analyte presence was not confirmed by second column or GC/MS analysis.

CALSCIENCE ENVIRONMENTAL LABORATORIES, INC.
7440 LINCOLN WAY
GARDEN GROVE, CA 92841-1427
TEL: (714) 895-5494 • FAX: (714) 894-7501

CHAIN OF CUSTODY RECORD

Date 8/18/08

Page 1 of 1

LABORATORY CLIENT: PATRIOT ENVIRONMENTAL

ADDRESS:

CITY: LONG BEACH STATE: ZIP:

TEL: E-MAIL:

CLIENT PROJECT NAME / NUMBER: WAR-OMEGA / LB80

PROJECT CONTACT: DALE STRIETER

SAMPLER(S): (PRINT) DALE STRIETER

COELT LOG CODE

P.O. NO.:

LAB USE ONLY: 08-1527

COOLER RECEIPT TEMP = °C

TURNAROUND TIME: ☐ SAME DAY ☐ 24 HR ☐ 48 HR ☐ 72 HR ☐ 5 DAYS ☒ 10 DAYS

SPECIAL REQUIREMENTS (ADDITIONAL COSTS MAY APPLY): ☐ RWQCB REPORTING FORMS ☐ COELT EDF ☐

SPECIAL INSTRUCTIONS:

REQUESTED ANALYSES

LAB USE ONLY	SAMPLE ID	FIELD POINT NAME (FOR COELT EDF)	SAMPLING DATE	SAMPLING TIME	MATRIX	NO. OF CONT.	TPH (G)	TPH (D) or	BTEX / MTBE (8260B) or	OXYGENATES (8260B)	VOCs (8260B)	5035 ENCORE PREP	SVOCs (8270C) 1-4 DIOXANE	PEST (8081A)	PCBs (8082)	CAC, T22 METALS (6010B) / 747	PNAs (8310) or (8270C)	VOCs (TO-14A) or (TO-15)	TPH(G) (TO-3M)	TCLP SEE ATTACHED LIST				
	NE-1		8-18-08	0718	S	4							X							X				
	NE-2			0724																				
	NW-1			0732																				
	NW-2			0740																				
	SE-1			0746																				
	SE-2			0753																				
	SW-1			0758																				
	SW-2			0805																				

Relinquished by: (Signature)	Received by: (Signature/Affiliation)	Date:	Time:
Dale Strieter	[signature]	8/19/08	0848
Relinquished by: (Signature)	Received by: (Signature/Affiliation)	Date:	Time:
Relinquished by: (Signature)	Received by: (Signature/Affiliation)	Date:	Time:

DISTRIBUTION: White with final report, Green and Yellow to Client.
Please note that pages 1 and 2 of 2 of our T/Cs are printed on the reverse side of the Green and Yellow copies respectively.

05/10/06 Revision

Q&Q Graphic 714-898-9702

Calscience Environmental Laboratories, Inc.

WORK ORDER #: 08 - 0 8 - 1 5 2 7

Cooler 1 of 1

SAMPLE RECEIPT FORM

CLIENT: Patriot DATE: 8/18/08

TEMPERATURE – SAMPLES RECEIVED BY:

CALSCIENCE COURIER:

_____ Chilled, cooler with temperature blank provided.
_____ Chilled, cooler without temperature blank.
_____ Chilled and placed in cooler with wet ice.
_____ Ambient and placed in cooler with wet ice.
_____ Ambient temperature (For Air & Filter Only).
___ ___ . ___ °C Temperature blank.

LABORATORY (Other than Calscience Courier):

___ . ___ °C Temperature blank.
4 . 3 °C IR Thermometer.
_____ Ambient temperature (For Air & Filter Only).

Initial: JP

CUSTODY SEAL INTACT:

Sample(s): _____ Cooler: _____ No (Not Intact) : _____ Not Present: ✓

Initial: JP

SAMPLE CONDITION:

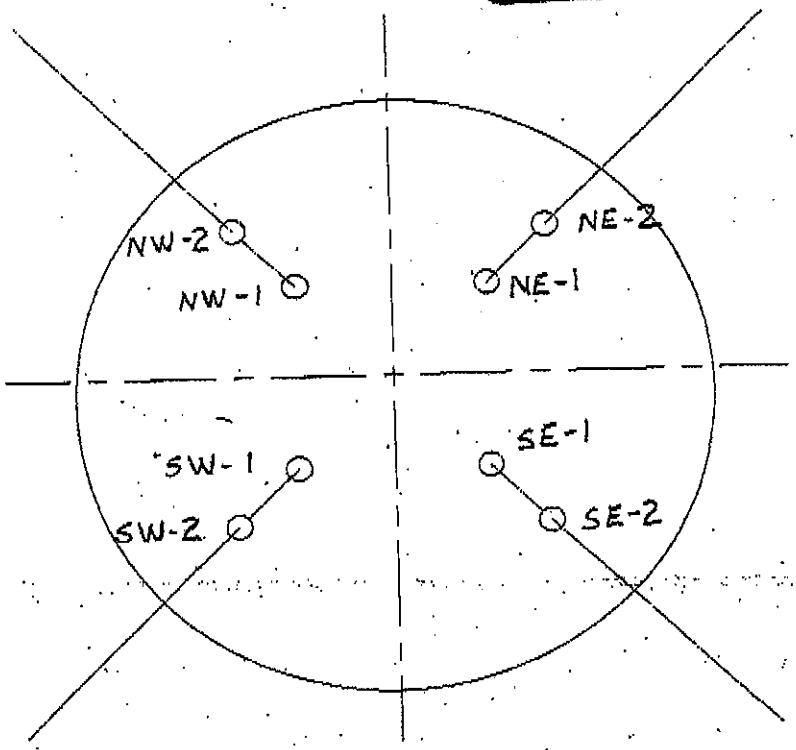
	Yes	No	N/A
Chain-Of-Custody document(s) received with samples	✓		
Sampler's name indicated on COC	✓		
Sample container label(s) consistent with custody papers	✓		
Sample container(s) intact and good condition	✓		
Correct containers and volume for analyses requested	✓		
Proper preservation noted on sample label(s)			✓
VOA vial(s) free of headspace.			✓
Tedlar bag(s) free of condensation			✓

Initial: JP

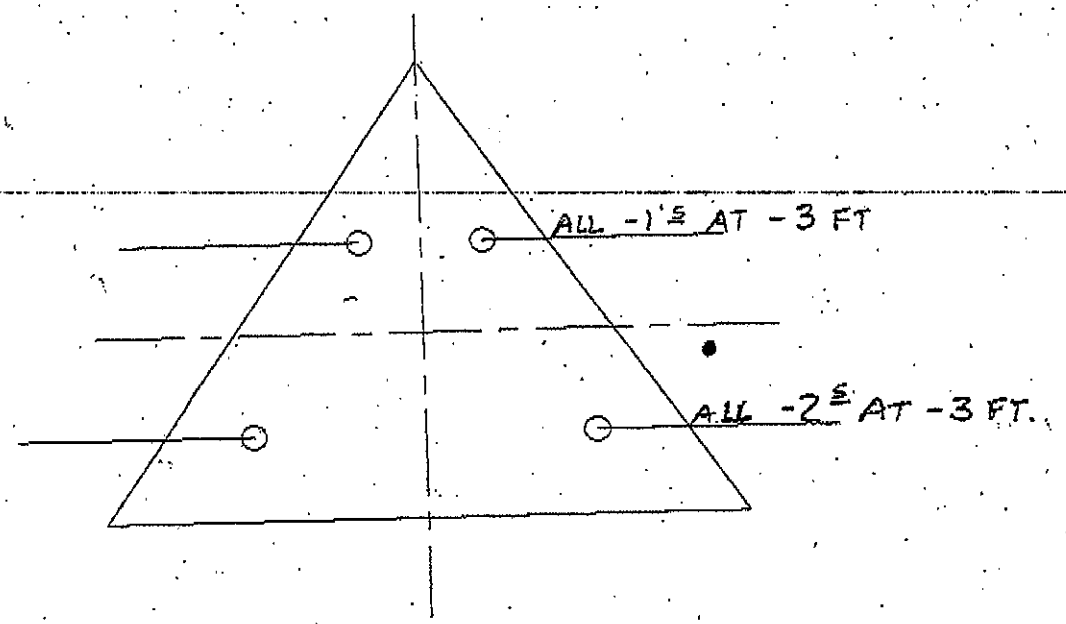
COMMENTS:

Encores
JP

W.A. RASIC



Plan View



Elevation

Omega - Stockpile Soil Composite Sampling

CDM

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Appendix D
Soil Disposal Records

Since the soils were characterized as non-hazardous, they were disposed of as construction debris to a local landfill. Manifests were not required for disposal and are not included in this Appendix.

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Appendix E
Startup and Shakedown Field Records

Appendix E.1

Flow Meter Calibration Report

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Flowtrace
A Division of The Conservtech Group

5885 Rickenbacker Road
Commerce, CA 90040
323-867-9044
fax: 323-867-9045

May 15, 2009

Ms. Karen E. Schwarz
CDM
523 West Sixth Street, Suite 400
Los Angeles, CA 90014

Subject: Effluent Flow Meter Hydraulic Calibration Report
(ref: Job # F08M544)

Facility: Omega Chemical
125020 Whittier Blvd.
Whittier, CA 90602-1019
I.W. Permit No. 63096

Dear Ms Schwarz,

Enclosed are two copies of the wastewater flow meter calibration report for the hydraulic test conducted on May 5, 2009 at the above referenced facility. Please have your client sign the original report on the last page where indicated and mail it to the Sanitation Districts with the cover letter addressed to Ramin Nur. The other copy is for your records.

The test was conducted using our standard test procedures and the meter was determined to be accurate to within ± 5% of the actual reading

We will contact you in advance of the next scheduled calibration. Once again, let me thank you for entrusting The Conservtech Group and its Flowtrace Division with your environmental needs. If you have any questions about this report or any of the environmental engineering services that we provide, I hope that you will not hesitate to contact me. I can be reached via e-mail at bob@conservtechgroup.com or by phone at 323-867-9044.

Best regards,

Robert J. MacDonald, P.E., CPP
President

Enclosures

RECEIVED
MAY 18 2009

Flowtrace
A Division of The Conservtech Group

5885 Rickenbacker Road
Commerce, CA 90040
323-867-9044
fax: 323-867-9045

May 15, 2009

Mr. Ramin Nur
County Sanitation Districts of Los Angeles County
1955 Workman Mill Road
P.O. Box 4998
Whittier, CA 90607-4998

Subject: Effluent Flow Meter Hydraulic Calibration Report

Facility: Omega Chemical
12520 Whittier Blvd.
Whittier, CA 90602
I.W. Permit No. 63096

Dear Mr. Nur,

Enclosed is our report on the effluent flow meter hydraulic calibration completed at the subject facility on May 5, 2009. The calibration was conducted in accordance with requirements of the County Sanitation Districts of Los Angeles County, and the meter was determined to be operating within ±5% accuracy limits for the entire range tested.

If you have any questions regarding these calibration reports, please contact me directly.

Sincerely,

Robert J. MacDonald, P.E., CPP
President

Enclosures

WASTEWATER FLOW METER
HYDRAULIC CALIBRATION

PREPARED BY

Flowtrace
A Division of The Conservtech Group

FOR

Omega Chemical
12520 Whittier Blvd.
Whittier, CA 90602

May 5, 2009

The Conservtech Group / Flowtrace Division | 5885 Rickenbacker Road | Commerce | California | 90040
phone: 323-867-9044 | fax: 323-867-9045

FLOW MONITORING SYSTEM CALIBRATION CHECK RECORD

Company Name: Omega Chemical
I.W. Permit No.: 63096
Discharge Address: 12520 Whittier Blvd. Whittier, Ca 90602
Mailing Address: 12520 Whittier Blvd. Whittier Ca 90602

Flow Monitoring System Description (state type, brand & size of primary element and sensor):

Please see Attachment

Recorder's 100% span = 100 GPM
Totalizer Units = 1 Gallons per count
Sampling Signal Contact Closure Frequency: 1 closure per --- gallons discharged.
Current Discharge Rate As Determined by Calibrating Engineer Avg = 40 GPM
Peak = 60 GPM

Calibration Check Results Date: 05/05/09 Type of Calibration: Instrumentation Hydraulic

CalibratingSystem		Existing Meter				% Error	
Flow Rate GPM	Total Discharge Gallons	Primary Element's Head (in.)	Flow Rate GPM Indicator	Flow Rate GPM Recorder	Total Discharge Gallons	Chart Recorder	Totalizer
81.1	197.1	--	82.5	--	200	--	1.5%
61.1	138.7	--	62.0	--	140	--	0.9%
40.0	97.2	--	41.0	--	100	--	2.9%

A copy of all data collected and of any calculations performed must be attached to this form.

Method of Calibration (attach additional sheets if necessary):
Please see Attachment

Corrective Measures (describe condition of flow meter prior to calibration and state if any adjustments were made):
Please see Attachment

Flow Monitoring System:

The system calibrated consisted of the following elements:

1. A Rosemount Magnet 8732, magnetic flow meter mounted in a 1-1/2" pipe.
2. A PLC recorder.

Method of Calibration:

1. The Halliburton 2" Test Turbine was connected to a point in the discharge line downstream of the meter.
2. Valves were adjusted to re-route the water flow to the test turbine.
3. At each flow rate tested, the existing meter totalizer was timed using an electronic stopwatch for a number of counts.
4. The volumes were then recorded and compared to determine the totalizer accuracy.
5. The chart recorder and indicator readings were also noted and compared to the average test flow rate.

Preliminary Inspection, Cleaning, and Adjustment:

No adjustments were necessary.

Wastewater Flowmeter Calibration

COMPANY:
Omega Chemical
DISCHARGE ADDRESS:
12520 Whittier Blvd. Whittier, Ca 90602
MAILING ADDRESS:
12520 Whittier Blvd. Whittier Ca 90602
CONTACT:

TELEPHONE: 562-577-2095

I.W.: 63096
Client-Job #: F08M544

DATE: 05/05/09

INSTRUMENTATION
HYDRAULIC X

CALIBRATION ENGINEER(S):
Yip / Enriquez

TEST EQUIPMENT:
2" Test Turbine

ELEMENT: 1-1/2" Pipeline
INSTRUMENT: Rosemount Magnet 8732
EQUATION: ---
K FACTOR: ---
RANGE (dist.): --- FT
RANGE (GPM): --- GPM
TOTALIZER (start): 1755
TOTALIZER (end): 2524
REC. (100%) GPM: 100 **
AVE. RATE: 40 PK Q: 60
SAMPLER: --- TOTALIZER (X): 1

COLUMN ID	A	x	B	=	C	D	-	E	=	F	G	H		I			
CALCULATION					A x B					(D - E)x10		G x **			(F - C) / C	(H - A) / A	(I - A) / A
TEST SYSTEM						TOTALIZER					CHART		INDICATOR		PERCENT ERROR		
HEAD (ft.)	Q (gpm)	x	TIME (m)	=	V (gal)	end	-	start	=	V (gal)	%	Q (gpm)	HEAD (in.)	Q (gpm)	Totalizer	Chart	Indicator
---	81.1	x	2.43	=	197.1	2004	-	1804	=	200	--	--	--	82.5	1.5%	--	1.7%
---	61.1	x	2.27	=	138.7	2292	-	2152	=	140	--	--	--	62.0	0.9%	--	1.5%
---	40.0	x	2.43	=	97.2	2470	-	2370	=	100	--	--	--	41.0	2.9%	--	2.5%

The Conservtech Group / Flowtrace Division | 5885 Rickenbacker Road | Commerce | California | 90040
phone: 323-867-9044 | fax: 323-867-9045

FLOW MONITORING SYSTEM MAINTENANCE RECORDS

Company Omega Chemical I.W. Permit No. 63096
Discharge Address 12520 Whittier Blvd. Whittier, Ca 90602
Mailing Address 12520 Whittier Blvd. Whittier Ca 90602
Name of Responsible Person 0 Telephone No. 562-577-2095

Recorders 100% Span: 100 GPM Totalizer: 1 Gallons Per Count

Sampling Socket's Pulse Interval --- Gallons Per Pulse Type of Flowmeter: Rosemount Magnet 8732

Recorder Chart Change Frequency: Daily ☐ Weekly ☐ Monthly ☒

REGULAR CLEANING, MAINTENANCE & CALIBRATION CHECKS					FLOW MONITORING DATA				
Primary Element Cleaned	Level Meas. Equipment Cleaned	Other (describe)	Date	By	Indicator (gpm)	Peak Flow from Recorder (gpm)	Totalizer Reading	Date	By
Hydraulic Calibration / Flowtrace Division of The Conservtech Group						Start: Stop:	1755 2524	05/05/09	Yip / Enriquez

FLOW MONITORING SYSTEM
CERTIFICATION OF CALIBRATION CHECK

Certification of Test Results by a California Registered Professional Engineer

I hereby certify that I am knowledgeable in the field of wastewater flow measurement and that I have supervised the calibration of the flow monitoring system as described on the previous page and also have reviewed and approved all details of the method of calibration. I consider the calibration method and procedures used to be technically sound, and assume professional responsibility for the validity and accuracy of the results reported.

(Signature)

Robert J. MacDonald, P.E.
(Full Name – Please Print or Type)

REGISTERED PROFESSIONAL ENGINEER
ROBERT J. MACDONALD
M 29874
Exp. 6/3/10
MECHANICAL
STATE OF CALIFORNIA

M29874	06/30/10	Mechanical	5/15/09
(Calif. RME No.)	(Expiration Date)	(Engineering Discipline)	(Date)

Certification of Test Results by an Administrative Official of the Company

Omega Chemical	63096
(Company Name)	(I.W. Permit No.)

I hereby certify that the flow monitoring system certified as properly calibrated (above), is so arranged and operated as to accurately measure and record the industrial wastewater flow to the sewer system.

(Signature)	(Date)
(Full Name - Please Print or Type)	(Administrative Position in Company)

DICK MUNNS COMPANY

Liquid and Gas - Flowmeter Calibration Service
10572 Calle Lee - 138 • Los Alamitos, California 90720
Telephone (714) 827-1215 • Telefax (714) 827-0823

CERTIFICATE OF CALIBRATION

Client Name:	CONSERVTECH	Calibration Date:	08-07-2008
Reference Number:	PO# 8318	Calibration Due:	08-07-2009
Instrument Manufacturer:	HALLIBURTON	Procedure:	NAVAIR-17-20MG-01
Instrument Description:	TURBINE METER	Calibration Fluid:	H20 @ 70F
Model Number:	458.99101	Standard(s) Used:	A33,A146 DUE 02-2011
Serial Number:	2SBF3677	NIST Traceability Per:	62693,737/3096
Rated Uncertainty:	+/- .5% RD	Ambient Conditions:	762 mmHGA 50% RH 71F
Uncertainty Given:	As rec.Within Specs.	Certificate/File:	420148.3677

	FREQ(HZ)	GPM	K FACTOR
1	19.52	21.678	54.027
2	30.32	33.357	54.537
3	41.39	45.614	54.444
4	52.15	57.485	54.432
5	63.54	70.053	54.422
6	84.12	92.750	54.417
7	108.38	119.575	54.383
8	134.84	148.716	54.402
9	175.36	193.441	54.392
10	208.20	229.590	54.410
11	235.94	260.112	54.424
12	264.12	291.317	54.398

** TOTAL NUMBER OF CALIBRATION POINTS = 12 **

All instruments used in the performance of the above calibration have direct traceability to the National Institute of Standards and Technology (NIST). The accuracy ratio between the calibration standards used and the unit under test is a minimum of 4:1, unless otherwise noted. Calibration has been performed per the above listed procedure number, in accordance with ISO 10012-1,17025, ANSI/NCSL-Z-540-1, and/or MIL-STD-45662A. CONDITION AS: RECEIVED( ), AS LEFT( ). MUST BE USED WITH ATTACHED DATA SHEET:( )YES, ( )NO:THIS IS PAGE 1 OF 1 UNLESS MARKED YES.

Calibration Performed By: J.ACOSTA

Approved By: R. D. Munns

This certificate may not be altered and may be reproduced only in its entirety.

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Appendix E.2

Completed Red Tag Forms

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Equipment Number: EW-1, EW-2, EW-3, EW-4, EW-5
Equipment Description: Extraction Well System
Issued: 05/28/06, Revised: 12/1/2009

EQUIPMENT READINESS / CHECK OUT REPORT (RED TAG)
EXTRATION WELLS

Readiness:

1	6-1-9 (EW5/5), 6-22-9	Mechanically complete, (field inspection)
2	6-1-9 (EW5/5), 6-22-9	Electrically complete, (blue tag, J. Joy)
3	6-1-9 (EW5/5), 6-22-9	Up stream and down stream systems valved correctly and ready
4	6-1-9 (EW5/5), 6-22-9	Material flow paths blocked / unobstructed / free of debris
5	6-1-9 (EW5/5), 6-22-9	All Mechanical and Electrical punch lists items corrected (below)

Punch List:

	Location	Item	Priority	Corrected
1	VFD Failure	Wells 1/2/3	1	6-4-9
2	VFD Failure	Wells 2	1	6-17-9

Instrument / Safety / PLC Checks:

Action:	EW-1	EW-2	EW-3	EW-4	EW-5	Status:
Check Rotation	6-9-9	6-22-9	6-9-9	6-1-9	6-1-9	
Hand switch, on / off	6-8-9	6-22-9	6-8-9	6-1-9	6-1-9	
Hand switch, auto operation	7-16-9	7-16-9	7-16-9	6-1-9	6-1-9	
Speed controller (EW-1/2/3)	6-9-9	6-19-9	6-9-9	---	---	
Well level low LSL-1X2	7-30-9	10-29-9	7-16-9	6-22-9	6-22-9	
Vault level high LSH-1X3	7-24-9	7-24-9	7-24-9	6-1-9	6-2-9	
Discharge pressure high PAH-1X4	8-18-9	8-18-9	8-18-9	8-18-9	8-18-9	
Discharge pressure Trans. PI-1X4	7-16-9	7-16-9	7-16-9	6-1-9	6-1-9	
Discharge flow totalizer PIQ-1X5	7-16-9	7-16-9	7-16-9	7-16-9	7-16-9	
Discharge flow Trans. FI-1X5	6-9-9	6-19-9	6-9-9	7-16-9	7-16-9	

Operational Checks and Adjustments:

1	6-22-9	Adjust EW-1/2/3 speed
2	6-22-9	Adjust EW-5/6 pump discharge hand valves

Corrective Action:

	Location	Item	Corrected
1			
2			
3			
4			
5			
6			
7			
8			
9			
10			
11			
12			

Notes

Equipment Number: EW-1, EW-2, EW-3, EW-4, EW-5
Equipment Description: Extraction Well System
Issued: 05/28/06, Revised: 12/1/2009

Date	Time	EW-1 , PMP-110 (16 gpm)			EW-2, PMP-120 (12 gpm)			EW-3, PMP-130 (8 gpm)			EW-4, PMP-140 (2 gpm)			EW-5, PMP-150 (2 gpm)		
		Screen Int. : _____			Screen Int. : _____			Screen Int. : _____			Screen Int. : _____			Screen Int. : _____		
		Low Level: 86.0'			Low Level: 83.5'			Low Level: 85.0'			Low Level: 81.4'			Low Level: 83.3'		
		Press	Flow	Speed	Press	Flow	Speed	Press	Flow	Speed	Press	Flow	Valve	Press	Flow	Valve
		(psi)	(gpm)	(%)	(psi)	(gpm)	(%)	(psi)	(gpm)	(%)	(psi)	(gpm)	(%)	(psi)	(gpm)	(%)
6-9-9	1430		18						12	100						
6-17-9	1400					21	100		6	75						
6-22-9		12	1	50	5	11	75		8.5	75		7.3	100		7.4	100
	0812		16	80	12	75			8	75		2			2	
	0820	11.1	16	80	5	12	75	11	8	75		2			2	
	0932	12	15.5	80	5	11.5										
	1016	13	16.5	85	6	12.4	80	8	77			1			.5	
	1114	15	16	85	10	12	83	15	7	75		1			1	
	1155	17	15.5	85	10	11	83	16	6	75		1			off	
	1200	14	17	85	6	14	83	12	8	75		1			off	
7-9-9	13:50	16	15	75				10	7.4	70						
	14:29	11	13	73				11	7.0	67						
	14:59	14	10	73	11	15	85	16	5.0	67	High bag filter differential pressure					
	10:13	10	13	75				10	6.0	65						
	10:22	12	14	765	6	13	75	12	5.5	65						
	10:45	10	14	75		12	75	11	6.0	65						
	08:00	11	14	75				11	5.5	65						
	15:25	12	16	83	7	14	80	12	5.5	65						
	14:35	12	17	83	7	13	80	12	5.0	65						

Equipment Number: EW-1, EW-2, EW-3, EW-4, EW-5
Equipment Description: Extraction Well System
Issued: 05/28/06, Revised: 12/1/2009

Date	Time	EW-1 , PMP-110 (16 gpm)			EW-2, PMP-120 (12 gpm)			EW-3, PMP-130 (8 gpm)			EW-4, PMP-140 (2 gpm)			EW-5, PMP-150 (2 gpm)		
		Screen Int. : _____			Screen Int. : _____			Screen Int. : _____			Screen Int. : _____			Screen Int. : _____		
		Low Level: 86.0'			Low Level: 83.5'			Low Level: 85.0'			Low Level: 81.4'			Low Level: 83.3'		
		Press	Flow	Speed	Press	Flow	Speed	Press	Flow	Speed	Press	Flow	Valve	Press	Flow	Valve
		(psi)	(gpm)	(%)	(psi)	(gpm)	(%)	(psi)	(gpm)	(%)	(psi)	(gpm)	(%)	(psi)	(gpm)	(%)

Date	Time	Well Production Totalizer				
		EW-1	EW-2	EW-3	EW-4	EW-5
		(gallons)	(gallons)	(gallons)	(gallons)	(gallons)
6-1-9		0	0	0	0	0
7-24-9	12:45	50,064	39,520	19,070	319	818

	EW-1	EW-2	EW-3	EW-4	EW-5
Discharge pressure high PAH-1X4 set point (psi)	18	18	17	20	20
Well level low LSL-1X2, time delay (minutes)	5	1	5	10	10
Flow at 100% or full block valve opening	22	22	20	7	7

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EQUIPMENT READINESS / CHECK OUT REPORT (RED TAG)
AIR STRIPPER BLOWER

Readiness:

1	6-1-9	Mechanically complete, (field inspection)
2	6-1-9	Electrically complete, (blue tag, J. Joy)
3	6-1-9	Ducting installed correctly
4	6-1-9	Up stream and down stream systems to VPGAC valved correctly
5	6-1-9	Air flow paths blocked / unobstructed / free of debris
6	6-1-9	All Mechanical and Electrical punch lists items corrected (below)

Punch List:

	Location	Item	Priority	Corrected
1	None	None		

Instrument / Safety / PLC Checks:

Action:	Status:	Action:	Status:
Blower start / stop, MD-225	6-1-9	Blower overload status, YA-225	6-1-9
Blower high dis. pres. PI-226	6-2-9	Blower high dis. temp. TIT-227	6-2-9
Blower high dis. rel. hm. MIT-227	6-2-9	AS discharge vac switch VI-224	6-2-9
VPGAC diff. press. PDI-241	6-2-9	VPGAC disc. temp. TI-242	6-2-9
Air Stripper High High LSHH-221	6-1-9	Blower Run Status YS-225	6-4-9

Operational Checks and Adjustments:

1	6-2-9	AS discharge vacuum switch VSH-224 SP:__1.0__ (“WC vacuum), Time Delay (TD): _10_ sec (Panel)
2	6-1-9	Blower discharge pressure PAH-226 SP:__52__ (“WC), Time Delay (TD): _3_ sec (Panel)
3	8-17-9	Blower discharge temperature TAH-227 SP:_130_ (F), TD: _5_ sec
4	8-17-9	Blower discharge relative humidity MAH-227 SP:_50_ (“%), TD: _20_ min (PLC)
5	7-16-9	MAH-227, indicated 31.3 RL @ 112.5 F on 07-16-09, hand held (ALNOR M.N. 8585) indicated 31.3 RL @ 115.7 F
6	6-9-9	Blower Flow, design set point : 600 (scfm), (for 0-60 gpm)
7	7-24-9	VPGAC differential pressure PDAH-208 SP:__15__ (“WC), TD: _2_ min
8	7-24-9	VPGAC discharge temperature TAH-242 SP: 150 (F), TD: _5_ sec
9	7-9-9	FE-228 zero adjust
10	8-13-9	Check for water in blower drain, drain clear

Equipment Number: BWR-225
Equipment Description: Air Stripper Blower; Includes vapor phase carbon system
Issued: 05/28/09, Revised: 12/1/2009

Corrective Action:

	Location	Item	Corrected
1			
2			
3			
4			
5			

Notes:

Date	Time	Blwr. Inlet Press.	Air Flow Rate	Air Flow Rate	Blwr. Disch. Press.	Blwr. Disch. Temp.	Blwr. Disch. Rel. H.	Prim. VPGAC DP	VPGAC Disch. Temp.	Notes
		VI-224	FIT-228	Hand held	PI-226	TIT-227	MIT-227			
		(“WC vac)	(scfm)	(scfm)	(“WC)	(F)	(%)	(“wc)	(F)	
6-1-9	1500	2	351		N/A	108	22	N/S	N/S	No AS water fl
6-1-9	1640	16	200		N/A	117.3	30.5	35.6	73	w/ AS water fl
6-2-9	1350	15.5	240		N/A	100	40.7	37.4	N/S	40 gpm AS flw
6-2-9	1548	15.5	220		N/A	117.1	26	36.7	79	40 gpm AS flw
6-4-9	1005	14.5	230		6 *	102	34	37.9	64	40 gpm AS flw
6-4-9	1015	15.5	240		5.5 *	104.4	31.4	36.5	64.9	40 gpm AS flw
6-8-8	0910	14.4	230		9.9 *	100.8	32.9	37.8	63.8	40 gpm after fan sealed
6-9-9	1034	2	240		12 *			55.8		Rt bed no H2O
6-9-9	1043	1.4	280		11 *			55.4		Ft bed no H2O
6-9-9	1050	5.5		640	10 *			3.5		
6-9-9	1123	0.7		230	54.5			54.6		both beds
6-9-9	1126	1.4		320	54.3			54.3		Left bed
6-9-9	1130	0.6		185	54.1			54.3		Right bed
6-9-9	1133	3.7	540	500	53.8			52.2		Partial bypass
6-22-9	0850	16+	850	715	33	104.7	40.7	22.3	71.0	Outlet choked
6-22-9	0858	16+	900	745	31	103.7	41.0	18.0	71.4	All valves open
6-22-9	1018	16+	900		31	105.0	40.0	17.8	85.6	Proc. Ver. Test
6-22-9	1117	16+	880		31	106.0	39.0	18	88.7	Proc. Ver. Test
6-22-9	1315	16+	890		31	106	38	17.9	90.3	Proc. Ver. Test
7-8-9	16:00		600					1.3		240 w/o carbon
7-8-9	16:01		900					2.7		240 w/o carbon
7-8-9	17:25		600					1.2		245 w/o carbon
7-8-9	17:25		900					3.0		245 w/o carbon

Equipment Number: BWR-225
Equipment Description: Air Stripper Blower; Includes vapor phase carbon system
Issued: 05/28/09, Revised: 12/1/2009
Notes: * plug installed in low pressure port, data inaccurate

Date	Time	Blwr. Inlet Press.	Air Flow Rate	Blwr. Disch. Press.	Blwr. Disch. Temp.	Blwr. Disch. Rel. H.	Prim. VPGAC DP	VPGAC Disch. Temp.	Notes
		VI-224	FIT-228	PI-226	TIT-227	MIT-227			
		(“WC vac)	(scfm)	(“WC)	(F)	(%)	(“wc)	(F)	
7-9-9	11:00		600				6.4		245 w/ carbon
	11:02		900				12.5		245 w/ carbon
	11:05		800				9.3		245 w/ carbon
	11:12		600				6.0		245 w/ carbon
	13:15		600				5.6		245 w/ carbon
	13:17		800				8.6		245 w/ carbon
	13:18		600				10.7		Both beds w/c
	13:19		740				14.8		Both beds w/c
	13:20		800				17.5		Both beds w/c
	13:55	16+	680	38	111	38.7	12.5	83	Normal operation
	14:28	16+	630	39	113	34.3	11.5	83	Normal operation
7-10-9	10:16	16+	630	39	110	36.6	11.5	82	Normal operation
	10:28	16+	610	37	110	35.5	11.1	83.3	w/ 40 gpm influent
	12:21	16+	618	38	112	33.1	11.4	93.1	
7-13-9	10:25	16+	620	38	111	34.2	11.5	88.8	
7-14-9	10:30	16+	640		111	34.7	11.6	89	w/ 20 gpm influent
7-15-9	08:00	16+	630	39	109	37.4	11.8	82	w/ 20 gpm influent
	15:30	16+	615	37	113		11.2	95	
7-16-9	14:45	16+	620	37	112	32.2	11.4	95	w/ 35 gpm influent

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Equipment Number: PMP-230
Equipment Description: Effluent Transfer Pump; Includes containment alarm system
Issued: 05/28/09, Revised: 12/1/2009

EQUIPMENT READINESS / CHECK OUT REPORT (RED TAG)
EFFLUENT TRANSFER PUMP

Readiness:

1	6-1-9	Mechanically complete, (field inspection)
2	6-1-9	Electrically complete, (blue tag, J. Joy)
3	6-1-9	Piping installed correctly
4	6-1-9	Up stream and down stream valved correctly
5	6-1-9	System charged / pump primed with water
6	6-1-9	All Mechanical and Electrical punch lists items corrected (below)

Punch List:

	Location	Item	Priority	Corrected
1	None			

Instrument / Safety / PLC Checks:

Action:	Status:	Action:	Status:
Pump HOA start / stop, HS-230	6-1-9	Pump dis. flow meter FIT-232	6-1-9
Dis. flow total. FI-232	7-9-9	Discharge flow totalizer FQI-233	8-17-9
Pump motor leak detect. LE-230	8-19-9	Pump motor high temp. TSH-230	8-19-9
Sump level LIT-234	8-17-9	Sump level failure YA-234	7-24-9
Process area cont. level LSHH-235	6-1-9	Drainage cont. level LSHH-235	6-9-9

Operational Checks and Adjustments:

1	8-18-8	Pump discharge pressure PAH-231 SP:__12__ (psi)
2	6-1-9	Sump level, Start :__12__ Stop: __24__ (in, from bottom of sump)
3	8-19-9	Sump level trans. sensor limits, max :_0.2__ min: __3.5_ (ft)
4	6-1-9	Test discharge flow shut down if in excess of 60 gpm in 5 minutes
5	6-9-9	Interlock containment level switch with outside drain sump high level
6	6-9-9	Outside drain sump level control test and high level alarm
7	8-18-9	Dead head discharge pressure 16 psi

Corrective Action:

	Location	Item	Corrected
1			
2			
3			
4			
5			

Notes:

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EQUIPMENT READINESS / CHECK OUT REPORT (RED TAG)
AIR STRIPPER

Readiness:

1	6-22-9	Mechanically complete, (field inspection)
2	6-18-8	Electrically complete, (blue tag, J. Joy)
3	6-22-9	All Mechanical and Electrical punch lists items corrected (below)

Punch List:

	Location	Item	Priority	Corrected
1	Back up Power	Install back up power supply	3	6-22-9

Instrument / Safety / PLC Checks:

Action:	Status:	Action:	Status:
AC Power Failure, YA-101	8-19-8	UPS Failure, YA-102	Cancel

Operational Checks and Adjustments:

1	8-18-9	Check A/C Performance, Ambient temp. : __95 F__
2	8-17-9	Check UPS backup endurance, Time to failure: tested, 15 min. OK_
3	7-24-9	Test auto dialer, Raco Verbatim 302VSS-16C

Corrective Action:

	Location	Item	Corrected
1			
2			
3			
4			
5			

Notes:

Equipment Number: PLC, MCC, Autodialer, HMI, Backup Power Supply, Cabinet Air Conditioner
Equipment Description: PLC, MCC, Autodialer, HMI, Backup Power Supply, Cabinet A/C
Issued: 05/28/09, Revised: 12/1/2009

Alarm	Alarm Tag	Function / Action	Action perfrd	HMI Elem.	Auto dialer call out	Alarm Log	Alarm Clear	Event Logged	Notes
EW-1 Auto Status	YI-110	Indicate well in auto / hand	7-9-9	7-9-9	N/A	N/A	N/A	N/A	
EW-1 Running Status	YI-110	Indicate well operating / off	Y	Y	N/A	N/A	N/A	N/A	
EW-1 Failure Status	YI-110	Indicate well failure	8-17-9	8-17-9	8-17-9	8-19-8	8-19-8	8-19-8	
EW-1 Pump Enable	MD-110	Indicate well enabled / disabled	8-17-9	8-17-9	N/A	N/A	N/A	N/A	
EW-1 Speed Reference	SC-110	Pump speed set point output	Y	Y	N/A	N/A	N/A	N/A	
EW-1 Speed Feed Back	SI-110	Pump speed set point feed back	Y	Y	N/A	N/A	N/A	trended	
EW-1 Vault Level High	LAH-113	Indicates standing water in vault	7-24-9	8-13-9	7-24-9	7-24-9	7-24-9	8-17-9	
EW-1 Discharge Pressure High Alarm	PAH-114		8-18-9	8-18-9	8-18-9	8-19-8	8-19-8	8-19-8	
EW-1 Discharge Pressure	PI-114	Indicates pump discharge pressure	Y	Y	N/A	N/A	N/A	N/A	
EW-1 Flow Totalizer	FQI-115	Indicates well flow volume	Y	Y	N/A	N/A	N/A	N/A	
EW-1 Flow Meter	FI-115	Indicates well flow	Y	Y	N/A	N/A	N/A	N/A	
EW-1 Fail to start		Indicate failure to restart after well high level shut down	7-30-9	7-30-9	7-30-9	8-19-8	8-19-8	8-19-8	
EW-1 Low Level S/D		Well shuts down after low level reached and restarts after time delay	7-30-9	7-30-9	N/A	N/A	N/A	N/A	
EW-2 Auto Status	YI-120	Indicate well in auto / hand	8-17-9	8-17-9	N/A	N/A	N/A	N/A	
EW-2 Running Status	YI-120	Indicate well operating / off	Y	Y	N/A	N/A	N/A	N/A	
EW-2 Failure Status	YI-120	Indicate well failure	10-18-9	10-18-9	10-18-9	10-18-9	10-18-9	10-18-9	Cld not test till later
EW-2 Pump Enable	MD-120	Indicate well enabled / disabled	8-17-9	8-17-9	N/A	N/A	N/A	N/A	
EW-2 Speed Reference	SC-120	Pump speed set point output	Y	Y	N/A	N/A	N/A	8-17-9	
EW-2 Speed Feed Back	SI-120	Pump speed set point feed back	Y	Y	N/A	N/A	N/A	trended	
EW-2 Vault Level High	LAH-123	Indicates standing water in vault	8-18-9	8-18-9	8-18-9	8-18-9	8-18-9	8-18-9	
EW-2 Discharge Pressure High Alarm	PAH-124		8-18-9	8-18-9	8-18-9	8-19-8	8-19-8	8-19-8	
EW-2 Discharge	PI-124	Indicates pump discharge pressure	Y	Y	N/A	N/A	N/A	N/A	

Equipment Number: PLC, MCC, Autodialer, HMI, Backup Power Supply, Cabinet Air Conditioner
Equipment Description: PLC, MCC, Autodialer, HMI, Backup Power Supply, Cabinet A/C
Issued: 05/28/09, Revised: 12/1/2009

Pressure									
EW-2 Flow Totalizer	FQI-125	Indicates well flow volume	Y	Y	N/A	N/A	N/A	N/A	
EW-2 Flow Meter	FI-125	Indicates well flow	Y	Y	N/A	N/A	N/A	N/A	
EW-2 Fail to start		Indicate failure to restart after well high level shut down	10-18-9	10-18-9	10-18-9	10-18-9	10-18-9	10-18-9	Cld not test till later
EW-2 Low Level S/D		Well shuts down after low level reached and restarts after time delay	10-16-9	10-29-9	N/A	N/A	N/A	N/A	Cld not test till later
EW-3 Auto Status	YI-130	Indicate well in auto / hand	7-9-9	7-9-9	N/A	N/A	N/A	N/A	
EW-3 Running Status	YI-130	Indicate well operating / off	Y	Y	N/A	N/A	N/A	N/A	
EW-3 Failure Status	YI-130	Indicate well failure	8-18-9	8-18-9	8-18-9	8-19-8	8-19-8	8-19-8	
EW-3 Pump Enable	MD-130	Indicate well enabled / disabled	8-18-9	8-18-9	N/A	N/A	N/A	N/A	
EW-3 Speed Reference	SC-130	Pump speed set point output	Y	Y	N/A	N/A	N/A	N/A	
EW-3 Speed Feed Back	SI-130	Pump speed set point feed back	Y	Y	N/A	N/A	N/A	trended	
EW-3 Vault Level High	LAH-133	Indicates standing water in vault	8-18-9	8-18-9	8-18-9	8-18-9	8-18-9	8-18-9	
EW-3 Discharge Pressure High Alarm	PAH-134		8-18-9	8-18-9	8-18-9	8-19-8	8-19-8	8-19-8	
EW-3 Discharge Pressure	PI-134	Indicates pump discharge pressure	Y	Y	N/A	N/A	N/A	N/A	
EW-3 Flow Totalizer	FQI-135	Indicates well flow volume	Y	Y	N/A	N/A	N/A	N/A	
EW-3 Flow Meter	FI-135	Indicates well flow	Y	Y	N/A	N/A	N/A	N/A	
EW-3 Fail to start		Indicate failure to restart after well high level shut down	7-24-9	7-30-9	7-30-9	8-19-8	8-19-8	8-19-8	
EW-3 Low Level S/D		Well shuts down after low level reached and restarts after time delay	7-30-9	7-30-9	N/A	N/A	N/A	N/A	
EW-4 Auto Status	YI-140	Indicate well in auto / hand	8-3-9	8-3-9	N/A	N/A	N/A	N/A	
EW-4 Running Status	YI-140	Indicate well operating / off	Y	Y	N/A	N/A	N/A	N/A	
EW-4 Failure Status	YI-140	Indicate well failure	8-3-9	8-3-9	8-17-9	8-19-8	8-19-8	8-19-8	
EW-4 Pump Enable	MD-140	Indicate well enabled / disabled	8-3-9	8-3-9	N/A	N/A	N/A	N/A	
EW-4 Vault Level High	LAH-143	Indicates standing water in vault	8-17-9	8-17-9	8-17-9	8-17-9	8-17-9	8-17-9	
EW-4 Discharge Pressure High Alarm	PAH-144		8-18-9	8-18-9	8-18-9	8-19-8	8-19-8	8-19-8	
EW-4 Discharge	PI-144	Indicates pump discharge pressure	Y	Y	N/A	N/A	N/A	N/A	

Equipment Number: PLC, MCC, Autodialer, HMI, Backup Power Supply, Cabinet Air Conditioner
Equipment Description: PLC, MCC, Autodialer, HMI, Backup Power Supply, Cabinet A/C
Issued: 05/28/09, Revised: 12/1/2009

Pressure									
EW-4 Flow Totalizer	FQI-145	Indicates well flow volume	Y	Y	N/A	N/A	N/A	N/A	
EW-4 Flow Meter	FI-145	Indicates well flow	Y	Y	N/A	N/A	N/A	N/A	
EW-4 Fail to start		Indicate failure to restart after well high level shut down	7-30-9	7-30-9	7-30-9	8-19-8	8-19-8	8-19-8	
EW-4 Low Level S/D		Well shuts down after low level reached and restarts after time delay	7-30-9	7-30-9	N/A	N/A	N/A	N/A	
EW-5 Auto Status	YI-150	Indicate well in auto / hand	7-20-9	7-20-9	N/A	N/A	N/A	N/A	
EW-5 Running Status	YI-150	Indicate well operating / off	Y	Y	N/A	N/A	N/A	N/A	
EW-5 Failure Status	YI-150	Indicate well failure	8-17-9	8-17-9	8-19-8	8-19-8	8-19-8	8-19-8	
EW-5 Pump Enable	MD-150	Indicate well enabled / disabled	7-30-9	7-30-9	N/A	N/A	N/A	N/A	
EW-5 Vault Level High	LAH-153	Indicates standing water in vault	8-18-9	8-18-9	8-18-9	8-18-9	8-18-9	8-18-9	
EW-5 Discharge Pressure High Alarm	PAH-154		8-18-9	8-18-9	8-18-9	8-19-8	8-19-8	8-19-8	
EW-5 Discharge Pressure	PI-154	Indicates pump discharge pressure	Y	Y	N/A	N/A	N/A	N/A	
EW-5 Flow Totalizer	FQI-155	Indicates well flow volume	Y	Y	N/A	N/A	N/A	N/A	
EW-5 Flow Meter	FI-155	Indicates well flow	Y	Y	N/A	N/A	N/A	N/A	
EW-5 Fail to start		Indicate failure to restart after well high level shut down	7-30-9	7-30-9	7-30-9	8-19-8	8-19-8	8-19-8	
EW-5 Low Level S/D		Well shuts down after low level reached and restarts after time delay	Y	7-30-9	N/A	N/A	N/A	N/A	
Bag Filter Differential Pressure Transmitter	PDI-206	Indicates differential pressure across influent bag filter FLT-205	7-22-9	7-22-9	N/A	N/A	N/A	N/A	
Bag Filter Differential Pressure high	PDAH-206	Warning	7-24-9	7-24-9	7-24-9	8-10-9	8-10-9	8-10-9	Com. alrm
Bag Filter Differential Pressure high	PDAHH-206	Shut down plant	7-24-9	7-24-9	7-24-9	8-10-9	8-10-9	8-10-9	Com. alrm
Bag Filter Differential Pressure Transmitter	PDI-208	Indicates differential pressure across influent bag filter FLT-207	7-22-9	7-22-9	N/A	N/A	N/A	N/A	
Bag Filter Differential Pressure high	PDAH-208	Warning	7-24-9	7-24-9	7-24-9	8-10-9	8-10-9	8-10-9	Com. alrm

Equipment Number: PLC, MCC, Autodialer, HMI, Backup Power Supply, Cabinet Air Conditioner
Equipment Description: PLC, MCC, Autodialer, HMI, Backup Power Supply, Cabinet A/C
Issued: 05/28/09, Revised: 12/1/2009

Bag Filter Differential Pressure high	PDAHH-208	Shut down plant	7-24-9	7-24-9	7-24-9	8-10-9	8-10-9	8-10-9	Com. alrm
Scalant pump start / stop	MD-215	Remote start / stop	6-1-9	6-1-9	N/A	N/A	N/A	N/A	
Scalant level low	LAL-211	No action	Y	8-17-9	7-24-9	Y	Y	8-10-9	
Scalant Sec. Cont. high	LAHH-212	No action	Y	8-17-9	N/A	8-10-9	8-10-9	8-10-9	
Trans. pmp Remote Stat	YI-229	Indicate trans pump in auto / hand	N	N	N/A	N/A	N/A	N/A	Not possi.
Trans. pump Run Status	YI-229	Indicate trans pump operating / off	7-9-9	7-9-9	N/A	N/A	N/A	N/A	
Trans. pump Status	YA-229	Indicate trans pump failure	N/A	N/A	N/A	N/A	N/A	N/A	Not possi.
Air stripper high high	LAHH-221	S/D blower and wells	Y	8-17-9	7-24-9	Y	Y	8-17-9	
Blower hi suc. vacuum	VAH-224	S/D blower	Y	N/A	N/A	8-17-9	8-17-9	8-17-9	
Blower Remote Status	YI-225	Indicate blower in auto / hand	6-1-9	6-1-9	N/A	N/A	N/A	N/A	
Blower Run Status	YI-225	Indicate blower operating / off	6-4-9	6-4-9	N/A	N/A	N/A	N/A	
Blower Failure Status	YA-225	Indicate blower failure	Y	8-10-9	8-10-9	Y	8-10-9	8-10-9	
Blower Enable	MA-225	Indicate blower enabled / disabled	6-1-9	6-1-9	N/A	N/A	N/A	N/A	
Blower		HMI HOA operation	8-3-9	8-3-9	N/A	N/A	N/A	N/A	
A.S. Discharge Flow	FI-228	Indicate blower flow	6-2-9	6-2-9	N/A	N/A	N/A	N/A	
A.S. Blower Temp. high	TAH-227	Shut down plant	10-29-9	10-29-9	10-29-9	10-29-9	10-29-9	10-29-9	
A.S. Blower Disc. Temp	TI-227	Indicate blower discharge temperature	6-2-9	6-2-9	N/A	N/A	N/A	N/A	
A.S. Relative Humidity	MI-227	Indicate rel. humidity to VPGAC	6-2-9	6-2-9	N/A	N/A	N/A	N/A	
A.S. Rel. Humidity high	MAH-227	Shut down plant	8-10-9	8-10-9	N/A	8-10-9	8-10-9	8-10-9	
Secondary Cont. high	LAHH-235	Shut down plant	Y	Y	7-24-9	8-17-9	8-17-9	8-17-9	
Wet Well (Sump) Level	LI-234	Indicate sump water level	8-17-9	8-17-9	N/A	N/A	N/A	N/A	
LVL XMTR Failed	LA-234	Indicate sump water level transmitter failure	7-24-9	8-17-9	7-21-9	8-17-9	8-17-9	8-17-9	
Sump Pump Remote Status	YI-230	Indicates pump in auto / hand	Y	8-18-9	N/A	N/A	N/A	N/A	
Sump Pump Run Status	YI-230	Indicates pump in operation / off	7-9-9	7-9-9	N/A	N/A	N/A	N/A	
Sump Pump Failure Status	YA-230	Indicates pump failure	8-17-9	8-17-9	8-17-9	8-17-9	8-17-9	8-17-9	
Sump Pump Enable	YA-230	Indicates pump operating / off	7-16-9	7-16-9	N/A	N/A	N/A	N/A	
Sump Pump HOA		HMI HOA operation	7-9-9	7-9-9	N/A	N/A	N/A	N/A	
Sump Level high	LAH-234	Shut down wells and blower	7-24-9	8-17-9	7-21-9	8-17-9	8-17-9	8-17-9	
Effl. Flow Totalizer	FQI-232	Indicate total effluent flow volume	7-9-9	7-9-9	N/A	N/A	N/A	N/A	

Equipment Number: PLC, MCC, Autodialer, HMI, Backup Power Supply, Cabinet Air Conditioner
Equipment Description: PLC, MCC, Autodialer, HMI, Backup Power Supply, Cabinet A/C
Issued: 05/28/09, Revised: 12/1/2009

Effluent flow high	FAH-232	Shut down plant if daily volume in excess of 40 gpm per day	7-24-9	8-17-9	7-24-9	8-17-9	8-17-9	8-17-9	
Effluent flow high	FAHH-232	Discharge flow rate greater than 60 gpm for more than 5 minutes	6-1-9	8-19-8	7-24-9	8-19-9	8-19-9	8-19-9	
Effl. Flow Transmitter	FI-232	Indicate plant effluent flow	7-9-9	7-9-9	N/A	N/A	N/A	N/A	
Effl. Flow meter failure	YA-232	Alarm warning only		8-19-8	N/A	8-19-8	8-19-8	8-19-8	
VPGAC Diff. Pressure	PDI-208	Indicate differential pressure across VPGAC	7-9-9	7-9-9	N/A	N/A	N/A	N/A	
VPGAC DP High	PDAH-208	Shut down plant	7-24-9	8-17-9	7-24-9	8-17-9	8-17-9	8-17-9	
VPGAC Discharge Temp	TAH-242	Indicates VPGAC discharge temperature	7-9-9	7-9-9	N/A	N/A	N/A	N/A	
VPGAC dis. temp. high	TAH-242	Shut down plant and possible fire	7-24-9	7-24-9	7-24-9	8-17-9	8-17-9	8-17-9	
Drainage Pump Enable	MD-300	Indicates drainage pump enabled / disabled	N/A	N/A	N/A	N/A	N/A	N/A	No input availble
Drainage level high	LAHH-301	Alarm warning only	Y	Y	7-21-9	Y	Y	8-17-9	
AC power fail	YA-101	Auto Dialer calls out alarm	Y	8-17-9	8-19-8	8-19-8	8-19-8	8-19-8	
UPS power fail	YA-102	No inputs for UPS available	N/A	N/A	N/A	N/A	N/A	N/A	Cancelled

Appendix F
Startup and Shakedown Analytical Results

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Appendix F.1

June 22, 2009
Water Analytical Results

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TestAmerica
THE LEADER IN ENVIRONMENTAL TESTING

17461 Derian Avenue. Suite 100, Irvine, CA 92614 (949) 261-1022 Fax:(949) 260-3297

LABORATORY REPORT

Prepared For: Camp, Dresser & McKee
111 Academy, Ste 150
Irvine, CA 92617
Attention: Sharon Wallin

Project: Omega Wastewater
IWP number 20039

Sampled: 06/22/09
Received: 06/22/09
Issued: 07/01/09 11:38

NELAP #01108CA California ELAP#2706 CSDLAC #10256 AZ #AZ0671 NV #CA01531

The results listed within this Laboratory Report pertain only to the samples tested in the laboratory. The analyses contained in this report were performed in accordance with the applicable certifications as noted. All soil samples are reported on a wet weight basis unless otherwise noted in the report. This Laboratory Report is confidential and is intended for the sole use of TestAmerica and its client. This report shall not be reproduced, except in full, without written permission from TestAmerica. The Chain of Custody, 1 page, is included and is an integral part of this report.
This entire report was reviewed and approved for release.

CASE NARRATIVE

SAMPLE RECEIPT: Samples were received intact, at 4°C, on ice and with chain of custody documentation.

HOLDING TIMES: Not all holding times were met. Results were qualified where the sample analysis did not occur within method specified holding time requirements.

PRESERVATION: Samples requiring preservation were verified prior to sample analysis.

QA/QC CRITERIA: All analyses met method criteria, except as noted in the report with data qualifiers.

COMMENTS: No significant observations were made.

SUBCONTRACTED: No analyses were subcontracted to an outside laboratory.

LABORATORY ID	CLIENT ID	MATRIX
ISF2207-01	OC-EW1-SP110-062209	Water
ISF2207-02	OC-EW2-SP120-062209	Water
ISF2207-03	OC-EW3-SP130-062209	Water
ISF2207-04	OC-EW4-SP140-062209	Water
ISF2207-05	OC-EW5-SP150-062209	Water
ISF2207-06	OC-SP200-INF-062209	Water
ISF2207-07	OC-SP220A-EFF-062209	Water

Reviewed By:

TestAmerica Irvine

Patty Mata
Project Manager

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THE LEADER IN ENVIRONMENTAL TESTING

17461 Derian Avenue. Suite 100, Irvine, CA 92614 (949) 261-1022 Fax:(949) 260-3297

Camp, Dresser & McKee
111 Academy, Ste 150
Irvine, CA 92617
Attention: Sharon Wallin

Project ID: Omega Wastewater
IWP number 20039
Report Number: ISF2207

Sampled: 06/22/09
Received: 06/22/09

VOLATILE ORGANICS by GC/MS (EPA 5030B/8260B)

Analyte	Method	Batch	Reporting Limit	Sample Result	Dilution Factor	Date Extracted	Date Analyzed	Data Qualifiers
Sample ID: ISF2207-01 (OC-EW1-SP110-062209 - Water)								
Reporting Units: ug/l								
Benzene	EPA 8260B	9F26027	12	ND	25	6/26/2009	6/26/2009	
Bromobenzene	EPA 8260B	9F26027	25	ND	25	6/26/2009	6/26/2009	
Bromochloromethane	EPA 8260B	9F26027	25	ND	25	6/26/2009	6/26/2009	
Bromodichloromethane	EPA 8260B	9F26027	25	ND	25	6/26/2009	6/26/2009	
Bromoform	EPA 8260B	9F26027	25	ND	25	6/26/2009	6/26/2009	
Bromomethane	EPA 8260B	9F26027	25	ND	25	6/26/2009	6/26/2009	
n-Butylbenzene	EPA 8260B	9F26027	25	ND	25	6/26/2009	6/26/2009	
sec-Butylbenzene	EPA 8260B	9F26027	25	ND	25	6/26/2009	6/26/2009	
tert-Butylbenzene	EPA 8260B	9F26027	25	ND	25	6/26/2009	6/26/2009	
Carbon tetrachloride	EPA 8260B	9F26027	12	ND	25	6/26/2009	6/26/2009	
Chlorobenzene	EPA 8260B	9F26027	25	ND	25	6/26/2009	6/26/2009	
Chloroethane	EPA 8260B	9F26027	25	ND	25	6/26/2009	6/26/2009	
Chloroform	EPA 8260B	9F26027	25	ND	25	6/26/2009	6/26/2009	
Chloromethane	EPA 8260B	9F26027	25	ND	25	6/26/2009	6/26/2009	
2-Chlorotoluene	EPA 8260B	9F26027	25	ND	25	6/26/2009	6/26/2009	
4-Chlorotoluene	EPA 8260B	9F26027	25	ND	25	6/26/2009	6/26/2009	
1,2-Dibromo-3-chloropropane	EPA 8260B	9F26027	120	ND	25	6/26/2009	6/26/2009	
Dibromochloromethane	EPA 8260B	9F26027	25	ND	25	6/26/2009	6/26/2009	
1,2-Dibromoethane (EDB)	EPA 8260B	9F26027	25	ND	25	6/26/2009	6/26/2009	
Dibromomethane	EPA 8260B	9F26027	25	ND	25	6/26/2009	6/26/2009	
1,2-Dichlorobenzene	EPA 8260B	9F26027	25	ND	25	6/26/2009	6/26/2009	
1,3-Dichlorobenzene	EPA 8260B	9F26027	25	ND	25	6/26/2009	6/26/2009	
1,4-Dichlorobenzene	EPA 8260B	9F26027	25	ND	25	6/26/2009	6/26/2009	
Dichlorodifluoromethane	EPA 8260B	9F26027	120	ND	25	6/26/2009	6/26/2009	
1,1-Dichloroethane	EPA 8260B	9F26027	25	ND	25	6/26/2009	6/26/2009	
1,2-Dichloroethane	EPA 8260B	9F26027	12	ND	25	6/26/2009	6/26/2009	
1,1-Dichloroethene	EPA 8260B	9F26027	25	**110**	25	6/26/2009	6/26/2009	
cis-1,2-Dichloroethene	EPA 8260B	9F26027	25	ND	25	6/26/2009	6/26/2009	
trans-1,2-Dichloroethene	EPA 8260B	9F26027	25	ND	25	6/26/2009	6/26/2009	
1,2-Dichloropropane	EPA 8260B	9F26027	25	ND	25	6/26/2009	6/26/2009	
1,3-Dichloropropane	EPA 8260B	9F26027	25	ND	25	6/26/2009	6/26/2009	
2,2-Dichloropropane	EPA 8260B	9F26027	25	ND	25	6/26/2009	6/26/2009	
cis-1,3-Dichloropropene	EPA 8260B	9F26027	12	ND	25	6/26/2009	6/26/2009	
trans-1,3-Dichloropropene	EPA 8260B	9F26027	12	ND	25	6/26/2009	6/26/2009	
1,1-Dichloropropene	EPA 8260B	9F26027	25	ND	25	6/26/2009	6/26/2009	
Ethylbenzene	EPA 8260B	9F26027	25	ND	25	6/26/2009	6/26/2009	
Hexachlorobutadiene	EPA 8260B	9F26027	25	ND	25	6/26/2009	6/26/2009	
Isopropylbenzene	EPA 8260B	9F26027	25	ND	25	6/26/2009	6/26/2009	
p-Isopropyltoluene	EPA 8260B	9F26027	25	ND	25	6/26/2009	6/26/2009	
Methylene chloride	EPA 8260B	9F26027	120	ND	25	6/26/2009	6/26/2009	
Naphthalene	EPA 8260B	9F26027	25	ND	25	6/26/2009	6/26/2009	

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Attention: Sharon Wallin

Project ID: Omega Wastewater
IWP number 20039
Report Number: ISF2207

Sampled: 06/22/09
Received: 06/22/09

VOLATILE ORGANICS by GC/MS (EPA 5030B/8260B)

Analyte	Method	Batch	Reporting Limit	Sample Result	Dilution Factor	Date Extracted	Date Analyzed	Data Qualifiers
Sample ID: ISF2207-01 (OC-EW1-SP110-062209 - Water) - cont.								
Reporting Units: ug/l								
n-Propylbenzene	EPA 8260B	9F26027	25	ND	25	6/26/2009	6/26/2009	
Styrene	EPA 8260B	9F26027	25	ND	25	6/26/2009	6/26/2009	
1,1,1,2-Tetrachloroethane	EPA 8260B	9F26027	25	ND	25	6/26/2009	6/26/2009	
1,1,2,2-Tetrachloroethane	EPA 8260B	9F26027	25	ND	25	6/26/2009	6/26/2009	
Tetrachloroethene	EPA 8260B	9F26027	25	**1200**	25	6/26/2009	6/26/2009	
Toluene	EPA 8260B	9F26027	25	ND	25	6/26/2009	6/26/2009	
1,2,3-Trichlorobenzene	EPA 8260B	9F26027	25	ND	25	6/26/2009	6/26/2009	
1,2,4-Trichlorobenzene	EPA 8260B	9F26027	25	ND	25	6/26/2009	6/26/2009	
1,1,1-Trichloroethane	EPA 8260B	9F26027	25	ND	25	6/26/2009	6/26/2009	
1,1,2-Trichloroethane	EPA 8260B	9F26027	25	ND	25	6/26/2009	6/26/2009	
Trichloroethene	EPA 8260B	9F26027	25	**110**	25	6/26/2009	6/26/2009	
Trichlorofluoromethane	EPA 8260B	9F26027	25	**79**	25	6/26/2009	6/26/2009	
1,2,3-Trichloropropane	EPA 8260B	9F26027	25	ND	25	6/26/2009	6/26/2009	
1,2,4-Trimethylbenzene	EPA 8260B	9F26027	25	ND	25	6/26/2009	6/26/2009	
1,3,5-Trimethylbenzene	EPA 8260B	9F26027	25	ND	25	6/26/2009	6/26/2009	
Vinyl chloride	EPA 8260B	9F26027	12	ND	25	6/26/2009	6/26/2009	
m,p-Xylenes	EPA 8260B	9F26027	25	ND	25	6/26/2009	6/26/2009	
o-Xylene	EPA 8260B	9F26027	25	ND	25	6/26/2009	6/26/2009	
Volatile Organic Compounds	EPA 8260B	9F26027	50	**1500**	25	6/26/2009	6/26/2009	
Surrogate: 4-Bromofluorobenzene (80-120%)				*94 %*				
Surrogate: Dibromofluoromethane (80-120%)				*96 %*				
Surrogate: Toluene-d8 (80-120%)				*104 %*				

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Project ID: Omega Wastewater
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Report Number: ISF2207

Sampled: 06/22/09
Received: 06/22/09

VOLATILE ORGANICS by GC/MS (EPA 5030B/8260B)

Analyte	Method	Batch	Reporting Limit	Sample Result	Dilution Factor	Date Extracted	Date Analyzed	Data Qualifiers
Sample ID: ISF2207-02 (OC-EW2-SP120-062209 - Water)								
Reporting Units: ug/l								
Benzene	EPA 8260B	9F26027	500	ND	1000	6/26/2009	6/26/2009	
Bromobenzene	EPA 8260B	9F26027	1000	ND	1000	6/26/2009	6/26/2009	
Bromochloromethane	EPA 8260B	9F26027	1000	ND	1000	6/26/2009	6/26/2009	
Bromodichloromethane	EPA 8260B	9F26027	1000	ND	1000	6/26/2009	6/26/2009	
Bromoform	EPA 8260B	9F26027	1000	ND	1000	6/26/2009	6/26/2009	
Bromomethane	EPA 8260B	9F26027	1000	ND	1000	6/26/2009	6/26/2009	
n-Butylbenzene	EPA 8260B	9F26027	1000	ND	1000	6/26/2009	6/26/2009	
sec-Butylbenzene	EPA 8260B	9F26027	1000	ND	1000	6/26/2009	6/26/2009	
tert-Butylbenzene	EPA 8260B	9F26027	1000	ND	1000	6/26/2009	6/26/2009	
Carbon tetrachloride	EPA 8260B	9F26027	500	ND	1000	6/26/2009	6/26/2009	
Chlorobenzene	EPA 8260B	9F26027	1000	ND	1000	6/26/2009	6/26/2009	
Chloroethane	EPA 8260B	9F26027	1000	ND	1000	6/26/2009	6/26/2009	
Chloroform	EPA 8260B	9F26027	1000	ND	1000	6/26/2009	6/26/2009	
Chloromethane	EPA 8260B	9F26027	1000	ND	1000	6/26/2009	6/26/2009	
2-Chlorotoluene	EPA 8260B	9F26027	1000	ND	1000	6/26/2009	6/26/2009	
4-Chlorotoluene	EPA 8260B	9F26027	1000	ND	1000	6/26/2009	6/26/2009	
1,2-Dibromo-3-chloropropane	EPA 8260B	9F26027	5000	ND	1000	6/26/2009	6/26/2009	
Dibromochloromethane	EPA 8260B	9F26027	1000	ND	1000	6/26/2009	6/26/2009	
1,2-Dibromoethane (EDB)	EPA 8260B	9F26027	1000	ND	1000	6/26/2009	6/26/2009	
Dibromomethane	EPA 8260B	9F26027	1000	ND	1000	6/26/2009	6/26/2009	
1,2-Dichlorobenzene	EPA 8260B	9F26027	1000	ND	1000	6/26/2009	6/26/2009	
1,3-Dichlorobenzene	EPA 8260B	9F26027	1000	ND	1000	6/26/2009	6/26/2009	
1,4-Dichlorobenzene	EPA 8260B	9F26027	1000	ND	1000	6/26/2009	6/26/2009	
Dichlorodifluoromethane	EPA 8260B	9F26027	5000	ND	1000	6/26/2009	6/26/2009	
1,1-Dichloroethane	EPA 8260B	9F26027	1000	ND	1000	6/26/2009	6/26/2009	
1,2-Dichloroethane	EPA 8260B	9F26027	500	ND	1000	6/26/2009	6/26/2009	
1,1-Dichloroethene	EPA 8260B	9F26027	1000	ND	1000	6/26/2009	6/26/2009	
cis-1,2-Dichloroethene	EPA 8260B	9F26027	1000	ND	1000	6/26/2009	6/26/2009	
trans-1,2-Dichloroethene	EPA 8260B	9F26027	1000	ND	1000	6/26/2009	6/26/2009	
1,2-Dichloropropane	EPA 8260B	9F26027	1000	ND	1000	6/26/2009	6/26/2009	
1,3-Dichloropropane	EPA 8260B	9F26027	1000	ND	1000	6/26/2009	6/26/2009	
2,2-Dichloropropane	EPA 8260B	9F26027	1000	ND	1000	6/26/2009	6/26/2009	
cis-1,3-Dichloropropene	EPA 8260B	9F26027	500	ND	1000	6/26/2009	6/26/2009	
trans-1,3-Dichloropropene	EPA 8260B	9F26027	500	ND	1000	6/26/2009	6/26/2009	
1,1-Dichloropropene	EPA 8260B	9F26027	1000	ND	1000	6/26/2009	6/26/2009	
Ethylbenzene	EPA 8260B	9F26027	1000	ND	1000	6/26/2009	6/26/2009	
Hexachlorobutadiene	EPA 8260B	9F26027	1000	ND	1000	6/26/2009	6/26/2009	
Isopropylbenzene	EPA 8260B	9F26027	1000	ND	1000	6/26/2009	6/26/2009	
p-Isopropyltoluene	EPA 8260B	9F26027	1000	ND	1000	6/26/2009	6/26/2009	
Methylene chloride	EPA 8260B	9F26027	5000	ND	1000	6/26/2009	6/26/2009	
Naphthalene	EPA 8260B	9F26027	1000	ND	1000	6/26/2009	6/26/2009	

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Attention: Sharon Wallin

Project ID: Omega Wastewater
IWP number 20039
Report Number: ISF2207

Sampled: 06/22/09
Received: 06/22/09

VOLATILE ORGANICS by GC/MS (EPA 5030B/8260B)

Analyte	Method	Batch	Reporting Limit	Sample Result	Dilution Factor	Date Extracted	Date Analyzed	Data Qualifiers
Sample ID: ISF2207-02 (OC-EW2-SP120-062209 - Water) - cont.								
Reporting Units: ug/l								
n-Propylbenzene	EPA 8260B	9F26027	1000	ND	1000	6/26/2009	6/26/2009	
Styrene	EPA 8260B	9F26027	1000	ND	1000	6/26/2009	6/26/2009	
1,1,1,2-Tetrachloroethane	EPA 8260B	9F26027	1000	ND	1000	6/26/2009	6/26/2009	
1,1,2,2-Tetrachloroethane	EPA 8260B	9F26027	1000	ND	1000	6/26/2009	6/26/2009	
Tetrachloroethene	EPA 8260B	9F26027	1000	**44000**	1000	6/26/2009	6/26/2009	
Toluene	EPA 8260B	9F26027	1000	ND	1000	6/26/2009	6/26/2009	
1,2,3-Trichlorobenzene	EPA 8260B	9F26027	1000	ND	1000	6/26/2009	6/26/2009	
1,2,4-Trichlorobenzene	EPA 8260B	9F26027	1000	ND	1000	6/26/2009	6/26/2009	
1,1,1-Trichloroethane	EPA 8260B	9F26027	1000	ND	1000	6/26/2009	6/26/2009	
1,1,2-Trichloroethane	EPA 8260B	9F26027	1000	ND	1000	6/26/2009	6/26/2009	
Trichloroethene	EPA 8260B	9F26027	1000	**1200**	1000	6/26/2009	6/26/2009	
Trichlorofluoromethane	EPA 8260B	9F26027	1000	ND	1000	6/26/2009	6/26/2009	
1,2,3-Trichloropropane	EPA 8260B	9F26027	1000	ND	1000	6/26/2009	6/26/2009	
1,2,4-Trimethylbenzene	EPA 8260B	9F26027	1000	ND	1000	6/26/2009	6/26/2009	
1,3,5-Trimethylbenzene	EPA 8260B	9F26027	1000	ND	1000	6/26/2009	6/26/2009	
Vinyl chloride	EPA 8260B	9F26027	500	ND	1000	6/26/2009	6/26/2009	
m,p-Xylenes	EPA 8260B	9F26027	1000	ND	1000	6/26/2009	6/26/2009	
o-Xylene	EPA 8260B	9F26027	1000	ND	1000	6/26/2009	6/26/2009	
Volatile Organic Compounds	EPA 8260B	9F26027	2000	**45000**	1000	6/26/2009	6/26/2009	
Surrogate: 4-Bromofluorobenzene (80-120%)				*93 %*				
Surrogate: Dibromofluoromethane (80-120%)				*96 %*				
Surrogate: Toluene-d8 (80-120%)				*105 %*				

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Project ID: Omega Wastewater
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Report Number: ISF2207

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Received: 06/22/09

VOLATILE ORGANICS by GC/MS (EPA 5030B/8260B)

Analyte	Method	Batch	Reporting Limit	Sample Result	Dilution Factor	Date Extracted	Date Analyzed	Data Qualifiers
Sample ID: ISF2207-03 (OC-EW3-SP130-062209 - Water)								
Reporting Units: ug/l								
Benzene	EPA 8260B	9F26027	25	ND	50	6/26/2009	6/26/2009	
Bromobenzene	EPA 8260B	9F26027	50	ND	50	6/26/2009	6/26/2009	
Bromochloromethane	EPA 8260B	9F26027	50	ND	50	6/26/2009	6/26/2009	
Bromodichloromethane	EPA 8260B	9F26027	50	ND	50	6/26/2009	6/26/2009	
Bromoform	EPA 8260B	9F26027	50	ND	50	6/26/2009	6/26/2009	
Bromomethane	EPA 8260B	9F26027	50	ND	50	6/26/2009	6/26/2009	
n-Butylbenzene	EPA 8260B	9F26027	50	ND	50	6/26/2009	6/26/2009	
sec-Butylbenzene	EPA 8260B	9F26027	50	ND	50	6/26/2009	6/26/2009	
tert-Butylbenzene	EPA 8260B	9F26027	50	ND	50	6/26/2009	6/26/2009	
Carbon tetrachloride	EPA 8260B	9F26027	25	ND	50	6/26/2009	6/26/2009	
Chlorobenzene	EPA 8260B	9F26027	50	ND	50	6/26/2009	6/26/2009	
Chloroethane	EPA 8260B	9F26027	50	ND	50	6/26/2009	6/26/2009	
Chloroform	EPA 8260B	9F26027	50	ND	50	6/26/2009	6/26/2009	
Chloromethane	EPA 8260B	9F26027	50	ND	50	6/26/2009	6/26/2009	
2-Chlorotoluene	EPA 8260B	9F26027	50	ND	50	6/26/2009	6/26/2009	
4-Chlorotoluene	EPA 8260B	9F26027	50	ND	50	6/26/2009	6/26/2009	
1,2-Dibromo-3-chloropropane	EPA 8260B	9F26027	250	ND	50	6/26/2009	6/26/2009	
Dibromochloromethane	EPA 8260B	9F26027	50	ND	50	6/26/2009	6/26/2009	
1,2-Dibromoethane (EDB)	EPA 8260B	9F26027	50	ND	50	6/26/2009	6/26/2009	
Dibromomethane	EPA 8260B	9F26027	50	ND	50	6/26/2009	6/26/2009	
1,2-Dichlorobenzene	EPA 8260B	9F26027	50	ND	50	6/26/2009	6/26/2009	
1,3-Dichlorobenzene	EPA 8260B	9F26027	50	ND	50	6/26/2009	6/26/2009	
1,4-Dichlorobenzene	EPA 8260B	9F26027	50	ND	50	6/26/2009	6/26/2009	
Dichlorodifluoromethane	EPA 8260B	9F26027	250	ND	50	6/26/2009	6/26/2009	
1,1-Dichloroethane	EPA 8260B	9F26027	50	ND	50	6/26/2009	6/26/2009	
1,2-Dichloroethane	EPA 8260B	9F26027	25	ND	50	6/26/2009	6/26/2009	
1,1-Dichloroethene	EPA 8260B	9F26027	50	**420**	50	6/26/2009	6/26/2009	
cis-1,2-Dichloroethene	EPA 8260B	9F26027	50	ND	50	6/26/2009	6/26/2009	
trans-1,2-Dichloroethene	EPA 8260B	9F26027	50	ND	50	6/26/2009	6/26/2009	
1,2-Dichloropropane	EPA 8260B	9F26027	50	ND	50	6/26/2009	6/26/2009	
1,3-Dichloropropane	EPA 8260B	9F26027	50	ND	50	6/26/2009	6/26/2009	
2,2-Dichloropropane	EPA 8260B	9F26027	50	ND	50	6/26/2009	6/26/2009	
cis-1,3-Dichloropropene	EPA 8260B	9F26027	25	ND	50	6/26/2009	6/26/2009	
trans-1,3-Dichloropropene	EPA 8260B	9F26027	25	ND	50	6/26/2009	6/26/2009	
1,1-Dichloropropene	EPA 8260B	9F26027	50	ND	50	6/26/2009	6/26/2009	
Ethylbenzene	EPA 8260B	9F26027	50	ND	50	6/26/2009	6/26/2009	
Hexachlorobutadiene	EPA 8260B	9F26027	50	ND	50	6/26/2009	6/26/2009	
Isopropylbenzene	EPA 8260B	9F26027	50	ND	50	6/26/2009	6/26/2009	
p-Isopropyltoluene	EPA 8260B	9F26027	50	ND	50	6/26/2009	6/26/2009	
Methylene chloride	EPA 8260B	9F26027	250	ND	50	6/26/2009	6/26/2009	
Naphthalene	EPA 8260B	9F26027	50	ND	50	6/26/2009	6/26/2009	

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Sampled: 06/22/09
Received: 06/22/09

VOLATILE ORGANICS by GC/MS (EPA 5030B/8260B)

Analyte	Method	Batch	Reporting Limit	Sample Result	Dilution Factor	Date Extracted	Date Analyzed	Data Qualifiers
Sample ID: ISF2207-03 (OC-EW3-SP130-062209 - Water) - cont.								
Reporting Units: ug/l								
n-Propylbenzene	EPA 8260B	9F26027	50	ND	50	6/26/2009	6/26/2009	
Styrene	EPA 8260B	9F26027	50	ND	50	6/26/2009	6/26/2009	
1,1,1,2-Tetrachloroethane	EPA 8260B	9F26027	50	ND	50	6/26/2009	6/26/2009	
1,1,2,2-Tetrachloroethane	EPA 8260B	9F26027	50	ND	50	6/26/2009	6/26/2009	
Tetrachloroethene	EPA 8260B	9F26027	50	**2700**	50	6/26/2009	6/26/2009	
Toluene	EPA 8260B	9F26027	50	ND	50	6/26/2009	6/26/2009	
1,2,3-Trichlorobenzene	EPA 8260B	9F26027	50	ND	50	6/26/2009	6/26/2009	
1,2,4-Trichlorobenzene	EPA 8260B	9F26027	50	ND	50	6/26/2009	6/26/2009	
1,1,1-Trichloroethane	EPA 8260B	9F26027	50	ND	50	6/26/2009	6/26/2009	
1,1,2-Trichloroethane	EPA 8260B	9F26027	50	ND	50	6/26/2009	6/26/2009	
Trichloroethene	EPA 8260B	9F26027	50	**260**	50	6/26/2009	6/26/2009	
Trichlorofluoromethane	EPA 8260B	9F26027	50	**65**	50	6/26/2009	6/26/2009	
1,2,3-Trichloropropane	EPA 8260B	9F26027	50	ND	50	6/26/2009	6/26/2009	
1,2,4-Trimethylbenzene	EPA 8260B	9F26027	50	ND	50	6/26/2009	6/26/2009	
1,3,5-Trimethylbenzene	EPA 8260B	9F26027	50	ND	50	6/26/2009	6/26/2009	
Vinyl chloride	EPA 8260B	9F26027	25	ND	50	6/26/2009	6/26/2009	
m,p-Xylenes	EPA 8260B	9F26027	50	ND	50	6/26/2009	6/26/2009	
o-Xylene	EPA 8260B	9F26027	50	ND	50	6/26/2009	6/26/2009	
Volatile Organic Compounds	EPA 8260B	9F26027	100	**3500**	50	6/26/2009	6/26/2009	
Surrogate: 4-Bromofluorobenzene (80-120%)				*92 %*				
Surrogate: Dibromofluoromethane (80-120%)				*95 %*				
Surrogate: Toluene-d8 (80-120%)				*104 %*				

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Attention: Sharon Wallin

Project ID: Omega Wastewater
IWP number 20039
Report Number: ISF2207

Sampled: 06/22/09
Received: 06/22/09

VOLATILE ORGANICS by GC/MS (EPA 5030B/8260B)

Analyte	Method	Batch	Reporting Limit	Sample Result	Dilution Factor	Date Extracted	Date Analyzed	Data Qualifiers
Sample ID: ISF2207-04 (OC-EW4-SP140-062209 - Water)								
Reporting Units: ug/l								
Benzene	EPA 8260B	9F26027	12	ND	25	6/26/2009	6/26/2009	
Bromobenzene	EPA 8260B	9F26027	25	ND	25	6/26/2009	6/26/2009	
Bromochloromethane	EPA 8260B	9F26027	25	ND	25	6/26/2009	6/26/2009	
Bromodichloromethane	EPA 8260B	9F26027	25	ND	25	6/26/2009	6/26/2009	
Bromoform	EPA 8260B	9F26027	25	ND	25	6/26/2009	6/26/2009	
Bromomethane	EPA 8260B	9F26027	25	ND	25	6/26/2009	6/26/2009	
n-Butylbenzene	EPA 8260B	9F26027	25	ND	25	6/26/2009	6/26/2009	
sec-Butylbenzene	EPA 8260B	9F26027	25	ND	25	6/26/2009	6/26/2009	
tert-Butylbenzene	EPA 8260B	9F26027	25	ND	25	6/26/2009	6/26/2009	
Carbon tetrachloride	EPA 8260B	9F26027	12	ND	25	6/26/2009	6/26/2009	
Chlorobenzene	EPA 8260B	9F26027	25	ND	25	6/26/2009	6/26/2009	
Chloroethane	EPA 8260B	9F26027	25	ND	25	6/26/2009	6/26/2009	
Chloroform	EPA 8260B	9F26027	25	ND	25	6/26/2009	6/26/2009	
Chloromethane	EPA 8260B	9F26027	25	ND	25	6/26/2009	6/26/2009	
2-Chlorotoluene	EPA 8260B	9F26027	25	ND	25	6/26/2009	6/26/2009	
4-Chlorotoluene	EPA 8260B	9F26027	25	ND	25	6/26/2009	6/26/2009	
1,2-Dibromo-3-chloropropane	EPA 8260B	9F26027	120	ND	25	6/26/2009	6/26/2009	
Dibromochloromethane	EPA 8260B	9F26027	25	ND	25	6/26/2009	6/26/2009	
1,2-Dibromoethane (EDB)	EPA 8260B	9F26027	25	ND	25	6/26/2009	6/26/2009	
Dibromomethane	EPA 8260B	9F26027	25	ND	25	6/26/2009	6/26/2009	
1,2-Dichlorobenzene	EPA 8260B	9F26027	25	ND	25	6/26/2009	6/26/2009	
1,3-Dichlorobenzene	EPA 8260B	9F26027	25	ND	25	6/26/2009	6/26/2009	
1,4-Dichlorobenzene	EPA 8260B	9F26027	25	ND	25	6/26/2009	6/26/2009	
Dichlorodifluoromethane	EPA 8260B	9F26027	120	ND	25	6/26/2009	6/26/2009	
1,1-Dichloroethane	EPA 8260B	9F26027	25	ND	25	6/26/2009	6/26/2009	
1,2-Dichloroethane	EPA 8260B	9F26027	12	ND	25	6/26/2009	6/26/2009	
1,1-Dichloroethene	EPA 8260B	9F26027	25	**410**	25	6/26/2009	6/26/2009	
cis-1,2-Dichloroethene	EPA 8260B	9F26027	25	ND	25	6/26/2009	6/26/2009	
trans-1,2-Dichloroethene	EPA 8260B	9F26027	25	ND	25	6/26/2009	6/26/2009	
1,2-Dichloropropane	EPA 8260B	9F26027	25	ND	25	6/26/2009	6/26/2009	
1,3-Dichloropropane	EPA 8260B	9F26027	25	ND	25	6/26/2009	6/26/2009	
2,2-Dichloropropane	EPA 8260B	9F26027	25	ND	25	6/26/2009	6/26/2009	
cis-1,3-Dichloropropene	EPA 8260B	9F26027	12	ND	25	6/26/2009	6/26/2009	
trans-1,3-Dichloropropene	EPA 8260B	9F26027	12	ND	25	6/26/2009	6/26/2009	
1,1-Dichloropropene	EPA 8260B	9F26027	25	ND	25	6/26/2009	6/26/2009	
Ethylbenzene	EPA 8260B	9F26027	25	ND	25	6/26/2009	6/26/2009	
Hexachlorobutadiene	EPA 8260B	9F26027	25	ND	25	6/26/2009	6/26/2009	
Isopropylbenzene	EPA 8260B	9F26027	25	ND	25	6/26/2009	6/26/2009	
p-Isopropyltoluene	EPA 8260B	9F26027	25	ND	25	6/26/2009	6/26/2009	
Methylene chloride	EPA 8260B	9F26027	120	ND	25	6/26/2009	6/26/2009	
Naphthalene	EPA 8260B	9F26027	25	ND	25	6/26/2009	6/26/2009	

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Project ID: Omega Wastewater
IWP number 20039
Report Number: ISF2207

Sampled: 06/22/09
Received: 06/22/09

VOLATILE ORGANICS by GC/MS (EPA 5030B/8260B)

Analyte	Method	Batch	Reporting Limit	Sample Result	Dilution Factor	Date Extracted	Date Analyzed	Data Qualifiers
Sample ID: ISF2207-04 (OC-EW4-SP140-062209 - Water) - cont.								
Reporting Units: ug/l								
n-Propylbenzene	EPA 8260B	9F26027	25	ND	25	6/26/2009	6/26/2009	
Styrene	EPA 8260B	9F26027	25	ND	25	6/26/2009	6/26/2009	
1,1,1,2-Tetrachloroethane	EPA 8260B	9F26027	25	ND	25	6/26/2009	6/26/2009	
1,1,2,2-Tetrachloroethane	EPA 8260B	9F26027	25	ND	25	6/26/2009	6/26/2009	
Tetrachloroethene	EPA 8260B	9F26027	25	**1100**	25	6/26/2009	6/26/2009	
Toluene	EPA 8260B	9F26027	25	ND	25	6/26/2009	6/26/2009	
1,2,3-Trichlorobenzene	EPA 8260B	9F26027	25	ND	25	6/26/2009	6/26/2009	
1,2,4-Trichlorobenzene	EPA 8260B	9F26027	25	ND	25	6/26/2009	6/26/2009	
1,1,1-Trichloroethane	EPA 8260B	9F26027	25	ND	25	6/26/2009	6/26/2009	
1,1,2-Trichloroethane	EPA 8260B	9F26027	25	ND	25	6/26/2009	6/26/2009	
Trichloroethene	EPA 8260B	9F26027	25	**99**	25	6/26/2009	6/26/2009	
Trichlorofluoromethane	EPA 8260B	9F26027	25	**54**	25	6/26/2009	6/26/2009	
1,2,3-Trichloropropane	EPA 8260B	9F26027	25	ND	25	6/26/2009	6/26/2009	
1,2,4-Trimethylbenzene	EPA 8260B	9F26027	25	ND	25	6/26/2009	6/26/2009	
1,3,5-Trimethylbenzene	EPA 8260B	9F26027	25	ND	25	6/26/2009	6/26/2009	
Vinyl chloride	EPA 8260B	9F26027	12	ND	25	6/26/2009	6/26/2009	
m,p-Xylenes	EPA 8260B	9F26027	25	ND	25	6/26/2009	6/26/2009	
o-Xylene	EPA 8260B	9F26027	25	ND	25	6/26/2009	6/26/2009	
Volatile Organic Compounds	EPA 8260B	9F26027	50	**1700**	25	6/26/2009	6/26/2009	
Surrogate: 4-Bromofluorobenzene (80-120%)				*91 %*				
Surrogate: Dibromofluoromethane (80-120%)				*96 %*				
Surrogate: Toluene-d8 (80-120%)				*104 %*				

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Sampled: 06/22/09
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VOLATILE ORGANICS by GC/MS (EPA 5030B/8260B)

Analyte	Method	Batch	Reporting Limit	Sample Result	Dilution Factor	Date Extracted	Date Analyzed	Data Qualifiers
Sample ID: ISF2207-05 (OC-EW5-SP150-062209 - Water)								
Reporting Units: ug/l								
Benzene	EPA 8260B	9F26027	1.2	ND	2.5	6/26/2009	6/26/2009	
Bromobenzene	EPA 8260B	9F26027	2.5	ND	2.5	6/26/2009	6/26/2009	
Bromochloromethane	EPA 8260B	9F26027	2.5	ND	2.5	6/26/2009	6/26/2009	
Bromodichloromethane	EPA 8260B	9F26027	2.5	ND	2.5	6/26/2009	6/26/2009	
Bromoform	EPA 8260B	9F26027	2.5	ND	2.5	6/26/2009	6/26/2009	
Bromomethane	EPA 8260B	9F26027	2.5	ND	2.5	6/26/2009	6/26/2009	
n-Butylbenzene	EPA 8260B	9F26027	2.5	ND	2.5	6/26/2009	6/26/2009	
sec-Butylbenzene	EPA 8260B	9F26027	2.5	ND	2.5	6/26/2009	6/26/2009	
tert-Butylbenzene	EPA 8260B	9F26027	2.5	ND	2.5	6/26/2009	6/26/2009	
Carbon tetrachloride	EPA 8260B	9F26027	1.2	ND	2.5	6/26/2009	6/26/2009	
Chlorobenzene	EPA 8260B	9F26027	2.5	ND	2.5	6/26/2009	6/26/2009	
Chloroethane	EPA 8260B	9F26027	2.5	ND	2.5	6/26/2009	6/26/2009	
Chloroform	EPA 8260B	9F26027	2.5	ND	2.5	6/26/2009	6/26/2009	
Chloromethane	EPA 8260B	9F26027	2.5	ND	2.5	6/26/2009	6/26/2009	
2-Chlorotoluene	EPA 8260B	9F26027	2.5	ND	2.5	6/26/2009	6/26/2009	
4-Chlorotoluene	EPA 8260B	9F26027	2.5	ND	2.5	6/26/2009	6/26/2009	
1,2-Dibromo-3-chloropropane	EPA 8260B	9F26027	12	ND	2.5	6/26/2009	6/26/2009	
Dibromochloromethane	EPA 8260B	9F26027	2.5	ND	2.5	6/26/2009	6/26/2009	
1,2-Dibromoethane (EDB)	EPA 8260B	9F26027	2.5	ND	2.5	6/26/2009	6/26/2009	
Dibromomethane	EPA 8260B	9F26027	2.5	ND	2.5	6/26/2009	6/26/2009	
1,2-Dichlorobenzene	EPA 8260B	9F26027	2.5	ND	2.5	6/26/2009	6/26/2009	
1,3-Dichlorobenzene	EPA 8260B	9F26027	2.5	ND	2.5	6/26/2009	6/26/2009	
1,4-Dichlorobenzene	EPA 8260B	9F26027	2.5	ND	2.5	6/26/2009	6/26/2009	
Dichlorodifluoromethane	EPA 8260B	9F26027	12	ND	2.5	6/26/2009	6/26/2009	
1,1-Dichloroethane	EPA 8260B	9F26027	2.5	ND	2.5	6/26/2009	6/26/2009	
1,2-Dichloroethane	EPA 8260B	9F26027	1.2	ND	2.5	6/26/2009	6/26/2009	
1,1-Dichloroethene	EPA 8260B	9F26027	2.5	**72**	2.5	6/26/2009	6/26/2009	
cis-1,2-Dichloroethene	EPA 8260B	9F26027	2.5	ND	2.5	6/26/2009	6/26/2009	
trans-1,2-Dichloroethene	EPA 8260B	9F26027	2.5	ND	2.5	6/26/2009	6/26/2009	
1,2-Dichloropropane	EPA 8260B	9F26027	2.5	ND	2.5	6/26/2009	6/26/2009	
1,3-Dichloropropane	EPA 8260B	9F26027	2.5	ND	2.5	6/26/2009	6/26/2009	
2,2-Dichloropropane	EPA 8260B	9F26027	2.5	ND	2.5	6/26/2009	6/26/2009	
cis-1,3-Dichloropropene	EPA 8260B	9F26027	1.2	ND	2.5	6/26/2009	6/26/2009	
trans-1,3-Dichloropropene	EPA 8260B	9F26027	1.2	ND	2.5	6/26/2009	6/26/2009	
1,1-Dichloropropene	EPA 8260B	9F26027	2.5	ND	2.5	6/26/2009	6/26/2009	
Ethylbenzene	EPA 8260B	9F26027	2.5	ND	2.5	6/26/2009	6/26/2009	
Hexachlorobutadiene	EPA 8260B	9F26027	2.5	ND	2.5	6/26/2009	6/26/2009	
Isopropylbenzene	EPA 8260B	9F26027	2.5	ND	2.5	6/26/2009	6/26/2009	
p-Isopropyltoluene	EPA 8260B	9F26027	2.5	ND	2.5	6/26/2009	6/26/2009	
Methylene chloride	EPA 8260B	9F26027	12	ND	2.5	6/26/2009	6/26/2009	
Naphthalene	EPA 8260B	9F26027	2.5	ND	2.5	6/26/2009	6/26/2009	

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Project ID: Omega Wastewater
IWP number 20039
Report Number: ISF2207

Sampled: 06/22/09
Received: 06/22/09

VOLATILE ORGANICS by GC/MS (EPA 5030B/8260B)

Analyte	Method	Batch	Reporting Limit	Sample Result	Dilution Factor	Date Extracted	Date Analyzed	Data Qualifiers
Sample ID: ISF2207-05 (OC-EW5-SP150-062209 - Water) - cont.								
Reporting Units: ug/l								
n-Propylbenzene	EPA 8260B	9F26027	2.5	ND	2.5	6/26/2009	6/26/2009	
Styrene	EPA 8260B	9F26027	2.5	ND	2.5	6/26/2009	6/26/2009	
1,1,1,2-Tetrachloroethane	EPA 8260B	9F26027	2.5	ND	2.5	6/26/2009	6/26/2009	
1,1,2,2-Tetrachloroethane	EPA 8260B	9F26027	2.5	ND	2.5	6/26/2009	6/26/2009	
Tetrachloroethene	EPA 8260B	9F26027	2.5	**120**	2.5	6/26/2009	6/26/2009	
Toluene	EPA 8260B	9F26027	2.5	ND	2.5	6/26/2009	6/26/2009	
1,2,3-Trichlorobenzene	EPA 8260B	9F26027	2.5	ND	2.5	6/26/2009	6/26/2009	
1,2,4-Trichlorobenzene	EPA 8260B	9F26027	2.5	ND	2.5	6/26/2009	6/26/2009	
1,1,1-Trichloroethane	EPA 8260B	9F26027	2.5	ND	2.5	6/26/2009	6/26/2009	
1,1,2-Trichloroethane	EPA 8260B	9F26027	2.5	ND	2.5	6/26/2009	6/26/2009	
Trichloroethene	EPA 8260B	9F26027	2.5	**12**	2.5	6/26/2009	6/26/2009	
Trichlorofluoromethane	EPA 8260B	9F26027	2.5	**29**	2.5	6/26/2009	6/26/2009	
1,2,3-Trichloropropane	EPA 8260B	9F26027	2.5	ND	2.5	6/26/2009	6/26/2009	
1,2,4-Trimethylbenzene	EPA 8260B	9F26027	2.5	ND	2.5	6/26/2009	6/26/2009	
1,3,5-Trimethylbenzene	EPA 8260B	9F26027	2.5	ND	2.5	6/26/2009	6/26/2009	
Vinyl chloride	EPA 8260B	9F26027	1.2	ND	2.5	6/26/2009	6/26/2009	
m,p-Xylenes	EPA 8260B	9F26027	2.5	ND	2.5	6/26/2009	6/26/2009	
o-Xylene	EPA 8260B	9F26027	2.5	ND	2.5	6/26/2009	6/26/2009	
Volatile Organic Compounds	EPA 8260B	9F26027	5.0	**230**	2.5	6/26/2009	6/26/2009	
Surrogate: 4-Bromofluorobenzene (80-120%)				*93 %*				
Surrogate: Dibromofluoromethane (80-120%)				*101 %*				
Surrogate: Toluene-d8 (80-120%)				*104 %*				

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Project ID: Omega Wastewater
IWP number 20039
Report Number: ISF2207

Sampled: 06/22/09
Received: 06/22/09

VOLATILE ORGANICS by GC/MS (EPA 5030B/8260B)

Analyte	Method	Batch	Reporting Limit	Sample Result	Dilution Factor	Date Extracted	Date Analyzed	Data Qualifiers
Sample ID: ISF2207-06 (OC-SP200-INF-062209 - Water)								
Reporting Units: ug/l								
Benzene	EPA 8260B	9F26027	120	ND	250	6/26/2009	6/26/2009	
Bromobenzene	EPA 8260B	9F26027	250	ND	250	6/26/2009	6/26/2009	
Bromochloromethane	EPA 8260B	9F26027	250	ND	250	6/26/2009	6/26/2009	
Bromodichloromethane	EPA 8260B	9F26027	250	ND	250	6/26/2009	6/26/2009	
Bromoform	EPA 8260B	9F26027	250	ND	250	6/26/2009	6/26/2009	
Bromomethane	EPA 8260B	9F26027	250	ND	250	6/26/2009	6/26/2009	
n-Butylbenzene	EPA 8260B	9F26027	250	ND	250	6/26/2009	6/26/2009	
sec-Butylbenzene	EPA 8260B	9F26027	250	ND	250	6/26/2009	6/26/2009	
tert-Butylbenzene	EPA 8260B	9F26027	250	ND	250	6/26/2009	6/26/2009	
Carbon tetrachloride	EPA 8260B	9F26027	120	ND	250	6/26/2009	6/26/2009	
Chlorobenzene	EPA 8260B	9F26027	250	ND	250	6/26/2009	6/26/2009	
Chloroethane	EPA 8260B	9F26027	250	ND	250	6/26/2009	6/26/2009	
Chloroform	EPA 8260B	9F26027	250	**260**	250	6/26/2009	6/26/2009	
Chloromethane	EPA 8260B	9F26027	250	ND	250	6/26/2009	6/26/2009	
2-Chlorotoluene	EPA 8260B	9F26027	250	ND	250	6/26/2009	6/26/2009	
4-Chlorotoluene	EPA 8260B	9F26027	250	ND	250	6/26/2009	6/26/2009	
1,2-Dibromo-3-chloropropane	EPA 8260B	9F26027	1200	ND	250	6/26/2009	6/26/2009	
Dibromochloromethane	EPA 8260B	9F26027	250	ND	250	6/26/2009	6/26/2009	
1,2-Dibromoethane (EDB)	EPA 8260B	9F26027	250	ND	250	6/26/2009	6/26/2009	
Dibromomethane	EPA 8260B	9F26027	250	ND	250	6/26/2009	6/26/2009	
1,2-Dichlorobenzene	EPA 8260B	9F26027	250	ND	250	6/26/2009	6/26/2009	
1,3-Dichlorobenzene	EPA 8260B	9F26027	250	ND	250	6/26/2009	6/26/2009	
1,4-Dichlorobenzene	EPA 8260B	9F26027	250	ND	250	6/26/2009	6/26/2009	
Dichlorodifluoromethane	EPA 8260B	9F26027	1200	ND	250	6/26/2009	6/26/2009	
1,1-Dichloroethane	EPA 8260B	9F26027	250	ND	250	6/26/2009	6/26/2009	
1,2-Dichloroethane	EPA 8260B	9F26027	120	ND	250	6/26/2009	6/26/2009	
1,1-Dichloroethene	EPA 8260B	9F26027	250	**400**	250	6/26/2009	6/26/2009	
cis-1,2-Dichloroethene	EPA 8260B	9F26027	250	ND	250	6/26/2009	6/26/2009	
trans-1,2-Dichloroethene	EPA 8260B	9F26027	250	ND	250	6/26/2009	6/26/2009	
1,2-Dichloropropane	EPA 8260B	9F26027	250	ND	250	6/26/2009	6/26/2009	
1,3-Dichloropropane	EPA 8260B	9F26027	250	ND	250	6/26/2009	6/26/2009	
2,2-Dichloropropane	EPA 8260B	9F26027	250	ND	250	6/26/2009	6/26/2009	
cis-1,3-Dichloropropene	EPA 8260B	9F26027	120	ND	250	6/26/2009	6/26/2009	
trans-1,3-Dichloropropene	EPA 8260B	9F26027	120	ND	250	6/26/2009	6/26/2009	
1,1-Dichloropropene	EPA 8260B	9F26027	250	ND	250	6/26/2009	6/26/2009	
Ethylbenzene	EPA 8260B	9F26027	250	ND	250	6/26/2009	6/26/2009	
Hexachlorobutadiene	EPA 8260B	9F26027	250	ND	250	6/26/2009	6/26/2009	
Isopropylbenzene	EPA 8260B	9F26027	250	ND	250	6/26/2009	6/26/2009	
p-Isopropyltoluene	EPA 8260B	9F26027	250	ND	250	6/26/2009	6/26/2009	
Methylene chloride	EPA 8260B	9F26027	1200	ND	250	6/26/2009	6/26/2009	
Naphthalene	EPA 8260B	9F26027	250	ND	250	6/26/2009	6/26/2009	

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Camp, Dresser & McKee
111 Academy, Ste 150
Irvine, CA 92617
Attention: Sharon Wallin

Project ID: Omega Wastewater
IWP number 20039
Report Number: ISF2207

Sampled: 06/22/09
Received: 06/22/09

VOLATILE ORGANICS by GC/MS (EPA 5030B/8260B)

Analyte	Method	Batch	Reporting Limit	Sample Result	Dilution Factor	Date Extracted	Date Analyzed	Data Qualifiers
Sample ID: ISF2207-06 (OC-SP200-INF-062209 - Water) - cont.								
Reporting Units: ug/l								
n-Propylbenzene	EPA 8260B	9F26027	250	ND	250	6/26/2009	6/26/2009	
Styrene	EPA 8260B	9F26027	250	ND	250	6/26/2009	6/26/2009	
1,1,1,2-Tetrachloroethane	EPA 8260B	9F26027	250	ND	250	6/26/2009	6/26/2009	
1,1,2,2-Tetrachloroethane	EPA 8260B	9F26027	250	ND	250	6/26/2009	6/26/2009	
Tetrachloroethene	EPA 8260B	9F26027	250	**15000**	250	6/26/2009	6/26/2009	
Toluene	EPA 8260B	9F26027	250	ND	250	6/26/2009	6/26/2009	
1,2,3-Trichlorobenzene	EPA 8260B	9F26027	250	ND	250	6/26/2009	6/26/2009	
1,2,4-Trichlorobenzene	EPA 8260B	9F26027	250	ND	250	6/26/2009	6/26/2009	
1,1,1-Trichloroethane	EPA 8260B	9F26027	250	ND	250	6/26/2009	6/26/2009	
1,1,2-Trichloroethane	EPA 8260B	9F26027	250	ND	250	6/26/2009	6/26/2009	
Trichloroethene	EPA 8260B	9F26027	250	**440**	250	6/26/2009	6/26/2009	
Trichlorofluoromethane	EPA 8260B	9F26027	250	ND	250	6/26/2009	6/26/2009	
1,2,3-Trichloropropane	EPA 8260B	9F26027	250	ND	250	6/26/2009	6/26/2009	
1,2,4-Trimethylbenzene	EPA 8260B	9F26027	250	ND	250	6/26/2009	6/26/2009	
1,3,5-Trimethylbenzene	EPA 8260B	9F26027	250	ND	250	6/26/2009	6/26/2009	
Vinyl chloride	EPA 8260B	9F26027	120	ND	250	6/26/2009	6/26/2009	
m,p-Xylenes	EPA 8260B	9F26027	250	ND	250	6/26/2009	6/26/2009	
o-Xylene	EPA 8260B	9F26027	250	ND	250	6/26/2009	6/26/2009	
Volatile Organic Compounds	EPA 8260B	9F26027	500	**16000**	250	6/26/2009	6/26/2009	
Surrogate: 4-Bromofluorobenzene (80-120%)				*97 %*				
Surrogate: Dibromofluoromethane (80-120%)				*102 %*				
Surrogate: Toluene-d8 (80-120%)				*111 %*				

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Irvine, CA 92617
Attention: Sharon Wallin

Project ID: Omega Wastewater
IWP number 20039
Report Number: ISF2207

Sampled: 06/22/09
Received: 06/22/09

VOLATILE ORGANICS by GC/MS (EPA 5030B/8260B)

Analyte	Method	Batch	Reporting Limit	Sample Result	Dilution Factor	Date Extracted	Date Analyzed	Data Qualifiers
Sample ID: ISF2207-07 (OC-SP220A-EFF-062209 - Water)								
Reporting Units: ug/l								
Benzene	EPA 8260B	9F23021	0.50	ND	1	6/23/2009	6/23/2009	
Bromobenzene	EPA 8260B	9F23021	1.0	ND	1	6/23/2009	6/23/2009	
Bromochloromethane	EPA 8260B	9F23021	1.0	ND	1	6/23/2009	6/23/2009	
Bromodichloromethane	EPA 8260B	9F23021	1.0	ND	1	6/23/2009	6/23/2009	
Bromoform	EPA 8260B	9F23021	1.0	ND	1	6/23/2009	6/23/2009	
Bromomethane	EPA 8260B	9F23021	1.0	ND	1	6/23/2009	6/23/2009	
n-Butylbenzene	EPA 8260B	9F23021	1.0	ND	1	6/23/2009	6/23/2009	
sec-Butylbenzene	EPA 8260B	9F23021	1.0	ND	1	6/23/2009	6/23/2009	
tert-Butylbenzene	EPA 8260B	9F23021	1.0	ND	1	6/23/2009	6/23/2009	
Carbon tetrachloride	EPA 8260B	9F23021	0.50	ND	1	6/23/2009	6/23/2009	
Chlorobenzene	EPA 8260B	9F23021	1.0	ND	1	6/23/2009	6/23/2009	
Chloroethane	EPA 8260B	9F23021	1.0	ND	1	6/23/2009	6/23/2009	
Chloroform	EPA 8260B	9F23021	1.0	ND	1	6/23/2009	6/23/2009	
Chloromethane	EPA 8260B	9F23021	1.0	ND	1	6/23/2009	6/23/2009	
2-Chlorotoluene	EPA 8260B	9F23021	1.0	ND	1	6/23/2009	6/23/2009	
4-Chlorotoluene	EPA 8260B	9F23021	1.0	ND	1	6/23/2009	6/23/2009	
1,2-Dibromo-3-chloropropane	EPA 8260B	9F23021	5.0	ND	1	6/23/2009	6/23/2009	
Dibromochloromethane	EPA 8260B	9F23021	1.0	ND	1	6/23/2009	6/23/2009	
1,2-Dibromoethane (EDB)	EPA 8260B	9F23021	1.0	ND	1	6/23/2009	6/23/2009	
Dibromomethane	EPA 8260B	9F23021	1.0	ND	1	6/23/2009	6/23/2009	
1,2-Dichlorobenzene	EPA 8260B	9F23021	1.0	ND	1	6/23/2009	6/23/2009	
1,3-Dichlorobenzene	EPA 8260B	9F23021	1.0	ND	1	6/23/2009	6/23/2009	
1,4-Dichlorobenzene	EPA 8260B	9F23021	1.0	ND	1	6/23/2009	6/23/2009	
Dichlorodifluoromethane	EPA 8260B	9F23021	5.0	ND	1	6/23/2009	6/23/2009	
1,1-Dichloroethane	EPA 8260B	9F23021	1.0	ND	1	6/23/2009	6/23/2009	
1,2-Dichloroethane	EPA 8260B	9F23021	0.50	ND	1	6/23/2009	6/23/2009	
1,1-Dichloroethene	EPA 8260B	9F23021	1.0	ND	1	6/23/2009	6/23/2009	
cis-1,2-Dichloroethene	EPA 8260B	9F23021	1.0	ND	1	6/23/2009	6/23/2009	
trans-1,2-Dichloroethene	EPA 8260B	9F23021	1.0	ND	1	6/23/2009	6/23/2009	
1,2-Dichloropropane	EPA 8260B	9F23021	1.0	ND	1	6/23/2009	6/23/2009	
1,3-Dichloropropane	EPA 8260B	9F23021	1.0	ND	1	6/23/2009	6/23/2009	
2,2-Dichloropropane	EPA 8260B	9F23021	1.0	ND	1	6/23/2009	6/23/2009	
cis-1,3-Dichloropropene	EPA 8260B	9F23021	0.50	ND	1	6/23/2009	6/23/2009	
trans-1,3-Dichloropropene	EPA 8260B	9F23021	0.50	ND	1	6/23/2009	6/23/2009	
1,1-Dichloropropene	EPA 8260B	9F23021	1.0	ND	1	6/23/2009	6/23/2009	
Ethylbenzene	EPA 8260B	9F23021	1.0	ND	1	6/23/2009	6/23/2009	
Hexachlorobutadiene	EPA 8260B	9F23021	1.0	ND	1	6/23/2009	6/23/2009	
Isopropylbenzene	EPA 8260B	9F23021	1.0	ND	1	6/23/2009	6/23/2009	
p-Isopropyltoluene	EPA 8260B	9F23021	1.0	ND	1	6/23/2009	6/23/2009	
Methylene chloride	EPA 8260B	9F23021	5.0	ND	1	6/23/2009	6/23/2009	
Naphthalene	EPA 8260B	9F23021	1.0	ND	1	6/23/2009	6/23/2009	

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Camp, Dresser & McKee
111 Academy, Ste 150
Irvine, CA 92617
Attention: Sharon Wallin

Project ID: Omega Wastewater
IWP number 20039
Report Number: ISF2207

Sampled: 06/22/09
Received: 06/22/09

VOLATILE ORGANICS by GC/MS (EPA 5030B/8260B)

Analyte	Method	Batch	Reporting Limit	Sample Result	Dilution Factor	Date Extracted	Date Analyzed	Data Qualifiers
Sample ID: ISF2207-07 (OC-SP220A-EFF-062209 - Water) - cont.								
Reporting Units: ug/l								
n-Propylbenzene	EPA 8260B	9F23021	1.0	ND	1	6/23/2009	6/23/2009	
Styrene	EPA 8260B	9F23021	1.0	ND	1	6/23/2009	6/23/2009	
1,1,1,2-Tetrachloroethane	EPA 8260B	9F23021	1.0	ND	1	6/23/2009	6/23/2009	
1,1,2,2-Tetrachloroethane	EPA 8260B	9F23021	1.0	ND	1	6/23/2009	6/23/2009	
Tetrachloroethene	EPA 8260B	9F23021	1.0	ND	1	6/23/2009	6/23/2009	
Toluene	EPA 8260B	9F23021	1.0	ND	1	6/23/2009	6/23/2009	
1,2,3-Trichlorobenzene	EPA 8260B	9F23021	1.0	ND	1	6/23/2009	6/23/2009	
1,2,4-Trichlorobenzene	EPA 8260B	9F23021	1.0	ND	1	6/23/2009	6/23/2009	
1,1,1-Trichloroethane	EPA 8260B	9F23021	1.0	ND	1	6/23/2009	6/23/2009	
1,1,2-Trichloroethane	EPA 8260B	9F23021	1.0	ND	1	6/23/2009	6/23/2009	
Trichloroethene	EPA 8260B	9F23021	1.0	ND	1	6/23/2009	6/23/2009	
Trichlorofluoromethane	EPA 8260B	9F23021	1.0	ND	1	6/23/2009	6/23/2009	
1,2,3-Trichloropropane	EPA 8260B	9F23021	1.0	ND	1	6/23/2009	6/23/2009	
1,2,4-Trimethylbenzene	EPA 8260B	9F23021	1.0	ND	1	6/23/2009	6/23/2009	
1,3,5-Trimethylbenzene	EPA 8260B	9F23021	1.0	ND	1	6/23/2009	6/23/2009	
Vinyl chloride	EPA 8260B	9F23021	0.50	ND	1	6/23/2009	6/23/2009	
m,p-Xylenes	EPA 8260B	9F23021	1.0	ND	1	6/23/2009	6/23/2009	
o-Xylene	EPA 8260B	9F23021	1.0	ND	1	6/23/2009	6/23/2009	
Volatile Organic Compounds	EPA 8260B	9F23021	2.0	ND	1	6/23/2009	6/23/2009	
Surrogate: 4-Bromofluorobenzene (80-120%)				*94 %*				
Surrogate: Dibromofluoromethane (80-120%)				*99 %*				
Surrogate: Toluene-d8 (80-120%)				*106 %*				

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Attention: Sharon Wallin

Project ID: Omega Wastewater
IWP number 20039
Report Number: ISF2207

Sampled: 06/22/09
Received: 06/22/09

SEMI-VOLATILE ORGANICS BY GC/MS (EPA 3520C/8270C MOD)

Analyte	Method	Batch	Reporting Limit	Sample Result	Dilution Factor	Date Extracted	Date Analyzed	Data Qualifiers
Sample ID: ISF2207-01 (OC-EW1-SP110-062209 - Water)								
Reporting Units: ug/l								
1,4-Dioxane	EPA 8270C	9F24099	0.47	**0.47**	0.943	6/24/2009	6/27/2009	
Surrogate: 1,4-Dioxane-d8 (30-120%)				*63 %*				
Sample ID: ISF2207-02 (OC-EW2-SP120-062209 - Water)								
Reporting Units: ug/l								
1,4-Dioxane	EPA 8270C	9F24099	94	**980**	189	6/24/2009	6/27/2009	
Surrogate: 1,4-Dioxane-d8 (30-120%)				*				*Z3*
Sample ID: ISF2207-03 (OC-EW3-SP130-062209 - Water)								
Reporting Units: ug/l								
1,4-Dioxane	EPA 8270C	9F24099	0.48	**0.97**	0.962	6/24/2009	6/27/2009	
Surrogate: 1,4-Dioxane-d8 (30-120%)				*56 %*				
Sample ID: ISF2207-04 (OC-EW4-SP140-062209 - Water)								
Reporting Units: ug/l								
1,4-Dioxane	EPA 8270C	9F24099	0.48	ND	0.962	6/24/2009	6/27/2009	
Surrogate: 1,4-Dioxane-d8 (30-120%)				*55 %*				
Sample ID: ISF2207-05 (OC-EW5-SP150-062209 - Water)								
Reporting Units: ug/l								
1,4-Dioxane	EPA 8270C	9F24099	0.49	ND	0.971	6/24/2009	6/27/2009	
Surrogate: 1,4-Dioxane-d8 (30-120%)				*40 %*				
Sample ID: ISF2207-06 (OC-SP200-INF-062209 - Water)								
Reporting Units: ug/l								
1,4-Dioxane	EPA 8270C	9F24099	24	**280**	47.2	6/24/2009	6/27/2009	
Surrogate: 1,4-Dioxane-d8 (30-120%)				*381 %*				*Z3*
Sample ID: ISF2207-07 (OC-SP220A-EFF-062209 - Water)								
Reporting Units: ug/l								
1,4-Dioxane	EPA 8270C	9F22121	47	**250**	94.3	6/22/2009	6/24/2009	
Surrogate: 1,4-Dioxane-d8 (30-120%)				*				*Z3*

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Irvine, CA 92617
Attention: Sharon Wallin

Project ID: Omega Wastewater
IWP number 20039
Report Number: ISF2207

Sampled: 06/22/09
Received: 06/22/09

INORGANICS

Analyte	Method	Batch	Reporting Limit	Sample Result	Dilution Factor	Date Extracted	Date Analyzed	Data Qualifiers
Sample ID: ISF2207-07 (OC-SP220A-EFF-062209 - Water)								
Reporting Units: pH Units								
pH	SM4500-H,B	9F23055	0.100	**8.44**	1	6/23/2009	6/23/2009	HFT

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IWP number 20039
Report Number: ISF2207

Sampled: 06/22/09
Received: 06/22/09

SHORT HOLD TIME DETAIL REPORT

	Hold Time (in days)	Date/Time Sampled	Date/Time Received	Date/Time Extracted	Date/Time Analyzed
Sample ID: OC-SP220A-EFF-062209 (ISF2207-07) - Water					
SM4500-H,B	0	06/22/2009 12:45	06/22/2009 16:15	06/23/2009 07:00	06/23/2009 07:00

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Camp, Dresser & McKee	Project ID:	Omega Wastewater	
111 Academy, Ste 150		IWP number 20039	Sampled: 06/22/09
Irvine, CA 92617	Report Number:	ISF2207	Received: 06/22/09
Attention: Sharon Wallin			

METHOD BLANK/QC DATA

VOLATILE ORGANICS by GC/MS (EPA 5030B/8260B)

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Data Qualifiers
Batch: 9F23021 Extracted: 06/23/09										
Blank Analyzed: 06/23/2009 (9F23021-BLK1)										
Benzene	ND	0.50	ug/l							
Bromobenzene	ND	1.0	ug/l							
Bromochloromethane	ND	1.0	ug/l							
Bromodichloromethane	ND	1.0	ug/l							
Bromoform	ND	1.0	ug/l							
Bromomethane	ND	1.0	ug/l							
n-Butylbenzene	ND	1.0	ug/l							
sec-Butylbenzene	ND	1.0	ug/l							
tert-Butylbenzene	ND	1.0	ug/l							
Carbon tetrachloride	ND	0.50	ug/l							
Chlorobenzene	ND	1.0	ug/l							
Chloroethane	ND	1.0	ug/l							
Chloroform	ND	1.0	ug/l							
Chloromethane	ND	1.0	ug/l							
2-Chlorotoluene	ND	1.0	ug/l							
4-Chlorotoluene	ND	1.0	ug/l							
1,2-Dibromo-3-chloropropane	ND	5.0	ug/l							
Dibromochloromethane	ND	1.0	ug/l							
1,2-Dibromoethane (EDB)	ND	1.0	ug/l							
Dibromomethane	ND	1.0	ug/l							
1,2-Dichlorobenzene	ND	1.0	ug/l							
1,3-Dichlorobenzene	ND	1.0	ug/l							
1,4-Dichlorobenzene	ND	1.0	ug/l							
Dichlorodifluoromethane	ND	5.0	ug/l							
1,1-Dichloroethane	ND	1.0	ug/l							
1,2-Dichloroethane	ND	0.50	ug/l							
1,1-Dichloroethene	ND	1.0	ug/l							
cis-1,2-Dichloroethene	ND	1.0	ug/l							
trans-1,2-Dichloroethene	ND	1.0	ug/l							
1,2-Dichloropropane	ND	1.0	ug/l							
1,3-Dichloropropane	ND	1.0	ug/l							
2,2-Dichloropropane	ND	1.0	ug/l							
cis-1,3-Dichloropropene	ND	0.50	ug/l							
trans-1,3-Dichloropropene	ND	0.50	ug/l							
1,1-Dichloropropene	ND	1.0	ug/l							
Ethylbenzene	ND	1.0	ug/l							

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Camp, Dresser & McKee 111 Academy, Ste 150 Irvine, CA 92617 Attention: Sharon Wallin	Project ID: Report Number:	Omega Wastewater IWP number 20039 ISF2207	Sampled: 06/22/09 Received: 06/22/09

METHOD BLANK/QC DATA

VOLATILE ORGANICS by GC/MS (EPA 5030B/8260B)

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Data Qualifiers
Batch: 9F23021 Extracted: 06/23/09										
Blank Analyzed: 06/23/2009 (9F23021-BLK1)										
Hexachlorobutadiene	ND	1.0	ug/l							
Isopropylbenzene	ND	1.0	ug/l							
p-Isopropyltoluene	ND	1.0	ug/l							
Methylene chloride	ND	5.0	ug/l							
Naphthalene	ND	1.0	ug/l							
n-Propylbenzene	ND	1.0	ug/l							
Styrene	ND	1.0	ug/l							
1,1,1,2-Tetrachloroethane	ND	1.0	ug/l							
1,1,2,2-Tetrachloroethane	ND	1.0	ug/l							
Tetrachloroethene	ND	1.0	ug/l							
Toluene	ND	1.0	ug/l							
1,2,3-Trichlorobenzene	ND	1.0	ug/l							
1,2,4-Trichlorobenzene	ND	1.0	ug/l							
1,1,1-Trichloroethane	ND	1.0	ug/l							
1,1,2-Trichloroethane	ND	1.0	ug/l							
Trichloroethene	ND	1.0	ug/l							
Trichlorofluoromethane	ND	1.0	ug/l							
1,2,3-Trichloropropane	ND	1.0	ug/l							
1,2,4-Trimethylbenzene	ND	1.0	ug/l							
1,3,5-Trimethylbenzene	ND	1.0	ug/l							
Vinyl chloride	ND	0.50	ug/l							
m,p-Xylenes	ND	1.0	ug/l							
o-Xylene	ND	1.0	ug/l							
Volatile Organic Compounds	ND	2.0	ug/l							
Surrogate: 4-Bromofluorobenzene	*23.7*		*ug/l*	*25.0*		*95*	*80-120*			
Surrogate: 4-Bromofluorobenzene	*23.7*		*ug/l*	*25.0*		*95*	*80-120*			
Surrogate: Dibromofluoromethane	*24.3*		*ug/l*	*25.0*		*97*	*80-120*			
Surrogate: Dibromofluoromethane	*24.3*		*ug/l*	*25.0*		*97*	*80-120*			
Surrogate: Toluene-d8	*26.4*		*ug/l*	*25.0*		*106*	*80-120*			
Surrogate: Toluene-d8	*26.4*		*ug/l*	*25.0*		*106*	*80-120*			

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Project Manager

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Camp, Dresser & McKee
111 Academy, Ste 150
Irvine, CA 92617
Attention: Sharon Wallin

Project ID: Omega Wastewater
IWP number 20039
Report Number: ISF2207

Sampled: 06/22/09
Received: 06/22/09

METHOD BLANK/QC DATA

VOLATILE ORGANICS by GC/MS (EPA 5030B/8260B)

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Data Qualifiers
Batch: 9F23021 Extracted: 06/23/09										
LCS Analyzed: 06/23/2009 (9F23021-BS1)										
Benzene	25.8	0.50	ug/l	25.0		103	70-120			
Bromobenzene	27.4	1.0	ug/l	25.0		110	75-120			
Bromochloromethane	29.0	1.0	ug/l	25.0		116	70-130			
Bromodichloromethane	28.4	1.0	ug/l	25.0		113	70-135			
Bromoform	25.8	1.0	ug/l	25.0		103	55-130			
Bromomethane	26.7	1.0	ug/l	25.0		107	65-140			
n-Butylbenzene	25.5	1.0	ug/l	25.0		102	70-130			
sec-Butylbenzene	24.8	1.0	ug/l	25.0		99	70-125			
tert-Butylbenzene	26.1	1.0	ug/l	25.0		104	70-125			
Carbon tetrachloride	28.3	0.50	ug/l	25.0		113	65-140			
Chlorobenzene	28.0	1.0	ug/l	25.0		112	75-120			
Chloroethane	26.6	1.0	ug/l	25.0		106	60-140			
Chloroform	23.5	1.0	ug/l	25.0		94	70-130			
Chloromethane	28.8	1.0	ug/l	25.0		115	50-140			
2-Chlorotoluene	25.8	1.0	ug/l	25.0		103	70-125			
4-Chlorotoluene	25.5	1.0	ug/l	25.0		102	75-125			
1,2-Dibromo-3-chloropropane	24.0	5.0	ug/l	25.0		96	50-135			
Dibromochloromethane	29.5	1.0	ug/l	25.0		118	70-140			
1,2-Dibromoethane (EDB)	26.6	1.0	ug/l	25.0		106	75-125			
Dibromomethane	27.8	1.0	ug/l	25.0		111	70-125			
1,2-Dichlorobenzene	27.5	1.0	ug/l	25.0		110	75-120			
1,3-Dichlorobenzene	27.9	1.0	ug/l	25.0		111	75-120			
1,4-Dichlorobenzene	26.6	1.0	ug/l	25.0		106	75-120			
Dichlorodifluoromethane	36.2	5.0	ug/l	25.0		145	35-155			
1,1-Dichloroethane	23.9	1.0	ug/l	25.0		96	70-125			
1,2-Dichloroethane	24.9	0.50	ug/l	25.0		99	60-140			
1,1-Dichloroethene	26.8	1.0	ug/l	25.0		107	70-125			
cis-1,2-Dichloroethene	26.9	1.0	ug/l	25.0		108	70-125			
trans-1,2-Dichloroethene	26.9	1.0	ug/l	25.0		108	70-125			
1,2-Dichloropropane	25.7	1.0	ug/l	25.0		103	70-125			
1,3-Dichloropropane	27.4	1.0	ug/l	25.0		110	70-120			
2,2-Dichloropropane	25.9	1.0	ug/l	25.0		104	65-140			
cis-1,3-Dichloropropene	28.4	0.50	ug/l	25.0		114	75-125			
trans-1,3-Dichloropropene	27.7	0.50	ug/l	25.0		111	70-125			
1,1-Dichloropropene	26.9	1.0	ug/l	25.0		108	75-130			
Ethylbenzene	26.6	1.0	ug/l	25.0		106	75-125			

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111 Academy, Ste 150
Irvine, CA 92617
Attention: Sharon Wallin

Project ID: Omega Wastewater
IWP number 20039
Report Number: ISF2207

Sampled: 06/22/09
Received: 06/22/09

METHOD BLANK/QC DATA

VOLATILE ORGANICS by GC/MS (EPA 5030B/8260B)

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Data Qualifiers
Batch: 9F23021 Extracted: 06/23/09										
LCS Analyzed: 06/23/2009 (9F23021-BS1)										
Hexachlorobutadiene	22.7	1.0	ug/l	25.0		91	65-135			
Isopropylbenzene	26.9	1.0	ug/l	25.0		108	75-130			
p-Isopropyltoluene	26.1	1.0	ug/l	25.0		104	75-125			
Methylene chloride	27.6	5.0	ug/l	25.0		110	55-130			
Naphthalene	25.0	1.0	ug/l	25.0		100	55-135			
n-Propylbenzene	25.2	1.0	ug/l	25.0		101	75-130			
Styrene	28.7	1.0	ug/l	25.0		115	75-130			
1,1,1,2-Tetrachloroethane	28.8	1.0	ug/l	25.0		115	70-130			
1,1,2,2-Tetrachloroethane	28.2	1.0	ug/l	25.0		113	55-130			
Tetrachloroethene	26.7	1.0	ug/l	25.0		107	70-125			
Toluene	27.3	1.0	ug/l	25.0		109	70-120			
1,2,3-Trichlorobenzene	24.4	1.0	ug/l	25.0		98	65-125			
1,2,4-Trichlorobenzene	26.3	1.0	ug/l	25.0		105	70-135			
1,1,1-Trichloroethane	26.8	1.0	ug/l	25.0		107	65-135			
1,1,2-Trichloroethane	28.1	1.0	ug/l	25.0		112	70-125			
Trichloroethene	27.6	1.0	ug/l	25.0		110	70-125			
Trichlorofluoromethane	26.5	1.0	ug/l	25.0		106	65-145			
1,2,3-Trichloropropane	24.6	1.0	ug/l	25.0		99	60-130			
1,2,4-Trimethylbenzene	25.2	1.0	ug/l	25.0		101	75-125			
1,3,5-Trimethylbenzene	25.8	1.0	ug/l	25.0		103	75-125			
Vinyl chloride	28.6	0.50	ug/l	25.0		115	55-135			
m,p-Xylenes	52.6	1.0	ug/l	50.0		105	75-125			
o-Xylene	27.1	1.0	ug/l	25.0		109	75-125			
Surrogate: 4-Bromofluorobenzene	*24.8*		*ug/l*	*25.0*		*99*	*80-120*			
Surrogate: 4-Bromofluorobenzene	*24.8*		*ug/l*	*25.0*		*99*	*80-120*			
Surrogate: Dibromofluoromethane	*25.8*		*ug/l*	*25.0*		*103*	*80-120*			
Surrogate: Dibromofluoromethane	*25.8*		*ug/l*	*25.0*		*103*	*80-120*			
Surrogate: Toluene-d8	*26.3*		*ug/l*	*25.0*		*105*	*80-120*			
Surrogate: Toluene-d8	*26.3*		*ug/l*	*25.0*		*105*	*80-120*			

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IWP number 20039
Report Number: ISF2207

Sampled: 06/22/09
Received: 06/22/09

METHOD BLANK/QC DATA

VOLATILE ORGANICS by GC/MS (EPA 5030B/8260B)

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Data Qualifiers
Batch: 9F23021 Extracted: 06/23/09										
Matrix Spike Analyzed: 06/23/2009 (9F23021-MS1)					**Source: ISF2045-08**					
Benzene	252	5.0	ug/l	250	ND	101	65-125			
Bromobenzene	268	10	ug/l	250	ND	107	70-125			
Bromochloromethane	290	10	ug/l	250	ND	116	65-135			
Bromodichloromethane	284	10	ug/l	250	ND	113	70-135			
Bromoform	256	10	ug/l	250	ND	103	55-135			
Bromomethane	227	10	ug/l	250	ND	91	55-145			
n-Butylbenzene	241	10	ug/l	250	ND	96	65-135			
sec-Butylbenzene	234	10	ug/l	250	ND	93	70-125			
tert-Butylbenzene	245	10	ug/l	250	ND	98	65-130			
Carbon tetrachloride	268	5.0	ug/l	250	ND	107	65-140			
Chlorobenzene	271	10	ug/l	250	ND	109	75-125			
Chloroethane	233	10	ug/l	250	ND	93	55-140			
Chloroform	232	10	ug/l	250	ND	93	65-135			
Chloromethane	215	10	ug/l	250	ND	86	45-145			
2-Chlorotoluene	245	10	ug/l	250	ND	98	65-135			
4-Chlorotoluene	244	10	ug/l	250	ND	98	70-135			
1,2-Dibromo-3-chloropropane	238	50	ug/l	250	ND	95	45-145			
Dibromochloromethane	295	10	ug/l	250	ND	118	65-140			
1,2-Dibromoethane (EDB)	266	10	ug/l	250	ND	106	70-130			
Dibromomethane	283	10	ug/l	250	ND	113	65-135			
1,2-Dichlorobenzene	268	10	ug/l	250	ND	107	75-125			
1,3-Dichlorobenzene	268	10	ug/l	250	ND	107	75-125			
1,4-Dichlorobenzene	255	10	ug/l	250	ND	102	75-125			
Dichlorodifluoromethane	200	50	ug/l	250	ND	80	25-155			
1,1-Dichloroethane	229	10	ug/l	250	ND	92	65-130			
1,2-Dichloroethane	252	5.0	ug/l	250	ND	101	60-140			
1,1-Dichloroethene	246	10	ug/l	250	ND	98	60-130			
cis-1,2-Dichloroethene	264	10	ug/l	250	ND	105	65-130			
trans-1,2-Dichloroethene	251	10	ug/l	250	ND	101	65-130			
1,2-Dichloropropane	255	10	ug/l	250	ND	102	65-130			
1,3-Dichloropropane	274	10	ug/l	250	ND	110	65-135			
2,2-Dichloropropane	252	10	ug/l	250	ND	101	60-145			
cis-1,3-Dichloropropene	286	5.0	ug/l	250	ND	114	70-130			
trans-1,3-Dichloropropene	282	5.0	ug/l	250	ND	113	65-135			
1,1-Dichloropropene	258	10	ug/l	250	ND	103	70-135			
Ethylbenzene	256	10	ug/l	250	ND	102	65-130			

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Project ID: Omega Wastewater
IWP number 20039
Report Number: ISF2207

Sampled: 06/22/09
Received: 06/22/09

METHOD BLANK/QC DATA

VOLATILE ORGANICS by GC/MS (EPA 5030B/8260B)

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Data Qualifiers
Batch: 9F23021 Extracted: 06/23/09										
Matrix Spike Analyzed: 06/23/2009 (9F23021-MS1)					**Source: ISF2045-08**					
Hexachlorobutadiene	212	10	ug/l	250	ND	85	60-135			
Isopropylbenzene	253	10	ug/l	250	ND	101	70-135			
p-Isopropyltoluene	245	10	ug/l	250	ND	98	65-130			
Methylene chloride	268	50	ug/l	250	ND	107	50-135			
Naphthalene	247	10	ug/l	250	ND	99	50-140			
n-Propylbenzene	238	10	ug/l	250	ND	95	70-135			
Styrene	278	10	ug/l	250	ND	111	50-145			
1,1,1,2-Tetrachloroethane	282	10	ug/l	250	ND	113	65-140			
1,1,2,2-Tetrachloroethane	286	10	ug/l	250	ND	114	55-135			
Tetrachloroethene	254	10	ug/l	250	ND	101	65-130			
Toluene	270	10	ug/l	250	ND	108	70-125			
1,2,3-Trichlorobenzene	236	10	ug/l	250	ND	95	60-135			
1,2,4-Trichlorobenzene	255	10	ug/l	250	ND	102	65-135			
1,1,1-Trichloroethane	258	10	ug/l	250	ND	103	65-140			
1,1,2-Trichloroethane	292	10	ug/l	250	ND	117	65-130			
Trichloroethene	267	10	ug/l	250	ND	107	65-125			
Trichlorofluoromethane	232	10	ug/l	250	ND	93	60-145			
1,2,3-Trichloropropane	251	10	ug/l	250	ND	101	55-135			
1,2,4-Trimethylbenzene	240	10	ug/l	250	ND	96	55-135			
1,3,5-Trimethylbenzene	243	10	ug/l	250	ND	97	70-130			
Vinyl chloride	224	5.0	ug/l	250	ND	90	45-140			
m,p-Xylenes	507	10	ug/l	500	ND	101	65-130			
o-Xylene	260	10	ug/l	250	ND	104	65-125			
Surrogate: 4-Bromofluorobenzene	*248*		*ug/l*	*250*		*99*	*80-120*			
Surrogate: 4-Bromofluorobenzene	*248*		*ug/l*	*250*		*99*	*80-120*			
Surrogate: Dibromofluoromethane	*265*		*ug/l*	*250*		*106*	*80-120*			
Surrogate: Dibromofluoromethane	*265*		*ug/l*	*250*		*106*	*80-120*			
Surrogate: Toluene-d8	*262*		*ug/l*	*250*		*105*	*80-120*			
Surrogate: Toluene-d8	*262*		*ug/l*	*250*		*105*	*80-120*			

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Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Data Qualifiers
Batch: 9F23021 Extracted: 06/23/09										
Matrix Spike Dup Analyzed: 06/23/2009 (9F23021-MSD1)					**Source: ISF2045-08**					
Benzene	256	5.0	ug/l	250	ND	102	65-125	2	20	
Bromobenzene	272	10	ug/l	250	ND	109	70-125	2	20	
Bromochloromethane	314	10	ug/l	250	ND	125	65-135	8	25	
Bromodichloromethane	293	10	ug/l	250	ND	117	70-135	3	20	
Bromoform	262	10	ug/l	250	ND	105	55-135	2	25	
Bromomethane	247	10	ug/l	250	ND	99	55-145	8	25	
n-Butylbenzene	246	10	ug/l	250	ND	98	65-135	2	20	
sec-Butylbenzene	236	10	ug/l	250	ND	94	70-125	1	20	
tert-Butylbenzene	245	10	ug/l	250	ND	98	65-130	0	20	
Carbon tetrachloride	270	5.0	ug/l	250	ND	108	65-140	1	25	
Chlorobenzene	275	10	ug/l	250	ND	110	75-125	1	20	
Chloroethane	244	10	ug/l	250	ND	98	55-140	5	25	
Chloroform	245	10	ug/l	250	ND	98	65-135	6	20	
Chloromethane	230	10	ug/l	250	ND	92	45-145	6	25	
2-Chlorotoluene	247	10	ug/l	250	ND	99	65-135	1	20	
4-Chlorotoluene	248	10	ug/l	250	ND	99	70-135	2	20	
1,2-Dibromo-3-chloropropane	236	50	ug/l	250	ND	95	45-145	1	30	
Dibromochloromethane	300	10	ug/l	250	ND	120	65-140	2	25	
1,2-Dibromoethane (EDB)	277	10	ug/l	250	ND	111	70-130	4	25	
Dibromomethane	291	10	ug/l	250	ND	116	65-135	3	25	
1,2-Dichlorobenzene	273	10	ug/l	250	ND	109	75-125	2	20	
1,3-Dichlorobenzene	271	10	ug/l	250	ND	108	75-125	1	20	
1,4-Dichlorobenzene	261	10	ug/l	250	ND	104	75-125	2	20	
Dichlorodifluoromethane	205	50	ug/l	250	ND	82	25-155	3	30	
1,1-Dichloroethane	243	10	ug/l	250	ND	97	65-130	6	20	
1,2-Dichloroethane	259	5.0	ug/l	250	ND	104	60-140	3	20	
1,1-Dichloroethene	258	10	ug/l	250	ND	103	60-130	5	20	
cis-1,2-Dichloroethene	280	10	ug/l	250	ND	112	65-130	6	20	
trans-1,2-Dichloroethene	264	10	ug/l	250	ND	106	65-130	5	20	
1,2-Dichloropropane	262	10	ug/l	250	ND	105	65-130	3	20	
1,3-Dichloropropane	283	10	ug/l	250	ND	113	65-135	3	25	
2,2-Dichloropropane	266	10	ug/l	250	ND	106	60-145	6	25	
cis-1,3-Dichloropropene	295	5.0	ug/l	250	ND	118	70-130	3	20	
trans-1,3-Dichloropropene	292	5.0	ug/l	250	ND	117	65-135	4	25	
1,1-Dichloropropene	259	10	ug/l	250	ND	104	70-135	0	20	
Ethylbenzene	258	10	ug/l	250	ND	103	65-130	1	20	

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VOLATILE ORGANICS by GC/MS (EPA 5030B/8260B)

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Data Qualifiers
Batch: 9F23021 Extracted: 06/23/09										
Matrix Spike Dup Analyzed: 06/23/2009 (9F23021-MSD1)					**Source: ISF2045-08**					
Hexachlorobutadiene	223	10	ug/l	250	ND	89	60-135	5	20	
Isopropylbenzene	254	10	ug/l	250	ND	101	70-135	0	20	
p-Isopropyltoluene	248	10	ug/l	250	ND	99	65-130	1	20	
Methylene chloride	284	50	ug/l	250	ND	114	50-135	6	20	
Naphthalene	246	10	ug/l	250	ND	98	50-140	0	30	
n-Propylbenzene	239	10	ug/l	250	ND	96	70-135	0	20	
Styrene	282	10	ug/l	250	ND	113	50-145	1	30	
1,1,1,2-Tetrachloroethane	286	10	ug/l	250	ND	114	65-140	1	20	
1,1,2,2-Tetrachloroethane	292	10	ug/l	250	ND	117	55-135	2	30	
Tetrachloroethene	250	10	ug/l	250	ND	100	65-130	2	20	
Toluene	276	10	ug/l	250	ND	110	70-125	2	20	
1,2,3-Trichlorobenzene	242	10	ug/l	250	ND	97	60-135	2	20	
1,2,4-Trichlorobenzene	262	10	ug/l	250	ND	105	65-135	2	20	
1,1,1-Trichloroethane	269	10	ug/l	250	ND	107	65-140	4	20	
1,1,2-Trichloroethane	302	10	ug/l	250	ND	121	65-130	3	25	
Trichloroethene	271	10	ug/l	250	ND	108	65-125	2	20	
Trichlorofluoromethane	240	10	ug/l	250	ND	96	60-145	3	25	
1,2,3-Trichloropropane	261	10	ug/l	250	ND	105	55-135	4	30	
1,2,4-Trimethylbenzene	242	10	ug/l	250	ND	97	55-135	1	25	
1,3,5-Trimethylbenzene	245	10	ug/l	250	ND	98	70-130	1	20	
Vinyl chloride	238	5.0	ug/l	250	ND	95	45-140	6	30	
m,p-Xylenes	510	10	ug/l	500	ND	102	65-130	1	25	
o-Xylene	263	10	ug/l	250	ND	105	65-125	1	20	
Surrogate: 4-Bromofluorobenzene	*250*		*ug/l*	*250*		*100*	*80-120*			
Surrogate: 4-Bromofluorobenzene	*250*		*ug/l*	*250*		*100*	*80-120*			
Surrogate: Dibromofluoromethane	*281*		*ug/l*	*250*		*112*	*80-120*			
Surrogate: Dibromofluoromethane	*281*		*ug/l*	*250*		*112*	*80-120*			
Surrogate: Toluene-d8	*264*		*ug/l*	*250*		*105*	*80-120*			
Surrogate: Toluene-d8	*264*		*ug/l*	*250*		*105*	*80-120*			

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THE LEADER IN ENVIRONMENTAL TESTING
17461 Derian Avenue. Suite 100, Irvine, CA 92614 (949) 261-1022 Fax:(949) 260-3297

Camp, Dresser & McKee
111 Academy, Ste 150
Irvine, CA 92617
Attention: Sharon Wallin

Project ID: Omega Wastewater
IWP number 20039
Report Number: ISF2207

Sampled: 06/22/09
Received: 06/22/09

METHOD BLANK/QC DATA

VOLATILE ORGANICS by GC/MS (EPA 5030B/8260B)

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Data Qualifiers
Batch: 9F26027 Extracted: 06/26/09										
Blank Analyzed: 06/26/2009 (9F26027-BLK1)										
Benzene	ND	0.50	ug/l							
Bromobenzene	ND	1.0	ug/l							
Bromochloromethane	ND	1.0	ug/l							
Bromodichloromethane	ND	1.0	ug/l							
Bromoform	ND	1.0	ug/l							
Bromomethane	ND	1.0	ug/l							
n-Butylbenzene	ND	1.0	ug/l							
sec-Butylbenzene	ND	1.0	ug/l							
tert-Butylbenzene	ND	1.0	ug/l							
Carbon tetrachloride	ND	0.50	ug/l							
Chlorobenzene	ND	1.0	ug/l							
Chloroethane	ND	1.0	ug/l							
Chloroform	ND	1.0	ug/l							
Chloromethane	ND	1.0	ug/l							
2-Chlorotoluene	ND	1.0	ug/l							
4-Chlorotoluene	ND	1.0	ug/l							
1,2-Dibromo-3-chloropropane	ND	5.0	ug/l							
Dibromochloromethane	ND	1.0	ug/l							
1,2-Dibromoethane (EDB)	ND	1.0	ug/l							
Dibromomethane	ND	1.0	ug/l							
1,2-Dichlorobenzene	ND	1.0	ug/l							
1,3-Dichlorobenzene	ND	1.0	ug/l							
1,4-Dichlorobenzene	ND	1.0	ug/l							
Dichlorodifluoromethane	ND	5.0	ug/l							
1,1-Dichloroethane	ND	1.0	ug/l							
1,2-Dichloroethane	ND	0.50	ug/l							
1,1-Dichloroethene	ND	1.0	ug/l							
cis-1,2-Dichloroethene	ND	1.0	ug/l							
trans-1,2-Dichloroethene	ND	1.0	ug/l							
1,2-Dichloropropane	ND	1.0	ug/l							
1,3-Dichloropropane	ND	1.0	ug/l							
2,2-Dichloropropane	ND	1.0	ug/l							
cis-1,3-Dichloropropene	ND	0.50	ug/l							
trans-1,3-Dichloropropene	ND	0.50	ug/l							
1,1-Dichloropropene	ND	1.0	ug/l							
Ethylbenzene	ND	1.0	ug/l							

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Camp, Dresser & McKee	Project ID:	Omega Wastewater	
111 Academy, Ste 150		IWP number 20039	Sampled: 06/22/09
Irvine, CA 92617	Report Number:	ISF2207	Received: 06/22/09
Attention: Sharon Wallin			

METHOD BLANK/QC DATA

VOLATILE ORGANICS by GC/MS (EPA 5030B/8260B)

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Data Qualifiers
Batch: 9F26027 Extracted: 06/26/09										
Blank Analyzed: 06/26/2009 (9F26027-BLK1)										
Hexachlorobutadiene	ND	1.0	ug/l							
Isopropylbenzene	ND	1.0	ug/l							
p-Isopropyltoluene	ND	1.0	ug/l							
Methylene chloride	ND	5.0	ug/l							
Naphthalene	ND	1.0	ug/l							
n-Propylbenzene	ND	1.0	ug/l							
Styrene	ND	1.0	ug/l							
1,1,1,2-Tetrachloroethane	ND	1.0	ug/l							
1,1,2,2-Tetrachloroethane	ND	1.0	ug/l							
Tetrachloroethene	ND	1.0	ug/l							
Toluene	ND	1.0	ug/l							
1,2,3-Trichlorobenzene	ND	1.0	ug/l							
1,2,4-Trichlorobenzene	ND	1.0	ug/l							
1,1,1-Trichloroethane	ND	1.0	ug/l							
1,1,2-Trichloroethane	ND	1.0	ug/l							
Trichloroethene	ND	1.0	ug/l							
Trichlorofluoromethane	ND	1.0	ug/l							
1,2,3-Trichloropropane	ND	1.0	ug/l							
1,2,4-Trimethylbenzene	ND	1.0	ug/l							
1,3,5-Trimethylbenzene	ND	1.0	ug/l							
Vinyl chloride	ND	0.50	ug/l							
m,p-Xylenes	ND	1.0	ug/l							
o-Xylene	ND	1.0	ug/l							
Volatile Organic Compounds	ND	2.0	ug/l							
Surrogate: 4-Bromofluorobenzene	*23.7*		*ug/l*	*25.0*		*95*	*80-120*			
Surrogate: 4-Bromofluorobenzene	*23.7*		*ug/l*	*25.0*		*95*	*80-120*			
Surrogate: Dibromofluoromethane	*23.2*		*ug/l*	*25.0*		*93*	*80-120*			
Surrogate: Dibromofluoromethane	*23.2*		*ug/l*	*25.0*		*93*	*80-120*			
Surrogate: Toluene-d8	*26.2*		*ug/l*	*25.0*		*105*	*80-120*			
Surrogate: Toluene-d8	*26.2*		*ug/l*	*25.0*		*105*	*80-120*			

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Camp, Dresser & McKee
111 Academy, Ste 150
Irvine, CA 92617
Attention: Sharon Wallin

Project ID: Omega Wastewater
IWP number 20039
Report Number: ISF2207

Sampled: 06/22/09
Received: 06/22/09

METHOD BLANK/QC DATA

VOLATILE ORGANICS by GC/MS (EPA 5030B/8260B)

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Data Qualifiers
Batch: 9F26027 Extracted: 06/26/09										
LCS Analyzed: 06/26/2009 (9F26027-BS1)										
Benzene	24.5	0.50	ug/l	25.0		98	70-120			
Bromobenzene	26.9	1.0	ug/l	25.0		108	75-120			
Bromochloromethane	25.6	1.0	ug/l	25.0		103	70-130			
Bromodichloromethane	26.2	1.0	ug/l	25.0		105	70-135			
Bromoform	25.2	1.0	ug/l	25.0		101	55-130			
Bromomethane	24.8	1.0	ug/l	25.0		99	65-140			
n-Butylbenzene	26.2	1.0	ug/l	25.0		105	70-130			
sec-Butylbenzene	25.6	1.0	ug/l	25.0		103	70-125			
tert-Butylbenzene	26.8	1.0	ug/l	25.0		107	70-125			
Carbon tetrachloride	28.7	0.50	ug/l	25.0		115	65-140			
Chlorobenzene	27.0	1.0	ug/l	25.0		108	75-120			
Chloroethane	24.6	1.0	ug/l	25.0		98	60-140			
Chloroform	21.4	1.0	ug/l	25.0		86	70-130			
Chloromethane	25.0	1.0	ug/l	25.0		100	50-140			
2-Chlorotoluene	26.1	1.0	ug/l	25.0		104	70-125			
4-Chlorotoluene	25.5	1.0	ug/l	25.0		102	75-125			
1,2-Dibromo-3-chloropropane	26.9	5.0	ug/l	25.0		108	50-135			
Dibromochloromethane	28.3	1.0	ug/l	25.0		113	70-140			
1,2-Dibromoethane (EDB)	25.8	1.0	ug/l	25.0		103	75-125			
Dibromomethane	25.9	1.0	ug/l	25.0		104	70-125			
1,2-Dichlorobenzene	26.8	1.0	ug/l	25.0		107	75-120			
1,3-Dichlorobenzene	27.4	1.0	ug/l	25.0		109	75-120			
1,4-Dichlorobenzene	25.8	1.0	ug/l	25.0		103	75-120			
Dichlorodifluoromethane	30.4	5.0	ug/l	25.0		121	35-155			
1,1-Dichloroethane	22.0	1.0	ug/l	25.0		88	70-125			
1,2-Dichloroethane	23.1	0.50	ug/l	25.0		92	60-140			
1,1-Dichloroethene	25.1	1.0	ug/l	25.0		100	70-125			
cis-1,2-Dichloroethene	24.5	1.0	ug/l	25.0		98	70-125			
trans-1,2-Dichloroethene	25.1	1.0	ug/l	25.0		100	70-125			
1,2-Dichloropropane	23.9	1.0	ug/l	25.0		95	70-125			
1,3-Dichloropropane	25.8	1.0	ug/l	25.0		103	70-120			
2,2-Dichloropropane	25.2	1.0	ug/l	25.0		101	65-140			
cis-1,3-Dichloropropene	25.8	0.50	ug/l	25.0		103	75-125			
trans-1,3-Dichloropropene	25.2	0.50	ug/l	25.0		101	70-125			
1,1-Dichloropropene	27.0	1.0	ug/l	25.0		108	75-130			
Ethylbenzene	26.4	1.0	ug/l	25.0		106	75-125			

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Camp, Dresser & McKee
111 Academy, Ste 150
Irvine, CA 92617
Attention: Sharon Wallin

Project ID: Omega Wastewater
IWP number 20039
Report Number: ISF2207

Sampled: 06/22/09
Received: 06/22/09

METHOD BLANK/QC DATA

VOLATILE ORGANICS by GC/MS (EPA 5030B/8260B)

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Data Qualifiers
Batch: 9F26027 Extracted: 06/26/09										
LCS Analyzed: 06/26/2009 (9F26027-BS1)										
Hexachlorobutadiene	23.3	1.0	ug/l	25.0		93	65-135			
Isopropylbenzene	27.9	1.0	ug/l	25.0		112	75-130			
p-Isopropyltoluene	27.0	1.0	ug/l	25.0		108	75-125			
Methylene chloride	24.4	5.0	ug/l	25.0		98	55-130			
Naphthalene	25.6	1.0	ug/l	25.0		102	55-135			
n-Propylbenzene	26.1	1.0	ug/l	25.0		104	75-130			
Styrene	27.2	1.0	ug/l	25.0		109	75-130			
1,1,1,2-Tetrachloroethane	27.5	1.0	ug/l	25.0		110	70-130			
1,1,2,2-Tetrachloroethane	28.8	1.0	ug/l	25.0		115	55-130			
Tetrachloroethene	27.0	1.0	ug/l	25.0		108	70-125			
Toluene	26.1	1.0	ug/l	25.0		104	70-120			
1,2,3-Trichlorobenzene	23.8	1.0	ug/l	25.0		95	65-125			
1,2,4-Trichlorobenzene	25.4	1.0	ug/l	25.0		102	70-135			
1,1,1-Trichloroethane	26.3	1.0	ug/l	25.0		105	65-135			
1,1,2-Trichloroethane	26.1	1.0	ug/l	25.0		105	70-125			
Trichloroethene	26.9	1.0	ug/l	25.0		108	70-125			
Trichlorofluoromethane	25.7	1.0	ug/l	25.0		103	65-145			
1,2,3-Trichloropropane	25.7	1.0	ug/l	25.0		103	60-130			
1,2,4-Trimethylbenzene	25.3	1.0	ug/l	25.0		101	75-125			
1,3,5-Trimethylbenzene	26.2	1.0	ug/l	25.0		105	75-125			
Vinyl chloride	20.5	0.50	ug/l	25.0		82	55-135			
m,p-Xylenes	51.4	1.0	ug/l	50.0		103	75-125			
o-Xylene	26.2	1.0	ug/l	25.0		105	75-125			
Surrogate: 4-Bromofluorobenzene	*23.9*		*ug/l*	*25.0*		*96*	*80-120*			
Surrogate: Dibromofluoromethane	*24.2*		*ug/l*	*25.0*		*97*	*80-120*			
Surrogate: Toluene-d8	*26.0*		*ug/l*	*25.0*		*104*	*80-120*			
Matrix Spike Analyzed: 06/26/2009 (9F26027-MS1)					**Source: ISF2207-01**					
Benzene	654	12	ug/l	625	ND	105	65-125			
Bromobenzene	708	25	ug/l	625	ND	113	70-125			
Bromochloromethane	730	25	ug/l	625	ND	117	65-135			
Bromodichloromethane	724	25	ug/l	625	ND	116	70-135			
Bromoform	688	25	ug/l	625	ND	110	55-135			
Bromomethane	590	25	ug/l	625	ND	94	55-145			
n-Butylbenzene	670	25	ug/l	625	ND	107	65-135			
sec-Butylbenzene	647	25	ug/l	625	ND	103	70-125			

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Attention: Sharon Wallin

Project ID: Omega Wastewater
IWP number 20039
Report Number: ISF2207

Sampled: 06/22/09
Received: 06/22/09

METHOD BLANK/QC DATA

VOLATILE ORGANICS by GC/MS (EPA 5030B/8260B)

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Data Qualifiers
Batch: 9F26027 Extracted: 06/26/09										
Matrix Spike Analyzed: 06/26/2009 (9F26027-MS1)					**Source: ISF2207-01**					
tert-Butylbenzene	680	25	ug/l	625	ND	109	65-130			
Carbon tetrachloride	741	12	ug/l	625	ND	119	65-140			
Chlorobenzene	738	25	ug/l	625	ND	118	75-125			
Chloroethane	616	25	ug/l	625	ND	98	55-140			
Chloroform	604	25	ug/l	625	11.8	95	65-135			
Chloromethane	558	25	ug/l	625	ND	89	45-145			
2-Chlorotoluene	671	25	ug/l	625	ND	107	65-135			
4-Chlorotoluene	668	25	ug/l	625	ND	107	70-135			
1,2-Dibromo-3-chloropropane	665	120	ug/l	625	ND	106	45-145			
Dibromochloromethane	790	25	ug/l	625	ND	126	65-140			
1,2-Dibromoethane (EDB)	712	25	ug/l	625	ND	114	70-130			
Dibromomethane	707	25	ug/l	625	ND	113	65-135			
1,2-Dichlorobenzene	710	25	ug/l	625	ND	114	75-125			
1,3-Dichlorobenzene	721	25	ug/l	625	ND	115	75-125			
1,4-Dichlorobenzene	686	25	ug/l	625	ND	110	75-125			
Dichlorodifluoromethane	531	120	ug/l	625	ND	85	25-155			
1,1-Dichloroethane	605	25	ug/l	625	ND	97	65-130			
1,2-Dichloroethane	645	12	ug/l	625	ND	103	60-140			
1,1-Dichloroethene	751	25	ug/l	625	105	103	60-130			
cis-1,2-Dichloroethene	669	25	ug/l	625	ND	107	65-130			
trans-1,2-Dichloroethene	666	25	ug/l	625	ND	107	65-130			
1,2-Dichloropropane	645	25	ug/l	625	ND	103	65-130			
1,3-Dichloropropane	721	25	ug/l	625	ND	115	65-135			
2,2-Dichloropropane	718	25	ug/l	625	ND	115	60-145			
cis-1,3-Dichloropropene	721	12	ug/l	625	ND	115	70-130			
trans-1,3-Dichloropropene	708	12	ug/l	625	ND	113	65-135			
1,1-Dichloropropene	692	25	ug/l	625	ND	111	70-135			
Ethylbenzene	709	25	ug/l	625	ND	113	65-130			
Hexachlorobutadiene	596	25	ug/l	625	ND	95	60-135			
Isopropylbenzene	708	25	ug/l	625	ND	113	70-135			
p-Isopropyltoluene	681	25	ug/l	625	ND	109	65-130			
Methylene chloride	706	120	ug/l	625	ND	113	50-135			
Naphthalene	671	25	ug/l	625	ND	107	50-140			
n-Propylbenzene	665	25	ug/l	625	ND	106	70-135			
Styrene	748	25	ug/l	625	ND	120	50-145			
1,1,1,2-Tetrachloroethane	757	25	ug/l	625	ND	121	65-140			

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Report Number: ISF2207

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METHOD BLANK/QC DATA

VOLATILE ORGANICS by GC/MS (EPA 5030B/8260B)

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Data Qualifiers
Batch: 9F26027 Extracted: 06/26/09										
Matrix Spike Analyzed: 06/26/2009 (9F26027-MS1)					**Source: ISF2207-01**					
1,1,2,2-Tetrachloroethane	760	25	ug/l	625	ND	122	55-135			
Tetrachloroethene	1810	25	ug/l	625	1210	96	65-130			
Toluene	700	25	ug/l	625	ND	112	70-125			
1,2,3-Trichlorobenzene	641	25	ug/l	625	ND	103	60-135			
1,2,4-Trichlorobenzene	690	25	ug/l	625	ND	110	65-135			
1,1,1-Trichloroethane	697	25	ug/l	625	ND	112	65-140			
1,1,2-Trichloroethane	731	25	ug/l	625	ND	117	65-130			
Trichloroethene	809	25	ug/l	625	106	113	65-125			
Trichlorofluoromethane	716	25	ug/l	625	79.2	102	60-145			
1,2,3-Trichloropropane	684	25	ug/l	625	ND	109	55-135			
1,2,4-Trimethylbenzene	652	25	ug/l	625	ND	104	55-135			
1,3,5-Trimethylbenzene	671	25	ug/l	625	ND	107	70-130			
Vinyl chloride	605	12	ug/l	625	ND	97	45-140			
m,p-Xylenes	1390	25	ug/l	1250	ND	111	65-130			
o-Xylene	708	25	ug/l	625	ND	113	65-125			
Surrogate: 4-Bromofluorobenzene	*621*		*ug/l*	*625*		*99*	*80-120*			
Surrogate: Dibromofluoromethane	*637*		*ug/l*	*625*		*102*	*80-120*			
Surrogate: Toluene-d8	*653*		*ug/l*	*625*		*104*	*80-120*			
Matrix Spike Dup Analyzed: 06/26/2009 (9F26027-MSD1)					**Source: ISF2207-01**					
Benzene	652	12	ug/l	625	ND	104	65-125	0	20	
Bromobenzene	726	25	ug/l	625	ND	116	70-125	2	20	
Bromochloromethane	701	25	ug/l	625	ND	112	65-135	4	25	
Bromodichloromethane	719	25	ug/l	625	ND	115	70-135	1	20	
Bromoform	672	25	ug/l	625	ND	108	55-135	2	25	
Bromomethane	564	25	ug/l	625	ND	90	55-145	5	25	
n-Butylbenzene	674	25	ug/l	625	ND	108	65-135	1	20	
sec-Butylbenzene	662	25	ug/l	625	ND	106	70-125	2	20	
tert-Butylbenzene	703	25	ug/l	625	ND	113	65-130	3	20	
Carbon tetrachloride	740	12	ug/l	625	ND	118	65-140	0	25	
Chlorobenzene	737	25	ug/l	625	ND	118	75-125	0	20	
Chloroethane	608	25	ug/l	625	ND	97	55-140	1	25	
Chloroform	594	25	ug/l	625	11.8	93	65-135	2	20	
Chloromethane	558	25	ug/l	625	ND	89	45-145	0	25	
2-Chlorotoluene	695	25	ug/l	625	ND	111	65-135	3	20	
4-Chlorotoluene	683	25	ug/l	625	ND	109	70-135	2	20	

TestAmerica Irvine

Patty Mata
Project Manager

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THE LEADER IN ENVIRONMENTAL TESTING

17461 Derian Avenue. Suite 100, Irvine, CA 92614 (949) 261-1022 Fax:(949) 260-3297

Camp, Dresser & McKee
111 Academy, Ste 150
Irvine, CA 92617
Attention: Sharon Wallin

Project ID: Omega Wastewater
IWP number 20039
Report Number: ISF2207

Sampled: 06/22/09
Received: 06/22/09

METHOD BLANK/QC DATA

VOLATILE ORGANICS by GC/MS (EPA 5030B/8260B)

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Data Qualifiers
Batch: 9F26027 Extracted: 06/26/09										
Matrix Spike Dup Analyzed: 06/26/2009 (9F26027-MSD1)					**Source: ISF2207-01**					
1,2-Dibromo-3-chloropropane	620	120	ug/l	625	ND	99	45-145	7	30	
Dibromochloromethane	778	25	ug/l	625	ND	124	65-140	2	25	
1,2-Dibromoethane (EDB)	695	25	ug/l	625	ND	111	70-130	2	25	
Dibromomethane	686	25	ug/l	625	ND	110	65-135	3	25	
1,2-Dichlorobenzene	712	25	ug/l	625	ND	114	75-125	0	20	
1,3-Dichlorobenzene	730	25	ug/l	625	ND	117	75-125	1	20	
1,4-Dichlorobenzene	689	25	ug/l	625	ND	110	75-125	1	20	
Dichlorodifluoromethane	517	120	ug/l	625	ND	83	25-155	3	30	
1,1-Dichloroethane	596	25	ug/l	625	ND	95	65-130	2	20	
1,2-Dichloroethane	622	12	ug/l	625	ND	100	60-140	4	20	
1,1-Dichloroethene	745	25	ug/l	625	105	102	60-130	1	20	
cis-1,2-Dichloroethene	663	25	ug/l	625	ND	106	65-130	1	20	
trans-1,2-Dichloroethene	658	25	ug/l	625	ND	105	65-130	1	20	
1,2-Dichloropropane	640	25	ug/l	625	ND	102	65-130	1	20	
1,3-Dichloropropane	706	25	ug/l	625	ND	113	65-135	2	25	
2,2-Dichloropropane	715	25	ug/l	625	ND	114	60-145	0	25	
cis-1,3-Dichloropropene	711	12	ug/l	625	ND	114	70-130	1	20	
trans-1,3-Dichloropropene	698	12	ug/l	625	ND	112	65-135	1	25	
1,1-Dichloropropene	694	25	ug/l	625	ND	111	70-135	0	20	
Ethylbenzene	714	25	ug/l	625	ND	114	65-130	1	20	
Hexachlorobutadiene	554	25	ug/l	625	ND	89	60-135	7	20	
Isopropylbenzene	738	25	ug/l	625	ND	118	70-135	4	20	
p-Isopropyltoluene	692	25	ug/l	625	ND	111	65-130	2	20	
Methylene chloride	689	120	ug/l	625	ND	110	50-135	2	20	
Naphthalene	603	25	ug/l	625	ND	96	50-140	11	30	
n-Propylbenzene	684	25	ug/l	625	ND	109	70-135	3	20	
Styrene	746	25	ug/l	625	ND	119	50-145	0	30	
1,1,1,2-Tetrachloroethane	765	25	ug/l	625	ND	122	65-140	1	20	
1,1,2,2-Tetrachloroethane	752	25	ug/l	625	ND	120	55-135	1	30	
Tetrachloroethene	1790	25	ug/l	625	1210	93	65-130	1	20	
Toluene	692	25	ug/l	625	ND	111	70-125	1	20	
1,2,3-Trichlorobenzene	578	25	ug/l	625	ND	93	60-135	10	20	
1,2,4-Trichlorobenzene	638	25	ug/l	625	ND	102	65-135	8	20	
1,1,1-Trichloroethane	684	25	ug/l	625	ND	109	65-140	2	20	
1,1,2-Trichloroethane	709	25	ug/l	625	ND	113	65-130	3	25	
Trichloroethene	808	25	ug/l	625	106	112	65-125	0	20	

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Patty Mata
Project Manager

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Camp, Dresser & McKee
111 Academy, Ste 150
Irvine, CA 92617
Attention: Sharon Wallin

Project ID: Omega Wastewater
IWP number 20039
Report Number: ISF2207

Sampled: 06/22/09
Received: 06/22/09

METHOD BLANK/QC DATA

VOLATILE ORGANICS by GC/MS (EPA 5030B/8260B)

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Data Qualifiers
Batch: 9F26027 Extracted: 06/26/09										
Matrix Spike Dup Analyzed: 06/26/2009 (9F26027-MSD1)					**Source: ISF2207-01**					
Trichlorofluoromethane	712	25	ug/l	625	79.2	101	60-145	1	25	
1,2,3-Trichloropropane	672	25	ug/l	625	ND	108	55-135	2	30	
1,2,4-Trimethylbenzene	667	25	ug/l	625	ND	107	55-135	2	25	
1,3,5-Trimethylbenzene	692	25	ug/l	625	ND	111	70-130	3	20	
Vinyl chloride	596	12	ug/l	625	ND	95	45-140	2	30	
m,p-Xylenes	1390	25	ug/l	1250	ND	112	65-130	0	25	
o-Xylene	708	25	ug/l	625	ND	113	65-125	0	20	
Surrogate: 4-Bromofluorobenzene	*616*		*ug/l*	*625*		*99*	*80-120*			
Surrogate: Dibromofluoromethane	*627*		*ug/l*	*625*		*100*	*80-120*			
Surrogate: Toluene-d8	*650*		*ug/l*	*625*		*104*	*80-120*			

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Project Manager

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Irvine, CA 92617
Attention: Sharon Wallin

Project ID: Omega Wastewater
IWP number 20039
Report Number: ISF2207

Sampled: 06/22/09
Received: 06/22/09

METHOD BLANK/QC DATA

SEMI-VOLATILE ORGANICS BY GC/MS (EPA 3520C/8270C MOD)

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Data Qualifiers
Batch: 9F22121 Extracted: 06/22/09										
Blank Analyzed: 06/24/2009 (9F22121-BLK1)										
1,4-Dioxane	ND	0.50	ug/l							
Surrogate: 1,4-Dioxane-d8	*1.28*		*ug/l*	*2.00*		*64*	*30-120*			
LCS Analyzed: 06/24/2009 (9F22121-BS1)										**MNR1**
1,4-Dioxane	1.12	0.50	ug/l	2.00		56	35-120			
Surrogate: 1,4-Dioxane-d8	*1.11*		*ug/l*	*2.00*		*56*	*30-120*			
LCS Dup Analyzed: 06/24/2009 (9F22121-BSD1)										
1,4-Dioxane	1.18	0.50	ug/l	2.00		59	35-120	5	25	
Surrogate: 1,4-Dioxane-d8	*1.06*		*ug/l*	*2.00*		*53*	*30-120*			
Batch: 9F24099 Extracted: 06/24/09										
Blank Analyzed: 06/27/2009 (9F24099-BLK1)										
1,4-Dioxane	ND	0.50	ug/l							
Surrogate: 1,4-Dioxane-d8	*1.14*		*ug/l*	*2.00*		*57*	*30-120*			
LCS Analyzed: 06/27/2009 (9F24099-BS1)										**MNR1**
1,4-Dioxane	1.25	0.50	ug/l	2.00		62	35-120			
Surrogate: 1,4-Dioxane-d8	*1.17*		*ug/l*	*2.00*		*59*	*30-120*			
LCS Dup Analyzed: 06/27/2009 (9F24099-BSD1)										
1,4-Dioxane	1.25	0.50	ug/l	2.00		62	35-120	0	25	
Surrogate: 1,4-Dioxane-d8	*1.18*		*ug/l*	*2.00*		*59*	*30-120*			

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Project Manager

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Camp, Dresser & McKee 111 Academy, Ste 150 Irvine, CA 92617 Attention: Sharon Wallin	Project ID: Omega Wastewater IWP number 20039 Report Number: ISF2207	Sampled: 06/22/09 Received: 06/22/09	

METHOD BLANK/QC DATA

INORGANICS

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Data Qualifiers
Batch: 9F23055 Extracted: 06/23/09										
Duplicate Analyzed: 06/23/2009 (9F23055-DUP1)					**Source: ISF2166-01**					
pH	7.96	0.100	pH Units		7.94			0	5	*HFT*

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DATA QUALIFIERS AND DEFINITIONS

HFT	The holding time for this test is immediate. It was analyzed in the laboratory as soon as possible after receipt.
MNR1	There was no MS/MSD analyzed with this batch due to insufficient sample volume. See Blank Spike/Blank Spike Duplicate.
Z3	The sample required a dilution due to the nature of the sample matrix. Because of this dilution, the surrogate spike concentration in the sample was reduced to a level where the recovery calculation does not provide useful information.
ND	Analyte NOT DETECTED at or above the reporting limit or MDL, if MDL is specified.
RPD	Relative Percent Difference

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Project Manager

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Camp, Dresser & McKee 111 Academy, Ste 150 Irvine, CA 92617 Attention: Sharon Wallin	Project ID: Omega Wastewater IWP number 20039 Report Number: ISF2207	Sampled: 06/22/09 Received: 06/22/09

Certification Summary

TestAmerica Irvine

Method	Matrix	Nelac	California
EPA 8260B	Water	X	X
EPA 8270C	Water	X	X
SM4500-H,B	Water	X	X

Nevada and NELAP provide analyte specific accreditations. Analyte specific information for TestAmerica may be obtained by contacting the laboratory or visiting our website at www.testamericainc.com

TestAmerica Irvine

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Project Manager

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ESF2207

TestAmerica
ANALYTICAL TESTING CORPORATION

☐ Nashville, TN ☐ Orlando, FL ☐ Cedar Falls, IA ☐ Dayton, OH ☐ Watertown, WI ☐ Pontiac, MI ☐ Indianapolis, IN ☐ Irvine, CA

To assist us in using the proper analytical methods, is this work being conducted for regulatory purposes?

Compliance Monitoring? (Yes) No
Enforcement Action? Yes (No)

Client Name/Account #: CDM
Address: CDM / Omega Chemical
City/State/Zip: Irvine, CA 92617
Project Manager: Sharon Wallin
Telephone Number: 949.752.5452 **Fax No.:**
Sampler Name: (Print)
Sampler Signature:

Report To: Sharon Wallin / Karen Schwarz
Invoice To: de maximus
TA Quote #:
Project ID:
Project #:

Sample ID / Description	Date Sampled	Time Sampled	No. of Containers Shipped	Grab	Composite	Field Filtered	Preservative: Ice	Preservative: HNO_3 (Red Label)	Preservative: HCl (Blue Label)	Preservative: NaOH (Orange Label)	Preservative: H_2SO_4 Plastic (Yellow Label)	Preservative: H_2SO_4 Glass(Yellow Label)	Preservative: None (Black Label)	Preservative: Other (Specify)	Matrix: Groundwater	Matrix: Wastewater	Matrix: Drinking Water	Matrix: Sludge	Matrix: Soil	Matrix: Other (specify):	Analyze For: VOC (8260B) (including freons)	Analyze For: 1,4 Dioxane (8270M)	Analyze For: pH	RUSH TAT (Pre-Schedule)	Standard TAT	Fax Results	Send QC with report
OC-EW1-SP110-062209	6/22/2009	1322	4	x					x						x						x	x			x		
OC-EW2-SP120-062209	6/22/2009	1312	4	x					x						x						x	x			x		
OC-EW3-SP130-062209	6/22/2009	1300	4	x					x						x						x	x			x		
OC-EW4-SP140-062209	6/22/2009	1255	4	x					x						x						x	x			x		
OC-EW5-SP150-062209	6/22/2009	1245	4	x					x						x						x	x			x		
OC-SP200-INF-062209	6/22/2009	1250	4	x					x						x						x	x			x		
OC-SP220A-EFF-062209	6/22/2009	1245	5	x					x						x						x	x	x	see notes			
OC-TB-062209	6/22/2009	—	—	x					x						x						x				x		

NA 6/22/09 1815

Special Instructions: 24-hour TAT on OC-SP220A-EFF-062209 VOC & pH only. Standart TAT everything else. Please provide VOC TTO results

Method of Shipment: FEDEX

Laboratory Comments:
Temperature Upon Receipt: 3.6 °C
VOCs Free of Headspace? Y N

Relinquished by:	Date	Time	Received by:	Date	Time
[signature]	6-22-09	1500	[signature]	6-22-09	1500
Relinquished by:	Date	Time	Received by TestAmerica:	Date	Time
[signature]	6-22-09	1615	[signature]	6/22/09	1615

#160

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Appendix F.2

July 15, 2009
Water Analytical Results

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TestAmerica
THE LEADER IN ENVIRONMENTAL TESTING

17461 Derian Avenue. Suite 100, Irvine, CA 92614 (949) 261-1022 Fax:(949) 260-3297

LABORATORY REPORT

Prepared For: Camp, Dresser & McKee
111 Academy, Ste 150
Irvine, CA 92617
Attention: Sharon Wallin

Project: Omega Wastewater
IWP number 20039

Sampled: 07/15/09
Received: 07/15/09
Issued: 07/24/09 16:01

NELAP #01108CA California ELAP#2706 CSDLAC #10256 AZ #AZ0671 NV #CA01531

The results listed within this Laboratory Report pertain only to the samples tested in the laboratory. The analyses contained in this report were performed in accordance with the applicable certifications as noted. All soil samples are reported on a wet weight basis unless otherwise noted in the report. This Laboratory Report is confidential and is intended for the sole use of TestAmerica and its client. This report shall not be reproduced, except in full, without written permission from TestAmerica. The Chain of Custody, 1 page, is included and is an integral part of this report.
This entire report was reviewed and approved for release.

CASE NARRATIVE

SAMPLE RECEIPT: Samples were received intact, at 2°C, on ice and with chain of custody documentation.

HOLDING TIMES: Not all holding times were met. Results were qualified where the sample analysis did not occur within method specified holding time requirements.

PRESERVATION: Samples requiring preservation were verified prior to sample analysis.

QA/QC CRITERIA: All analyses met method criteria, except as noted in the report with data qualifiers.

COMMENTS: No significant observations were made.

SUBCONTRACTED: No analyses were subcontracted to an outside laboratory.

LABORATORY ID	CLIENT ID	MATRIX
ISG1222-01	OC-SP220A-EFF-071509	Water
ISG1222-02	OC-TB-071509	Water

Reviewed By:

TestAmerica Irvine

Patty Mata
Project Manager

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THE LEADER IN ENVIRONMENTAL TESTING

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Camp, Dresser & McKee
111 Academy, Ste 150
Irvine, CA 92617
Attention: Sharon Wallin

Project ID: Omega Wastewater
IWP number 20039
Report Number: ISG1222

Sampled: 07/15/09
Received: 07/15/09

VOLATILE ORGANICS by GC/MS (EPA 5030B/8260B)

Analyte	Method	Batch	Reporting Limit	Sample Result	Dilution Factor	Date Extracted	Date Analyzed	Data Qualifiers
Sample ID: ISG1222-01 (OC-SP220A-EFF-071509 - Water)								
Reporting Units: ug/l								
Benzene	EPA 8260B	9G17030	0.50	ND	1	7/17/2009	7/18/2009	
Bromobenzene	EPA 8260B	9G17030	1.0	ND	1	7/17/2009	7/18/2009	
Bromochloromethane	EPA 8260B	9G17030	1.0	ND	1	7/17/2009	7/18/2009	
Bromodichloromethane	EPA 8260B	9G17030	1.0	ND	1	7/17/2009	7/18/2009	
Bromoform	EPA 8260B	9G17030	1.0	ND	1	7/17/2009	7/18/2009	
Bromomethane	EPA 8260B	9G17030	1.0	ND	1	7/17/2009	7/18/2009	
n-Butylbenzene	EPA 8260B	9G17030	1.0	ND	1	7/17/2009	7/18/2009	
sec-Butylbenzene	EPA 8260B	9G17030	1.0	ND	1	7/17/2009	7/18/2009	
tert-Butylbenzene	EPA 8260B	9G17030	1.0	ND	1	7/17/2009	7/18/2009	
Carbon tetrachloride	EPA 8260B	9G17030	0.50	ND	1	7/17/2009	7/18/2009	
Chlorobenzene	EPA 8260B	9G17030	1.0	ND	1	7/17/2009	7/18/2009	
Chloroethane	EPA 8260B	9G17030	1.0	ND	1	7/17/2009	7/18/2009	
Chloroform	EPA 8260B	9G17030	1.0	ND	1	7/17/2009	7/18/2009	
Chloromethane	EPA 8260B	9G17030	1.0	ND	1	7/17/2009	7/18/2009	
2-Chlorotoluene	EPA 8260B	9G17030	1.0	ND	1	7/17/2009	7/18/2009	
4-Chlorotoluene	EPA 8260B	9G17030	1.0	ND	1	7/17/2009	7/18/2009	
1,2-Dibromo-3-chloropropane	EPA 8260B	9G17030	5.0	ND	1	7/17/2009	7/18/2009	
Dibromochloromethane	EPA 8260B	9G17030	1.0	ND	1	7/17/2009	7/18/2009	
1,2-Dibromoethane (EDB)	EPA 8260B	9G17030	1.0	ND	1	7/17/2009	7/18/2009	
Dibromomethane	EPA 8260B	9G17030	1.0	ND	1	7/17/2009	7/18/2009	
1,2-Dichlorobenzene	EPA 8260B	9G17030	1.0	ND	1	7/17/2009	7/18/2009	
1,3-Dichlorobenzene	EPA 8260B	9G17030	1.0	ND	1	7/17/2009	7/18/2009	
1,4-Dichlorobenzene	EPA 8260B	9G17030	1.0	ND	1	7/17/2009	7/18/2009	
Dichlorodifluoromethane	EPA 8260B	9G17030	5.0	ND	1	7/17/2009	7/18/2009	
1,1-Dichloroethane	EPA 8260B	9G17030	1.0	ND	1	7/17/2009	7/18/2009	
1,2-Dichloroethane	EPA 8260B	9G17030	0.50	ND	1	7/17/2009	7/18/2009	
1,1-Dichloroethene	EPA 8260B	9G17030	1.0	ND	1	7/17/2009	7/18/2009	
cis-1,2-Dichloroethene	EPA 8260B	9G17030	1.0	ND	1	7/17/2009	7/18/2009	
trans-1,2-Dichloroethene	EPA 8260B	9G17030	1.0	ND	1	7/17/2009	7/18/2009	
1,2-Dichloropropane	EPA 8260B	9G17030	1.0	ND	1	7/17/2009	7/18/2009	
1,3-Dichloropropane	EPA 8260B	9G17030	1.0	ND	1	7/17/2009	7/18/2009	
2,2-Dichloropropane	EPA 8260B	9G17030	1.0	ND	1	7/17/2009	7/18/2009	
cis-1,3-Dichloropropene	EPA 8260B	9G17030	0.50	ND	1	7/17/2009	7/18/2009	
trans-1,3-Dichloropropene	EPA 8260B	9G17030	0.50	ND	1	7/17/2009	7/18/2009	
1,1-Dichloropropene	EPA 8260B	9G17030	1.0	ND	1	7/17/2009	7/18/2009	
Ethylbenzene	EPA 8260B	9G17030	1.0	ND	1	7/17/2009	7/18/2009	
Hexachlorobutadiene	EPA 8260B	9G17030	1.0	ND	1	7/17/2009	7/18/2009	
Isopropylbenzene	EPA 8260B	9G17030	1.0	ND	1	7/17/2009	7/18/2009	
p-Isopropyltoluene	EPA 8260B	9G17030	1.0	ND	1	7/17/2009	7/18/2009	
Methylene chloride	EPA 8260B	9G17030	5.0	ND	1	7/17/2009	7/18/2009	
Naphthalene	EPA 8260B	9G17030	1.0	ND	1	7/17/2009	7/18/2009	

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Project Manager

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Camp, Dresser & McKee
111 Academy, Ste 150
Irvine, CA 92617
Attention: Sharon Wallin

Project ID: Omega Wastewater
IWP number 20039
Report Number: ISG1222

Sampled: 07/15/09
Received: 07/15/09

VOLATILE ORGANICS by GC/MS (EPA 5030B/8260B)

Analyte	Method	Batch	Reporting Limit	Sample Result	Dilution Factor	Date Extracted	Date Analyzed	Data Qualifiers
Sample ID: ISG1222-01 (OC-SP220A-EFF-071509 - Water) - cont.								
Reporting Units: ug/l								
n-Propylbenzene	EPA 8260B	9G17030	1.0	ND	1	7/17/2009	7/18/2009	
Styrene	EPA 8260B	9G17030	1.0	ND	1	7/17/2009	7/18/2009	
1,1,1,2-Tetrachloroethane	EPA 8260B	9G17030	1.0	ND	1	7/17/2009	7/18/2009	
1,1,2,2-Tetrachloroethane	EPA 8260B	9G17030	1.0	ND	1	7/17/2009	7/18/2009	
Tetrachloroethene	EPA 8260B	9G17030	1.0	ND	1	7/17/2009	7/18/2009	
Toluene	EPA 8260B	9G17030	1.0	ND	1	7/17/2009	7/18/2009	
1,2,3-Trichlorobenzene	EPA 8260B	9G17030	1.0	ND	1	7/17/2009	7/18/2009	
1,2,4-Trichlorobenzene	EPA 8260B	9G17030	1.0	ND	1	7/17/2009	7/18/2009	
1,1,1-Trichloroethane	EPA 8260B	9G17030	1.0	ND	1	7/17/2009	7/18/2009	
1,1,2-Trichloroethane	EPA 8260B	9G17030	1.0	ND	1	7/17/2009	7/18/2009	
Trichloroethene	EPA 8260B	9G17030	1.0	ND	1	7/17/2009	7/18/2009	
Trichlorofluoromethane	EPA 8260B	9G17030	1.0	ND	1	7/17/2009	7/18/2009	
1,2,3-Trichloropropane	EPA 8260B	9G17030	1.0	ND	1	7/17/2009	7/18/2009	
Trichlorotrifluoroethane (Freon 113)	EPA 8260B	9G17030	5.0	ND	1	7/17/2009	7/18/2009	
1,2,4-Trimethylbenzene	EPA 8260B	9G17030	1.0	ND	1	7/17/2009	7/18/2009	
1,3,5-Trimethylbenzene	EPA 8260B	9G17030	1.0	ND	1	7/17/2009	7/18/2009	
Vinyl chloride	EPA 8260B	9G17030	0.50	ND	1	7/17/2009	7/18/2009	
m,p-Xylenes	EPA 8260B	9G17030	1.0	ND	1	7/17/2009	7/18/2009	
o-Xylene	EPA 8260B	9G17030	1.0	ND	1	7/17/2009	7/18/2009	
Methyl-tert-butyl Ether (MTBE)	EPA 8260B	9G17030	1.0	ND	1	7/17/2009	7/18/2009	
Volatile Organic Compounds	EPA 8260B	9G20013	2.0	**35**	1	7/20/2009	7/20/2009	
Surrogate: 4-Bromofluorobenzene (80-120%)				*98 %*				
Surrogate: 4-Bromofluorobenzene (80-120%)				*91 %*				
Surrogate: Dibromofluoromethane (80-120%)				*97 %*				
Surrogate: Dibromofluoromethane (80-120%)				*104 %*				
Surrogate: Toluene-d8 (80-120%)				*100 %*				
Surrogate: Toluene-d8 (80-120%)				*97 %*				

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Camp, Dresser & McKee
111 Academy, Ste 150
Irvine, CA 92617
Attention: Sharon Wallin

Project ID: Omega Wastewater
IWP number 20039
Report Number: ISG1222

Sampled: 07/15/09
Received: 07/15/09

VOLATILE ORGANICS by GC/MS (EPA 5030B/8260B)

Analyte	Method	Batch	Reporting Limit	Sample Result	Dilution Factor	Date Extracted	Date Analyzed	Data Qualifiers
Sample ID: ISG1222-01RE1 (OC-SP220A-EFF-071509 - Water) - cont.								
Reporting Units: ug/l								
Acetone	EPA 8260B	9G20013	10	**35**	1	7/20/2009	7/20/2009	
Surrogate: 4-Bromofluorobenzene (80-120%)				*91 %*				
Surrogate: Dibromofluoromethane (80-120%)				*97 %*				
Surrogate: Toluene-d8 (80-120%)				*97 %*				

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Sampled: 07/15/09
Received: 07/15/09

VOLATILE ORGANICS by GC/MS (EPA 5030B/8260B)

Analyte	Method	Batch	Reporting Limit	Sample Result	Dilution Factor	Date Extracted	Date Analyzed	Data Qualifiers
Sample ID: ISG1222-02 (OC-TB-071509 - Water)								**P, pH**
Reporting Units: ug/l								
Acetone	EPA 8260B	9G21011	10	ND	1	7/21/2009	7/21/2009	
Benzene	EPA 8260B	9G21011	0.50	ND	1	7/21/2009	7/21/2009	
Bromobenzene	EPA 8260B	9G21011	1.0	ND	1	7/21/2009	7/21/2009	C
Bromochloromethane	EPA 8260B	9G21011	1.0	ND	1	7/21/2009	7/21/2009	
Bromodichloromethane	EPA 8260B	9G21011	1.0	ND	1	7/21/2009	7/21/2009	
Bromoform	EPA 8260B	9G21011	1.0	ND	1	7/21/2009	7/21/2009	
Bromomethane	EPA 8260B	9G21011	1.0	ND	1	7/21/2009	7/21/2009	
n-Butylbenzene	EPA 8260B	9G21011	1.0	ND	1	7/21/2009	7/21/2009	
sec-Butylbenzene	EPA 8260B	9G21011	1.0	ND	1	7/21/2009	7/21/2009	
tert-Butylbenzene	EPA 8260B	9G21011	1.0	ND	1	7/21/2009	7/21/2009	
Carbon tetrachloride	EPA 8260B	9G21011	0.50	ND	1	7/21/2009	7/21/2009	
Chlorobenzene	EPA 8260B	9G21011	1.0	ND	1	7/21/2009	7/21/2009	C
Chloroethane	EPA 8260B	9G21011	1.0	ND	1	7/21/2009	7/21/2009	
Chloroform	EPA 8260B	9G21011	1.0	ND	1	7/21/2009	7/21/2009	
Chloromethane	EPA 8260B	9G21011	1.0	ND	1	7/21/2009	7/21/2009	
2-Chlorotoluene	EPA 8260B	9G21011	1.0	ND	1	7/21/2009	7/21/2009	
4-Chlorotoluene	EPA 8260B	9G21011	1.0	ND	1	7/21/2009	7/21/2009	
1,2-Dibromo-3-chloropropane	EPA 8260B	9G21011	5.0	ND	1	7/21/2009	7/21/2009	
Dibromochloromethane	EPA 8260B	9G21011	1.0	ND	1	7/21/2009	7/21/2009	
1,2-Dibromoethane (EDB)	EPA 8260B	9G21011	1.0	ND	1	7/21/2009	7/21/2009	
Dibromomethane	EPA 8260B	9G21011	1.0	ND	1	7/21/2009	7/21/2009	
1,2-Dichlorobenzene	EPA 8260B	9G21011	1.0	ND	1	7/21/2009	7/21/2009	
1,3-Dichlorobenzene	EPA 8260B	9G21011	1.0	ND	1	7/21/2009	7/21/2009	
1,4-Dichlorobenzene	EPA 8260B	9G21011	1.0	ND	1	7/21/2009	7/21/2009	
Dichlorodifluoromethane	EPA 8260B	9G21011	5.0	ND	1	7/21/2009	7/21/2009	C
1,1-Dichloroethane	EPA 8260B	9G21011	1.0	ND	1	7/21/2009	7/21/2009	
1,2-Dichloroethane	EPA 8260B	9G21011	0.50	ND	1	7/21/2009	7/21/2009	
1,1-Dichloroethene	EPA 8260B	9G21011	1.0	ND	1	7/21/2009	7/21/2009	
cis-1,2-Dichloroethene	EPA 8260B	9G21011	1.0	ND	1	7/21/2009	7/21/2009	
trans-1,2-Dichloroethene	EPA 8260B	9G21011	1.0	ND	1	7/21/2009	7/21/2009	
1,2-Dichloropropane	EPA 8260B	9G21011	1.0	ND	1	7/21/2009	7/21/2009	
1,3-Dichloropropane	EPA 8260B	9G21011	1.0	ND	1	7/21/2009	7/21/2009	
2,2-Dichloropropane	EPA 8260B	9G21011	1.0	ND	1	7/21/2009	7/21/2009	
cis-1,3-Dichloropropene	EPA 8260B	9G21011	0.50	ND	1	7/21/2009	7/21/2009	
trans-1,3-Dichloropropene	EPA 8260B	9G21011	0.50	ND	1	7/21/2009	7/21/2009	
1,1-Dichloropropene	EPA 8260B	9G21011	1.0	ND	1	7/21/2009	7/21/2009	
Ethylbenzene	EPA 8260B	9G21011	1.0	ND	1	7/21/2009	7/21/2009	
Hexachlorobutadiene	EPA 8260B	9G21011	1.0	ND	1	7/21/2009	7/21/2009	
Isopropylbenzene	EPA 8260B	9G21011	1.0	ND	1	7/21/2009	7/21/2009	
p-Isopropyltoluene	EPA 8260B	9G21011	1.0	ND	1	7/21/2009	7/21/2009	
Methylene chloride	EPA 8260B	9G21011	5.0	ND	1	7/21/2009	7/21/2009	

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Irvine, CA 92617
Attention: Sharon Wallin

Project ID: Omega Wastewater
IWP number 20039
Report Number: ISG1222

Sampled: 07/15/09
Received: 07/15/09

VOLATILE ORGANICS by GC/MS (EPA 5030B/8260B)

Analyte	Method	Batch	Reporting Limit	Sample Result	Dilution Factor	Date Extracted	Date Analyzed	Data Qualifiers
Sample ID: ISG1222-02 (OC-TB-071509 - Water) - cont.								**P, pH**
Reporting Units: ug/l								
Naphthalene	EPA 8260B	9G21011	1.0	ND	1	7/21/2009	7/21/2009	
n-Propylbenzene	EPA 8260B	9G21011	1.0	ND	1	7/21/2009	7/21/2009	
Styrene	EPA 8260B	9G21011	1.0	ND	1	7/21/2009	7/21/2009	
1,1,1,2-Tetrachloroethane	EPA 8260B	9G21011	1.0	ND	1	7/21/2009	7/21/2009	
1,1,2,2-Tetrachloroethane	EPA 8260B	9G21011	1.0	ND	1	7/21/2009	7/21/2009	
Tetrachloroethene	EPA 8260B	9G21011	1.0	ND	1	7/21/2009	7/21/2009	
Toluene	EPA 8260B	9G21011	1.0	ND	1	7/21/2009	7/21/2009	
1,2,3-Trichlorobenzene	EPA 8260B	9G21011	1.0	ND	1	7/21/2009	7/21/2009	
1,2,4-Trichlorobenzene	EPA 8260B	9G21011	1.0	ND	1	7/21/2009	7/21/2009	
1,1,1-Trichloroethane	EPA 8260B	9G21011	1.0	ND	1	7/21/2009	7/21/2009	
1,1,2-Trichloroethane	EPA 8260B	9G21011	1.0	ND	1	7/21/2009	7/21/2009	
Trichloroethene	EPA 8260B	9G21011	1.0	ND	1	7/21/2009	7/21/2009	
Trichlorofluoromethane	EPA 8260B	9G21011	1.0	ND	1	7/21/2009	7/21/2009	
1,2,3-Trichloropropane	EPA 8260B	9G21011	1.0	ND	1	7/21/2009	7/21/2009	
Trichlorotrifluoroethane (Freon 113)	EPA 8260B	9G21011	5.0	ND	1	7/21/2009	7/21/2009	
1,2,4-Trimethylbenzene	EPA 8260B	9G21011	1.0	ND	1	7/21/2009	7/21/2009	
1,3,5-Trimethylbenzene	EPA 8260B	9G21011	1.0	ND	1	7/21/2009	7/21/2009	
Vinyl chloride	EPA 8260B	9G21011	0.50	ND	1	7/21/2009	7/21/2009	
m,p-Xylenes	EPA 8260B	9G21011	1.0	ND	1	7/21/2009	7/21/2009	
o-Xylene	EPA 8260B	9G21011	1.0	ND	1	7/21/2009	7/21/2009	
Methyl-tert-butyl Ether (MTBE)	EPA 8260B	9G21011	1.0	ND	1	7/21/2009	7/21/2009	
Volatile Organic Compounds	EPA 8260B	9G21011	2.0	ND	1	7/21/2009	7/21/2009	
Surrogate: 4-Bromofluorobenzene (80-120%)				*93 %*				
Surrogate: 4-Bromofluorobenzene (80-120%)				*93 %*				
Surrogate: Dibromofluoromethane (80-120%)				*100 %*				
Surrogate: Dibromofluoromethane (80-120%)				*100 %*				
Surrogate: Toluene-d8 (80-120%)				*103 %*				
Surrogate: Toluene-d8 (80-120%)				*103 %*				

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Attention: Sharon Wallin

Project ID: Omega Wastewater
IWP number 20039
Report Number: ISG1222

Sampled: 07/15/09
Received: 07/15/09

SEMI-VOLATILE ORGANICS BY GC/MS (EPA 3520C/8270C MOD)

Analyte	Method	Batch	Reporting Limit	Sample Result	Dilution Factor	Date Extracted	Date Analyzed	Data Qualifiers
Sample ID: ISG1222-01 (OC-SP220A-EFF-071509 - Water)								
Reporting Units: ug/l								
1,4-Dioxane	EPA 8270C	9G16054	20	**210**	40	7/16/2009	7/17/2009	
Surrogate: 1,4-Dioxane-d8 (30-120%)				*				*Z3*

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Project ID: Omega Wastewater
IWP number 20039
Report Number: ISG1222

Sampled: 07/15/09
Received: 07/15/09

INORGANICS

Analyte	Method	Batch	Reporting Limit	Sample Result	Dilution Factor	Date Extracted	Date Analyzed	Data Qualifiers
Sample ID: ISG1222-01 (OC-SP220A-EFF-071509 - Water)								
Reporting Units: pH Units								
pH	SM4500-H,B	9G16086	0.100	**8.43**	1	7/16/2009	7/16/2009	HFT

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IWP number 20039
Report Number: ISG1222

Sampled: 07/15/09
Received: 07/15/09

SHORT HOLD TIME DETAIL REPORT

	Hold Time (in days)	Date/Time Sampled	Date/Time Received	Date/Time Extracted	Date/Time Analyzed
Sample ID: OC-SP220A-EFF-071509 (ISG1222-01) - Water					
SM4500-H,B	0	07/15/2009 13:20	07/15/2009 17:51	07/16/2009 09:00	07/16/2009 09:00

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Report Number: ISG1222

Sampled: 07/15/09
Received: 07/15/09

METHOD BLANK/QC DATA

VOLATILE ORGANICS by GC/MS (EPA 5030B/8260B)

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Data Qualifiers
Batch: 9G17030 Extracted: 07/17/09										
Blank Analyzed: 07/17/2009 (9G17030-BLK1)										
Benzene	ND	0.50	ug/l							
Bromobenzene	ND	1.0	ug/l							
Bromochloromethane	ND	1.0	ug/l							
Bromodichloromethane	ND	1.0	ug/l							
Bromoform	ND	1.0	ug/l							
Bromomethane	ND	1.0	ug/l							
n-Butylbenzene	ND	1.0	ug/l							
sec-Butylbenzene	ND	1.0	ug/l							
tert-Butylbenzene	ND	1.0	ug/l							
Carbon tetrachloride	ND	0.50	ug/l							
Chlorobenzene	ND	1.0	ug/l							
Chloroethane	ND	1.0	ug/l							
Chloroform	ND	1.0	ug/l							
Chloromethane	ND	1.0	ug/l							
2-Chlorotoluene	ND	1.0	ug/l							
4-Chlorotoluene	ND	1.0	ug/l							
1,2-Dibromo-3-chloropropane	ND	5.0	ug/l							
Dibromochloromethane	ND	1.0	ug/l							
1,2-Dibromoethane (EDB)	ND	1.0	ug/l							
Dibromomethane	ND	1.0	ug/l							
1,2-Dichlorobenzene	ND	1.0	ug/l							
1,3-Dichlorobenzene	ND	1.0	ug/l							
1,4-Dichlorobenzene	ND	1.0	ug/l							
Dichlorodifluoromethane	ND	5.0	ug/l							
1,1-Dichloroethane	ND	1.0	ug/l							
1,2-Dichloroethane	ND	0.50	ug/l							
1,1-Dichloroethene	ND	1.0	ug/l							
cis-1,2-Dichloroethene	ND	1.0	ug/l							
trans-1,2-Dichloroethene	ND	1.0	ug/l							
1,2-Dichloropropane	ND	1.0	ug/l							
1,3-Dichloropropane	ND	1.0	ug/l							
2,2-Dichloropropane	ND	1.0	ug/l							
cis-1,3-Dichloropropene	ND	0.50	ug/l							
trans-1,3-Dichloropropene	ND	0.50	ug/l							
1,1-Dichloropropene	ND	1.0	ug/l							
Ethylbenzene	ND	1.0	ug/l							

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Camp, Dresser & McKee 111 Academy, Ste 150 Irvine, CA 92617 Attention: Sharon Wallin	Project ID: Report Number:	Omega Wastewater IWP number 20039 ISG1222	Sampled: 07/15/09 Received: 07/15/09

METHOD BLANK/QC DATA

VOLATILE ORGANICS by GC/MS (EPA 5030B/8260B)

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Data Qualifiers
Batch: 9G17030 Extracted: 07/17/09										
Blank Analyzed: 07/17/2009 (9G17030-BLK1)										
Hexachlorobutadiene	ND	1.0	ug/l							
Isopropylbenzene	ND	1.0	ug/l							
p-Isopropyltoluene	ND	1.0	ug/l							
Methylene chloride	ND	5.0	ug/l							
Naphthalene	ND	1.0	ug/l							
n-Propylbenzene	ND	1.0	ug/l							
Styrene	ND	1.0	ug/l							
1,1,1,2-Tetrachloroethane	ND	1.0	ug/l							
1,1,2,2-Tetrachloroethane	ND	1.0	ug/l							
Tetrachloroethene	ND	1.0	ug/l							
Toluene	ND	1.0	ug/l							
1,2,3-Trichlorobenzene	ND	1.0	ug/l							
1,2,4-Trichlorobenzene	ND	1.0	ug/l							
1,1,1-Trichloroethane	ND	1.0	ug/l							
1,1,2-Trichloroethane	ND	1.0	ug/l							
Trichloroethene	ND	1.0	ug/l							
Trichlorofluoromethane	ND	1.0	ug/l							
1,2,3-Trichloropropane	ND	1.0	ug/l							
Trichlorotrifluoroethane (Freon 113)	ND	5.0	ug/l							
1,2,4-Trimethylbenzene	ND	1.0	ug/l							
1,3,5-Trimethylbenzene	ND	1.0	ug/l							
Vinyl chloride	ND	0.50	ug/l							
m,p-Xylenes	ND	1.0	ug/l							
o-Xylene	ND	1.0	ug/l							
Methyl-tert-butyl Ether (MTBE)	ND	1.0	ug/l							
Surrogate: 4-Bromofluorobenzene	*23.1*		*ug/l*	*25.0*		*92*	*80-120*			
Surrogate: Dibromofluoromethane	*25.4*		*ug/l*	*25.0*		*102*	*80-120*			
Surrogate: Toluene-d8	*25.4*		*ug/l*	*25.0*		*101*	*80-120*			

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	Report Number:	ISG1222	

METHOD BLANK/QC DATA

VOLATILE ORGANICS by GC/MS (EPA 5030B/8260B)

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Data Qualifiers
Batch: 9G17030 Extracted: 07/17/09										
LCS Analyzed: 07/17/2009 (9G17030-BS1)										
Benzene	24.2	0.50	ug/l	25.0		97	70-120			
Bromobenzene	25.7	1.0	ug/l	25.0		103	75-120			
Bromochloromethane	26.0	1.0	ug/l	25.0		104	70-130			
Bromodichloromethane	25.8	1.0	ug/l	25.0		103	70-135			
Bromoform	22.2	1.0	ug/l	25.0		89	55-130			
Bromomethane	31.5	1.0	ug/l	25.0		126	65-140			
n-Butylbenzene	26.8	1.0	ug/l	25.0		107	70-130			
sec-Butylbenzene	27.6	1.0	ug/l	25.0		110	70-125			
tert-Butylbenzene	27.9	1.0	ug/l	25.0		112	70-125			
Carbon tetrachloride	27.4	0.50	ug/l	25.0		110	65-140			
Chlorobenzene	26.2	1.0	ug/l	25.0		105	75-120			
Chloroethane	27.3	1.0	ug/l	25.0		109	60-140			
Chloroform	26.6	1.0	ug/l	25.0		106	70-130			
Chloromethane	23.8	1.0	ug/l	25.0		95	50-140			
2-Chlorotoluene	27.2	1.0	ug/l	25.0		109	70-125			
4-Chlorotoluene	27.0	1.0	ug/l	25.0		108	75-125			
1,2-Dibromo-3-chloropropane	23.0	5.0	ug/l	25.0		92	50-135			
Dibromochloromethane	27.0	1.0	ug/l	25.0		108	70-140			
1,2-Dibromoethane (EDB)	24.4	1.0	ug/l	25.0		97	75-125			
Dibromomethane	24.4	1.0	ug/l	25.0		98	70-125			
1,2-Dichlorobenzene	25.7	1.0	ug/l	25.0		103	75-120			
1,3-Dichlorobenzene	26.0	1.0	ug/l	25.0		104	75-120			
1,4-Dichlorobenzene	25.9	1.0	ug/l	25.0		104	75-120			
Dichlorodifluoromethane	29.0	5.0	ug/l	25.0		116	35-155			
1,1-Dichloroethane	25.2	1.0	ug/l	25.0		101	70-125			
1,2-Dichloroethane	24.4	0.50	ug/l	25.0		97	60-140			
1,1-Dichloroethene	26.4	1.0	ug/l	25.0		105	70-125			
cis-1,2-Dichloroethene	26.4	1.0	ug/l	25.0		106	70-125			
trans-1,2-Dichloroethene	25.1	1.0	ug/l	25.0		100	70-125			
1,2-Dichloropropane	24.0	1.0	ug/l	25.0		96	70-125			
1,3-Dichloropropane	25.5	1.0	ug/l	25.0		102	70-120			
2,2-Dichloropropane	29.6	1.0	ug/l	25.0		118	65-140			
cis-1,3-Dichloropropene	29.1	0.50	ug/l	25.0		116	75-125			
trans-1,3-Dichloropropene	21.8	0.50	ug/l	25.0		87	70-125			
1,1-Dichloropropene	25.9	1.0	ug/l	25.0		104	75-130			
Ethylbenzene	27.4	1.0	ug/l	25.0		110	75-125			

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17461 Derian Avenue. Suite 100, Irvine, CA 92614 (949) 261-1022 Fax:(949) 260-3297

Camp, Dresser & McKee 111 Academy, Ste 150 Irvine, CA 92617 Attention: Sharon Wallin	Project ID:	Omega Wastewater IWP number 20039	Sampled: 07/15/09 Received: 07/15/09
	Report Number:	ISG1222	

METHOD BLANK/QC DATA

VOLATILE ORGANICS by GC/MS (EPA 5030B/8260B)

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Data Qualifiers
Batch: 9G17030 Extracted: 07/17/09										
LCS Analyzed: 07/17/2009 (9G17030-BS1)										
Hexachlorobutadiene	25.9	1.0	ug/l	25.0		104	65-135			
Isopropylbenzene	27.3	1.0	ug/l	25.0		109	75-130			
p-Isopropyltoluene	25.8	1.0	ug/l	25.0		103	75-125			
Methylene chloride	27.4	5.0	ug/l	25.0		110	55-130			
Naphthalene	24.8	1.0	ug/l	25.0		99	55-135			
n-Propylbenzene	27.2	1.0	ug/l	25.0		109	75-130			
Styrene	26.6	1.0	ug/l	25.0		106	75-130			
1,1,1,2-Tetrachloroethane	27.2	1.0	ug/l	25.0		109	70-130			
1,1,2,2-Tetrachloroethane	25.4	1.0	ug/l	25.0		101	55-130			
Tetrachloroethene	26.2	1.0	ug/l	25.0		105	70-125			
Toluene	26.8	1.0	ug/l	25.0		107	70-120			
1,2,3-Trichlorobenzene	25.6	1.0	ug/l	25.0		103	65-125			
1,2,4-Trichlorobenzene	25.9	1.0	ug/l	25.0		104	70-135			
1,1,1-Trichloroethane	26.8	1.0	ug/l	25.0		107	65-135			
1,1,2-Trichloroethane	24.5	1.0	ug/l	25.0		98	70-125			
Trichloroethene	25.3	1.0	ug/l	25.0		101	70-125			
Trichlorofluoromethane	27.2	1.0	ug/l	25.0		109	65-145			
1,2,3-Trichloropropane	22.9	1.0	ug/l	25.0		92	60-130			
1,2,4-Trimethylbenzene	27.8	1.0	ug/l	25.0		111	75-125			
1,3,5-Trimethylbenzene	26.7	1.0	ug/l	25.0		107	75-125			
Vinyl chloride	27.2	0.50	ug/l	25.0		109	55-135			
m,p-Xylenes	56.6	1.0	ug/l	50.0		113	75-125			
o-Xylene	27.6	1.0	ug/l	25.0		110	75-125			
Methyl-tert-butyl Ether (MTBE)	23.2	1.0	ug/l	25.0		93	60-135			
Surrogate: 4-Bromofluorobenzene	*26.7*		*ug/l*	*25.0*		*107*	*80-120*			
Surrogate: Dibromofluoromethane	*26.0*		*ug/l*	*25.0*		*104*	*80-120*			
Surrogate: Toluene-d8	*24.9*		*ug/l*	*25.0*		*100*	*80-120*			

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Camp, Dresser & McKee 111 Academy, Ste 150 Irvine, CA 92617 Attention: Sharon Wallin	Project ID: Omega Wastewater IWP number 20039 Report Number: ISG1222	Sampled: 07/15/09 Received: 07/15/09	

METHOD BLANK/QC DATA

VOLATILE ORGANICS by GC/MS (EPA 5030B/8260B)

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Data Qualifiers
Batch: 9G17030 Extracted: 07/17/09										
Matrix Spike Analyzed: 07/17/2009 (9G17030-MS1)					**Source: ISG1388-01**					
Benzene	25.6	0.50	ug/l	25.0	0.640	100	65-125			
Bromobenzene	25.0	1.0	ug/l	25.0	ND	100	70-125			
Bromochloromethane	25.7	1.0	ug/l	25.0	ND	103	65-135			
Bromodichloromethane	25.3	1.0	ug/l	25.0	ND	101	70-135			
Bromoform	22.8	1.0	ug/l	25.0	ND	91	55-135			
Bromomethane	30.3	1.0	ug/l	25.0	ND	121	55-145			
n-Butylbenzene	26.2	1.0	ug/l	25.0	ND	105	65-135			
sec-Butylbenzene	26.4	1.0	ug/l	25.0	ND	106	70-125			
tert-Butylbenzene	26.4	1.0	ug/l	25.0	ND	106	65-130			
Carbon tetrachloride	27.4	0.50	ug/l	25.0	ND	110	65-140			
Chlorobenzene	25.9	1.0	ug/l	25.0	ND	104	75-125			
Chloroethane	26.5	1.0	ug/l	25.0	ND	106	55-140			
Chloroform	25.3	1.0	ug/l	25.0	ND	101	65-135			
Chloromethane	23.7	1.0	ug/l	25.0	ND	95	45-145			
2-Chlorotoluene	26.2	1.0	ug/l	25.0	ND	105	65-135			
4-Chlorotoluene	26.3	1.0	ug/l	25.0	ND	105	70-135			
1,2-Dibromo-3-chloropropane	22.8	5.0	ug/l	25.0	ND	91	45-145			
Dibromochloromethane	27.2	1.0	ug/l	25.0	ND	109	65-140			
1,2-Dibromoethane (EDB)	25.6	1.0	ug/l	25.0	ND	102	70-130			
Dibromomethane	24.4	1.0	ug/l	25.0	ND	97	65-135			
1,2-Dichlorobenzene	25.7	1.0	ug/l	25.0	ND	103	75-125			
1,3-Dichlorobenzene	25.0	1.0	ug/l	25.0	ND	100	75-125			
1,4-Dichlorobenzene	25.3	1.0	ug/l	25.0	ND	101	75-125			
Dichlorodifluoromethane	28.2	5.0	ug/l	25.0	ND	113	25-155			
1,1-Dichloroethane	24.6	1.0	ug/l	25.0	ND	98	65-130			
1,2-Dichloroethane	24.6	0.50	ug/l	25.0	ND	98	60-140			
1,1-Dichloroethene	25.8	1.0	ug/l	25.0	ND	103	60-130			
cis-1,2-Dichloroethene	27.0	1.0	ug/l	25.0	ND	108	65-130			
trans-1,2-Dichloroethene	25.6	1.0	ug/l	25.0	ND	103	65-130			
1,2-Dichloropropane	23.6	1.0	ug/l	25.0	ND	95	65-130			
1,3-Dichloropropane	25.9	1.0	ug/l	25.0	ND	104	65-135			
2,2-Dichloropropane	28.9	1.0	ug/l	25.0	ND	116	60-145			
cis-1,3-Dichloropropene	29.4	0.50	ug/l	25.0	ND	118	70-130			
trans-1,3-Dichloropropene	21.9	0.50	ug/l	25.0	ND	88	65-135			
1,1-Dichloropropene	25.8	1.0	ug/l	25.0	ND	103	70-135			
Ethylbenzene	28.4	1.0	ug/l	25.0	0.450	112	65-130			

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Camp, Dresser & McKee
111 Academy, Ste 150
Irvine, CA 92617
Attention: Sharon Wallin

Project ID: Omega Wastewater
IWP number 20039
Report Number: ISG1222

Sampled: 07/15/09
Received: 07/15/09

METHOD BLANK/QC DATA

VOLATILE ORGANICS by GC/MS (EPA 5030B/8260B)

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Data Qualifiers
Batch: 9G17030 Extracted: 07/17/09										
Matrix Spike Analyzed: 07/17/2009 (9G17030-MS1)					**Source: ISG1388-01**					
Hexachlorobutadiene	24.4	1.0	ug/l	25.0	ND	98	60-135			
Isopropylbenzene	27.3	1.0	ug/l	25.0	ND	109	70-135			
p-Isopropyltoluene	25.6	1.0	ug/l	25.0	ND	103	65-130			
Methylene chloride	27.6	5.0	ug/l	25.0	ND	111	50-135			
Naphthalene	25.3	1.0	ug/l	25.0	ND	101	50-140			
n-Propylbenzene	27.4	1.0	ug/l	25.0	0.490	108	70-135			
Styrene	26.2	1.0	ug/l	25.0	ND	105	50-145			
1,1,1,2-Tetrachloroethane	26.9	1.0	ug/l	25.0	ND	108	65-140			
1,1,2,2-Tetrachloroethane	26.0	1.0	ug/l	25.0	ND	104	55-135			
Tetrachloroethene	26.2	1.0	ug/l	25.0	0.340	103	65-130			
Toluene	26.2	1.0	ug/l	25.0	ND	105	70-125			
1,2,3-Trichlorobenzene	25.3	1.0	ug/l	25.0	ND	101	60-135			
1,2,4-Trichlorobenzene	25.2	1.0	ug/l	25.0	ND	101	65-135			
1,1,1-Trichloroethane	25.8	1.0	ug/l	25.0	ND	103	65-140			
1,1,2-Trichloroethane	24.5	1.0	ug/l	25.0	ND	98	65-130			
Trichloroethene	26.1	1.0	ug/l	25.0	0.700	101	65-125			
Trichlorofluoromethane	27.0	1.0	ug/l	25.0	ND	108	60-145			
1,2,3-Trichloropropane	22.9	1.0	ug/l	25.0	ND	92	55-135			
1,2,4-Trimethylbenzene	26.9	1.0	ug/l	25.0	0.450	106	55-135			
1,3,5-Trimethylbenzene	25.6	1.0	ug/l	25.0	ND	103	70-130			
Vinyl chloride	26.4	0.50	ug/l	25.0	ND	106	45-140			
m,p-Xylenes	56.5	1.0	ug/l	50.0	ND	113	65-130			
o-Xylene	27.8	1.0	ug/l	25.0	ND	111	65-125			
Methyl-tert-butyl Ether (MTBE)	33.4	1.0	ug/l	25.0	8.86	98	55-145			
Surrogate: 4-Bromofluorobenzene	*27.0*		*ug/l*	*25.0*		*108*	*80-120*			
Surrogate: Dibromofluoromethane	*25.6*		*ug/l*	*25.0*		*102*	*80-120*			
Surrogate: Toluene-d8	*24.6*		*ug/l*	*25.0*		*98*	*80-120*			

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Camp, Dresser & McKee
111 Academy, Ste 150
Irvine, CA 92617
Attention: Sharon Wallin

Project ID: Omega Wastewater
IWP number 20039
Report Number: ISG1222

Sampled: 07/15/09
Received: 07/15/09

METHOD BLANK/QC DATA

VOLATILE ORGANICS by GC/MS (EPA 5030B/8260B)

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Data Qualifiers
Batch: 9G17030 Extracted: 07/17/09										
Matrix Spike Dup Analyzed: 07/17/2009 (9G17030-MSD1)					**Source: ISG1388-01**					
Benzene	26.1	0.50	ug/l	25.0	0.640	102	65-125	2	20	
Bromobenzene	26.6	1.0	ug/l	25.0	ND	107	70-125	6	20	
Bromochloromethane	28.4	1.0	ug/l	25.0	ND	114	65-135	10	25	
Bromodichloromethane	27.1	1.0	ug/l	25.0	ND	108	70-135	7	20	
Bromoform	25.1	1.0	ug/l	25.0	ND	101	55-135	10	25	
Bromomethane	32.8	1.0	ug/l	25.0	ND	131	55-145	8	25	
n-Butylbenzene	27.1	1.0	ug/l	25.0	ND	108	65-135	3	20	
sec-Butylbenzene	27.9	1.0	ug/l	25.0	ND	112	70-125	6	20	
tert-Butylbenzene	28.2	1.0	ug/l	25.0	ND	113	65-130	6	20	
Carbon tetrachloride	28.3	0.50	ug/l	25.0	ND	113	65-140	3	25	
Chlorobenzene	27.6	1.0	ug/l	25.0	ND	110	75-125	6	20	
Chloroethane	29.0	1.0	ug/l	25.0	ND	116	55-140	9	25	
Chloroform	28.0	1.0	ug/l	25.0	ND	112	65-135	10	20	
Chloromethane	26.0	1.0	ug/l	25.0	ND	104	45-145	9	25	
2-Chlorotoluene	27.5	1.0	ug/l	25.0	ND	110	65-135	5	20	
4-Chlorotoluene	27.5	1.0	ug/l	25.0	ND	110	70-135	4	20	
1,2-Dibromo-3-chloropropane	25.6	5.0	ug/l	25.0	ND	103	45-145	12	30	
Dibromochloromethane	29.1	1.0	ug/l	25.0	ND	116	65-140	7	25	
1,2-Dibromoethane (EDB)	26.4	1.0	ug/l	25.0	ND	106	70-130	3	25	
Dibromomethane	26.3	1.0	ug/l	25.0	ND	105	65-135	8	25	
1,2-Dichlorobenzene	26.8	1.0	ug/l	25.0	ND	107	75-125	4	20	
1,3-Dichlorobenzene	26.0	1.0	ug/l	25.0	ND	104	75-125	4	20	
1,4-Dichlorobenzene	26.0	1.0	ug/l	25.0	ND	104	75-125	3	20	
Dichlorodifluoromethane	31.1	5.0	ug/l	25.0	ND	124	25-155	10	30	
1,1-Dichloroethane	26.8	1.0	ug/l	25.0	ND	107	65-130	9	20	
1,2-Dichloroethane	26.0	0.50	ug/l	25.0	ND	104	60-140	6	20	
1,1-Dichloroethene	28.2	1.0	ug/l	25.0	ND	113	60-130	9	20	
cis-1,2-Dichloroethene	28.9	1.0	ug/l	25.0	ND	116	65-130	7	20	
trans-1,2-Dichloroethene	27.5	1.0	ug/l	25.0	ND	110	65-130	7	20	
1,2-Dichloropropane	25.1	1.0	ug/l	25.0	ND	100	65-130	6	20	
1,3-Dichloropropane	27.7	1.0	ug/l	25.0	ND	111	65-135	7	25	
2,2-Dichloropropane	31.1	1.0	ug/l	25.0	ND	124	60-145	7	25	
cis-1,3-Dichloropropene	32.1	0.50	ug/l	25.0	ND	128	70-130	9	20	
trans-1,3-Dichloropropene	24.8	0.50	ug/l	25.0	ND	99	65-135	12	25	
1,1-Dichloropropene	27.4	1.0	ug/l	25.0	ND	110	70-135	6	20	
Ethylbenzene	29.7	1.0	ug/l	25.0	0.450	117	65-130	4	20	

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Camp, Dresser & McKee
111 Academy, Ste 150
Irvine, CA 92617
Attention: Sharon Wallin

Project ID: Omega Wastewater
IWP number 20039
Report Number: ISG1222

Sampled: 07/15/09
Received: 07/15/09

METHOD BLANK/QC DATA

VOLATILE ORGANICS by GC/MS (EPA 5030B/8260B)

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Data Qualifiers
Batch: 9G17030 Extracted: 07/17/09										
Matrix Spike Dup Analyzed: 07/17/2009 (9G17030-MSD1)					**Source: ISG1388-01**					
Hexachlorobutadiene	25.6	1.0	ug/l	25.0	ND	103	60-135	5	20	
Isopropylbenzene	27.9	1.0	ug/l	25.0	ND	112	70-135	2	20	
p-Isopropyltoluene	26.3	1.0	ug/l	25.0	ND	105	65-130	3	20	
Methylene chloride	30.5	5.0	ug/l	25.0	ND	122	50-135	10	20	
Naphthalene	27.5	1.0	ug/l	25.0	ND	110	50-140	8	30	
n-Propylbenzene	28.4	1.0	ug/l	25.0	0.490	112	70-135	4	20	
Styrene	28.8	1.0	ug/l	25.0	ND	115	50-145	10	30	
1,1,1,2-Tetrachloroethane	28.7	1.0	ug/l	25.0	ND	115	65-140	7	20	
1,1,2,2-Tetrachloroethane	27.3	1.0	ug/l	25.0	ND	109	55-135	5	30	
Tetrachloroethene	26.8	1.0	ug/l	25.0	0.340	106	65-130	2	20	
Toluene	27.4	1.0	ug/l	25.0	ND	109	70-125	4	20	
1,2,3-Trichlorobenzene	27.0	1.0	ug/l	25.0	ND	108	60-135	7	20	
1,2,4-Trichlorobenzene	27.2	1.0	ug/l	25.0	ND	109	65-135	8	20	
1,1,1-Trichloroethane	28.2	1.0	ug/l	25.0	ND	113	65-140	9	20	
1,1,2-Trichloroethane	27.8	1.0	ug/l	25.0	ND	111	65-130	13	25	
Trichloroethene	26.9	1.0	ug/l	25.0	0.700	105	65-125	3	20	
Trichlorofluoromethane	28.0	1.0	ug/l	25.0	ND	112	60-145	4	25	
1,2,3-Trichloropropane	25.6	1.0	ug/l	25.0	ND	103	55-135	11	30	
1,2,4-Trimethylbenzene	28.7	1.0	ug/l	25.0	0.450	113	55-135	6	25	
1,3,5-Trimethylbenzene	27.2	1.0	ug/l	25.0	ND	109	70-130	6	20	
Vinyl chloride	28.3	0.50	ug/l	25.0	ND	113	45-140	7	30	
m,p-Xylenes	60.4	1.0	ug/l	50.0	ND	121	65-130	7	25	
o-Xylene	29.8	1.0	ug/l	25.0	ND	119	65-125	7	20	
Methyl-tert-butyl Ether (MTBE)	38.7	1.0	ug/l	25.0	8.86	119	55-145	15	25	
Surrogate: 4-Bromofluorobenzene	*26.7*		*ug/l*	*25.0*		*107*	*80-120*			
Surrogate: Dibromofluoromethane	*26.3*		*ug/l*	*25.0*		*105*	*80-120*			
Surrogate: Toluene-d8	*24.8*		*ug/l*	*25.0*		*99*	*80-120*			

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Camp, Dresser & McKee 111 Academy, Ste 150 Irvine, CA 92617 Attention: Sharon Wallin	Project ID: Report Number:	Omega Wastewater IWP number 20039 ISG1222	Sampled: 07/15/09 Received: 07/15/09

METHOD BLANK/QC DATA

VOLATILE ORGANICS by GC/MS (EPA 5030B/8260B)

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Data Qualifiers
Batch: 9G20013 Extracted: 07/20/09										
Blank Analyzed: 07/20/2009 (9G20013-BLK1)										
Acetone	ND	10	ug/l							
Volatile Organic Compounds	ND	2.0	ug/l							
Surrogate: 4-Bromofluorobenzene	*22.3*		*ug/l*	*25.0*		*89*	*80-120*			
Surrogate: 4-Bromofluorobenzene	*22.3*		*ug/l*	*25.0*		*89*	*80-120*			
Surrogate: Dibromofluoromethane	*24.9*		*ug/l*	*25.0*		*99*	*80-120*			
Surrogate: Dibromofluoromethane	*24.9*		*ug/l*	*25.0*		*99*	*80-120*			
Surrogate: Toluene-d8	*24.5*		*ug/l*	*25.0*		*98*	*80-120*			
Surrogate: Toluene-d8	*24.5*		*ug/l*	*25.0*		*98*	*80-120*			
LCS Analyzed: 07/20/2009 (9G20013-BS1)										
Acetone	15.2	10	ug/l	25.0		61	30-140			
Surrogate: 4-Bromofluorobenzene	*24.2*		*ug/l*	*25.0*		*97*	*80-120*			
Surrogate: 4-Bromofluorobenzene	*24.2*		*ug/l*	*25.0*		*97*	*80-120*			
Surrogate: Dibromofluoromethane	*25.1*		*ug/l*	*25.0*		*100*	*80-120*			
Surrogate: Dibromofluoromethane	*25.1*		*ug/l*	*25.0*		*100*	*80-120*			
Surrogate: Toluene-d8	*24.6*		*ug/l*	*25.0*		*99*	*80-120*			
Surrogate: Toluene-d8	*24.6*		*ug/l*	*25.0*		*99*	*80-120*			
Matrix Spike Analyzed: 07/20/2009 (9G20013-MS1)					**Source: ISG1233-03**					
Acetone	21.8	10	ug/l	25.0	ND	87	20-150			
Surrogate: 4-Bromofluorobenzene	*24.3*		*ug/l*	*25.0*		*97*	*80-120*			
Surrogate: 4-Bromofluorobenzene	*24.3*		*ug/l*	*25.0*		*97*	*80-120*			
Surrogate: Dibromofluoromethane	*26.0*		*ug/l*	*25.0*		*104*	*80-120*			
Surrogate: Dibromofluoromethane	*26.0*		*ug/l*	*25.0*		*104*	*80-120*			
Surrogate: Toluene-d8	*24.9*		*ug/l*	*25.0*		*99*	*80-120*			
Surrogate: Toluene-d8	*24.9*		*ug/l*	*25.0*		*99*	*80-120*			
Matrix Spike Dup Analyzed: 07/20/2009 (9G20013-MSD1)					**Source: ISG1233-03**					
Acetone	21.7	10	ug/l	25.0	ND	87	20-150	0	35	
Surrogate: 4-Bromofluorobenzene	*24.4*		*ug/l*	*25.0*		*98*	*80-120*			
Surrogate: 4-Bromofluorobenzene	*24.4*		*ug/l*	*25.0*		*98*	*80-120*			
Surrogate: Dibromofluoromethane	*26.3*		*ug/l*	*25.0*		*105*	*80-120*			
Surrogate: Dibromofluoromethane	*26.3*		*ug/l*	*25.0*		*105*	*80-120*			
Surrogate: Toluene-d8	*24.6*		*ug/l*	*25.0*		*98*	*80-120*			
Surrogate: Toluene-d8	*24.6*		*ug/l*	*25.0*		*98*	*80-120*			

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Project Manager

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TestAmerica
THE LEADER IN ENVIRONMENTAL TESTING

17461 Derian Avenue. Suite 100, Irvine, CA 92614 (949) 261-1022 Fax:(949) 260-3297

Camp, Dresser & McKee	Project ID:	Omega Wastewater	
111 Academy, Ste 150		IWP number 20039	Sampled: 07/15/09
Irvine, CA 92617	Report Number:	ISG1222	Received: 07/15/09
Attention: Sharon Wallin			

METHOD BLANK/QC DATA

VOLATILE ORGANICS by GC/MS (EPA 5030B/8260B)

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Data Qualifiers
Batch: 9G21011 Extracted: 07/21/09										
Blank Analyzed: 07/21/2009 (9G21011-BLK1)										
Acetone	ND	10	ug/l							
Benzene	ND	0.50	ug/l							
Bromobenzene	ND	1.0	ug/l							
Bromochloromethane	ND	1.0	ug/l							
Bromodichloromethane	ND	1.0	ug/l							
Bromoform	ND	1.0	ug/l							
Bromomethane	ND	1.0	ug/l							
n-Butylbenzene	ND	1.0	ug/l							
sec-Butylbenzene	ND	1.0	ug/l							
tert-Butylbenzene	ND	1.0	ug/l							
Carbon tetrachloride	ND	0.50	ug/l							
Chlorobenzene	ND	1.0	ug/l							
Chloroethane	ND	1.0	ug/l							
Chloroform	ND	1.0	ug/l							
Chloromethane	ND	1.0	ug/l							
2-Chlorotoluene	ND	1.0	ug/l							
4-Chlorotoluene	ND	1.0	ug/l							
1,2-Dibromo-3-chloropropane	ND	5.0	ug/l							
Dibromochloromethane	ND	1.0	ug/l							
1,2-Dibromoethane (EDB)	ND	1.0	ug/l							
Dibromomethane	ND	1.0	ug/l							
1,2-Dichlorobenzene	ND	1.0	ug/l							
1,3-Dichlorobenzene	ND	1.0	ug/l							
1,4-Dichlorobenzene	ND	1.0	ug/l							
Dichlorodifluoromethane	ND	5.0	ug/l							
1,1-Dichloroethane	ND	1.0	ug/l							
1,2-Dichloroethane	ND	0.50	ug/l							
1,1-Dichloroethene	ND	1.0	ug/l							
cis-1,2-Dichloroethene	ND	1.0	ug/l							
trans-1,2-Dichloroethene	ND	1.0	ug/l							
1,2-Dichloropropane	ND	1.0	ug/l							
1,3-Dichloropropane	ND	1.0	ug/l							
2,2-Dichloropropane	ND	1.0	ug/l							
cis-1,3-Dichloropropene	ND	0.50	ug/l							
trans-1,3-Dichloropropene	ND	0.50	ug/l							
1,1-Dichloropropene	ND	1.0	ug/l							

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Project Manager

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17461 Derian Avenue. Suite 100, Irvine, CA 92614 (949) 261-1022 Fax:(949) 260-3297

Camp, Dresser & McKee 111 Academy, Ste 150 Irvine, CA 92617 Attention: Sharon Wallin	Project ID: Report Number:	Omega Wastewater IWP number 20039 ISG1222	Sampled: 07/15/09 Received: 07/15/09

METHOD BLANK/QC DATA

VOLATILE ORGANICS by GC/MS (EPA 5030B/8260B)

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Data Qualifiers
Batch: 9G21011 Extracted: 07/21/09										
Blank Analyzed: 07/21/2009 (9G21011-BLK1)										
Ethylbenzene	ND	1.0	ug/l							
Hexachlorobutadiene	ND	1.0	ug/l							
Isopropylbenzene	ND	1.0	ug/l							
p-Isopropyltoluene	ND	1.0	ug/l							
Methylene chloride	ND	5.0	ug/l							
Naphthalene	ND	1.0	ug/l							
n-Propylbenzene	ND	1.0	ug/l							
Styrene	ND	1.0	ug/l							
1,1,1,2-Tetrachloroethane	ND	1.0	ug/l							
1,1,2,2-Tetrachloroethane	ND	1.0	ug/l							
Tetrachloroethene	ND	1.0	ug/l							
Toluene	ND	1.0	ug/l							
1,2,3-Trichlorobenzene	ND	1.0	ug/l							
1,2,4-Trichlorobenzene	ND	1.0	ug/l							
1,1,1-Trichloroethane	ND	1.0	ug/l							
1,1,2-Trichloroethane	ND	1.0	ug/l							
Trichloroethene	ND	1.0	ug/l							
Trichlorofluoromethane	ND	1.0	ug/l							
1,2,3-Trichloropropane	ND	1.0	ug/l							
Trichlorotrifluoroethane (Freon 113)	ND	5.0	ug/l							
1,2,4-Trimethylbenzene	ND	1.0	ug/l							
1,3,5-Trimethylbenzene	ND	1.0	ug/l							
Vinyl chloride	ND	0.50	ug/l							
m,p-Xylenes	ND	1.0	ug/l							
o-Xylene	ND	1.0	ug/l							
Methyl-tert-butyl Ether (MTBE)	ND	1.0	ug/l							
Volatile Organic Compounds	ND	2.0	ug/l							
Surrogate: 4-Bromofluorobenzene	*23.3*		*ug/l*	*25.0*		*93*	*80-120*			
Surrogate: 4-Bromofluorobenzene	*23.3*		*ug/l*	*25.0*		*93*	*80-120*			
Surrogate: Dibromofluoromethane	*24.2*		*ug/l*	*25.0*		*97*	*80-120*			
Surrogate: Dibromofluoromethane	*24.2*		*ug/l*	*25.0*		*97*	*80-120*			
Surrogate: Toluene-d8	*25.6*		*ug/l*	*25.0*		*103*	*80-120*			
Surrogate: Toluene-d8	*25.6*		*ug/l*	*25.0*		*103*	*80-120*			

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Project Manager

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Camp, Dresser & McKee
111 Academy, Ste 150
Irvine, CA 92617
Attention: Sharon Wallin

Project ID: Omega Wastewater
IWP number 20039
Report Number: ISG1222

Sampled: 07/15/09
Received: 07/15/09

METHOD BLANK/QC DATA

VOLATILE ORGANICS by GC/MS (EPA 5030B/8260B)

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Data Qualifiers
Batch: 9G21011 Extracted: 07/21/09										
LCS Analyzed: 07/21/2009 (9G21011-BS1)										
Acetone	14.3	10	ug/l	25.0		57	30-140			
Benzene	27.4	0.50	ug/l	25.0		109	70-120			
Bromobenzene	29.6	1.0	ug/l	25.0		119	75-120			
Bromochloromethane	29.8	1.0	ug/l	25.0		119	70-130			
Bromodichloromethane	30.2	1.0	ug/l	25.0		121	70-135			
Bromoform	26.6	1.0	ug/l	25.0		106	55-130			
Bromomethane	26.0	1.0	ug/l	25.0		104	65-140			
n-Butylbenzene	27.8	1.0	ug/l	25.0		111	70-130			
sec-Butylbenzene	26.8	1.0	ug/l	25.0		107	70-125			
tert-Butylbenzene	28.5	1.0	ug/l	25.0		114	70-125			
Carbon tetrachloride	31.1	0.50	ug/l	25.0		124	65-140			
Chlorobenzene	29.7	1.0	ug/l	25.0		119	75-120			
Chloroethane	27.7	1.0	ug/l	25.0		111	60-140			
Chloroform	25.5	1.0	ug/l	25.0		102	70-130			
Chloromethane	27.4	1.0	ug/l	25.0		109	50-140			
2-Chlorotoluene	28.4	1.0	ug/l	25.0		113	70-125			
4-Chlorotoluene	28.0	1.0	ug/l	25.0		112	75-125			
1,2-Dibromo-3-chloropropane	24.8	5.0	ug/l	25.0		99	50-135			
Dibromochloromethane	31.3	1.0	ug/l	25.0		125	70-140			
1,2-Dibromoethane (EDB)	28.1	1.0	ug/l	25.0		112	75-125			
Dibromomethane	29.0	1.0	ug/l	25.0		116	70-125			
1,2-Dichlorobenzene	28.7	1.0	ug/l	25.0		115	75-120			
1,3-Dichlorobenzene	29.3	1.0	ug/l	25.0		117	75-120			
1,4-Dichlorobenzene	27.8	1.0	ug/l	25.0		111	75-120			
Dichlorodifluoromethane	33.6	5.0	ug/l	25.0		134	35-155			
1,1-Dichloroethane	25.7	1.0	ug/l	25.0		103	70-125			
1,2-Dichloroethane	26.7	0.50	ug/l	25.0		107	60-140			
1,1-Dichloroethene	29.6	1.0	ug/l	25.0		118	70-125			
cis-1,2-Dichloroethene	28.2	1.0	ug/l	25.0		113	70-125			
trans-1,2-Dichloroethene	28.4	1.0	ug/l	25.0		114	70-125			
1,2-Dichloropropane	27.0	1.0	ug/l	25.0		108	70-125			
1,3-Dichloropropane	28.5	1.0	ug/l	25.0		114	70-120			
2,2-Dichloropropane	28.2	1.0	ug/l	25.0		113	65-140			
cis-1,3-Dichloropropene	29.3	0.50	ug/l	25.0		117	75-125			
trans-1,3-Dichloropropene	28.1	0.50	ug/l	25.0		112	70-125			
1,1-Dichloropropene	29.7	1.0	ug/l	25.0		119	75-130			

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Project Manager

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Camp, Dresser & McKee
111 Academy, Ste 150
Irvine, CA 92617
Attention: Sharon Wallin

Project ID: Omega Wastewater
IWP number 20039
Report Number: ISG1222

Sampled: 07/15/09
Received: 07/15/09

METHOD BLANK/QC DATA

VOLATILE ORGANICS by GC/MS (EPA 5030B/8260B)

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Data Qualifiers
Batch: 9G21011 Extracted: 07/21/09										
LCS Analyzed: 07/21/2009 (9G21011-BS1)										
Ethylbenzene	28.7	1.0	ug/l	25.0		115	75-125			
Hexachlorobutadiene	24.3	1.0	ug/l	25.0		97	65-135			
Isopropylbenzene	30.0	1.0	ug/l	25.0		120	75-130			
p-Isopropyltoluene	28.2	1.0	ug/l	25.0		113	75-125			
Methylene chloride	28.4	5.0	ug/l	25.0		114	55-130			
Naphthalene	24.8	1.0	ug/l	25.0		99	55-135			
n-Propylbenzene	27.6	1.0	ug/l	25.0		110	75-130			
Styrene	29.7	1.0	ug/l	25.0		119	75-130			
1,1,1,2-Tetrachloroethane	30.5	1.0	ug/l	25.0		122	70-130			
1,1,2,2-Tetrachloroethane	30.0	1.0	ug/l	25.0		120	55-130			
Tetrachloroethene	29.5	1.0	ug/l	25.0		118	70-125			
Toluene	29.0	1.0	ug/l	25.0		116	70-120			
1,2,3-Trichlorobenzene	24.8	1.0	ug/l	25.0		99	65-125			
1,2,4-Trichlorobenzene	26.5	1.0	ug/l	25.0		106	70-135			
1,1,1-Trichloroethane	29.6	1.0	ug/l	25.0		118	65-135			
1,1,2-Trichloroethane	29.3	1.0	ug/l	25.0		117	70-125			
Trichloroethene	30.0	1.0	ug/l	25.0		120	70-125			
Trichlorofluoromethane	29.3	1.0	ug/l	25.0		117	65-145			
1,2,3-Trichloropropane	25.5	1.0	ug/l	25.0		102	60-130			
1,2,4-Trimethylbenzene	27.3	1.0	ug/l	25.0		109	75-125			
1,3,5-Trimethylbenzene	28.2	1.0	ug/l	25.0		113	75-125			
Vinyl chloride	27.8	0.50	ug/l	25.0		111	55-135			
m,p-Xylenes	55.5	1.0	ug/l	50.0		111	75-125			
o-Xylene	28.5	1.0	ug/l	25.0		114	75-125			
Methyl-tert-butyl Ether (MTBE)	22.9	1.0	ug/l	25.0		92	60-135			
Surrogate: 4-Bromofluorobenzene	*23.9*		*ug/l*	*25.0*		*96*	*80-120*			
Surrogate: Dibromofluoromethane	*25.5*		*ug/l*	*25.0*		*102*	*80-120*			
Surrogate: Toluene-d8	*25.6*		*ug/l*	*25.0*		*102*	*80-120*			

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111 Academy, Ste 150
Irvine, CA 92617
Attention: Sharon Wallin

Project ID: Omega Wastewater
IWP number 20039
Report Number: ISG1222

Sampled: 07/15/09
Received: 07/15/09

METHOD BLANK/QC DATA

VOLATILE ORGANICS by GC/MS (EPA 5030B/8260B)

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Data Qualifiers
Batch: 9G21011 Extracted: 07/21/09										
Matrix Spike Analyzed: 07/21/2009 (9G21011-MS1)					**Source: ISG1428-02**					
Acetone	15.6	10	ug/l	25.0	ND	62	20-150			
Benzene	27.2	0.50	ug/l	25.0	ND	109	65-125			
Bromobenzene	29.1	1.0	ug/l	25.0	ND	116	70-125			
Bromochloromethane	29.5	1.0	ug/l	25.0	ND	118	65-135			
Bromodichloromethane	30.9	1.0	ug/l	25.0	ND	124	70-135			
Bromoform	26.3	1.0	ug/l	25.0	ND	105	55-135			
Bromomethane	26.1	1.0	ug/l	25.0	ND	104	55-145			
n-Butylbenzene	27.5	1.0	ug/l	25.0	ND	110	65-135			
sec-Butylbenzene	26.4	1.0	ug/l	25.0	ND	105	70-125			
tert-Butylbenzene	27.6	1.0	ug/l	25.0	ND	110	65-130			
Carbon tetrachloride	31.1	0.50	ug/l	25.0	ND	124	65-140			
Chlorobenzene	29.3	1.0	ug/l	25.0	ND	117	75-125			
Chloroethane	28.4	1.0	ug/l	25.0	ND	114	55-140			
Chloroform	25.9	1.0	ug/l	25.0	ND	104	65-135			
Chloromethane	26.8	1.0	ug/l	25.0	ND	107	45-145			
2-Chlorotoluene	28.2	1.0	ug/l	25.0	ND	113	65-135			
4-Chlorotoluene	27.7	1.0	ug/l	25.0	ND	111	70-135			
1,2-Dibromo-3-chloropropane	24.8	5.0	ug/l	25.0	ND	99	45-145			
Dibromochloromethane	31.2	1.0	ug/l	25.0	ND	125	65-140			
1,2-Dibromoethane (EDB)	27.9	1.0	ug/l	25.0	ND	112	70-130			
Dibromomethane	29.2	1.0	ug/l	25.0	ND	117	65-135			
1,2-Dichlorobenzene	28.1	1.0	ug/l	25.0	ND	112	75-125			
1,3-Dichlorobenzene	28.8	1.0	ug/l	25.0	ND	115	75-125			
1,4-Dichlorobenzene	27.7	1.0	ug/l	25.0	ND	111	75-125			
Dichlorodifluoromethane	38.6	5.0	ug/l	25.0	23.5	60	25-155			
1,1-Dichloroethane	29.8	1.0	ug/l	25.0	3.45	105	65-130			
1,2-Dichloroethane	27.8	0.50	ug/l	25.0	ND	111	60-140			
1,1-Dichloroethene	29.1	1.0	ug/l	25.0	ND	116	60-130			
cis-1,2-Dichloroethene	28.5	1.0	ug/l	25.0	ND	114	65-130			
trans-1,2-Dichloroethene	28.2	1.0	ug/l	25.0	ND	113	65-130			
1,2-Dichloropropane	27.8	1.0	ug/l	25.0	ND	111	65-130			
1,3-Dichloropropane	29.5	1.0	ug/l	25.0	ND	118	65-135			
2,2-Dichloropropane	29.6	1.0	ug/l	25.0	ND	118	60-145			
cis-1,3-Dichloropropene	29.6	0.50	ug/l	25.0	ND	118	70-130			
trans-1,3-Dichloropropene	28.3	0.50	ug/l	25.0	ND	113	65-135			
1,1-Dichloropropene	29.2	1.0	ug/l	25.0	ND	117	70-135			

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Project Manager

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Attention: Sharon Wallin

Project ID: Omega Wastewater
IWP number 20039
Report Number: ISG1222

Sampled: 07/15/09
Received: 07/15/09

METHOD BLANK/QC DATA

VOLATILE ORGANICS by GC/MS (EPA 5030B/8260B)

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Data Qualifiers
Batch: 9G21011 Extracted: 07/21/09										
Matrix Spike Analyzed: 07/21/2009 (9G21011-MS1)					**Source: ISG1428-02**					
Ethylbenzene	28.5	1.0	ug/l	25.0	ND	114	65-130			
Hexachlorobutadiene	22.2	1.0	ug/l	25.0	ND	89	60-135			
Isopropylbenzene	29.1	1.0	ug/l	25.0	ND	116	70-135			
p-Isopropyltoluene	26.9	1.0	ug/l	25.0	ND	107	65-130			
Methylene chloride	30.7	5.0	ug/l	25.0	ND	123	50-135			
Naphthalene	22.3	1.0	ug/l	25.0	ND	89	50-140			
n-Propylbenzene	27.5	1.0	ug/l	25.0	ND	110	70-135			
Styrene	19.1	1.0	ug/l	25.0	ND	76	50-145			
1,1,1,2-Tetrachloroethane	30.7	1.0	ug/l	25.0	ND	123	65-140			
1,1,2,2-Tetrachloroethane	31.4	1.0	ug/l	25.0	ND	125	55-135			
Tetrachloroethene	28.7	1.0	ug/l	25.0	ND	115	65-130			
Toluene	28.4	1.0	ug/l	25.0	ND	114	70-125			
1,2,3-Trichlorobenzene	23.0	1.0	ug/l	25.0	ND	92	60-135			
1,2,4-Trichlorobenzene	24.6	1.0	ug/l	25.0	ND	98	65-135			
1,1,1-Trichloroethane	29.9	1.0	ug/l	25.0	ND	120	65-140			
1,1,2-Trichloroethane	29.5	1.0	ug/l	25.0	ND	118	65-130			
Trichloroethene	28.6	1.0	ug/l	25.0	ND	114	65-125			
Trichlorofluoromethane	29.9	1.0	ug/l	25.0	0.400	118	60-145			
1,2,3-Trichloropropane	27.6	1.0	ug/l	25.0	ND	110	55-135			
1,2,4-Trimethylbenzene	23.0	1.0	ug/l	25.0	ND	92	55-135			
1,3,5-Trimethylbenzene	25.5	1.0	ug/l	25.0	ND	102	70-130			
Vinyl chloride	25.8	0.50	ug/l	25.0	ND	103	45-140			
m,p-Xylenes	54.1	1.0	ug/l	50.0	ND	108	65-130			
o-Xylene	27.9	1.0	ug/l	25.0	ND	112	65-125			
Methyl-tert-butyl Ether (MTBE)	23.1	1.0	ug/l	25.0	ND	92	55-145			
Surrogate: 4-Bromofluorobenzene	*24.6*		*ug/l*	*25.0*		*99*	*80-120*			
Surrogate: Dibromofluoromethane	*26.4*		*ug/l*	*25.0*		*106*	*80-120*			
Surrogate: Toluene-d8	*26.0*		*ug/l*	*25.0*		*104*	*80-120*			

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Patty Mata
Project Manager

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17461 Derian Avenue. Suite 100, Irvine, CA 92614 (949) 261-1022 Fax:(949) 260-3297

Camp, Dresser & McKee
111 Academy, Ste 150
Irvine, CA 92617
Attention: Sharon Wallin

Project ID: Omega Wastewater
IWP number 20039
Report Number: ISG1222

Sampled: 07/15/09
Received: 07/15/09

METHOD BLANK/QC DATA

VOLATILE ORGANICS by GC/MS (EPA 5030B/8260B)

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Data Qualifiers
Batch: 9G21011 Extracted: 07/21/09										
Matrix Spike Dup Analyzed: 07/21/2009 (9G21011-MSD1)					**Source: ISG1428-02**					
Acetone	14.7	10	ug/l	25.0	ND	59	20-150	6	35	
Benzene	24.0	0.50	ug/l	25.0	ND	96	65-125	13	20	
Bromobenzene	24.8	1.0	ug/l	25.0	ND	99	70-125	16	20	
Bromochloromethane	25.9	1.0	ug/l	25.0	ND	104	65-135	13	25	
Bromodichloromethane	26.9	1.0	ug/l	25.0	ND	108	70-135	14	20	
Bromoform	23.2	1.0	ug/l	25.0	ND	93	55-135	12	25	
Bromomethane	22.5	1.0	ug/l	25.0	ND	90	55-145	15	25	
n-Butylbenzene	24.2	1.0	ug/l	25.0	ND	97	65-135	13	20	
sec-Butylbenzene	23.1	1.0	ug/l	25.0	ND	92	70-125	13	20	
tert-Butylbenzene	23.8	1.0	ug/l	25.0	ND	95	65-130	15	20	
Carbon tetrachloride	27.6	0.50	ug/l	25.0	ND	110	65-140	12	25	
Chlorobenzene	25.8	1.0	ug/l	25.0	ND	103	75-125	13	20	
Chloroethane	24.6	1.0	ug/l	25.0	ND	99	55-140	14	25	
Chloroform	22.6	1.0	ug/l	25.0	ND	91	65-135	13	20	
Chloromethane	23.1	1.0	ug/l	25.0	ND	92	45-145	15	25	
2-Chlorotoluene	24.5	1.0	ug/l	25.0	ND	98	65-135	14	20	
4-Chlorotoluene	24.2	1.0	ug/l	25.0	ND	97	70-135	14	20	
1,2-Dibromo-3-chloropropane	22.4	5.0	ug/l	25.0	ND	89	45-145	10	30	
Dibromochloromethane	27.3	1.0	ug/l	25.0	ND	109	65-140	13	25	
1,2-Dibromoethane (EDB)	24.6	1.0	ug/l	25.0	ND	98	70-130	13	25	
Dibromomethane	26.3	1.0	ug/l	25.0	ND	105	65-135	10	25	
1,2-Dichlorobenzene	24.4	1.0	ug/l	25.0	ND	98	75-125	14	20	
1,3-Dichlorobenzene	25.1	1.0	ug/l	25.0	ND	100	75-125	14	20	
1,4-Dichlorobenzene	24.2	1.0	ug/l	25.0	ND	97	75-125	14	20	
Dichlorodifluoromethane	34.2	5.0	ug/l	25.0	23.5	43	25-155	12	30	
1,1-Dichloroethane	26.2	1.0	ug/l	25.0	3.45	91	65-130	13	20	
1,2-Dichloroethane	24.9	0.50	ug/l	25.0	ND	100	60-140	11	20	
1,1-Dichloroethene	25.6	1.0	ug/l	25.0	ND	102	60-130	13	20	
cis-1,2-Dichloroethene	24.9	1.0	ug/l	25.0	ND	100	65-130	14	20	
trans-1,2-Dichloroethene	24.8	1.0	ug/l	25.0	ND	99	65-130	12	20	
1,2-Dichloropropane	24.5	1.0	ug/l	25.0	ND	98	65-130	13	20	
1,3-Dichloropropane	26.1	1.0	ug/l	25.0	ND	104	65-135	12	25	
2,2-Dichloropropane	27.0	1.0	ug/l	25.0	ND	108	60-145	9	25	
cis-1,3-Dichloropropene	26.0	0.50	ug/l	25.0	ND	104	70-130	13	20	
trans-1,3-Dichloropropene	25.1	0.50	ug/l	25.0	ND	100	65-135	12	25	
1,1-Dichloropropene	25.7	1.0	ug/l	25.0	ND	103	70-135	13	20	

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Project Manager

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17461 Derian Avenue. Suite 100, Irvine, CA 92614 (949) 261-1022 Fax:(949) 260-3297

Camp, Dresser & McKee
111 Academy, Ste 150
Irvine, CA 92617
Attention: Sharon Wallin

Project ID: Omega Wastewater
IWP number 20039
Report Number: ISG1222

Sampled: 07/15/09
Received: 07/15/09

METHOD BLANK/QC DATA

VOLATILE ORGANICS by GC/MS (EPA 5030B/8260B)

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Data Qualifiers
Batch: 9G21011 Extracted: 07/21/09										
Matrix Spike Dup Analyzed: 07/21/2009 (9G21011-MSD1)					**Source: ISG1428-02**					
Ethylbenzene	25.2	1.0	ug/l	25.0	ND	101	65-130	12	20	
Hexachlorobutadiene	19.8	1.0	ug/l	25.0	ND	79	60-135	12	20	
Isopropylbenzene	25.2	1.0	ug/l	25.0	ND	101	70-135	14	20	
p-Isopropyltoluene	23.9	1.0	ug/l	25.0	ND	95	65-130	12	20	
Methylene chloride	26.8	5.0	ug/l	25.0	ND	107	50-135	14	20	
Naphthalene	20.7	1.0	ug/l	25.0	ND	83	50-140	8	30	
n-Propylbenzene	24.2	1.0	ug/l	25.0	ND	97	70-135	13	20	
Styrene	25.6	1.0	ug/l	25.0	ND	102	50-145	29	30	
1,1,1,2-Tetrachloroethane	26.2	1.0	ug/l	25.0	ND	105	65-140	16	20	
1,1,2,2-Tetrachloroethane	27.4	1.0	ug/l	25.0	ND	110	55-135	13	30	
Tetrachloroethene	24.8	1.0	ug/l	25.0	ND	99	65-130	14	20	
Toluene	25.3	1.0	ug/l	25.0	ND	101	70-125	12	20	
1,2,3-Trichlorobenzene	20.8	1.0	ug/l	25.0	ND	83	60-135	10	20	
1,2,4-Trichlorobenzene	22.3	1.0	ug/l	25.0	ND	89	65-135	10	20	
1,1,1-Trichloroethane	26.5	1.0	ug/l	25.0	ND	106	65-140	12	20	
1,1,2-Trichloroethane	26.3	1.0	ug/l	25.0	ND	105	65-130	12	25	
Trichloroethene	25.2	1.0	ug/l	25.0	ND	101	65-125	13	20	
Trichlorofluoromethane	26.4	1.0	ug/l	25.0	0.400	104	60-145	13	25	
1,2,3-Trichloropropane	24.3	1.0	ug/l	25.0	ND	97	55-135	13	30	
1,2,4-Trimethylbenzene	23.3	1.0	ug/l	25.0	ND	93	55-135	1	25	
1,3,5-Trimethylbenzene	23.8	1.0	ug/l	25.0	ND	95	70-130	7	20	
Vinyl chloride	22.2	0.50	ug/l	25.0	ND	89	45-140	15	30	
m,p-Xylenes	48.6	1.0	ug/l	50.0	ND	97	65-130	11	25	
o-Xylene	24.9	1.0	ug/l	25.0	ND	100	65-125	11	20	
Methyl-tert-butyl Ether (MTBE)	20.4	1.0	ug/l	25.0	ND	82	55-145	12	25	
Surrogate: 4-Bromofluorobenzene	*24.4*		*ug/l*	*25.0*		*98*	*80-120*			
Surrogate: Dibromofluoromethane	*25.9*		*ug/l*	*25.0*		*104*	*80-120*			
Surrogate: Toluene-d8	*26.0*		*ug/l*	*25.0*		*104*	*80-120*			

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Patty Mata
Project Manager

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Camp, Dresser & McKee 111 Academy, Ste 150 Irvine, CA 92617 Attention: Sharon Wallin	Project ID: Report Number:	Omega Wastewater IWP number 20039 ISG1222	Sampled: 07/15/09 Received: 07/15/09

METHOD BLANK/QC DATA

SEMI-VOLATILE ORGANICS BY GC/MS (EPA 3520C/8270C MOD)

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Data Qualifiers
Batch: 9G16054 Extracted: 07/16/09										
Blank Analyzed: 07/17/2009 (9G16054-BLK1)										
1,4-Dioxane	ND	0.50	ug/l							
Surrogate: 1,4-Dioxane-d8	*1.20*		*ug/l*	*2.00*		*60*	*30-120*			
LCS Analyzed: 07/17/2009 (9G16054-BS1)										**MNR1**
1,4-Dioxane	0.937	0.50	ug/l	2.00		47	35-120			
Surrogate: 1,4-Dioxane-d8	*0.974*		*ug/l*	*2.00*		*49*	*30-120*			
LCS Dup Analyzed: 07/17/2009 (9G16054-BSD1)										
1,4-Dioxane	1.05	0.50	ug/l	2.00		53	35-120	12	25	
Surrogate: 1,4-Dioxane-d8	*1.11*		*ug/l*	*2.00*		*56*	*30-120*			

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Project Manager

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Camp, Dresser & McKee
111 Academy, Ste 150
Irvine, CA 92617
Attention: Sharon Wallin

Project ID: Omega Wastewater
IWP number 20039
Report Number: ISG1222

Sampled: 07/15/09
Received: 07/15/09

METHOD BLANK/QC DATA

INORGANICS

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Data Qualifiers
Batch: 9G16086 Extracted: 07/16/09										
Duplicate Analyzed: 07/16/2009 (9G16086-DUP1)					**Source: ISG1130-02**					
pH	7.44	0.100	pH Units		7.43			0	5	*HFT*
Duplicate Analyzed: 07/16/2009 (9G16086-DUP2)					**Source: ISG1259-04**					
pH	7.58	0.100	pH Units		7.58			0	5	*HFT*

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Camp, Dresser & McKee 111 Academy, Ste 150 Irvine, CA 92617 Attention: Sharon Wallin	Project ID: Omega Wastewater IWP number 20039 Report Number: ISG1222	Sampled: 07/15/09 Received: 07/15/09

DATA QUALIFIERS AND DEFINITIONS

C	Calibration Verification recovery was above the method control limit for this analyte. Analyte not detected, data not impacted.
HFT	The holding time for this test is immediate. It was analyzed in the laboratory as soon as possible after receipt.
MNR1	There was no MS/MSD analyzed with this batch due to insufficient sample volume. See Blank Spike/Blank Spike Duplicate.
P	The sample, as received, was not preserved in accordance to the referenced analytical method.
pH	pH = 5
Z3	The sample required a dilution due to the nature of the sample matrix. Because of this dilution, the surrogate spike concentration in the sample was reduced to a level where the recovery calculation does not provide useful information.
ND	Analyte NOT DETECTED at or above the reporting limit or MDL, if MDL is specified.
RPD	Relative Percent Difference

ADDITIONAL COMMENTS

For 8260 analyses:

Due to the high water solubility of alcohols and ketones, the calibration criteria for these compounds is <30% RSD. The average % RSD of all compounds in the calibration is 15%, in accordance with EPA methods.

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Project Manager

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Camp, Dresser & McKee 111 Academy, Ste 150 Irvine, CA 92617 Attention: Sharon Wallin	Project ID: Omega Wastewater IWP number 20039 Report Number: ISG1222	Sampled: 07/15/09 Received: 07/15/09

Certification Summary

TestAmerica Irvine

Method	Matrix	Nelac	California
EPA 8260B	Water	X	X
EPA 8270C	Water	X	X
SM4500-H,B	Water	X	X

Nevada and NELAP provide analyte specific accreditations. Analyte specific information for TestAmerica may be obtained by contacting the laboratory or visiting our website at www.testamericainc.com

TestAmerica Irvine

Patty Mata
Project Manager

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ISG1222

TestAmerica ANALYTICAL TESTING CORPORATION

☐ Nashville, TN ☐ Orlando, FL ☐ Cedar Falls, IA ☐ Dayton, OH ☐ Watertown, WI ☐ Pontiac, MI ☐ Indianapolis, IN ☐ Irvine, CA

To assist us in using the proper analytical methods, is this work being conducted for regulatory purposes?

Compliance Monitoring? (Yes) No

Enforcement Action? Yes (No)

Client Name/Account #: CDM

Address: CDM / Omega Chemical

City/State/Zip: Irvine, CA 92617

Project Manager: Sharon Wallin

Telephone Number: 949.752.5452 **Fax No.:**

Sampler Name: (Print) Stephen Spaulding

Sampler Signature:

Report To: Sharon Wallin / Karen Schwarz

Invoice To: de maximus

TA Quote #:

Project ID:

Project #:

Sample ID / Description	Date Sampled	Time Sampled	No. of Containers Shipped	Grab	Composite	Field Filtered	Preservative: Ice	Preservative: HNO_3 (Red Label)	Preservative: HCl (Blue Label)	Preservative: NaOH (Orange Label)	Preservative: H_2SO_4 Plastic (Yellow Label)	Preservative: H_2SO_4 Glass(Yellow Label)	Preservative: None (Black Label)	Preservative: Other (Specify)	Matrix: Groundwater	Matrix: Wastewater	Matrix: Drinking Water	Matrix: Sludge	Matrix: Soil	Matrix: Other (specify):	Analyze For: VOC (8260B) (including freons)	Analyze For: 1,4 Dioxane (8270M)	Analyze For: pH	RUSH TAT (Pre-Schedule)	Standard TAT	Fax Results	Send QC with report
OC-SP220A-EFF-071509	7/15/2009	1320		x					x						x						x	x	x	see notes			
OC-TB-071509	7/15/2009	1325		x					x						x						x	x			x		

Special Instructions: 24-hour TAT on OC-SP220A-EFF-062209 VOC & pH only. Standart TAT everything else. Please provide VOC TTO results

Method of Shipment: FEDEX

Laboratory Comments:
Temperature Upon Receipt: 1.9°
VOCs Free of Headspace? (Y) N

Relinquished by:	Date	Time	Received by:	Date	Time
	07/15/09	1325		7/15/09	1325
Relinquished by:	**Date**	**Time**	**Received by TestAmerica:**	**Date**	**Time**
	7/15/09	17:51		7/15/09	1751

TN 7/15/09 1920

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Appendix F.3

July 22, 2009
Water Analytical Results

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TestAmerica
THE LEADER IN ENVIRONMENTAL TESTING

17461 Derian Avenue. Suite 100, Irvine, CA 92614 (949) 261-1022 Fax:(949) 260-3297

LABORATORY REPORT

Prepared For: Camp, Dresser & McKee
111 Academy, Ste 150
Irvine, CA 92617
Attention: Sharon Wallin

Project: Omega Wastewater
IWP number 20039

Sampled: 07/22/09
Received: 07/22/09
Issued: 07/31/09 17:13

NELAP #01108CA California ELAP#2706 CSDLAC #10256 AZ #AZ0671 NV #CA01531

The results listed within this Laboratory Report pertain only to the samples tested in the laboratory. The analyses contained in this report were performed in accordance with the applicable certifications as noted. All soil samples are reported on a wet weight basis unless otherwise noted in the report. This Laboratory Report is confidential and is intended for the sole use of TestAmerica and its client. This report shall not be reproduced, except in full, without written permission from TestAmerica. The Chain of Custody, 1 page, is included and is an integral part of this report.
This entire report was reviewed and approved for release.

CASE NARRATIVE

SAMPLE RECEIPT: Samples were received intact, at 2°C, on ice and with chain of custody documentation.

HOLDING TIMES: Not all holding times were met. Results were qualified where the sample analysis did not occur within method specified holding time requirements.

PRESERVATION: Samples requiring preservation were verified prior to sample analysis.

QA/QC CRITERIA: All analyses met method criteria, except as noted in the report with data qualifiers.

COMMENTS: No significant observations were made.

SUBCONTRACTED: No analyses were subcontracted to an outside laboratory.

LABORATORY ID	CLIENT ID	MATRIX
ISG1752-01	OC-SP200-INF-072209	Water
ISG1752-02	OC-SP220A-EFF-072209	Water

Reviewed By:

TestAmerica Irvine

Patty Mata
Project Manager

TestAmerica
THE LEADER IN ENVIRONMENTAL TESTING

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Camp, Dresser & McKee
111 Academy, Ste 150
Irvine, CA 92617
Attention: Sharon Wallin

Project ID: Omega Wastewater
IWP number 20039
Report Number: ISG1752

Sampled: 07/22/09
Received: 07/22/09

VOLATILE ORGANICS by GC/MS (EPA 5030B/8260B)

Analyte	Method	Batch	Reporting Limit	Sample Result	Dilution Factor	Date Extracted	Date Analyzed	Data Qualifiers
Sample ID: ISG1752-01 (OC-SP200-INF-072209 - Water)								
Reporting Units: ug/l								
Tetrachloroethene	EPA 8260B	9G27006	100	**5900**	100	7/27/2009	7/27/2009	
Volatile Organic Compounds	EPA 8260B	9G27006	40	**6900**	20	7/27/2009	7/27/2009	
Surrogate: 4-Bromofluorobenzene (80-120%)				*94 %*				
Surrogate: 4-Bromofluorobenzene (80-120%)				*90 %*				
Surrogate: Dibromofluoromethane (80-120%)				*107 %*				
Surrogate: Dibromofluoromethane (80-120%)				*103 %*				
Surrogate: Toluene-d8 (80-120%)				*106 %*				
Surrogate: Toluene-d8 (80-120%)				*106 %*				
Sample ID: ISG1752-01RE1 (OC-SP200-INF-072209 - Water)								
Reporting Units: ug/l								
Acetone	EPA 8260B	9G27006	200	ND	20	7/27/2009	7/27/2009	
Benzene	EPA 8260B	9G27006	10	ND	20	7/27/2009	7/27/2009	
Bromobenzene	EPA 8260B	9G27006	20	ND	20	7/27/2009	7/27/2009	
Bromochloromethane	EPA 8260B	9G27006	20	ND	20	7/27/2009	7/27/2009	
Bromodichloromethane	EPA 8260B	9G27006	20	ND	20	7/27/2009	7/27/2009	
Bromoform	EPA 8260B	9G27006	20	ND	20	7/27/2009	7/27/2009	
Bromomethane	EPA 8260B	9G27006	20	ND	20	7/27/2009	7/27/2009	
n-Butylbenzene	EPA 8260B	9G27006	20	ND	20	7/27/2009	7/27/2009	
sec-Butylbenzene	EPA 8260B	9G27006	20	ND	20	7/27/2009	7/27/2009	
tert-Butylbenzene	EPA 8260B	9G27006	20	ND	20	7/27/2009	7/27/2009	
Carbon tetrachloride	EPA 8260B	9G27006	10	ND	20	7/27/2009	7/27/2009	
Chlorobenzene	EPA 8260B	9G27006	20	ND	20	7/27/2009	7/27/2009	
Chloroethane	EPA 8260B	9G27006	20	ND	20	7/27/2009	7/27/2009	
Chloroform	EPA 8260B	9G27006	20	**180**	20	7/27/2009	7/27/2009	
Chloromethane	EPA 8260B	9G27006	20	ND	20	7/27/2009	7/27/2009	
2-Chlorotoluene	EPA 8260B	9G27006	20	ND	20	7/27/2009	7/27/2009	
4-Chlorotoluene	EPA 8260B	9G27006	20	ND	20	7/27/2009	7/27/2009	
1,2-Dibromo-3-chloropropane	EPA 8260B	9G27006	100	ND	20	7/27/2009	7/27/2009	
Dibromochloromethane	EPA 8260B	9G27006	20	ND	20	7/27/2009	7/27/2009	
1,2-Dibromoethane (EDB)	EPA 8260B	9G27006	20	ND	20	7/27/2009	7/27/2009	
Dibromomethane	EPA 8260B	9G27006	20	ND	20	7/27/2009	7/27/2009	
1,2-Dichlorobenzene	EPA 8260B	9G27006	20	ND	20	7/27/2009	7/27/2009	
1,3-Dichlorobenzene	EPA 8260B	9G27006	20	ND	20	7/27/2009	7/27/2009	
1,4-Dichlorobenzene	EPA 8260B	9G27006	20	ND	20	7/27/2009	7/27/2009	
Dichlorodifluoromethane	EPA 8260B	9G27006	100	ND	20	7/27/2009	7/27/2009	
1,1-Dichloroethane	EPA 8260B	9G27006	20	ND	20	7/27/2009	7/27/2009	
1,2-Dichloroethane	EPA 8260B	9G27006	10	**14**	20	7/27/2009	7/27/2009	
1,1-Dichloroethene	EPA 8260B	9G27006	20	**250**	20	7/27/2009	7/27/2009	
cis-1,2-Dichloroethene	EPA 8260B	9G27006	20	ND	20	7/27/2009	7/27/2009	
trans-1,2-Dichloroethene	EPA 8260B	9G27006	20	ND	20	7/27/2009	7/27/2009	

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Camp, Dresser & McKee
111 Academy, Ste 150
Irvine, CA 92617
Attention: Sharon Wallin

Project ID: Omega Wastewater
IWP number 20039
Report Number: ISG1752

Sampled: 07/22/09
Received: 07/22/09

VOLATILE ORGANICS by GC/MS (EPA 5030B/8260B)

Analyte	Method	Batch	Reporting Limit	Sample Result	Dilution Factor	Date Extracted	Date Analyzed	Data Qualifiers
Sample ID: ISG1752-01RE1 (OC-SP200-INF-072209 - Water) - cont.								
Reporting Units: ug/l								
1,2-Dichloropropane	EPA 8260B	9G27006	20	ND	20	7/27/2009	7/27/2009	
1,3-Dichloropropane	EPA 8260B	9G27006	20	ND	20	7/27/2009	7/27/2009	
2,2-Dichloropropane	EPA 8260B	9G27006	20	ND	20	7/27/2009	7/27/2009	
cis-1,3-Dichloropropene	EPA 8260B	9G27006	10	ND	20	7/27/2009	7/27/2009	
trans-1,3-Dichloropropene	EPA 8260B	9G27006	10	ND	20	7/27/2009	7/27/2009	
1,1-Dichloropropene	EPA 8260B	9G27006	20	ND	20	7/27/2009	7/27/2009	
Ethylbenzene	EPA 8260B	9G27006	20	ND	20	7/27/2009	7/27/2009	
Hexachlorobutadiene	EPA 8260B	9G27006	20	ND	20	7/27/2009	7/27/2009	
Isopropylbenzene	EPA 8260B	9G27006	20	ND	20	7/27/2009	7/27/2009	
p-Isopropyltoluene	EPA 8260B	9G27006	20	ND	20	7/27/2009	7/27/2009	
Methylene chloride	EPA 8260B	9G27006	100	ND	20	7/27/2009	7/27/2009	
Naphthalene	EPA 8260B	9G27006	20	ND	20	7/27/2009	7/27/2009	
n-Propylbenzene	EPA 8260B	9G27006	20	ND	20	7/27/2009	7/27/2009	
Styrene	EPA 8260B	9G27006	20	ND	20	7/27/2009	7/27/2009	
1,1,1,2-Tetrachloroethane	EPA 8260B	9G27006	20	ND	20	7/27/2009	7/27/2009	
1,1,2,2-Tetrachloroethane	EPA 8260B	9G27006	20	ND	20	7/27/2009	7/27/2009	
Toluene	EPA 8260B	9G27006	20	ND	20	7/27/2009	7/27/2009	
1,2,3-Trichlorobenzene	EPA 8260B	9G27006	20	ND	20	7/27/2009	7/27/2009	
1,2,4-Trichlorobenzene	EPA 8260B	9G27006	20	ND	20	7/27/2009	7/27/2009	
1,1,1-Trichloroethane	EPA 8260B	9G27006	20	ND	20	7/27/2009	7/27/2009	
1,1,2-Trichloroethane	EPA 8260B	9G27006	20	ND	20	7/27/2009	7/27/2009	
Trichloroethene	EPA 8260B	9G27006	20	**230**	20	7/27/2009	7/27/2009	
Trichlorofluoromethane	EPA 8260B	9G27006	20	**81**	20	7/27/2009	7/27/2009	
1,2,3-Trichloropropane	EPA 8260B	9G27006	20	ND	20	7/27/2009	7/27/2009	
Trichlorotrifluoroethane (Freon 113)	EPA 8260B	9G27006	100	**250**	20	7/27/2009	7/27/2009	
1,2,4-Trimethylbenzene	EPA 8260B	9G27006	20	ND	20	7/27/2009	7/27/2009	
1,3,5-Trimethylbenzene	EPA 8260B	9G27006	20	ND	20	7/27/2009	7/27/2009	
Vinyl chloride	EPA 8260B	9G27006	10	ND	20	7/27/2009	7/27/2009	
m,p-Xylenes	EPA 8260B	9G27006	20	ND	20	7/27/2009	7/27/2009	
o-Xylene	EPA 8260B	9G27006	20	ND	20	7/27/2009	7/27/2009	
Methyl-tert-butyl Ether (MTBE)	EPA 8260B	9G27006	20	ND	20	7/27/2009	7/27/2009	
Surrogate: 4-Bromofluorobenzene (80-120%)				*94 %*				
Surrogate: Dibromofluoromethane (80-120%)				*103 %*				
Surrogate: Toluene-d8 (80-120%)				*106 %*				

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Irvine, CA 92617
Attention: Sharon Wallin

Project ID: Omega Wastewater
IWP number 20039
Report Number: ISG1752

Sampled: 07/22/09
Received: 07/22/09

VOLATILE ORGANICS by GC/MS (EPA 5030B/8260B)

Analyte	Method	Batch	Reporting Limit	Sample Result	Dilution Factor	Date Extracted	Date Analyzed	Data Qualifiers
Sample ID: ISG1752-02 (OC-SP220A-EFF-072209 - Water)								
Reporting Units: ug/l								
Acetone	EPA 8260B	9G23006	10	ND	1	7/23/2009	7/23/2009	
Benzene	EPA 8260B	9G23006	0.50	ND	1	7/23/2009	7/23/2009	
Bromobenzene	EPA 8260B	9G23006	1.0	ND	1	7/23/2009	7/23/2009	
Bromochloromethane	EPA 8260B	9G23006	1.0	ND	1	7/23/2009	7/23/2009	
Bromodichloromethane	EPA 8260B	9G23006	1.0	ND	1	7/23/2009	7/23/2009	
Bromoform	EPA 8260B	9G23006	1.0	ND	1	7/23/2009	7/23/2009	
Bromomethane	EPA 8260B	9G23006	1.0	ND	1	7/23/2009	7/23/2009	
n-Butylbenzene	EPA 8260B	9G23006	1.0	ND	1	7/23/2009	7/23/2009	
sec-Butylbenzene	EPA 8260B	9G23006	1.0	ND	1	7/23/2009	7/23/2009	
tert-Butylbenzene	EPA 8260B	9G23006	1.0	ND	1	7/23/2009	7/23/2009	
Carbon tetrachloride	EPA 8260B	9G23006	0.50	ND	1	7/23/2009	7/23/2009	
Chlorobenzene	EPA 8260B	9G23006	1.0	ND	1	7/23/2009	7/23/2009	
Chloroethane	EPA 8260B	9G23006	1.0	ND	1	7/23/2009	7/23/2009	
Chloroform	EPA 8260B	9G23006	1.0	ND	1	7/23/2009	7/23/2009	
Chloromethane	EPA 8260B	9G23006	1.0	ND	1	7/23/2009	7/23/2009	
2-Chlorotoluene	EPA 8260B	9G23006	1.0	ND	1	7/23/2009	7/23/2009	
4-Chlorotoluene	EPA 8260B	9G23006	1.0	ND	1	7/23/2009	7/23/2009	
1,2-Dibromo-3-chloropropane	EPA 8260B	9G23006	5.0	ND	1	7/23/2009	7/23/2009	
Dibromochloromethane	EPA 8260B	9G23006	1.0	ND	1	7/23/2009	7/23/2009	
1,2-Dibromoethane (EDB)	EPA 8260B	9G23006	1.0	ND	1	7/23/2009	7/23/2009	
Dibromomethane	EPA 8260B	9G23006	1.0	ND	1	7/23/2009	7/23/2009	
1,2-Dichlorobenzene	EPA 8260B	9G23006	1.0	ND	1	7/23/2009	7/23/2009	
1,3-Dichlorobenzene	EPA 8260B	9G23006	1.0	ND	1	7/23/2009	7/23/2009	
1,4-Dichlorobenzene	EPA 8260B	9G23006	1.0	ND	1	7/23/2009	7/23/2009	
Dichlorodifluoromethane	EPA 8260B	9G23006	5.0	ND	1	7/23/2009	7/23/2009	
1,1-Dichloroethane	EPA 8260B	9G23006	1.0	ND	1	7/23/2009	7/23/2009	
1,2-Dichloroethane	EPA 8260B	9G23006	0.50	ND	1	7/23/2009	7/23/2009	
1,1-Dichloroethene	EPA 8260B	9G23006	1.0	ND	1	7/23/2009	7/23/2009	L
cis-1,2-Dichloroethene	EPA 8260B	9G23006	1.0	ND	1	7/23/2009	7/23/2009	
trans-1,2-Dichloroethene	EPA 8260B	9G23006	1.0	ND	1	7/23/2009	7/23/2009	
1,2-Dichloropropane	EPA 8260B	9G23006	1.0	ND	1	7/23/2009	7/23/2009	
1,3-Dichloropropane	EPA 8260B	9G23006	1.0	ND	1	7/23/2009	7/23/2009	
2,2-Dichloropropane	EPA 8260B	9G23006	1.0	ND	1	7/23/2009	7/23/2009	L
cis-1,3-Dichloropropene	EPA 8260B	9G23006	0.50	ND	1	7/23/2009	7/23/2009	
trans-1,3-Dichloropropene	EPA 8260B	9G23006	0.50	ND	1	7/23/2009	7/23/2009	
1,1-Dichloropropene	EPA 8260B	9G23006	1.0	ND	1	7/23/2009	7/23/2009	
Ethylbenzene	EPA 8260B	9G23006	1.0	ND	1	7/23/2009	7/23/2009	
Hexachlorobutadiene	EPA 8260B	9G23006	1.0	ND	1	7/23/2009	7/23/2009	
Isopropylbenzene	EPA 8260B	9G23006	1.0	ND	1	7/23/2009	7/23/2009	
p-Isopropyltoluene	EPA 8260B	9G23006	1.0	ND	1	7/23/2009	7/23/2009	
Methylene chloride	EPA 8260B	9G23006	5.0	ND	1	7/23/2009	7/23/2009	

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Camp, Dresser & McKee
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Irvine, CA 92617
Attention: Sharon Wallin

Project ID: Omega Wastewater
IWP number 20039
Report Number: ISG1752

Sampled: 07/22/09
Received: 07/22/09

VOLATILE ORGANICS by GC/MS (EPA 5030B/8260B)

Analyte	Method	Batch	Reporting Limit	Sample Result	Dilution Factor	Date Extracted	Date Analyzed	Data Qualifiers
Sample ID: ISG1752-02 (OC-SP220A-EFF-072209 - Water) - cont.								
Reporting Units: ug/l								
Naphthalene	EPA 8260B	9G23006	1.0	ND	1	7/23/2009	7/23/2009	
n-Propylbenzene	EPA 8260B	9G23006	1.0	ND	1	7/23/2009	7/23/2009	
Styrene	EPA 8260B	9G23006	1.0	ND	1	7/23/2009	7/23/2009	
1,1,1,2-Tetrachloroethane	EPA 8260B	9G23006	1.0	ND	1	7/23/2009	7/23/2009	
1,1,2,2-Tetrachloroethane	EPA 8260B	9G23006	1.0	ND	1	7/23/2009	7/23/2009	
Tetrachloroethene	EPA 8260B	9G23006	1.0	ND	1	7/23/2009	7/23/2009	
Toluene	EPA 8260B	9G23006	1.0	ND	1	7/23/2009	7/23/2009	
1,2,3-Trichlorobenzene	EPA 8260B	9G23006	1.0	ND	1	7/23/2009	7/23/2009	
1,2,4-Trichlorobenzene	EPA 8260B	9G23006	1.0	ND	1	7/23/2009	7/23/2009	
1,1,1-Trichloroethane	EPA 8260B	9G23006	1.0	ND	1	7/23/2009	7/23/2009	
1,1,2-Trichloroethane	EPA 8260B	9G23006	1.0	ND	1	7/23/2009	7/23/2009	
Trichloroethene	EPA 8260B	9G23006	1.0	ND	1	7/23/2009	7/23/2009	
Trichlorofluoromethane	EPA 8260B	9G23006	1.0	ND	1	7/23/2009	7/23/2009	
1,2,3-Trichloropropane	EPA 8260B	9G23006	1.0	ND	1	7/23/2009	7/23/2009	
Trichlorotrifluoroethane (Freon 113)	EPA 8260B	9G23006	5.0	ND	1	7/23/2009	7/23/2009	
1,2,4-Trimethylbenzene	EPA 8260B	9G23006	1.0	ND	1	7/23/2009	7/23/2009	
1,3,5-Trimethylbenzene	EPA 8260B	9G23006	1.0	ND	1	7/23/2009	7/23/2009	
Vinyl chloride	EPA 8260B	9G23006	0.50	ND	1	7/23/2009	7/23/2009	
m,p-Xylenes	EPA 8260B	9G23006	1.0	ND	1	7/23/2009	7/23/2009	
o-Xylene	EPA 8260B	9G23006	1.0	ND	1	7/23/2009	7/23/2009	
Methyl-tert-butyl Ether (MTBE)	EPA 8260B	9G23006	1.0	ND	1	7/23/2009	7/23/2009	
Volatile Organic Compounds	EPA 8260B	9G23006	2.0	ND	1	7/23/2009	7/23/2009	
Surrogate: 4-Bromofluorobenzene (80-120%)				*92 %*				
Surrogate: 4-Bromofluorobenzene (80-120%)				*92 %*				
Surrogate: Dibromofluoromethane (80-120%)				*100 %*				
Surrogate: Dibromofluoromethane (80-120%)				*100 %*				
Surrogate: Toluene-d8 (80-120%)				*99 %*				
Surrogate: Toluene-d8 (80-120%)				*99 %*				

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Attention: Sharon Wallin

Project ID: Omega Wastewater
IWP number 20039
Report Number: ISG1752

Sampled: 07/22/09
Received: 07/22/09

SEMI-VOLATILE ORGANICS BY GC/MS (EPA 3520C/8270C MOD)

Analyte	Method	Batch	Reporting Limit	Sample Result	Dilution Factor	Date Extracted	Date Analyzed	Data Qualifiers
Sample ID: ISG1752-01 (OC-SP200-INF-072209 - Water)								
Reporting Units: ug/l								
1,4-Dioxane	EPA 8270C	9G23099	25	**97**	50	7/23/2009	7/25/2009	
Surrogate: 1,4-Dioxane-d8 (30-120%)				*52 %*				*Z3*
Sample ID: ISG1752-02 (OC-SP220A-EFF-072209 - Water)								
Reporting Units: ug/l								
1,4-Dioxane	EPA 8270C	9G23099	25	**110**	50	7/23/2009	7/25/2009	
Surrogate: 1,4-Dioxane-d8 (30-120%)				*56 %*				*Z3*

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IWP number 20039
Report Number: ISG1752

Sampled: 07/22/09
Received: 07/22/09

INORGANICS

Analyte	Method	Batch	Reporting Limit	Sample Result	Dilution Factor	Date Extracted	Date Analyzed	Data Qualifiers
Sample ID: ISG1752-02 (OC-SP220A-EFF-072209 - Water)								
Reporting Units: pH Units								
pH	SM4500-H,B	9G23049	0.100	**8.44**	1	7/23/2009	7/23/2009	HFT

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IWP number 20039
Report Number: ISG1752

Sampled: 07/22/09
Received: 07/22/09

SHORT HOLD TIME DETAIL REPORT

	Hold Time (in days)	Date/Time Sampled	Date/Time Received	Date/Time Extracted	Date/Time Analyzed
Sample ID: OC-SP220A-EFF-072209 (ISG1752-02) - Water					
SM4500-H,B	0	07/22/2009 13:05	07/22/2009 18:35	07/23/2009 07:57	07/23/2009 10:15

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Camp, Dresser & McKee 111 Academy, Ste 150 Irvine, CA 92617 Attention: Sharon Wallin	Project ID: Report Number:	Omega Wastewater IWP number 20039 ISG1752	Sampled: 07/22/09 Received: 07/22/09

METHOD BLANK/QC DATA

VOLATILE ORGANICS by GC/MS (EPA 5030B/8260B)

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Data Qualifiers
Batch: 9G23006 Extracted: 07/23/09										
Blank Analyzed: 07/23/2009 (9G23006-BLK1)										
Acetone	ND	10	ug/l							
Benzene	ND	0.50	ug/l							
Bromobenzene	ND	1.0	ug/l							
Bromochloromethane	ND	1.0	ug/l							
Bromodichloromethane	ND	1.0	ug/l							
Bromoform	ND	1.0	ug/l							
Bromomethane	ND	1.0	ug/l							
n-Butylbenzene	ND	1.0	ug/l							
sec-Butylbenzene	ND	1.0	ug/l							
tert-Butylbenzene	ND	1.0	ug/l							
Carbon tetrachloride	ND	0.50	ug/l							
Chlorobenzene	ND	1.0	ug/l							
Chloroethane	ND	1.0	ug/l							
Chloroform	ND	1.0	ug/l							
Chloromethane	ND	1.0	ug/l							
2-Chlorotoluene	ND	1.0	ug/l							
4-Chlorotoluene	ND	1.0	ug/l							
1,2-Dibromo-3-chloropropane	ND	5.0	ug/l							
Dibromochloromethane	ND	1.0	ug/l							
1,2-Dibromoethane (EDB)	ND	1.0	ug/l							
Dibromomethane	ND	1.0	ug/l							
1,2-Dichlorobenzene	ND	1.0	ug/l							
1,3-Dichlorobenzene	ND	1.0	ug/l							
1,4-Dichlorobenzene	ND	1.0	ug/l							
Dichlorodifluoromethane	ND	5.0	ug/l							
1,1-Dichloroethane	ND	1.0	ug/l							
1,2-Dichloroethane	ND	0.50	ug/l							
1,1-Dichloroethene	ND	1.0	ug/l							
cis-1,2-Dichloroethene	ND	1.0	ug/l							
trans-1,2-Dichloroethene	ND	1.0	ug/l							
1,2-Dichloropropane	ND	1.0	ug/l							
1,3-Dichloropropane	ND	1.0	ug/l							
2,2-Dichloropropane	ND	1.0	ug/l							
cis-1,3-Dichloropropene	ND	0.50	ug/l							
trans-1,3-Dichloropropene	ND	0.50	ug/l							
1,1-Dichloropropene	ND	1.0	ug/l							

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Attention: Sharon Wallin

Project ID: Omega Wastewater
IWP number 20039
Report Number: ISG1752

Sampled: 07/22/09
Received: 07/22/09

METHOD BLANK/QC DATA

VOLATILE ORGANICS by GC/MS (EPA 5030B/8260B)

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Data Qualifiers
Batch: 9G23006 Extracted: 07/23/09										
Blank Analyzed: 07/23/2009 (9G23006-BLK1)										
Ethylbenzene	ND	1.0	ug/l							
Hexachlorobutadiene	ND	1.0	ug/l							
Isopropylbenzene	ND	1.0	ug/l							
p-Isopropyltoluene	ND	1.0	ug/l							
Methylene chloride	ND	5.0	ug/l							
Naphthalene	ND	1.0	ug/l							
n-Propylbenzene	ND	1.0	ug/l							
Styrene	ND	1.0	ug/l							
1,1,1,2-Tetrachloroethane	ND	1.0	ug/l							
1,1,2,2-Tetrachloroethane	ND	1.0	ug/l							
Tetrachloroethene	ND	1.0	ug/l							
Toluene	ND	1.0	ug/l							
1,2,3-Trichlorobenzene	ND	1.0	ug/l							
1,2,4-Trichlorobenzene	ND	1.0	ug/l							
1,1,1-Trichloroethane	ND	1.0	ug/l							
1,1,2-Trichloroethane	ND	1.0	ug/l							
Trichloroethene	ND	1.0	ug/l							
Trichlorofluoromethane	ND	1.0	ug/l							
1,2,3-Trichloropropane	ND	1.0	ug/l							
Trichlorotrifluoroethane (Freon 113)	ND	5.0	ug/l							
1,2,4-Trimethylbenzene	ND	1.0	ug/l							
1,3,5-Trimethylbenzene	ND	1.0	ug/l							
Vinyl chloride	ND	0.50	ug/l							
m,p-Xylenes	ND	1.0	ug/l							
o-Xylene	ND	1.0	ug/l							
Methyl-tert-butyl Ether (MTBE)	ND	1.0	ug/l							
Volatile Organic Compounds	ND	2.0	ug/l							
Surrogate: 4-Bromofluorobenzene	*22.8*		*ug/l*	*25.0*		*91*	*80-120*			
Surrogate: 4-Bromofluorobenzene	*22.8*		*ug/l*	*25.0*		*91*	*80-120*			
Surrogate: Dibromofluoromethane	*24.3*		*ug/l*	*25.0*		*97*	*80-120*			
Surrogate: Dibromofluoromethane	*24.3*		*ug/l*	*25.0*		*97*	*80-120*			
Surrogate: Toluene-d8	*24.6*		*ug/l*	*25.0*		*98*	*80-120*			
Surrogate: Toluene-d8	*24.6*		*ug/l*	*25.0*		*98*	*80-120*			

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Project Manager

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THE LEADER IN ENVIRONMENTAL TESTING

17461 Derian Avenue. Suite 100, Irvine, CA 92614 (949) 261-1022 Fax:(949) 260-3297

Camp, Dresser & McKee
111 Academy, Ste 150
Irvine, CA 92617
Attention: Sharon Wallin

Project ID: Omega Wastewater
IWP number 20039
Report Number: ISG1752

Sampled: 07/22/09
Received: 07/22/09

METHOD BLANK/QC DATA

VOLATILE ORGANICS by GC/MS (EPA 5030B/8260B)

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Data Qualifiers
Batch: 9G23006 Extracted: 07/23/09										
LCS Analyzed: 07/23/2009 (9G23006-BS1)										
Acetone	15.3	10	ug/l	25.0		61	30-140			
Benzene	26.4	0.50	ug/l	25.0		106	70-120			
Bromobenzene	26.5	1.0	ug/l	25.0		106	75-120			
Bromochloromethane	26.7	1.0	ug/l	25.0		107	70-130			
Bromodichloromethane	28.7	1.0	ug/l	25.0		115	70-135			
Bromoform	25.4	1.0	ug/l	25.0		101	55-130			
Bromomethane	32.4	1.0	ug/l	25.0		130	65-140			
n-Butylbenzene	26.4	1.0	ug/l	25.0		105	70-130			
sec-Butylbenzene	27.5	1.0	ug/l	25.0		110	70-125			
tert-Butylbenzene	26.8	1.0	ug/l	25.0		107	70-125			
Carbon tetrachloride	33.6	0.50	ug/l	25.0		134	65-140			
Chlorobenzene	27.0	1.0	ug/l	25.0		108	75-120			
Chloroethane	27.8	1.0	ug/l	25.0		111	60-140			
Chloroform	27.8	1.0	ug/l	25.0		111	70-130			
Chloromethane	27.3	1.0	ug/l	25.0		109	50-140			
2-Chlorotoluene	27.1	1.0	ug/l	25.0		108	70-125			
4-Chlorotoluene	27.7	1.0	ug/l	25.0		111	75-125			
1,2-Dibromo-3-chloropropane	23.0	5.0	ug/l	25.0		92	50-135			
Dibromochloromethane	26.9	1.0	ug/l	25.0		108	70-140			
1,2-Dibromoethane (EDB)	23.6	1.0	ug/l	25.0		94	75-125			
Dibromomethane	25.1	1.0	ug/l	25.0		100	70-125			
1,2-Dichlorobenzene	26.2	1.0	ug/l	25.0		105	75-120			
1,3-Dichlorobenzene	27.1	1.0	ug/l	25.0		108	75-120			
1,4-Dichlorobenzene	27.0	1.0	ug/l	25.0		108	75-120			
Dichlorodifluoromethane	29.6	5.0	ug/l	25.0		119	35-155			
1,1-Dichloroethane	26.9	1.0	ug/l	25.0		107	70-125			
1,2-Dichloroethane	25.4	0.50	ug/l	25.0		102	60-140			
1,1-Dichloroethene	31.9	1.0	ug/l	25.0		127	70-125			*L*
cis-1,2-Dichloroethene	27.4	1.0	ug/l	25.0		110	70-125			
trans-1,2-Dichloroethene	28.5	1.0	ug/l	25.0		114	70-125			
1,2-Dichloropropane	26.2	1.0	ug/l	25.0		105	70-125			
1,3-Dichloropropane	25.7	1.0	ug/l	25.0		103	70-120			
2,2-Dichloropropane	37.2	1.0	ug/l	25.0		149	65-140			*L*
cis-1,3-Dichloropropene	27.3	0.50	ug/l	25.0		109	75-125			
trans-1,3-Dichloropropene	26.2	0.50	ug/l	25.0		105	70-125			
1,1-Dichloropropene	27.8	1.0	ug/l	25.0		111	75-130			

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17461 Derian Avenue. Suite 100, Irvine, CA 92614 (949) 261-1022 Fax:(949) 260-3297

Camp, Dresser & McKee
111 Academy, Ste 150
Irvine, CA 92617
Attention: Sharon Wallin

Project ID: Omega Wastewater
IWP number 20039
Report Number: ISG1752

Sampled: 07/22/09
Received: 07/22/09

METHOD BLANK/QC DATA

VOLATILE ORGANICS by GC/MS (EPA 5030B/8260B)

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Data Qualifiers
Batch: 9G23006 Extracted: 07/23/09										
LCS Analyzed: 07/23/2009 (9G23006-BS1)										
Ethylbenzene	26.4	1.0	ug/l	25.0		106	75-125			
Hexachlorobutadiene	26.0	1.0	ug/l	25.0		104	65-135			
Isopropylbenzene	28.3	1.0	ug/l	25.0		113	75-130			
p-Isopropyltoluene	26.8	1.0	ug/l	25.0		107	75-125			
Methylene chloride	26.5	5.0	ug/l	25.0		106	55-130			
Naphthalene	21.8	1.0	ug/l	25.0		87	55-135			
n-Propylbenzene	27.8	1.0	ug/l	25.0		111	75-130			
Styrene	27.5	1.0	ug/l	25.0		110	75-130			
1,1,1,2-Tetrachloroethane	30.5	1.0	ug/l	25.0		122	70-130			
1,1,2,2-Tetrachloroethane	23.9	1.0	ug/l	25.0		96	55-130			
Tetrachloroethene	27.2	1.0	ug/l	25.0		109	70-125			
Toluene	25.8	1.0	ug/l	25.0		103	70-120			
1,2,3-Trichlorobenzene	25.2	1.0	ug/l	25.0		101	65-125			
1,2,4-Trichlorobenzene	26.2	1.0	ug/l	25.0		105	70-135			
1,1,1-Trichloroethane	29.8	1.0	ug/l	25.0		119	65-135			
1,1,2-Trichloroethane	24.5	1.0	ug/l	25.0		98	70-125			
Trichloroethene	27.3	1.0	ug/l	25.0		109	70-125			
Trichlorofluoromethane	27.7	1.0	ug/l	25.0		111	65-145			
1,2,3-Trichloropropane	22.9	1.0	ug/l	25.0		92	60-130			
1,2,4-Trimethylbenzene	25.9	1.0	ug/l	25.0		104	75-125			
1,3,5-Trimethylbenzene	26.8	1.0	ug/l	25.0		107	75-125			
Vinyl chloride	29.6	0.50	ug/l	25.0		118	55-135			
m,p-Xylenes	54.2	1.0	ug/l	50.0		108	75-125			
o-Xylene	27.6	1.0	ug/l	25.0		110	75-125			
Methyl-tert-butyl Ether (MTBE)	22.9	1.0	ug/l	25.0		92	60-135			
Surrogate: 4-Bromofluorobenzene	*24.4*		*ug/l*	*25.0*		*98*	*80-120*			
Surrogate: Dibromofluoromethane	*24.9*		*ug/l*	*25.0*		*100*	*80-120*			
Surrogate: Toluene-d8	*24.7*		*ug/l*	*25.0*		*99*	*80-120*			

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Irvine, CA 92617
Attention: Sharon Wallin

Project ID: Omega Wastewater
IWP number 20039
Report Number: ISG1752

Sampled: 07/22/09
Received: 07/22/09

METHOD BLANK/QC DATA

VOLATILE ORGANICS by GC/MS (EPA 5030B/8260B)

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Data Qualifiers
Batch: 9G23006 Extracted: 07/23/09										
Matrix Spike Analyzed: 07/23/2009 (9G23006-MS1)					**Source: ISG1752-02**					
Acetone	14.4	10	ug/l	25.0	ND	58	20-150			
Benzene	26.1	0.50	ug/l	25.0	ND	104	65-125			
Bromobenzene	26.0	1.0	ug/l	25.0	ND	104	70-125			
Bromochloromethane	27.1	1.0	ug/l	25.0	ND	108	65-135			
Bromodichloromethane	28.6	1.0	ug/l	25.0	ND	115	70-135			
Bromoform	24.0	1.0	ug/l	25.0	ND	96	55-135			
Bromomethane	31.4	1.0	ug/l	25.0	ND	126	55-145			
n-Butylbenzene	26.0	1.0	ug/l	25.0	ND	104	65-135			
sec-Butylbenzene	27.1	1.0	ug/l	25.0	ND	108	70-125			
tert-Butylbenzene	26.6	1.0	ug/l	25.0	ND	106	65-130			
Carbon tetrachloride	32.7	0.50	ug/l	25.0	ND	131	65-140			
Chlorobenzene	26.9	1.0	ug/l	25.0	ND	108	75-125			
Chloroethane	27.6	1.0	ug/l	25.0	ND	110	55-140			
Chloroform	28.0	1.0	ug/l	25.0	ND	112	65-135			
Chloromethane	25.7	1.0	ug/l	25.0	ND	103	45-145			
2-Chlorotoluene	26.6	1.0	ug/l	25.0	ND	106	65-135			
4-Chlorotoluene	27.0	1.0	ug/l	25.0	ND	108	70-135			
1,2-Dibromo-3-chloropropane	21.6	5.0	ug/l	25.0	ND	86	45-145			
Dibromochloromethane	25.8	1.0	ug/l	25.0	ND	103	65-140			
1,2-Dibromoethane (EDB)	22.8	1.0	ug/l	25.0	ND	91	70-130			
Dibromomethane	24.6	1.0	ug/l	25.0	ND	99	65-135			
1,2-Dichlorobenzene	25.5	1.0	ug/l	25.0	ND	102	75-125			
1,3-Dichlorobenzene	26.6	1.0	ug/l	25.0	ND	106	75-125			
1,4-Dichlorobenzene	26.5	1.0	ug/l	25.0	ND	106	75-125			
Dichlorodifluoromethane	27.7	5.0	ug/l	25.0	ND	111	25-155			
1,1-Dichloroethane	26.9	1.0	ug/l	25.0	ND	108	65-130			
1,2-Dichloroethane	25.3	0.50	ug/l	25.0	ND	101	60-140			
1,1-Dichloroethene	31.0	1.0	ug/l	25.0	ND	124	60-130			
cis-1,2-Dichloroethene	27.7	1.0	ug/l	25.0	ND	111	65-130			
trans-1,2-Dichloroethene	28.3	1.0	ug/l	25.0	ND	113	65-130			
1,2-Dichloropropane	26.1	1.0	ug/l	25.0	ND	105	65-130			
1,3-Dichloropropane	25.2	1.0	ug/l	25.0	ND	101	65-135			
2,2-Dichloropropane	35.2	1.0	ug/l	25.0	ND	141	60-145			
cis-1,3-Dichloropropene	26.5	0.50	ug/l	25.0	ND	106	70-130			
trans-1,3-Dichloropropene	25.5	0.50	ug/l	25.0	ND	102	65-135			
1,1-Dichloropropene	27.0	1.0	ug/l	25.0	ND	108	70-135			

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17461 Derian Avenue. Suite 100, Irvine, CA 92614 (949) 261-1022 Fax:(949) 260-3297

Camp, Dresser & McKee 111 Academy, Ste 150 Irvine, CA 92617 Attention: Sharon Wallin	Project ID:	Omega Wastewater IWP number 20039	Sampled: 07/22/09 Received: 07/22/09
	Report Number:	ISG1752	

METHOD BLANK/QC DATA

VOLATILE ORGANICS by GC/MS (EPA 5030B/8260B)

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Data Qualifiers
Batch: 9G23006 Extracted: 07/23/09										
Matrix Spike Analyzed: 07/23/2009 (9G23006-MS1)					**Source: ISG1752-02**					
Ethylbenzene	26.3	1.0	ug/l	25.0	ND	105	65-130			
Hexachlorobutadiene	25.8	1.0	ug/l	25.0	ND	103	60-135			
Isopropylbenzene	27.8	1.0	ug/l	25.0	ND	111	70-135			
p-Isopropyltoluene	26.1	1.0	ug/l	25.0	ND	105	65-130			
Methylene chloride	26.7	5.0	ug/l	25.0	ND	107	50-135			
Naphthalene	19.7	1.0	ug/l	25.0	ND	79	50-140			
n-Propylbenzene	27.6	1.0	ug/l	25.0	ND	110	70-135			
Styrene	19.3	1.0	ug/l	25.0	ND	77	50-145			
1,1,1,2-Tetrachloroethane	29.5	1.0	ug/l	25.0	ND	118	65-140			
1,1,2,2-Tetrachloroethane	23.2	1.0	ug/l	25.0	ND	93	55-135			
Tetrachloroethene	26.0	1.0	ug/l	25.0	ND	104	65-130			
Toluene	25.8	1.0	ug/l	25.0	ND	103	70-125			
1,2,3-Trichlorobenzene	24.2	1.0	ug/l	25.0	ND	97	60-135			
1,2,4-Trichlorobenzene	25.5	1.0	ug/l	25.0	ND	102	65-135			
1,1,1-Trichloroethane	29.8	1.0	ug/l	25.0	ND	119	65-140			
1,1,2-Trichloroethane	24.1	1.0	ug/l	25.0	ND	96	65-130			
Trichloroethene	26.8	1.0	ug/l	25.0	ND	107	65-125			
Trichlorofluoromethane	27.3	1.0	ug/l	25.0	ND	109	60-145			
1,2,3-Trichloropropane	21.5	1.0	ug/l	25.0	ND	86	55-135			
1,2,4-Trimethylbenzene	23.5	1.0	ug/l	25.0	ND	94	55-135			
1,3,5-Trimethylbenzene	25.8	1.0	ug/l	25.0	ND	103	70-130			
Vinyl chloride	28.4	0.50	ug/l	25.0	ND	114	45-140			
m,p-Xylenes	52.8	1.0	ug/l	50.0	ND	106	65-130			
o-Xylene	26.8	1.0	ug/l	25.0	ND	107	65-125			
Methyl-tert-butyl Ether (MTBE)	22.2	1.0	ug/l	25.0	ND	89	55-145			
Surrogate: 4-Bromofluorobenzene	*24.2*		*ug/l*	*25.0*		*97*	*80-120*			
Surrogate: Dibromofluoromethane	*25.8*		*ug/l*	*25.0*		*103*	*80-120*			
Surrogate: Toluene-d8	*24.7*		*ug/l*	*25.0*		*99*	*80-120*			

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Irvine, CA 92617
Attention: Sharon Wallin

Project ID: Omega Wastewater
IWP number 20039
Report Number: ISG1752

Sampled: 07/22/09
Received: 07/22/09

METHOD BLANK/QC DATA

VOLATILE ORGANICS by GC/MS (EPA 5030B/8260B)

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Data Qualifiers
Batch: 9G23006 Extracted: 07/23/09										
Matrix Spike Dup Analyzed: 07/23/2009 (9G23006-MSD1)					**Source: ISG1752-02**					
Acetone	14.0	10	ug/l	25.0	ND	56	20-150	3	35	
Benzene	24.0	0.50	ug/l	25.0	ND	96	65-125	8	20	
Bromobenzene	24.3	1.0	ug/l	25.0	ND	97	70-125	7	20	
Bromochloromethane	25.0	1.0	ug/l	25.0	ND	100	65-135	8	25	
Bromodichloromethane	27.0	1.0	ug/l	25.0	ND	108	70-135	6	20	
Bromoform	22.3	1.0	ug/l	25.0	ND	89	55-135	7	25	
Bromomethane	29.3	1.0	ug/l	25.0	ND	117	55-145	7	25	
n-Butylbenzene	24.5	1.0	ug/l	25.0	ND	98	65-135	6	20	
sec-Butylbenzene	25.0	1.0	ug/l	25.0	ND	100	70-125	8	20	
tert-Butylbenzene	24.7	1.0	ug/l	25.0	ND	99	65-130	7	20	
Carbon tetrachloride	30.4	0.50	ug/l	25.0	ND	121	65-140	7	25	
Chlorobenzene	24.3	1.0	ug/l	25.0	ND	97	75-125	10	20	
Chloroethane	25.9	1.0	ug/l	25.0	ND	104	55-140	6	25	
Chloroform	25.6	1.0	ug/l	25.0	ND	102	65-135	9	20	
Chloromethane	25.4	1.0	ug/l	25.0	ND	101	45-145	1	25	
2-Chlorotoluene	24.5	1.0	ug/l	25.0	ND	98	65-135	8	20	
4-Chlorotoluene	25.3	1.0	ug/l	25.0	ND	101	70-135	7	20	
1,2-Dibromo-3-chloropropane	21.7	5.0	ug/l	25.0	ND	87	45-145	0	30	
Dibromochloromethane	24.0	1.0	ug/l	25.0	ND	96	65-140	7	25	
1,2-Dibromoethane (EDB)	21.1	1.0	ug/l	25.0	ND	85	70-130	8	25	
Dibromomethane	23.6	1.0	ug/l	25.0	ND	94	65-135	4	25	
1,2-Dichlorobenzene	24.4	1.0	ug/l	25.0	ND	98	75-125	4	20	
1,3-Dichlorobenzene	25.0	1.0	ug/l	25.0	ND	100	75-125	6	20	
1,4-Dichlorobenzene	25.0	1.0	ug/l	25.0	ND	100	75-125	6	20	
Dichlorodifluoromethane	25.4	5.0	ug/l	25.0	ND	102	25-155	8	30	
1,1-Dichloroethane	24.2	1.0	ug/l	25.0	ND	97	65-130	11	20	
1,2-Dichloroethane	24.0	0.50	ug/l	25.0	ND	96	60-140	6	20	
1,1-Dichloroethene	28.2	1.0	ug/l	25.0	ND	113	60-130	9	20	
cis-1,2-Dichloroethene	25.6	1.0	ug/l	25.0	ND	102	65-130	8	20	
trans-1,2-Dichloroethene	25.6	1.0	ug/l	25.0	ND	103	65-130	10	20	
1,2-Dichloropropane	24.7	1.0	ug/l	25.0	ND	99	65-130	6	20	
1,3-Dichloropropane	23.2	1.0	ug/l	25.0	ND	93	65-135	8	25	
2,2-Dichloropropane	34.1	1.0	ug/l	25.0	ND	137	60-145	3	25	
cis-1,3-Dichloropropene	25.3	0.50	ug/l	25.0	ND	101	70-130	5	20	
trans-1,3-Dichloropropene	24.3	0.50	ug/l	25.0	ND	97	65-135	5	25	
1,1-Dichloropropene	25.3	1.0	ug/l	25.0	ND	101	70-135	7	20	

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Attention: Sharon Wallin

Project ID: Omega Wastewater
IWP number 20039
Report Number: ISG1752

Sampled: 07/22/09
Received: 07/22/09

METHOD BLANK/QC DATA

VOLATILE ORGANICS by GC/MS (EPA 5030B/8260B)

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Data Qualifiers
Batch: 9G23006 Extracted: 07/23/09										
Matrix Spike Dup Analyzed: 07/23/2009 (9G23006-MSD1)					**Source: ISG1752-02**					
Ethylbenzene	23.8	1.0	ug/l	25.0	ND	95	65-130	10	20	
Hexachlorobutadiene	24.3	1.0	ug/l	25.0	ND	97	60-135	6	20	
Isopropylbenzene	26.0	1.0	ug/l	25.0	ND	104	70-135	7	20	
p-Isopropyltoluene	24.1	1.0	ug/l	25.0	ND	96	65-130	8	20	
Methylene chloride	24.5	5.0	ug/l	25.0	ND	98	50-135	9	20	
Naphthalene	18.8	1.0	ug/l	25.0	ND	75	50-140	4	30	
n-Propylbenzene	25.7	1.0	ug/l	25.0	ND	103	70-135	7	20	
Styrene	14.3	1.0	ug/l	25.0	ND	57	50-145	30	30	
1,1,1,2-Tetrachloroethane	27.2	1.0	ug/l	25.0	ND	109	65-140	8	20	
1,1,2,2-Tetrachloroethane	22.2	1.0	ug/l	25.0	ND	89	55-135	5	30	
Tetrachloroethene	24.5	1.0	ug/l	25.0	ND	98	65-130	6	20	
Toluene	24.0	1.0	ug/l	25.0	ND	96	70-125	7	20	
1,2,3-Trichlorobenzene	23.2	1.0	ug/l	25.0	ND	93	60-135	4	20	
1,2,4-Trichlorobenzene	24.5	1.0	ug/l	25.0	ND	98	65-135	4	20	
1,1,1-Trichloroethane	27.2	1.0	ug/l	25.0	ND	109	65-140	9	20	
1,1,2-Trichloroethane	23.1	1.0	ug/l	25.0	ND	92	65-130	4	25	
Trichloroethene	24.9	1.0	ug/l	25.0	ND	100	65-125	7	20	
Trichlorofluoromethane	25.0	1.0	ug/l	25.0	ND	100	60-145	9	25	
1,2,3-Trichloropropane	20.5	1.0	ug/l	25.0	ND	82	55-135	5	30	
1,2,4-Trimethylbenzene	20.3	1.0	ug/l	25.0	ND	81	55-135	14	25	
1,3,5-Trimethylbenzene	23.6	1.0	ug/l	25.0	ND	94	70-130	9	20	
Vinyl chloride	27.1	0.50	ug/l	25.0	ND	108	45-140	5	30	
m,p-Xylenes	48.0	1.0	ug/l	50.0	ND	96	65-130	9	25	
o-Xylene	24.9	1.0	ug/l	25.0	ND	99	65-125	8	20	
Methyl-tert-butyl Ether (MTBE)	21.5	1.0	ug/l	25.0	ND	86	55-145	4	25	
Surrogate: 4-Bromofluorobenzene	*23.6*		*ug/l*	*25.0*		*94*	*80-120*			
Surrogate: Dibromofluoromethane	*25.4*		*ug/l*	*25.0*		*101*	*80-120*			
Surrogate: Toluene-d8	*24.8*		*ug/l*	*25.0*		*99*	*80-120*			

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Project Manager

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THE LEADER IN ENVIRONMENTAL TESTING

17461 Derian Avenue. Suite 100, Irvine, CA 92614 (949) 261-1022 Fax:(949) 260-3297

Camp, Dresser & McKee 111 Academy, Ste 150 Irvine, CA 92617 Attention: Sharon Wallin	Project ID: Report Number:	Omega Wastewater IWP number 20039 ISG1752	Sampled: 07/22/09 Received: 07/22/09

METHOD BLANK/QC DATA

VOLATILE ORGANICS by GC/MS (EPA 5030B/8260B)

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Data Qualifiers
Batch: 9G27006 Extracted: 07/27/09										
Blank Analyzed: 07/27/2009 (9G27006-BLK1)										
Acetone	ND	10	ug/l							
Benzene	ND	0.50	ug/l							
Bromobenzene	ND	1.0	ug/l							
Bromochloromethane	ND	1.0	ug/l							
Bromodichloromethane	ND	1.0	ug/l							
Bromoform	ND	1.0	ug/l							
Bromomethane	ND	1.0	ug/l							
n-Butylbenzene	ND	1.0	ug/l							
sec-Butylbenzene	ND	1.0	ug/l							
tert-Butylbenzene	ND	1.0	ug/l							
Carbon tetrachloride	ND	0.50	ug/l							
Chlorobenzene	ND	1.0	ug/l							
Chloroethane	ND	1.0	ug/l							
Chloroform	ND	1.0	ug/l							
Chloromethane	ND	1.0	ug/l							
2-Chlorotoluene	ND	1.0	ug/l							
4-Chlorotoluene	ND	1.0	ug/l							
1,2-Dibromo-3-chloropropane	ND	5.0	ug/l							
Dibromochloromethane	ND	1.0	ug/l							
1,2-Dibromoethane (EDB)	ND	1.0	ug/l							
Dibromomethane	ND	1.0	ug/l							
1,2-Dichlorobenzene	ND	1.0	ug/l							
1,3-Dichlorobenzene	ND	1.0	ug/l							
1,4-Dichlorobenzene	ND	1.0	ug/l							
Dichlorodifluoromethane	ND	5.0	ug/l							
1,1-Dichloroethane	ND	1.0	ug/l							
1,2-Dichloroethane	ND	0.50	ug/l							
1,1-Dichloroethene	ND	1.0	ug/l							
cis-1,2-Dichloroethene	ND	1.0	ug/l							
trans-1,2-Dichloroethene	ND	1.0	ug/l							
1,2-Dichloropropane	ND	1.0	ug/l							
1,3-Dichloropropane	ND	1.0	ug/l							
2,2-Dichloropropane	ND	1.0	ug/l							
cis-1,3-Dichloropropene	ND	0.50	ug/l							
trans-1,3-Dichloropropene	ND	0.50	ug/l							
1,1-Dichloropropene	ND	1.0	ug/l							

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17461 Derian Avenue. Suite 100, Irvine, CA 92614 (949) 261-1022 Fax:(949) 260-3297

Camp, Dresser & McKee
111 Academy, Ste 150
Irvine, CA 92617
Attention: Sharon Wallin

Project ID: Omega Wastewater
IWP number 20039
Report Number: ISG1752

Sampled: 07/22/09
Received: 07/22/09

METHOD BLANK/QC DATA

VOLATILE ORGANICS by GC/MS (EPA 5030B/8260B)

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Data Qualifiers
Batch: 9G27006 Extracted: 07/27/09										
Blank Analyzed: 07/27/2009 (9G27006-BLK1)										
Ethylbenzene	ND	1.0	ug/l							
Hexachlorobutadiene	ND	1.0	ug/l							
Isopropylbenzene	ND	1.0	ug/l							
p-Isopropyltoluene	ND	1.0	ug/l							
Methylene chloride	ND	5.0	ug/l							
Naphthalene	ND	1.0	ug/l							
n-Propylbenzene	ND	1.0	ug/l							
Styrene	ND	1.0	ug/l							
1,1,1,2-Tetrachloroethane	ND	1.0	ug/l							
1,1,2,2-Tetrachloroethane	ND	1.0	ug/l							
Tetrachloroethene	ND	1.0	ug/l							
Toluene	ND	1.0	ug/l							
1,2,3-Trichlorobenzene	ND	1.0	ug/l							
1,2,4-Trichlorobenzene	ND	1.0	ug/l							
1,1,1-Trichloroethane	ND	1.0	ug/l							
1,1,2-Trichloroethane	ND	1.0	ug/l							
Trichloroethene	ND	1.0	ug/l							
Trichlorofluoromethane	ND	1.0	ug/l							
1,2,3-Trichloropropane	ND	1.0	ug/l							
Trichlorotrifluoroethane (Freon 113)	ND	5.0	ug/l							
1,2,4-Trimethylbenzene	ND	1.0	ug/l							
1,3,5-Trimethylbenzene	ND	1.0	ug/l							
Vinyl chloride	ND	0.50	ug/l							
m,p-Xylenes	ND	1.0	ug/l							
o-Xylene	ND	1.0	ug/l							
Methyl-tert-butyl Ether (MTBE)	ND	1.0	ug/l							
Volatile Organic Compounds	ND	2.0	ug/l							
Surrogate: 4-Bromofluorobenzene	*22.7*		*ug/l*	*25.0*		*91*	*80-120*			
Surrogate: 4-Bromofluorobenzene	*22.7*		*ug/l*	*25.0*		*91*	*80-120*			
Surrogate: Dibromofluoromethane	*24.6*		*ug/l*	*25.0*		*98*	*80-120*			
Surrogate: Dibromofluoromethane	*24.6*		*ug/l*	*25.0*		*98*	*80-120*			
Surrogate: Toluene-d8	*25.8*		*ug/l*	*25.0*		*103*	*80-120*			
Surrogate: Toluene-d8	*25.8*		*ug/l*	*25.0*		*103*	*80-120*			

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Irvine, CA 92617
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Project ID: Omega Wastewater
IWP number 20039
Report Number: ISG1752

Sampled: 07/22/09
Received: 07/22/09

METHOD BLANK/QC DATA

VOLATILE ORGANICS by GC/MS (EPA 5030B/8260B)

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Data Qualifiers
Batch: 9G27006 Extracted: 07/27/09										
LCS Analyzed: 07/27/2009 (9G27006-BS1)										
Acetone	17.4	10	ug/l	25.0		70	30-140			
Benzene	25.3	0.50	ug/l	25.0		101	70-120			
Bromobenzene	26.9	1.0	ug/l	25.0		108	75-120			
Bromochloromethane	28.8	1.0	ug/l	25.0		115	70-130			
Bromodichloromethane	29.4	1.0	ug/l	25.0		118	70-135			
Bromoform	26.0	1.0	ug/l	25.0		104	55-130			
Bromomethane	23.3	1.0	ug/l	25.0		93	65-140			
n-Butylbenzene	25.2	1.0	ug/l	25.0		101	70-130			
sec-Butylbenzene	23.9	1.0	ug/l	25.0		96	70-125			
tert-Butylbenzene	24.8	1.0	ug/l	25.0		99	70-125			
Carbon tetrachloride	28.0	0.50	ug/l	25.0		112	65-140			
Chlorobenzene	27.1	1.0	ug/l	25.0		109	75-120			
Chloroethane	25.8	1.0	ug/l	25.0		103	60-140			
Chloroform	24.3	1.0	ug/l	25.0		97	70-130			
Chloromethane	25.5	1.0	ug/l	25.0		102	50-140			
2-Chlorotoluene	25.7	1.0	ug/l	25.0		103	70-125			
4-Chlorotoluene	25.4	1.0	ug/l	25.0		101	75-125			
1,2-Dibromo-3-chloropropane	26.1	5.0	ug/l	25.0		105	50-135			
Dibromochloromethane	30.2	1.0	ug/l	25.0		121	70-140			
1,2-Dibromoethane (EDB)	27.3	1.0	ug/l	25.0		109	75-125			
Dibromomethane	29.3	1.0	ug/l	25.0		117	70-125			
1,2-Dichlorobenzene	27.0	1.0	ug/l	25.0		108	75-120			
1,3-Dichlorobenzene	26.7	1.0	ug/l	25.0		107	75-120			
1,4-Dichlorobenzene	25.7	1.0	ug/l	25.0		103	75-120			
Dichlorodifluoromethane	34.5	5.0	ug/l	25.0		138	35-155			
1,1-Dichloroethane	24.6	1.0	ug/l	25.0		98	70-125			
1,2-Dichloroethane	27.1	0.50	ug/l	25.0		108	60-140			
1,1-Dichloroethene	28.0	1.0	ug/l	25.0		112	70-125			
cis-1,2-Dichloroethene	27.1	1.0	ug/l	25.0		108	70-125			
trans-1,2-Dichloroethene	26.0	1.0	ug/l	25.0		104	70-125			
1,2-Dichloropropane	26.2	1.0	ug/l	25.0		105	70-125			
1,3-Dichloropropane	28.0	1.0	ug/l	25.0		112	70-120			
2,2-Dichloropropane	25.6	1.0	ug/l	25.0		103	65-140			
cis-1,3-Dichloropropene	28.2	0.50	ug/l	25.0		113	75-125			
trans-1,3-Dichloropropene	27.7	0.50	ug/l	25.0		111	70-125			
1,1-Dichloropropene	26.6	1.0	ug/l	25.0		106	75-130			

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Camp, Dresser & McKee
111 Academy, Ste 150
Irvine, CA 92617
Attention: Sharon Wallin

Project ID: Omega Wastewater
IWP number 20039
Report Number: ISG1752

Sampled: 07/22/09
Received: 07/22/09

METHOD BLANK/QC DATA

VOLATILE ORGANICS by GC/MS (EPA 5030B/8260B)

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Data Qualifiers
Batch: 9G27006 Extracted: 07/27/09										
LCS Analyzed: 07/27/2009 (9G27006-BS1)										
Ethylbenzene	26.0	1.0	ug/l	25.0		104	75-125			
Hexachlorobutadiene	21.4	1.0	ug/l	25.0		85	65-135			
Isopropylbenzene	26.3	1.0	ug/l	25.0		105	75-130			
p-Isopropyltoluene	24.8	1.0	ug/l	25.0		99	75-125			
Methylene chloride	27.7	5.0	ug/l	25.0		111	55-130			
Naphthalene	23.9	1.0	ug/l	25.0		95	55-135			
n-Propylbenzene	24.9	1.0	ug/l	25.0		100	75-130			
Styrene	27.2	1.0	ug/l	25.0		109	75-130			
1,1,1,2-Tetrachloroethane	28.2	1.0	ug/l	25.0		113	70-130			
1,1,2,2-Tetrachloroethane	30.9	1.0	ug/l	25.0		124	55-130			
Tetrachloroethene	25.4	1.0	ug/l	25.0		102	70-125			
Toluene	26.6	1.0	ug/l	25.0		107	70-120			
1,2,3-Trichlorobenzene	23.4	1.0	ug/l	25.0		94	65-125			
1,2,4-Trichlorobenzene	24.8	1.0	ug/l	25.0		99	70-135			
1,1,1-Trichloroethane	27.0	1.0	ug/l	25.0		108	65-135			
1,1,2-Trichloroethane	29.4	1.0	ug/l	25.0		118	70-125			
Trichloroethene	26.5	1.0	ug/l	25.0		106	70-125			
Trichlorofluoromethane	27.4	1.0	ug/l	25.0		110	65-145			
1,2,3-Trichloropropane	26.7	1.0	ug/l	25.0		107	60-130			
1,2,4-Trimethylbenzene	24.4	1.0	ug/l	25.0		98	75-125			
1,3,5-Trimethylbenzene	25.1	1.0	ug/l	25.0		100	75-125			
Vinyl chloride	22.8	0.50	ug/l	25.0		91	55-135			
m,p-Xylenes	50.3	1.0	ug/l	50.0		101	75-125			
o-Xylene	25.8	1.0	ug/l	25.0		103	75-125			
Methyl-tert-butyl Ether (MTBE)	21.0	1.0	ug/l	25.0		84	60-135			
Surrogate: 4-Bromofluorobenzene	*24.5*		*ug/l*	*25.0*		*98*	*80-120*			
Surrogate: Dibromofluoromethane	*26.7*		*ug/l*	*25.0*		*107*	*80-120*			
Surrogate: Toluene-d8	*26.1*		*ug/l*	*25.0*		*104*	*80-120*			

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Attention: Sharon Wallin

Project ID: Omega Wastewater
IWP number 20039
Report Number: ISG1752

Sampled: 07/22/09
Received: 07/22/09

METHOD BLANK/QC DATA

VOLATILE ORGANICS by GC/MS (EPA 5030B/8260B)

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Data Qualifiers
Batch: 9G27006 Extracted: 07/27/09										
Matrix Spike Analyzed: 07/27/2009 (9G27006-MS1)					**Source: ISG1910-01**					
Acetone	13.0	10	ug/l	25.0	ND	52	20-150			
Benzene	25.1	0.50	ug/l	25.0	ND	100	65-125			
Bromobenzene	26.3	1.0	ug/l	25.0	ND	105	70-125			
Bromochloromethane	25.8	1.0	ug/l	25.0	ND	103	65-135			
Bromodichloromethane	27.8	1.0	ug/l	25.0	ND	111	70-135			
Bromoform	22.2	1.0	ug/l	25.0	ND	89	55-135			
Bromomethane	24.5	1.0	ug/l	25.0	ND	98	55-145			
n-Butylbenzene	26.4	1.0	ug/l	25.0	ND	105	65-135			
sec-Butylbenzene	25.3	1.0	ug/l	25.0	ND	101	70-125			
tert-Butylbenzene	25.7	1.0	ug/l	25.0	ND	103	65-130			
Carbon tetrachloride	28.9	0.50	ug/l	25.0	ND	115	65-140			
Chlorobenzene	27.3	1.0	ug/l	25.0	ND	109	75-125			
Chloroethane	25.6	1.0	ug/l	25.0	ND	102	55-140			
Chloroform	26.2	1.0	ug/l	25.0	2.89	93	65-135			
Chloromethane	23.3	1.0	ug/l	25.0	ND	93	45-145			
2-Chlorotoluene	26.4	1.0	ug/l	25.0	ND	105	65-135			
4-Chlorotoluene	26.0	1.0	ug/l	25.0	ND	104	70-135			
1,2-Dibromo-3-chloropropane	19.0	5.0	ug/l	25.0	ND	76	45-145			
Dibromochloromethane	27.2	1.0	ug/l	25.0	ND	109	65-140			
1,2-Dibromoethane (EDB)	23.7	1.0	ug/l	25.0	ND	95	70-130			
Dibromomethane	25.2	1.0	ug/l	25.0	ND	101	65-135			
1,2-Dichlorobenzene	25.6	1.0	ug/l	25.0	ND	102	75-125			
1,3-Dichlorobenzene	26.9	1.0	ug/l	25.0	ND	108	75-125			
1,4-Dichlorobenzene	25.7	1.0	ug/l	25.0	ND	103	75-125			
Dichlorodifluoromethane	33.8	5.0	ug/l	25.0	ND	135	25-155			
1,1-Dichloroethane	24.6	1.0	ug/l	25.0	0.730	96	65-130			
1,2-Dichloroethane	24.4	0.50	ug/l	25.0	ND	98	60-140			
1,1-Dichloroethene	27.3	1.0	ug/l	25.0	0.550	107	60-130			
cis-1,2-Dichloroethene	34.7	1.0	ug/l	25.0	9.12	102	65-130			
trans-1,2-Dichloroethene	26.1	1.0	ug/l	25.0	ND	105	65-130			
1,2-Dichloropropane	25.1	1.0	ug/l	25.0	ND	100	65-130			
1,3-Dichloropropane	25.4	1.0	ug/l	25.0	ND	102	65-135			
2,2-Dichloropropane	27.5	1.0	ug/l	25.0	ND	110	60-145			
cis-1,3-Dichloropropene	26.8	0.50	ug/l	25.0	ND	107	70-130			
trans-1,3-Dichloropropene	24.9	0.50	ug/l	25.0	ND	100	65-135			
1,1-Dichloropropene	26.8	1.0	ug/l	25.0	ND	107	70-135			

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Attention: Sharon Wallin

Project ID: Omega Wastewater
IWP number 20039
Report Number: ISG1752

Sampled: 07/22/09
Received: 07/22/09

METHOD BLANK/QC DATA

VOLATILE ORGANICS by GC/MS (EPA 5030B/8260B)

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Data Qualifiers
Batch: 9G27006 Extracted: 07/27/09										
Matrix Spike Analyzed: 07/27/2009 (9G27006-MS1)					**Source: ISG1910-01**					
Ethylbenzene	26.8	1.0	ug/l	25.0	ND	107	65-130			
Hexachlorobutadiene	21.7	1.0	ug/l	25.0	ND	87	60-135			
Isopropylbenzene	27.5	1.0	ug/l	25.0	ND	110	70-135			
p-Isopropyltoluene	26.0	1.0	ug/l	25.0	ND	104	65-130			
Methylene chloride	26.0	5.0	ug/l	25.0	ND	104	50-135			
Naphthalene	19.0	1.0	ug/l	25.0	ND	76	50-140			
n-Propylbenzene	26.0	1.0	ug/l	25.0	ND	104	70-135			
Styrene	27.0	1.0	ug/l	25.0	ND	108	50-145			
1,1,1,2-Tetrachloroethane	27.5	1.0	ug/l	25.0	ND	110	65-140			
1,1,2,2-Tetrachloroethane	25.0	1.0	ug/l	25.0	ND	100	55-135			
Tetrachloroethene	26.7	1.0	ug/l	25.0	ND	107	65-130			
Toluene	26.8	1.0	ug/l	25.0	ND	107	70-125			
1,2,3-Trichlorobenzene	21.0	1.0	ug/l	25.0	ND	84	60-135			
1,2,4-Trichlorobenzene	23.6	1.0	ug/l	25.0	ND	95	65-135			
1,1,1-Trichloroethane	27.6	1.0	ug/l	25.0	ND	111	65-140			
1,1,2-Trichloroethane	25.3	1.0	ug/l	25.0	ND	101	65-130			
Trichloroethene	76.9	1.0	ug/l	25.0	51.0	104	65-125			
Trichlorofluoromethane	27.3	1.0	ug/l	25.0	ND	109	60-145			
1,2,3-Trichloropropane	21.5	1.0	ug/l	25.0	ND	86	55-135			
1,2,4-Trimethylbenzene	25.2	1.0	ug/l	25.0	ND	101	55-135			
1,3,5-Trimethylbenzene	25.8	1.0	ug/l	25.0	ND	103	70-130			
Vinyl chloride	23.3	0.50	ug/l	25.0	ND	93	45-140			
m,p-Xylenes	52.0	1.0	ug/l	50.0	ND	104	65-130			
o-Xylene	26.4	1.0	ug/l	25.0	ND	106	65-125			
Methyl-tert-butyl Ether (MTBE)	18.1	1.0	ug/l	25.0	ND	72	55-145			
Surrogate: 4-Bromofluorobenzene	*24.5*		*ug/l*	*25.0*		*98*	*80-120*			
Surrogate: Dibromofluoromethane	*25.1*		*ug/l*	*25.0*		*101*	*80-120*			
Surrogate: Toluene-d8	*26.0*		*ug/l*	*25.0*		*104*	*80-120*			

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Patty Mata
Project Manager

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THE LEADER IN ENVIRONMENTAL TESTING

17461 Derian Avenue. Suite 100, Irvine, CA 92614 (949) 261-1022 Fax:(949) 260-3297

Camp, Dresser & McKee
111 Academy, Ste 150
Irvine, CA 92617
Attention: Sharon Wallin

Project ID: Omega Wastewater
IWP number 20039
Report Number: ISG1752

Sampled: 07/22/09
Received: 07/22/09

METHOD BLANK/QC DATA

VOLATILE ORGANICS by GC/MS (EPA 5030B/8260B)

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Data Qualifiers
Batch: 9G27006 Extracted: 07/27/09										
Matrix Spike Dup Analyzed: 07/27/2009 (9G27006-MSD1)					**Source: ISG1910-01**					
Acetone	16.3	10	ug/l	25.0	ND	65	20-150	23	35	
Benzene	26.6	0.50	ug/l	25.0	ND	106	65-125	6	20	
Bromobenzene	28.1	1.0	ug/l	25.0	ND	112	70-125	7	20	
Bromochloromethane	29.6	1.0	ug/l	25.0	ND	118	65-135	14	25	
Bromodichloromethane	30.6	1.0	ug/l	25.0	ND	122	70-135	9	20	
Bromoform	26.1	1.0	ug/l	25.0	ND	104	55-135	16	25	
Bromomethane	25.3	1.0	ug/l	25.0	ND	101	55-145	3	25	
n-Butylbenzene	26.9	1.0	ug/l	25.0	ND	108	65-135	2	20	
sec-Butylbenzene	25.6	1.0	ug/l	25.0	ND	103	70-125	2	20	
tert-Butylbenzene	26.6	1.0	ug/l	25.0	ND	106	65-130	3	20	
Carbon tetrachloride	30.1	0.50	ug/l	25.0	ND	121	65-140	4	25	
Chlorobenzene	28.7	1.0	ug/l	25.0	ND	115	75-125	5	20	
Chloroethane	27.5	1.0	ug/l	25.0	ND	110	55-140	7	25	
Chloroform	28.2	1.0	ug/l	25.0	2.89	101	65-135	8	20	
Chloromethane	26.2	1.0	ug/l	25.0	ND	105	45-145	11	25	
2-Chlorotoluene	27.1	1.0	ug/l	25.0	ND	108	65-135	3	20	
4-Chlorotoluene	26.9	1.0	ug/l	25.0	ND	108	70-135	4	20	
1,2-Dibromo-3-chloropropane	24.1	5.0	ug/l	25.0	ND	96	45-145	23	30	
Dibromochloromethane	30.9	1.0	ug/l	25.0	ND	124	65-140	13	25	
1,2-Dibromoethane (EDB)	27.2	1.0	ug/l	25.0	ND	109	70-130	14	25	
Dibromomethane	29.0	1.0	ug/l	25.0	ND	116	65-135	14	25	
1,2-Dichlorobenzene	27.6	1.0	ug/l	25.0	ND	110	75-125	8	20	
1,3-Dichlorobenzene	28.2	1.0	ug/l	25.0	ND	113	75-125	5	20	
1,4-Dichlorobenzene	27.0	1.0	ug/l	25.0	ND	108	75-125	5	20	
Dichlorodifluoromethane	36.5	5.0	ug/l	25.0	ND	146	25-155	8	30	
1,1-Dichloroethane	26.5	1.0	ug/l	25.0	0.730	103	65-130	7	20	
1,2-Dichloroethane	27.4	0.50	ug/l	25.0	ND	110	60-140	12	20	
1,1-Dichloroethene	28.3	1.0	ug/l	25.0	0.550	111	60-130	4	20	
cis-1,2-Dichloroethene	36.6	1.0	ug/l	25.0	9.12	110	65-130	5	20	
trans-1,2-Dichloroethene	27.7	1.0	ug/l	25.0	ND	111	65-130	6	20	
1,2-Dichloropropane	27.4	1.0	ug/l	25.0	ND	110	65-130	9	20	
1,3-Dichloropropane	28.6	1.0	ug/l	25.0	ND	115	65-135	12	25	
2,2-Dichloropropane	28.6	1.0	ug/l	25.0	ND	114	60-145	4	25	
cis-1,3-Dichloropropene	29.3	0.50	ug/l	25.0	ND	117	70-130	9	20	
trans-1,3-Dichloropropene	28.3	0.50	ug/l	25.0	ND	113	65-135	13	25	
1,1-Dichloropropene	28.7	1.0	ug/l	25.0	ND	115	70-135	7	20	

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Patty Mata
Project Manager

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Camp, Dresser & McKee
111 Academy, Ste 150
Irvine, CA 92617
Attention: Sharon Wallin

Project ID: Omega Wastewater
IWP number 20039
Report Number: ISG1752

Sampled: 07/22/09
Received: 07/22/09

METHOD BLANK/QC DATA

VOLATILE ORGANICS by GC/MS (EPA 5030B/8260B)

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Data Qualifiers
Batch: 9G27006 Extracted: 07/27/09										
Matrix Spike Dup Analyzed: 07/27/2009 (9G27006-MSD1)					**Source: ISG1910-01**					
Ethylbenzene	27.8	1.0	ug/l	25.0	ND	111	65-130	4	20	
Hexachlorobutadiene	22.7	1.0	ug/l	25.0	ND	91	60-135	4	20	
Isopropylbenzene	28.1	1.0	ug/l	25.0	ND	112	70-135	2	20	
p-Isopropyltoluene	26.7	1.0	ug/l	25.0	ND	107	65-130	3	20	
Methylene chloride	29.0	5.0	ug/l	25.0	ND	116	50-135	11	20	
Naphthalene	23.2	1.0	ug/l	25.0	ND	93	50-140	20	30	
n-Propylbenzene	26.7	1.0	ug/l	25.0	ND	107	70-135	3	20	
Styrene	28.6	1.0	ug/l	25.0	ND	114	50-145	6	30	
1,1,1,2-Tetrachloroethane	29.6	1.0	ug/l	25.0	ND	118	65-140	7	20	
1,1,2,2-Tetrachloroethane	29.7	1.0	ug/l	25.0	ND	119	55-135	17	30	
Tetrachloroethene	27.1	1.0	ug/l	25.0	ND	108	65-130	2	20	
Toluene	28.2	1.0	ug/l	25.0	ND	113	70-125	5	20	
1,2,3-Trichlorobenzene	23.7	1.0	ug/l	25.0	ND	95	60-135	12	20	
1,2,4-Trichlorobenzene	25.4	1.0	ug/l	25.0	ND	101	65-135	7	20	
1,1,1-Trichloroethane	29.6	1.0	ug/l	25.0	ND	119	65-140	7	20	
1,1,2-Trichloroethane	29.2	1.0	ug/l	25.0	ND	117	65-130	14	25	
Trichloroethene	72.8	1.0	ug/l	25.0	51.0	87	65-125	6	20	
Trichlorofluoromethane	29.2	1.0	ug/l	25.0	ND	117	60-145	6	25	
1,2,3-Trichloropropane	25.6	1.0	ug/l	25.0	ND	102	55-135	17	30	
1,2,4-Trimethylbenzene	26.0	1.0	ug/l	25.0	ND	104	55-135	3	25	
1,3,5-Trimethylbenzene	26.7	1.0	ug/l	25.0	ND	107	70-130	3	20	
Vinyl chloride	24.0	0.50	ug/l	25.0	ND	96	45-140	3	30	
m,p-Xylenes	53.8	1.0	ug/l	50.0	ND	108	65-130	3	25	
o-Xylene	27.5	1.0	ug/l	25.0	ND	110	65-125	4	20	
Methyl-tert-butyl Ether (MTBE)	22.4	1.0	ug/l	25.0	ND	90	55-145	21	25	
Surrogate: 4-Bromofluorobenzene	*24.6*		*ug/l*	*25.0*		*98*	*80-120*			
Surrogate: Dibromofluoromethane	*26.5*		*ug/l*	*25.0*		*106*	*80-120*			
Surrogate: Toluene-d8	*26.2*		*ug/l*	*25.0*		*105*	*80-120*			

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Patty Mata
Project Manager

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THE LEADER IN ENVIRONMENTAL TESTING

17461 Derian Avenue. Suite 100, Irvine, CA 92614 (949) 261-1022 Fax:(949) 260-3297

Camp, Dresser & McKee 111 Academy, Ste 150 Irvine, CA 92617 Attention: Sharon Wallin	Project ID: Report Number:	Omega Wastewater IWP number 20039 ISG1752	Sampled: 07/22/09 Received: 07/22/09

METHOD BLANK/QC DATA

SEMI-VOLATILE ORGANICS BY GC/MS (EPA 3520C/8270C MOD)

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Data Qualifiers
Batch: 9G23099 Extracted: 07/23/09										
Blank Analyzed: 07/24/2009 (9G23099-BLK1)										
1,4-Dioxane	ND	0.50	ug/l							
Surrogate: 1,4-Dioxane-d8	*1.39*		*ug/l*	*2.00*		*70*	*30-120*			
LCS Analyzed: 07/24/2009 (9G23099-BS1)										
1,4-Dioxane	1.06	0.50	ug/l	2.00		53	35-120			
Surrogate: 1,4-Dioxane-d8	*1.09*		*ug/l*	*2.00*		*55*	*30-120*			
Matrix Spike Analyzed: 07/25/2009 (9G23099-MS1)					**Source: ISG1676-31**					
1,4-Dioxane	191	25	ug/l	20.0	204	-63	35-120			*MHA*
Surrogate: 1,4-Dioxane-d8	*9.84*		*ug/l*	*20.0*		*49*	*30-120*			*Z3*
Matrix Spike Dup Analyzed: 07/25/2009 (9G23099-MSD1)					**Source: ISG1676-31**					
1,4-Dioxane	221	25	ug/l	20.0	204	85	35-120	14	25	*MHA*
Surrogate: 1,4-Dioxane-d8	*10.4*		*ug/l*	*20.0*		*52*	*30-120*			*Z3*

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Project Manager

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Camp, Dresser & McKee
111 Academy, Ste 150
Irvine, CA 92617
Attention: Sharon Wallin

Project ID: Omega Wastewater
IWP number 20039
Report Number: ISG1752

Sampled: 07/22/09
Received: 07/22/09

METHOD BLANK/QC DATA

INORGANICS

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Data Qualifiers
Batch: 9G23049 Extracted: 07/23/09										
Duplicate Analyzed: 07/23/2009 (9G23049-DUP1)					**Source: ISG1680-02**					
pH	7.50	0.100	pH Units		7.48			0	5	*HFT*
Duplicate Analyzed: 07/23/2009 (9G23049-DUP2)					**Source: ISG1780-04**					
pH	7.70	0.100	pH Units		7.70			0	5	*HFT*

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Camp, Dresser & McKee 111 Academy, Ste 150 Irvine, CA 92617 Attention: Sharon Wallin	Project ID: Omega Wastewater IWP number 20039 Report Number: ISG1752	Sampled: 07/22/09 Received: 07/22/09

DATA QUALIFIERS AND DEFINITIONS

HFT	The holding time for this test is immediate. It was analyzed in the laboratory as soon as possible after receipt.
L	Laboratory Control Sample and/or Laboratory Control Sample Duplicate recovery was above the acceptance limits. Analyte not detected, data not impacted.
MHA	Due to high levels of analyte in the sample, the MS/MSD calculation does not provide useful spike recovery information. See Blank Spike (LCS).
Z3	The sample required a dilution due to the nature of the sample matrix. Because of this dilution, the surrogate spike concentration in the sample was reduced to a level where the recovery calculation does not provide useful information.
ND	Analyte NOT DETECTED at or above the reporting limit or MDL, if MDL is specified.
RPD	Relative Percent Difference

ADDITIONAL COMMENTS

For 8260 analyses:

Due to the high water solubility of alcohols and ketones, the calibration criteria for these compounds is <30% RSD. The average % RSD of all compounds in the calibration is 15%, in accordance with EPA methods.

TestAmerica Irvine

Patty Mata
Project Manager

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17461 Derian Avenue. Suite 100, Irvine, CA 92614 (949) 261-1022 Fax:(949) 260-3297

Camp, Dresser & McKee 111 Academy, Ste 150 Irvine, CA 92617 Attention: Sharon Wallin	Project ID: Omega Wastewater IWP number 20039 Report Number: ISG1752	Sampled: 07/22/09 Received: 07/22/09

Certification Summary

TestAmerica Irvine

Method	Matrix	Nelac	California
EPA 8260B	Water	X	X
EPA 8270C	Water	X	X
SM4500-H,B	Water	X	X

Nevada and NELAP provide analyte specific accreditations. Analyte specific information for TestAmerica may be obtained by contacting the laboratory or visiting our website at www.testamericainc.com

TestAmerica Irvine

Patty Mata
Project Manager

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TestAmerica
ANALYTICAL TESTING CORPORATION

☐ Nashville, TN ☐ Orlando, FL ☐ Cedar Falls, IA ☐ Daytor... ☐ Waterto..., WI ☐ Pontiac, MI ☐ Indianapolis, IN ☐ Irvine, CA

IS 61752

To assist us in using the proper analytical methods, is this work being conducted for regulatory purposes?

Compliance Monitoring? (Yes) No

Enforcement Action? Yes (No)

Client Name/Account #: CDM

Address: CDM / Omega Chemical

City/State/Zip: Irvine, CA 92617

Project Manager: Sharon Wallin

Telephone Number: 949.752.5452

Fax No.:

Sampler Name: (Print) Stephen Spaulding

Sampler Signature:

Report To: Sharon Wallin / Karen Schwarz

Invoice To: de maximus

TA Quote #:

Project ID:

Project #:

Sample ID / Description	Date Sampled	Time Sampled	No. of Containers Shipped	Grab	Composite	Field Filtered	Preservative: Ice	HNO3 (Red Label)	HCl (Blue Label)	NaOH (Orange Label)	H2SO4 Plastic (Yellow Label)	H2SO4 Glass(Yellow Label)	None (Black Label)	Other (Specify)	Matrix: Groundwater	Wastewater	Drinking Water	Sludge	Soil	Other (specify):	Analyze For: VOC (8260B) (including freons)	1,4 Dioxane (8270M)	pH	RUSH TAT (Pre-Schedule)	Standard TAT	Fax Results	Send QC with report
~~OC-EW1-SP110-072209~~	~~7/22/2009~~	~~555~~		X					X						X						X	X			X		
~~OC-EW2-SP120-072209~~	~~7/22/2009~~	~~555~~		X					X						X						X	X			X		
~~OC-EW3-SP130-072209~~	7/22/2009	~~555~~		X					X						X						X	X			X		
~~OC-EW4-SP140-072209~~	~~7/22/2009~~	~~555~~		X					X						X						X	X			X		
~~OC-EW5-SP150-072209~~	~~7/22/2009~~	~~555~~		X					X						X						X	X			X		
OC-SP200-INF-072209	7/22/2009	1310	4	X					X						X						X	X	X		see notes		
OC-SP220A-EFF-072209	7/22/2009	1305	5	X					X						X						X				X		
OC-TB-072209	7/22/2009	1335	1	X					X						X												

Special Instructions: 24-hour TAT on OC-SP220A-EFF-062209 VOC & pH only. Standart TAT everything else. Please provide VOC TTO results

Method of Shipment: FEDEX

Laboratory Comments:
Temperature Upon Receipt: 1.9°C
VOCs Free of Headspace? Y N
EW5 1-5 Not sampled due to access issues

	Date	Time		Date	Time
Relinquished by:	7-22-9	1340	Received by:	7/22/09	1340
Relinquished by:	7/22/09	18:35	Received by TestAmerica:	7/22/09	1835

#127

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Appendix F.4

August 13, 2009
Water Analytical Results

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TestAmerica
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17461 Derian Avenue. Suite 100, Irvine, CA 92614 (949) 261-1022 Fax:(949) 260-3297

LABORATORY REPORT

Prepared For: Camp, Dresser & McKee
111 Academy, Ste 150
Irvine, CA 92617
Attention: Sharon Wallin

Project: Omega Chemical Wastewater
IWP number 20039

Sampled: 08/13/09
Received: 08/13/09
Issued: 08/25/09 15:05

NELAP #01108CA California ELAP#2706 CSDLAC #10256 AZ #AZ0671 NV #CA01531

The results listed within this Laboratory Report pertain only to the samples tested in the laboratory. The analyses contained in this report were performed in accordance with the applicable certifications as noted. All soil samples are reported on a wet weight basis unless otherwise noted in the report. This Laboratory Report is confidential and is intended for the sole use of TestAmerica and its client. This report shall not be reproduced, except in full, without written permission from TestAmerica. The Chain of Custody, 1 page, is included and is an integral part of this report.
This entire report was reviewed and approved for release.

SAMPLE CROSS REFERENCE

LABORATORY ID	CLIENT ID	MATRIX
ISH1212-01	OC-SP220A-EFF-081309	Water
ISH1212-02	OC-TB-081309	Water
ISH1212-03	OC-EW1-SP110-081309	Water
ISH1212-04	OC-EW2-SP120-081309	Water
ISH1212-05	OC-EW3-SP130-081309	Water
ISH1212-06	OC-EW4-SP140-081309	Water
ISH1212-07	OC-EW5-SP150-081309	Water
ISH1212-08	OC-SP200-INF-081309	Water

Reviewed By:

TestAmerica Irvine

Kathleen A. Robb For Patty Mata
Project Manager

TestAmerica
THE LEADER IN ENVIRONMENTAL TESTING

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Camp, Dresser & McKee
111 Academy, Ste 150
Irvine, CA 92617
Attention: Sharon Wallin

Project ID: Omega Chemical Wastewater
IWP number 20039
Report Number: ISH1212

Sampled: 08/13/09
Received: 08/13/09

VOLATILE ORGANICS by GC/MS (EPA 5030B/8260B)

Analyte	Method	Batch	Reporting Limit	Sample Result	Dilution Factor	Date Extracted	Date Analyzed	Data Qualifiers
Sample ID: ISH1212-01 (OC-SP220A-EFF-081309 - Water)								
Reporting Units: ug/l								
Acetone	EPA 8260B	9H17022	10	ND	1	8/17/2009	8/18/2009	
Benzene	EPA 8260B	9H17022	0.50	ND	1	8/17/2009	8/18/2009	
Bromobenzene	EPA 8260B	9H17022	1.0	ND	1	8/17/2009	8/18/2009	
Bromochloromethane	EPA 8260B	9H17022	1.0	ND	1	8/17/2009	8/18/2009	
Bromodichloromethane	EPA 8260B	9H17022	1.0	ND	1	8/17/2009	8/18/2009	
Bromoform	EPA 8260B	9H17022	1.0	ND	1	8/17/2009	8/18/2009	
Bromomethane	EPA 8260B	9H17022	1.0	ND	1	8/17/2009	8/18/2009	
n-Butylbenzene	EPA 8260B	9H17022	1.0	ND	1	8/17/2009	8/18/2009	
sec-Butylbenzene	EPA 8260B	9H17022	1.0	ND	1	8/17/2009	8/18/2009	
tert-Butylbenzene	EPA 8260B	9H17022	1.0	ND	1	8/17/2009	8/18/2009	
Carbon tetrachloride	EPA 8260B	9H17022	0.50	ND	1	8/17/2009	8/18/2009	
Chlorobenzene	EPA 8260B	9H17022	1.0	ND	1	8/17/2009	8/18/2009	
Chloroethane	EPA 8260B	9H17022	1.0	ND	1	8/17/2009	8/18/2009	
Chloroform	EPA 8260B	9H17022	1.0	ND	1	8/17/2009	8/18/2009	
Chloromethane	EPA 8260B	9H17022	1.0	ND	1	8/17/2009	8/18/2009	
2-Chlorotoluene	EPA 8260B	9H17022	1.0	ND	1	8/17/2009	8/18/2009	
4-Chlorotoluene	EPA 8260B	9H17022	1.0	ND	1	8/17/2009	8/18/2009	
1,2-Dibromo-3-chloropropane	EPA 8260B	9H17022	5.0	ND	1	8/17/2009	8/18/2009	
Dibromochloromethane	EPA 8260B	9H17022	1.0	ND	1	8/17/2009	8/18/2009	
1,2-Dibromoethane (EDB)	EPA 8260B	9H17022	1.0	ND	1	8/17/2009	8/18/2009	
Dibromomethane	EPA 8260B	9H17022	1.0	ND	1	8/17/2009	8/18/2009	
1,2-Dichlorobenzene	EPA 8260B	9H17022	1.0	ND	1	8/17/2009	8/18/2009	
1,3-Dichlorobenzene	EPA 8260B	9H17022	1.0	ND	1	8/17/2009	8/18/2009	
1,4-Dichlorobenzene	EPA 8260B	9H17022	1.0	ND	1	8/17/2009	8/18/2009	
Dichlorodifluoromethane	EPA 8260B	9H17022	5.0	ND	1	8/17/2009	8/18/2009	
1,1-Dichloroethane	EPA 8260B	9H17022	1.0	ND	1	8/17/2009	8/18/2009	
1,2-Dichloroethane	EPA 8260B	9H17022	0.50	ND	1	8/17/2009	8/18/2009	
1,1-Dichloroethene	EPA 8260B	9H17022	1.0	ND	1	8/17/2009	8/18/2009	
cis-1,2-Dichloroethene	EPA 8260B	9H17022	1.0	ND	1	8/17/2009	8/18/2009	
trans-1,2-Dichloroethene	EPA 8260B	9H17022	1.0	ND	1	8/17/2009	8/18/2009	
1,2-Dichloropropane	EPA 8260B	9H17022	1.0	ND	1	8/17/2009	8/18/2009	
1,3-Dichloropropane	EPA 8260B	9H17022	1.0	ND	1	8/17/2009	8/18/2009	
2,2-Dichloropropane	EPA 8260B	9H17022	1.0	ND	1	8/17/2009	8/18/2009	
cis-1,3-Dichloropropene	EPA 8260B	9H17022	0.50	ND	1	8/17/2009	8/18/2009	
trans-1,3-Dichloropropene	EPA 8260B	9H17022	0.50	ND	1	8/17/2009	8/18/2009	
1,1-Dichloropropene	EPA 8260B	9H17022	1.0	ND	1	8/17/2009	8/18/2009	
Ethylbenzene	EPA 8260B	9H17022	1.0	ND	1	8/17/2009	8/18/2009	
Hexachlorobutadiene	EPA 8260B	9H17022	1.0	ND	1	8/17/2009	8/18/2009	
Isopropylbenzene	EPA 8260B	9H17022	1.0	ND	1	8/17/2009	8/18/2009	
p-Isopropyltoluene	EPA 8260B	9H17022	1.0	ND	1	8/17/2009	8/18/2009	
Methylene chloride	EPA 8260B	9H17022	5.0	ND	1	8/17/2009	8/18/2009	

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Camp, Dresser & McKee
111 Academy, Ste 150
Irvine, CA 92617
Attention: Sharon Wallin

Project ID: Omega Chemical Wastewater
IWP number 20039
Report Number: ISH1212

Sampled: 08/13/09
Received: 08/13/09

VOLATILE ORGANICS by GC/MS (EPA 5030B/8260B)

Analyte	Method	Batch	Reporting Limit	Sample Result	Dilution Factor	Date Extracted	Date Analyzed	Data Qualifiers
Sample ID: ISH1212-01 (OC-SP220A-EFF-081309 - Water) - cont.								
Reporting Units: ug/l								
Naphthalene	EPA 8260B	9H17022	1.0	ND	1	8/17/2009	8/18/2009	
n-Propylbenzene	EPA 8260B	9H17022	1.0	ND	1	8/17/2009	8/18/2009	
Styrene	EPA 8260B	9H17022	1.0	ND	1	8/17/2009	8/18/2009	
1,1,1,2-Tetrachloroethane	EPA 8260B	9H17022	1.0	ND	1	8/17/2009	8/18/2009	
1,1,2,2-Tetrachloroethane	EPA 8260B	9H17022	1.0	ND	1	8/17/2009	8/18/2009	
Tetrachloroethene	EPA 8260B	9H17022	1.0	ND	1	8/17/2009	8/18/2009	
Toluene	EPA 8260B	9H17022	1.0	ND	1	8/17/2009	8/18/2009	
1,2,3-Trichlorobenzene	EPA 8260B	9H17022	1.0	ND	1	8/17/2009	8/18/2009	
1,2,4-Trichlorobenzene	EPA 8260B	9H17022	1.0	ND	1	8/17/2009	8/18/2009	
1,1,1-Trichloroethane	EPA 8260B	9H17022	1.0	ND	1	8/17/2009	8/18/2009	
1,1,2-Trichloroethane	EPA 8260B	9H17022	1.0	ND	1	8/17/2009	8/18/2009	
Trichloroethene	EPA 8260B	9H17022	1.0	ND	1	8/17/2009	8/18/2009	
Trichlorofluoromethane	EPA 8260B	9H17022	1.0	ND	1	8/17/2009	8/18/2009	
1,2,3-Trichloropropane	EPA 8260B	9H17022	1.0	ND	1	8/17/2009	8/18/2009	
Trichlorotrifluoroethane (Freon 113)	EPA 8260B	9H17022	5.0	ND	1	8/17/2009	8/18/2009	
1,2,4-Trimethylbenzene	EPA 8260B	9H17022	1.0	ND	1	8/17/2009	8/18/2009	
1,3,5-Trimethylbenzene	EPA 8260B	9H17022	1.0	ND	1	8/17/2009	8/18/2009	
Vinyl chloride	EPA 8260B	9H17022	0.50	ND	1	8/17/2009	8/18/2009	
m,p-Xylenes	EPA 8260B	9H17022	1.0	ND	1	8/17/2009	8/18/2009	
o-Xylene	EPA 8260B	9H17022	1.0	ND	1	8/17/2009	8/18/2009	
Methyl-tert-butyl Ether (MTBE)	EPA 8260B	9H17022	1.0	ND	1	8/17/2009	8/18/2009	
Surrogate: 4-Bromofluorobenzene (80-120%)				*102 %*				
Surrogate: Dibromofluoromethane (80-120%)				*108 %*				
Surrogate: Toluene-d8 (80-120%)				*112 %*				

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Attention: Sharon Wallin

Project ID: Omega Chemical Wastewater
IWP number 20039
Report Number: ISH1212

Sampled: 08/13/09
Received: 08/13/09

VOLATILE ORGANICS by GC/MS (EPA 5030B/8260B)

Analyte	Method	Batch	Reporting Limit	Sample Result	Dilution Factor	Date Extracted	Date Analyzed	Data Qualifiers
Sample ID: ISH1212-02 (OC-TB-081309 - Water)								**P1**
Reporting Units: ug/l								
Acetone	EPA 8260B	9H17022	10	ND	1	8/17/2009	8/18/2009	
Benzene	EPA 8260B	9H17022	0.50	ND	1	8/17/2009	8/18/2009	
Bromobenzene	EPA 8260B	9H17022	1.0	ND	1	8/17/2009	8/18/2009	
Bromochloromethane	EPA 8260B	9H17022	1.0	ND	1	8/17/2009	8/18/2009	
Bromodichloromethane	EPA 8260B	9H17022	1.0	ND	1	8/17/2009	8/18/2009	
Bromoform	EPA 8260B	9H17022	1.0	ND	1	8/17/2009	8/18/2009	
Bromomethane	EPA 8260B	9H17022	1.0	ND	1	8/17/2009	8/18/2009	
n-Butylbenzene	EPA 8260B	9H17022	1.0	ND	1	8/17/2009	8/18/2009	
sec-Butylbenzene	EPA 8260B	9H17022	1.0	ND	1	8/17/2009	8/18/2009	
tert-Butylbenzene	EPA 8260B	9H17022	1.0	ND	1	8/17/2009	8/18/2009	
Carbon tetrachloride	EPA 8260B	9H17022	0.50	ND	1	8/17/2009	8/18/2009	
Chlorobenzene	EPA 8260B	9H17022	1.0	ND	1	8/17/2009	8/18/2009	
Chloroethane	EPA 8260B	9H17022	1.0	ND	1	8/17/2009	8/18/2009	
Chloroform	EPA 8260B	9H17022	1.0	ND	1	8/17/2009	8/18/2009	
Chloromethane	EPA 8260B	9H17022	1.0	ND	1	8/17/2009	8/18/2009	
2-Chlorotoluene	EPA 8260B	9H17022	1.0	ND	1	8/17/2009	8/18/2009	
4-Chlorotoluene	EPA 8260B	9H17022	1.0	ND	1	8/17/2009	8/18/2009	
1,2-Dibromo-3-chloropropane	EPA 8260B	9H17022	5.0	ND	1	8/17/2009	8/18/2009	
Dibromochloromethane	EPA 8260B	9H17022	1.0	ND	1	8/17/2009	8/18/2009	
1,2-Dibromoethane (EDB)	EPA 8260B	9H17022	1.0	ND	1	8/17/2009	8/18/2009	
Dibromomethane	EPA 8260B	9H17022	1.0	ND	1	8/17/2009	8/18/2009	
1,2-Dichlorobenzene	EPA 8260B	9H17022	1.0	ND	1	8/17/2009	8/18/2009	
1,3-Dichlorobenzene	EPA 8260B	9H17022	1.0	ND	1	8/17/2009	8/18/2009	
1,4-Dichlorobenzene	EPA 8260B	9H17022	1.0	ND	1	8/17/2009	8/18/2009	
Dichlorodifluoromethane	EPA 8260B	9H17022	5.0	ND	1	8/17/2009	8/18/2009	
1,1-Dichloroethane	EPA 8260B	9H17022	1.0	ND	1	8/17/2009	8/18/2009	
1,2-Dichloroethane	EPA 8260B	9H17022	0.50	ND	1	8/17/2009	8/18/2009	
1,1-Dichloroethene	EPA 8260B	9H17022	1.0	ND	1	8/17/2009	8/18/2009	
cis-1,2-Dichloroethene	EPA 8260B	9H17022	1.0	ND	1	8/17/2009	8/18/2009	
trans-1,2-Dichloroethene	EPA 8260B	9H17022	1.0	ND	1	8/17/2009	8/18/2009	
1,2-Dichloropropane	EPA 8260B	9H17022	1.0	ND	1	8/17/2009	8/18/2009	
1,3-Dichloropropane	EPA 8260B	9H17022	1.0	ND	1	8/17/2009	8/18/2009	
2,2-Dichloropropane	EPA 8260B	9H17022	1.0	ND	1	8/17/2009	8/18/2009	
cis-1,3-Dichloropropene	EPA 8260B	9H17022	0.50	ND	1	8/17/2009	8/18/2009	
trans-1,3-Dichloropropene	EPA 8260B	9H17022	0.50	ND	1	8/17/2009	8/18/2009	
1,1-Dichloropropene	EPA 8260B	9H17022	1.0	ND	1	8/17/2009	8/18/2009	
Ethylbenzene	EPA 8260B	9H17022	1.0	ND	1	8/17/2009	8/18/2009	
Hexachlorobutadiene	EPA 8260B	9H17022	1.0	ND	1	8/17/2009	8/18/2009	
Isopropylbenzene	EPA 8260B	9H17022	1.0	ND	1	8/17/2009	8/18/2009	
p-Isopropyltoluene	EPA 8260B	9H17022	1.0	ND	1	8/17/2009	8/18/2009	
Methylene chloride	EPA 8260B	9H17022	5.0	ND	1	8/17/2009	8/18/2009	

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Irvine, CA 92617
Attention: Sharon Wallin

Project ID: Omega Chemical Wastewater
IWP number 20039
Report Number: ISH1212

Sampled: 08/13/09
Received: 08/13/09

VOLATILE ORGANICS by GC/MS (EPA 5030B/8260B)

Analyte	Method	Batch	Reporting Limit	Sample Result	Dilution Factor	Date Extracted	Date Analyzed	Data Qualifiers
Sample ID: ISH1212-02 (OC-TB-081309 - Water) - cont.								**P1**
Reporting Units: ug/l								
Naphthalene	EPA 8260B	9H17022	1.0	ND	1	8/17/2009	8/18/2009	
n-Propylbenzene	EPA 8260B	9H17022	1.0	ND	1	8/17/2009	8/18/2009	
Styrene	EPA 8260B	9H17022	1.0	ND	1	8/17/2009	8/18/2009	
1,1,1,2-Tetrachloroethane	EPA 8260B	9H17022	1.0	ND	1	8/17/2009	8/18/2009	
1,1,2,2-Tetrachloroethane	EPA 8260B	9H17022	1.0	ND	1	8/17/2009	8/18/2009	
Tetrachloroethene	EPA 8260B	9H17022	1.0	ND	1	8/17/2009	8/18/2009	
Toluene	EPA 8260B	9H17022	1.0	ND	1	8/17/2009	8/18/2009	
1,2,3-Trichlorobenzene	EPA 8260B	9H17022	1.0	ND	1	8/17/2009	8/18/2009	
1,2,4-Trichlorobenzene	EPA 8260B	9H17022	1.0	ND	1	8/17/2009	8/18/2009	
1,1,1-Trichloroethane	EPA 8260B	9H17022	1.0	ND	1	8/17/2009	8/18/2009	
1,1,2-Trichloroethane	EPA 8260B	9H17022	1.0	ND	1	8/17/2009	8/18/2009	
Trichloroethene	EPA 8260B	9H17022	1.0	ND	1	8/17/2009	8/18/2009	
Trichlorofluoromethane	EPA 8260B	9H17022	1.0	ND	1	8/17/2009	8/18/2009	
1,2,3-Trichloropropane	EPA 8260B	9H17022	1.0	ND	1	8/17/2009	8/18/2009	
Trichlorotrifluoroethane (Freon 113)	EPA 8260B	9H17022	5.0	ND	1	8/17/2009	8/18/2009	
1,2,4-Trimethylbenzene	EPA 8260B	9H17022	1.0	ND	1	8/17/2009	8/18/2009	
1,3,5-Trimethylbenzene	EPA 8260B	9H17022	1.0	ND	1	8/17/2009	8/18/2009	
Vinyl chloride	EPA 8260B	9H17022	0.50	ND	1	8/17/2009	8/18/2009	
m,p-Xylenes	EPA 8260B	9H17022	1.0	ND	1	8/17/2009	8/18/2009	
o-Xylene	EPA 8260B	9H17022	1.0	ND	1	8/17/2009	8/18/2009	
Methyl-tert-butyl Ether (MTBE)	EPA 8260B	9H17022	1.0	ND	1	8/17/2009	8/18/2009	
Surrogate: 4-Bromofluorobenzene (80-120%)				*103 %*				
Surrogate: Dibromofluoromethane (80-120%)				*107 %*				
Surrogate: Toluene-d8 (80-120%)				*113 %*				

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Project ID: Omega Chemical Wastewater
IWP number 20039
Report Number: ISH1212

Sampled: 08/13/09
Received: 08/13/09

VOLATILE ORGANICS by GC/MS (EPA 5030B/8260B)

Analyte	Method	Batch	Reporting Limit	Sample Result	Dilution Factor	Date Extracted	Date Analyzed	Data Qualifiers
Sample ID: ISH1212-03 (OC-EW1-SP110-081309 - Water)								
Reporting Units: ug/l								
Tetrachloroethene	EPA 8260B	9H17022	20	**1100**	20	8/17/2009	8/18/2009	
Surrogate: 4-Bromofluorobenzene (80-120%)				*102 %*				
Surrogate: Dibromofluoromethane (80-120%)				*107 %*				
Surrogate: Toluene-d8 (80-120%)				*111 %*				
Sample ID: ISH1212-03RE1 (OC-EW1-SP110-081309 - Water)								
Reporting Units: ug/l								
Acetone	EPA 8260B	9H17022	40	ND	4	8/17/2009	8/18/2009	
Benzene	EPA 8260B	9H17022	2.0	ND	4	8/17/2009	8/18/2009	
Bromobenzene	EPA 8260B	9H17022	4.0	ND	4	8/17/2009	8/18/2009	
Bromochloromethane	EPA 8260B	9H17022	4.0	ND	4	8/17/2009	8/18/2009	
Bromodichloromethane	EPA 8260B	9H17022	4.0	ND	4	8/17/2009	8/18/2009	
Bromoform	EPA 8260B	9H17022	4.0	ND	4	8/17/2009	8/18/2009	
Bromomethane	EPA 8260B	9H17022	4.0	ND	4	8/17/2009	8/18/2009	
n-Butylbenzene	EPA 8260B	9H17022	4.0	ND	4	8/17/2009	8/18/2009	
sec-Butylbenzene	EPA 8260B	9H17022	4.0	ND	4	8/17/2009	8/18/2009	
tert-Butylbenzene	EPA 8260B	9H17022	4.0	ND	4	8/17/2009	8/18/2009	
Carbon tetrachloride	EPA 8260B	9H17022	2.0	ND	4	8/17/2009	8/18/2009	
Chlorobenzene	EPA 8260B	9H17022	4.0	ND	4	8/17/2009	8/18/2009	
Chloroethane	EPA 8260B	9H17022	4.0	ND	4	8/17/2009	8/18/2009	
Chloroform	EPA 8260B	9H17022	4.0	**17**	4	8/17/2009	8/18/2009	
Chloromethane	EPA 8260B	9H17022	4.0	ND	4	8/17/2009	8/18/2009	
2-Chlorotoluene	EPA 8260B	9H17022	4.0	ND	4	8/17/2009	8/18/2009	
4-Chlorotoluene	EPA 8260B	9H17022	4.0	ND	4	8/17/2009	8/18/2009	
1,2-Dibromo-3-chloropropane	EPA 8260B	9H17022	20	ND	4	8/17/2009	8/18/2009	
Dibromochloromethane	EPA 8260B	9H17022	4.0	ND	4	8/17/2009	8/18/2009	
1,2-Dibromoethane (EDB)	EPA 8260B	9H17022	4.0	ND	4	8/17/2009	8/18/2009	
Dibromomethane	EPA 8260B	9H17022	4.0	ND	4	8/17/2009	8/18/2009	
1,2-Dichlorobenzene	EPA 8260B	9H17022	4.0	ND	4	8/17/2009	8/18/2009	
1,3-Dichlorobenzene	EPA 8260B	9H17022	4.0	ND	4	8/17/2009	8/18/2009	
1,4-Dichlorobenzene	EPA 8260B	9H17022	4.0	ND	4	8/17/2009	8/18/2009	
Dichlorodifluoromethane	EPA 8260B	9H17022	20	ND	4	8/17/2009	8/18/2009	
1,1-Dichloroethane	EPA 8260B	9H17022	4.0	ND	4	8/17/2009	8/18/2009	
1,2-Dichloroethane	EPA 8260B	9H17022	2.0	**3.8**	4	8/17/2009	8/18/2009	
1,1-Dichloroethene	EPA 8260B	9H17022	4.0	**72**	4	8/17/2009	8/18/2009	
cis-1,2-Dichloroethene	EPA 8260B	9H17022	4.0	ND	4	8/17/2009	8/18/2009	
trans-1,2-Dichloroethene	EPA 8260B	9H17022	4.0	ND	4	8/17/2009	8/18/2009	
1,2-Dichloropropane	EPA 8260B	9H17022	4.0	ND	4	8/17/2009	8/18/2009	
1,3-Dichloropropane	EPA 8260B	9H17022	4.0	ND	4	8/17/2009	8/18/2009	
2,2-Dichloropropane	EPA 8260B	9H17022	4.0	ND	4	8/17/2009	8/18/2009	
cis-1,3-Dichloropropene	EPA 8260B	9H17022	2.0	ND	4	8/17/2009	8/18/2009	

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Project ID: Omega Chemical Wastewater
IWP number 20039
Report Number: ISH1212

Sampled: 08/13/09
Received: 08/13/09

VOLATILE ORGANICS by GC/MS (EPA 5030B/8260B)

Analyte	Method	Batch	Reporting Limit	Sample Result	Dilution Factor	Date Extracted	Date Analyzed	Data Qualifiers
Sample ID: ISH1212-03RE1 (OC-EW1-SP110-081309 - Water) - cont.								
Reporting Units: ug/l								
trans-1,3-Dichloropropene	EPA 8260B	9H17022	2.0	ND	4	8/17/2009	8/18/2009	
1,1-Dichloropropene	EPA 8260B	9H17022	4.0	ND	4	8/17/2009	8/18/2009	
Ethylbenzene	EPA 8260B	9H17022	4.0	ND	4	8/17/2009	8/18/2009	
Hexachlorobutadiene	EPA 8260B	9H17022	4.0	ND	4	8/17/2009	8/18/2009	
Isopropylbenzene	EPA 8260B	9H17022	4.0	ND	4	8/17/2009	8/18/2009	
p-Isopropyltoluene	EPA 8260B	9H17022	4.0	ND	4	8/17/2009	8/18/2009	
Methylene chloride	EPA 8260B	9H17022	20	ND	4	8/17/2009	8/18/2009	
Naphthalene	EPA 8260B	9H17022	4.0	ND	4	8/17/2009	8/18/2009	
n-Propylbenzene	EPA 8260B	9H17022	4.0	ND	4	8/17/2009	8/18/2009	
Styrene	EPA 8260B	9H17022	4.0	ND	4	8/17/2009	8/18/2009	
1,1,1,2-Tetrachloroethane	EPA 8260B	9H17022	4.0	ND	4	8/17/2009	8/18/2009	
1,1,2,2-Tetrachloroethane	EPA 8260B	9H17022	4.0	ND	4	8/17/2009	8/18/2009	
Toluene	EPA 8260B	9H17022	4.0	ND	4	8/17/2009	8/18/2009	
1,2,3-Trichlorobenzene	EPA 8260B	9H17022	4.0	ND	4	8/17/2009	8/18/2009	
1,2,4-Trichlorobenzene	EPA 8260B	9H17022	4.0	ND	4	8/17/2009	8/18/2009	
1,1,1-Trichloroethane	EPA 8260B	9H17022	4.0	ND	4	8/17/2009	8/18/2009	
1,1,2-Trichloroethane	EPA 8260B	9H17022	4.0	ND	4	8/17/2009	8/18/2009	
Trichloroethene	EPA 8260B	9H17022	4.0	**80**	4	8/17/2009	8/18/2009	
Trichlorofluoromethane	EPA 8260B	9H17022	4.0	**71**	4	8/17/2009	8/18/2009	
1,2,3-Trichloropropane	EPA 8260B	9H17022	4.0	ND	4	8/17/2009	8/18/2009	
Trichlorotrifluoroethane (Freon 113)	EPA 8260B	9H17022	20	**360**	4	8/17/2009	8/18/2009	
1,2,4-Trimethylbenzene	EPA 8260B	9H17022	4.0	ND	4	8/17/2009	8/18/2009	
1,3,5-Trimethylbenzene	EPA 8260B	9H17022	4.0	ND	4	8/17/2009	8/18/2009	
Vinyl chloride	EPA 8260B	9H17022	2.0	ND	4	8/17/2009	8/18/2009	
m,p-Xylenes	EPA 8260B	9H17022	4.0	ND	4	8/17/2009	8/18/2009	
o-Xylene	EPA 8260B	9H17022	4.0	ND	4	8/17/2009	8/18/2009	
Methyl-tert-butyl Ether (MTBE)	EPA 8260B	9H17022	4.0	ND	4	8/17/2009	8/18/2009	
Surrogate: 4-Bromofluorobenzene (80-120%)				*101 %*				
Surrogate: Dibromofluoromethane (80-120%)				*108 %*				
Surrogate: Toluene-d8 (80-120%)				*112 %*				

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Kathleen A. Robb For Patty Mata
Project Manager

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TestAmerica
THE LEADER IN ENVIRONMENTAL TESTING
17461 Derian Avenue. Suite 100, Irvine, CA 92614 (949) 261-1022 Fax:(949) 260-3297

Camp, Dresser & McKee
111 Academy, Ste 150
Irvine, CA 92617
Attention: Sharon Wallin

Project ID: Omega Chemical Wastewater
IWP number 20039
Report Number: ISH1212

Sampled: 08/13/09
Received: 08/13/09

VOLATILE ORGANICS by GC/MS (EPA 5030B/8260B)

Analyte	Method	Batch	Reporting Limit	Sample Result	Dilution Factor	Date Extracted	Date Analyzed	Data Qualifiers
Sample ID: ISH1212-04 (OC-EW2-SP120-081309 - Water)								
Reporting Units: ug/l								
Tetrachloroethene	EPA 8260B	9H17022	200	**13000**	200	8/17/2009	8/18/2009	
Surrogate: 4-Bromofluorobenzene (80-120%)				*101 %*				
Surrogate: Dibromofluoromethane (80-120%)				*107 %*				
Surrogate: Toluene-d8 (80-120%)				*112 %*				
Sample ID: ISH1212-04RE1 (OC-EW2-SP120-081309 - Water)								
Reporting Units: ug/l								
Acetone	EPA 8260B	9H17022	400	ND	40	8/17/2009	8/18/2009	
Benzene	EPA 8260B	9H17022	20	ND	40	8/17/2009	8/18/2009	
Bromobenzene	EPA 8260B	9H17022	40	ND	40	8/17/2009	8/18/2009	
Bromochloromethane	EPA 8260B	9H17022	40	ND	40	8/17/2009	8/18/2009	
Bromodichloromethane	EPA 8260B	9H17022	40	ND	40	8/17/2009	8/18/2009	
Bromoform	EPA 8260B	9H17022	40	ND	40	8/17/2009	8/18/2009	
Bromomethane	EPA 8260B	9H17022	40	ND	40	8/17/2009	8/18/2009	
n-Butylbenzene	EPA 8260B	9H17022	40	ND	40	8/17/2009	8/18/2009	
sec-Butylbenzene	EPA 8260B	9H17022	40	ND	40	8/17/2009	8/18/2009	
tert-Butylbenzene	EPA 8260B	9H17022	40	ND	40	8/17/2009	8/18/2009	
Carbon tetrachloride	EPA 8260B	9H17022	20	ND	40	8/17/2009	8/18/2009	
Chlorobenzene	EPA 8260B	9H17022	40	ND	40	8/17/2009	8/18/2009	
Chloroethane	EPA 8260B	9H17022	40	ND	40	8/17/2009	8/18/2009	
Chloroform	EPA 8260B	9H17022	40	**390**	40	8/17/2009	8/18/2009	
Chloromethane	EPA 8260B	9H17022	40	ND	40	8/17/2009	8/18/2009	
2-Chlorotoluene	EPA 8260B	9H17022	40	ND	40	8/17/2009	8/18/2009	
4-Chlorotoluene	EPA 8260B	9H17022	40	ND	40	8/17/2009	8/18/2009	
1,2-Dibromo-3-chloropropane	EPA 8260B	9H17022	200	ND	40	8/17/2009	8/18/2009	
Dibromochloromethane	EPA 8260B	9H17022	40	ND	40	8/17/2009	8/18/2009	
1,2-Dibromoethane (EDB)	EPA 8260B	9H17022	40	ND	40	8/17/2009	8/18/2009	
Dibromomethane	EPA 8260B	9H17022	40	ND	40	8/17/2009	8/18/2009	
1,2-Dichlorobenzene	EPA 8260B	9H17022	40	ND	40	8/17/2009	8/18/2009	
1,3-Dichlorobenzene	EPA 8260B	9H17022	40	ND	40	8/17/2009	8/18/2009	
1,4-Dichlorobenzene	EPA 8260B	9H17022	40	ND	40	8/17/2009	8/18/2009	
Dichlorodifluoromethane	EPA 8260B	9H17022	200	ND	40	8/17/2009	8/18/2009	
1,1-Dichloroethane	EPA 8260B	9H17022	40	ND	40	8/17/2009	8/18/2009	
1,2-Dichloroethane	EPA 8260B	9H17022	20	**94**	40	8/17/2009	8/18/2009	
1,1-Dichloroethene	EPA 8260B	9H17022	40	**350**	40	8/17/2009	8/18/2009	
cis-1,2-Dichloroethene	EPA 8260B	9H17022	40	ND	40	8/17/2009	8/18/2009	
trans-1,2-Dichloroethene	EPA 8260B	9H17022	40	ND	40	8/17/2009	8/18/2009	
1,2-Dichloropropane	EPA 8260B	9H17022	40	ND	40	8/17/2009	8/18/2009	
1,3-Dichloropropane	EPA 8260B	9H17022	40	ND	40	8/17/2009	8/18/2009	
2,2-Dichloropropane	EPA 8260B	9H17022	40	ND	40	8/17/2009	8/18/2009	
cis-1,3-Dichloropropene	EPA 8260B	9H17022	20	ND	40	8/17/2009	8/18/2009	

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Camp, Dresser & McKee
111 Academy, Ste 150
Irvine, CA 92617
Attention: Sharon Wallin

Project ID: Omega Chemical Wastewater
IWP number 20039
Report Number: ISH1212

Sampled: 08/13/09
Received: 08/13/09

VOLATILE ORGANICS by GC/MS (EPA 5030B/8260B)

Analyte	Method	Batch	Reporting Limit	Sample Result	Dilution Factor	Date Extracted	Date Analyzed	Data Qualifiers
Sample ID: ISH1212-04RE1 (OC-EW2-SP120-081309 - Water) - cont.								
Reporting Units: ug/l								
trans-1,3-Dichloropropene	EPA 8260B	9H17022	20	ND	40	8/17/2009	8/18/2009	
1,1-Dichloropropene	EPA 8260B	9H17022	40	ND	40	8/17/2009	8/18/2009	
Ethylbenzene	EPA 8260B	9H17022	40	ND	40	8/17/2009	8/18/2009	
Hexachlorobutadiene	EPA 8260B	9H17022	40	ND	40	8/17/2009	8/18/2009	
Isopropylbenzene	EPA 8260B	9H17022	40	ND	40	8/17/2009	8/18/2009	
p-Isopropyltoluene	EPA 8260B	9H17022	40	ND	40	8/17/2009	8/18/2009	
Methylene chloride	EPA 8260B	9H17022	200	ND	40	8/17/2009	8/18/2009	
Naphthalene	EPA 8260B	9H17022	40	ND	40	8/17/2009	8/18/2009	
n-Propylbenzene	EPA 8260B	9H17022	40	ND	40	8/17/2009	8/18/2009	
Styrene	EPA 8260B	9H17022	40	ND	40	8/17/2009	8/18/2009	
1,1,1,2-Tetrachloroethane	EPA 8260B	9H17022	40	ND	40	8/17/2009	8/18/2009	
1,1,2,2-Tetrachloroethane	EPA 8260B	9H17022	40	ND	40	8/17/2009	8/18/2009	
Toluene	EPA 8260B	9H17022	40	ND	40	8/17/2009	8/18/2009	
1,2,3-Trichlorobenzene	EPA 8260B	9H17022	40	ND	40	8/17/2009	8/18/2009	
1,2,4-Trichlorobenzene	EPA 8260B	9H17022	40	ND	40	8/17/2009	8/18/2009	
1,1,1-Trichloroethane	EPA 8260B	9H17022	40	ND	40	8/17/2009	8/18/2009	
1,1,2-Trichloroethane	EPA 8260B	9H17022	40	ND	40	8/17/2009	8/18/2009	
Trichloroethene	EPA 8260B	9H17022	40	**520**	40	8/17/2009	8/18/2009	
Trichlorofluoromethane	EPA 8260B	9H17022	40	**200**	40	8/17/2009	8/18/2009	
1,2,3-Trichloropropane	EPA 8260B	9H17022	40	ND	40	8/17/2009	8/18/2009	
Trichlorotrifluoroethane (Freon 113)	EPA 8260B	9H17022	200	**1000**	40	8/17/2009	8/18/2009	
1,2,4-Trimethylbenzene	EPA 8260B	9H17022	40	ND	40	8/17/2009	8/18/2009	
1,3,5-Trimethylbenzene	EPA 8260B	9H17022	40	ND	40	8/17/2009	8/18/2009	
Vinyl chloride	EPA 8260B	9H17022	20	ND	40	8/17/2009	8/18/2009	
m,p-Xylenes	EPA 8260B	9H17022	40	ND	40	8/17/2009	8/18/2009	
o-Xylene	EPA 8260B	9H17022	40	ND	40	8/17/2009	8/18/2009	
Methyl-tert-butyl Ether (MTBE)	EPA 8260B	9H17022	40	ND	40	8/17/2009	8/18/2009	
Surrogate: 4-Bromofluorobenzene (80-120%)				*100 %*				
Surrogate: Dibromofluoromethane (80-120%)				*112 %*				
Surrogate: Toluene-d8 (80-120%)				*112 %*				

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Project Manager

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Camp, Dresser & McKee
111 Academy, Ste 150
Irvine, CA 92617
Attention: Sharon Wallin

Project ID: Omega Chemical Wastewater
IWP number 20039
Report Number: ISH1212

Sampled: 08/13/09
Received: 08/13/09

VOLATILE ORGANICS by GC/MS (EPA 5030B/8260B)

Analyte	Method	Batch	Reporting Limit	Sample Result	Dilution Factor	Date Extracted	Date Analyzed	Data Qualifiers
Sample ID: ISH1212-05 (OC-EW3-SP130-081309 - Water)								
Reporting Units: ug/l								
Tetrachloroethene	EPA 8260B	9H19024	50	**2700**	50	8/19/2009	8/19/2009	
Surrogate: 4-Bromofluorobenzene (80-120%)				*97 %*				
Surrogate: Dibromofluoromethane (80-120%)				*95 %*				
Surrogate: Toluene-d8 (80-120%)				*106 %*				
Sample ID: ISH1212-05RE1 (OC-EW3-SP130-081309 - Water)								
Reporting Units: ug/l								
Acetone	EPA 8260B	9H19024	50	ND	5	8/19/2009	8/19/2009	
Benzene	EPA 8260B	9H19024	2.5	ND	5	8/19/2009	8/19/2009	
Bromobenzene	EPA 8260B	9H19024	5.0	ND	5	8/19/2009	8/19/2009	
Bromochloromethane	EPA 8260B	9H19024	5.0	ND	5	8/19/2009	8/19/2009	
Bromodichloromethane	EPA 8260B	9H19024	5.0	ND	5	8/19/2009	8/19/2009	
Bromoform	EPA 8260B	9H19024	5.0	ND	5	8/19/2009	8/19/2009	
Bromomethane	EPA 8260B	9H19024	5.0	ND	5	8/19/2009	8/19/2009	
n-Butylbenzene	EPA 8260B	9H19024	5.0	ND	5	8/19/2009	8/19/2009	
sec-Butylbenzene	EPA 8260B	9H19024	5.0	ND	5	8/19/2009	8/19/2009	
tert-Butylbenzene	EPA 8260B	9H19024	5.0	ND	5	8/19/2009	8/19/2009	
Carbon tetrachloride	EPA 8260B	9H19024	2.5	ND	5	8/19/2009	8/19/2009	
Chlorobenzene	EPA 8260B	9H19024	5.0	ND	5	8/19/2009	8/19/2009	
Chloroethane	EPA 8260B	9H19024	5.0	ND	5	8/19/2009	8/19/2009	
Chloroform	EPA 8260B	9H19024	5.0	**32**	5	8/19/2009	8/19/2009	
Chloromethane	EPA 8260B	9H19024	5.0	ND	5	8/19/2009	8/19/2009	
2-Chlorotoluene	EPA 8260B	9H19024	5.0	ND	5	8/19/2009	8/19/2009	
4-Chlorotoluene	EPA 8260B	9H19024	5.0	ND	5	8/19/2009	8/19/2009	
1,2-Dibromo-3-chloropropane	EPA 8260B	9H19024	25	ND	5	8/19/2009	8/19/2009	
Dibromochloromethane	EPA 8260B	9H19024	5.0	ND	5	8/19/2009	8/19/2009	
1,2-Dibromoethane (EDB)	EPA 8260B	9H19024	5.0	ND	5	8/19/2009	8/19/2009	
Dibromomethane	EPA 8260B	9H19024	5.0	ND	5	8/19/2009	8/19/2009	
1,2-Dichlorobenzene	EPA 8260B	9H19024	5.0	ND	5	8/19/2009	8/19/2009	
1,3-Dichlorobenzene	EPA 8260B	9H19024	5.0	ND	5	8/19/2009	8/19/2009	
1,4-Dichlorobenzene	EPA 8260B	9H19024	5.0	ND	5	8/19/2009	8/19/2009	
Dichlorodifluoromethane	EPA 8260B	9H19024	25	ND	5	8/19/2009	8/19/2009	
1,1-Dichloroethane	EPA 8260B	9H19024	5.0	ND	5	8/19/2009	8/19/2009	
1,2-Dichloroethane	EPA 8260B	9H19024	2.5	ND	5	8/19/2009	8/19/2009	
1,1-Dichloroethene	EPA 8260B	9H19024	5.0	**520**	5	8/19/2009	8/19/2009	
cis-1,2-Dichloroethene	EPA 8260B	9H19024	5.0	ND	5	8/19/2009	8/19/2009	
trans-1,2-Dichloroethene	EPA 8260B	9H19024	5.0	ND	5	8/19/2009	8/19/2009	
1,2-Dichloropropane	EPA 8260B	9H19024	5.0	ND	5	8/19/2009	8/19/2009	
1,3-Dichloropropane	EPA 8260B	9H19024	5.0	ND	5	8/19/2009	8/19/2009	L
2,2-Dichloropropane	EPA 8260B	9H19024	5.0	ND	5	8/19/2009	8/19/2009	
cis-1,3-Dichloropropene	EPA 8260B	9H19024	2.5	ND	5	8/19/2009	8/19/2009	L

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Project Manager

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Camp, Dresser & McKee
111 Academy, Ste 150
Irvine, CA 92617
Attention: Sharon Wallin

Project ID: Omega Chemical Wastewater
IWP number 20039
Report Number: ISH1212

Sampled: 08/13/09
Received: 08/13/09

VOLATILE ORGANICS by GC/MS (EPA 5030B/8260B)

Analyte	Method	Batch	Reporting Limit	Sample Result	Dilution Factor	Date Extracted	Date Analyzed	Data Qualifiers
Sample ID: ISH1212-05RE1 (OC-EW3-SP130-081309 - Water) - cont.								
Reporting Units: ug/l								
trans-1,3-Dichloropropene	EPA 8260B	9H19024	2.5	ND	5	8/19/2009	8/19/2009	
1,1-Dichloropropene	EPA 8260B	9H19024	5.0	ND	5	8/19/2009	8/19/2009	
Ethylbenzene	EPA 8260B	9H19024	5.0	ND	5	8/19/2009	8/19/2009	
Hexachlorobutadiene	EPA 8260B	9H19024	5.0	ND	5	8/19/2009	8/19/2009	
Isopropylbenzene	EPA 8260B	9H19024	5.0	ND	5	8/19/2009	8/19/2009	
p-Isopropyltoluene	EPA 8260B	9H19024	5.0	ND	5	8/19/2009	8/19/2009	
Methylene chloride	EPA 8260B	9H19024	25	ND	5	8/19/2009	8/19/2009	
Naphthalene	EPA 8260B	9H19024	5.0	ND	5	8/19/2009	8/19/2009	
n-Propylbenzene	EPA 8260B	9H19024	5.0	ND	5	8/19/2009	8/19/2009	
Styrene	EPA 8260B	9H19024	5.0	ND	5	8/19/2009	8/19/2009	
1,1,1,2-Tetrachloroethane	EPA 8260B	9H19024	5.0	ND	5	8/19/2009	8/19/2009	
1,1,2,2-Tetrachloroethane	EPA 8260B	9H19024	5.0	ND	5	8/19/2009	8/19/2009	
Toluene	EPA 8260B	9H19024	5.0	ND	5	8/19/2009	8/19/2009	
1,2,3-Trichlorobenzene	EPA 8260B	9H19024	5.0	ND	5	8/19/2009	8/19/2009	
1,2,4-Trichlorobenzene	EPA 8260B	9H19024	5.0	ND	5	8/19/2009	8/19/2009	
1,1,1-Trichloroethane	EPA 8260B	9H19024	5.0	ND	5	8/19/2009	8/19/2009	
1,1,2-Trichloroethane	EPA 8260B	9H19024	5.0	ND	5	8/19/2009	8/19/2009	
Trichloroethene	EPA 8260B	9H19024	5.0	**190**	5	8/19/2009	8/19/2009	
Trichlorofluoromethane	EPA 8260B	9H19024	5.0	**170**	5	8/19/2009	8/19/2009	
1,2,3-Trichloropropane	EPA 8260B	9H19024	5.0	ND	5	8/19/2009	8/19/2009	
Trichlorotrifluoroethane (Freon 113)	EPA 8260B	9H19024	25	**320**	5	8/19/2009	8/19/2009	
1,2,4-Trimethylbenzene	EPA 8260B	9H19024	5.0	ND	5	8/19/2009	8/19/2009	
1,3,5-Trimethylbenzene	EPA 8260B	9H19024	5.0	ND	5	8/19/2009	8/19/2009	
Vinyl chloride	EPA 8260B	9H19024	2.5	ND	5	8/19/2009	8/19/2009	
m,p-Xylenes	EPA 8260B	9H19024	5.0	ND	5	8/19/2009	8/19/2009	
o-Xylene	EPA 8260B	9H19024	5.0	ND	5	8/19/2009	8/19/2009	
Methyl-tert-butyl Ether (MTBE)	EPA 8260B	9H19024	5.0	ND	5	8/19/2009	8/19/2009	
Surrogate: 4-Bromofluorobenzene (80-120%)				*95 %*				
Surrogate: Dibromofluoromethane (80-120%)				*96 %*				
Surrogate: Toluene-d8 (80-120%)				*107 %*				

TestAmerica Irvine

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Project Manager

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Irvine, CA 92617
Attention: Sharon Wallin

Project ID: Omega Chemical Wastewater
IWP number 20039
Report Number: ISH1212

Sampled: 08/13/09
Received: 08/13/09

VOLATILE ORGANICS by GC/MS (EPA 5030B/8260B)

Analyte	Method	Batch	Reporting Limit	Sample Result	Dilution Factor	Date Extracted	Date Analyzed	Data Qualifiers
Sample ID: ISH1212-06 (OC-EW4-SP140-081309 - Water)								
Reporting Units: ug/l								
1,1-Dichloroethene	EPA 8260B	9H17022	10	**420**	10	8/17/2009	8/18/2009	
Tetrachloroethene	EPA 8260B	9H17022	10	**1000**	10	8/17/2009	8/18/2009	
Surrogate: 4-Bromofluorobenzene (80-120%)				*101 %*				
Surrogate: Dibromofluoromethane (80-120%)				*107 %*				
Surrogate: Toluene-d8 (80-120%)				*111 %*				
Sample ID: ISH1212-06RE1 (OC-EW4-SP140-081309 - Water)								
Reporting Units: ug/l								
Acetone	EPA 8260B	9H17022	25	ND	2.5	8/17/2009	8/18/2009	
Benzene	EPA 8260B	9H17022	1.2	ND	2.5	8/17/2009	8/18/2009	
Bromobenzene	EPA 8260B	9H17022	2.5	ND	2.5	8/17/2009	8/18/2009	
Bromochloromethane	EPA 8260B	9H17022	2.5	ND	2.5	8/17/2009	8/18/2009	
Bromodichloromethane	EPA 8260B	9H17022	2.5	ND	2.5	8/17/2009	8/18/2009	
Bromoform	EPA 8260B	9H17022	2.5	ND	2.5	8/17/2009	8/18/2009	
Bromomethane	EPA 8260B	9H17022	2.5	ND	2.5	8/17/2009	8/18/2009	
n-Butylbenzene	EPA 8260B	9H17022	2.5	ND	2.5	8/17/2009	8/18/2009	
sec-Butylbenzene	EPA 8260B	9H17022	2.5	ND	2.5	8/17/2009	8/18/2009	
tert-Butylbenzene	EPA 8260B	9H17022	2.5	ND	2.5	8/17/2009	8/18/2009	
Carbon tetrachloride	EPA 8260B	9H17022	1.2	ND	2.5	8/17/2009	8/18/2009	
Chlorobenzene	EPA 8260B	9H17022	2.5	ND	2.5	8/17/2009	8/18/2009	
Chloroethane	EPA 8260B	9H17022	2.5	ND	2.5	8/17/2009	8/18/2009	
Chloroform	EPA 8260B	9H17022	2.5	**5.7**	2.5	8/17/2009	8/18/2009	
Chloromethane	EPA 8260B	9H17022	2.5	ND	2.5	8/17/2009	8/18/2009	
2-Chlorotoluene	EPA 8260B	9H17022	2.5	ND	2.5	8/17/2009	8/18/2009	
4-Chlorotoluene	EPA 8260B	9H17022	2.5	ND	2.5	8/17/2009	8/18/2009	
1,2-Dibromo-3-chloropropane	EPA 8260B	9H17022	12	ND	2.5	8/17/2009	8/18/2009	
Dibromochloromethane	EPA 8260B	9H17022	2.5	ND	2.5	8/17/2009	8/18/2009	
1,2-Dibromoethane (EDB)	EPA 8260B	9H17022	2.5	ND	2.5	8/17/2009	8/18/2009	
Dibromomethane	EPA 8260B	9H17022	2.5	ND	2.5	8/17/2009	8/18/2009	
1,2-Dichlorobenzene	EPA 8260B	9H17022	2.5	ND	2.5	8/17/2009	8/18/2009	
1,3-Dichlorobenzene	EPA 8260B	9H17022	2.5	ND	2.5	8/17/2009	8/18/2009	
1,4-Dichlorobenzene	EPA 8260B	9H17022	2.5	ND	2.5	8/17/2009	8/18/2009	
Dichlorodifluoromethane	EPA 8260B	9H17022	12	ND	2.5	8/17/2009	8/18/2009	
1,1-Dichloroethane	EPA 8260B	9H17022	2.5	ND	2.5	8/17/2009	8/18/2009	
1,2-Dichloroethane	EPA 8260B	9H17022	1.2	ND	2.5	8/17/2009	8/18/2009	
cis-1,2-Dichloroethene	EPA 8260B	9H17022	2.5	ND	2.5	8/17/2009	8/18/2009	
trans-1,2-Dichloroethene	EPA 8260B	9H17022	2.5	ND	2.5	8/17/2009	8/18/2009	
1,2-Dichloropropane	EPA 8260B	9H17022	2.5	ND	2.5	8/17/2009	8/18/2009	
1,3-Dichloropropane	EPA 8260B	9H17022	2.5	ND	2.5	8/17/2009	8/18/2009	
2,2-Dichloropropane	EPA 8260B	9H17022	2.5	ND	2.5	8/17/2009	8/18/2009	
cis-1,3-Dichloropropene	EPA 8260B	9H17022	1.2	ND	2.5	8/17/2009	8/18/2009	

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Project Manager

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THE LEADER IN ENVIRONMENTAL TESTING

17461 Derian Avenue. Suite 100, Irvine, CA 92614 (949) 261-1022 Fax:(949) 260-3297

Camp, Dresser & McKee
111 Academy, Ste 150
Irvine, CA 92617
Attention: Sharon Wallin

Project ID: Omega Chemical Wastewater
IWP number 20039
Report Number: ISH1212

Sampled: 08/13/09
Received: 08/13/09

VOLATILE ORGANICS by GC/MS (EPA 5030B/8260B)

Analyte	Method	Batch	Reporting Limit	Sample Result	Dilution Factor	Date Extracted	Date Analyzed	Data Qualifiers
Sample ID: ISH1212-06RE1 (OC-EW4-SP140-081309 - Water) - cont.								
Reporting Units: ug/l								
trans-1,3-Dichloropropene	EPA 8260B	9H17022	1.2	ND	2.5	8/17/2009	8/18/2009	
1,1-Dichloropropene	EPA 8260B	9H17022	2.5	ND	2.5	8/17/2009	8/18/2009	
Ethylbenzene	EPA 8260B	9H17022	2.5	ND	2.5	8/17/2009	8/18/2009	
Hexachlorobutadiene	EPA 8260B	9H17022	2.5	ND	2.5	8/17/2009	8/18/2009	
Isopropylbenzene	EPA 8260B	9H17022	2.5	ND	2.5	8/17/2009	8/18/2009	
p-Isopropyltoluene	EPA 8260B	9H17022	2.5	ND	2.5	8/17/2009	8/18/2009	
Methylene chloride	EPA 8260B	9H17022	12	ND	2.5	8/17/2009	8/18/2009	
Naphthalene	EPA 8260B	9H17022	2.5	ND	2.5	8/17/2009	8/18/2009	
n-Propylbenzene	EPA 8260B	9H17022	2.5	ND	2.5	8/17/2009	8/18/2009	
Styrene	EPA 8260B	9H17022	2.5	ND	2.5	8/17/2009	8/18/2009	
1,1,1,2-Tetrachloroethane	EPA 8260B	9H17022	2.5	ND	2.5	8/17/2009	8/18/2009	
1,1,2,2-Tetrachloroethane	EPA 8260B	9H17022	2.5	ND	2.5	8/17/2009	8/18/2009	
Toluene	EPA 8260B	9H17022	2.5	ND	2.5	8/17/2009	8/18/2009	
1,2,3-Trichlorobenzene	EPA 8260B	9H17022	2.5	ND	2.5	8/17/2009	8/18/2009	
1,2,4-Trichlorobenzene	EPA 8260B	9H17022	2.5	ND	2.5	8/17/2009	8/18/2009	
1,1,1-Trichloroethane	EPA 8260B	9H17022	2.5	ND	2.5	8/17/2009	8/18/2009	
1,1,2-Trichloroethane	EPA 8260B	9H17022	2.5	ND	2.5	8/17/2009	8/18/2009	
Trichloroethene	EPA 8260B	9H17022	2.5	**79**	2.5	8/17/2009	8/18/2009	
Trichlorofluoromethane	EPA 8260B	9H17022	2.5	**89**	2.5	8/17/2009	8/18/2009	
1,2,3-Trichloropropane	EPA 8260B	9H17022	2.5	ND	2.5	8/17/2009	8/18/2009	
Trichlorotrifluoroethane (Freon 113)	EPA 8260B	9H17022	12	**160**	2.5	8/17/2009	8/18/2009	
1,2,4-Trimethylbenzene	EPA 8260B	9H17022	2.5	ND	2.5	8/17/2009	8/18/2009	
1,3,5-Trimethylbenzene	EPA 8260B	9H17022	2.5	ND	2.5	8/17/2009	8/18/2009	
Vinyl chloride	EPA 8260B	9H17022	1.2	ND	2.5	8/17/2009	8/18/2009	
m,p-Xylenes	EPA 8260B	9H17022	2.5	ND	2.5	8/17/2009	8/18/2009	
o-Xylene	EPA 8260B	9H17022	2.5	ND	2.5	8/17/2009	8/18/2009	
Methyl-tert-butyl Ether (MTBE)	EPA 8260B	9H17022	2.5	ND	2.5	8/17/2009	8/18/2009	
Surrogate: 4-Bromofluorobenzene (80-120%)				*101 %*				
Surrogate: Dibromofluoromethane (80-120%)				*110 %*				
Surrogate: Toluene-d8 (80-120%)				*112 %*				

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Project Manager

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Camp, Dresser & McKee
111 Academy, Ste 150
Irvine, CA 92617
Attention: Sharon Wallin

Project ID: Omega Chemical Wastewater
IWP number 20039
Report Number: ISH1212

Sampled: 08/13/09
Received: 08/13/09

VOLATILE ORGANICS by GC/MS (EPA 5030B/8260B)

Analyte	Method	Batch	Reporting Limit	Sample Result	Dilution Factor	Date Extracted	Date Analyzed	Data Qualifiers
Sample ID: ISH1212-07 (OC-EW5-SP150-081309 - Water)								
Reporting Units: ug/l								
Acetone	EPA 8260B	9H17022	10	ND	1	8/17/2009	8/18/2009	
Benzene	EPA 8260B	9H17022	0.50	ND	1	8/17/2009	8/18/2009	
Bromobenzene	EPA 8260B	9H17022	1.0	ND	1	8/17/2009	8/18/2009	
Bromochloromethane	EPA 8260B	9H17022	1.0	ND	1	8/17/2009	8/18/2009	
Bromodichloromethane	EPA 8260B	9H17022	1.0	ND	1	8/17/2009	8/18/2009	
Bromoform	EPA 8260B	9H17022	1.0	ND	1	8/17/2009	8/18/2009	
Bromomethane	EPA 8260B	9H17022	1.0	ND	1	8/17/2009	8/18/2009	
n-Butylbenzene	EPA 8260B	9H17022	1.0	ND	1	8/17/2009	8/18/2009	
sec-Butylbenzene	EPA 8260B	9H17022	1.0	ND	1	8/17/2009	8/18/2009	
tert-Butylbenzene	EPA 8260B	9H17022	1.0	ND	1	8/17/2009	8/18/2009	
Carbon tetrachloride	EPA 8260B	9H17022	0.50	ND	1	8/17/2009	8/18/2009	
Chlorobenzene	EPA 8260B	9H17022	1.0	ND	1	8/17/2009	8/18/2009	
Chloroethane	EPA 8260B	9H17022	1.0	ND	1	8/17/2009	8/18/2009	
Chloroform	EPA 8260B	9H17022	1.0	ND	1	8/17/2009	8/18/2009	
Chloromethane	EPA 8260B	9H17022	1.0	ND	1	8/17/2009	8/18/2009	
2-Chlorotoluene	EPA 8260B	9H17022	1.0	ND	1	8/17/2009	8/18/2009	
4-Chlorotoluene	EPA 8260B	9H17022	1.0	ND	1	8/17/2009	8/18/2009	
1,2-Dibromo-3-chloropropane	EPA 8260B	9H17022	5.0	ND	1	8/17/2009	8/18/2009	
Dibromochloromethane	EPA 8260B	9H17022	1.0	ND	1	8/17/2009	8/18/2009	
1,2-Dibromoethane (EDB)	EPA 8260B	9H17022	1.0	ND	1	8/17/2009	8/18/2009	
Dibromomethane	EPA 8260B	9H17022	1.0	ND	1	8/17/2009	8/18/2009	
1,2-Dichlorobenzene	EPA 8260B	9H17022	1.0	ND	1	8/17/2009	8/18/2009	
1,3-Dichlorobenzene	EPA 8260B	9H17022	1.0	ND	1	8/17/2009	8/18/2009	
1,4-Dichlorobenzene	EPA 8260B	9H17022	1.0	ND	1	8/17/2009	8/18/2009	
Dichlorodifluoromethane	EPA 8260B	9H17022	5.0	ND	1	8/17/2009	8/18/2009	
1,1-Dichloroethane	EPA 8260B	9H17022	1.0	ND	1	8/17/2009	8/18/2009	
1,2-Dichloroethane	EPA 8260B	9H17022	0.50	ND	1	8/17/2009	8/18/2009	
1,1-Dichloroethene	EPA 8260B	9H17022	1.0	**61**	1	8/17/2009	8/18/2009	
cis-1,2-Dichloroethene	EPA 8260B	9H17022	1.0	ND	1	8/17/2009	8/18/2009	
trans-1,2-Dichloroethene	EPA 8260B	9H17022	1.0	ND	1	8/17/2009	8/18/2009	
1,2-Dichloropropane	EPA 8260B	9H17022	1.0	ND	1	8/17/2009	8/18/2009	
1,3-Dichloropropane	EPA 8260B	9H17022	1.0	ND	1	8/17/2009	8/18/2009	
2,2-Dichloropropane	EPA 8260B	9H17022	1.0	ND	1	8/17/2009	8/18/2009	
cis-1,3-Dichloropropene	EPA 8260B	9H17022	0.50	ND	1	8/17/2009	8/18/2009	
trans-1,3-Dichloropropene	EPA 8260B	9H17022	0.50	ND	1	8/17/2009	8/18/2009	
1,1-Dichloropropene	EPA 8260B	9H17022	1.0	ND	1	8/17/2009	8/18/2009	
Ethylbenzene	EPA 8260B	9H17022	1.0	ND	1	8/17/2009	8/18/2009	
Hexachlorobutadiene	EPA 8260B	9H17022	1.0	ND	1	8/17/2009	8/18/2009	
Isopropylbenzene	EPA 8260B	9H17022	1.0	ND	1	8/17/2009	8/18/2009	
p-Isopropyltoluene	EPA 8260B	9H17022	1.0	ND	1	8/17/2009	8/18/2009	
Methylene chloride	EPA 8260B	9H17022	5.0	ND	1	8/17/2009	8/18/2009	

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Camp, Dresser & McKee
111 Academy, Ste 150
Irvine, CA 92617
Attention: Sharon Wallin

Project ID: Omega Chemical Wastewater
IWP number 20039
Report Number: ISH1212

Sampled: 08/13/09
Received: 08/13/09

VOLATILE ORGANICS by GC/MS (EPA 5030B/8260B)

Analyte	Method	Batch	Reporting Limit	Sample Result	Dilution Factor	Date Extracted	Date Analyzed	Data Qualifiers
Sample ID: ISH1212-07 (OC-EW5-SP150-081309 - Water) - cont.								
Reporting Units: ug/l								
Naphthalene	EPA 8260B	9H17022	1.0	ND	1	8/17/2009	8/18/2009	
n-Propylbenzene	EPA 8260B	9H17022	1.0	ND	1	8/17/2009	8/18/2009	
Styrene	EPA 8260B	9H17022	1.0	ND	1	8/17/2009	8/18/2009	
1,1,1,2-Tetrachloroethane	EPA 8260B	9H17022	1.0	ND	1	8/17/2009	8/18/2009	
1,1,2,2-Tetrachloroethane	EPA 8260B	9H17022	1.0	ND	1	8/17/2009	8/18/2009	
Tetrachloroethene	EPA 8260B	9H17022	1.0	**93**	1	8/17/2009	8/18/2009	
Toluene	EPA 8260B	9H17022	1.0	ND	1	8/17/2009	8/18/2009	
1,2,3-Trichlorobenzene	EPA 8260B	9H17022	1.0	ND	1	8/17/2009	8/18/2009	
1,2,4-Trichlorobenzene	EPA 8260B	9H17022	1.0	ND	1	8/17/2009	8/18/2009	
1,1,1-Trichloroethane	EPA 8260B	9H17022	1.0	ND	1	8/17/2009	8/18/2009	
1,1,2-Trichloroethane	EPA 8260B	9H17022	1.0	ND	1	8/17/2009	8/18/2009	
Trichloroethene	EPA 8260B	9H17022	1.0	**10**	1	8/17/2009	8/18/2009	
Trichlorofluoromethane	EPA 8260B	9H17022	1.0	**53**	1	8/17/2009	8/18/2009	
1,2,3-Trichloropropane	EPA 8260B	9H17022	1.0	ND	1	8/17/2009	8/18/2009	
Trichlorotrifluoroethane (Freon 113)	EPA 8260B	9H17022	5.0	**78**	1	8/17/2009	8/18/2009	
1,2,4-Trimethylbenzene	EPA 8260B	9H17022	1.0	ND	1	8/17/2009	8/18/2009	
1,3,5-Trimethylbenzene	EPA 8260B	9H17022	1.0	ND	1	8/17/2009	8/18/2009	
Vinyl chloride	EPA 8260B	9H17022	0.50	ND	1	8/17/2009	8/18/2009	
m,p-Xylenes	EPA 8260B	9H17022	1.0	ND	1	8/17/2009	8/18/2009	
o-Xylene	EPA 8260B	9H17022	1.0	ND	1	8/17/2009	8/18/2009	
Methyl-tert-butyl Ether (MTBE)	EPA 8260B	9H17022	1.0	ND	1	8/17/2009	8/18/2009	
Surrogate: 4-Bromofluorobenzene (80-120%)				*101 %*				
Surrogate: Dibromofluoromethane (80-120%)				*107 %*				
Surrogate: Toluene-d8 (80-120%)				*112 %*				

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Irvine, CA 92617
Attention: Sharon Wallin

Project ID: Omega Chemical Wastewater
IWP number 20039
Report Number: ISH1212

Sampled: 08/13/09
Received: 08/13/09

VOLATILE ORGANICS by GC/MS (EPA 5030B/8260B)

Analyte	Method	Batch	Reporting Limit	Sample Result	Dilution Factor	Date Extracted	Date Analyzed	Data Qualifiers
Sample ID: ISH1212-08 (OC-SP200-INF-081309 - Water)								
Reporting Units: ug/l								
Tetrachloroethene	EPA 8260B	9H17022	100	**5400**	100	8/17/2009	8/18/2009	
Surrogate: 4-Bromofluorobenzene (80-120%)				*102 %*				
Surrogate: Dibromofluoromethane (80-120%)				*108 %*				
Surrogate: Toluene-d8 (80-120%)				*113 %*				
Sample ID: ISH1212-08RE1 (OC-SP200-INF-081309 - Water)								
Reporting Units: ug/l								
Acetone	EPA 8260B	9H17022	200	ND	20	8/17/2009	8/18/2009	
Benzene	EPA 8260B	9H17022	10	ND	20	8/17/2009	8/18/2009	
Bromobenzene	EPA 8260B	9H17022	20	ND	20	8/17/2009	8/18/2009	
Bromochloromethane	EPA 8260B	9H17022	20	ND	20	8/17/2009	8/18/2009	
Bromodichloromethane	EPA 8260B	9H17022	20	ND	20	8/17/2009	8/18/2009	
Bromoform	EPA 8260B	9H17022	20	ND	20	8/17/2009	8/18/2009	
Bromomethane	EPA 8260B	9H17022	20	ND	20	8/17/2009	8/18/2009	
n-Butylbenzene	EPA 8260B	9H17022	20	ND	20	8/17/2009	8/18/2009	
sec-Butylbenzene	EPA 8260B	9H17022	20	ND	20	8/17/2009	8/18/2009	
tert-Butylbenzene	EPA 8260B	9H17022	20	ND	20	8/17/2009	8/18/2009	
Carbon tetrachloride	EPA 8260B	9H17022	10	ND	20	8/17/2009	8/18/2009	
Chlorobenzene	EPA 8260B	9H17022	20	ND	20	8/17/2009	8/18/2009	
Chloroethane	EPA 8260B	9H17022	20	ND	20	8/17/2009	8/18/2009	
Chloroform	EPA 8260B	9H17022	20	**130**	20	8/17/2009	8/18/2009	
Chloromethane	EPA 8260B	9H17022	20	ND	20	8/17/2009	8/18/2009	
2-Chlorotoluene	EPA 8260B	9H17022	20	ND	20	8/17/2009	8/18/2009	
4-Chlorotoluene	EPA 8260B	9H17022	20	ND	20	8/17/2009	8/18/2009	
1,2-Dibromo-3-chloropropane	EPA 8260B	9H17022	100	ND	20	8/17/2009	8/18/2009	
Dibromochloromethane	EPA 8260B	9H17022	20	ND	20	8/17/2009	8/18/2009	
1,2-Dibromoethane (EDB)	EPA 8260B	9H17022	20	ND	20	8/17/2009	8/18/2009	
Dibromomethane	EPA 8260B	9H17022	20	ND	20	8/17/2009	8/18/2009	
1,2-Dichlorobenzene	EPA 8260B	9H17022	20	ND	20	8/17/2009	8/18/2009	
1,3-Dichlorobenzene	EPA 8260B	9H17022	20	ND	20	8/17/2009	8/18/2009	
1,4-Dichlorobenzene	EPA 8260B	9H17022	20	ND	20	8/17/2009	8/18/2009	
Dichlorodifluoromethane	EPA 8260B	9H17022	100	ND	20	8/17/2009	8/18/2009	
1,1-Dichloroethane	EPA 8260B	9H17022	20	ND	20	8/17/2009	8/18/2009	
1,2-Dichloroethane	EPA 8260B	9H17022	10	**32**	20	8/17/2009	8/18/2009	
1,1-Dichloroethene	EPA 8260B	9H17022	20	**220**	20	8/17/2009	8/18/2009	
cis-1,2-Dichloroethene	EPA 8260B	9H17022	20	ND	20	8/17/2009	8/18/2009	
trans-1,2-Dichloroethene	EPA 8260B	9H17022	20	ND	20	8/17/2009	8/18/2009	
1,2-Dichloropropane	EPA 8260B	9H17022	20	ND	20	8/17/2009	8/18/2009	
1,3-Dichloropropane	EPA 8260B	9H17022	20	ND	20	8/17/2009	8/18/2009	
2,2-Dichloropropane	EPA 8260B	9H17022	20	ND	20	8/17/2009	8/18/2009	
cis-1,3-Dichloropropene	EPA 8260B	9H17022	10	ND	20	8/17/2009	8/18/2009	

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Irvine, CA 92617
Attention: Sharon Wallin

Project ID: Omega Chemical Wastewater
IWP number 20039
Report Number: ISH1212

Sampled: 08/13/09
Received: 08/13/09

VOLATILE ORGANICS by GC/MS (EPA 5030B/8260B)

Analyte	Method	Batch	Reporting Limit	Sample Result	Dilution Factor	Date Extracted	Date Analyzed	Data Qualifiers
Sample ID: ISH1212-08RE1 (OC-SP200-INF-081309 - Water) - cont.								
Reporting Units: ug/l								
trans-1,3-Dichloropropene	EPA 8260B	9H17022	10	ND	20	8/17/2009	8/18/2009	
1,1-Dichloropropene	EPA 8260B	9H17022	20	ND	20	8/17/2009	8/18/2009	
Ethylbenzene	EPA 8260B	9H17022	20	ND	20	8/17/2009	8/18/2009	
Hexachlorobutadiene	EPA 8260B	9H17022	20	ND	20	8/17/2009	8/18/2009	
Isopropylbenzene	EPA 8260B	9H17022	20	ND	20	8/17/2009	8/18/2009	
p-Isopropyltoluene	EPA 8260B	9H17022	20	ND	20	8/17/2009	8/18/2009	
Methylene chloride	EPA 8260B	9H17022	100	ND	20	8/17/2009	8/18/2009	
Naphthalene	EPA 8260B	9H17022	20	ND	20	8/17/2009	8/18/2009	
n-Propylbenzene	EPA 8260B	9H17022	20	ND	20	8/17/2009	8/18/2009	
Styrene	EPA 8260B	9H17022	20	ND	20	8/17/2009	8/18/2009	
1,1,1,2-Tetrachloroethane	EPA 8260B	9H17022	20	ND	20	8/17/2009	8/18/2009	
1,1,2,2-Tetrachloroethane	EPA 8260B	9H17022	20	ND	20	8/17/2009	8/18/2009	
Toluene	EPA 8260B	9H17022	20	ND	20	8/17/2009	8/18/2009	
1,2,3-Trichlorobenzene	EPA 8260B	9H17022	20	ND	20	8/17/2009	8/18/2009	
1,2,4-Trichlorobenzene	EPA 8260B	9H17022	20	ND	20	8/17/2009	8/18/2009	
1,1,1-Trichloroethane	EPA 8260B	9H17022	20	ND	20	8/17/2009	8/18/2009	
1,1,2-Trichloroethane	EPA 8260B	9H17022	20	ND	20	8/17/2009	8/18/2009	
Trichloroethene	EPA 8260B	9H17022	20	**230**	20	8/17/2009	8/18/2009	
Trichlorofluoromethane	EPA 8260B	9H17022	20	**120**	20	8/17/2009	8/18/2009	
1,2,3-Trichloropropane	EPA 8260B	9H17022	20	ND	20	8/17/2009	8/18/2009	
Trichlorotrifluoroethane (Freon 113)	EPA 8260B	9H17022	100	**520**	20	8/17/2009	8/18/2009	
1,2,4-Trimethylbenzene	EPA 8260B	9H17022	20	ND	20	8/17/2009	8/18/2009	
1,3,5-Trimethylbenzene	EPA 8260B	9H17022	20	ND	20	8/17/2009	8/18/2009	
Vinyl chloride	EPA 8260B	9H17022	10	ND	20	8/17/2009	8/18/2009	
m,p-Xylenes	EPA 8260B	9H17022	20	ND	20	8/17/2009	8/18/2009	
o-Xylene	EPA 8260B	9H17022	20	ND	20	8/17/2009	8/18/2009	
Methyl-tert-butyl Ether (MTBE)	EPA 8260B	9H17022	20	ND	20	8/17/2009	8/18/2009	
Surrogate: 4-Bromofluorobenzene (80-120%)				*101 %*				
Surrogate: Dibromofluoromethane (80-120%)				*110 %*				
Surrogate: Toluene-d8 (80-120%)				*112 %*				

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Kathleen A. Robb For Patty Mata
Project Manager

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17461 Derian Avenue. Suite 100, Irvine, CA 92614 (949) 261-1022 Fax:(949) 260-3297

Camp, Dresser & McKee
111 Academy, Ste 150
Irvine, CA 92617
Attention: Sharon Wallin

Project ID: Omega Chemical Wastewater
IWP number 20039
Report Number: ISH1212

Sampled: 08/13/09
Received: 08/13/09

SEMI-VOLATILE ORGANICS BY GC/MS (EPA 3520C/8270C MOD)

Analyte	Method	Batch	Reporting Limit	Sample Result	Dilution Factor	Date Extracted	Date Analyzed	Data Qualifiers
Sample ID: ISH1212-01 (OC-SP220A-EFF-081309 - Water)								
Reporting Units: ug/l								
1,4-Dioxane	EPA 8270C	9H18064	50	**220**	100	8/18/2009	8/20/2009	
Surrogate: 1,4-Dioxane-d8 (30-120%)				*				*Z3*
Sample ID: ISH1212-03 (OC-EW1-SP110-081309 - Water)								
Reporting Units: ug/l								
1,4-Dioxane	EPA 8270C	9H18064	2.4	**18**	4.76	8/18/2009	8/21/2009	
Surrogate: 1,4-Dioxane-d8 (30-120%)				*				*Z3*
Sample ID: ISH1212-04 (OC-EW2-SP120-081309 - Water)								
Reporting Units: ug/l								
1,4-Dioxane	EPA 8270C	9H18064	100	**440**	200	8/18/2009	8/21/2009	
Surrogate: 1,4-Dioxane-d8 (30-120%)				*				*Z3*
Sample ID: ISH1212-05 (OC-EW3-SP130-081309 - Water)								
Reporting Units: ug/l								
1,4-Dioxane	EPA 8270C	9H18064	0.50	**4.2**	1	8/18/2009	8/19/2009	
Surrogate: 1,4-Dioxane-d8 (30-120%)				*59 %*				
Sample ID: ISH1212-06 (OC-EW4-SP140-081309 - Water)								
Reporting Units: ug/l								
1,4-Dioxane	EPA 8270C	9H18064	0.48	ND	0.952	8/18/2009	8/19/2009	
Surrogate: 1,4-Dioxane-d8 (30-120%)				*67 %*				
Sample ID: ISH1212-07 (OC-EW5-SP150-081309 - Water)								
Reporting Units: ug/l								
1,4-Dioxane	EPA 8270C	9H18064	0.49	ND	0.971	8/18/2009	8/19/2009	
Surrogate: 1,4-Dioxane-d8 (30-120%)				*66 %*				
Sample ID: ISH1212-08 (OC-SP200-INF-081309 - Water)								
Reporting Units: ug/l								
1,4-Dioxane	EPA 8270C	9H18064	50	**230**	100	8/18/2009	8/21/2009	
Surrogate: 1,4-Dioxane-d8 (30-120%)				*				*Z3*

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Project Manager

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Camp, Dresser & McKee
111 Academy, Ste 150
Irvine, CA 92617
Attention: Sharon Wallin

Project ID: Omega Chemical Wastewater
IWP number 20039
Report Number: ISH1212

Sampled: 08/13/09
Received: 08/13/09

INORGANICS

Analyte	Method	Batch	Reporting Limit	Sample Result	Dilution Factor	Date Extracted	Date Analyzed	Data Qualifiers
Sample ID: ISH1212-01 (OC-SP220A-EFF-081309 - Water)								
Reporting Units: pH Units								
pH	SM4500-H,B	9H14017	0.100	**8.55**	1	8/14/2009	8/14/2009	HFT

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Project ID: Omega Chemical Wastewater
IWP number 20039
Report Number: ISH1212

Sampled: 08/13/09
Received: 08/13/09

SHORT HOLD TIME DETAIL REPORT

	Hold Time (in days)	Date/Time Sampled	Date/Time Received	Date/Time Extracted	Date/Time Analyzed
Sample ID: OC-SP220A-EFF-081309 (ISH1212-01) - Water					
SM4500-H,B	0	08/13/2009 10:36	08/13/2009 17:40	08/14/2009 08:41	08/14/2009 09:30

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Camp, Dresser & McKee	Project ID:	Omega Chemical Wastewater	
111 Academy, Ste 150		IWP number 20039	Sampled: 08/13/09
Irvine, CA 92617	Report Number:	ISH1212	Received: 08/13/09
Attention: Sharon Wallin			

METHOD BLANK/QC DATA

VOLATILE ORGANICS by GC/MS (EPA 5030B/8260B)

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Data Qualifiers
Batch: 9H17022 Extracted: 08/17/09										
Blank Analyzed: 08/17/2009 (9H17022-BLK1)										
Acetone	ND	10	ug/l							
Benzene	ND	0.50	ug/l							
Bromobenzene	ND	1.0	ug/l							
Bromochloromethane	ND	1.0	ug/l							
Bromodichloromethane	ND	1.0	ug/l							
Bromoform	ND	1.0	ug/l							
Bromomethane	ND	1.0	ug/l							
n-Butylbenzene	ND	1.0	ug/l							
sec-Butylbenzene	ND	1.0	ug/l							
tert-Butylbenzene	ND	1.0	ug/l							
Carbon tetrachloride	ND	0.50	ug/l							
Chlorobenzene	ND	1.0	ug/l							
Chloroethane	ND	1.0	ug/l							
Chloroform	ND	1.0	ug/l							
Chloromethane	ND	1.0	ug/l							
2-Chlorotoluene	ND	1.0	ug/l							
4-Chlorotoluene	ND	1.0	ug/l							
1,2-Dibromo-3-chloropropane	ND	5.0	ug/l							
Dibromochloromethane	ND	1.0	ug/l							
1,2-Dibromoethane (EDB)	ND	1.0	ug/l							
Dibromomethane	ND	1.0	ug/l							
1,2-Dichlorobenzene	ND	1.0	ug/l							
1,3-Dichlorobenzene	ND	1.0	ug/l							
1,4-Dichlorobenzene	ND	1.0	ug/l							
Dichlorodifluoromethane	ND	5.0	ug/l							
1,1-Dichloroethane	ND	1.0	ug/l							
1,2-Dichloroethane	ND	0.50	ug/l							
1,1-Dichloroethene	ND	1.0	ug/l							
cis-1,2-Dichloroethene	ND	1.0	ug/l							
trans-1,2-Dichloroethene	ND	1.0	ug/l							
1,2-Dichloropropane	ND	1.0	ug/l							
1,3-Dichloropropane	ND	1.0	ug/l							
2,2-Dichloropropane	ND	1.0	ug/l							
cis-1,3-Dichloropropene	ND	0.50	ug/l							
trans-1,3-Dichloropropene	ND	0.50	ug/l							
1,1-Dichloropropene	ND	1.0	ug/l							

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Camp, Dresser & McKee 111 Academy, Ste 150 Irvine, CA 92617 Attention: Sharon Wallin	Project ID: Report Number:	Omega Chemical Wastewater IWP number 20039 ISH1212	Sampled: 08/13/09 Received: 08/13/09

METHOD BLANK/QC DATA

VOLATILE ORGANICS by GC/MS (EPA 5030B/8260B)

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Data Qualifiers
Batch: 9H17022 Extracted: 08/17/09										
Blank Analyzed: 08/17/2009 (9H17022-BLK1)										
Ethylbenzene	ND	1.0	ug/l							
Hexachlorobutadiene	ND	1.0	ug/l							
Isopropylbenzene	ND	1.0	ug/l							
p-Isopropyltoluene	ND	1.0	ug/l							
Methylene chloride	ND	5.0	ug/l							
Naphthalene	ND	1.0	ug/l							
n-Propylbenzene	ND	1.0	ug/l							
Styrene	ND	1.0	ug/l							
1,1,1,2-Tetrachloroethane	ND	1.0	ug/l							
1,1,2,2-Tetrachloroethane	ND	1.0	ug/l							
Tetrachloroethene	ND	1.0	ug/l							
Toluene	ND	1.0	ug/l							
1,2,3-Trichlorobenzene	ND	1.0	ug/l							
1,2,4-Trichlorobenzene	ND	1.0	ug/l							
1,1,1-Trichloroethane	ND	1.0	ug/l							
1,1,2-Trichloroethane	ND	1.0	ug/l							
Trichloroethene	ND	1.0	ug/l							
Trichlorofluoromethane	ND	1.0	ug/l							
1,2,3-Trichloropropane	ND	1.0	ug/l							
Trichlorotrifluoroethane (Freon 113)	ND	5.0	ug/l							
1,2,4-Trimethylbenzene	ND	1.0	ug/l							
1,3,5-Trimethylbenzene	ND	1.0	ug/l							
Vinyl chloride	ND	0.50	ug/l							
m,p-Xylenes	ND	1.0	ug/l							
o-Xylene	ND	1.0	ug/l							
Methyl-tert-butyl Ether (MTBE)	ND	1.0	ug/l							
Surrogate: 4-Bromofluorobenzene	*26.1*		*ug/l*	*25.0*		*104*	*80-120*			
Surrogate: Dibromofluoromethane	*25.1*		*ug/l*	*25.0*		*100*	*80-120*			
Surrogate: Toluene-d8	*27.5*		*ug/l*	*25.0*		*110*	*80-120*			

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Project Manager

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Camp, Dresser & McKee
111 Academy, Ste 150
Irvine, CA 92617
Attention: Sharon Wallin

Project ID: Omega Chemical Wastewater
IWP number 20039
Report Number: ISH1212

Sampled: 08/13/09
Received: 08/13/09

METHOD BLANK/QC DATA

VOLATILE ORGANICS by GC/MS (EPA 5030B/8260B)

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Data Qualifiers
Batch: 9H17022 Extracted: 08/17/09										
LCS Analyzed: 08/17/2009 (9H17022-BS1)										
Acetone	23.6	10	ug/l	25.0		95	30-140			
Benzene	23.5	0.50	ug/l	25.0		94	70-120			
Bromobenzene	24.0	1.0	ug/l	25.0		96	75-120			
Bromochloromethane	24.7	1.0	ug/l	25.0		99	70-130			
Bromodichloromethane	26.2	1.0	ug/l	25.0		105	70-135			
Bromoform	21.3	1.0	ug/l	25.0		85	55-130			
Bromomethane	22.8	1.0	ug/l	25.0		91	65-140			
n-Butylbenzene	25.8	1.0	ug/l	25.0		103	70-130			
sec-Butylbenzene	25.6	1.0	ug/l	25.0		102	70-125			
tert-Butylbenzene	25.5	1.0	ug/l	25.0		102	70-125			
Carbon tetrachloride	26.2	0.50	ug/l	25.0		105	65-140			
Chlorobenzene	25.4	1.0	ug/l	25.0		101	75-120			
Chloroethane	23.4	1.0	ug/l	25.0		94	60-140			
Chloroform	24.7	1.0	ug/l	25.0		99	70-130			
Chloromethane	19.1	1.0	ug/l	25.0		76	50-140			
2-Chlorotoluene	24.2	1.0	ug/l	25.0		97	70-125			
4-Chlorotoluene	25.0	1.0	ug/l	25.0		100	75-125			
1,2-Dibromo-3-chloropropane	24.6	5.0	ug/l	25.0		98	50-135			
Dibromochloromethane	26.0	1.0	ug/l	25.0		104	70-140			
1,2-Dibromoethane (EDB)	23.9	1.0	ug/l	25.0		96	75-125			
Dibromomethane	25.3	1.0	ug/l	25.0		101	70-125			
1,2-Dichlorobenzene	25.3	1.0	ug/l	25.0		101	75-120			
1,3-Dichlorobenzene	24.9	1.0	ug/l	25.0		100	75-120			
1,4-Dichlorobenzene	23.9	1.0	ug/l	25.0		96	75-120			
Dichlorodifluoromethane	18.2	5.0	ug/l	25.0		73	35-155			
1,1-Dichloroethane	24.0	1.0	ug/l	25.0		96	70-125			
1,2-Dichloroethane	25.2	0.50	ug/l	25.0		101	60-140			
1,1-Dichloroethene	22.2	1.0	ug/l	25.0		89	70-125			
cis-1,2-Dichloroethene	24.9	1.0	ug/l	25.0		100	70-125			
trans-1,2-Dichloroethene	24.6	1.0	ug/l	25.0		99	70-125			
1,2-Dichloropropane	24.0	1.0	ug/l	25.0		96	70-125			
1,3-Dichloropropane	25.5	1.0	ug/l	25.0		102	70-120			
2,2-Dichloropropane	28.5	1.0	ug/l	25.0		114	65-140			
cis-1,3-Dichloropropene	29.7	0.50	ug/l	25.0		119	75-125			
trans-1,3-Dichloropropene	23.4	0.50	ug/l	25.0		93	70-125			
1,1-Dichloropropene	26.4	1.0	ug/l	25.0		105	75-130			

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Camp, Dresser & McKee 111 Academy, Ste 150 Irvine, CA 92617 Attention: Sharon Wallin	Project ID: Report Number:	Omega Chemical Wastewater IWP number 20039 ISH1212	Sampled: 08/13/09 Received: 08/13/09

METHOD BLANK/QC DATA

VOLATILE ORGANICS by GC/MS (EPA 5030B/8260B)

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Data Qualifiers
Batch: 9H17022 Extracted: 08/17/09										
LCS Analyzed: 08/17/2009 (9H17022-BS1)										
Ethylbenzene	25.1	1.0	ug/l	25.0		100	75-125			
Hexachlorobutadiene	22.2	1.0	ug/l	25.0		89	65-135			
Isopropylbenzene	24.8	1.0	ug/l	25.0		99	75-130			
p-Isopropyltoluene	25.0	1.0	ug/l	25.0		100	75-125			
Methylene chloride	25.8	5.0	ug/l	25.0		103	55-130			
Naphthalene	24.1	1.0	ug/l	25.0		97	55-135			
n-Propylbenzene	25.5	1.0	ug/l	25.0		102	75-130			
Styrene	25.2	1.0	ug/l	25.0		101	75-130			
1,1,1,2-Tetrachloroethane	25.1	1.0	ug/l	25.0		101	70-130			
1,1,2,2-Tetrachloroethane	25.1	1.0	ug/l	25.0		100	55-130			
Tetrachloroethene	24.8	1.0	ug/l	25.0		99	70-125			
Toluene	24.9	1.0	ug/l	25.0		100	70-120			
1,2,3-Trichlorobenzene	22.9	1.0	ug/l	25.0		92	65-125			
1,2,4-Trichlorobenzene	26.1	1.0	ug/l	25.0		105	70-135			
1,1,1-Trichloroethane	25.8	1.0	ug/l	25.0		103	65-135			
1,1,2-Trichloroethane	25.1	1.0	ug/l	25.0		100	70-125			
Trichloroethene	24.2	1.0	ug/l	25.0		97	70-125			
Trichlorofluoromethane	23.0	1.0	ug/l	25.0		92	65-145			
1,2,3-Trichloropropane	24.2	1.0	ug/l	25.0		97	60-130			
1,2,4-Trimethylbenzene	24.4	1.0	ug/l	25.0		97	75-125			
1,3,5-Trimethylbenzene	24.3	1.0	ug/l	25.0		97	75-125			
Vinyl chloride	18.1	0.50	ug/l	25.0		72	55-135			
m,p-Xylenes	49.6	1.0	ug/l	50.0		99	75-125			
o-Xylene	25.3	1.0	ug/l	25.0		101	75-125			
Methyl-tert-butyl Ether (MTBE)	24.7	1.0	ug/l	25.0		99	60-135			
Surrogate: 4-Bromofluorobenzene	*27.0*		*ug/l*	*25.0*		*108*	*80-120*			
Surrogate: Dibromofluoromethane	*26.6*		*ug/l*	*25.0*		*106*	*80-120*			
Surrogate: Toluene-d8	*27.4*		*ug/l*	*25.0*		*110*	*80-120*			

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Project ID: Omega Chemical Wastewater
IWP number 20039
Report Number: ISH1212

Sampled: 08/13/09
Received: 08/13/09

METHOD BLANK/QC DATA

VOLATILE ORGANICS by GC/MS (EPA 5030B/8260B)

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Data Qualifiers
Batch: 9H17022 Extracted: 08/17/09										
Matrix Spike Analyzed: 08/17/2009 (9H17022-MS1)					**Source: ISH1040-01**					
Acetone	25.1	10	ug/l	25.0	ND	101	20-150			
Benzene	25.7	0.50	ug/l	25.0	ND	103	65-125			
Bromobenzene	25.8	1.0	ug/l	25.0	ND	103	70-125			
Bromochloromethane	26.2	1.0	ug/l	25.0	ND	105	65-135			
Bromodichloromethane	28.6	1.0	ug/l	25.0	ND	115	70-135			
Bromoform	22.9	1.0	ug/l	25.0	ND	92	55-135			
Bromomethane	23.3	1.0	ug/l	25.0	ND	93	55-145			
n-Butylbenzene	28.2	1.0	ug/l	25.0	ND	113	65-135			
sec-Butylbenzene	27.8	1.0	ug/l	25.0	ND	111	70-125			
tert-Butylbenzene	27.6	1.0	ug/l	25.0	ND	111	65-130			
Carbon tetrachloride	28.6	0.50	ug/l	25.0	ND	115	65-140			
Chlorobenzene	27.6	1.0	ug/l	25.0	ND	110	75-125			
Chloroethane	24.6	1.0	ug/l	25.0	ND	98	55-140			
Chloroform	27.1	1.0	ug/l	25.0	ND	108	65-135			
Chloromethane	19.9	1.0	ug/l	25.0	ND	80	45-145			
2-Chlorotoluene	26.4	1.0	ug/l	25.0	ND	106	65-135			
4-Chlorotoluene	27.3	1.0	ug/l	25.0	ND	109	70-135			
1,2-Dibromo-3-chloropropane	26.5	5.0	ug/l	25.0	ND	106	45-145			
Dibromochloromethane	27.7	1.0	ug/l	25.0	ND	111	65-140			
1,2-Dibromoethane (EDB)	25.9	1.0	ug/l	25.0	ND	104	70-130			
Dibromomethane	27.6	1.0	ug/l	25.0	ND	110	65-135			
1,2-Dichlorobenzene	27.1	1.0	ug/l	25.0	ND	108	75-125			
1,3-Dichlorobenzene	27.4	1.0	ug/l	25.0	ND	109	75-125			
1,4-Dichlorobenzene	25.9	1.0	ug/l	25.0	ND	104	75-125			
Dichlorodifluoromethane	18.0	5.0	ug/l	25.0	ND	72	25-155			
1,1-Dichloroethane	25.9	1.0	ug/l	25.0	ND	104	65-130			
1,2-Dichloroethane	27.3	0.50	ug/l	25.0	ND	109	60-140			
1,1-Dichloroethene	25.5	1.0	ug/l	25.0	ND	102	60-130			
cis-1,2-Dichloroethene	27.1	1.0	ug/l	25.0	ND	108	65-130			
trans-1,2-Dichloroethene	27.0	1.0	ug/l	25.0	ND	108	65-130			
1,2-Dichloropropane	25.9	1.0	ug/l	25.0	ND	104	65-130			
1,3-Dichloropropane	27.4	1.0	ug/l	25.0	ND	109	65-135			
2,2-Dichloropropane	31.1	1.0	ug/l	25.0	ND	124	60-145			
cis-1,3-Dichloropropene	32.4	0.50	ug/l	25.0	ND	130	70-130			
trans-1,3-Dichloropropene	25.3	0.50	ug/l	25.0	ND	101	65-135			
1,1-Dichloropropene	28.8	1.0	ug/l	25.0	ND	115	70-135			

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Project Manager

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THE LEADER IN ENVIRONMENTAL TESTING

17461 Derian Avenue. Suite 100, Irvine, CA 92614 (949) 261-1022 Fax:(949) 260-3297

Camp, Dresser & McKee 111 Academy, Ste 150 Irvine, CA 92617 Attention: Sharon Wallin	Project ID: Report Number:	Omega Chemical Wastewater IWP number 20039 ISH1212	Sampled: 08/13/09 Received: 08/13/09

METHOD BLANK/QC DATA

VOLATILE ORGANICS by GC/MS (EPA 5030B/8260B)

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Data Qualifiers
Batch: 9H17022 Extracted: 08/17/09										
Matrix Spike Analyzed: 08/17/2009 (9H17022-MS1)					**Source: ISH1040-01**					
Ethylbenzene	27.6	1.0	ug/l	25.0	ND	111	65-130			
Hexachlorobutadiene	24.6	1.0	ug/l	25.0	ND	98	60-135			
Isopropylbenzene	27.0	1.0	ug/l	25.0	ND	108	70-135			
p-Isopropyltoluene	27.2	1.0	ug/l	25.0	ND	109	65-130			
Methylene chloride	27.3	5.0	ug/l	25.0	ND	109	50-135			
Naphthalene	26.6	1.0	ug/l	25.0	ND	106	50-140			
n-Propylbenzene	28.0	1.0	ug/l	25.0	ND	112	70-135			
Styrene	26.7	1.0	ug/l	25.0	ND	107	50-145			
1,1,1,2-Tetrachloroethane	27.2	1.0	ug/l	25.0	ND	109	65-140			
1,1,2,2-Tetrachloroethane	26.7	1.0	ug/l	25.0	ND	107	55-135			
Tetrachloroethene	27.4	1.0	ug/l	25.0	ND	110	65-130			
Toluene	27.2	1.0	ug/l	25.0	ND	109	70-125			
1,2,3-Trichlorobenzene	25.3	1.0	ug/l	25.0	ND	101	60-135			
1,2,4-Trichlorobenzene	28.6	1.0	ug/l	25.0	ND	115	65-135			
1,1,1-Trichloroethane	27.8	1.0	ug/l	25.0	ND	111	65-140			
1,1,2-Trichloroethane	26.8	1.0	ug/l	25.0	ND	107	65-130			
Trichloroethene	26.6	1.0	ug/l	25.0	ND	107	65-125			
Trichlorofluoromethane	25.3	1.0	ug/l	25.0	ND	101	60-145			
1,2,3-Trichloropropane	25.2	1.0	ug/l	25.0	ND	101	55-135			
1,2,4-Trimethylbenzene	26.6	1.0	ug/l	25.0	ND	106	55-135			
1,3,5-Trimethylbenzene	26.4	1.0	ug/l	25.0	ND	105	70-130			
Vinyl chloride	18.5	0.50	ug/l	25.0	ND	74	45-140			
m,p-Xylenes	54.7	1.0	ug/l	50.0	ND	109	65-130			
o-Xylene	28.0	1.0	ug/l	25.0	ND	112	65-125			
Methyl-tert-butyl Ether (MTBE)	26.2	1.0	ug/l	25.0	ND	105	55-145			
Surrogate: 4-Bromofluorobenzene	*27.3*		*ug/l*	*25.0*		*109*	*80-120*			
Surrogate: Dibromofluoromethane	*26.1*		*ug/l*	*25.0*		*104*	*80-120*			
Surrogate: Toluene-d8	*27.6*		*ug/l*	*25.0*		*110*	*80-120*			

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Project Manager

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17461 Derian Avenue. Suite 100, Irvine, CA 92614 (949) 261-1022 Fax:(949) 260-3297

Camp, Dresser & McKee
111 Academy, Ste 150
Irvine, CA 92617
Attention: Sharon Wallin

Project ID: Omega Chemical Wastewater
IWP number 20039
Report Number: ISH1212

Sampled: 08/13/09
Received: 08/13/09

METHOD BLANK/QC DATA

VOLATILE ORGANICS by GC/MS (EPA 5030B/8260B)

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Data Qualifiers
Batch: 9H17022 Extracted: 08/17/09										
Matrix Spike Dup Analyzed: 08/17/2009 (9H17022-MSD1)					**Source: ISH1040-01**					
Acetone	26.6	10	ug/l	25.0	ND	107	20-150	6	35	
Benzene	25.4	0.50	ug/l	25.0	ND	101	65-125	1	20	
Bromobenzene	26.1	1.0	ug/l	25.0	ND	104	70-125	1	20	
Bromochloromethane	26.6	1.0	ug/l	25.0	ND	106	65-135	1	25	
Bromodichloromethane	28.8	1.0	ug/l	25.0	ND	115	70-135	1	20	
Bromoform	24.0	1.0	ug/l	25.0	ND	96	55-135	5	25	
Bromomethane	22.8	1.0	ug/l	25.0	ND	91	55-145	2	25	
n-Butylbenzene	27.3	1.0	ug/l	25.0	ND	109	65-135	3	20	
sec-Butylbenzene	27.4	1.0	ug/l	25.0	ND	109	70-125	2	20	
tert-Butylbenzene	27.2	1.0	ug/l	25.0	ND	109	65-130	1	20	
Carbon tetrachloride	28.7	0.50	ug/l	25.0	ND	115	65-140	0	25	
Chlorobenzene	27.4	1.0	ug/l	25.0	ND	109	75-125	1	20	
Chloroethane	24.3	1.0	ug/l	25.0	ND	97	55-140	1	25	
Chloroform	26.8	1.0	ug/l	25.0	ND	107	65-135	1	20	
Chloromethane	19.9	1.0	ug/l	25.0	ND	80	45-145	0	25	
2-Chlorotoluene	26.2	1.0	ug/l	25.0	ND	105	65-135	1	20	
4-Chlorotoluene	26.9	1.0	ug/l	25.0	ND	108	70-135	1	20	
1,2-Dibromo-3-chloropropane	28.9	5.0	ug/l	25.0	ND	116	45-145	9	30	
Dibromochloromethane	28.4	1.0	ug/l	25.0	ND	113	65-140	2	25	
1,2-Dibromoethane (EDB)	26.7	1.0	ug/l	25.0	ND	107	70-130	3	25	
Dibromomethane	28.2	1.0	ug/l	25.0	ND	113	65-135	2	25	
1,2-Dichlorobenzene	27.2	1.0	ug/l	25.0	ND	109	75-125	0	20	
1,3-Dichlorobenzene	26.9	1.0	ug/l	25.0	ND	108	75-125	2	20	
1,4-Dichlorobenzene	26.1	1.0	ug/l	25.0	ND	104	75-125	1	20	
Dichlorodifluoromethane	17.7	5.0	ug/l	25.0	ND	71	25-155	1	30	
1,1-Dichloroethane	25.7	1.0	ug/l	25.0	ND	103	65-130	1	20	
1,2-Dichloroethane	27.6	0.50	ug/l	25.0	ND	110	60-140	1	20	
1,1-Dichloroethene	25.1	1.0	ug/l	25.0	ND	101	60-130	1	20	
cis-1,2-Dichloroethene	26.9	1.0	ug/l	25.0	ND	108	65-130	1	20	
trans-1,2-Dichloroethene	26.5	1.0	ug/l	25.0	ND	106	65-130	2	20	
1,2-Dichloropropane	26.5	1.0	ug/l	25.0	ND	106	65-130	2	20	
1,3-Dichloropropane	27.5	1.0	ug/l	25.0	ND	110	65-135	1	25	
2,2-Dichloropropane	31.2	1.0	ug/l	25.0	ND	125	60-145	0	25	
cis-1,3-Dichloropropene	32.9	0.50	ug/l	25.0	ND	132	70-130	2	20	*M1*
trans-1,3-Dichloropropene	26.0	0.50	ug/l	25.0	ND	104	65-135	3	25	
1,1-Dichloropropene	28.7	1.0	ug/l	25.0	ND	115	70-135	1	20	

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Camp, Dresser & McKee
111 Academy, Ste 150
Irvine, CA 92617
Attention: Sharon Wallin

Project ID: Omega Chemical Wastewater
IWP number 20039
Report Number: ISH1212

Sampled: 08/13/09
Received: 08/13/09

METHOD BLANK/QC DATA

VOLATILE ORGANICS by GC/MS (EPA 5030B/8260B)

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Data Qualifiers
Batch: 9H17022 Extracted: 08/17/09										
Matrix Spike Dup Analyzed: 08/17/2009 (9H17022-MSD1)					**Source: ISH1040-01**					
Ethylbenzene	27.1	1.0	ug/l	25.0	ND	108	65-130	2	20	
Hexachlorobutadiene	23.6	1.0	ug/l	25.0	ND	95	60-135	4	20	
Isopropylbenzene	26.5	1.0	ug/l	25.0	ND	106	70-135	2	20	
p-Isopropyltoluene	26.9	1.0	ug/l	25.0	ND	108	65-130	1	20	
Methylene chloride	27.1	5.0	ug/l	25.0	ND	108	50-135	1	20	
Naphthalene	28.1	1.0	ug/l	25.0	ND	113	50-140	6	30	
n-Propylbenzene	27.5	1.0	ug/l	25.0	ND	110	70-135	2	20	
Styrene	25.9	1.0	ug/l	25.0	ND	104	50-145	3	30	
1,1,1,2-Tetrachloroethane	27.4	1.0	ug/l	25.0	ND	109	65-140	1	20	
1,1,2,2-Tetrachloroethane	28.0	1.0	ug/l	25.0	ND	112	55-135	5	30	
Tetrachloroethene	26.8	1.0	ug/l	25.0	ND	107	65-130	2	20	
Toluene	27.1	1.0	ug/l	25.0	ND	108	70-125	0	20	
1,2,3-Trichlorobenzene	25.2	1.0	ug/l	25.0	ND	101	60-135	0	20	
1,2,4-Trichlorobenzene	28.4	1.0	ug/l	25.0	ND	113	65-135	1	20	
1,1,1-Trichloroethane	27.3	1.0	ug/l	25.0	ND	109	65-140	1	20	
1,1,2-Trichloroethane	28.0	1.0	ug/l	25.0	ND	112	65-130	4	25	
Trichloroethene	26.4	1.0	ug/l	25.0	ND	106	65-125	1	20	
Trichlorofluoromethane	24.5	1.0	ug/l	25.0	ND	98	60-145	3	25	
1,2,3-Trichloropropane	26.9	1.0	ug/l	25.0	ND	107	55-135	6	30	
1,2,4-Trimethylbenzene	26.3	1.0	ug/l	25.0	ND	105	55-135	1	25	
1,3,5-Trimethylbenzene	26.2	1.0	ug/l	25.0	ND	105	70-130	1	20	
Vinyl chloride	18.4	0.50	ug/l	25.0	ND	74	45-140	1	30	
m,p-Xylenes	53.9	1.0	ug/l	50.0	ND	108	65-130	1	25	
o-Xylene	27.7	1.0	ug/l	25.0	ND	111	65-125	1	20	
Methyl-tert-butyl Ether (MTBE)	27.7	1.0	ug/l	25.0	ND	111	55-145	5	25	
Surrogate: 4-Bromofluorobenzene	*27.2*		*ug/l*	*25.0*		*109*	*80-120*			
Surrogate: Dibromofluoromethane	*26.4*		*ug/l*	*25.0*		*106*	*80-120*			
Surrogate: Toluene-d8	*27.7*		*ug/l*	*25.0*		*111*	*80-120*			

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Project Manager

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Camp, Dresser & McKee 111 Academy, Ste 150 Irvine, CA 92617 Attention: Sharon Wallin	Project ID: Report Number:	Omega Chemical Wastewater IWP number 20039 ISH1212	Sampled: 08/13/09 Received: 08/13/09

METHOD BLANK/QC DATA

VOLATILE ORGANICS by GC/MS (EPA 5030B/8260B)

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Data Qualifiers
Batch: 9H19024 Extracted: 08/19/09										
Blank Analyzed: 08/19/2009 (9H19024-BLK1)										
Acetone	ND	10	ug/l							
Benzene	ND	0.50	ug/l							
Bromobenzene	ND	1.0	ug/l							
Bromochloromethane	ND	1.0	ug/l							
Bromodichloromethane	ND	1.0	ug/l							
Bromoform	ND	1.0	ug/l							
Bromomethane	ND	1.0	ug/l							
n-Butylbenzene	ND	1.0	ug/l							
sec-Butylbenzene	ND	1.0	ug/l							
tert-Butylbenzene	ND	1.0	ug/l							
Carbon tetrachloride	ND	0.50	ug/l							
Chlorobenzene	ND	1.0	ug/l							
Chloroethane	ND	1.0	ug/l							
Chloroform	ND	1.0	ug/l							
Chloromethane	ND	1.0	ug/l							
2-Chlorotoluene	ND	1.0	ug/l							
4-Chlorotoluene	ND	1.0	ug/l							
1,2-Dibromo-3-chloropropane	ND	5.0	ug/l							
Dibromochloromethane	ND	1.0	ug/l							
1,2-Dibromoethane (EDB)	ND	1.0	ug/l							
Dibromomethane	ND	1.0	ug/l							
1,2-Dichlorobenzene	ND	1.0	ug/l							
1,3-Dichlorobenzene	ND	1.0	ug/l							
1,4-Dichlorobenzene	ND	1.0	ug/l							
Dichlorodifluoromethane	ND	5.0	ug/l							
1,1-Dichloroethane	ND	1.0	ug/l							
1,2-Dichloroethane	ND	0.50	ug/l							
1,1-Dichloroethene	ND	1.0	ug/l							
cis-1,2-Dichloroethene	ND	1.0	ug/l							
trans-1,2-Dichloroethene	ND	1.0	ug/l							
1,2-Dichloropropane	ND	1.0	ug/l							
1,3-Dichloropropane	ND	1.0	ug/l							
2,2-Dichloropropane	ND	1.0	ug/l							
cis-1,3-Dichloropropene	ND	0.50	ug/l							
trans-1,3-Dichloropropene	ND	0.50	ug/l							
1,1-Dichloropropene	ND	1.0	ug/l							

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Project Manager

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Camp, Dresser & McKee 111 Academy, Ste 150 Irvine, CA 92617 Attention: Sharon Wallin	Project ID: Report Number:	Omega Chemical Wastewater IWP number 20039 ISH1212	Sampled: 08/13/09 Received: 08/13/09

METHOD BLANK/QC DATA

VOLATILE ORGANICS by GC/MS (EPA 5030B/8260B)

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Data Qualifiers
Batch: 9H19024 Extracted: 08/19/09										
Blank Analyzed: 08/19/2009 (9H19024-BLK1)										
Ethylbenzene	ND	1.0	ug/l							
Hexachlorobutadiene	ND	1.0	ug/l							
Isopropylbenzene	ND	1.0	ug/l							
p-Isopropyltoluene	ND	1.0	ug/l							
Methylene chloride	ND	5.0	ug/l							
Naphthalene	ND	1.0	ug/l							
n-Propylbenzene	ND	1.0	ug/l							
Styrene	ND	1.0	ug/l							
1,1,1,2-Tetrachloroethane	ND	1.0	ug/l							
1,1,2,2-Tetrachloroethane	ND	1.0	ug/l							
Tetrachloroethene	ND	1.0	ug/l							
Toluene	ND	1.0	ug/l							
1,2,3-Trichlorobenzene	ND	1.0	ug/l							
1,2,4-Trichlorobenzene	ND	1.0	ug/l							
1,1,1-Trichloroethane	ND	1.0	ug/l							
1,1,2-Trichloroethane	ND	1.0	ug/l							
Trichloroethene	ND	1.0	ug/l							
Trichlorofluoromethane	ND	1.0	ug/l							
1,2,3-Trichloropropane	ND	1.0	ug/l							
Trichlorotrifluoroethane (Freon 113)	ND	5.0	ug/l							
1,2,4-Trimethylbenzene	ND	1.0	ug/l							
1,3,5-Trimethylbenzene	ND	1.0	ug/l							
Vinyl chloride	ND	0.50	ug/l							
m,p-Xylenes	ND	1.0	ug/l							
o-Xylene	ND	1.0	ug/l							
Methyl-tert-butyl Ether (MTBE)	ND	1.0	ug/l							
Surrogate: 4-Bromofluorobenzene	*25.2*		*ug/l*	*25.0*		*101*	*80-120*			
Surrogate: Dibromofluoromethane	*25.0*		*ug/l*	*25.0*		*100*	*80-120*			
Surrogate: Toluene-d8	*26.2*		*ug/l*	*25.0*		*105*	*80-120*			

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Project Manager

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17461 Derian Avenue. Suite 100, Irvine, CA 92614 (949) 261-1022 Fax:(949) 260-3297

Camp, Dresser & McKee
111 Academy, Ste 150
Irvine, CA 92617
Attention: Sharon Wallin

Project ID: Omega Chemical Wastewater
IWP number 20039
Report Number: ISH1212

Sampled: 08/13/09
Received: 08/13/09

METHOD BLANK/QC DATA

VOLATILE ORGANICS by GC/MS (EPA 5030B/8260B)

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Data Qualifiers
Batch: 9H19024 Extracted: 08/19/09										
LCS Analyzed: 08/19/2009 (9H19024-BS1)										
Acetone	20.8	10	ug/l	25.0		83	30-140			
Benzene	26.9	0.50	ug/l	25.0		107	70-120			
Bromobenzene	27.4	1.0	ug/l	25.0		109	75-120			
Bromochloromethane	28.7	1.0	ug/l	25.0		115	70-130			
Bromodichloromethane	29.4	1.0	ug/l	25.0		117	70-135			
Bromoform	22.8	1.0	ug/l	25.0		91	55-130			
Bromomethane	26.3	1.0	ug/l	25.0		105	65-140			
n-Butylbenzene	29.7	1.0	ug/l	25.0		119	70-130			
sec-Butylbenzene	28.8	1.0	ug/l	25.0		115	70-125			
tert-Butylbenzene	28.5	1.0	ug/l	25.0		114	70-125			
Carbon tetrachloride	31.4	0.50	ug/l	25.0		126	65-140			
Chlorobenzene	28.6	1.0	ug/l	25.0		114	75-120			
Chloroethane	29.2	1.0	ug/l	25.0		117	60-140			
Chloroform	26.1	1.0	ug/l	25.0		105	70-130			
Chloromethane	21.7	1.0	ug/l	25.0		87	50-140			
2-Chlorotoluene	28.5	1.0	ug/l	25.0		114	70-125			
4-Chlorotoluene	29.5	1.0	ug/l	25.0		118	75-125			
1,2-Dibromo-3-chloropropane	28.8	5.0	ug/l	25.0		115	50-135			
Dibromochloromethane	29.0	1.0	ug/l	25.0		116	70-140			
1,2-Dibromoethane (EDB)	28.1	1.0	ug/l	25.0		112	75-125			
Dibromomethane	30.1	1.0	ug/l	25.0		120	70-125			
1,2-Dichlorobenzene	27.5	1.0	ug/l	25.0		110	75-120			
1,3-Dichlorobenzene	29.1	1.0	ug/l	25.0		117	75-120			
1,4-Dichlorobenzene	28.2	1.0	ug/l	25.0		113	75-120			
Dichlorodifluoromethane	32.0	5.0	ug/l	25.0		128	35-155			
1,1-Dichloroethane	28.5	1.0	ug/l	25.0		114	70-125			
1,2-Dichloroethane	26.0	0.50	ug/l	25.0		104	60-140			
1,1-Dichloroethene	30.3	1.0	ug/l	25.0		121	70-125			
cis-1,2-Dichloroethene	29.9	1.0	ug/l	25.0		120	70-125			
trans-1,2-Dichloroethene	28.9	1.0	ug/l	25.0		115	70-125			
1,2-Dichloropropane	27.0	1.0	ug/l	25.0		108	70-125			
1,3-Dichloropropane	30.2	1.0	ug/l	25.0		121	70-120			*L*
2,2-Dichloropropane	29.3	1.0	ug/l	25.0		117	65-140			
cis-1,3-Dichloropropene	34.5	0.50	ug/l	25.0		138	75-125			*L*
trans-1,3-Dichloropropene	27.0	0.50	ug/l	25.0		108	70-125			
1,1-Dichloropropene	30.3	1.0	ug/l	25.0		121	75-130			

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Camp, Dresser & McKee 111 Academy, Ste 150 Irvine, CA 92617 Attention: Sharon Wallin	Project ID: Report Number:	Omega Chemical Wastewater IWP number 20039 ISH1212	Sampled: 08/13/09 Received: 08/13/09

METHOD BLANK/QC DATA

VOLATILE ORGANICS by GC/MS (EPA 5030B/8260B)

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Data Qualifiers
Batch: 9H19024 Extracted: 08/19/09										
LCS Analyzed: 08/19/2009 (9H19024-BS1)										
Ethylbenzene	28.0	1.0	ug/l	25.0		112	75-125			
Hexachlorobutadiene	28.2	1.0	ug/l	25.0		113	65-135			
Isopropylbenzene	28.5	1.0	ug/l	25.0		114	75-130			
p-Isopropyltoluene	29.2	1.0	ug/l	25.0		117	75-125			
Methylene chloride	32.2	5.0	ug/l	25.0		129	55-130			
Naphthalene	29.4	1.0	ug/l	25.0		117	55-135			
n-Propylbenzene	28.4	1.0	ug/l	25.0		114	75-130			
Styrene	31.0	1.0	ug/l	25.0		124	75-130			
1,1,1,2-Tetrachloroethane	27.8	1.0	ug/l	25.0		111	70-130			
1,1,2,2-Tetrachloroethane	28.6	1.0	ug/l	25.0		114	55-130			
Tetrachloroethene	29.0	1.0	ug/l	25.0		116	70-125			
Toluene	29.0	1.0	ug/l	25.0		116	70-120			
1,2,3-Trichlorobenzene	29.3	1.0	ug/l	25.0		117	65-125			
1,2,4-Trichlorobenzene	29.8	1.0	ug/l	25.0		119	70-135			
1,1,1-Trichloroethane	28.0	1.0	ug/l	25.0		112	65-135			
1,1,2-Trichloroethane	28.2	1.0	ug/l	25.0		113	70-125			
Trichloroethene	27.7	1.0	ug/l	25.0		111	70-125			
Trichlorofluoromethane	28.5	1.0	ug/l	25.0		114	65-145			
1,2,3-Trichloropropane	28.1	1.0	ug/l	25.0		112	60-130			
1,2,4-Trimethylbenzene	30.1	1.0	ug/l	25.0		120	75-125			
1,3,5-Trimethylbenzene	29.4	1.0	ug/l	25.0		118	75-125			
Vinyl chloride	24.8	0.50	ug/l	25.0		99	55-135			
m,p-Xylenes	59.7	1.0	ug/l	50.0		119	75-125			
o-Xylene	30.7	1.0	ug/l	25.0		123	75-125			
Methyl-tert-butyl Ether (MTBE)	26.0	1.0	ug/l	25.0		104	60-135			
Surrogate: 4-Bromofluorobenzene	*26.4*		*ug/l*	*25.0*		*105*	*80-120*			
Surrogate: Dibromofluoromethane	*25.0*		*ug/l*	*25.0*		*100*	*80-120*			
Surrogate: Toluene-d8	*26.2*		*ug/l*	*25.0*		*105*	*80-120*			

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Camp, Dresser & McKee
111 Academy, Ste 150
Irvine, CA 92617
Attention: Sharon Wallin

Project ID: Omega Chemical Wastewater
IWP number 20039
Report Number: ISH1212

Sampled: 08/13/09
Received: 08/13/09

METHOD BLANK/QC DATA

VOLATILE ORGANICS by GC/MS (EPA 5030B/8260B)

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Data Qualifiers
Batch: 9H19024 Extracted: 08/19/09										
Matrix Spike Analyzed: 08/19/2009 (9H19024-MS1)					**Source: ISH1219-01**					
Acetone	28.7	10	ug/l	25.0	ND	115	20-150			
Benzene	23.8	0.50	ug/l	25.0	0.710	93	65-125			
Bromobenzene	25.8	1.0	ug/l	25.0	ND	103	70-125			
Bromochloromethane	25.8	1.0	ug/l	25.0	ND	103	65-135			
Bromodichloromethane	26.8	1.0	ug/l	25.0	ND	107	70-135			
Bromoform	22.2	1.0	ug/l	25.0	ND	89	55-135			
Bromomethane	22.6	1.0	ug/l	25.0	ND	90	55-145			
n-Butylbenzene	33.7	1.0	ug/l	25.0	ND	135	65-135			
sec-Butylbenzene	41.7	1.0	ug/l	25.0	17.6	96	70-125			
tert-Butylbenzene	27.7	1.0	ug/l	25.0	2.19	102	65-130			
Carbon tetrachloride	27.9	0.50	ug/l	25.0	ND	112	65-140			
Chlorobenzene	26.1	1.0	ug/l	25.0	ND	104	75-125			
Chloroethane	25.0	1.0	ug/l	25.0	ND	100	55-140			
Chloroform	23.0	1.0	ug/l	25.0	ND	92	65-135			
Chloromethane	18.1	1.0	ug/l	25.0	ND	72	45-145			
2-Chlorotoluene	26.2	1.0	ug/l	25.0	ND	105	65-135			
4-Chlorotoluene	26.3	1.0	ug/l	25.0	ND	105	70-135			
1,2-Dibromo-3-chloropropane	31.3	5.0	ug/l	25.0	ND	125	45-145			
Dibromochloromethane	26.8	1.0	ug/l	25.0	ND	107	65-140			
1,2-Dibromoethane (EDB)	27.2	1.0	ug/l	25.0	ND	109	70-130			
Dibromomethane	28.1	1.0	ug/l	25.0	ND	112	65-135			
1,2-Dichlorobenzene	25.3	1.0	ug/l	25.0	ND	101	75-125			
1,3-Dichlorobenzene	26.2	1.0	ug/l	25.0	ND	105	75-125			
1,4-Dichlorobenzene	25.6	1.0	ug/l	25.0	ND	102	75-125			
Dichlorodifluoromethane	27.6	5.0	ug/l	25.0	ND	111	25-155			
1,1-Dichloroethane	24.6	1.0	ug/l	25.0	ND	98	65-130			
1,2-Dichloroethane	24.4	0.50	ug/l	25.0	ND	98	60-140			
1,1-Dichloroethene	26.3	1.0	ug/l	25.0	ND	105	60-130			
cis-1,2-Dichloroethene	26.6	1.0	ug/l	25.0	ND	106	65-130			
trans-1,2-Dichloroethene	25.9	1.0	ug/l	25.0	ND	104	65-130			
1,2-Dichloropropane	25.2	1.0	ug/l	25.0	ND	101	65-130			
1,3-Dichloropropane	27.5	1.0	ug/l	25.0	ND	110	65-135			
2,2-Dichloropropane	26.7	1.0	ug/l	25.0	ND	107	60-145			
cis-1,3-Dichloropropene	30.9	0.50	ug/l	25.0	ND	124	70-130			
trans-1,3-Dichloropropene	23.7	0.50	ug/l	25.0	ND	95	65-135			
1,1-Dichloropropene	27.3	1.0	ug/l	25.0	ND	109	70-135			

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Camp, Dresser & McKee 111 Academy, Ste 150 Irvine, CA 92617 Attention: Sharon Wallin	Project ID: Report Number:	Omega Chemical Wastewater IWP number 20039 ISH1212	Sampled: 08/13/09 Received: 08/13/09

METHOD BLANK/QC DATA

VOLATILE ORGANICS by GC/MS (EPA 5030B/8260B)

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Data Qualifiers
Batch: 9H19024 Extracted: 08/19/09										
Matrix Spike Analyzed: 08/19/2009 (9H19024-MS1)					**Source: ISH1219-01**					
Ethylbenzene	28.0	1.0	ug/l	25.0	1.37	107	65-130			
Hexachlorobutadiene	26.7	1.0	ug/l	25.0	ND	107	60-135			
Isopropylbenzene	48.4	1.0	ug/l	25.0	27.7	83	70-135			
p-Isopropyltoluene	26.6	1.0	ug/l	25.0	ND	106	65-130			
Methylene chloride	27.8	5.0	ug/l	25.0	ND	111	50-135			
Naphthalene	31.8	1.0	ug/l	25.0	0.820	124	50-140			
n-Propylbenzene	53.9	1.0	ug/l	25.0	35.5	74	70-135			
Styrene	28.1	1.0	ug/l	25.0	ND	113	50-145			
1,1,1,2-Tetrachloroethane	26.7	1.0	ug/l	25.0	ND	107	65-140			
1,1,2,2-Tetrachloroethane	28.8	1.0	ug/l	25.0	ND	115	55-135			
Tetrachloroethene	28.1	1.0	ug/l	25.0	ND	112	65-130			
Toluene	26.7	1.0	ug/l	25.0	0.450	105	70-125			
1,2,3-Trichlorobenzene	28.7	1.0	ug/l	25.0	ND	115	60-135			
1,2,4-Trichlorobenzene	29.2	1.0	ug/l	25.0	ND	117	65-135			
1,1,1-Trichloroethane	27.1	1.0	ug/l	25.0	ND	108	65-140			
1,1,2-Trichloroethane	47.8	1.0	ug/l	25.0	ND	191	65-130			*M1*
Trichloroethene	24.5	1.0	ug/l	25.0	ND	98	65-125			
Trichlorofluoromethane	25.2	1.0	ug/l	25.0	ND	101	60-145			
1,2,3-Trichloropropane	23.8	1.0	ug/l	25.0	ND	95	55-135			
1,2,4-Trimethylbenzene	27.3	1.0	ug/l	25.0	0.990	105	55-135			
1,3,5-Trimethylbenzene	26.6	1.0	ug/l	25.0	ND	106	70-130			
Vinyl chloride	21.5	0.50	ug/l	25.0	ND	86	45-140			
m,p-Xylenes	56.7	1.0	ug/l	50.0	1.10	111	65-130			
o-Xylene	28.1	1.0	ug/l	25.0	ND	112	65-125			
Methyl-tert-butyl Ether (MTBE)	29.6	1.0	ug/l	25.0	6.20	94	55-145			
Surrogate: 4-Bromofluorobenzene	*26.0*		*ug/l*	*25.0*		*104*	*80-120*			
Surrogate: Dibromofluoromethane	*23.6*		*ug/l*	*25.0*		*94*	*80-120*			
Surrogate: Toluene-d8	*27.0*		*ug/l*	*25.0*		*108*	*80-120*			

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Camp, Dresser & McKee
111 Academy, Ste 150
Irvine, CA 92617
Attention: Sharon Wallin

Project ID: Omega Chemical Wastewater
IWP number 20039
Report Number: ISH1212

Sampled: 08/13/09
Received: 08/13/09

METHOD BLANK/QC DATA

VOLATILE ORGANICS by GC/MS (EPA 5030B/8260B)

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Data Qualifiers
Batch: 9H19024 Extracted: 08/19/09										
Matrix Spike Dup Analyzed: 08/19/2009 (9H19024-MSD1)					**Source: ISH1219-01**					
Acetone	29.0	10	ug/l	25.0	ND	116	20-150	1	35	
Benzene	24.8	0.50	ug/l	25.0	0.710	97	65-125	4	20	
Bromobenzene	26.7	1.0	ug/l	25.0	ND	107	70-125	4	20	
Bromochloromethane	25.6	1.0	ug/l	25.0	ND	102	65-135	1	25	
Bromodichloromethane	27.6	1.0	ug/l	25.0	ND	111	70-135	3	20	
Bromoform	23.0	1.0	ug/l	25.0	ND	92	55-135	4	25	
Bromomethane	24.2	1.0	ug/l	25.0	ND	97	55-145	7	25	
n-Butylbenzene	35.2	1.0	ug/l	25.0	ND	141	65-135	4	20	*M1*
sec-Butylbenzene	43.6	1.0	ug/l	25.0	17.6	104	70-125	5	20	
tert-Butylbenzene	30.6	1.0	ug/l	25.0	2.19	114	65-130	10	20	
Carbon tetrachloride	29.3	0.50	ug/l	25.0	ND	117	65-140	5	25	
Chlorobenzene	27.1	1.0	ug/l	25.0	ND	108	75-125	4	20	
Chloroethane	26.5	1.0	ug/l	25.0	ND	106	55-140	6	25	
Chloroform	23.2	1.0	ug/l	25.0	ND	93	65-135	1	20	
Chloromethane	18.6	1.0	ug/l	25.0	ND	75	45-145	3	25	
2-Chlorotoluene	27.9	1.0	ug/l	25.0	ND	112	65-135	6	20	
4-Chlorotoluene	28.1	1.0	ug/l	25.0	ND	112	70-135	7	20	
1,2-Dibromo-3-chloropropane	32.6	5.0	ug/l	25.0	ND	130	45-145	4	30	
Dibromochloromethane	27.7	1.0	ug/l	25.0	ND	111	65-140	3	25	
1,2-Dibromoethane (EDB)	27.9	1.0	ug/l	25.0	ND	112	70-130	3	25	
Dibromomethane	28.1	1.0	ug/l	25.0	ND	112	65-135	0	25	
1,2-Dichlorobenzene	27.0	1.0	ug/l	25.0	ND	108	75-125	7	20	
1,3-Dichlorobenzene	28.3	1.0	ug/l	25.0	ND	113	75-125	8	20	
1,4-Dichlorobenzene	27.7	1.0	ug/l	25.0	ND	111	75-125	8	20	
Dichlorodifluoromethane	27.9	5.0	ug/l	25.0	ND	112	25-155	1	30	
1,1-Dichloroethane	25.3	1.0	ug/l	25.0	ND	101	65-130	3	20	
1,2-Dichloroethane	24.9	0.50	ug/l	25.0	ND	99	60-140	2	20	
1,1-Dichloroethene	27.0	1.0	ug/l	25.0	ND	108	60-130	2	20	
cis-1,2-Dichloroethene	27.3	1.0	ug/l	25.0	ND	109	65-130	3	20	
trans-1,2-Dichloroethene	27.1	1.0	ug/l	25.0	ND	108	65-130	4	20	
1,2-Dichloropropane	24.9	1.0	ug/l	25.0	ND	100	65-130	1	20	
1,3-Dichloropropane	27.9	1.0	ug/l	25.0	ND	111	65-135	1	25	
2,2-Dichloropropane	28.0	1.0	ug/l	25.0	ND	112	60-145	5	25	
cis-1,3-Dichloropropene	31.2	0.50	ug/l	25.0	ND	125	70-130	1	20	
trans-1,3-Dichloropropene	24.0	0.50	ug/l	25.0	ND	96	65-135	1	25	
1,1-Dichloropropene	28.2	1.0	ug/l	25.0	ND	113	70-135	3	20	

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Project Manager

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Camp, Dresser & McKee 111 Academy, Ste 150 Irvine, CA 92617 Attention: Sharon Wallin	Project ID: Report Number:	Omega Chemical Wastewater IWP number 20039 ISH1212	Sampled: 08/13/09 Received: 08/13/09

METHOD BLANK/QC DATA

VOLATILE ORGANICS by GC/MS (EPA 5030B/8260B)

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Data Qualifiers
Batch: 9H19024 Extracted: 08/19/09										
Matrix Spike Dup Analyzed: 08/19/2009 (9H19024-MSD1)					**Source: ISH1219-01**					
Ethylbenzene	28.1	1.0	ug/l	25.0	1.37	107	65-130	0	20	
Hexachlorobutadiene	28.6	1.0	ug/l	25.0	ND	114	60-135	7	20	
Isopropylbenzene	49.4	1.0	ug/l	25.0	27.7	87	70-135	2	20	
p-Isopropyltoluene	28.8	1.0	ug/l	25.0	ND	115	65-130	8	20	
Methylene chloride	27.7	5.0	ug/l	25.0	ND	111	50-135	0	20	
Naphthalene	33.7	1.0	ug/l	25.0	0.820	132	50-140	6	30	
n-Propylbenzene	55.1	1.0	ug/l	25.0	35.5	78	70-135	2	20	
Styrene	27.7	1.0	ug/l	25.0	ND	111	50-145	2	30	
1,1,1,2-Tetrachloroethane	27.8	1.0	ug/l	25.0	ND	111	65-140	4	20	
1,1,2,2-Tetrachloroethane	30.4	1.0	ug/l	25.0	ND	121	55-135	5	30	
Tetrachloroethene	30.0	1.0	ug/l	25.0	ND	120	65-130	6	20	
Toluene	27.4	1.0	ug/l	25.0	0.450	108	70-125	3	20	
1,2,3-Trichlorobenzene	31.0	1.0	ug/l	25.0	ND	124	60-135	8	20	
1,2,4-Trichlorobenzene	31.0	1.0	ug/l	25.0	ND	124	65-135	6	20	
1,1,1-Trichloroethane	26.8	1.0	ug/l	25.0	ND	107	65-140	1	20	
1,1,2-Trichloroethane	47.2	1.0	ug/l	25.0	ND	189	65-130	1	25	*M1*
Trichloroethene	26.1	1.0	ug/l	25.0	ND	104	65-125	6	20	
Trichlorofluoromethane	26.4	1.0	ug/l	25.0	ND	105	60-145	5	25	
1,2,3-Trichloropropane	25.5	1.0	ug/l	25.0	ND	102	55-135	7	30	
1,2,4-Trimethylbenzene	30.6	1.0	ug/l	25.0	0.990	119	55-135	12	25	
1,3,5-Trimethylbenzene	28.3	1.0	ug/l	25.0	ND	113	70-130	6	20	
Vinyl chloride	21.3	0.50	ug/l	25.0	ND	85	45-140	1	30	
m,p-Xylenes	56.9	1.0	ug/l	50.0	1.10	112	65-130	0	25	
o-Xylene	29.2	1.0	ug/l	25.0	ND	117	65-125	4	20	
Methyl-tert-butyl Ether (MTBE)	31.5	1.0	ug/l	25.0	6.20	101	55-145	6	25	
Surrogate: 4-Bromofluorobenzene	*25.6*		*ug/l*	*25.0*		*103*	*80-120*			
Surrogate: Dibromofluoromethane	*23.0*		*ug/l*	*25.0*		*92*	*80-120*			
Surrogate: Toluene-d8	*27.3*		*ug/l*	*25.0*		*109*	*80-120*			

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Project Manager

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Camp, Dresser & McKee 111 Academy, Ste 150 Irvine, CA 92617 Attention: Sharon Wallin	Project ID: Report Number:	Omega Chemical Wastewater IWP number 20039 ISH1212	Sampled: 08/13/09 Received: 08/13/09

METHOD BLANK/QC DATA

SEMI-VOLATILE ORGANICS BY GC/MS (EPA 3520C/8270C MOD)

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Data Qualifiers
Batch: 9H18064 Extracted: 08/18/09										
Blank Analyzed: 08/19/2009 (9H18064-BLK1)										
1,4-Dioxane	ND	0.50	ug/l							
Surrogate: 1,4-Dioxane-d8	*1.23*		*ug/l*	*2.00*		*61*	*30-120*			
LCS Analyzed: 08/19/2009 (9H18064-BS1)										
1,4-Dioxane	1.47	0.50	ug/l	2.00		74	35-120			
Surrogate: 1,4-Dioxane-d8	*1.34*		*ug/l*	*2.00*		*67*	*30-120*			
LCS Dup Analyzed: 08/19/2009 (9H18064-BSD1)										
1,4-Dioxane	1.42	0.50	ug/l	2.00		71	35-120	4	25	
Surrogate: 1,4-Dioxane-d8	*1.34*		*ug/l*	*2.00*		*67*	*30-120*			

TestAmerica Irvine

Kathleen A. Robb For Patty Mata
Project Manager

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TestAmerica
THE LEADER IN ENVIRONMENTAL TESTING

17461 Derian Avenue. Suite 100, Irvine, CA 92614 (949) 261-1022 Fax:(949) 260-3297

Camp, Dresser & McKee 111 Academy, Ste 150 Irvine, CA 92617 Attention: Sharon Wallin	Project ID:	Omega Chemical Wastewater IWP number 20039	Sampled: 08/13/09
	Report Number:	ISH1212	Received: 08/13/09

METHOD BLANK/QC DATA

INORGANICS

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Data Qualifiers
Batch: 9H14017 Extracted: 08/14/09										
Duplicate Analyzed: 08/14/2009 (9H14017-DUP1)					**Source: ISH1110-03**					
pH	7.65	0.100	pH Units		7.64			0	5	*HFT*

TestAmerica Irvine

Kathleen A. Robb For Patty Mata
Project Manager

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17461 Derian Avenue. Suite 100, Irvine, CA 92614 (949) 261-1022 Fax:(949) 260-3297

Camp, Dresser & McKee 111 Academy, Ste 150 Irvine, CA 92617 Attention: Sharon Wallin	Project ID: Omega Chemical Wastewater IWP number 20039 Report Number: ISH1212	Sampled: 08/13/09 Received: 08/13/09

DATA QUALIFIERS AND DEFINITIONS

HFT	The holding time for this test is immediate. It was analyzed in the laboratory as soon as possible after receipt.
L	Laboratory Control Sample and/or Laboratory Control Sample Duplicate recovery was above the acceptance limits. Analyte not detected, data not impacted.
M1	The MS and/or MSD were above the acceptance limits due to sample matrix interference. See Blank Spike (LCS).
P1	Sample received and analyzed without chemical preservation.
Z3	The sample required a dilution due to the nature of the sample matrix. Because of this dilution, the surrogate spike concentration in the sample was reduced to a level where the recovery calculation does not provide useful information.
ND	Analyte NOT DETECTED at or above the reporting limit or MDL, if MDL is specified.
RPD	Relative Percent Difference

ADDITIONAL COMMENTS

For 8260 analyses:

Due to the high water solubility of alcohols and ketones, the calibration criteria for these compounds is <30% RSD. The average % RSD of all compounds in the calibration is 15%, in accordance with EPA methods.

TestAmerica Irvine

Kathleen A. Robb For Patty Mata
Project Manager

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Camp, Dresser & McKee 111 Academy, Ste 150 Irvine, CA 92617 Attention: Sharon Wallin	Project ID: Omega Chemical Wastewater IWP number 20039 Report Number: ISH1212	Sampled: 08/13/09 Received: 08/13/09

Certification Summary

TestAmerica Irvine

Method	Matrix	Nelac	California
EPA 8260B	Water	X	X
EPA 8270C	Water	X	X
SM4500-H,B	Water	X	X

Nevada and NELAP provide analyte specific accreditations. Analyte specific information for TestAmerica may be obtained by contacting the laboratory or visiting our website at www.testamericainc.com

TestAmerica Irvine

Kathleen A. Robb For Patty Mata
Project Manager

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TSH 12/2

TestAmerica ANALYTICAL TESTING CORPORATION

☐ Nashville, TN ☐ Orlando, FL ☐ Cedar Falls, IA ☐ Dayton, OH ☐ Watertown, WI ☐ Pontiac, MI ☐ Indianapolis, IN ☐ Irvine, CA

To assist us in using the proper analytical methods, is this work being conducted for regulatory purposes?

Compliance Monitoring? (Yes) No

Enforcement Action? Yes (No)

Client Name/Account #: CDM

Address: CDM / Omega Chemical

City/State/Zip: Irvine, CA 92617

Project Manager: Sharon Wallin

Telephone Number: 949.752.5452 **Fax No.:**

Sampler Name: (Print)

Sampler Signature:

Report To: Sharon Wallin / Karen Schwarz

Invoice To: de maximus

TA Quote #:

Project ID:

Project #:

Sample ID / Description	Date Sampled	Time Sampled	No. of Containers Shipped	Grab	Composite	Field Filtered	Preservative: Ice	Preservative: HNO_3 (Red Label)	Preservative: HCl (Blue Label)	Preservative: NaOH (Orange Label)	Preservative: H_2SO_4 Plastic (Yellow Label)	Preservative: H_2SO_4 Glass(Yellow Label)	Preservative: None (Black Label)	Preservative: Other (Specify)	Matrix: Groundwater	Matrix: Wastewater	Matrix: Drinking Water	Matrix: Sludge	Matrix: Soil	Matrix: Other (specify):	Analyze For: VOC (8260B) (including freons)	Analyze For: 1,4 Dioxane (8270M)	Analyze For: pH	RUSH TAT (Pre-Schedule)	Standard TAT	Fax Results	Send QC with report
OC-SP220A-EFF-081309	8/13/2009	1036	4	x					x						x						x	x	x		x		
OC-TB-081309	8/13/2009	1100	2	x					x						x						x				x		
OC-EW1-SP110-081309	8/13/2009	~~930~~ 950	4	x					x						x						x	x			x		
OC-EW2-SP120-081309	8/13/2009	~~930~~ 950	4	x					x						x						x	x			x		
OC-EW3-SP130-081309	8/13/2009	943	4	x					x						x						x	x			x		
OC-EW4-SP140-081309	8/13/2009	~~950~~ 930	4	x					x						x						x	x			x		
OC-EW5-SP150-081309	8/13/2009	~~950~~ 920	4	x					x						x						x	x			x		
OC-SP200-INF-081309	8/13/2009	1038	4	x					x						x						x	x			x		

Special Instructions:

Method of Shipment: FEDEX

Laboratory Comments:

Temperature Upon Receipt: 4.5°C

VOCs Free of Headspace? Y N

Relinquished by:	Date	Time	Received by:	Date	Time
Karen Schwarz	8/13/09	1101	[signature]	8/13/09	11:01
[signature]	8/13/09	17:40	[signature]	8/13/09	1740

VB 8/14/09 16:00

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Appendix F.5

August 27, 2009
Water Analytical Results

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TestAmerica
THE LEADER IN ENVIRONMENTAL TESTING

17461 Derian Avenue. Suite 100, Irvine, CA 92614 (949) 261-1022 Fax:(949) 260-3297

LABORATORY REPORT

Prepared For: Camp, Dresser & McKee
111 Academy, Ste 150
Irvine, CA 92617
Attention: Sharon Wallin

Project: Omega Chemical Wastewater
IWP number 20039

Sampled: 08/27/09
Received: 08/27/09
Issued: 09/08/09 17:00

NELAP #01108CA California ELAP#2706 CSDLAC #10256 AZ #AZ0671 NV #CA01531

The results listed within this Laboratory Report pertain only to the samples tested in the laboratory. The analyses contained in this report were performed in accordance with the applicable certifications as noted. All soil samples are reported on a wet weight basis unless otherwise noted in the report. This Laboratory Report is confidential and is intended for the sole use of TestAmerica and its client. This report shall not be reproduced, except in full, without written permission from TestAmerica. The Chain of Custody, 1 page, is included and is an integral part of this report.
This entire report was reviewed and approved for release.

CASE NARRATIVE

SAMPLE RECEIPT: Samples were received intact, at 5°C, on ice and with chain of custody documentation.

HOLDING TIMES: Not all holding times were met. Results were qualified where the sample analysis did not occur within method specified holding time requirements.

PRESERVATION: Samples requiring preservation were verified prior to sample analysis.

QA/QC CRITERIA: All analyses met method criteria, except as noted in the report with data qualifiers.

COMMENTS: No significant observations were made.

SUBCONTRACTED: No analyses were subcontracted to an outside laboratory.

LABORATORY ID	CLIENT ID	MATRIX
ISH2377-01	OC-SP220A-EFF-082709	Water
ISH2377-02	OC-TB-082709	Water
ISH2377-03	OC-EW1-SP110-082709	Water
ISH2377-04	OC-EW2-SP120-082709	Water
ISH2377-05	OC-EW4-SP140-082709	Water
ISH2377-06	OC-EW5-SP150-082709	Water
ISH2377-07	OC-SP200-INF-082709	Water

Reviewed By:

TestAmerica Irvine

Patty Mata
Project Manager

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THE LEADER IN ENVIRONMENTAL TESTING

17461 Derian Avenue. Suite 100, Irvine, CA 92614 (949) 261-1022 Fax:(949) 260-3297

Camp, Dresser & McKee
111 Academy, Ste 150
Irvine, CA 92617
Attention: Sharon Wallin

Project ID: Omega Chemical Wastewater
IWP number 20039
Report Number: ISH2377

Sampled: 08/27/09
Received: 08/27/09

VOLATILE ORGANICS by GC/MS (EPA 5030B/8260B)

Analyte	Method	Batch	Reporting Limit	Sample Result	Dilution Factor	Date Extracted	Date Analyzed	Data Qualifiers
Sample ID: ISH2377-01 (OC-SP220A-EFF-082709 - Water)								
Reporting Units: ug/l								
Acetone	EPA 8260B	9I03021	10	ND	1	9/3/2009	9/3/2009	
Benzene	EPA 8260B	9I03021	0.50	ND	1	9/3/2009	9/3/2009	
Bromobenzene	EPA 8260B	9I03021	1.0	ND	1	9/3/2009	9/3/2009	
Bromochloromethane	EPA 8260B	9I03021	1.0	ND	1	9/3/2009	9/3/2009	
Bromodichloromethane	EPA 8260B	9I03021	1.0	ND	1	9/3/2009	9/3/2009	
Bromoform	EPA 8260B	9I03021	1.0	ND	1	9/3/2009	9/3/2009	
Bromomethane	EPA 8260B	9I03021	1.0	ND	1	9/3/2009	9/3/2009	
n-Butylbenzene	EPA 8260B	9I03021	1.0	ND	1	9/3/2009	9/3/2009	
sec-Butylbenzene	EPA 8260B	9I03021	1.0	ND	1	9/3/2009	9/3/2009	
tert-Butylbenzene	EPA 8260B	9I03021	1.0	ND	1	9/3/2009	9/3/2009	
Carbon tetrachloride	EPA 8260B	9I03021	0.50	ND	1	9/3/2009	9/3/2009	
Chlorobenzene	EPA 8260B	9I03021	1.0	ND	1	9/3/2009	9/3/2009	
Chloroethane	EPA 8260B	9I03021	1.0	ND	1	9/3/2009	9/3/2009	
Chloroform	EPA 8260B	9I03021	1.0	ND	1	9/3/2009	9/3/2009	
Chloromethane	EPA 8260B	9I03021	1.0	ND	1	9/3/2009	9/3/2009	
2-Chlorotoluene	EPA 8260B	9I03021	1.0	ND	1	9/3/2009	9/3/2009	
4-Chlorotoluene	EPA 8260B	9I03021	1.0	ND	1	9/3/2009	9/3/2009	
1,2-Dibromo-3-chloropropane	EPA 8260B	9I03021	5.0	ND	1	9/3/2009	9/3/2009	
Dibromochloromethane	EPA 8260B	9I03021	1.0	ND	1	9/3/2009	9/3/2009	
1,2-Dibromoethane (EDB)	EPA 8260B	9I03021	1.0	ND	1	9/3/2009	9/3/2009	
Dibromomethane	EPA 8260B	9I03021	1.0	ND	1	9/3/2009	9/3/2009	
1,2-Dichlorobenzene	EPA 8260B	9I03021	1.0	ND	1	9/3/2009	9/3/2009	
1,3-Dichlorobenzene	EPA 8260B	9I03021	1.0	ND	1	9/3/2009	9/3/2009	
1,4-Dichlorobenzene	EPA 8260B	9I03021	1.0	ND	1	9/3/2009	9/3/2009	
Dichlorodifluoromethane	EPA 8260B	9I03021	5.0	ND	1	9/3/2009	9/3/2009	
1,1-Dichloroethane	EPA 8260B	9I03021	1.0	ND	1	9/3/2009	9/3/2009	
1,2-Dichloroethane	EPA 8260B	9I03021	0.50	ND	1	9/3/2009	9/3/2009	
1,1-Dichloroethene	EPA 8260B	9I03021	1.0	ND	1	9/3/2009	9/3/2009	
cis-1,2-Dichloroethene	EPA 8260B	9I03021	1.0	ND	1	9/3/2009	9/3/2009	
trans-1,2-Dichloroethene	EPA 8260B	9I03021	1.0	ND	1	9/3/2009	9/3/2009	
1,2-Dichloropropane	EPA 8260B	9I03021	1.0	ND	1	9/3/2009	9/3/2009	
1,3-Dichloropropane	EPA 8260B	9I03021	1.0	ND	1	9/3/2009	9/3/2009	
2,2-Dichloropropane	EPA 8260B	9I03021	1.0	ND	1	9/3/2009	9/3/2009	
cis-1,3-Dichloropropene	EPA 8260B	9I03021	0.50	ND	1	9/3/2009	9/3/2009	
trans-1,3-Dichloropropene	EPA 8260B	9I03021	0.50	ND	1	9/3/2009	9/3/2009	
1,1-Dichloropropene	EPA 8260B	9I03021	1.0	ND	1	9/3/2009	9/3/2009	
Ethylbenzene	EPA 8260B	9I03021	1.0	ND	1	9/3/2009	9/3/2009	
Hexachlorobutadiene	EPA 8260B	9I03021	1.0	ND	1	9/3/2009	9/3/2009	
Isopropylbenzene	EPA 8260B	9I03021	1.0	ND	1	9/3/2009	9/3/2009	
p-Isopropyltoluene	EPA 8260B	9I03021	1.0	ND	1	9/3/2009	9/3/2009	
Methylene chloride	EPA 8260B	9I03021	5.0	ND	1	9/3/2009	9/3/2009	

TestAmerica Irvine

Patty Mata
Project Manager

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17461 Derian Avenue. Suite 100, Irvine, CA 92614 (949) 261-1022 Fax:(949) 260-3297

Camp, Dresser & McKee
111 Academy, Ste 150
Irvine, CA 92617
Attention: Sharon Wallin

Project ID: Omega Chemical Wastewater
IWP number 20039
Report Number: ISH2377

Sampled: 08/27/09
Received: 08/27/09

VOLATILE ORGANICS by GC/MS (EPA 5030B/8260B)

Analyte	Method	Batch	Reporting Limit	Sample Result	Dilution Factor	Date Extracted	Date Analyzed	Data Qualifiers
Sample ID: ISH2377-01 (OC-SP220A-EFF-082709 - Water) - cont.								
Reporting Units: ug/l								
Naphthalene	EPA 8260B	9I03021	1.0	ND	1	9/3/2009	9/3/2009	
n-Propylbenzene	EPA 8260B	9I03021	1.0	ND	1	9/3/2009	9/3/2009	
Styrene	EPA 8260B	9I03021	1.0	ND	1	9/3/2009	9/3/2009	
1,1,1,2-Tetrachloroethane	EPA 8260B	9I03021	1.0	ND	1	9/3/2009	9/3/2009	
1,1,2,2-Tetrachloroethane	EPA 8260B	9I03021	1.0	ND	1	9/3/2009	9/3/2009	
Tetrachloroethene	EPA 8260B	9I03021	1.0	ND	1	9/3/2009	9/3/2009	
Toluene	EPA 8260B	9I03021	1.0	ND	1	9/3/2009	9/3/2009	
1,2,3-Trichlorobenzene	EPA 8260B	9I03021	1.0	ND	1	9/3/2009	9/3/2009	
1,2,4-Trichlorobenzene	EPA 8260B	9I03021	1.0	ND	1	9/3/2009	9/3/2009	
1,1,1-Trichloroethane	EPA 8260B	9I03021	1.0	ND	1	9/3/2009	9/3/2009	
1,1,2-Trichloroethane	EPA 8260B	9I03021	1.0	ND	1	9/3/2009	9/3/2009	
Trichloroethene	EPA 8260B	9I03021	1.0	ND	1	9/3/2009	9/3/2009	
Trichlorofluoromethane	EPA 8260B	9I03021	1.0	ND	1	9/3/2009	9/3/2009	
1,2,3-Trichloropropane	EPA 8260B	9I03021	1.0	ND	1	9/3/2009	9/3/2009	
Trichlorotrifluoroethane (Freon 113)	EPA 8260B	9I03021	5.0	ND	1	9/3/2009	9/3/2009	
1,2,4-Trimethylbenzene	EPA 8260B	9I03021	1.0	ND	1	9/3/2009	9/3/2009	
1,3,5-Trimethylbenzene	EPA 8260B	9I03021	1.0	ND	1	9/3/2009	9/3/2009	
Vinyl chloride	EPA 8260B	9I03021	0.50	ND	1	9/3/2009	9/3/2009	
m,p-Xylenes	EPA 8260B	9I03021	1.0	ND	1	9/3/2009	9/3/2009	
o-Xylene	EPA 8260B	9I03021	1.0	ND	1	9/3/2009	9/3/2009	
Methyl-tert-butyl Ether (MTBE)	EPA 8260B	9I03021	1.0	ND	1	9/3/2009	9/3/2009	
Volatile Organic Compounds	EPA 8260B	9I03021	2.0	ND	1	9/3/2009	9/3/2009	
Surrogate: 4-Bromofluorobenzene (80-120%)				*93 %*				
Surrogate: Dibromofluoromethane (80-120%)				*109 %*				
Surrogate: Toluene-d8 (80-120%)				*102 %*				

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Patty Mata
Project Manager

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Camp, Dresser & McKee
111 Academy, Ste 150
Irvine, CA 92617
Attention: Sharon Wallin

Project ID: Omega Chemical Wastewater
IWP number 20039
Report Number: ISH2377

Sampled: 08/27/09
Received: 08/27/09

VOLATILE ORGANICS by GC/MS (EPA 5030B/8260B)

Analyte	Method	Batch	Reporting Limit	Sample Result	Dilution Factor	Date Extracted	Date Analyzed	Data Qualifiers
Sample ID: ISH2377-02 (OC-TB-082709 - Water)								
Reporting Units: ug/l								
Acetone	EPA 8260B	9I03021	10	ND	1	9/3/2009	9/3/2009	
Benzene	EPA 8260B	9I03021	0.50	ND	1	9/3/2009	9/3/2009	
Bromobenzene	EPA 8260B	9I03021	1.0	ND	1	9/3/2009	9/3/2009	
Bromochloromethane	EPA 8260B	9I03021	1.0	ND	1	9/3/2009	9/3/2009	
Bromodichloromethane	EPA 8260B	9I03021	1.0	ND	1	9/3/2009	9/3/2009	
Bromoform	EPA 8260B	9I03021	1.0	ND	1	9/3/2009	9/3/2009	
Bromomethane	EPA 8260B	9I03021	1.0	ND	1	9/3/2009	9/3/2009	
n-Butylbenzene	EPA 8260B	9I03021	1.0	ND	1	9/3/2009	9/3/2009	
sec-Butylbenzene	EPA 8260B	9I03021	1.0	ND	1	9/3/2009	9/3/2009	
tert-Butylbenzene	EPA 8260B	9I03021	1.0	ND	1	9/3/2009	9/3/2009	
Carbon tetrachloride	EPA 8260B	9I03021	0.50	ND	1	9/3/2009	9/3/2009	
Chlorobenzene	EPA 8260B	9I03021	1.0	ND	1	9/3/2009	9/3/2009	
Chloroethane	EPA 8260B	9I03021	1.0	ND	1	9/3/2009	9/3/2009	
Chloroform	EPA 8260B	9I03021	1.0	ND	1	9/3/2009	9/3/2009	
Chloromethane	EPA 8260B	9I03021	1.0	ND	1	9/3/2009	9/3/2009	
2-Chlorotoluene	EPA 8260B	9I03021	1.0	ND	1	9/3/2009	9/3/2009	
4-Chlorotoluene	EPA 8260B	9I03021	1.0	ND	1	9/3/2009	9/3/2009	
1,2-Dibromo-3-chloropropane	EPA 8260B	9I03021	5.0	ND	1	9/3/2009	9/3/2009	
Dibromochloromethane	EPA 8260B	9I03021	1.0	ND	1	9/3/2009	9/3/2009	
1,2-Dibromoethane (EDB)	EPA 8260B	9I03021	1.0	ND	1	9/3/2009	9/3/2009	
Dibromomethane	EPA 8260B	9I03021	1.0	ND	1	9/3/2009	9/3/2009	
1,2-Dichlorobenzene	EPA 8260B	9I03021	1.0	ND	1	9/3/2009	9/3/2009	
1,3-Dichlorobenzene	EPA 8260B	9I03021	1.0	ND	1	9/3/2009	9/3/2009	
1,4-Dichlorobenzene	EPA 8260B	9I03021	1.0	ND	1	9/3/2009	9/3/2009	
Dichlorodifluoromethane	EPA 8260B	9I03021	5.0	ND	1	9/3/2009	9/3/2009	
1,1-Dichloroethane	EPA 8260B	9I03021	1.0	ND	1	9/3/2009	9/3/2009	
1,2-Dichloroethane	EPA 8260B	9I03021	0.50	ND	1	9/3/2009	9/3/2009	
1,1-Dichloroethene	EPA 8260B	9I03021	1.0	ND	1	9/3/2009	9/3/2009	
cis-1,2-Dichloroethene	EPA 8260B	9I03021	1.0	ND	1	9/3/2009	9/3/2009	
trans-1,2-Dichloroethene	EPA 8260B	9I03021	1.0	ND	1	9/3/2009	9/3/2009	
1,2-Dichloropropane	EPA 8260B	9I03021	1.0	ND	1	9/3/2009	9/3/2009	
1,3-Dichloropropane	EPA 8260B	9I03021	1.0	ND	1	9/3/2009	9/3/2009	
2,2-Dichloropropane	EPA 8260B	9I03021	1.0	ND	1	9/3/2009	9/3/2009	
cis-1,3-Dichloropropene	EPA 8260B	9I03021	0.50	ND	1	9/3/2009	9/3/2009	
trans-1,3-Dichloropropene	EPA 8260B	9I03021	0.50	ND	1	9/3/2009	9/3/2009	
1,1-Dichloropropene	EPA 8260B	9I03021	1.0	ND	1	9/3/2009	9/3/2009	
Ethylbenzene	EPA 8260B	9I03021	1.0	ND	1	9/3/2009	9/3/2009	
Hexachlorobutadiene	EPA 8260B	9I03021	1.0	ND	1	9/3/2009	9/3/2009	
Isopropylbenzene	EPA 8260B	9I03021	1.0	ND	1	9/3/2009	9/3/2009	
p-Isopropyltoluene	EPA 8260B	9I03021	1.0	ND	1	9/3/2009	9/3/2009	
Methylene chloride	EPA 8260B	9I03021	5.0	ND	1	9/3/2009	9/3/2009	

TestAmerica Irvine

Patty Mata
Project Manager

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Camp, Dresser & McKee
111 Academy, Ste 150
Irvine, CA 92617
Attention: Sharon Wallin

Project ID: Omega Chemical Wastewater
IWP number 20039
Report Number: ISH2377

Sampled: 08/27/09
Received: 08/27/09

VOLATILE ORGANICS by GC/MS (EPA 5030B/8260B)

Analyte	Method	Batch	Reporting Limit	Sample Result	Dilution Factor	Date Extracted	Date Analyzed	Data Qualifiers
Sample ID: ISH2377-02 (OC-TB-082709 - Water) - cont.								
Reporting Units: ug/l								
Naphthalene	EPA 8260B	9I03021	1.0	ND	1	9/3/2009	9/3/2009	
n-Propylbenzene	EPA 8260B	9I03021	1.0	ND	1	9/3/2009	9/3/2009	
Styrene	EPA 8260B	9I03021	1.0	ND	1	9/3/2009	9/3/2009	
1,1,1,2-Tetrachloroethane	EPA 8260B	9I03021	1.0	ND	1	9/3/2009	9/3/2009	
1,1,2,2-Tetrachloroethane	EPA 8260B	9I03021	1.0	ND	1	9/3/2009	9/3/2009	
Tetrachloroethene	EPA 8260B	9I03021	1.0	ND	1	9/3/2009	9/3/2009	
Toluene	EPA 8260B	9I03021	1.0	ND	1	9/3/2009	9/3/2009	
1,2,3-Trichlorobenzene	EPA 8260B	9I03021	1.0	ND	1	9/3/2009	9/3/2009	
1,2,4-Trichlorobenzene	EPA 8260B	9I03021	1.0	ND	1	9/3/2009	9/3/2009	
1,1,1-Trichloroethane	EPA 8260B	9I03021	1.0	ND	1	9/3/2009	9/3/2009	
1,1,2-Trichloroethane	EPA 8260B	9I03021	1.0	ND	1	9/3/2009	9/3/2009	
Trichloroethene	EPA 8260B	9I03021	1.0	ND	1	9/3/2009	9/3/2009	
Trichlorofluoromethane	EPA 8260B	9I03021	1.0	ND	1	9/3/2009	9/3/2009	
1,2,3-Trichloropropane	EPA 8260B	9I03021	1.0	ND	1	9/3/2009	9/3/2009	
Trichlorotrifluoroethane (Freon 113)	EPA 8260B	9I03021	5.0	ND	1	9/3/2009	9/3/2009	
1,2,4-Trimethylbenzene	EPA 8260B	9I03021	1.0	ND	1	9/3/2009	9/3/2009	
1,3,5-Trimethylbenzene	EPA 8260B	9I03021	1.0	ND	1	9/3/2009	9/3/2009	
Vinyl chloride	EPA 8260B	9I03021	0.50	ND	1	9/3/2009	9/3/2009	
m,p-Xylenes	EPA 8260B	9I03021	1.0	ND	1	9/3/2009	9/3/2009	
o-Xylene	EPA 8260B	9I03021	1.0	ND	1	9/3/2009	9/3/2009	
Methyl-tert-butyl Ether (MTBE)	EPA 8260B	9I03021	1.0	ND	1	9/3/2009	9/3/2009	
Volatile Organic Compounds	EPA 8260B	9I03021	2.0	ND	1	9/3/2009	9/3/2009	
Surrogate: 4-Bromofluorobenzene (80-120%)				*92 %*				
Surrogate: Dibromofluoromethane (80-120%)				*107 %*				
Surrogate: Toluene-d8 (80-120%)				*100 %*				

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Project Manager

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Camp, Dresser & McKee
111 Academy, Ste 150
Irvine, CA 92617
Attention: Sharon Wallin

Project ID: Omega Chemical Wastewater
IWP number 20039
Report Number: ISH2377

Sampled: 08/27/09
Received: 08/27/09

VOLATILE ORGANICS by GC/MS (EPA 5030B/8260B)

Analyte	Method	Batch	Reporting Limit	Sample Result	Dilution Factor	Date Extracted	Date Analyzed	Data Qualifiers
Sample ID: ISH2377-03 (OC-EW1-SP110-082709 - Water)								
Reporting Units: ug/l								
Acetone	EPA 8260B	9I03021	100	ND	10	9/3/2009	9/3/2009	
Benzene	EPA 8260B	9I03021	5.0	ND	10	9/3/2009	9/3/2009	
Bromobenzene	EPA 8260B	9I03021	10	ND	10	9/3/2009	9/3/2009	
Bromochloromethane	EPA 8260B	9I03021	10	ND	10	9/3/2009	9/3/2009	
Bromodichloromethane	EPA 8260B	9I03021	10	ND	10	9/3/2009	9/3/2009	
Bromoform	EPA 8260B	9I03021	10	ND	10	9/3/2009	9/3/2009	
Bromomethane	EPA 8260B	9I03021	10	ND	10	9/3/2009	9/3/2009	
n-Butylbenzene	EPA 8260B	9I03021	10	ND	10	9/3/2009	9/3/2009	
sec-Butylbenzene	EPA 8260B	9I03021	10	ND	10	9/3/2009	9/3/2009	
tert-Butylbenzene	EPA 8260B	9I03021	10	ND	10	9/3/2009	9/3/2009	
Carbon tetrachloride	EPA 8260B	9I03021	5.0	ND	10	9/3/2009	9/3/2009	
Chlorobenzene	EPA 8260B	9I03021	10	ND	10	9/3/2009	9/3/2009	
Chloroethane	EPA 8260B	9I03021	10	ND	10	9/3/2009	9/3/2009	
Chloroform	EPA 8260B	9I03021	10	ND	10	9/3/2009	9/3/2009	
Chloromethane	EPA 8260B	9I03021	10	ND	10	9/3/2009	9/3/2009	
2-Chlorotoluene	EPA 8260B	9I03021	10	ND	10	9/3/2009	9/3/2009	
4-Chlorotoluene	EPA 8260B	9I03021	10	ND	10	9/3/2009	9/3/2009	
1,2-Dibromo-3-chloropropane	EPA 8260B	9I03021	50	ND	10	9/3/2009	9/3/2009	
Dibromochloromethane	EPA 8260B	9I03021	10	ND	10	9/3/2009	9/3/2009	
1,2-Dibromoethane (EDB)	EPA 8260B	9I03021	10	ND	10	9/3/2009	9/3/2009	
Dibromomethane	EPA 8260B	9I03021	10	ND	10	9/3/2009	9/3/2009	
1,2-Dichlorobenzene	EPA 8260B	9I03021	10	ND	10	9/3/2009	9/3/2009	
1,3-Dichlorobenzene	EPA 8260B	9I03021	10	ND	10	9/3/2009	9/3/2009	
1,4-Dichlorobenzene	EPA 8260B	9I03021	10	ND	10	9/3/2009	9/3/2009	
Dichlorodifluoromethane	EPA 8260B	9I03021	50	ND	10	9/3/2009	9/3/2009	
1,1-Dichloroethane	EPA 8260B	9I03021	10	ND	10	9/3/2009	9/3/2009	
1,2-Dichloroethane	EPA 8260B	9I03021	5.0	ND	10	9/3/2009	9/3/2009	
1,1-Dichloroethene	EPA 8260B	9I03021	10	**110**	10	9/3/2009	9/3/2009	
cis-1,2-Dichloroethene	EPA 8260B	9I03021	10	ND	10	9/3/2009	9/3/2009	
trans-1,2-Dichloroethene	EPA 8260B	9I03021	10	ND	10	9/3/2009	9/3/2009	
1,2-Dichloropropane	EPA 8260B	9I03021	10	ND	10	9/3/2009	9/3/2009	
1,3-Dichloropropane	EPA 8260B	9I03021	10	ND	10	9/3/2009	9/3/2009	
2,2-Dichloropropane	EPA 8260B	9I03021	10	ND	10	9/3/2009	9/3/2009	
cis-1,3-Dichloropropene	EPA 8260B	9I03021	5.0	ND	10	9/3/2009	9/3/2009	
trans-1,3-Dichloropropene	EPA 8260B	9I03021	5.0	ND	10	9/3/2009	9/3/2009	
1,1-Dichloropropene	EPA 8260B	9I03021	10	ND	10	9/3/2009	9/3/2009	
Ethylbenzene	EPA 8260B	9I03021	10	ND	10	9/3/2009	9/3/2009	
Hexachlorobutadiene	EPA 8260B	9I03021	10	ND	10	9/3/2009	9/3/2009	
Isopropylbenzene	EPA 8260B	9I03021	10	ND	10	9/3/2009	9/3/2009	
p-Isopropyltoluene	EPA 8260B	9I03021	10	ND	10	9/3/2009	9/3/2009	
Methylene chloride	EPA 8260B	9I03021	50	ND	10	9/3/2009	9/3/2009	

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Attention: Sharon Wallin

Project ID: Omega Chemical Wastewater
IWP number 20039
Report Number: ISH2377

Sampled: 08/27/09
Received: 08/27/09

VOLATILE ORGANICS by GC/MS (EPA 5030B/8260B)

Analyte	Method	Batch	Reporting Limit	Sample Result	Dilution Factor	Date Extracted	Date Analyzed	Data Qualifiers
Sample ID: ISH2377-03 (OC-EW1-SP110-082709 - Water) - cont.								
Reporting Units: ug/l								
Naphthalene	EPA 8260B	9I03021	10	ND	10	9/3/2009	9/3/2009	
n-Propylbenzene	EPA 8260B	9I03021	10	ND	10	9/3/2009	9/3/2009	
Styrene	EPA 8260B	9I03021	10	ND	10	9/3/2009	9/3/2009	
1,1,1,2-Tetrachloroethane	EPA 8260B	9I03021	10	ND	10	9/3/2009	9/3/2009	
1,1,2,2-Tetrachloroethane	EPA 8260B	9I03021	10	ND	10	9/3/2009	9/3/2009	
Tetrachloroethene	EPA 8260B	9I03021	10	**550**	10	9/3/2009	9/3/2009	
Toluene	EPA 8260B	9I03021	10	ND	10	9/3/2009	9/3/2009	
1,2,3-Trichlorobenzene	EPA 8260B	9I03021	10	ND	10	9/3/2009	9/3/2009	
1,2,4-Trichlorobenzene	EPA 8260B	9I03021	10	ND	10	9/3/2009	9/3/2009	
1,1,1-Trichloroethane	EPA 8260B	9I03021	10	ND	10	9/3/2009	9/3/2009	
1,1,2-Trichloroethane	EPA 8260B	9I03021	10	ND	10	9/3/2009	9/3/2009	
Trichloroethene	EPA 8260B	9I03021	10	**55**	10	9/3/2009	9/3/2009	
Trichlorofluoromethane	EPA 8260B	9I03021	10	**66**	10	9/3/2009	9/3/2009	
1,2,3-Trichloropropane	EPA 8260B	9I03021	10	ND	10	9/3/2009	9/3/2009	
Trichlorotrifluoroethane (Freon 113)	EPA 8260B	9I03021	50	**260**	10	9/3/2009	9/3/2009	
1,2,4-Trimethylbenzene	EPA 8260B	9I03021	10	ND	10	9/3/2009	9/3/2009	
1,3,5-Trimethylbenzene	EPA 8260B	9I03021	10	ND	10	9/3/2009	9/3/2009	
Vinyl chloride	EPA 8260B	9I03021	5.0	ND	10	9/3/2009	9/3/2009	
m,p-Xylenes	EPA 8260B	9I03021	10	ND	10	9/3/2009	9/3/2009	
o-Xylene	EPA 8260B	9I03021	10	ND	10	9/3/2009	9/3/2009	
Methyl-tert-butyl Ether (MTBE)	EPA 8260B	9I03021	10	ND	10	9/3/2009	9/3/2009	
Volatile Organic Compounds	EPA 8260B	9I03021	20	**1000**	10	9/3/2009	9/3/2009	
Surrogate: 4-Bromofluorobenzene (80-120%)				*94 %*				
Surrogate: Dibromofluoromethane (80-120%)				*105 %*				
Surrogate: Toluene-d8 (80-120%)				*101 %*				

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Received: 08/27/09

VOLATILE ORGANICS by GC/MS (EPA 5030B/8260B)

Analyte	Method	Batch	Reporting Limit	Sample Result	Dilution Factor	Date Extracted	Date Analyzed	Data Qualifiers
Sample ID: ISH2377-04 (OC-EW2-SP120-082709 - Water)								
Reporting Units: ug/l								
Acetone	EPA 8260B	9I03021	1000	ND	100	9/3/2009	9/3/2009	
Benzene	EPA 8260B	9I03021	50	ND	100	9/3/2009	9/3/2009	
Bromobenzene	EPA 8260B	9I03021	100	ND	100	9/3/2009	9/3/2009	
Bromochloromethane	EPA 8260B	9I03021	100	ND	100	9/3/2009	9/3/2009	
Bromodichloromethane	EPA 8260B	9I03021	100	ND	100	9/3/2009	9/3/2009	
Bromoform	EPA 8260B	9I03021	100	ND	100	9/3/2009	9/3/2009	
Bromomethane	EPA 8260B	9I03021	100	ND	100	9/3/2009	9/3/2009	
n-Butylbenzene	EPA 8260B	9I03021	100	ND	100	9/3/2009	9/3/2009	
sec-Butylbenzene	EPA 8260B	9I03021	100	ND	100	9/3/2009	9/3/2009	
tert-Butylbenzene	EPA 8260B	9I03021	100	ND	100	9/3/2009	9/3/2009	
Carbon tetrachloride	EPA 8260B	9I03021	50	ND	100	9/3/2009	9/3/2009	
Chlorobenzene	EPA 8260B	9I03021	100	ND	100	9/3/2009	9/3/2009	
Chloroethane	EPA 8260B	9I03021	100	ND	100	9/3/2009	9/3/2009	
Chloroform	EPA 8260B	9I03021	100	**180**	100	9/3/2009	9/3/2009	
Chloromethane	EPA 8260B	9I03021	100	ND	100	9/3/2009	9/3/2009	
2-Chlorotoluene	EPA 8260B	9I03021	100	ND	100	9/3/2009	9/3/2009	
4-Chlorotoluene	EPA 8260B	9I03021	100	ND	100	9/3/2009	9/3/2009	
1,2-Dibromo-3-chloropropane	EPA 8260B	9I03021	500	ND	100	9/3/2009	9/3/2009	
Dibromochloromethane	EPA 8260B	9I03021	100	ND	100	9/3/2009	9/3/2009	
1,2-Dibromoethane (EDB)	EPA 8260B	9I03021	100	ND	100	9/3/2009	9/3/2009	
Dibromomethane	EPA 8260B	9I03021	100	ND	100	9/3/2009	9/3/2009	
1,2-Dichlorobenzene	EPA 8260B	9I03021	100	ND	100	9/3/2009	9/3/2009	
1,3-Dichlorobenzene	EPA 8260B	9I03021	100	ND	100	9/3/2009	9/3/2009	
1,4-Dichlorobenzene	EPA 8260B	9I03021	100	ND	100	9/3/2009	9/3/2009	
Dichlorodifluoromethane	EPA 8260B	9I03021	500	ND	100	9/3/2009	9/3/2009	
1,1-Dichloroethane	EPA 8260B	9I03021	100	ND	100	9/3/2009	9/3/2009	
1,2-Dichloroethane	EPA 8260B	9I03021	50	ND	100	9/3/2009	9/3/2009	
1,1-Dichloroethene	EPA 8260B	9I03021	100	**340**	100	9/3/2009	9/3/2009	
cis-1,2-Dichloroethene	EPA 8260B	9I03021	100	ND	100	9/3/2009	9/3/2009	
trans-1,2-Dichloroethene	EPA 8260B	9I03021	100	ND	100	9/3/2009	9/3/2009	
1,2-Dichloropropane	EPA 8260B	9I03021	100	ND	100	9/3/2009	9/3/2009	
1,3-Dichloropropane	EPA 8260B	9I03021	100	ND	100	9/3/2009	9/3/2009	
2,2-Dichloropropane	EPA 8260B	9I03021	100	ND	100	9/3/2009	9/3/2009	
cis-1,3-Dichloropropene	EPA 8260B	9I03021	50	ND	100	9/3/2009	9/3/2009	
trans-1,3-Dichloropropene	EPA 8260B	9I03021	50	ND	100	9/3/2009	9/3/2009	
1,1-Dichloropropene	EPA 8260B	9I03021	100	ND	100	9/3/2009	9/3/2009	
Ethylbenzene	EPA 8260B	9I03021	100	ND	100	9/3/2009	9/3/2009	
Hexachlorobutadiene	EPA 8260B	9I03021	100	ND	100	9/3/2009	9/3/2009	
Isopropylbenzene	EPA 8260B	9I03021	100	ND	100	9/3/2009	9/3/2009	
p-Isopropyltoluene	EPA 8260B	9I03021	100	ND	100	9/3/2009	9/3/2009	
Methylene chloride	EPA 8260B	9I03021	500	ND	100	9/3/2009	9/3/2009	

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Sampled: 08/27/09
Received: 08/27/09

VOLATILE ORGANICS by GC/MS (EPA 5030B/8260B)

Analyte	Method	Batch	Reporting Limit	Sample Result	Dilution Factor	Date Extracted	Date Analyzed	Data Qualifiers
Sample ID: ISH2377-04 (OC-EW2-SP120-082709 - Water) - cont.								
Reporting Units: ug/l								
Naphthalene	EPA 8260B	9I03021	100	ND	100	9/3/2009	9/3/2009	
n-Propylbenzene	EPA 8260B	9I03021	100	ND	100	9/3/2009	9/3/2009	
Styrene	EPA 8260B	9I03021	100	ND	100	9/3/2009	9/3/2009	
1,1,1,2-Tetrachloroethane	EPA 8260B	9I03021	100	ND	100	9/3/2009	9/3/2009	
1,1,2,2-Tetrachloroethane	EPA 8260B	9I03021	100	ND	100	9/3/2009	9/3/2009	
Tetrachloroethene	EPA 8260B	9I03021	100	**6300**	100	9/3/2009	9/3/2009	
Toluene	EPA 8260B	9I03021	100	ND	100	9/3/2009	9/3/2009	
1,2,3-Trichlorobenzene	EPA 8260B	9I03021	100	ND	100	9/3/2009	9/3/2009	
1,2,4-Trichlorobenzene	EPA 8260B	9I03021	100	ND	100	9/3/2009	9/3/2009	
1,1,1-Trichloroethane	EPA 8260B	9I03021	100	ND	100	9/3/2009	9/3/2009	
1,1,2-Trichloroethane	EPA 8260B	9I03021	100	ND	100	9/3/2009	9/3/2009	
Trichloroethene	EPA 8260B	9I03021	100	**250**	100	9/3/2009	9/3/2009	
Trichlorofluoromethane	EPA 8260B	9I03021	100	**130**	100	9/3/2009	9/3/2009	
1,2,3-Trichloropropane	EPA 8260B	9I03021	100	ND	100	9/3/2009	9/3/2009	
Trichlorotrifluoroethane (Freon 113)	EPA 8260B	9I03021	500	**530**	100	9/3/2009	9/3/2009	
1,2,4-Trimethylbenzene	EPA 8260B	9I03021	100	ND	100	9/3/2009	9/3/2009	
1,3,5-Trimethylbenzene	EPA 8260B	9I03021	100	ND	100	9/3/2009	9/3/2009	
Vinyl chloride	EPA 8260B	9I03021	50	ND	100	9/3/2009	9/3/2009	
m,p-Xylenes	EPA 8260B	9I03021	100	ND	100	9/3/2009	9/3/2009	
o-Xylene	EPA 8260B	9I03021	100	ND	100	9/3/2009	9/3/2009	
Methyl-tert-butyl Ether (MTBE)	EPA 8260B	9I03021	100	ND	100	9/3/2009	9/3/2009	
Volatile Organic Compounds	EPA 8260B	9I03021	200	**7800**	100	9/3/2009	9/3/2009	
Surrogate: 4-Bromofluorobenzene (80-120%)				*92 %*				
Surrogate: Dibromofluoromethane (80-120%)				*107 %*				
Surrogate: Toluene-d8 (80-120%)				*101 %*				

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IWP number 20039
Report Number: ISH2377

Sampled: 08/27/09
Received: 08/27/09

VOLATILE ORGANICS by GC/MS (EPA 5030B/8260B)

Analyte	Method	Batch	Reporting Limit	Sample Result	Dilution Factor	Date Extracted	Date Analyzed	Data Qualifiers
Sample ID: ISH2377-05 (OC-EW4-SP140-082709 - Water)								
Reporting Units: ug/l								
Acetone	EPA 8260B	9I03021	100	ND	10	9/3/2009	9/4/2009	
Benzene	EPA 8260B	9I03021	5.0	ND	10	9/3/2009	9/4/2009	
Bromobenzene	EPA 8260B	9I03021	10	ND	10	9/3/2009	9/4/2009	
Bromochloromethane	EPA 8260B	9I03021	10	ND	10	9/3/2009	9/4/2009	
Bromodichloromethane	EPA 8260B	9I03021	10	ND	10	9/3/2009	9/4/2009	
Bromoform	EPA 8260B	9I03021	10	ND	10	9/3/2009	9/4/2009	
Bromomethane	EPA 8260B	9I03021	10	ND	10	9/3/2009	9/4/2009	
n-Butylbenzene	EPA 8260B	9I03021	10	ND	10	9/3/2009	9/4/2009	
sec-Butylbenzene	EPA 8260B	9I03021	10	ND	10	9/3/2009	9/4/2009	
tert-Butylbenzene	EPA 8260B	9I03021	10	ND	10	9/3/2009	9/4/2009	
Carbon tetrachloride	EPA 8260B	9I03021	5.0	ND	10	9/3/2009	9/4/2009	
Chlorobenzene	EPA 8260B	9I03021	10	ND	10	9/3/2009	9/4/2009	
Chloroethane	EPA 8260B	9I03021	10	ND	10	9/3/2009	9/4/2009	
Chloroform	EPA 8260B	9I03021	10	ND	10	9/3/2009	9/4/2009	
Chloromethane	EPA 8260B	9I03021	10	ND	10	9/3/2009	9/4/2009	
2-Chlorotoluene	EPA 8260B	9I03021	10	ND	10	9/3/2009	9/4/2009	
4-Chlorotoluene	EPA 8260B	9I03021	10	ND	10	9/3/2009	9/4/2009	
1,2-Dibromo-3-chloropropane	EPA 8260B	9I03021	50	ND	10	9/3/2009	9/4/2009	
Dibromochloromethane	EPA 8260B	9I03021	10	ND	10	9/3/2009	9/4/2009	
1,2-Dibromoethane (EDB)	EPA 8260B	9I03021	10	ND	10	9/3/2009	9/4/2009	
Dibromomethane	EPA 8260B	9I03021	10	ND	10	9/3/2009	9/4/2009	
1,2-Dichlorobenzene	EPA 8260B	9I03021	10	ND	10	9/3/2009	9/4/2009	
1,3-Dichlorobenzene	EPA 8260B	9I03021	10	ND	10	9/3/2009	9/4/2009	
1,4-Dichlorobenzene	EPA 8260B	9I03021	10	ND	10	9/3/2009	9/4/2009	
Dichlorodifluoromethane	EPA 8260B	9I03021	50	ND	10	9/3/2009	9/4/2009	
1,1-Dichloroethane	EPA 8260B	9I03021	10	ND	10	9/3/2009	9/4/2009	
1,2-Dichloroethane	EPA 8260B	9I03021	5.0	ND	10	9/3/2009	9/4/2009	
1,1-Dichloroethene	EPA 8260B	9I03021	10	**480**	10	9/3/2009	9/4/2009	
cis-1,2-Dichloroethene	EPA 8260B	9I03021	10	ND	10	9/3/2009	9/4/2009	
trans-1,2-Dichloroethene	EPA 8260B	9I03021	10	ND	10	9/3/2009	9/4/2009	
1,2-Dichloropropane	EPA 8260B	9I03021	10	ND	10	9/3/2009	9/4/2009	
1,3-Dichloropropane	EPA 8260B	9I03021	10	ND	10	9/3/2009	9/4/2009	
2,2-Dichloropropane	EPA 8260B	9I03021	10	ND	10	9/3/2009	9/4/2009	
cis-1,3-Dichloropropene	EPA 8260B	9I03021	5.0	ND	10	9/3/2009	9/4/2009	
trans-1,3-Dichloropropene	EPA 8260B	9I03021	5.0	ND	10	9/3/2009	9/4/2009	
1,1-Dichloropropene	EPA 8260B	9I03021	10	ND	10	9/3/2009	9/4/2009	
Ethylbenzene	EPA 8260B	9I03021	10	ND	10	9/3/2009	9/4/2009	
Hexachlorobutadiene	EPA 8260B	9I03021	10	ND	10	9/3/2009	9/4/2009	
Isopropylbenzene	EPA 8260B	9I03021	10	ND	10	9/3/2009	9/4/2009	
p-Isopropyltoluene	EPA 8260B	9I03021	10	ND	10	9/3/2009	9/4/2009	
Methylene chloride	EPA 8260B	9I03021	50	ND	10	9/3/2009	9/4/2009	

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Camp, Dresser & McKee
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Attention: Sharon Wallin

Project ID: Omega Chemical Wastewater
IWP number 20039
Report Number: ISH2377

Sampled: 08/27/09
Received: 08/27/09

VOLATILE ORGANICS by GC/MS (EPA 5030B/8260B)

Analyte	Method	Batch	Reporting Limit	Sample Result	Dilution Factor	Date Extracted	Date Analyzed	Data Qualifiers
Sample ID: ISH2377-05 (OC-EW4-SP140-082709 - Water) - cont.								
Reporting Units: ug/l								
Naphthalene	EPA 8260B	9I03021	10	ND	10	9/3/2009	9/4/2009	
n-Propylbenzene	EPA 8260B	9I03021	10	ND	10	9/3/2009	9/4/2009	
Styrene	EPA 8260B	9I03021	10	ND	10	9/3/2009	9/4/2009	
1,1,1,2-Tetrachloroethane	EPA 8260B	9I03021	10	ND	10	9/3/2009	9/4/2009	
1,1,2,2-Tetrachloroethane	EPA 8260B	9I03021	10	ND	10	9/3/2009	9/4/2009	
Tetrachloroethene	EPA 8260B	9I03021	10	**810**	10	9/3/2009	9/4/2009	
Toluene	EPA 8260B	9I03021	10	ND	10	9/3/2009	9/4/2009	
1,2,3-Trichlorobenzene	EPA 8260B	9I03021	10	ND	10	9/3/2009	9/4/2009	
1,2,4-Trichlorobenzene	EPA 8260B	9I03021	10	ND	10	9/3/2009	9/4/2009	
1,1,1-Trichloroethane	EPA 8260B	9I03021	10	ND	10	9/3/2009	9/4/2009	
1,1,2-Trichloroethane	EPA 8260B	9I03021	10	ND	10	9/3/2009	9/4/2009	
Trichloroethene	EPA 8260B	9I03021	10	**68**	10	9/3/2009	9/4/2009	
Trichlorofluoromethane	EPA 8260B	9I03021	10	**87**	10	9/3/2009	9/4/2009	
1,2,3-Trichloropropane	EPA 8260B	9I03021	10	ND	10	9/3/2009	9/4/2009	
Trichlorotrifluoroethane (Freon 113)	EPA 8260B	9I03021	50	**130**	10	9/3/2009	9/4/2009	
1,2,4-Trimethylbenzene	EPA 8260B	9I03021	10	ND	10	9/3/2009	9/4/2009	
1,3,5-Trimethylbenzene	EPA 8260B	9I03021	10	ND	10	9/3/2009	9/4/2009	
Vinyl chloride	EPA 8260B	9I03021	5.0	ND	10	9/3/2009	9/4/2009	
m,p-Xylenes	EPA 8260B	9I03021	10	ND	10	9/3/2009	9/4/2009	
o-Xylene	EPA 8260B	9I03021	10	ND	10	9/3/2009	9/4/2009	
Methyl-tert-butyl Ether (MTBE)	EPA 8260B	9I03021	10	ND	10	9/3/2009	9/4/2009	
Volatile Organic Compounds	EPA 8260B	9I03021	20	**1600**	10	9/3/2009	9/4/2009	
Surrogate: 4-Bromofluorobenzene (80-120%)				*91 %*				
Surrogate: Dibromofluoromethane (80-120%)				*104 %*				
Surrogate: Toluene-d8 (80-120%)				*101 %*				

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IWP number 20039
Report Number: ISH2377

Sampled: 08/27/09
Received: 08/27/09

VOLATILE ORGANICS by GC/MS (EPA 5030B/8260B)

Analyte	Method	Batch	Reporting Limit	Sample Result	Dilution Factor	Date Extracted	Date Analyzed	Data Qualifiers
Sample ID: ISH2377-06 (OC-EW5-SP150-082709 - Water)								
Reporting Units: ug/l								
Acetone	EPA 8260B	9I03021	10	ND	1	9/3/2009	9/4/2009	
Benzene	EPA 8260B	9I03021	0.50	ND	1	9/3/2009	9/4/2009	
Bromobenzene	EPA 8260B	9I03021	1.0	ND	1	9/3/2009	9/4/2009	
Bromochloromethane	EPA 8260B	9I03021	1.0	ND	1	9/3/2009	9/4/2009	
Bromodichloromethane	EPA 8260B	9I03021	1.0	ND	1	9/3/2009	9/4/2009	
Bromoform	EPA 8260B	9I03021	1.0	ND	1	9/3/2009	9/4/2009	
Bromomethane	EPA 8260B	9I03021	1.0	ND	1	9/3/2009	9/4/2009	
n-Butylbenzene	EPA 8260B	9I03021	1.0	ND	1	9/3/2009	9/4/2009	
sec-Butylbenzene	EPA 8260B	9I03021	1.0	ND	1	9/3/2009	9/4/2009	
tert-Butylbenzene	EPA 8260B	9I03021	1.0	ND	1	9/3/2009	9/4/2009	
Carbon tetrachloride	EPA 8260B	9I03021	0.50	ND	1	9/3/2009	9/4/2009	
Chlorobenzene	EPA 8260B	9I03021	1.0	ND	1	9/3/2009	9/4/2009	
Chloroethane	EPA 8260B	9I03021	1.0	ND	1	9/3/2009	9/4/2009	
Chloroform	EPA 8260B	9I03021	1.0	ND	1	9/3/2009	9/4/2009	
Chloromethane	EPA 8260B	9I03021	1.0	ND	1	9/3/2009	9/4/2009	
2-Chlorotoluene	EPA 8260B	9I03021	1.0	ND	1	9/3/2009	9/4/2009	
4-Chlorotoluene	EPA 8260B	9I03021	1.0	ND	1	9/3/2009	9/4/2009	
1,2-Dibromo-3-chloropropane	EPA 8260B	9I03021	5.0	ND	1	9/3/2009	9/4/2009	
Dibromochloromethane	EPA 8260B	9I03021	1.0	ND	1	9/3/2009	9/4/2009	
1,2-Dibromoethane (EDB)	EPA 8260B	9I03021	1.0	ND	1	9/3/2009	9/4/2009	
Dibromomethane	EPA 8260B	9I03021	1.0	ND	1	9/3/2009	9/4/2009	
1,2-Dichlorobenzene	EPA 8260B	9I03021	1.0	ND	1	9/3/2009	9/4/2009	
1,3-Dichlorobenzene	EPA 8260B	9I03021	1.0	ND	1	9/3/2009	9/4/2009	
1,4-Dichlorobenzene	EPA 8260B	9I03021	1.0	ND	1	9/3/2009	9/4/2009	
Dichlorodifluoromethane	EPA 8260B	9I03021	5.0	ND	1	9/3/2009	9/4/2009	
1,1-Dichloroethane	EPA 8260B	9I03021	1.0	ND	1	9/3/2009	9/4/2009	
1,2-Dichloroethane	EPA 8260B	9I03021	0.50	ND	1	9/3/2009	9/4/2009	
1,1-Dichloroethene	EPA 8260B	9I03021	1.0	**74**	1	9/3/2009	9/4/2009	
cis-1,2-Dichloroethene	EPA 8260B	9I03021	1.0	ND	1	9/3/2009	9/4/2009	
trans-1,2-Dichloroethene	EPA 8260B	9I03021	1.0	ND	1	9/3/2009	9/4/2009	
1,2-Dichloropropane	EPA 8260B	9I03021	1.0	ND	1	9/3/2009	9/4/2009	
1,3-Dichloropropane	EPA 8260B	9I03021	1.0	ND	1	9/3/2009	9/4/2009	
2,2-Dichloropropane	EPA 8260B	9I03021	1.0	ND	1	9/3/2009	9/4/2009	
cis-1,3-Dichloropropene	EPA 8260B	9I03021	0.50	ND	1	9/3/2009	9/4/2009	
trans-1,3-Dichloropropene	EPA 8260B	9I03021	0.50	ND	1	9/3/2009	9/4/2009	
1,1-Dichloropropene	EPA 8260B	9I03021	1.0	ND	1	9/3/2009	9/4/2009	
Ethylbenzene	EPA 8260B	9I03021	1.0	ND	1	9/3/2009	9/4/2009	
Hexachlorobutadiene	EPA 8260B	9I03021	1.0	ND	1	9/3/2009	9/4/2009	
Isopropylbenzene	EPA 8260B	9I03021	1.0	ND	1	9/3/2009	9/4/2009	
p-Isopropyltoluene	EPA 8260B	9I03021	1.0	ND	1	9/3/2009	9/4/2009	
Methylene chloride	EPA 8260B	9I03021	5.0	ND	1	9/3/2009	9/4/2009	

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Irvine, CA 92617
Attention: Sharon Wallin

Project ID: Omega Chemical Wastewater
IWP number 20039
Report Number: ISH2377

Sampled: 08/27/09
Received: 08/27/09

VOLATILE ORGANICS by GC/MS (EPA 5030B/8260B)

Analyte	Method	Batch	Reporting Limit	Sample Result	Dilution Factor	Date Extracted	Date Analyzed	Data Qualifiers
Sample ID: ISH2377-06 (OC-EW5-SP150-082709 - Water) - cont.								
Reporting Units: ug/l								
Naphthalene	EPA 8260B	9I03021	1.0	ND	1	9/3/2009	9/4/2009	
n-Propylbenzene	EPA 8260B	9I03021	1.0	ND	1	9/3/2009	9/4/2009	
Styrene	EPA 8260B	9I03021	1.0	ND	1	9/3/2009	9/4/2009	
1,1,1,2-Tetrachloroethane	EPA 8260B	9I03021	1.0	ND	1	9/3/2009	9/4/2009	
1,1,2,2-Tetrachloroethane	EPA 8260B	9I03021	1.0	ND	1	9/3/2009	9/4/2009	
Tetrachloroethene	EPA 8260B	9I03021	1.0	**73**	1	9/3/2009	9/4/2009	
Toluene	EPA 8260B	9I03021	1.0	ND	1	9/3/2009	9/4/2009	
1,2,3-Trichlorobenzene	EPA 8260B	9I03021	1.0	ND	1	9/3/2009	9/4/2009	
1,2,4-Trichlorobenzene	EPA 8260B	9I03021	1.0	ND	1	9/3/2009	9/4/2009	
1,1,1-Trichloroethane	EPA 8260B	9I03021	1.0	ND	1	9/3/2009	9/4/2009	
1,1,2-Trichloroethane	EPA 8260B	9I03021	1.0	ND	1	9/3/2009	9/4/2009	
Trichloroethene	EPA 8260B	9I03021	1.0	**7.7**	1	9/3/2009	9/4/2009	
Trichlorofluoromethane	EPA 8260B	9I03021	1.0	**52**	1	9/3/2009	9/4/2009	
1,2,3-Trichloropropane	EPA 8260B	9I03021	1.0	ND	1	9/3/2009	9/4/2009	
Trichlorotrifluoroethane (Freon 113)	EPA 8260B	9I03021	5.0	**67**	1	9/3/2009	9/4/2009	
1,2,4-Trimethylbenzene	EPA 8260B	9I03021	1.0	ND	1	9/3/2009	9/4/2009	
1,3,5-Trimethylbenzene	EPA 8260B	9I03021	1.0	ND	1	9/3/2009	9/4/2009	
Vinyl chloride	EPA 8260B	9I03021	0.50	ND	1	9/3/2009	9/4/2009	
m,p-Xylenes	EPA 8260B	9I03021	1.0	ND	1	9/3/2009	9/4/2009	
o-Xylene	EPA 8260B	9I03021	1.0	ND	1	9/3/2009	9/4/2009	
Methyl-tert-butyl Ether (MTBE)	EPA 8260B	9I03021	1.0	ND	1	9/3/2009	9/4/2009	
Volatile Organic Compounds	EPA 8260B	9I03021	2.0	**270**	1	9/3/2009	9/4/2009	
Surrogate: 4-Bromofluorobenzene (80-120%)				*93 %*				
Surrogate: Dibromofluoromethane (80-120%)				*111 %*				
Surrogate: Toluene-d8 (80-120%)				*102 %*				

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Project ID: Omega Chemical Wastewater
IWP number 20039
Report Number: ISH2377

Sampled: 08/27/09
Received: 08/27/09

VOLATILE ORGANICS by GC/MS (EPA 5030B/8260B)

Analyte	Method	Batch	Reporting Limit	Sample Result	Dilution Factor	Date Extracted	Date Analyzed	Data Qualifiers
Sample ID: ISH2377-07 (OC-SP200-INF-082709 - Water)								
Reporting Units: ug/l								
Acetone	EPA 8260B	9I03021	500	ND	50	9/3/2009	9/4/2009	
Benzene	EPA 8260B	9I03021	25	ND	50	9/3/2009	9/4/2009	
Bromobenzene	EPA 8260B	9I03021	50	ND	50	9/3/2009	9/4/2009	
Bromochloromethane	EPA 8260B	9I03021	50	ND	50	9/3/2009	9/4/2009	
Bromodichloromethane	EPA 8260B	9I03021	50	ND	50	9/3/2009	9/4/2009	
Bromoform	EPA 8260B	9I03021	50	ND	50	9/3/2009	9/4/2009	
Bromomethane	EPA 8260B	9I03021	50	ND	50	9/3/2009	9/4/2009	
n-Butylbenzene	EPA 8260B	9I03021	50	ND	50	9/3/2009	9/4/2009	
sec-Butylbenzene	EPA 8260B	9I03021	50	ND	50	9/3/2009	9/4/2009	
tert-Butylbenzene	EPA 8260B	9I03021	50	ND	50	9/3/2009	9/4/2009	
Carbon tetrachloride	EPA 8260B	9I03021	25	ND	50	9/3/2009	9/4/2009	
Chlorobenzene	EPA 8260B	9I03021	50	ND	50	9/3/2009	9/4/2009	
Chloroethane	EPA 8260B	9I03021	50	ND	50	9/3/2009	9/4/2009	
Chloroform	EPA 8260B	9I03021	50	**110**	50	9/3/2009	9/4/2009	
Chloromethane	EPA 8260B	9I03021	50	ND	50	9/3/2009	9/4/2009	
2-Chlorotoluene	EPA 8260B	9I03021	50	ND	50	9/3/2009	9/4/2009	
4-Chlorotoluene	EPA 8260B	9I03021	50	ND	50	9/3/2009	9/4/2009	
1,2-Dibromo-3-chloropropane	EPA 8260B	9I03021	250	ND	50	9/3/2009	9/4/2009	
Dibromochloromethane	EPA 8260B	9I03021	50	ND	50	9/3/2009	9/4/2009	
1,2-Dibromoethane (EDB)	EPA 8260B	9I03021	50	ND	50	9/3/2009	9/4/2009	
Dibromomethane	EPA 8260B	9I03021	50	ND	50	9/3/2009	9/4/2009	
1,2-Dichlorobenzene	EPA 8260B	9I03021	50	ND	50	9/3/2009	9/4/2009	
1,3-Dichlorobenzene	EPA 8260B	9I03021	50	ND	50	9/3/2009	9/4/2009	
1,4-Dichlorobenzene	EPA 8260B	9I03021	50	ND	50	9/3/2009	9/4/2009	
Dichlorodifluoromethane	EPA 8260B	9I03021	250	ND	50	9/3/2009	9/4/2009	
1,1-Dichloroethane	EPA 8260B	9I03021	50	ND	50	9/3/2009	9/4/2009	
1,2-Dichloroethane	EPA 8260B	9I03021	25	ND	50	9/3/2009	9/4/2009	
1,1-Dichloroethene	EPA 8260B	9I03021	50	**300**	50	9/3/2009	9/4/2009	
cis-1,2-Dichloroethene	EPA 8260B	9I03021	50	ND	50	9/3/2009	9/4/2009	
trans-1,2-Dichloroethene	EPA 8260B	9I03021	50	ND	50	9/3/2009	9/4/2009	
1,2-Dichloropropane	EPA 8260B	9I03021	50	ND	50	9/3/2009	9/4/2009	
1,3-Dichloropropane	EPA 8260B	9I03021	50	ND	50	9/3/2009	9/4/2009	
2,2-Dichloropropane	EPA 8260B	9I03021	50	ND	50	9/3/2009	9/4/2009	
cis-1,3-Dichloropropene	EPA 8260B	9I03021	25	ND	50	9/3/2009	9/4/2009	
trans-1,3-Dichloropropene	EPA 8260B	9I03021	25	ND	50	9/3/2009	9/4/2009	
1,1-Dichloropropene	EPA 8260B	9I03021	50	ND	50	9/3/2009	9/4/2009	
Ethylbenzene	EPA 8260B	9I03021	50	ND	50	9/3/2009	9/4/2009	
Hexachlorobutadiene	EPA 8260B	9I03021	50	ND	50	9/3/2009	9/4/2009	
Isopropylbenzene	EPA 8260B	9I03021	50	ND	50	9/3/2009	9/4/2009	
p-Isopropyltoluene	EPA 8260B	9I03021	50	ND	50	9/3/2009	9/4/2009	
Methylene chloride	EPA 8260B	9I03021	250	ND	50	9/3/2009	9/4/2009	

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Project ID: Omega Chemical Wastewater
IWP number 20039
Report Number: ISH2377

Sampled: 08/27/09
Received: 08/27/09

VOLATILE ORGANICS by GC/MS (EPA 5030B/8260B)

Analyte	Method	Batch	Reporting Limit	Sample Result	Dilution Factor	Date Extracted	Date Analyzed	Data Qualifiers
Sample ID: ISH2377-07 (OC-SP200-INF-082709 - Water) - cont.								
Reporting Units: ug/l								
Naphthalene	EPA 8260B	9I03021	50	ND	50	9/3/2009	9/4/2009	
n-Propylbenzene	EPA 8260B	9I03021	50	ND	50	9/3/2009	9/4/2009	
Styrene	EPA 8260B	9I03021	50	ND	50	9/3/2009	9/4/2009	
1,1,1,2-Tetrachloroethane	EPA 8260B	9I03021	50	ND	50	9/3/2009	9/4/2009	
1,1,2,2-Tetrachloroethane	EPA 8260B	9I03021	50	ND	50	9/3/2009	9/4/2009	
Tetrachloroethene	EPA 8260B	9I03021	50	**4200**	50	9/3/2009	9/4/2009	
Toluene	EPA 8260B	9I03021	50	ND	50	9/3/2009	9/4/2009	
1,2,3-Trichlorobenzene	EPA 8260B	9I03021	50	ND	50	9/3/2009	9/4/2009	
1,2,4-Trichlorobenzene	EPA 8260B	9I03021	50	ND	50	9/3/2009	9/4/2009	
1,1,1-Trichloroethane	EPA 8260B	9I03021	50	ND	50	9/3/2009	9/4/2009	
1,1,2-Trichloroethane	EPA 8260B	9I03021	50	ND	50	9/3/2009	9/4/2009	
Trichloroethene	EPA 8260B	9I03021	50	**190**	50	9/3/2009	9/4/2009	
Trichlorofluoromethane	EPA 8260B	9I03021	50	**110**	50	9/3/2009	9/4/2009	
1,2,3-Trichloropropane	EPA 8260B	9I03021	50	ND	50	9/3/2009	9/4/2009	
Trichlorotrifluoroethane (Freon 113)	EPA 8260B	9I03021	250	**400**	50	9/3/2009	9/4/2009	
1,2,4-Trimethylbenzene	EPA 8260B	9I03021	50	ND	50	9/3/2009	9/4/2009	
1,3,5-Trimethylbenzene	EPA 8260B	9I03021	50	ND	50	9/3/2009	9/4/2009	
Vinyl chloride	EPA 8260B	9I03021	25	ND	50	9/3/2009	9/4/2009	
m,p-Xylenes	EPA 8260B	9I03021	50	ND	50	9/3/2009	9/4/2009	
o-Xylene	EPA 8260B	9I03021	50	ND	50	9/3/2009	9/4/2009	
Methyl-tert-butyl Ether (MTBE)	EPA 8260B	9I03021	50	ND	50	9/3/2009	9/4/2009	
Volatile Organic Compounds	EPA 8260B	9I03021	100	**5300**	50	9/3/2009	9/4/2009	
Surrogate: 4-Bromofluorobenzene (80-120%)				*92 %*				
Surrogate: Dibromofluoromethane (80-120%)				*105 %*				
Surrogate: Toluene-d8 (80-120%)				*102 %*				

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THE LEADER IN ENVIRONMENTAL TESTING
17461 Derian Avenue. Suite 100, Irvine, CA 92614 (949) 261-1022 Fax:(949) 260-3297

Camp, Dresser & McKee
111 Academy, Ste 150
Irvine, CA 92617
Attention: Sharon Wallin

Project ID: Omega Chemical Wastewater
IWP number 20039
Report Number: ISH2377

Sampled: 08/27/09
Received: 08/27/09

SEMI-VOLATILE ORGANICS BY GC/MS (EPA 3520C/8270C MOD)

Analyte	Method	Batch	Reporting Limit	Sample Result	Dilution Factor	Date Extracted	Date Analyzed	Data Qualifiers
Sample ID: ISH2377-01 (OC-SP220A-EFF-082709 - Water)								
Reporting Units: ug/l								
1,4-Dioxane	EPA 8270C	9I03112	5.0	**84**	10	9/3/2009	9/5/2009	
Surrogate: 1,4-Dioxane-d8 (30-120%)				*56 %*				
Sample ID: ISH2377-03 (OC-EW1-SP110-082709 - Water)								
Reporting Units: ug/l								
1,4-Dioxane	EPA 8270C	9I03112	0.61	**1.3**	1.22	9/3/2009	9/5/2009	
Surrogate: 1,4-Dioxane-d8 (30-120%)				*49 %*				
Sample ID: ISH2377-04 (OC-EW2-SP120-082709 - Water)								
Reporting Units: ug/l								
1,4-Dioxane	EPA 8270C	9I03112	10	**160**	20	9/3/2009	9/5/2009	
Surrogate: 1,4-Dioxane-d8 (30-120%)				*56 %*				
Sample ID: ISH2377-05 (OC-EW4-SP140-082709 - Water)								**RL4**
Reporting Units: ug/l								
1,4-Dioxane	EPA 8270C	9I03112	0.64	ND	1.28	9/3/2009	9/5/2009	
Surrogate: 1,4-Dioxane-d8 (30-120%)				*60 %*				
Sample ID: ISH2377-06 (OC-EW5-SP150-082709 - Water)								**RL4**
Reporting Units: ug/l								
1,4-Dioxane	EPA 8270C	9I03112	0.68	ND	1.35	9/3/2009	9/5/2009	
Surrogate: 1,4-Dioxane-d8 (30-120%)				*65 %*				
Sample ID: ISH2377-07 (OC-SP200-INF-082709 - Water)								
Reporting Units: ug/l								
1,4-Dioxane	EPA 8270C	9I03112	25	**94**	50	9/3/2009	9/5/2009	
Surrogate: 1,4-Dioxane-d8 (30-120%)				*47 %*				*Z3*

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Attention: Sharon Wallin

Project ID: Omega Chemical Wastewater
IWP number 20039
Report Number: ISH2377

Sampled: 08/27/09
Received: 08/27/09

INORGANICS

Analyte	Method	Batch	Reporting Limit	Sample Result	Dilution Factor	Date Extracted	Date Analyzed	Data Qualifiers
Sample ID: ISH2377-01 (OC-SP220A-EFF-082709 - Water)								
Reporting Units: pH Units								
pH	SM4500-H,B	9H28068	0.100	**8.45**	1	8/28/2009	8/28/2009	HFT
Sample ID: ISH2377-03 (OC-EW1-SP110-082709 - Water)								
Reporting Units: NTU								
Turbidity	EPA 180.1	9H28071	1.0	ND	1	8/28/2009	8/28/2009	
Sample ID: ISH2377-03 (OC-EW1-SP110-082709 - Water)								
Reporting Units: pH Units								
pH	SM4500-H,B	9H28068	0.100	**7.60**	1	8/28/2009	8/28/2009	HFT
Sample ID: ISH2377-04 (OC-EW2-SP120-082709 - Water)								
Reporting Units: NTU								
Turbidity	EPA 180.1	9H28071	1.0	ND	1	8/28/2009	8/28/2009	
Sample ID: ISH2377-04 (OC-EW2-SP120-082709 - Water)								
Reporting Units: pH Units								
pH	SM4500-H,B	9H28068	0.100	**7.64**	1	8/28/2009	8/28/2009	HFT
Sample ID: ISH2377-05 (OC-EW4-SP140-082709 - Water)								
Reporting Units: NTU								
Turbidity	EPA 180.1	9H28071	1.0	ND	1	8/28/2009	8/28/2009	
Sample ID: ISH2377-05 (OC-EW4-SP140-082709 - Water)								
Reporting Units: pH Units								
pH	SM4500-H,B	9H28068	0.100	**7.69**	1	8/28/2009	8/28/2009	HFT
Sample ID: ISH2377-06 (OC-EW5-SP150-082709 - Water)								
Reporting Units: NTU								
Turbidity	EPA 180.1	9H28071	1.0	ND	1	8/28/2009	8/28/2009	
Sample ID: ISH2377-06 (OC-EW5-SP150-082709 - Water)								
Reporting Units: pH Units								
pH	SM4500-H,B	9H28068	0.100	**7.61**	1	8/28/2009	8/28/2009	HFT

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Irvine, CA 92617
Attention: Sharon Wallin

Project ID: Omega Chemical Wastewater
IWP number 20039
Report Number: ISH2377

Sampled: 08/27/09
Received: 08/27/09

SHORT HOLD TIME DETAIL REPORT

	Hold Time (in days)	Date/Time Sampled	Date/Time Received	Date/Time Extracted	Date/Time Analyzed
Sample ID: OC-SP220A-EFF-082709 (ISH2377-01) - Water					
SM4500-H,B	0	08/27/2009 08:00	08/27/2009 17:05	08/28/2009 09:00	08/28/2009 09:00
Sample ID: OC-EW1-SP110-082709 (ISH2377-03) - Water					
EPA 180.1	2	08/27/2009 09:40	08/27/2009 17:05	08/28/2009 10:30	08/28/2009 10:30
SM4500-H,B	0	08/27/2009 09:40	08/27/2009 17:05	08/28/2009 09:00	08/28/2009 09:00
Sample ID: OC-EW2-SP120-082709 (ISH2377-04) - Water					
EPA 180.1	2	08/27/2009 09:33	08/27/2009 17:05	08/28/2009 10:30	08/28/2009 10:30
SM4500-H,B	0	08/27/2009 09:33	08/27/2009 17:05	08/28/2009 09:00	08/28/2009 09:00
Sample ID: OC-EW4-SP140-082709 (ISH2377-05) - Water					
EPA 180.1	2	08/27/2009 09:24	08/27/2009 17:05	08/28/2009 10:30	08/28/2009 10:30
SM4500-H,B	0	08/27/2009 09:24	08/27/2009 17:05	08/28/2009 09:00	08/28/2009 09:00
Sample ID: OC-EW5-SP150-082709 (ISH2377-06) - Water					
EPA 180.1	2	08/27/2009 09:15	08/27/2009 17:05	08/28/2009 10:30	08/28/2009 10:30
SM4500-H,B	0	08/27/2009 09:15	08/27/2009 17:05	08/28/2009 09:00	08/28/2009 09:00

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Project ID: Omega Chemical Wastewater
IWP number 20039
Report Number: ISH2377

Sampled: 08/27/09
Received: 08/27/09

METHOD BLANK/QC DATA

VOLATILE ORGANICS by GC/MS (EPA 5030B/8260B)

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Data Qualifiers
Batch: 9I03021 Extracted: 09/03/09										
Blank Analyzed: 09/03/2009 (9I03021-BLK1)										
Acetone	ND	10	ug/l							
Benzene	ND	0.50	ug/l							
Bromobenzene	ND	1.0	ug/l							
Bromochloromethane	ND	1.0	ug/l							
Bromodichloromethane	ND	1.0	ug/l							
Bromoform	ND	1.0	ug/l							
Bromomethane	ND	1.0	ug/l							
n-Butylbenzene	ND	1.0	ug/l							
sec-Butylbenzene	ND	1.0	ug/l							
tert-Butylbenzene	ND	1.0	ug/l							
Carbon tetrachloride	ND	0.50	ug/l							
Chlorobenzene	ND	1.0	ug/l							
Chloroethane	ND	1.0	ug/l							
Chloroform	ND	1.0	ug/l							
Chloromethane	ND	1.0	ug/l							
2-Chlorotoluene	ND	1.0	ug/l							
4-Chlorotoluene	ND	1.0	ug/l							
1,2-Dibromo-3-chloropropane	ND	5.0	ug/l							
Dibromochloromethane	ND	1.0	ug/l							
1,2-Dibromoethane (EDB)	ND	1.0	ug/l							
Dibromomethane	ND	1.0	ug/l							
1,2-Dichlorobenzene	ND	1.0	ug/l							
1,3-Dichlorobenzene	ND	1.0	ug/l							
1,4-Dichlorobenzene	ND	1.0	ug/l							
Dichlorodifluoromethane	ND	5.0	ug/l							
1,1-Dichloroethane	ND	1.0	ug/l							
1,2-Dichloroethane	ND	0.50	ug/l							
1,1-Dichloroethene	ND	1.0	ug/l							
cis-1,2-Dichloroethene	ND	1.0	ug/l							
trans-1,2-Dichloroethene	ND	1.0	ug/l							
1,2-Dichloropropane	ND	1.0	ug/l							
1,3-Dichloropropane	ND	1.0	ug/l							
2,2-Dichloropropane	ND	1.0	ug/l							
cis-1,3-Dichloropropene	ND	0.50	ug/l							
trans-1,3-Dichloropropene	ND	0.50	ug/l							
1,1-Dichloropropene	ND	1.0	ug/l							

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Camp, Dresser & McKee	Project ID:	Omega Chemical Wastewater	
111 Academy, Ste 150		IWP number 20039	Sampled: 08/27/09
Irvine, CA 92617	Report Number:	ISH2377	Received: 08/27/09
Attention: Sharon Wallin			

METHOD BLANK/QC DATA

VOLATILE ORGANICS by GC/MS (EPA 5030B/8260B)

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Data Qualifiers
Batch: 9I03021 Extracted: 09/03/09										
Blank Analyzed: 09/03/2009 (9I03021-BLK1)										
Ethylbenzene	ND	1.0	ug/l							
Hexachlorobutadiene	ND	1.0	ug/l							
Isopropylbenzene	ND	1.0	ug/l							
p-Isopropyltoluene	ND	1.0	ug/l							
Methylene chloride	ND	5.0	ug/l							
Naphthalene	ND	1.0	ug/l							
n-Propylbenzene	ND	1.0	ug/l							
Styrene	ND	1.0	ug/l							
1,1,1,2-Tetrachloroethane	ND	1.0	ug/l							
1,1,2,2-Tetrachloroethane	ND	1.0	ug/l							
Tetrachloroethene	ND	1.0	ug/l							
Toluene	ND	1.0	ug/l							
1,2,3-Trichlorobenzene	ND	1.0	ug/l							
1,2,4-Trichlorobenzene	ND	1.0	ug/l							
1,1,1-Trichloroethane	ND	1.0	ug/l							
1,1,2-Trichloroethane	ND	1.0	ug/l							
Trichloroethene	ND	1.0	ug/l							
Trichlorofluoromethane	ND	1.0	ug/l							
1,2,3-Trichloropropane	ND	1.0	ug/l							
Trichlorotrifluoroethane (Freon 113)	ND	5.0	ug/l							
1,2,4-Trimethylbenzene	ND	1.0	ug/l							
1,3,5-Trimethylbenzene	ND	1.0	ug/l							
Vinyl chloride	ND	0.50	ug/l							
m,p-Xylenes	ND	1.0	ug/l							
o-Xylene	ND	1.0	ug/l							
Methyl-tert-butyl Ether (MTBE)	ND	1.0	ug/l							
Volatile Organic Compounds	ND	2.0	ug/l							
Surrogate: 4-Bromofluorobenzene	*23.6*		*ug/l*	*25.0*		*94*	*80-120*			
Surrogate: 4-Bromofluorobenzene	*23.6*		*ug/l*	*25.0*		*94*	*80-120*			
Surrogate: Dibromofluoromethane	*26.0*		*ug/l*	*25.0*		*104*	*80-120*			
Surrogate: Dibromofluoromethane	*26.0*		*ug/l*	*25.0*		*104*	*80-120*			
Surrogate: Toluene-d8	*25.0*		*ug/l*	*25.0*		*100*	*80-120*			
Surrogate: Toluene-d8	*25.0*		*ug/l*	*25.0*		*100*	*80-120*			

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Irvine, CA 92617
Attention: Sharon Wallin

Project ID: Omega Chemical Wastewater
IWP number 20039
Report Number: ISH2377

Sampled: 08/27/09
Received: 08/27/09

METHOD BLANK/QC DATA

VOLATILE ORGANICS by GC/MS (EPA 5030B/8260B)

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Data Qualifiers
Batch: 9I03021 Extracted: 09/03/09										
LCS Analyzed: 09/03/2009 (9I03021-BS1)										
Acetone	24.0	10	ug/l	25.0		96	30-140			
Benzene	24.6	0.50	ug/l	25.0		98	70-120			
Bromobenzene	24.7	1.0	ug/l	25.0		99	75-120			
Bromochloromethane	26.0	1.0	ug/l	25.0		104	70-130			
Bromodichloromethane	26.2	1.0	ug/l	25.0		105	70-135			
Bromoform	19.9	1.0	ug/l	25.0		79	55-130			
Bromomethane	28.8	1.0	ug/l	25.0		115	65-140			
n-Butylbenzene	27.0	1.0	ug/l	25.0		108	70-130			
sec-Butylbenzene	27.0	1.0	ug/l	25.0		108	70-125			
tert-Butylbenzene	26.3	1.0	ug/l	25.0		105	70-125			
Carbon tetrachloride	27.7	0.50	ug/l	25.0		111	65-140			
Chlorobenzene	25.9	1.0	ug/l	25.0		103	75-120			
Chloroethane	29.1	1.0	ug/l	25.0		116	60-140			
Chloroform	25.0	1.0	ug/l	25.0		100	70-130			
Chloromethane	25.9	1.0	ug/l	25.0		103	50-140			
2-Chlorotoluene	26.6	1.0	ug/l	25.0		106	70-125			
4-Chlorotoluene	26.9	1.0	ug/l	25.0		108	75-125			
1,2-Dibromo-3-chloropropane	24.0	5.0	ug/l	25.0		96	50-135			
Dibromochloromethane	22.3	1.0	ug/l	25.0		89	70-140			
1,2-Dibromoethane (EDB)	25.9	1.0	ug/l	25.0		104	75-125			
Dibromomethane	26.4	1.0	ug/l	25.0		105	70-125			
1,2-Dichlorobenzene	25.9	1.0	ug/l	25.0		104	75-120			
1,3-Dichlorobenzene	26.2	1.0	ug/l	25.0		105	75-120			
1,4-Dichlorobenzene	24.9	1.0	ug/l	25.0		100	75-120			
Dichlorodifluoromethane	25.3	5.0	ug/l	25.0		101	35-155			
1,1-Dichloroethane	26.9	1.0	ug/l	25.0		108	70-125			
1,2-Dichloroethane	24.4	0.50	ug/l	25.0		98	60-140			
1,1-Dichloroethene	26.9	1.0	ug/l	25.0		107	70-125			
cis-1,2-Dichloroethene	27.7	1.0	ug/l	25.0		111	70-125			
trans-1,2-Dichloroethene	26.9	1.0	ug/l	25.0		108	70-125			
1,2-Dichloropropane	24.9	1.0	ug/l	25.0		100	70-125			
1,3-Dichloropropane	26.3	1.0	ug/l	25.0		105	70-120			
2,2-Dichloropropane	31.0	1.0	ug/l	25.0		124	65-140			
cis-1,3-Dichloropropene	31.1	0.50	ug/l	25.0		124	75-125			
trans-1,3-Dichloropropene	23.5	0.50	ug/l	25.0		94	70-125			
1,1-Dichloropropene	27.1	1.0	ug/l	25.0		108	75-130			

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Camp, Dresser & McKee 111 Academy, Ste 150 Irvine, CA 92617 Attention: Sharon Wallin	Project ID: Report Number:	Omega Chemical Wastewater IWP number 20039 ISH2377	Sampled: 08/27/09 Received: 08/27/09

METHOD BLANK/QC DATA

VOLATILE ORGANICS by GC/MS (EPA 5030B/8260B)

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Data Qualifiers
Batch: 9I03021 Extracted: 09/03/09										
LCS Analyzed: 09/03/2009 (9I03021-BS1)										
Ethylbenzene	26.3	1.0	ug/l	25.0		105	75-125			
Hexachlorobutadiene	23.9	1.0	ug/l	25.0		96	65-135			
Isopropylbenzene	27.1	1.0	ug/l	25.0		108	75-130			
p-Isopropyltoluene	26.6	1.0	ug/l	25.0		106	75-125			
Methylene chloride	27.2	5.0	ug/l	25.0		109	55-130			
Naphthalene	26.4	1.0	ug/l	25.0		105	55-135			
n-Propylbenzene	27.1	1.0	ug/l	25.0		108	75-130			
Styrene	26.0	1.0	ug/l	25.0		104	75-130			
1,1,1,2-Tetrachloroethane	24.6	1.0	ug/l	25.0		98	70-130			
1,1,2,2-Tetrachloroethane	27.3	1.0	ug/l	25.0		109	55-130			
Tetrachloroethene	24.9	1.0	ug/l	25.0		100	70-125			
Toluene	25.9	1.0	ug/l	25.0		103	70-120			
1,2,3-Trichlorobenzene	24.5	1.0	ug/l	25.0		98	65-125			
1,2,4-Trichlorobenzene	24.9	1.0	ug/l	25.0		99	70-135			
1,1,1-Trichloroethane	28.6	1.0	ug/l	25.0		114	65-135			
1,1,2-Trichloroethane	25.9	1.0	ug/l	25.0		103	70-125			
Trichloroethene	24.3	1.0	ug/l	25.0		97	70-125			
Trichlorofluoromethane	26.1	1.0	ug/l	25.0		105	65-145			
1,2,3-Trichloropropane	25.8	1.0	ug/l	25.0		103	60-130			
1,2,4-Trimethylbenzene	28.1	1.0	ug/l	25.0		112	75-125			
1,3,5-Trimethylbenzene	27.2	1.0	ug/l	25.0		109	75-125			
Vinyl chloride	25.8	0.50	ug/l	25.0		103	55-135			
m,p-Xylenes	53.6	1.0	ug/l	50.0		107	75-125			
o-Xylene	26.6	1.0	ug/l	25.0		107	75-125			
Methyl-tert-butyl Ether (MTBE)	25.9	1.0	ug/l	25.0		104	60-135			
Surrogate: 4-Bromofluorobenzene	*25.6*		*ug/l*	*25.0*		*102*	*80-120*			
Surrogate: Dibromofluoromethane	*26.6*		*ug/l*	*25.0*		*107*	*80-120*			
Surrogate: Toluene-d8	*25.3*		*ug/l*	*25.0*		*101*	*80-120*			

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Camp, Dresser & McKee
111 Academy, Ste 150
Irvine, CA 92617
Attention: Sharon Wallin

Project ID: Omega Chemical Wastewater
IWP number 20039
Report Number: ISH2377

Sampled: 08/27/09
Received: 08/27/09

METHOD BLANK/QC DATA

VOLATILE ORGANICS by GC/MS (EPA 5030B/8260B)

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Data Qualifiers
Batch: 9I03021 Extracted: 09/03/09										
Matrix Spike Analyzed: 09/03/2009 (9I03021-MS1)					**Source: ISH2377-01**					
Acetone	27.4	10	ug/l	25.0	4.88	90	20-150			
Benzene	24.0	0.50	ug/l	25.0	ND	96	65-125			
Bromobenzene	24.4	1.0	ug/l	25.0	ND	98	70-125			
Bromochloromethane	26.7	1.0	ug/l	25.0	ND	107	65-135			
Bromodichloromethane	26.0	1.0	ug/l	25.0	ND	104	70-135			
Bromoform	19.3	1.0	ug/l	25.0	ND	77	55-135			
Bromomethane	28.6	1.0	ug/l	25.0	ND	115	55-145			
n-Butylbenzene	26.0	1.0	ug/l	25.0	ND	104	65-135			
sec-Butylbenzene	26.4	1.0	ug/l	25.0	ND	106	70-125			
tert-Butylbenzene	25.5	1.0	ug/l	25.0	ND	102	65-130			
Carbon tetrachloride	26.8	0.50	ug/l	25.0	ND	107	65-140			
Chlorobenzene	25.1	1.0	ug/l	25.0	ND	100	75-125			
Chloroethane	28.5	1.0	ug/l	25.0	ND	114	55-140			
Chloroform	25.2	1.0	ug/l	25.0	ND	101	65-135			
Chloromethane	25.1	1.0	ug/l	25.0	ND	100	45-145			
2-Chlorotoluene	25.9	1.0	ug/l	25.0	ND	103	65-135			
4-Chlorotoluene	26.4	1.0	ug/l	25.0	ND	105	70-135			
1,2-Dibromo-3-chloropropane	23.5	5.0	ug/l	25.0	ND	94	45-145			
Dibromochloromethane	21.9	1.0	ug/l	25.0	ND	88	65-140			
1,2-Dibromoethane (EDB)	25.7	1.0	ug/l	25.0	ND	103	70-130			
Dibromomethane	25.9	1.0	ug/l	25.0	ND	103	65-135			
1,2-Dichlorobenzene	25.8	1.0	ug/l	25.0	ND	103	75-125			
1,3-Dichlorobenzene	25.8	1.0	ug/l	25.0	ND	103	75-125			
1,4-Dichlorobenzene	24.7	1.0	ug/l	25.0	ND	99	75-125			
Dichlorodifluoromethane	24.5	5.0	ug/l	25.0	ND	98	25-155			
1,1-Dichloroethane	27.2	1.0	ug/l	25.0	ND	109	65-130			
1,2-Dichloroethane	24.2	0.50	ug/l	25.0	ND	97	60-140			
1,1-Dichloroethene	26.1	1.0	ug/l	25.0	ND	105	60-130			
cis-1,2-Dichloroethene	28.0	1.0	ug/l	25.0	ND	112	65-130			
trans-1,2-Dichloroethene	26.8	1.0	ug/l	25.0	ND	107	65-130			
1,2-Dichloropropane	24.9	1.0	ug/l	25.0	ND	100	65-130			
1,3-Dichloropropane	26.0	1.0	ug/l	25.0	ND	104	65-135			
2,2-Dichloropropane	31.4	1.0	ug/l	25.0	ND	125	60-145			
cis-1,3-Dichloropropene	29.8	0.50	ug/l	25.0	ND	119	70-130			
trans-1,3-Dichloropropene	23.2	0.50	ug/l	25.0	ND	93	65-135			
1,1-Dichloropropene	25.9	1.0	ug/l	25.0	ND	104	70-135			

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Camp, Dresser & McKee
111 Academy, Ste 150
Irvine, CA 92617
Attention: Sharon Wallin

Project ID: Omega Chemical Wastewater
IWP number 20039
Report Number: ISH2377

Sampled: 08/27/09
Received: 08/27/09

METHOD BLANK/QC DATA

VOLATILE ORGANICS by GC/MS (EPA 5030B/8260B)

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Data Qualifiers
Batch: 9I03021 Extracted: 09/03/09										
Matrix Spike Analyzed: 09/03/2009 (9I03021-MS1)					**Source: ISH2377-01**					
Ethylbenzene	25.2	1.0	ug/l	25.0	ND	101	65-130			
Hexachlorobutadiene	22.7	1.0	ug/l	25.0	ND	91	60-135			
Isopropylbenzene	26.2	1.0	ug/l	25.0	ND	105	70-135			
p-Isopropyltoluene	25.6	1.0	ug/l	25.0	ND	102	65-130			
Methylene chloride	27.5	5.0	ug/l	25.0	ND	110	50-135			
Naphthalene	26.4	1.0	ug/l	25.0	ND	105	50-140			
n-Propylbenzene	26.3	1.0	ug/l	25.0	ND	105	70-135			
Styrene	21.8	1.0	ug/l	25.0	ND	87	50-145			
1,1,1,2-Tetrachloroethane	24.2	1.0	ug/l	25.0	ND	97	65-140			
1,1,2,2-Tetrachloroethane	27.3	1.0	ug/l	25.0	ND	109	55-135			
Tetrachloroethene	24.3	1.0	ug/l	25.0	ND	97	65-130			
Toluene	25.6	1.0	ug/l	25.0	ND	102	70-125			
1,2,3-Trichlorobenzene	24.4	1.0	ug/l	25.0	ND	98	60-135			
1,2,4-Trichlorobenzene	24.6	1.0	ug/l	25.0	ND	98	65-135			
1,1,1-Trichloroethane	28.2	1.0	ug/l	25.0	ND	113	65-140			
1,1,2-Trichloroethane	25.3	1.0	ug/l	25.0	ND	101	65-130			
Trichloroethene	23.2	1.0	ug/l	25.0	ND	93	65-125			
Trichlorofluoromethane	25.8	1.0	ug/l	25.0	ND	103	60-145			
1,2,3-Trichloropropane	25.8	1.0	ug/l	25.0	ND	103	55-135			
1,2,4-Trimethylbenzene	26.4	1.0	ug/l	25.0	ND	106	55-135			
1,3,5-Trimethylbenzene	26.2	1.0	ug/l	25.0	ND	105	70-130			
Vinyl chloride	25.2	0.50	ug/l	25.0	ND	101	45-140			
m,p-Xylenes	52.0	1.0	ug/l	50.0	ND	104	65-130			
o-Xylene	26.1	1.0	ug/l	25.0	ND	105	65-125			
Methyl-tert-butyl Ether (MTBE)	26.6	1.0	ug/l	25.0	ND	106	55-145			
Surrogate: 4-Bromofluorobenzene	*25.4*		*ug/l*	*25.0*		*101*	*80-120*			
Surrogate: Dibromofluoromethane	*27.3*		*ug/l*	*25.0*		*109*	*80-120*			
Surrogate: Toluene-d8	*25.3*		*ug/l*	*25.0*		*101*	*80-120*			

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111 Academy, Ste 150
Irvine, CA 92617
Attention: Sharon Wallin

Project ID: Omega Chemical Wastewater
IWP number 20039
Report Number: ISH2377

Sampled: 08/27/09
Received: 08/27/09

METHOD BLANK/QC DATA

VOLATILE ORGANICS by GC/MS (EPA 5030B/8260B)

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Data Qualifiers
Batch: 9I03021 Extracted: 09/03/09										
Matrix Spike Dup Analyzed: 09/03/2009 (9I03021-MSD1)					**Source: ISH2377-01**					
Acetone	29.6	10	ug/l	25.0	4.88	99	20-150	8	35	
Benzene	23.9	0.50	ug/l	25.0	ND	96	65-125	0	20	
Bromobenzene	24.6	1.0	ug/l	25.0	ND	99	70-125	1	20	
Bromochloromethane	27.8	1.0	ug/l	25.0	ND	111	65-135	4	25	
Bromodichloromethane	26.7	1.0	ug/l	25.0	ND	107	70-135	3	20	
Bromoform	19.6	1.0	ug/l	25.0	ND	78	55-135	2	25	
Bromomethane	28.4	1.0	ug/l	25.0	ND	114	55-145	1	25	
n-Butylbenzene	25.2	1.0	ug/l	25.0	ND	101	65-135	3	20	
sec-Butylbenzene	25.2	1.0	ug/l	25.0	ND	101	70-125	5	20	
tert-Butylbenzene	24.9	1.0	ug/l	25.0	ND	100	65-130	2	20	
Carbon tetrachloride	26.4	0.50	ug/l	25.0	ND	106	65-140	1	25	
Chlorobenzene	25.2	1.0	ug/l	25.0	ND	101	75-125	1	20	
Chloroethane	28.7	1.0	ug/l	25.0	ND	115	55-140	1	25	
Chloroform	25.5	1.0	ug/l	25.0	ND	102	65-135	1	20	
Chloromethane	25.5	1.0	ug/l	25.0	ND	102	45-145	2	25	
2-Chlorotoluene	25.4	1.0	ug/l	25.0	ND	101	65-135	2	20	
4-Chlorotoluene	26.0	1.0	ug/l	25.0	ND	104	70-135	1	20	
1,2-Dibromo-3-chloropropane	24.0	5.0	ug/l	25.0	ND	96	45-145	2	30	
Dibromochloromethane	22.6	1.0	ug/l	25.0	ND	90	65-140	3	25	
1,2-Dibromoethane (EDB)	26.4	1.0	ug/l	25.0	ND	106	70-130	2	25	
Dibromomethane	26.6	1.0	ug/l	25.0	ND	106	65-135	3	25	
1,2-Dichlorobenzene	25.6	1.0	ug/l	25.0	ND	102	75-125	1	20	
1,3-Dichlorobenzene	25.8	1.0	ug/l	25.0	ND	103	75-125	0	20	
1,4-Dichlorobenzene	24.6	1.0	ug/l	25.0	ND	99	75-125	0	20	
Dichlorodifluoromethane	24.4	5.0	ug/l	25.0	ND	97	25-155	1	30	
1,1-Dichloroethane	27.2	1.0	ug/l	25.0	ND	109	65-130	0	20	
1,2-Dichloroethane	24.6	0.50	ug/l	25.0	ND	98	60-140	1	20	
1,1-Dichloroethene	26.5	1.0	ug/l	25.0	ND	106	60-130	1	20	
cis-1,2-Dichloroethene	28.5	1.0	ug/l	25.0	ND	114	65-130	2	20	
trans-1,2-Dichloroethene	26.7	1.0	ug/l	25.0	ND	107	65-130	0	20	
1,2-Dichloropropane	25.4	1.0	ug/l	25.0	ND	102	65-130	2	20	
1,3-Dichloropropane	26.7	1.0	ug/l	25.0	ND	107	65-135	3	25	
2,2-Dichloropropane	31.1	1.0	ug/l	25.0	ND	124	60-145	1	25	
cis-1,3-Dichloropropene	30.8	0.50	ug/l	25.0	ND	123	70-130	3	20	
trans-1,3-Dichloropropene	24.0	0.50	ug/l	25.0	ND	96	65-135	3	25	
1,1-Dichloropropene	25.5	1.0	ug/l	25.0	ND	102	70-135	2	20	

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Irvine, CA 92617
Attention: Sharon Wallin

Project ID: Omega Chemical Wastewater
IWP number 20039
Report Number: ISH2377

Sampled: 08/27/09
Received: 08/27/09

METHOD BLANK/QC DATA

VOLATILE ORGANICS by GC/MS (EPA 5030B/8260B)

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Data Qualifiers
Batch: 9I03021 Extracted: 09/03/09										
Matrix Spike Dup Analyzed: 09/03/2009 (9I03021-MSD1)					**Source: ISH2377-01**					
Ethylbenzene	25.1	1.0	ug/l	25.0	ND	100	65-130	0	20	
Hexachlorobutadiene	22.8	1.0	ug/l	25.0	ND	91	60-135	0	20	
Isopropylbenzene	25.5	1.0	ug/l	25.0	ND	102	70-135	3	20	
p-Isopropyltoluene	24.9	1.0	ug/l	25.0	ND	100	65-130	3	20	
Methylene chloride	27.9	5.0	ug/l	25.0	ND	112	50-135	2	20	
Naphthalene	27.0	1.0	ug/l	25.0	ND	108	50-140	2	30	
n-Propylbenzene	25.6	1.0	ug/l	25.0	ND	102	70-135	3	20	
Styrene	21.7	1.0	ug/l	25.0	ND	87	50-145	1	30	
1,1,1,2-Tetrachloroethane	24.4	1.0	ug/l	25.0	ND	97	65-140	1	20	
1,1,2,2-Tetrachloroethane	27.4	1.0	ug/l	25.0	ND	110	55-135	0	30	
Tetrachloroethene	23.5	1.0	ug/l	25.0	ND	94	65-130	3	20	
Toluene	25.6	1.0	ug/l	25.0	ND	102	70-125	0	20	
1,2,3-Trichlorobenzene	24.9	1.0	ug/l	25.0	ND	100	60-135	2	20	
1,2,4-Trichlorobenzene	24.6	1.0	ug/l	25.0	ND	98	65-135	0	20	
1,1,1-Trichloroethane	28.1	1.0	ug/l	25.0	ND	112	65-140	1	20	
1,1,2-Trichloroethane	25.9	1.0	ug/l	25.0	ND	103	65-130	2	25	
Trichloroethene	23.7	1.0	ug/l	25.0	ND	95	65-125	2	20	
Trichlorofluoromethane	25.5	1.0	ug/l	25.0	ND	102	60-145	1	25	
1,2,3-Trichloropropane	26.1	1.0	ug/l	25.0	ND	104	55-135	1	30	
1,2,4-Trimethylbenzene	25.8	1.0	ug/l	25.0	ND	103	55-135	2	25	
1,3,5-Trimethylbenzene	25.7	1.0	ug/l	25.0	ND	103	70-130	2	20	
Vinyl chloride	25.8	0.50	ug/l	25.0	ND	103	45-140	3	30	
m,p-Xylenes	51.8	1.0	ug/l	50.0	ND	104	65-130	0	25	
o-Xylene	25.9	1.0	ug/l	25.0	ND	104	65-125	1	20	
Methyl-tert-butyl Ether (MTBE)	27.4	1.0	ug/l	25.0	ND	109	55-145	3	25	
Surrogate: 4-Bromofluorobenzene	*25.4*		*ug/l*	*25.0*		*101*	*80-120*			
Surrogate: Dibromofluoromethane	*27.8*		*ug/l*	*25.0*		*111*	*80-120*			
Surrogate: Toluene-d8	*25.2*		*ug/l*	*25.0*		*101*	*80-120*			

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Project Manager

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Camp, Dresser & McKee 111 Academy, Ste 150 Irvine, CA 92617 Attention: Sharon Wallin	Project ID: Report Number:	Omega Chemical Wastewater IWP number 20039 ISH2377	Sampled: 08/27/09 Received: 08/27/09

METHOD BLANK/QC DATA

SEMI-VOLATILE ORGANICS BY GC/MS (EPA 3520C/8270C MOD)

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Data Qualifiers
Batch: 9I03112 Extracted: 09/03/09										
Blank Analyzed: 09/05/2009 (9I03112-BLK1)										
1,4-Dioxane	ND	0.50	ug/l							
Surrogate: 1,4-Dioxane-d8	*1.26*		*ug/l*	*2.00*		*63*	*30-120*			
LCS Analyzed: 09/05/2009 (9I03112-BS1)										
1,4-Dioxane	1.79	0.50	ug/l	2.00		89	35-120			
Surrogate: 1,4-Dioxane-d8	*1.19*		*ug/l*	*2.00*		*59*	*30-120*			
Matrix Spike Analyzed: 09/05/2009 (9I03112-MS1)					**Source: ISI0302-01**					
1,4-Dioxane	1.69	0.47	ug/l	1.89	ND	89	35-120			
Surrogate: 1,4-Dioxane-d8	*0.997*		*ug/l*	*1.89*		*53*	*30-120*			
Matrix Spike Dup Analyzed: 09/05/2009 (9I03112-MSD1)					**Source: ISI0302-01**					
1,4-Dioxane	1.53	0.47	ug/l	1.89	ND	81	35-120	10	25	
Surrogate: 1,4-Dioxane-d8	*0.929*		*ug/l*	*1.89*		*49*	*30-120*			

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Attention: Sharon Wallin

Project ID: Omega Chemical Wastewater
IWP number 20039
Report Number: ISH2377

Sampled: 08/27/09
Received: 08/27/09

METHOD BLANK/QC DATA

INORGANICS

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Data Qualifiers
Batch: 9H28068 Extracted: 08/28/09										
Duplicate Analyzed: 08/28/2009 (9H28068-DUP1)					**Source: ISH2343-01**					
pH	7.94	0.100	pH Units		8.00			1	5	*HFT*
Duplicate Analyzed: 08/28/2009 (9H28068-DUP2)					**Source: ISH2385-01**					
pH	7.83	0.100	pH Units		7.86			0	5	*HFT*
Batch: 9H28071 Extracted: 08/28/09										
Blank Analyzed: 08/28/2009 (9H28071-BLK1)										
Turbidity	ND	1.0	NTU							
Duplicate Analyzed: 08/28/2009 (9H28071-DUP1)					**Source: ISH2287-04**					
Turbidity	0.620	1.0	NTU		0.640			3	20	

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DATA QUALIFIERS AND DEFINITIONS

HFT The holding time for this test is immediate. It was analyzed in the laboratory as soon as possible after receipt.

RL4 Reporting limit raised due to insufficient sample volume.

Z3 The sample required a dilution due to the nature of the sample matrix. Because of this dilution, the surrogate spike concentration in the sample was reduced to a level where the recovery calculation does not provide useful information.

ND Analyte NOT DETECTED at or above the reporting limit or MDL, if MDL is specified.

RPD Relative Percent Difference

ADDITIONAL COMMENTS

For 8260 analyses:

Due to the high water solubility of alcohols and ketones, the calibration criteria for these compounds is <30% RSD. The average % RSD of all compounds in the calibration is 15%, in accordance with EPA methods.

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111 Academy, Ste 150		IWP number 20039	Sampled: 08/27/09
Irvine, CA 92617	Report Number:	ISH2377	Received: 08/27/09
Attention: Sharon Wallin			

Certification Summary

TestAmerica Irvine

Method	Matrix	Nelac	California
EPA 180.1	Water	X	X
EPA 8260B	Water	X	X
EPA 8270C	Water	X	X
SM4500-H,B	Water	X	X

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Project Manager

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IS1+2377

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- [ ] Indianapolis, IN
- [ ] Irvine, CA

To assist us in using the proper analytical methods, is this work being conducted for regulatory purposes?

Compliance Monitoring? (Yes) No

Enforcement Action? Yes (No)

Client Name/Account #: CDM

Address: CDM / Omega Chemical

City/State/Zip: Irvine, CA 92617

Project Manager: Sharon Wallin

Telephone Number: 949.752.5452 **Fax No.:**

Sampler Name: (Print)

Sampler Signature:

Report To: Sharon Wallin / Karen Schwarz

Invoice To: de maximus

TA Quote #:

Project ID:

Project #:

Sample ID / Description	Date Sampled	Time Sampled	No. of Containers Shipped	Grab	Composite	Field Filtered	Preservative: Ice	Preservative: HNO_3 (Red Label)	Preservative: HCl (Blue Label)	Preservative: NaOH (Orange Label)	Preservative: H_2SO_4 Plastic (Yellow Label)	Preservative: H_2SO_4 Glass(Yellow Label)	Preservative: None (Black Label)	Preservative: Other (Specify)	Matrix: Groundwater	Matrix: Wastewater	Matrix: Drinking Water	Matrix: Sludge	Matrix: Soil	Matrix: Other (specify):	Analyze For: VOC (8260B) (including freons)	Analyze For: 1,4 Dioxane (8270M)	Analyze For: pH	Analyze For: TURBIDITY								RUSH TAT (Pre-Schedule)	Standard TAT	Fax Results	Send QC with report
OC-SP220A-EFF-0802709	8/27/2009	0800	5	x					x						x						x	x	x											x	
OC-TB-0802709	8/27/2009	1000	2	x					x						x						x													x	
OC-EW1-SP110-0802709	8/27/2009	0940	4	x					x						x						x	x	X	X										x	
OC-EW2-SP120-0802709	8/27/2009	0933	4	x					x						x						x	x	X	X										x	
~~OC-EW3-SP130-0802709~~	~~8/27/2009~~			~~x~~					~~x~~						~~x~~						~~x~~	~~x~~	~~X~~	~~X~~										~~x~~	
OC-EW4-SP140-0802709	8/27/2009	0924	4	x					x						x						x	x	X	X										x	
OC-EW5-SP150-0802709	8/27/2009	0915	4	x					x						x						x	x	X	X										x	
OC-SP200-INF-0802709	8/27/2009	0810	4	x					x						x						x	x												x	

KS

dw 8/27 1840

Special Instructions:

Method of Shipment: FEDEX

Laboratory Comments:
Temperature Upon Receipt:
VOCs Free of Headspace? Y N

Relinquished by:	Date	Time	Received by:	Date	Time
Karen Schwarz	8/27/09	1030	[illegible]	8/27/09	1030
[illegible]	8/27/09	17:05	Received by TestAmerica: VuBanh	8/27/09	17:05

5.4 °C

#64

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Appendix F.6

June 24, 2009
Vapor Analytical Results

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AirTECHNOLOGY
Laboratories, Inc.

June 24, 2009

nelac
FL Cert #E87847/LA Cert #04140
EPA Methods TO3, TO14A, TO15, 25C/3C
RSK-175
TX Cert #T104704450-09-TX
EPA Methods TO14A,TO15
AZ Dept of Health Services #AZ0737
EPA Methods TO3, TO14A, TO15, 15, 16, 25C

CDM
ATTN: Sharon Wallin
111 Academy, Suite 150
Irvine, CA 92617

LABORATORY TEST RESULTS

Project Reference: Omega Chemical
Lab Number: A9062202-01/03

Enclosed are results for sample(s) received 6/22/09 by Air Technology Laboratories. Analyses were performed according to specifications on the chain of custody provided with the sample(s).

Report Narrative:

- Sample analyses were performed within method performance criteria and meet all requirements of the NELAC Standards.
- All results are reported without qualifications.

Results were e-mailed to Sharon Wallin and Karen Schwarz on 6/23/09.

ATL appreciates the opportunity to provide testing services to your company. If you have any questions regarding these results, please call me at (626) 964-4032.

Sincerely,

Mark Johnson
Operations Manager
MJohnson@AirTechLabs.com

Enclosures

Note: The cover letter is an integral part of this analytical report.

Client: CDM
Attn: Karen Schwarz

Client's Project: Omega Chemical
Date Received: 06/22/09
Matrix: Air
Units: ppbv

EPA Method TO15

Lab No:	A9062202-01			A9062202-02			A9062202-03					
Client Sample I.D.:	OC-VGAC-INF-SP241-062209			OC-VGAC-INT-SP245-062209			OC-VGAC-EFF-SP242-062209					
Date Sampled:	06/22/09			06/22/09			06/22/09					
Date Analyzed:	06/22/09			06/22/09			06/22/09					
QC Batch No:	090622MS2A1			090622MS2A1			090622MS2A1					
Analyst Initials:	DT			DT			DT					
Dilution Factor:	60			2.0			1.0					
ANALYTE	**Result**	**RL**	**MDL**	**Result**	**RL**	**MDL**	**Result**	**RL**	**MDL**			
Vinyl Chloride	ND	60	13	ND	2.0	0.45	ND	1.0	0.22			
Methylene Chloride	29	60	16	1.2 J	2.0	0.55	ND	1.0	0.27			
1,1-Dichloroethane	ND	60	6.7	0.82 J	2.0	0.22	ND	1.0	0.11			
t-Butyl Methyl Ether	ND	60	9.6	ND	2.0	0.32	ND	1.0	0.16			
Chloroform	340	60	3.4	11	2.0	0.11	ND	1.0	0.057			
Carbon Tetrachloride	ND	60	5.1	ND	2.0	0.17	ND	1.0	0.086			
Benzene	19 J	60	11	0.57 J	2.0	0.35	ND	1.0	0.18			
1,2-Dichloroethane	72	60	6.2	2.3	2.0	0.21	ND	1.0	0.10			
Trichloroethene	440	60	7.0	14	2.0	0.23	ND	1.0	0.12			
1,1,2-Trichloroethane	ND	60	12	ND	2.0	0.40	ND	1.0	0.20			
Tetrachloroethene	12,000	60	9.6	360	2.0	0.32	0.46 J	1.0	0.16			
1,4-Dichlorobenzene	ND	60	7.8	ND	2.0	0.26	ND	1.0	0.13			
Naphthalene	ND	300	150	ND	10	5.0	ND	5.0	2.5			
TOC	13,000	60	--	390	2.0	--	0.46 J	1.0	--			

RL = Reporting Limit
MDL = Method Detection Limit
ND = Not Detected (below MDL)
J = Estimated value between RL and MDL

Reviewed/Approved By: _____ **Date:** 6/24/09
Mark Johnson
Operations Manager

The cover letter is an integral part of this analytical report

LCS/LCSD Recovery and RPD Summary Report

QC Batch #: 090622MS2A1

Matrix: Air

EPA Method TO-14/TO-15

Lab No:	Method Blank		LCS		LCSD						
Date Analyzed:	06/22/09		06/22/09		06/20/09						
Data File ID:	22JUN005.D		22JUN004.D		20JUN005.D						
Analyst Initials:	DT		DT		DT						
Dilution Factor:	0.2		1.0		1.0			Limits			
ANALYTE	Result ppbv	Spike Amount	Result ppbv	% Rec	Result ppbv	% Rec	RPD	Low %Rec	High %Rec	Max. RPD	Pass/ Fail
1,1-Dichloroethene	0.0	10.0	7.8	78	7.6	76	1.8	70	130	30	Pass
Methylene Chloride	0.0	10.0	7.8	78	7.8	78	0.6	70	130	30	Pass
Trichloroethene	0.0	10.0	7.8	78	8.0	80	2.1	70	130	30	Pass
Toluene	0.0	10.0	7.8	78	8.1	81	3.2	70	130	30	Pass
1,1,2,2-Tetrachloroethane	0.0	10.0	8.2	82	8.7	87	6.7	70	130	30	Pass

RPD = Relative Percent Difference

Reviewed/Approved By: _____ Date: 6/23/09

Mark Johnson
Operations Manager

The cover letter is an integral part of this analytical report

Air TECHNOLOGY Laboratories, Inc.

18501 E. Gale Ave., Suite 130
City of Industry, CA 91748
Ph: 626-964-4032
Fx: 626-964-5832

CHAIN OF CUSTODY RECORD

TURNAROUND TIME				DELIVERABLES		PAGE: OF
Standard	☐	48 hours	☐	EDD	☐	Condition upon receipt:
Same Day	☐	72 hours	☐	EDF	☐	Sealed Yes ☐ No ☐
24 hours	■	96 hours	☐	Level 3	☐	Intact Yes ☐ No ☐
Other:				Level 4	☐	Chilled _____ deg C

Project No.:	
Project Name:	Omega Chemical
Report To:	Sharon Wallin / Karen Schwarz
Company:	CDM
Street:	111 Academy Way ; Ste 150
City/State/Zip:	Irvine, CA 92617
Phone& Fax:	949.752.5452
e-mail:	wallinsl@cdm.com; schwarzke@cdm.com

BILLING

P.O. No.:

Bill to: demaximus

ANALYSIS REQUEST

LAB USE ONLY	SAMPLE IDENTIFICATION	SAMPLE DATE	SAMPLE TIME	CONTAINER QTY/TYPE	MATRIX	PRESERVA-TION	TO15 - select compounds[1]					
A9062202 - 01	OC-VGAC-INF-SP241-062209	6/22/2009	1240	1 / B	Vapor	N	x					
- 02	OC-VGAC-INT-SP245-062209	39986	1240	1 / B	Vapor	N	x					
- 03	OC-VGAC-EFF-SP242-062209	39986	1240	1 / B	Vapor	N	x					

6/22/09 1300 Trenton BP

Appendix F.7

July 20, 2009
Vapor Analytical Results

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AirTECHNOLOGY
Laboratories, Inc.

July 20, 2009

nelac
FL Cert #E87847/LA Cert #04140
EPA Methods TO3, TO14A, TO15, 25C/3C
RSK-175
TX Cert #T104704450-09-TX
EPA Methods TO14A,TO15
AZ Dept of Health Services #AZ0737
EPA Methods TO3, TO14A, TO15, 15, 16, 25C

CDM
ATTN: Sharon Wallin
111 Academy, Suite 150
Irvine, CA 92617

LABORATORY TEST RESULTS

Project Reference: Omega Chemical
Lab Number: A9071506-01/03

Enclosed are results for sample(s) received 7/15/09 by Air Technology Laboratories. Analyses were performed according to specifications on the chain of custody provided with the sample(s).

Report Narrative:

- Sample analyses were performed within method performance criteria and meet all requirements of the NELAC Standards.
- All results are reported without qualifications.

Results were e-mailed to Sharon Wallin and Karen Schwarz on 7/17/09.

ATL appreciates the opportunity to provide testing services to your company. If you have any questions regarding these results, please call me at (626) 964-4032.

Sincerely,

Mark Johnson
Operations Manager
MJohnson@AirTechLabs.com

Enclosures

Note: The cover letter is an integral part of this analytical report.

Client: CDM
Attn: Karen Schwarz

Client's Project: Omega Chemical
Date Received: 07/15/09
Matrix: Air
Units: ppbv

EPA Method TO15

Lab No:	A9071506-01			A9071506-02			A9071506-03					
Client Sample I.D.:	OC-VGAC-INF-SP241-071509			OC-VGAC-INT-SP245-071509			OC-VGAC-EFF-SP242-071509					
Date Sampled:	07/15/09			07/15/09			07/15/09					
Date Analyzed:	07/16/09			07/16/09			07/16/09					
QC Batch No:	090716MS2A1			090716MS2A1			090716MS2A1					
Analyst Initials:	DT			DT			DT					
Dilution Factor:	58			2.0			2.0					
ANALYTE	**Result**	**RL**	**MDL**	**Result**	**RL**	**MDL**	**Result**	**RL**	**MDL**			
Vinyl Chloride	ND	58	13	ND	2.0	0.45	ND	2.0	0.45			
Methylene Chloride	150	58	16	ND	2.0	0.55	0.56 J	2.0	0.55			
1,1-Dichloroethane	19 J	58	6.5	ND	2.0	0.22	ND	2.0	0.22			
t-Butyl Methyl Ether	ND	58	9.3	ND	2.0	0.32	ND	2.0	0.32			
Chloroform	300	58	3.3	ND	2.0	0.11	0.68 J	2.0	0.11			
Carbon Tetrachloride	ND	58	5.0	ND	2.0	0.17	ND	2.0	0.17			
Benzene	11 J	58	10	ND	2.0	0.35	0.46 J	2.0	0.35			
1,2-Dichloroethane	57 J	58	6.0	ND	2.0	0.21	ND	2.0	0.21			
Trichloroethene	480	58	6.8	ND	2.0	0.23	0.63 J	2.0	0.23			
1,1,2-Trichloroethane	ND	58	12	ND	2.0	0.40	ND	2.0	0.40			
Tetrachloroethene	9,400	58	9.2	0.99 J	2.0	0.32	15	2.0	0.32			
1,4-Dichlorobenzene	ND	58	7.5	ND	2.0	0.26	ND	2.0	0.26			
Naphthalene	ND	290	150	ND	10	5.0	ND	10	5.0			
TOC	10,000	58	--	0.99 J	2.0	--	17 J	2.0	--			

RL = Reporting Limit
MDL = Method Detection Limit
ND = Not Detected (below MDL)
J = Estimated value between RL and MDL

Reviewed/Approved By: _____ **Date:** 7/17/09
Mark Johnson
Operations Manager

The cover letter is an integral part of this analytical report

LCS/LCSD Recovery and RPD Summary Report

QC Batch #: 090716MS2A1

Matrix: Air

EPA Method TO-14/TO-15

Lab No:	Method Blank		LCS		LCSD						
Date Analyzed:	07/16/09		07/16/09		07/16/09						
Data File ID:	16JUL012.D		16JUL004.D		16JUL005.D						
Analyst Initials:	DT		DT		DT						
Dilution Factor:	0.2		1.0		1.0			Limits			
ANALYTE	Result ppbv	Spike Amount	Result ppbv	% Rec	Result ppbv	% Rec	RPD	Low %Rec	High %Rec	Max. RPD	Pass/ Fail
1,1-Dichloroethene	0.0	10.0	7.9	79	7.7	77	2.3	70	130	30	Pass
Methylene Chloride	0.0	10.0	8.2	82	7.9	79	3.9	70	130	30	Pass
Trichloroethene	0.0	10.0	9.1	91	8.5	85	7.3	70	130	30	Pass
Toluene	0.0	10.0	8.0	80	7.9	79	1.5	70	130	30	Pass
1,1,2,2-Tetrachloroethane	0.0	10.0	8.2	82	8.1	81	1.3	70	130	30	Pass

RPD = Relative Percent Difference

Reviewed/Approved By: _____ **Date:** 7/17/09

Mark Johnson
Operations Manager

The cover letter is an integral part of this analytical report

AirTECHNOLOGY Laboratories, Inc.
18501 E. Gale Ave., Suite 130
City of Industry, CA 91748
Ph: 626-964-4032
Fx: 626-964-5832

CHAIN OF CUSTODY RECORD

TURNAROUND TIME				DELIVERABLES		PAGE: OF
Standard	☐	48 hours	■	EDD	☐	Condition upon receipt:
Same Day	☐	72 hours	☐	EDF	☐	Sealed Yes ☐ No ☐
24 hours	☐	96 hours	☐	Level 3	☐	Intact Yes ☐ No ☐
Other:				Level 4	☐	Chilled _____ deg C

Project No.:
Project Name: Omega Chemical
Report To: Sharon Wallin / Karen Schwarz
Company: CDM
Street: 111 Academy Way ; Ste 150
City/State/Zip: Irvine, CA 92617
Phone& Fax: 949.752.5452
e-mail: wallinsl@cdm.com; schwarzke@cdm.com

BILLING
P.O. No.:
Bill to: demaximus

ANALYSIS REQUEST

LAB USE ONLY	SAMPLE IDENTIFICATION	SAMPLE DATE	SAMPLE TIME	CONTAINER QTY/TYPE	MATRIX	PRESERVATION	TO15 - select compounds[1]					
A9071506 - 01	OC-VGAC-INF-SP241-071509	7/15/2009	~~1458~~ 1510	1 / B	Vapor	N	x					
↓ - 02	OC-VGAC-INT-SP245-071509	7/15/2009	1504	1 / B	Vapor	N	x					
↓ - 03	OC-VGAC-EFF-SP242-071509	7/15/2009	1458	1 / B	Vapor	N	x					

AUTHORIZATION TO PERFORM WORK	COMPANY	DATE/TIME
SAMPLED BY: Stephen Spaulding	COMPANY: CDM	DATE/TIME: 7-15-9 / 1513

RELINQUISHED BY	DATE/TIME	RECEIVED BY	DATE/TIME
[signature]	7-15-9 / 1513	[signature] Tranben DP	7/15/09 1513
RELINQUISHED BY	DATE/TIME	RECEIVED BY	DATE/TIME
RELINQUISHED BY	DATE/TIME	RECEIVED BY	DATE/TIME

COMMENTS
1 - Select compounds: Benzene, Carbon tetrachloride, Chloroform, p-Dichlorobenzene, 1,1-Dichloroethane, Ethylene dichloride, Methyl tert-butyl ether, Methylene chloride, Naphthalene, Perchloroethylene, 1,1,2-Trichloroethane, Trichloroethylene, Vinyl chloride

METHOD OF TRANSPORT (circle one): Walk-In FedEx UPS Courier ATLI Other_____

DISTRIBUTION: White & Yellow - Lab Copies / Pink - Customer Copy

Preservation: **H**=HCl **N**=None / Container: **B**=Bag **C**=Can **V**=VOA **O**=Other *Rev. 03 - 5/7/09*

Appendix F.8

July 24, 2009
Vapor Analytical Results

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AirTECHNOLOGY
Laboratories, Inc.

July 24, 2009

nelac
FL Cert #E87847/LA Cert #04140
EPA Methods TO3, TO14A, TO15, 25C/3C
RSK-175
TX Cert #T104704450-09-TX
EPA Methods TO14A,TO15
AZ Dept of Health Services #AZ0737
EPA Methods TO3, TO14A, TO15, 15, 16, 25C

CDM
ATTN: Sharon Wallin
111 Academy, Suite 150
Irvine, CA 92617

LABORATORY TEST RESULTS

Project Reference: Omega Chemical
Lab Number: A9072205-01/03

Enclosed are results for sample(s) received 7/22/09 by Air Technology Laboratories. Analyses were performed according to specifications on the chain of custody provided with the sample(s).

Report Narrative:

- Sample analyses were performed within method performance criteria and meet all requirements of the NELAC Standards.
- All results are reported without qualifications.

Results were e-mailed to Sharon Wallin, Karen Schwarz and Stephen Spaulding on 7/24/09.

ATL appreciates the opportunity to provide testing services to your company. If you have any questions regarding these results, please call me at (626) 964-4032.

Sincerely,

Mark Johnson
Operations Manager
MJohnson@AirTechLabs.com

Enclosures

Note: The cover letter is an integral part of this analytical report.

Client: CDM
Attn: Karen Schwarz

Client's Project: Omega Chemical
Date Received: 07/22/09
Matrix: Air
Units: ppbv

EPA Method TO15

Lab No:	A9072205-01			A9072205-02			A9072205-03					
Client Sample I.D.:	OC-VGAC-INF-SP241-072209			OC-VGAC-INT-SP245-072209			OC-VGAC-EFF-SP242-072209					
Date Sampled:	07/22/09			07/22/09			07/22/09					
Date Analyzed:	07/22/09			07/22/09			07/22/09					
QC Batch No:	090722MS2A1			090722MS2A1			090722MS2A1					
Analyst Initials:	DT			DT			DT					
Dilution Factor:	40			2.0			2.0					
ANALYTE	**Result**	**RL**	**MDL**	**Result**	**RL**	**MDL**	**Result**	**RL**	**MDL**			
Vinyl Chloride	ND	40	9.0	ND	2.0	0.45	ND	2.0	0.45			
Methylene Chloride	19	40	11	ND	2.0	0.55	1.2 J	2.0	0.55			
1,1-Dichloroethane	16 J	40	4.5	ND	2.0	0.22	ND	2.0	0.22			
t-Butyl Methyl Ether	ND	40	6.4	ND	2.0	0.32	ND	2.0	0.32			
Chloroform	290	40	2.3	ND	2.0	0.11	1.8 J	2.0	0.11			
Carbon Tetrachloride	ND	40	3.4	ND	2.0	0.17	ND	2.0	0.17			
Benzene	ND	40	7.0	1.4 J	2.0	0.35	0.63 J	2.0	0.35			
1,2-Dichloroethane	26 J	40	4.2	ND	2.0	0.21	ND	2.0	0.21			
Trichloroethene	430	40	4.7	ND	2.0	0.23	1.3 J	2.0	0.23			
1,1,2-Trichloroethane	ND	40	8.0	ND	2.0	0.40	ND	2.0	0.40			
Tetrachloroethene	6,000	40	6.4	1.6 J	2.0	0.32	23	2.0	0.32			
1,4-Dichlorobenzene	ND	40	5.2	ND	2.0	0.26	ND	2.0	0.26			
Naphthalene	ND	200	100	ND	10	5.0	ND	10	5.0			
TOC	6,800	40	--	3.0 J	2.0	--	29 J	2.0	--			

RL = Reporting Limit
MDL = Method Detection Limit
ND = Not Detected (below MDL)
J = Estimated value between RL and MDL

Reviewed/Approved By: _____ **Date:** 7/24/09
Mark Johnson
Operations Manager

The cover letter is an integral part of this analytical report

LCS/LCSD Recovery and RPD Summary Report

QC Batch #: 090722MS2A1

Matrix: Air

EPA Method TO-14/TO-15

Lab No:	Method Blank		LCS		LCSD						
Date Analyzed:	07/22/09		07/22/09		07/22/09						
Data File ID:	22JUL006.D		22JUL004.D		22JUL005.D						
Analyst Initials:	DT		DT		DT						
Dilution Factor:	0.2		1.0		1.0			Limits			
ANALYTE	Result ppbv	Spike Amount	Result ppbv	% Rec	Result ppbv	% Rec	RPD	Low %Rec	High %Rec	Max. RPD	Pass/ Fail
1,1-Dichloroethene	0.0	10.0	7.9	79	7.7	77	2.6	70	130	30	Pass
Methylene Chloride	0.0	10.0	8.4	84	8.0	80	4.4	70	130	30	Pass
Trichloroethene	0.3	10.0	12.2	119	11.3	110	7.7	70	130	30	Pass
Toluene	0.0	10.0	8.1	81	8.0	80	0.5	70	130	30	Pass
1,1,2,2-Tetrachloroethane	0.0	10.0	8.0	80	7.9	79	1.6	70	130	30	Pass

RPD = Relative Percent Difference

Reviewed/Approved By: Mark Johnson Date: 7/24/09

Mark Johnson
Operations Manager

The cover letter is an integral part of this analytical report

CHAIN OF CUSTODY RECORD

AirTECHNOLOGY Laboratories, Inc.

18501 E. Gale Ave., Suite 130
City of Industry, CA 91748
Ph: 626-964-4032
Fx: 626-964-5832

TURNAROUND TIME				DELIVERABLES	PAGE: OF
Standard	☐	48 hours	■	EDD ☐	Condition upon receipt:
Same Day	☐	72 hours	☐	EDF ☐	Sealed Yes ☐ No ☐
24 hours	☐	96 hours	☐	Level 3 ☐	Intact Yes ☐ No ☐
Other:				Level 4 ☐	Chilled _____ deg C

Project No.:	
Project Name:	Omega Chemical
Report To:	Sharon Wallin / Karen Schwarz
Company:	CDM
Street:	111 Academy Way ; Ste 150
City/State/Zip:	Irvine, CA 92617
Phone& Fax:	949.752.5452
e-mail:	wallinsl@cdm.com; schwarzke@cdm.com

BILLING

P.O. No.:	
Bill to:	demaximus

ANALYSIS REQUEST

LAB USE ONLY	SAMPLE IDENTIFICATION	SAMPLE DATE	SAMPLE TIME	CONTAINER QTY/TYPE	MATRIX	PRESERVATION	TO15 - select compounds[1]					
A9072205 - 01	OC-VGAC-INF-SP241-072209	7/22/2009	1325	1 / B	Vapor	N	X					
- 02	OC-VGAC-INT-SP245-072209	7/22/2009	1321	1 / B	Vapor	N	X					
- 03	OC-VGAC-EFF-SP242-072209	7/22/2009	1317	1 / B	Vapor	N	X					

AUTHORIZATION TO PERFORM WORK	COMPANY	DATE/TIME	
SAMPLED BY	COMPANY CDM	DATE/TIME 7-22-9 1330	
RELINQUISHED BY 7-22-9 - 1350	DATE/TIME	RECEIVED BY TrumanBP	DATE/TIME 7/22/09 1330
RELINQUISHED BY	DATE/TIME	RECEIVED BY	DATE/TIME
RELINQUISHED BY	DATE/TIME	RECEIVED BY	DATE/TIME

METHOD OF TRANSPORT (circle one): Walk-In FedEx UPS Courier ATLI Other_____

COMMENTS

1 - Select compounds: Benzene, Carbon tetrachloride, Chloroform, p-Dichlorobenzene, 1,1-Dichloroethane, Ethylene dichloride, Methyl tert-butyl ether, Methylene chloride, Naphthalene, Perchloroethylene, 1,1,2-Trichloroethane, Trichloroethylene, Vinyl chloride

DISTRIBUTION: White & Yellow - Lab Copies / Pink - Customer Copy

Preservation: **H**=HCl **N**=None / Container: **B**=Bag **C**=Can **V**=VOA **O**=Other

Rev. 03 - 5/7/09

Appendix F.9

August 14, 2009
Vapor Analytical Results

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AirTECHNOLOGY
Laboratories, Inc.

August 14, 2009

nelac
FL Cert #E87847/LA Cert #04140
EPA Methods TO3, TO14A, TO15, 25C/3C
RSK-175
TX Cert #T104704450-09-TX
EPA Methods TO14A,TO15

AZ Dept of Health Services #AZ0737
EPA Methods TO3, TO14A, TO15, 15, 16, 25C

CDM
ATTN: Sharon Wallin
111 Academy, Suite 150
Irvine, CA 92617

LABORATORY TEST RESULTS

Project Reference: Omega Chemical
Lab Number: A9081304-01/03

Enclosed are results for sample(s) received 8/13/09 by Air Technology Laboratories. Analyses were performed according to specifications on the chain of custody provided with the sample(s).

Report Narrative:

- Sample analyses were performed within method performance criteria and meet all requirements of the NELAC Standards.
- All results are reported without qualifications.

Results were e-mailed to Sharon Wallin, Karen Schwarz and Steven Spaulding on 8/14/09.

ATL appreciates the opportunity to provide testing services to your company. If you have any questions regarding these results, please call me at (626) 964-4032.

Sincerely,

Mark Johnson
Operations Manager
MJohnson@AirTechLabs.com

Enclosures

Note: The cover letter is an integral part of this analytical report.

Client: CDM
Attn: Karen Schwarz

Client's Project: Omega Chemical
Date Received: 08/13/09
Matrix: Air
Units: ppbv

EPA Method TO15

Lab No:	A9081304-01			A9081304-02			A9081304-03					
Client Sample I.D.:	OC-VGAC-INF-SP241-081309			OC-VGAC-INT-SP245-081309			OC-VGAC-EFF-SP242-081309					
Date Sampled:	08/13/09			08/13/09			08/13/09					
Date Analyzed:	08/13/09			08/13/09			08/14/09					
QC Batch No:	090813MS2A2			090813MS2A2			090813MS2A2					
Analyst Initials:	DT			DT			DT					
Dilution Factor:	29			2.1			2.1					
ANALYTE	Result	RL	MDL	Result	RL	MDL	Result	RL	MDL			
Vinyl Chloride	ND	29	6.5	ND	2.1	0.47	ND	2.1	0.47			
Methylene Chloride	44	29	7.9	98	2.1	0.57	ND	2.1	0.57			
1,1-Dichloroethane	9.6 J	29	3.2	ND	2.1	0.23	ND	2.1	0.23			
t-Butyl Methyl Ether	ND	29	4.6	ND	2.1	0.34	ND	2.1	0.34			
Chloroform	180	29	1.7	ND	2.1	0.12	0.21 J	2.1	0.12			
Carbon Tetrachloride	ND	29	2.5	ND	2.1	0.18	ND	2.1	0.18			
Benzene	ND	29	5.1	0.51 J	2.1	0.37	0.39 J	2.1	0.37			
1,2-Dichloroethane	54	29	3.0	ND	2.1	0.22	ND	2.1	0.22			
Trichloroethene	270	29	3.4	ND	2.1	0.24	ND	2.1	0.24			
1,1,2-Trichloroethane	ND	29	5.8	ND	2.1	0.42	ND	2.1	0.42			
Tetrachloroethene	4,500	29	4.6	0.42 J	2.1	0.33	5.3	2.1	0.33			
1,4-Dichlorobenzene	ND	29	3.8	ND	2.1	0.27	ND	2.1	0.27			
Naphthalene	ND	150	73	ND	11	5.3	ND	11	5.3			
TOC	5,100	29	--	99	2.1	--	5.9	2.1	--			

RL = Reporting Limit
MDL = Method Detection Limit
ND = Not Detected (below MDL)
J = Estimated value between RL and MDL

Reviewed/Approved By: Mark Johnson
Operations Manager

Date: 8-14-09

The cover letter is an integral part of this analytical report

LCS/LCSD Recovery and RPD Summary Report

QC Batch #: 090813MS2A2

Matrix: Air

EPA Method TO-14/TO-15

Lab No:	Method Blank		LCS		LCSD						
Date Analyzed:	08/13/09		08/13/09		08/13/09						
Data File ID:	13AUG013.D		13AUG011.D		13AUG012.D						
Analyst Initials:	DT		DT		DT						
Dilution Factor:	0.2		1.0		1.0			Limits			
ANALYTE	Result ppbv	Spike Amount	Result ppbv	% Rec	Result ppbv	% Rec	RPD	Low %Rec	High %Rec	Max. RPD	Pass/ Fail
1,1-Dichloroethene	0.0	10.0	8.3	83	8.3	83	0.4	70	130	30	Pass
Methylene Chloride	0.0	10.0	8.4	84	8.5	85	1.0	70	130	30	Pass
Trichloroethene	0.0	10.0	8.9	89	9.0	90	1.2	70	130	30	Pass
Toluene	0.0	10.0	8.1	81	8.3	83	2.6	70	130	30	Pass
1,1,2,2-Tetrachloroethane	0.0	10.0	8.2	82	8.5	85	3.2	70	130	30	Pass

RPD = Relative Percent Difference

Reviewed/Approved By: Mark Johnson
Operations Manager

Date: 8-14-09

The cover letter is an integral part of this analytical report

CHAIN OF CUSTODY RECORD

AirTECHNOLOGY Laboratories, Inc.

18501 E. Gale Ave., Suite 130
City of Industry, CA 91748
Ph: 626-964-4032
Fx: 626-964-5832

TURNAROUND TIME				DELIVERABLES		PAGE: OF
Standard	☐	48 hours	■	EDD	☐	Condition upon receipt:
Same Day	☐	72 hours	☐	EDF	☐	Sealed Yes ☐ No ☐
24 hours	☐	96 hours	☐	Level 3	☐	Intact Yes ☐ No ☐
Other:				Level 4	☐	Chilled _____ deg C

Project No.:	
Project Name:	Omega Chemical
Report To:	Sharon Wallin / Karen Schwarz
Company:	CDM
Street:	111 Academy Way ; Ste 150
City/State/Zip:	Irvine, CA 92617
Phone& Fax:	949.752.5452
e-mail:	wallinsl@cdm.com; schwarzke@cdm.com

BILLING

P.O. No.:	
Bill to:	demaximus

ANALYSIS REQUEST

LAB USE ONLY	SAMPLE IDENTIFICATION	SAMPLE DATE	SAMPLE TIME	CONTAINER QTY/TYPE	MATRIX	PRESERVA-TION	TO15 - select compounds[1]					
A9081304-01	OC-VGAC-INF-SP241-081309	8/13/2009	1042	1 / B	Vapor	N	x					
02	OC-VGAC-INT-SP245-081309	8/13/2009	1046	1 / B	Vapor	N	x					
03	OC-VGAC-EFF-SP242-081309	8/13/2009	1037	1 / B	Vapor	N	x					

AUTHORIZATION TO PERFORM WORK	COMPANY	DATE/TIME
SAMPLED BY: Stephen Spaulding	COMPANY: CDM	DATE/TIME: 8-13-9 1103
RELINQUISHED BY: [signature]	DATE/TIME: 8-13-9 1103	RECEIVED BY: [signature] DATE/TIME: 8/13/09 1200
RELINQUISHED BY	DATE/TIME	RECEIVED BY DATE/TIME
RELINQUISHED BY	DATE/TIME	RECEIVED BY DATE/TIME

METHOD OF TRANSPORT (circle one): Walk-In FedEx UPS Courier ATLI Other_____

COMMENTS

1 - Select compounds: Benzene, Carbon tetrachloride, Chloroform, p-Dichlorobenzene, 1,1-Dichloroethane, Ethylene dichloride, Methyl tert-butyl ether, Methylene chloride, Naphthalene, Perchloroethylene, 1,1,2-Trichloroethane, Trichloroethylene, Vinyl chloride

DISTRIBUTION: White & Yellow - Lab Copies / Pink - Customer Copy

Preservation: **H**=HCl **N**=None / Container: **B**=Bag **C**=Can **V**=VOA **O**=Other *Rev. 03 - 5/7/09*

Appendix F.10

August 31, 2009
Vapor Analytical Results

AirTECHNOLOGY
Laboratories, Inc.

August 31, 2009

nelac
FL Cert #E87847/LA Cert #04140
EPA Methods TO3, TO14A, TO15, 25C/3C
RSK-175
TX Cert #T104704450-09-TX
EPA Methods TO14A,TO15
AZ Dept of Health Services #AZ0737
EPA Methods TO3, TO14A, TO15, 15, 16, 25C

CDM
ATTN: Sharon Wallin
111 Academy, Suite 150
Irvine, CA 92617

LABORATORY TEST RESULTS

Project Reference: Omega Chemical
Lab Number: A9082701-01/03

Enclosed are results for sample(s) received 8/27/09 by Air Technology Laboratories. Analyses were performed according to specifications on the chain of custody provided with the sample(s).

Report Narrative:

- Sample analyses were performed within method performance criteria and meet all requirements of the NELAC Standards.
- All results are reported without qualifications.

Results were e-mailed to Sharon Wallin, Karen Schwarz and Steven Spaulding on 8/31/09.

ATL appreciates the opportunity to provide testing services to your company. If you have any questions regarding these results, please call me at (626) 964-4032.

Sincerely,

Mark Johnson
Operations Manager
MJohnson@AirTechLabs.com

Enclosures

Note: The cover letter is an integral part of this analytical report.

Client: CDM
Attn: Karen Schwarz

Client's Project: Omega Chemical
Date Received: 08/27/09
Matrix: Air
Units: ppbv

EPA Method TO15

Lab No:	A9082701-01			A9082701-02			A9082701-03		
Client Sample I.D.:	OC-VGAC-INF-SP241-082709			OC-VGAC-INT-SP245-082709			OC-VGAC-EFF-SP242-082709		
Date Sampled:	08/27/09			08/27/09			08/27/09		
Date Analyzed:	08/28/09			08/28/09			08/28/09		
QC Batch No:	090828MS2A1			090828MS2A1			090828MS2A1		
Analyst Initials:	DT			DT			DT		
Dilution Factor:	2.0			2.0			2.0		
ANALYTE	Result	RL	MDL	Result	RL	MDL	Result	RL	MDL
Vinyl Chloride	ND	2.0	0.45	ND	2.0	0.45	ND	2.0	0.45
Methylene Chloride	11	2.0	0.55	58	2.0	0.55	8.5	2.0	0.55
1,1-Dichloroethane	8.2	2.0	0.22	ND	2.0	0.22	ND	2.0	0.22
t-Butyl Methyl Ether	ND	2.0	0.32	ND	2.0	0.32	ND	2.0	0.32
Chloroform	140	2.0	0.11	ND	2.0	0.11	0.17 J	2.0	0.11
Carbon Tetrachloride	ND	2.0	0.17	ND	2.0	0.17	ND	2.0	0.17
Benzene	2.5	2.0	0.35	0.68 J	2.0	0.35	0.54 J	2.0	0.35
1,2-Dichloroethane	35	2.0	0.21	ND	2.0	0.21	ND	2.0	0.21
Trichloroethene	210	2.0	0.23	ND	2.0	0.23	ND	2.0	0.23
1,1,2-Trichloroethane	2.6	2.0	0.40	ND	2.0	0.40	ND	2.0	0.40
Tetrachloroethene	3,200	2.0	0.32	1.1 J	2.0	0.32	6.9	2.0	0.32
1,4-Dichlorobenzene	ND	2.0	0.26	ND	2.0	0.26	ND	2.0	0.26
Naphthalene	ND	10	5.0	ND	10	5.0	ND	10	5.0
TOC	3,600	2.0	--	1.8 J	2.0	--	16	2.0	--

RL = Reporting Limit
MDL = Method Detection Limit
ND = Not Detected (below MDL)
J = Estimated value between RL and MDL

Reviewed/Approved By: _____ Date: 9/3/09
Mark Johnson
Operations Manager

The cover letter is an integral part of this analytical report

LCS/LCSD Recovery and RPD Summary Report

QC Batch #: 090828MS2A1

Matrix: Air

EPA Method TO-14/TO-15

Lab No:	Method Blank		LCS		LCSD						
Date Analyzed:	08/28/09		08/28/09		08/28/09						
Data File ID:	28AUG005.D		28AUG003.D		28AUG004.D						
Analyst Initials:	DT		DT		DT						
Dilution Factor:	0.2		1.0		1.0			Limits			
ANALYTE	Result ppbv	Spike Amount	Result ppbv	% Rec	Result ppbv	% Rec	RPD	Low %Rec	High %Rec	Max. RPD	Pass/ Fail
1,1-Dichloroethene	0.0	10.0	8.8	88	8.9	89	0.8	70	130	30	Pass
Methylene Chloride	0.0	10.0	9.4	94	9.2	92	1.7	70	130	30	Pass
Trichloroethene	0.0	10.0	10.2	102	10.0	100	2.8	70	130	30	Pass
Toluene	0.0	10.0	9.0	90	8.8	88	2.3	70	130	30	Pass
1,1,2,2-Tetrachloroethane	0.0	10.0	8.8	88	8.6	86	2.5	70	130	30	Pass

RPD = Relative Percent Difference

Reviewed/Approved By: _____ Date: 8/30/09

Mark Johnson
Operations Manager

The cover letter is an integral part of this analytical report

CHAIN OF CUSTODY RECORD

AirTECHNOLOGY Laboratories, Inc.
18501 E. Gale Ave., Suite 130
City of Industry, CA 91748
Ph: 626-964-4032
Fx: 626-964-5832

TURNAROUND TIME				DELIVERABLES		PAGE: OF
Standard	☐	48 hours	■	EDD	☐	Condition upon receipt:
Same Day	☐	72 hours	☐	EDF	☐	Sealed Yes ☐ No ☐
24 hours	☐	96 hours	☐	Level 3	☐	Intact Yes ☐ No ☐
Other:				Level 4	☐	Chilled _____ deg C

Project No.:	
Project Name:	Omega Chemical
Report To:	Sharon Wallin / Karen Schwarz
Company:	CDM
Street:	111 Academy Way ; Ste 150
City/State/Zip:	Irvine, CA 92617
Phone& Fax:	949.752.5452
e-mail:	wallinsl@cdm.com; schwarzke@cdm.com

BILLING	
P.O. No.:	
Bill to:	demaximus

LAB USE ONLY	SAMPLE IDENTIFICATION	SAMPLE DATE	SAMPLE TIME	CONTAINER QTY/TYPE	MATRIX	PRESERVA-TION	TO15 - select compounds[1]					
A908277d -01	OC-VGAC-INF-SP241-082709	8/27/2009	0926	1 / B	Vapor	N	X					
02	OC-VGAC-INT-SP245-082709	8/27/2009	0922	1 / B	Vapor	N	X					
03	OC-VGAC-EFF-SP242-082709	8/27/2009	0915	1 / B	Vapor	N	X					

AUTHORIZATION TO PERFORM WORK	COMPANY	DATE/TIME
SAMPLED BY: Stephen Spaulding	COMPANY: CDM	DATE/TIME: 8-27-9 / 0928
RELINQUISHED BY: [signature]	DATE/TIME: 8-27-9-0928	RECEIVED BY: [signature] DATE/TIME: 8/27/09 928
RELINQUISHED BY	DATE/TIME	RECEIVED BY: [signature] DATE/TIME
RELINQUISHED BY	DATE/TIME	RECEIVED BY DATE/TIME

COMMENTS

1 - Select compounds: Benzene, Carbon tetrachloride, Chloroform, p-Dichlorobenzene, 1,1-Dichloroethane, Ethylene dichloride, Methyl tert-butyl ether, Methylene chloride, Naphthalene, Perchloroethylene, 1,1,2-Trichloroethane, Trichloroethylene, Vinyl chloride

METHOD OF TRANSPORT (circle one): Walk-In FedEx UPS Courier ATLI Other_____

DISTRIBUTION: White & Yellow - Lab Copies / Pink - Customer Copy

Preservation: H=HCl N=None / Container: B=Bag C=Can V=VOA O=Other *Rev. 03 - 5/7/09*

Appendix G
EPA Inspection Documents

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I. Purpose

The purpose of the inspection was to provide technical oversight of the Ground Water Treatment System (GWTS) constructed by the Omega Chemical Site PRP Organized Group's (OPOG) at the Omega Chemical Corporation Superfund Site (the "Site") on behalf of the U.S. Environmental Protection Agency Region 9 (USEPA).

ITSI conducted a field inspection of the GWTS and provided technical review of associated submittals to ensure their compliance with all USEPA accepted plans and specifications. Inspection of the GWTS included inspection of the (1) extraction system; (2) conveyance pipelines; and (3) treatment system, including mechanical hardware and control system components.

II. Background

For cleanup purposes, EPA divided the Site into three operable units (OUs): OU-1, OU-2 and OU-3. OU-1 includes the former Omega Chemical Corporation facility and immediate vicinity. Omega Chemical consisted of two parcels located at 12504/12512 East Whittier Boulevard in Whittier, California. It operated a refrigerant/solvent recycling and treatment facility on the property from approximately 1976 to 1991. As a result of previous operations, subsurface soil and groundwater at the site was contaminated with perchloroethylene (PCE), Freon, and other chlorinated solvents. To address the groundwater contamination within the OU-1 area and to prevent its further migration downgradient, OPOG constructed the GWTS, as required by a Consent Decree which was entered by the United States District Court, Central District of California, on February 28, 2001, and amended thereafter.

The GWTS consists of:

- Five extraction wells (EW-1 through EW-5) located along Putnam Street;
- A conveyance system that carries extracted groundwater to a central treatment plant via piping installed underground along Putnam Street, through the Los Angeles Carts Manufacturing, Inc. (LA Carts) property, and underground along the former Skateland property; and
- A treatment system consisting of: two sediment bag filters; an anti-scalant unit and metering pump; a shallow-tray low profile air stripping unit; and two vapor phase granular activated carbon vessels.

After treatment, the treated water passes through a SDLAC (Sanitation District of L.A. County) sample box, an effluent sump pump, and a magnetic flow meter prior to discharge to the sanitary sewer.

A schedule for completing the construction of the GWTS was approved in the Removal Action Plan and Preliminary Design Report, dated December 16, 2005. OPOG subsequently submitted five requests to modify the schedule and extend the construction completion dates. The approved schedules were dated: November 1, 2006, January 1, 2007, March 16, 2007, December 15, 2008 and March 20, 2009. Functional simulation and performance testing of the GWTS were initiated on June 1, 2009, and the system began operating 24/7 on July 24, 2009.

The inspection of the GWTS was conducted by ITSI staff on behalf of USEPA on August 19, 2009 with representatives from USEPA, California Department of Toxic Substances Control, ITSI, OPOG and CDM, OPOG's contractor. The site inspection attendance list in included as Attachment C.

III. GWTS Inspection

The following observations were noted during inspection of the GWTS. Inspection tasks outlined in ITSI's field inspection form were used as a guidance to conduct the inspection. *See ITSI Field Inspection Form*, Attachment A.

General Observations

- In lieu of the Standard Operating Procedures (SOPs) provided in the draft Operations and Monitoring Mannual (OMMM) and associated field forms dated December 12, 2008, OPOG recorded field notes on "Red Tag" forms that were temporarily being used by the plant operator. These "Red Tag" forms were being used to record, track and identify issues during the startup/shakedown period. It is EPA's understanding that OMMM field forms, per SOPs, will be utilized for long-term data collection and recording.

- The system has an autodialer that calls to notify the Plant Operator when a system alarm is triggered. However at the time of inspection, the Plant Operator did not have the ability to shut down the system, or parts of the system, remotely. Instead the Plant Operator needed to physically access the Motor Control Center (MCC) to shut down the process equipment. It appears that access to the MCC is through the secondary containment. This could be problematic in an event where the secondary containment flooded.

- OPOG is tracking the flow rates of the five extraction wells individually. At the time of inspection, it was unclear how the cumulative influent flow rates were being determined, tracked, and recorded. No inflow meter was observed.

Specific Observations

Extraction Wells and Submersible Pumps

One of the extraction wells (EW-1) was checked during the inspection. OPOG verified that the design of the other four extraction wells (EW-2, EW-3, EW-4, and EW-5) were identical in construction and similar in condition.

Temporary data loggers were installed in each well to monitor draw down measurements. Water level, pressure, flow rate and speed from each extraction well are collected electronically, recorded temporarily on "Red Tag" forms and then entered into a spreadsheet. At the time of the inspection, the water level data was not recorded by the Program Logic Controller (PLC) and during the inspection it was not clear if data is being recorded by the Human Machine Interface (HMI) computer. OPOG must clarify how the long term system is to operate, identify the appropriate OMM section and SOP number, verify that both documents are correct, and document that field forms are being utilized.

Well flow rates are controlled by manually entered Variable Frequency Drive (VFD) set points associated with the pumps at EW-1, EW-2 and EW-3 and by valve controls at EW-4 and EW-5. Although the system has the capacity to operate automatically, the sensors are not installed to allow VFDs to operate in automatic mode. The potential for excessive drawdown (i.e., below pump intake) is protected by float valve off-switches. Discharge pressure, and discharge flow rates from each extraction well are collected electronically by the HMI computer. Rotation, hand switches, speed controllers, discharge pressure, and discharge flow are routinely checked using SOPs and associated field forms. However, during the inspection, these data were temporarily recorded on "Red Tag" forms. OPOG must clarify how the long term system is to operate, identify the appropriate OMM section and SOP number, verify that both documents are correct, and document that field forms are being utilized.

Well vaults and extraction piping appeared to be good (new) condition. No leaks in the vault and piping were observed. At the time of the inspection the vaults had yet to be tested for rain events and rainwater accumulation.

Conveyance Piping

All above ground conveyance piping was inspected and appeared to be in good (new) condition with no detectable leaks.

At the time of inspection, water was observed in the leak detection port (LD1) just south of EW-5. The 8" HDPE leak detection port was not properly sealed (Photo 003). See Attachment B.

There is no alarm sensor for the secondary containment piping system in the event of a leak. The leak detection ports are currently visually inspected and manually checked with water level indicators. During the time of the inspection, it was unclear how often the leak detection ports were to be inspected. OPOG should clarify how the long term system is to operate, identify the appropriate OMM section and SOP number, verify that both documents are correct, and document that field forms are being utilized.

Treatment System

Each component of the treatment system was inspected.

The duplex sediment filter housing and associated piping appeared to be in good (new) condition, free of cracks and leaks (Photo 005). All valves for the bag filter system were in the correct configuration. The differential pressure for bag filters FLT-205 and FLT-207 was checked. According to the Plant Operator, pressure settings for the two sediment filters are manually set. Ideal pressure differential is typically between 8-10 pounds per square inch (psi). When pressure falls out of this prescribed range, an alarm is triggered and the system auto-dialer alerts the Plant Operator. The sediment bag filters may be temporarily shutdown for any required change-out. Pressure differential on the two bag filters are checked and were temporarily recorded on the "Red Tag" forms. OPOG should clarify how the long term system is to operate, identify the appropriate OMM section and SOP number, verify that both documents are correct, and document that field forms are being utilized.

The NALCO anti-scalant unit and associated piping/tubing appeared to be in good (new) condition, free of cracks, leaks and obvious wear. All valves and switches for the anti-scalant unit were set correctly and in the proper configuration. The Anti-scalant dose rate is set and checked by the Plant Operator. Routine maintenance of the unit is conducted by the Plant Operator and was being temporarily recorded on "Red Tag" forms. OPOG must clarify how the long term system is to operate, identify the

appropriate OMM section and SOP number, verify that both documents are correct, and document that field forms are being utilized.

Per SOP 301 (Anti-Scalant System Maintenance), service and maintenance of the system should be performed by a NALCO representative. However, the Plant Operator indicated that NALCO only comes out to refill the system. OPOG must clarify how service and maintenance of the system is to be provided, identify the appropriate OMM section and SOP number, verify that both documents are correct, and as appropriate document that field forms are being utilized.

The air stripper unit and process piping appeared to be in good (new) condition, with no observable leaks (Photo 006). The 1/8" coupling at the bottom of the blower housing unit was open and allowed for water drainage. The panel lights, level and pressure switches were functioning properly. Temperature transmitter and relative humidity sensors were functioning properly. Valves were in the correct operating configuration. As noted above, individual flow rates for the extraction wells were displayed on the Program Logic Controller (PLC) and stored by the HMI.

The air stripper blower appeared to be in good (new) condition and functioning properly. Blower pressure switches, temperature transmitter, and relative humidity sensor were functioning properly. All valves were operating and in the correct configuration. Blower inlet pressure, air flow rate, discharge pressure, discharge temperature, and discharge relative humidity are routinely checked and were being temporarily recorded by the Plant Operator on the "Red Tag" forms. OPOG should clarify how the long term system is to operate, identify the appropriate OMM section and SOP number, verify that both documents are correct, and document that field forms are being utilized.

The VGAC units appeared to be in good (new) condition. Pressure and temperature gauges were functioning properly. Valve positions on the manifold were positioned properly for lead/lag configuration. No accumulated condensation or leaks were observed.

The MCC, PLC, and HMI were all functioning properly. Routine inspection of the MCC, PLC and HMI are conducted by the Plant Operator. Inspection notes were being temporarily recorded on "Red Tag" forms. OPOG should clarify how the long term system is to operate, identify the appropriate OMM section and SOP number, verify that both documents are correct, and document that field forms are being utilized.

Data logging and trend generation was observed to be functioning properly on the HMI.

The sump pump and effluent flow meter appeared to be in good (new) condition and functioning properly. The sump was free of debris at the time of inspection. The effluent flow meter was last calibrated on May 2009 per SDLAC requirements. A calibration report was submitted to SDLAC within 60 days after califbration. Please provide EPA a copy of the calibration. Please verify that OPOG will adhere to approved SOP 360, and calibrate the effluent flow meter annually

The total flow rate with all five wells functioning at the time of inspection was approximately 20 gallons per minute (gpm).

IV. Action Items

Based on the inspection of the GWTS, no significant hazards or equipment malfunctions were apparent. The extraction wells, conveyance piping, and treatment system were generally in good condition and functioning as described in the Draft Groundwater Treatment System Operation, Maintenance, and Monitoring Manual (December 2008). However, the following items below need to be addressed for long-term operation and maintenance of the GWTS:

Flow Totalizer: Clarify how total influent/effluent flow rates are determined, tracked, and recorded. Steps for determining total flow rates should be outlined in the Final OMMM.

Remote Shut Off: Clarify how the system, or components of the system, may be shut down remotely. Steps outlining the procedure for shutting down the system when an alarm is triggered should be included in the Final OMMM. Reference to any applicable SOPs should also be included in the description.

Site Documents. Verify the OMMM and SOPs reflect actual field processes. Establish a central repository for final OMMM, SOPs and field forms. It is EPA's understanding that the "Red Tag" forms were only temporary in nature. If Red Tag forms are to be used, an SOP should be developed.

Well Vaults. Verify that all vaults are sealed and protected against surface water infiltration. Verify that high level alarms are functioning properly. Procedures for inspection and an inspection schedule should be included in the Final OMMM. Along with regular inspections, it is our recommendation that the well vaults also be inspected after any significant rainfall. Reference to any applicable SOPs should also be included in the description.

Leaks in Containment Piping. Properly cap and seal the leak detection port. Procedures for inspecting the leak detection ports and an inspection schedule should be included in the Final

OMMM. Reference to any applicable SOPs should also be included in the description. Please verify that the pipes are fully contained to eliminate underground leaks and that any release would be to the ground surface.

Field SOPs. Update and finalize SOP's. EPA notes that the following SOPs require updates for submission with the final Groundwater Treatment System Operation, Maintenance, and Monitoring Manual.

a. SOP 101, Revision 2 – Provide the correct revision date and provide the appropriate field forms.
b. SOP 102, Revision 2 – Provide the correct revision date and provide the appropriate field forms.
c. SOP 901, Revision 2 – Section 4.0. Reference to the remote access set up should be to SOP 910, not 901. Additionally, any steps necessary to reset the alarm must be outlined in the SOP.

V. Summary

ITSI concludes that the GWTS is in good condition and functioning with no observable hazards or equipment malfunctions. However, compliance with the the above recommendations are required for optimal long-tem GWTS operation and maintenance.

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ATTACHMENT A
INSPECTION CHECKLIST

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INSPECTION TASKS

Extraction Well Inspection **Extraction Well EW-1 (repeat for each well)**

No.	Item	SOPs	Notes/Comments
1.1	Draw down measurement of water level during normal operation. • Measurement method • Data recorded how?	100, 230	- data loggers for each well - data recorded wkly, then entered into spreadsheets - no water levels currently recorded in PLC
1.2	Vaults and vault extraction piping. • fittings and connections for leak free?	230, 260, 280	- vaults in good condition - vaults are untested for rainwater accumulation
1.3	Vault high level shutdown switch • function properly?	NA	- undetermined if the vaults will be completely leak free – should test after a rain event

Other Notes:
- any field form updates?
- flowrates adjusted via the VFD
- alarms will only shut down individual pumps – no system shutdown “button”

INSPECTION TASKS

Submersible Pump Inspection **Extraction Well EW-1 (repeat for each well)**

No.	Item	SOPs	Notes/Comments
2.1	Where appropriate is VFD operational?	NA	- VFDs do not have an automated run speed command signal. Must be operated on a manually entered set point.
2.2	Level switches • settings correct?	NA	none
2.3	Level switches • Function properly? • Well recharge after LSL shut-down. • Time return to LSH and pump re-activation	NA	none
2.4	Well flow rates • Totalizer and pressure gauges/readings functioning? • HMI software data match readings?	360, 361	none
2.5	Pressure transmitter • functioning? • calibration records available?	360, 361	none
2.6	Flow transmitter • functioning • calibration records available? • HMI software data match readings?	361	none
2.7	All valves operating and in correct position?	NA	none

INSPECTION TASKS

Conveyance Pipeline Inspection

No.	Item	SOP	Notes/Comments
3.1	Inspect pressures in the influent pipe at the extraction wells for proper pressure ranges and variations	NA	None
3.2	Inspect pressures in the effluent discharge pipe at the treatment plant for proper pressure ranges and variations	NA	None
3.3	Inspect Leak Detection Ports	260	- water in leak detection port
3.4	Inspect manholes for structural integrity	NA	- vaults in good condition

Other Notes:
- No alarm for LDP. Leak detection is by manual inspection only.
- LDP is not properly sealed; process water may potentially overflow out the inspection port if a leak should occur.
- Water currently in LDP should be sounded and pumped out
- S. Spaulding says water in LDP from earlier pressure testing

Duplex Sediment Filter Inspection

No.	Item	SOP	Notes/Comments
4.1	Inspect the inside and outside of the unit to verify its condition, free from cracks and leaks	300	- unit is in good (new) condition
4.2	Inspect differential pressure at FLT-205 and FLT-207	300	- pressures manually set by O&M technician (S. Spaulding) - what are the pressure parameters for sediment bag change? -- determined by O&M technician, usually differential pressure between 8-10 psi

INSPECTION TASKS

4.3	Are all valves in operating and correct position?	NA	None

Anti-Scalant Inspection

No.	Item	SOP	Notes/Comments
5.1	Inspect the inside and outside of the unit to verify its condition, free from cracks and leaks	301	None
5.2	Inspect pump tube for leaks and wear	301	None
5.3	Inspect the suction/discharge tubing, injection point and injection check valve	301	None
5.4	Injection rate • Is injection rate variable based on influent flow? • Are calibration records available?	301	None
5.5	Are level switches correctly set?	301	None
5.7	Do level switches function properly?	301	None
5.8	Are all valves are operating and in the correct position?	NA	None

INSPECTION TASKS

Other Notes:
- SOP specifies that manufacturer conducts routine inspection. Manufacturer only comes out to the site to refill the system. O&M technician conducts inspection during current operations

Air Stripper Inspection

No.	Item	SOP	Notes/Comments
6.1	Influent flow rate • Totalizer and pressure gauges/readings functioning? • HMI software data match readings?	320	- The is no influent flow meter before the air stripper (total influent flow is calculated by summing the five extraction well flow meters).
6.2	Check that the 1/8-inch coupling in the bottom of the blower housing is open to allow for drainage of water	320	None
6.3	Check air stripper and process piping for leaks.	260, 320	None
6.4	Are all control panel lights are operational?	320	None
6.5	Do level switches function properly?	320	None
6.6	Do pressure switches function properly?	320	None

INSPECTION TASKS

6.7	Does the air flow transmitter function properly? • HMI software data match readings?	NA	None
6.8	Does the temperature transmitter function properly?	NA	None
6.9	Does the relative humidity sensor function properly?	NA	None
6.10	Are all valves are operating and in the correct proposition?	NA	None

Other Notes:
- No dedicated effluent flow rate sensor
- HMI tracts and totals flow rates from each of the extraction wells

Sump Pump and Discharge Flow Meter Inspection

No.	Item	SOP	Notes/Comments
7.1	Inspect discharge pump for proper function	390	None
7.2	Inspect sump for debris or other material potentially damaging to PMP-230	390	None

Effluent Flow Meter Inspection

No.	Tasks	SOP	Notes/Comments
8.1	Inspect sump for debris or other material potentially damaging to PMP-230	390	None

INSPECTION TASKS

8.2	Is FIT-232 calibrated per SDLAC requirements. • HMI software data match readings?	361	- calibrated on May 2009 - current flow rate ~20 gpm

Blower Inspection

No.	Item	SOP	Notes/Comments
8.1	Are all control panel lights are operational?	361	None
8.2	Is blower rotation function properly?	390	None
8.3	Do the pressure switches function properly?	361	None
8.4	Does the temperature transmitter function properly?	361	None
8.5	Does the relative humidity sensor function properly?	361	None
8.6	Are all valves operating and in the correct position?	NA	None

Vapor Phase VGAC Units Inspection

No.	Item	SOP	Notes/Comments
9.1	Check vapor phase VGAC vessels pressure gauges readings	NA	None

INSPECTION TASKS

9.2	Is the valving configuration on the piping manifold set correctly?	200	None
9.3	Are the valve positions in the pipe manifold set correctly for required lead/lag vessel configuration.	200	None
9.4	Is the air piping drain functioning properly?	200	None
9.5	Check the VGAC units for accumulation of condensation at the bottom of the vessels	270	None
9.6	Inspect VGAC Piping for leaks	270	None

Motor Control Center Inspection

No.	Item	SOP	Notes/Comments
10.1	Do all circuit protection devices (i.e. circuit breakers, fuses, emergency stop buttons etc.) function properly?	NA	- No single emergency stop button.

Programmable Logic Controller Inspection

No.	Item	SOP	Notes/Comments
11.1	Is the interface between the PLC and a site computer functioning? • Does the remote	NA	None

INSPECTION TASKS

	operation and remote e-stop function?		
11.2	Are the programs functioning correctly?	NA	None

Human Machine Interface Inspection

No.	Tasks	SOP	Notes/Comments
12.1	Are the HMI programs functioning properly?	NA	None
12.2	Do emergency stop buttons on software function properly?	NA	- No single emergency stop button
12.3	Do the HMI programs accept PLC signals?	NA	None
12.4	Are all data being logged and does trend screen generation function properly?	NA	None

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ATTACHMENT B
SITE PHOTOS

Innovative Technical Solutions, Inc.

Photographic Documentation

Project: Omega Chemical Superfund Site
Location: Whittier, CA.

Contract Number: EP-S9-08-03
Task Order No: 0021
DCN: 07163.0022.00XX

Photograph No. 001

Project: Omega Chemical

Photo credit: EG

Description: Conveyance piping outside of LA Carts Property

Photograph No. 002

Project: Omega Chemical

Photo credit: EG

Description: Well vault EW-1

Project: Omega Chemical Superfund Site
Location: Whittier, CA.

Contract Number: EP-S9-08-03
Task Order No: 0021
DCN: 07163.0022.00XX

Photograph No. 003

Project: Omega Chemical

Photo credit: EG

Description: Leak detection port

Photograph No. 004

Project: Omega Chemical

Photo credit: EG

Description: PLC Panel w/ individual EW flow meters

Project: Omega Chemical Superfund Site
Location: Whittier, CA.

Contract Number: EP-S9-08-03
Task Order No: 0021
DCN: 07163.0022.00XX

Photograph No. 005

Project: Omega Chemical

Photo credit: EG

Description: Piping and valves leading to sediment bag filters

Photograph No. 006

Project: Omega Chemical

Photo credit: EG

Description: Air stripper unit

Project: Omega Chemical Superfund Site
Location: Whittier, CA.

Contract Number: EP-S9-08-03
Task Order No: 0021
DCN: 07163.0022.00XX

Photograph No. 007

Project: Omega Chemical

Photo credit: EG

Description: Air stripper system control panel

Photograph No. 008

Project: Omega Chemical

Photo credit: EG

Description: Effluent flow meter

Project: Omega Chemical Superfund Site
Location: Whittier, CA.

Contract Number: EP-S9-08-03
Task Order No: 0021
DCN: 07163.0022.00XX

Photograph No. 009

Project: Omega Chemical

Photo credit: EG

Description: SDLAC effluent sampling box

ATTACHMENT C
EPA INSPECTION ATTENDANCE LIST

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August 19, 2009

Sign In sheet

Name	Firm	phone	E-mail
Cary Porter	CDM	949-752-5452	PorterCA@CD
Lari Parnass	DTSC	818 717 6546	lparnass@dtsc.
Ed Madiero	de maximis	619-791-9074	edm@demaxim
RAVI SUBRAMANIAN	CDM	714-308-2945	SUBRAMANIANR@ CDM.Co
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Stephen Spaulding	CDM	(760) 272 0623	spauldin@dslextreme.c

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UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
REGION IX
75 Hawthorne Street
San Francisco, CA 94105

November 20, 2009

Mr. Edward Modiano
OPOG Project Coordinator
De Maximis, Inc.
1322 Scott Street, Suite 101
San Diego, CA 92106

RE: Omega Chemical Superfund Site, Follow-up Field Inspection November 18, 2009

Dear Mr. Modiano:

On August 19, 2009 representatives from the U.S. Environmental Protection Agency (EPA), California Department of Toxic Substances Control, and ITSI conducted an inspection of the ground water treatment system at the Omega Chemical Superfund Site. The inspection report is attached.

On November 19, 2009, EPA conducted a follow-up inspection. Observations from that follow-up inspection are found in Attachment A.

Please respond to all remaining action items and update and submit the final OMM and Construction Complete report. If you have any questions regarding this matter please call me at (415) 946-4183.

Sincerely,

Lynda Deschambault
Superfund Project Manager

cc: Fred Schauffler, EPA
Lori Parnass, DTSC
Tom Perina, CH2MHill

ATTACHMENT A: Observations during November 19, 2009 follow-up Field Inspection

- A central repository of site documents exists. An OMM manual dated November 19, 2009 was available on site at the time of the inspection. EPA and its contractors will fully review this document once it is received. Upon brief review, the main body text of the OMM appears to clearly indicate the frequency of performing tasks, refers to the appropriate associated SOPs and also refers to the field forms in separate appendices. The field forms do not reference associated SOPs. The SOPs do not state frequency of performing tasks and do not reference the field forms to be used. Please ensure all field forms have titles that clearly indicate the associated SOP name and number. Please ensure that the OMM clearly states the frequency of performing each of the tasks.
- SOP 105 was reviewed. It reference calibration per a separate calibration SOP titled: OVM Calibration. The OVM Calibration was reviewed. It was labeled "SOP XXX" and as per above the SOP does not state the frequency of performing the task, and does not reference the field form. In addition, the OMM did not specify or reference the SOP or the Field Form. Please ensure that all SOPs have full and complete titles, all are clearly referenced in the main body text of the OMM, and have references to the appropriate associated field forms.
- An Effluent Meter is in place, with continuous electronic monitoring of flow rates. The meter was last calibrated in May 2009. Per SDLAC requirements the calibration was submitted within 60 days after calibration. Please provide EPA with a copy of the calibration verification.
- The cap and seal of the secondary piping containment was complete
- The vault seals are in place, and there is and indicator/shut off
- A laptop program allows the plant operating to shut down the system remotely.

Appendix H
Details of Project Cost

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DETAILS OF PROJECT COSTS

Item No.	Description	Actual Cost ($$)	Remark
1.0	**Site Preparation and Cleanup**		
1.1	Permitting and Regulatory Approval	$ 119,454	Collaboration with the City of Whittier, lACSD and LADPW.
1.2	Private Owner Access Negotiation	$ 220,000	Negotiation with owner/developer Fountainhead Development.
1.3	Site Facilities and Utilities	$ 271,248	Includes setup of temporary trailers, utility hookups, construction equipment.
1.4	Mobilization and Demobilization	$ 40,000	Setup of construction personnel
	Total	**$ 650,702**	
2.0	**Equipment and Construction**		
2.1	Treatment Plant Blockwall Enclosure	$ 424,526	Includes excavation, foundation, concrete, structure and canopy
2.2	Treatment Equipment	$ 397,000	Includes Air Stripper, Carbon Vessels and Manifold, Anti-Scalant, MCC, panels, PLCs, HMI and misc.
2.3	Pipeline Installation in the Right-of-Way (Washington and Putnam)	$ 2,031,781	Includes traffic control, pipe materials, excavation, trenching, horizontal drilling, underground pipe installation, backfill, slurry and resurface.
2.4	Pipeline Installation on Private Property (LA Carts Inc)	$ 312,824	Includes traffic control, pipe materials and supports for aboveground sections; and excavation, trenching, backfill, slurry and resurface for underground section.
2.5	Electrical and Instrumentation Installation	$ 716,144	Includes electrical components and instruments.
2.6	Mechanical and Piping Installation	$ 89,500	Includes anchoring of equipment, piping materials and installation.
2.7	General Civil Items	$ 225,517	Includes finishing concrete, asphalt, street sealing, paving, painting, etc.
2.8	Engineering Support During Construction	$ 510,808	Construction Management and Engineering Support During Construction
2.9	Excavated Soils Disposal	$ 63,638	Handling, transportation and disposal of soil to a landfill
2.10	Subsurface Utility Survey	$ 146,235	Includes utility record research and subsurface utility survey.
2.11	Civil Survey	$ 36,081	Civil survey by a registered Land Surveyor
2.12	Pipe Testing and Inspection	$ 5,175	Hydraulic and Pneumatic pressure testing and certification by a third party firm.
	Total	**$ 4,959,229**	
3.0	**Startup/Shakedown and Performance Monitoring**		
	<u>During Startup from July and August for 2 months</u>		
3.1	Startup and Shakedown	$ 129,000	Engineering support and field activities
3.2	Laboratory Analysis	$ 16,500	Sample collection and laboratory Analysis
3.3	Utility Costs	$ 1,600	Includes Electric, Phone, DSL, Water, Sanitation, etc.)
3.3	Misc Equipment, Chemicals and Supplies	$ 10,000	Equipment rentals, parts, chemicals, supplies
	<u>During PSVP from September through December 2009 for 4 months</u>		
3.4	System OM&M and Reporting	$ 133,000	Weekly site visits, preventative maintenance and minor repairs. Data evaluation and reporting.

Item No.	Description	Actual Cost ($$)	Remark
3.5	Laboratory Analysis	$ 35,600	Sample collection and laboratory Analysis
3.6	Water Level Measurement for Monitoring Wells	$ 16,000	Instrument rental, and field measurements for weekly monitoring
3.7	Utility Costs (Electric, Phone, DSL, Water, Sanitation, etc.) during PSVP	$ 4,500	Includes Electric, Phone, DSL, Water, Sanitation, etc.)
3.8	Misc Equipment, Chemicals and Supplies during PSVP	$ 15,500	Equipment rentals, parts, chemicals, supplies
	Total	**$ 361,700**	
4.0	**Long Term Operation, Maintenance and Monitoring (OM&M) (Projected 12 months in 2010)**		
4.1	System OM&M and Reporting	$ 216,000	Weekly site visits, preventative maintenance and minor repairs. Data evaluation and reporting.
4.2	Laboratory Analysis	$ 96,000	Sample collection and laboratory Analysis
4.3	Water Level Measurement for Monitoring Wells	$ 24,000	Instrument rental, and field measurements for monthly monitoring
4.4	Utility Costs (Electric, Phone, DSL, Water, Sanitation, etc.)	$ 18,000	Includes Electric, Phone, DSL, Water, Sanitation, etc.)
4.5	Misc Equipment, Chemicals and Supplies	$ 66,763	Includes filter bags, anti-scalant chemicals, biocide, carbon changeout, instrument rental, PPEs, spare pump motor, level switches, etc.
4.6	Facility Improvements as required by City of Whittier	$ 30,000	New landscaping and fencing
	Total	**$ 450,763**	

Appendix I
PSVP Monthly Progress Report for January 2010.

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CDM

Memorandum

To: *Ed Modiano*

From: *Sharon Wallin*

Date: *February 18, 2010*

Subject: *Remedy Performance Monitoring Progress Report for January 2010 Omega Chemical Superfund Site EE/CA Groundwater Remedy 10500-70150-EECA.MPR*

This Remedy Performance Monitoring Progress Report (MPR) has been prepared in accordance with the Performance Standards Verification Plan (PSVP) (CDM, April 2007) and is due on a monthly basis by the 18th of the month following the end of the prior month. This January 2010 report includes tabulated and graphed data for the reporting period from January 1st through January 31, 2010 in the following attachments:

Attachment 1 – Groundwater Elevation Summary Tables, Hydrographs, and Groundwater Elevation Contour Map

Attachment 2 – Summary of Extraction Wells Analytical Results and Graphs

Attachment 3 – Treatment Plant Operations Summary Tables and Graphs

Extraction well, monitoring well, and piezometer locations are illustrated on the attached Figure 1.

Groundwater Sampling

As stated in the PSVP, the Omega monitoring wells are sampled semi-annually. The next semi-annual sampling event is scheduled for March 2010. Observation Wells OW-9 and OW-10 are currently being sampled quarterly for one year, with quarterly sampling starting in September 2009 and ending in June 2010. Following one year of quarterly sampling, wells OW-9 and OW-10 will be sampled semi-annually at the same time as the other monitoring wells. The total number of monitoring wells to be sampled on a semi-annual basis, therefore, is 12 (OW-1, OW-1b, OW-2, OW-3a, OW-3b, OW-4a, OW-4b, OW-7, OW-8a, OW-8b, OW-9, and OW-10). Wells OW-9 and OW-10 were sampled on December 29, 2009, however, the analytical results were pending at the time of the December 2009 PSVP report submittal, and

are included in this monthly report for January 2010. The analytical summary tables were updated with these results and are included in Attachment 2.

Total Groundwater Treated and Mass Removed

The Omega EECA Groundwater Treatment System (GWTS) began operating on a full time (24/7/365) basis on July 25, 2009. The GWTS produced the following volume and removed the following contaminant mass from the treated groundwater as summarized below:

- Treatment of a total of 545,866 gallons of water for the reporting period and 4,349,199 gallons cumulatively.
- Average system flow rate is approximately 12.2 gallons per minute (gpm) for the month and 14.5 cumulatively. This flow rate is lower than the design value of 30 gpm due to a lowering of the local groundwater table in response to the ongoing drought in southern California.
- Removal of 30.9 pounds of volatile organic compounds for the reporting period and 198.6 pounds of volatile organic compounds cumulatively.

Extraction Well Production Rates

The totalizer values and instantaneous pumping rates from each of the five extraction wells are also recorded manually on a weekly basis. The total volume pumped from each well and average discharge rates for the individual wells are summarized below:

Extraction Well	Extraction Volume *1		Average Extraction Flow Rate	
	Month (gal)	Cumulative (gal)	Month (gpm)	Cumulative (gpm)
EW-1	43,904	946,304	1.0	3.6
EW-2	485,913	3,147,113	11.2	11.9
EW-3	9,894	120,222	0.2	0.5
EW-4	6,082	61,867	0.1	0.2
EW-5	15,371	134,529*1	0.4	0.5

Note: *1 Readings recorded on 01/28/2010

EW-2 is the only well that is pumping on a continuous basis without cycling on and off. The remaining wells, constructed in lower permeability soil materials, pumped intermittently. For this reason, pumping water levels are currently only being collected from well EW-2. With the exception of EW-2, the average pumping rates of the extraction wells have declined since the startup of the GWTS.

Capture Analysis

Water levels from the Omega monitoring wells and piezometers were used to create the groundwater elevation contour map provided in Attachment 1. The map does not include water levels from the pumping wells, since these are impacted by well losses. The contours were interpolated from monitoring well observations and demonstrate that flow is converging on well EW-2, which has the highest pumping rate in the system, at 11.2 gpm, or 77 percent of the total pumpage. The contours indicate that the upgradient capture zone extends over the width of the Omega site, and extends at least 40 feet in the downgradient direction. The hydraulic gradient from the extraction wells toward the site is much steeper, increasing the flushing rate within the groundwater plume. The groundwater elevations are higher in the shallow zone than in the deep zones. This difference is likely caused by the low permeability of the formation.

The groundwater elevation at the location of well OW-1a is anomalous and inconsistent with historical trends. For this reason, the measurement from this well is not included in the attached Groundwater Elevation Contour Map. The anomaly may be caused by differences between the measuring point and the surveyed reference point and/or water levels dropping below the well screen. This discrepancy will be addressed in next month's report.

Future Activities

The GWTS is anticipated to continue operating similarly during the next month. Sampling and data collection methods and frequencies will also remain unchanged.

Legend

- Property Boundary
- Former Omega Chemical Property
- Existing Building
- Former Building
- Groundwater Sample Location
- Piezometer Location

CDM

Omega Chemical
Groundwater Well and Piezometer Locations

Figure 1

Attachment 1
Groundwater Elevation Summary Tables, Hydrographs, and Groundwater Elevation Contour Map

CDM

Table 1
Omega Chemical Superfund Site
Summary of Groundwater Elevations

Well No.	Top of Casing Elevation [1] (feet MSL[2])	Screen Interval (feet bgs[3])	Date	Depth to Water (feet btoc[4])	Groundwater Elevation (feet MSL[2])
EW-1	200.25	72 - 87	2/22/07	66.96	133.29
			8/23/07	67.04	133.21
			2/1/08	67.33	132.92
			9/18/08	69.18	131.07
			3/5/09	69.18	131.07
			5/27/09	71.5	128.75
			5/29/09	71.52	128.73
			6/1/09	71.57	128.68
			6/2/09	71.57	128.68
			6/16/09	71.73	128.52
			6/17/09	71.74	128.51
			6/18/09	71.78	128.47
			6/19/09	71.85	128.40
			6/22/09	DRY	NM
			7/15/09	77.35	122.90
			7/15/09	79.68	120.57
			8/13/09	86.06	114.19
			9/3/09	NM	NM
			9/9/09	83.00	117.25
			9/16/09	80.45	119.80
			9/23/09	80.75	119.50
			9/30/09	74.25	126.00
			10/8/09	85.30	114.95
			10/15/09	85.90	114.35
			10/22/09	NM	NM
			10/29/09	NM	NM
			11/5/09	NM	NM
			11/13/09	NM	NM
			11/19/09	NM	NM
			11/24/09	NM	NM
			12/29/09	NM	NM
			2/5/10	NM	NM
EW-2	199.00	72 - 87	2/22/07	65.87	133.13
			8/23/07	66.42	66.42
			2/1/08	68.40	130.60
			9/18/08	68.20	130.80
			3/5/09	68.20	130.80
			5/27/09	70.37	128.63
			5/29/09	70.40	128.60
			6/1/09	70.43	128.57
			6/2/09	70.45	128.55
			6/16/09	70.58	128.42
			6/17/09	70.58	128.42
			6/18/09	70.64	128.36
			6/22/09	72.19	126.81
			7/15/09	71.78	127.22
			8/13/09	80.85	118.15
			9/3/09	NM	NM
			9/9/09	NM	NM
			9/16/09	74.61	124.39
			9/23/09	79.42	119.58
			9/30/09	73.40	125.60
			10/8/09	85.30	113.70
			10/15/09	NM	NM
EW-2			10/22/09	85.02	113.98

Table 1
Omega Chemical Superfund Site
Summary of Groundwater Elevations

Well No.	Top of Casing Elevation [1] (feet MSL[2])	Screen Interval (feet bgs[3])	Date	Depth to Water (feet btoc[4])	Groundwater Elevation (feet MSL[2])
			10/29/09	85.08	113.92
			11/5/09	85.25	113.75
			11/13/09	85.85	113.15
			11/19/09	85.15	113.85
			11/24/09	84.99	114.01
			12/22/09	85.47	113.53
			2/5/10	NM	NM
EW-3	198.00	70 - 85	5/27/09	69.26	128.74
			5/29/09	69.31	128.69
			6/1/09	69.32	128.68
			6/2/09	69.35	128.65
			6/16/09	69.47	128.53
			6/17/09	69.48	128.52
			6/18/09	69.56	128.44
			6/19/09	69.60	128.40
			6/22/09	80.71	117.29
			7/15/09	75.78	122.22
			8/13/09	80.96	117.04
			9/9/09	81.60	116.40
			9/16/09	82.36	115.64
			9/23/09	74.09	123.91
			9/30/09	72.00	126.00
			10/8/09	NM	NM
			10/15/09	NM	NM
			10/22/09	NM	NM
			10/29/09	NM	NM
			11/5/09	NM	NM
			11/13/09	NM	NM
			11/19/09	NM	NM
			11/24/09	NM	NM
			12/29/09	NM	NM
			2/5/10	NM	NM
EW-4	197.00	71 - 86	5/27/09	67.78	129.22
			5/29/09	67.81	129.19
			6/1/09	67.83	129.17
			6/2/09	67.85	129.15
			6/16/09	67.98	129.02
			6/17/09	67.98	129.02
			6/18/09	68.02	128.98
			6/19/09	68.09	128.91
			6/22/09	71.58	125.42
			7/15/09	68.58	128.42
			7/28/09	70.41	126.59
			8/13/09	84.43	112.57
			9/9/09	77.47	119.53
			9/16/09	77.85	119.15
			9/23/09	77.92	119.08
			9/30/09	69.79	127.21
			10/8/09	NM	NM
			10/15/09	NM	NM
			10/22/09	NM	NM
			10/29/09	NM	NM
			11/5/09	NM	NM
EW-4			11/13/09	NM	NM

Table 1
Omega Chemical Superfund Site
Summary of Groundwater Elevations

Well No.	Top of Casing Elevation [1] (feet MSL[2])	Screen Interval (feet bgs[3])	Date	Depth to Water (feet btoc[4])	Groundwater Elevation (feet MSL[2])
			11/19/09	NM	NM
			11/24/09	NM	NM
			12/29/09	NM	NM
			2/5/10	NM	NM
EW-5	195.00	70 - 85	5/27/09	65.90	129.10
			5/29/09	65.91	129.09
			6/1/09	65.92	129.08
			6/2/09	65.96	129.04
			6/16/09	66.07	128.93
			6/17/09	NM	NM
			6/18/09	66.05	128.95
			6/19/09	73.43	121.57
			6/22/09	74.08	120.92
			7/15/09	66.38	128.62
			7/28/09	67.83	127.17
			8/13/09	79.09	115.91
			9/9/09	78.87	116.13
			9/16/09	78.79	116.21
			9/23/09	79.77	115.23
			9/30/09	66.05	128.95
			10/8/09	NM	NM
			10/15/09	NM	NM
			10/22/09	NM	NM
			10/29/09	NM	NM
			11/5/09	NM	NM
			11/13/09	NM	NM
			11/19/09	NM	NM
			11/24/09	NM	NM
			12/29/09	NM	NM
			2/5/10	NM	NM
PZ-1	198.04	68 - 88	6/19/09	70.18	127.86
			6/22/09	71.39	126.65
			7/15/09	71.73	126.31
			7/28/09	76.55	121.49
			8/12/09	76.73	121.31
			9/3/09	80.63	117.41
			9/9/09	80.77	117.27
			9/16/09	76.97	121.07
			9/23/09	80.32	117.72
			9/30/09	75.77	122.27
			10/7/09	74.83	123.21
			10/14/09	77.83	120.21
			10/21/09	82.71	115.33
			10/28/09	82.94	115.10
			11/4/09	83.15	114.89
			11/11/09	83.02	115.02
			11/18/09	83.01	115.03
			11/25/09	83.07	114.97
			12/29/09	NM	NM
			2/5/10	82.30	115.74
PZ-2	199.29	64 - 84	6/19/09	71.15	128.14
			6/22/09	73.55	125.74
			7/15/09	74.21	125.08
PZ-2			7/28/09	78.93	120.36

Table 1
Omega Chemical Superfund Site
Summary of Groundwater Elevations

Well No.	Top of Casing Elevation [1] (feet MSL[2])	Screen Interval (feet bgs[3])	Date	Depth to Water (feet btoc[4])	Groundwater Elevation (feet MSL[2])
			8/12/09	79.06	120.23
			9/3/09	NM	NM
			9/9/09	81.31	117.98
			9/16/09	78.95	120.34
			9/23/09	81.01	118.28
			9/30/09	76.60	122.69
			10/7/09	80.75	118.54
			10/14/09	79.66	119.63
			10/21/09	83.23	116.06
			10/28/09	83.17	116.12
			11/4/09	83.35	115.94
			11/11/09	83.04	116.25
			11/18/09	83.20	116.09
			11/25/09	83.23	116.06
			12/29/09	83.18	116.11
			2/5/10	82.00	117.29
PZ-3	201.59	69.8 - 89.8	6/19/09	73.91	127.68
			6/22/09	73.98	127.61
			7/15/09	74.48	127.11
			7/28/09	76.32	125.27
			8/12/09	78.23	123.36
			9/3/09	79.78	121.81
			9/9/09	79.98	121.61
			9/16/09	78.80	122.79
			9/23/09	79.84	121.75
			9/30/09	78.78	122.81
			10/7/09	79.42	122.17
			10/14/09	80.01	121.58
			10/21/09	81.02	120.57
			10/28/09	81.14	120.45
			11/4/09	81.59	120.00
			11/11/09	81.35	120.24
			11/18/09	81.57	120.02
			11/25/09	81.62	119.97
			12/29/09	81.90	119.69
			2/5/10	81.70	119.89
PZ-4	193.88	70 - 90	6/19/09	60.15	133.73
			6/22/09	65.12	128.76
			7/15/09	65.29	128.59
			7/28/09	65.80	128.08
			8/12/09	66.20	127.68
			9/3/09	66.70	127.18
			9/9/09	66.77	127.11
			9/16/09	66.87	127.01
			9/23/09	66.96	126.92
			9/30/09	66.94	126.94
			10/7/09	66.83	127.05
			10/14/09	67.15	126.73
			10/21/09	67.24	126.64
			10/28/09	67.35	126.53
			11/4/09	67.62	126.26
			11/11/09	67.52	126.36
			11/18/09	67.60	126.28
PZ-4			11/25/09	67.74	126.14
			12/29/09	NM	NM

Table 1
Omega Chemical Superfund Site
Summary of Groundwater Elevations

Well No.	Top of Casing Elevation [1] (feet MSL[2])	Screen Interval (feet bgs[3])	Date	Depth to Water (feet btoc[4])	Groundwater Elevation (feet MSL[2])
			2/5/10	67.72	126.16
OW-1A	210.30	62.5 - 77.5	3/5/09	78.17	132.13
			7/15/09	79.77	130.53
			8/12/09	80.04	130.26
			9/3/09	82.94	127.36
			9/9/09	81.89	128.41
			9/16/09	81.97	128.33
			9/23/09	81.96	128.34
			9/30/09	81.97	128.33
			10/7/09	NM	NM
			10/14/09	81.92	128.38
			10/21/09	81.90	128.40
			10/28/09	81.91	128.39
			11/4/09	82.10	128.20
			11/11/09	81.74	128.56
			11/18/09	81.70	128.60
			11/25/09	81.83	128.47
			12/29/09	79.07	131.23
			2/5/10	78.98	131.32
OW-1B	204.98	110 - 120	3/5/09	83.47	121.51
			6/19/09	85.38	119.60
			6/22/09	85.37	119.61
			7/15/09	NM	NM
			8/12/09	86.68	118.30
			9/3/09	87.32	117.66
			9/9/09	87.44	117.54
			9/16/09	87.66	117.32
			9/23/09	87.84	117.14
			9/30/09	88.05	116.93
			10/7/09	88.06	116.92
			10/14/09	88.30	116.68
			10/21/09	88.21	116.77
			10/28/09	88.45	116.53
			11/4/09	88.71	116.27
			11/11/09	88.57	116.41
			11/18/09	88.53	116.45
			11/25/09	88.93	116.05
			12/29/09	88.88	116.10
			2/5/10	88.42	116.56
OW-2	200.10	60 - 80	3/5/09	71.32	128.78
			6/19/09	72.51	127.59
			6/22/09	72.51	127.59
			7/15/09	NM	NM
			8/12/09	DRY	NM
			9/3/09	79.12	120.98
			9/9/09	79.20	120.90
			9/16/09	77.67	122.43

Table 1
Omega Chemical Superfund Site
Summary of Groundwater Elevations

Well No.	Top of Casing Elevation [1] (feet MSL[2])	Screen Interval (feet bgs[3])	Date	Depth to Water (feet btoc[4])	Groundwater Elevation (feet MSL[2])
OW-2			9/23/09	78.85	121.25
			9/30/09	78.75	121.35
			10/7/09	78.10	122.00
			10/14/09	79.53	120.57
			10/21/09	79.83	120.27
			10/28/09	79.99	120.11
			11/4/09	DRY (>80)	<120.10
			11/11/09	DRY (>80)	<120.10
			11/18/09	DRY (>80)	<120.10
			11/25/09	DRY (>80)	<120.10
			12/29/09	DRY (>80)	<120.10
			2/5/10	79.91	120.19
OW-3A	196.33	63 - 83	3/5/09	67.00	129.33
			6/19/09	68.11	128.22
			6/22/09	68.83	127.50
			7/15/09	68.88	127.45
			7/28/09	70.72	125.61
			8/12/09	71.31	125.02
			9/3/09	74.23	122.10
			9/9/09	74.69	121.64
			9/16/09	73.11	123.22
			9/23/09	73.68	122.65
			9/30/09	73.40	122.93
			10/7/09	72.94	123.39
			10/14/09	73.88	122.45
			10/21/09	77.68	118.65
			10/28/09	78.36	117.97
			11/4/09	79.04	117.29
			11/11/09	78.92	117.41
			11/18/09	78.92	117.41
			11/25/09	79.16	117.17
			12/29/09	NM	NM
			2/5/10	78.69	117.64
OW-3B	194.86	112 - 122	3/5/09	85.50	109.36
			6/19/09	87.06	107.80
			6/22/09	87.22	107.64
			7/15/09	87.83	107.03
			7/28/09	88.30	106.56
			8/12/09	88.70	106.16
			9/3/09	89.79	105.07
			9/9/09	89.61	105.25
			9/16/09	89.88	104.98
			9/23/09	90.11	104.75
			9/30/09	90.36	104.50
			10/7/09	90.50	104.36
			10/14/09	90.61	104.25
			10/21/09	90.56	104.30
			10/28/09	90.74	104.12
			11/4/09	90.94	103.92
			11/11/09	91.01	103.85
			11/18/09	91.11	103.75
			11/25/09	91.30	103.56
			12/29/09	91.06	103.80
			2/5/10	90.02	104.84

Table 1
Omega Chemical Superfund Site
Summary of Groundwater Elevations

Well No.	Top of Casing Elevation [1] (feet MSL[2])	Screen Interval (feet bgs[3])	Date	Depth to Water (feet btoc[4])	Groundwater Elevation (feet MSL[2])
OW-4A	182.47	49.8 - 69.8	3/5/09	64.53	117.94
			8/12/09	66.45	116.02
			9/3/09	66.93	115.54
			9/9/09	66.72	115.75
			9/16/09	66.88	115.59
			9/23/09	66.96	115.51
			9/30/09	67.05	115.42
			10/7/09	66.95	115.52
			10/14/09	67.23	115.24
			10/21/09	67.22	115.25
			10/28/09	67.26	115.21
			11/4/09	67.62	114.85
			11/11/09	67.45	115.02
			11/18/09	67.40	115.07
			11/25/09	67.60	114.87
			12/29/09	67.98	114.49
			2/5/10	68.36	114.11
OW-4B	182.22	112 - 122.3	3/5/09	73.30	108.92
			8/12/09	76.56	105.66
			9/3/09	77.48	104.74
			9/9/09	77.38	104.84
			9/16/09	77.67	104.55
			9/23/09	77.86	104.36
			9/30/09	78.12	104.10
			10/7/09	77.66	104.56
			10/14/09	78.38	103.84
			10/21/09	78.35	103.87
			10/28/09	79.55	102.67
			11/4/09	78.90	103.32
			11/11/09	78.73	103.49
			11/18/09	78.77	103.45
			11/25/09	79.00	103.22
			12/29/09	78.77	103.45
			2/5/10	77.91	104.31
OW-7	212.01	70.9 - 90.9	3/5/09	78.51	133.50
			8/12/09	81.02	130.99
			9/3/09	82.32	129.69
			9/9/09	81.81	130.20
			9/16/09	81.85	130.16
			9/23/09	82.00	130.01
			9/30/09	82.21	129.80
			10/7/09	82.02	129.99
			10/14/09	82.44	129.57
			10/21/09	82.57	129.44
			10/28/09	82.76	129.25
			11/4/09	82.97	129.04
			11/11/09	83.02	128.99
			11/18/09	83.02	128.99
			11/25/09	83.34	128.67
			12/29/09	83.59	128.42
			2/5/10	83.91	128.10
OW-8A	198.42	60.4 - 80	3/5/09	69.14	129.28
			6/19/09	70.01	128.41
			6/22/09	70.91	127.51

Table 1
Omega Chemical Superfund Site
Summary of Groundwater Elevations

Well No.	Top of Casing Elevation [1] (feet MSL[2])	Screen Interval (feet bgs[3])	Date	Depth to Water (feet btoc[4])	Groundwater Elevation (feet MSL[2])
OW-8A			7/15/09	71.28	127.14
			7/28/09	73.85	124.57
			8/12/09	77.54	120.88
			9/3/09	79.71	118.71
			9/9/09	79.62	118.80
			9/16/09	77.53	120.89
			9/23/09	77.74	120.68
			9/30/09	78.78	119.64
			10/7/09	76.36	122.06
			10/14/09	78.90	119.52
			10/21/09	DRY (>80)	NM
			10/28/09	DRY (>80)	NM
			11/4/09	DRY (>80)	NM
			11/11/09	NM	NM
			11/18/09	DRY (>80)	NM
			11/25/09	DRY (>80)	NM
			12/29/09	NM	NM
			2/5/10	NM	NM
OW-8B	198.65	116 - 126	3/5/09	88.85	109.80
			6/19/09	90.41	108.24
			6/22/09	90.55	108.10
			7/15/09	91.14	107.51
			7/28/09	91.64	107.01
			8/12/09	92.10	106.55
			9/3/09	92.80	105.85
			9/9/09	93.00	105.65
			9/16/09	93.27	105.38
			9/23/09	93.50	105.15
			9/30/09	93.73	104.92
			10/7/09	93.81	104.84
			10/14/09	94.05	104.60
			10/21/09	93.94	104.71
			10/28/09	94.11	104.54
			11/4/09	94.40	104.25
			11/11/09	94.40	104.25
			11/18/09	94.49	104.16
			11/25/09	94.67	103.98

Table 1
Omega Chemical Superfund Site
Summary of Groundwater Elevations

Well No.	Top of Casing Elevation [1] (feet MSL[2])	Screen Interval (feet bgs[3])	Date	Depth to Water (feet btoc[4])	Groundwater Elevation (feet MSL[2])
OW-8B			12/29/09	NM	NM
			2/5/10	93.35	105.30
OW-9	195.70	70 - 90	3/5/09	69.67	126.03
			6/19/09	71.31	124.39
			6/22/09	71.44	124.26
			7/15/09	71.95	123.75
			7/28/09	73.40	122.30
			8/12/09	74.92	120.78
			9/3/09	75.78	119.92
			9/9/09	76.40	119.30
			9/16/09	75.58	120.12
			9/23/09	76.29	119.41
			9/30/09	75.61	120.09
			10/7/09	74.40	121.30
			10/14/09	76.25	119.45
			10/21/09	77.16	118.54
			10/28/09	77.38	118.32
			11/4/09	77.88	117.82
			11/11/09	77.60	118.10
			11/18/09	77.70	118.00
			11/25/09	NM	NM
			12/29/09	78.02	117.68
			2/5/10	77.93	117.77
OW-10	193.17	69.5 - 89.5	3/5/09	66.24	126.93
			6/19/09	67.32	125.85
			6/22/09	67.26	125.91
			7/15/09	67.55	125.62
			7/28/09	68.80	124.37
			8/12/09	70.06	123.11
			9/3/09	71.44	121.73
			9/9/09	71.42	121.75
			9/16/09	70.34	122.83
			9/23/09	71.05	122.12
			9/30/09	70.97	122.20
			10/7/09	70.68	122.49
			10/14/09	71.50	121.67
			10/21/09	71.96	121.21
			10/28/09	72.15	121.02
			11/4/09	72.00	121.17
			11/11/09	72.40	120.77
			11/18/09	72.37	120.80
			11/25/09	72.48	120.69
			12/29/09	72.46	120.71
			2/5/10	71.92	121.25

Notes:
1) Elevation data per California Coordinate System NAD27
2) MSL = mean sea level
3) bgs = below ground surface
4) btoc = below top of casing
NM - not measured due to well cycling (extraction wells EW2 through EW5) or no access
Where multiple readings were taken on the same day, the last reading was used.
* denotes a possible anomalous water level

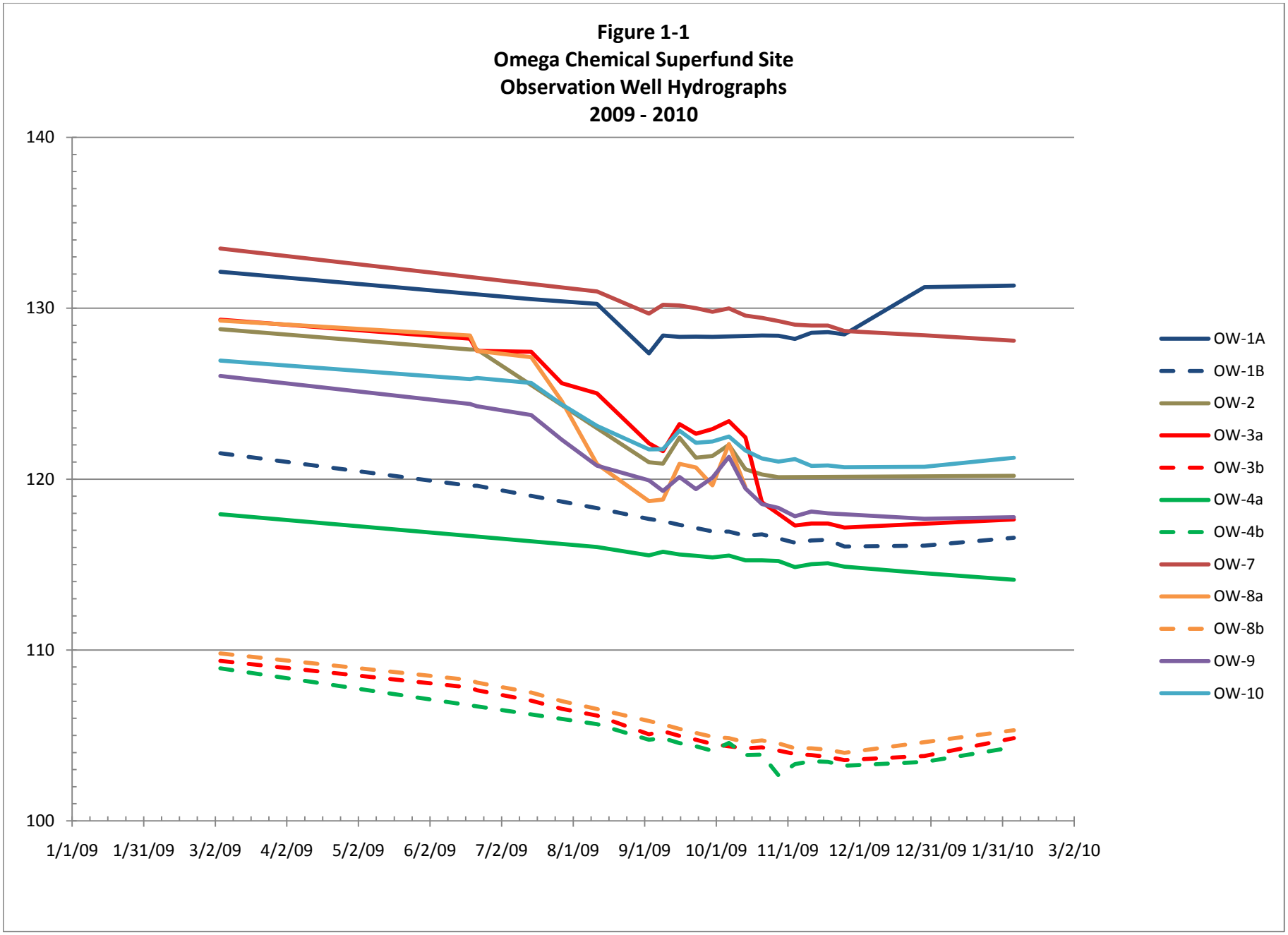


Figure 1-1
Omega Chemical Superfund Site
Observation Well Hydrographs
2009 - 2010
140
130
120
110
100
1/1/09
1/31/09
3/2/09
4/2/09
5/2/09
6/2/09
7/2/09
8/1/09
9/1/09
10/1/09
11/1/09
12/1/09
12/31/09
1/31/10
3/2/10
OW-1A
OW-1B
OW-2
OW-3a
OW-3b
OW-4a
OW-4b
OW-7
OW-8a
OW-8b
OW-9
OW-10

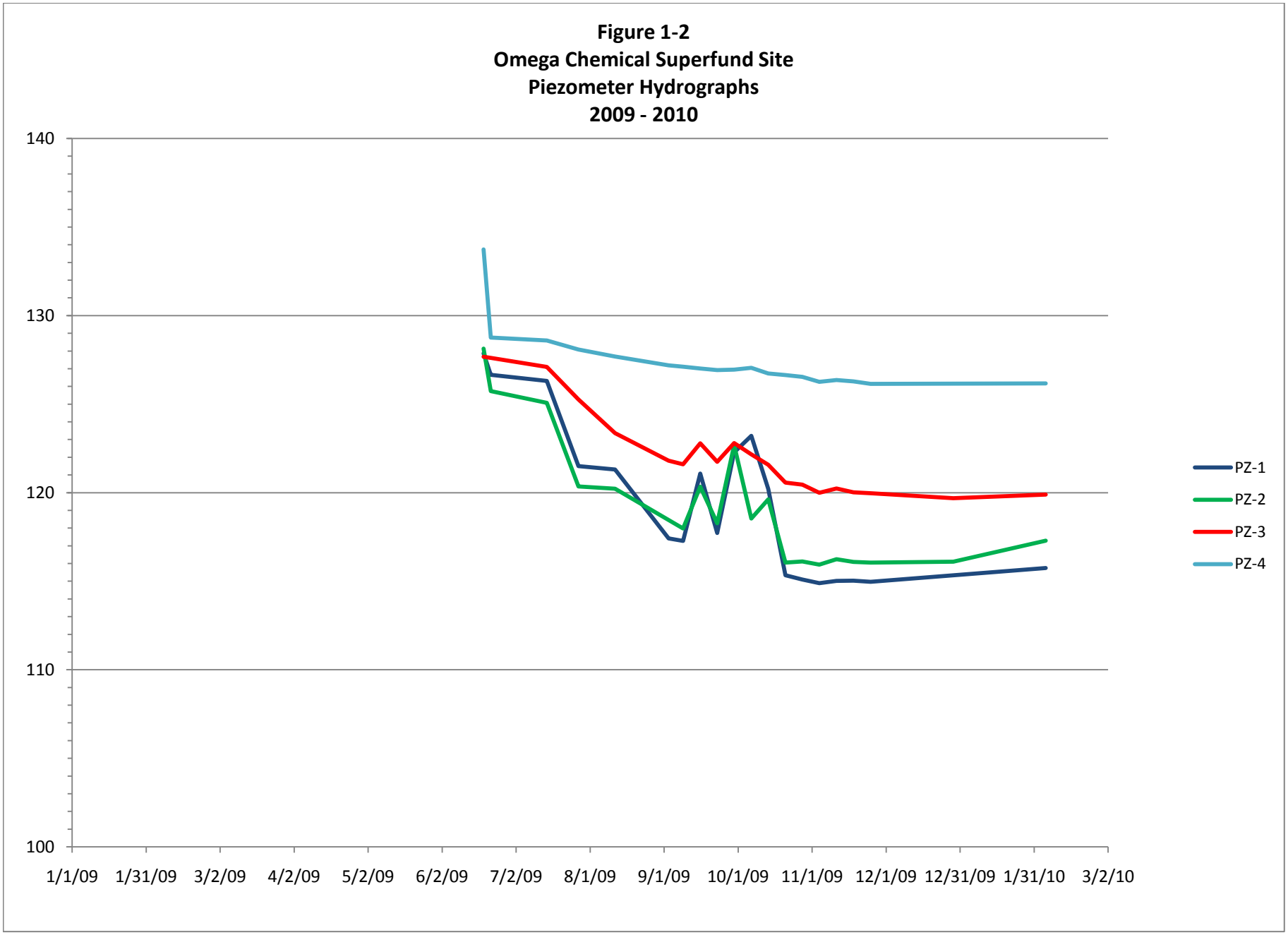


Figure 1-2
Omega Chemical Superfund Site
Piezometer Hydrographs
2009 - 2010
140
130
120
110
100
1/1/09
1/31/09
3/2/09
4/2/09
5/2/09
6/2/09
7/2/09
8/1/09
9/1/09
10/1/09
11/1/09
12/1/09
12/31/09
1/31/10
3/2/10
PZ-1
PZ-2
PZ-3
PZ-4

Figure 1-3
Omega Chemical Superfund Site
Extraction Well EW-2 Hydrograph
2009

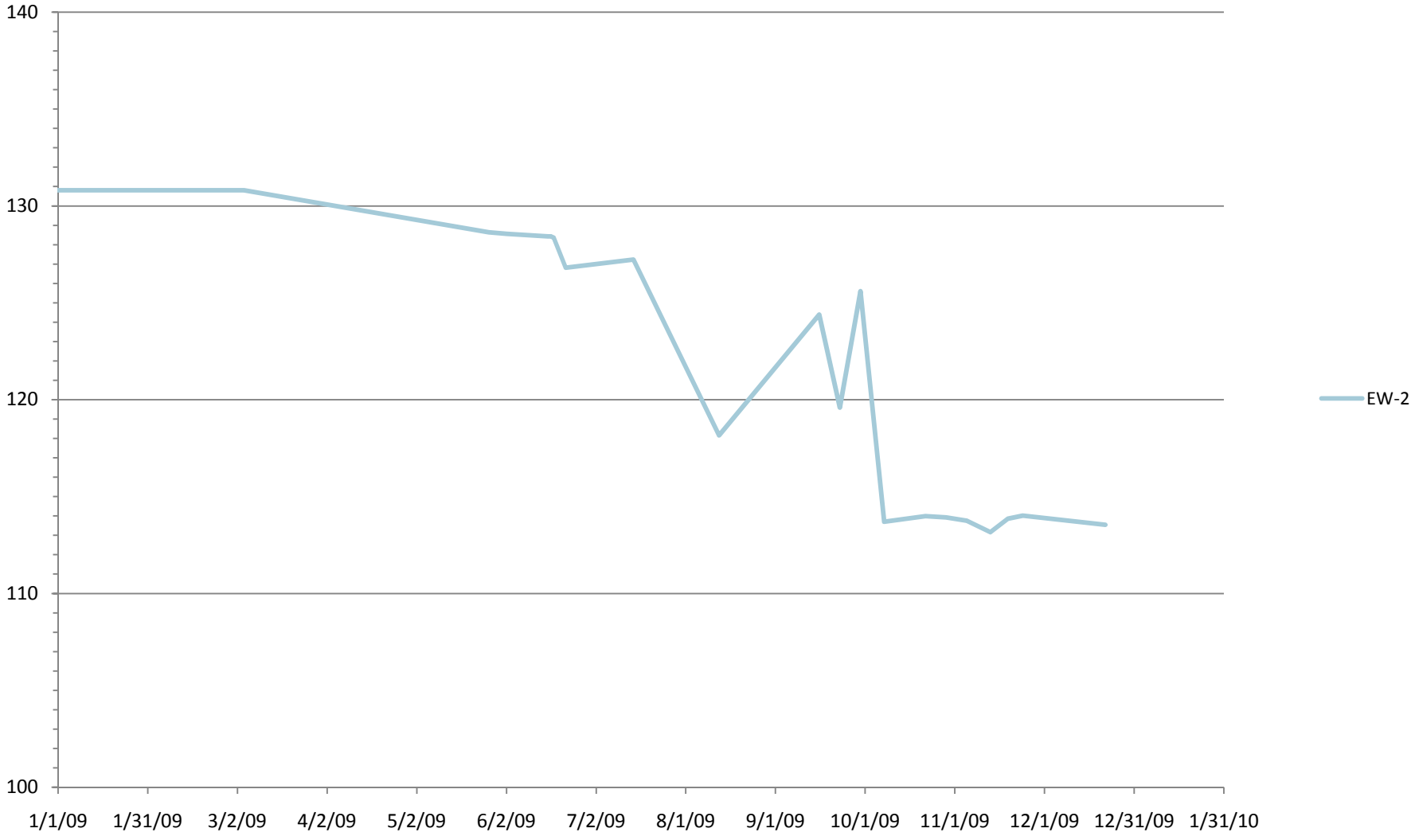
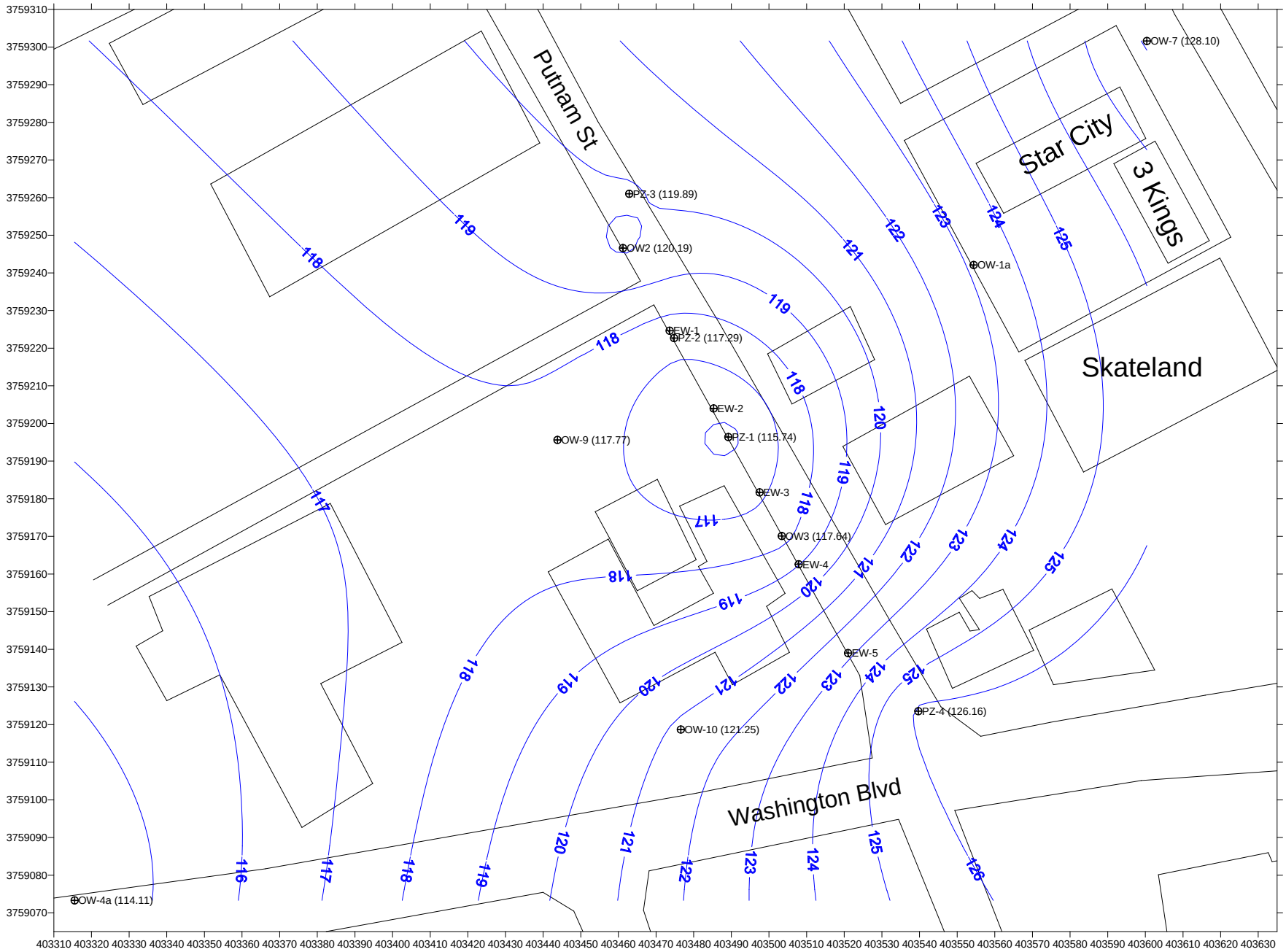


Figure 1-4
Omega Superfund Site
Groundwater Elevation Contours
February 5, 2010



Attachment 2
Summary of Extraction and Monitoring Wells Analytical Results and Graphs

CDM

Table 2-1
Omega Chemical Superfund Site
Analytical Summary for Observation Well Samples- December 2009
Detected Results

Well ID	Sample Date	Sample Type	111-TCA	1,1,2-TCA	1,1-DCA	1,1-DCE	1,2-DCA	1,4-Dioxane	c-12-DCE	Chloroform	PCE	t-12-DCE	TCE	Freon 11	Freon 113
OW10	29-Dec-09	ORIG	1 U	1 U	1 U	120	0.5 U	0.47 U	1 U	1.4	210	1 U	19	24	5 U
OW9	29-Dec-09	ORIG	9 J	16 J	34	1200	210	630	54	960	20000	23 J	920	300	1100
OW9	29-Dec-09	DUP	7.8 J	14 J	37	1200	220	740	54	1000	18000	22 J	930	320	1200

Notes:
Only results detected at least once in one well are presented on this table
All results are in micrograms per liter (ug/L).
U = not detected above reporting limit listed
"--" = Not Analyzed

PCE = Tetrachloroethene; TCE = Trichloroethene; TCA = Trichloroethane; DCA = Dichloroethane; DCE = Dichloroethene; Freon 113 = 1,1,2-Trichloro-1,2,2-trifluoroethane; Freon 11 = Trichlorofluoromethane.

Table 2-2
Omega Chemical Superfund Site
Chlorinated VOCs Analytical Summary
Groundwater Analytical Results

Well ID/ Screened Interval	Sample Date	Sample Type	PCE (5)	TCE (5)	1,1,1-TCA (200)	1,1,2-TCA (5)	PCA	1,1-DCE (6)	cis-1,2-DCE (6)	trans-1,2-DCE (10)	1,1-DCA (5)	1,2-DCA (0.5)	1,2-DCB (600)	1,4-DCB (5)	CBN (70)	1,2,3-TCB (0.5)	CFM (80)	MC (5)	Freon 113 (1200)	Freon 11 (150)	Freon 12 (1000#)
EW-1	72 - 87																				
	09/13/2006	ORIG	260	36	1.7	1 U	1 U	50	1 U	0.69 J	0.63 J	0.5 U	1 U	1 U	1 U	1 U	2.3	5 U	190	61	5 U
	09/14/2006	ORIG	600	52	2.4	1 U	1 U	84	1 U	1.2	1.2	0.5 U	9.6 U	1 U	1 U	1 U	7	5 U	210	62	5 U
	02/22/2007	ORIG	110	29	1.2	1 U	1 U	34	1 U	1 U	1 U	0.5 U	1 U	1 U	1 U	1 U	1 U	5 U	170	51	5 U
	08/22/2007	ORIG	120	35	1.4	1 U	1 U	42	1 U	1 U	0.37 J	0.5 U	1 U	1 U	1 U	1 U	0.47 J	5 U	160	55	5 U
	08/22/2007	N	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	0.5 U	1 U	1 U	1 U	1 U	1 U	5 U	5 U	1 U	5 U
	02/19/2008	ORIG	240	55	4.1	1 U	1 U	62	1 U	1 U	1 U	0.5 U	1 U	1 U	1 U	1 U	1 U	5 U	310	88	5 U
	02/19/2008	N	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	0.5 U	1 U	1 U	1 U	1 U	1 U	5 U	5 U	1 U	5 U
	09/16/2008	ORIG	260	47	2.8	1 U	1 U	61	1 U	0.71 J	0.84 J	0.5 U	1 U	1 U	1 U	1 U	1.5	5 U	300	58	5 U
	06/22/2009	ORIG	1200	110	25 U	25 U	25 U	110	25 U	25 U	25 U	12 U	25 U	25 U	25 U	25 U	25 U	120 U	--	79	120 U
	08/13/2009	ORIG	1100	80	4 U	4 U	4 U	72	4 U	4 U	4 U	3.8	4 U	4 U	4 U	4 U	17	20 U	360	71	20 U
	08/27/2009	ORIG	550	55	10 U	10 U	10 U	110	10 U	10 U	10 U	5 U	10 U	10 U	10 U	10 U	10 U	50 U	260	66	50 U
	09/24/2009	ORIG	580	57	10 U	10 U	10 U	73	10 U	10 U	10 U	5 U	10 U	10 U	10 U	10 U	10 U	50 U	270	60	50 U
	12/22/2009	ORIG	1000	72	5 U	5 U	5 U	170	5 U	5 U	5 U	2.5 U	5 U	5 U	5 U	5 U	5.2	25 U	340	72	25 U
EW-2	72 - 87																				
	09/13/2006	ORIG	42000	960	150	6 J	20 U	930	19 J	29	46	340	6.4 J	20 U	20 U	20 U	1500	540	780	310	100 U
	09/14/2006	ORIG	22000	880	120	14	4.5	670	17	26	42	250	5.1	0.58 J	1.6	1 U	1100	750	700	240	5 U
	08/22/2007	ORIG	42000 J	770	120	4.4	1	730	20	17	35	270	2.6	0.48 J	1.2	1 U	1200	55	640	230	0.94 J
	08/22/2007	DUP	38000 J	770	110	4.1	1.3	740	19	17	34	270	2.5	0.48 J	1.2	1 U	1200	51	650	240	0.75 J
	02/20/2008	ORIG	45000	890	110	100 U	100 U	890	100 U	100 U	40 J	280	100 U	100 U	100 U	100 U	1100	96 J	740	210	500 U
	02/20/2008	N	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	0.5 U	1 U	1 U	1 U	0.3 J	1 U	5 U	5 U	1 U	5 U
	02/20/2008	DUP	43000	800	79 J	100 U	100 U	910	100 U	100 U	30 J	180	100 U	100 U	100 U	100 U	860	500 U	470 J	140	500 U
	09/16/2008	ORIG	49000	970	97 J	100 U	100 U	1100	100 U	100 U	100 U	200	100 U	100 U	100 U	100 U	1000	500 U	620	180	500 U
	09/16/2008	DUP	32000	910	100	100 U	100 U	810	100 U	100 U	41 J	210	100 U	100 U	100 U	100 U	1100	500 U	490 J	170	500 U
	06/22/2009	ORIG	44000	1200	1000 U	1000 U	1000 U	1000 U	1000 U	1000 U	1000 U	500 U	1000 U	1000 U	1000 U	1000 U	1000 U	5000 U	--	1000 U	5000 U
	08/13/2009	ORIG	13000	520	40 U	40 U	40 U	350	40 U	40 U	40 U	94	40 U	40 U	40 U	40 U	390	200 U	1000	200	200 U
	08/27/2009	ORIG	6300	250	100 U	100 U	100 U	340	100 U	100 U	100 U	50 U	100 U	100 U	100 U	100 U	180	500 U	530	130	500 U
	12/22/2009	ORIG	5300	180	50 U	50 U	50 U	290	50 U	50 U	50 U	25 U	50 U	50 U	50 U	50 U	100	250 U	570	130	250 U
EW-3	70 - 85																				
	09/13/2006	ORIG	4800	370	3.7 J	10 U	10 U	500	3.6 J	10 U	5.6 J	5 U	10 U	10 U	10 U	10 U	56	50 U	120	85	50 U
	09/14/2006	ORIG	2900	310	3.4	1 U	1 U	370	2.4	1.8	5.7	0.63	1 U	1 U	1 U	1 U	71	5 U	120	71	5 U
	06/22/2009	ORIG	2700	260	50 U	50 U	50 U	420	50 U	50 U	50 U	25 U	50 U	50 U	50 U	50 U	50 U	250 U	--	65	250 U
	08/13/2009	ORIG	2700	190	5 U	5 U	5 U	520	5 U	5 U	5 U	2.5 U	5 U	5 U	5 U	5 U	32	25 U	320	170	25 U

Table 2-2
Omega Chemical Superfund Site
Chlorinated VOCs Analytical Summary
Groundwater Analytical Results

Well ID/ Screened Interval	Sample Date	Sample Type	PCE (5)	TCE (5)	1,1,1-TCA (200)	1,1,2-TCA (5)	PCA	1,1-DCE (6)	cis-1,2-DCE (6)	trans-1,2-DCE (10)	1,1-DCA (5)	1,2-DCA (0.5)	1,2-DCB (600)	1,4-DCB (5)	CBN (70)	1,2,3-TCB (0.5)	CFM (80)	MC (5)	Freon 113 (1200)	Freon 11 (150)	Freon 12 (1000#)
	09/02/2009	ORIG	2300	150	1 U	1 U	1 U	580	1 U	1 U	2.3	0.58	1 U	1 U	1 U	1 U	25	5 U	160	100	5 U
	09/24/2009	ORIG	2200	270	10 U	10 U	10 U	470	10 U	10 U	10 U	5 U	10 U	10 U	10 U	10 U	53	50 U	120	76	50 U
	12/22/2009	ORIG	2700	180	20 U	20 U	20 U	680	20 U	20 U	20 U	10 U	20 U	20 U	20 U	20 U	39	100 U	310	170	100 U
EW-4	71 - 86																				
	09/13/2006	ORIG	2200	220	3.8	2 U	2 U	720	1.2 J	0.78 J	2.9	1 U	2 U	2 U	2 U	2 U	19	10 U	170	90	10 U
	09/13/2006	DUP	2200	160	3.4	1 U	1 U	640	0.88 J	0.5 J	2.3	0.5 U	1 U	1 U	1 U	1 U	17	5 U	140	70	5 U
	09/14/2006	ORIG	2000	150	2.9	1 U	1 U	580	0.84 J	0.48 J	2.1	0.5 U	1 U	1 U	1 U	1 U	16	5 U	140	71	5 U
	06/22/2009	ORIG	1100	99	25 U	25 U	25 U	410	25 U	25 U	25 U	12 U	25 U	25 U	25 U	25 U	25 U	120 U	--	54	120 U
	08/13/2009	ORIG	1000	79	2.5 U	2.5 U	2.5 U	420	2.5 U	2.5 U	2.5 U	1.2 U	2.5 U	2.5 U	2.5 U	2.5 U	5.7	12 U	160	89	12 U
	08/27/2009	ORIG	810	68	10 U	10 U	10 U	480	10 U	10 U	10 U	5 U	10 U	10 U	10 U	10 U	10 U	50 U	130	87	50 U
	09/24/2009	ORIG	670	63	10 U	10 U	10 U	360	10 U	10 U	10 U	5 U	10 U	10 U	10 U	10 U	10 U	50 U	140	81	50 U
	12/22/2009	ORIG	650	52	5 U	5 U	5 U	430	5 U	5 U	5 U	2.5 U	5 U	5 U	5 U	5 U	5 U	25 U	140	84	25 U
EW-5	70 - 85																				
	09/13/2006	ORIG	360	30	0.79 J	1 U	1 U	290	1 U	1 U	1 U	0.5 U	1 U	1 U	1 U	1 U	0.59 J	5 U	160	79	5 U
	09/14/2006	ORIG	450	39	1.1	1 U	1 U	360	1 U	1 U	1 U	0.5 U	9.4 U	9.4 U	1 U	1 U	0.91 J	5 U	190	92	5 U
	09/14/2006	DUP	460	45	1.2	1 U	1 U	370	1 U	1 U	1 U	0.5 U	1 U	1 U	1 U	1 U	0.96 J	5 U	150	100	5 U
	06/22/2009	ORIG	120	12	2.5 U	2.5 U	2.5 U	72	2.5 U	2.5 U	2.5 U	1.2 U	2.5 U	2.5 U	2.5 U	2.5 U	2.5 U	12 U	--	29	12 U
	08/13/2009	ORIG	93	10	1 U	1 U	1 U	61	1 U	1 U	1 U	0.5 U	1 U	1 U	1 U	1 U	1 U	5 U	78	53	5 U
	08/27/2009	ORIG	73	7.7	1 U	1 U	1 U	74	1 U	1 U	1 U	0.5 U	1 U	1 U	1 U	1 U	1 U	5 U	67	52	5 U
	09/24/2009	ORIG	88	9.6	2 U	2 U	2 U	76	2 U	2 U	2 U	1 U	2 U	2 U	2 U	2 U	2 U	10 U	52	39	10 U
	12/22/2009	ORIG	100	8.2	1 U	1 U	1 U	110	1 U	1 U	1 U	0.5 U	1 U	1 U	1 U	1 U	1 U	5 U	86	57	5 U
OW9	70 - 90																				
	03/03/2009	ORIG	28000	1200	100 U	100 U	100 U	1400	100 U	100 U	43 J	230	100 U	100 U	100 U	100 U	1100	500 U	900	280	500 U
	03/03/2009	DUP	26000	1100	100 U	100 U	100 U	1500	100 U	100 U	40 J	240	100 U	100 U	100 U	100 U	1000	500 U	930	240	500 U
	09/01/2009	ORIG	26000	1100	100 U	100 U	100 U	1600	100 U	100 U	46 J	250	100 U	100 U	100 U	100 U	1100	500 U	710	260	500 U
	09/01/2009	N	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	0.5 U	1 U	1 U	1 U	1 U	1 U	5 U	5 U	1 U	5 U
	12/29/2009	ORIG	20000	920	9 J	16 J	25 U	1200	54	23 J	34	210	25 U	25 U	25 U	25 U	960	120 U	1200	300	120 U
	12/29/2009	DUP	18000	930	7.8 J	14 J	25 U	1200	54	22 J	37	220	25 U	25 U	25 U	25 U	1000	120 U	1100	320	120 U
OW10	69.5 - 89.5																				
	03/04/2009	ORIG	220	23	1 U	1 U	1 U	270	1 U	1 U	1 U	0.5 U	1 U	1 U	1 U	1 U	0.55 J	5 U	210	91	0.42 J
	09/02/2009	ORIG	200	20	1 U	1 U	1 U	210	1 U	1 U	1 U	0.5 U	1 U	1 U	1 U	1 U	0.53 J	5 U	61	35	5 U
	12/29/2009	ORIG	210	19	1 U	1 U	1 U	120	1 U	1 U	1 U	0.5 U	1 U	1 U	1 U	1 U	1.4	5 U	5 U	24	5 U
	12/29/2009	N	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	0.5 U	1 U	1 U	1 U	1 U	1 U	5 U	5 U	1 U	5 U

Table 2-2
Omega Chemical Superfund Site
Chlorinated VOCs Analytical Summary
Groundwater Analytical Results

Well ID/ Screened Interval	Sample Date	Sample Type	PCE (5)	TCE (5)	1,1,1-TCA (200)	1,1,2-TCA (5)	PCA	1,1-DCE (6)	cis-1,2-DCE (6)	trans-1,2-DCE (10)	1,1-DCA (5)	1,2-DCA (0.5)	1,2-DCB (600)	1,4-DCB (5)	CBN (70)	1,2,3-TCB (0.5)	CFM (80)	MC (5)	Freon 113 (1200)	Freon 11 (150)	Freon 12 (1000#)

Notes:

Concentrations are reported in micrograms per liter (ug/l).
Only chlorinated compounds detected above laboratory reporting limits in one or more groundwater samples are listed.
Samples analyzed by EPA Methods 502.2, 524.2, 8240 or 8260.
-- = analyte was either not reported or not analyzed.

Screened interval is shown in feet below ground surface.

U = Not detected at a concentration greater than the reporting limit shown.
J = Estimated concentration below reporting limit.

PCE = Tetrachloroethene; TCE = Trichloroethene; TCA = Trichloroethane;TCB = Trichlorobenzene; PCA = 1,1,1,2-Tetrachloroethane; DCE = Dichloroethene; DCA = Dichloroethane; DCB = Dichlorobenzene; CBN = Chlorobenzene; CFM = Chloroform; MC = Methylene chloride; Freon 113 = 1,1,2-Trichloro-1,2,2-trifluoroethane; Freon 11 = Trichlorofluoromethane; Freon 12 = Dichlorodifluoromethane.

Sample Type:
ORIG = Original sample
DUP = Duplicate sample
N = Equipment decontamination blank

California Maximum Contaminant Levels (MCLs) are shown in parenthesis
= California Notification Level
^ = Secondary MCL

Table 2-3
Omega Chemical Superfund Site
1,4-Dioxane Analytical Summary
Groundwater Analytical Results

Well ID/ Screened Interval		Sample Date	Sample Type	1,4-Dioxane (3#)
EW-1	72 - 87	09/13/2006	ORIG	0.59
		09/14/2006	ORIG	0.48 U
		02/22/2007	ORIG	0.47 U
		08/22/2007	ORIG	0.47 U
		08/22/2007	N	0.47 U
		02/19/2008	ORIG	0.47 U
		02/19/2008	N	0.5 U
		09/16/2008	ORIG	0.48 U
		06/22/2009	ORIG	0.47
		08/13/2009	ORIG	18
		08/27/2009	ORIG	1.3
		09/24/2009	ORIG	3.5
		12/22/2009	ORIG	0.49 U
EW-2	72 - 87	09/13/2006	ORIG	1500
		09/14/2006	ORIG	1300
		08/22/2007	ORIG	1400
		08/22/2007	DUP	1500
		02/20/2008	ORIG	1200
		02/20/2008	N	0.5 U
		02/20/2008	DUP	1300
		09/16/2008	ORIG	1100
		09/16/2008	DUP	1000
		06/22/2009	ORIG	980
		08/13/2009	ORIG	440
		08/27/2009	ORIG	160
		12/22/2009	ORIG	110
EW-3	70 - 85	09/13/2006	ORIG	0.88
		09/14/2006	ORIG	2.4
		06/22/2009	ORIG	0.97
		08/13/2009	ORIG	4.2
		09/02/2009	ORIG	7.7
		09/24/2009	ORIG	31
		12/22/2009	ORIG	6.1
EW-4	71 - 86	09/13/2006	ORIG	0.47 U
		09/13/2006	DUP	0.47
		09/14/2006	ORIG	0.49 U
		06/22/2009	ORIG	0.48 U
		08/13/2009	ORIG	0.48 U
		08/27/2009	ORIG	0.64 U
		09/24/2009	ORIG	0.56 U
		12/22/2009	ORIG	0.48 U

Table 2-3
Omega Chemical Superfund Site
1,4-Dioxane Analytical Summary
Groundwater Analytical Results

Well ID/ Screened Interval		Sample Date	Sample Type	1,4-Dioxane (3#)
EW-5	70 - 85	09/13/2006	ORIG	0.47 U
		09/14/2006	ORIG	0.47 U
		09/14/2006	DUP	0.47 U
		06/22/2009	ORIG	0.49 U
		08/13/2009	ORIG	0.49 U
		08/27/2009	ORIG	0.68 U
		09/24/2009	ORIG	0.48 U
		12/22/2009	ORIG	2 U
OW9	70 - 90	03/03/2009	ORIG	1000
		03/03/2009	DUP	890
		09/01/2009	ORIG	830
		09/01/2009	N	0.47 U
		12/29/2009	ORIG	630
		12/29/2009	DUP	740
OW10	69.5 - 89.5	03/04/2009	ORIG	0.47 U
		09/02/2009	ORIG	0.47 U
		12/29/2009	ORIG	0.47 U
		12/29/2009	N	0.47 U

Notes:

Concentrations are reported in micrograms per liter (ug/l).

U = Not detected at a concentration greater than the reporting limit shown.

Screened interval is shown in feet below ground surface.

1,4-dioxane analyzed by EPA Method 8270 modified.

Sample Type:
ORIG = Original sample
DUP = Duplicate sample
N = Equipment decontamination blank

California Maximum Contaminant Levels (MCLs) are shown in parenthesis
= California Notification Level

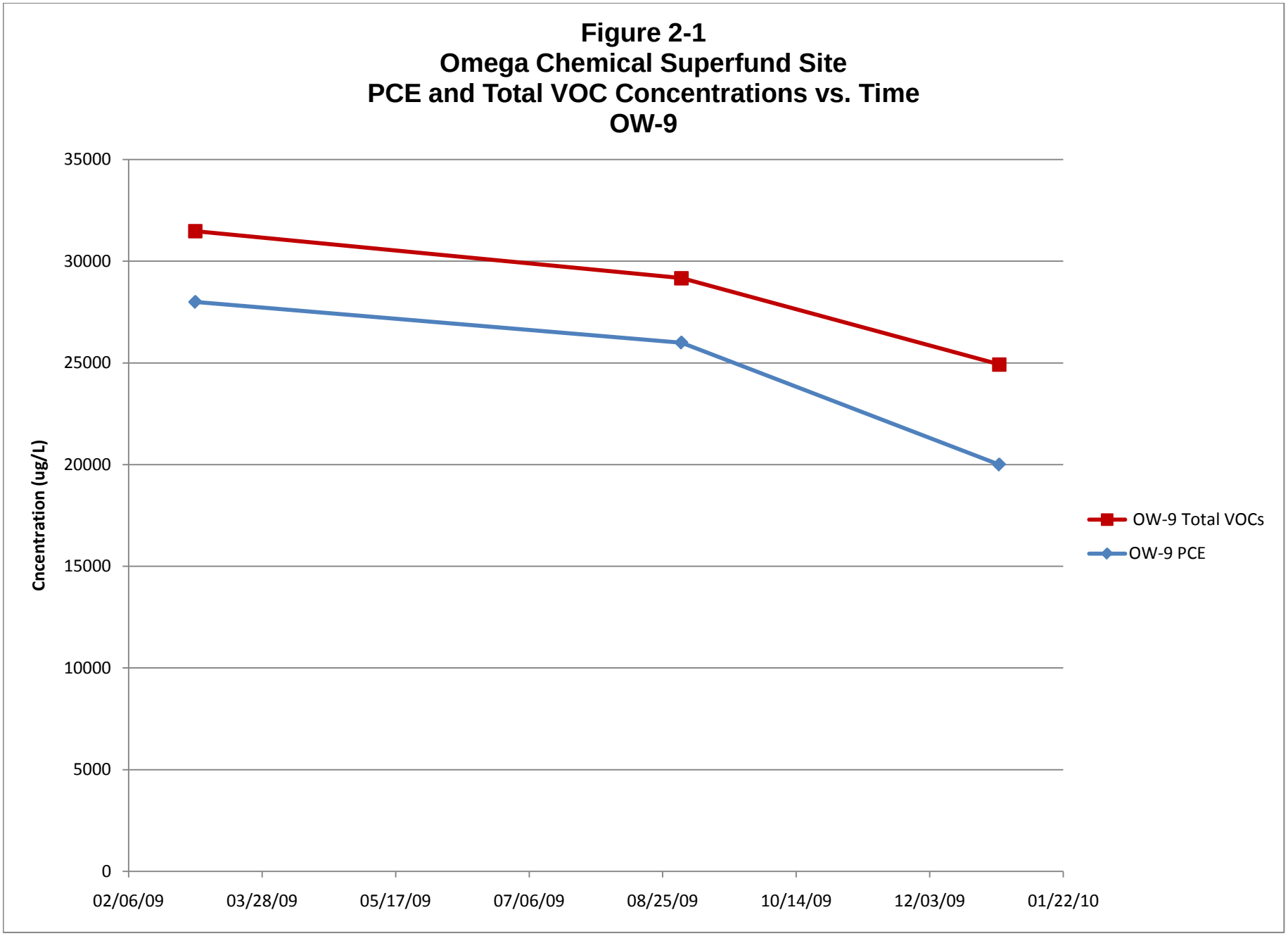


Figure 2-1
Omega Chemical Superfund Site
PCE and Total VOC Concentrations vs. Time
OW-9
Cncentration (ug/L)
35000
30000
25000
20000
15000
10000
5000
0
02/06/09
03/28/09
05/17/09
07/06/09
08/25/09
10/14/09
12/03/09
01/22/10
OW-9 Total VOCs
OW-9 PCE

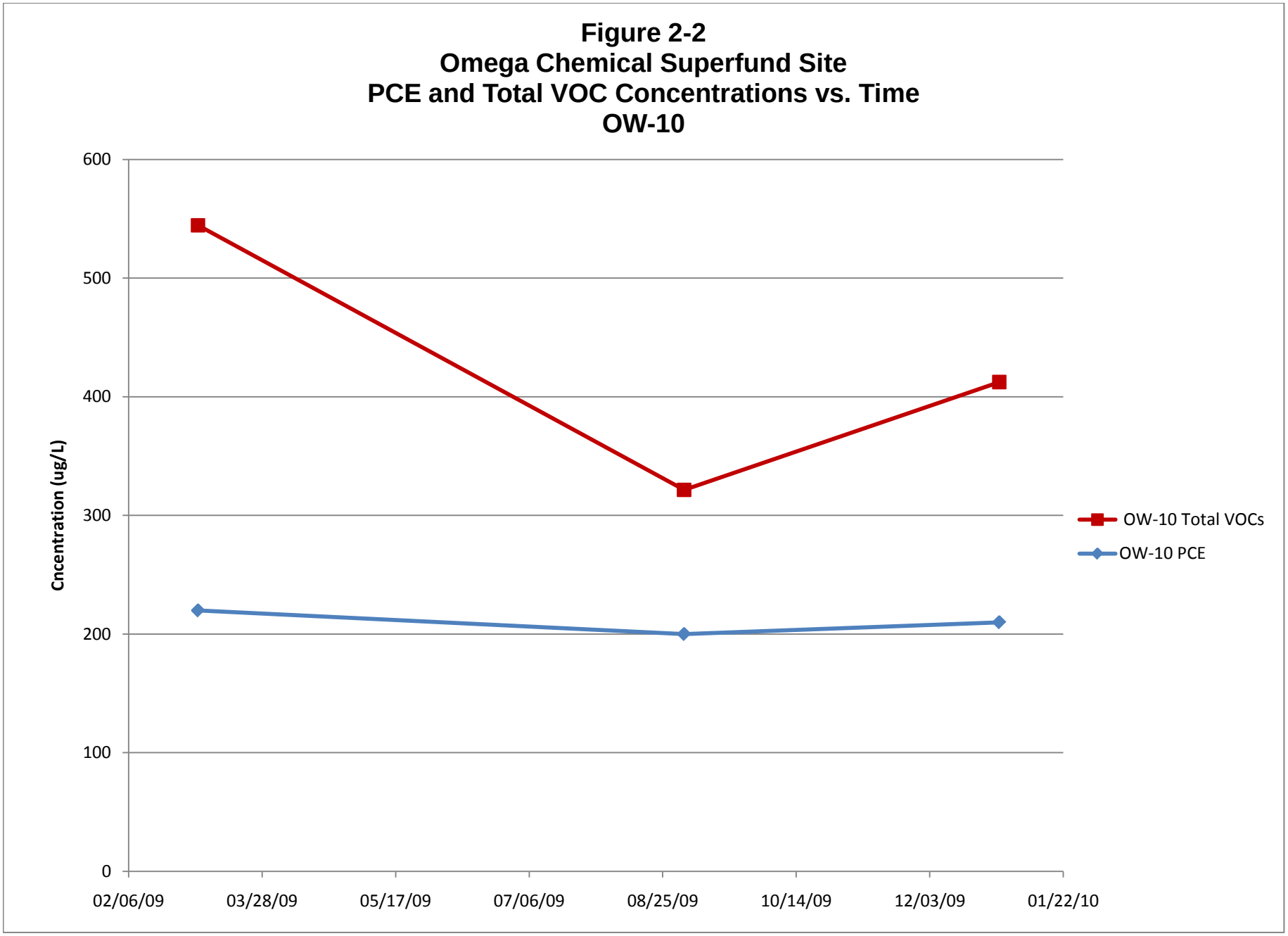
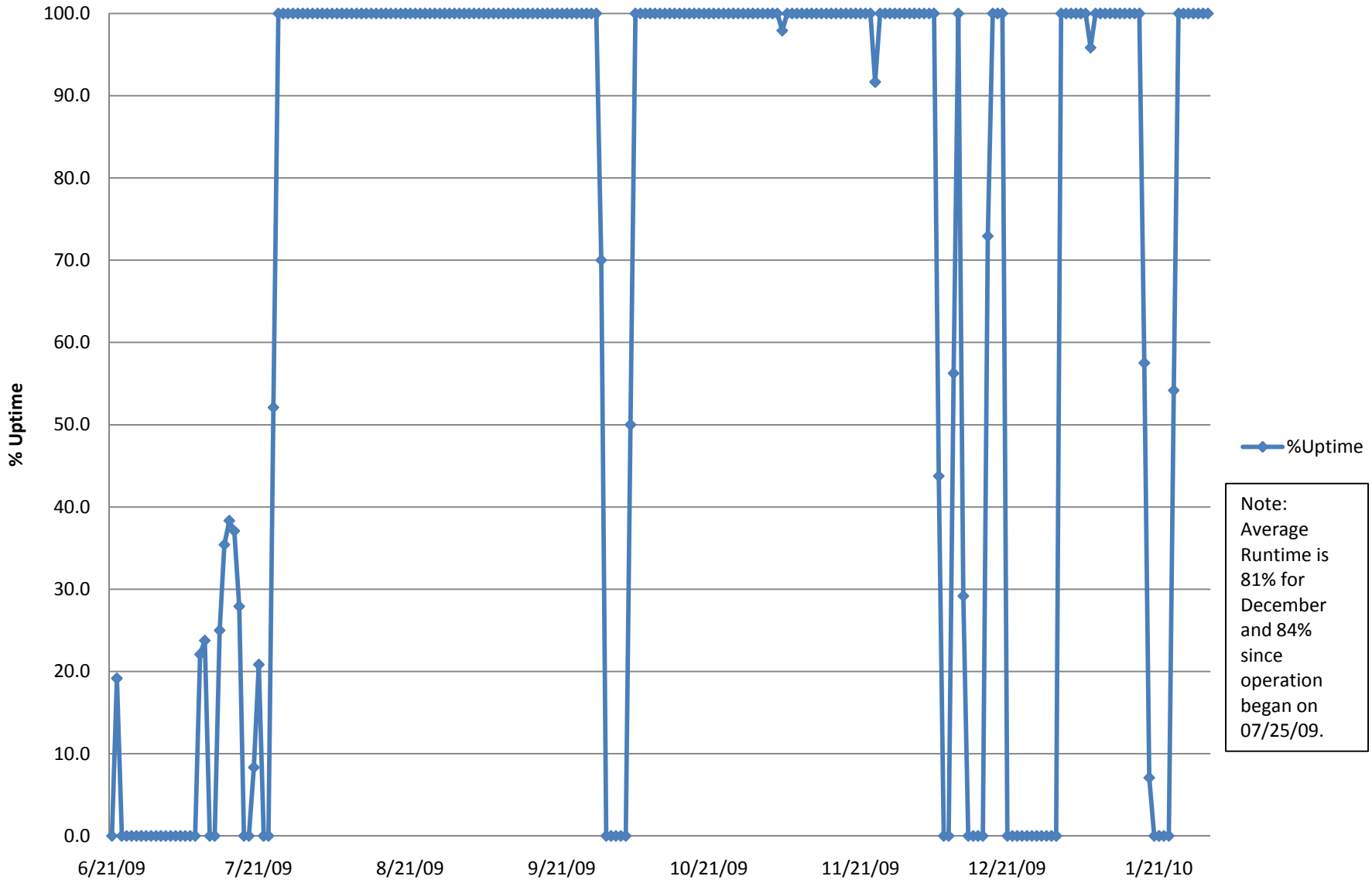


Figure 2-2
Omega Chemical Superfund Site
PCE and Total VOC Concentrations vs. Time
OW-10
Cncentration (ug/L)
600
500
400
300
200
100
0
02/06/09
03/28/09
05/17/09
07/06/09
08/25/09
10/14/09
12/03/09
01/22/10
OW-10 Total VOCs
OW-10 PCE

Attachment 3
Treatment System Operations
Summary of Tables and Graphs

Figure 3-1
Omega Chemical Superfund Site
System Runtime



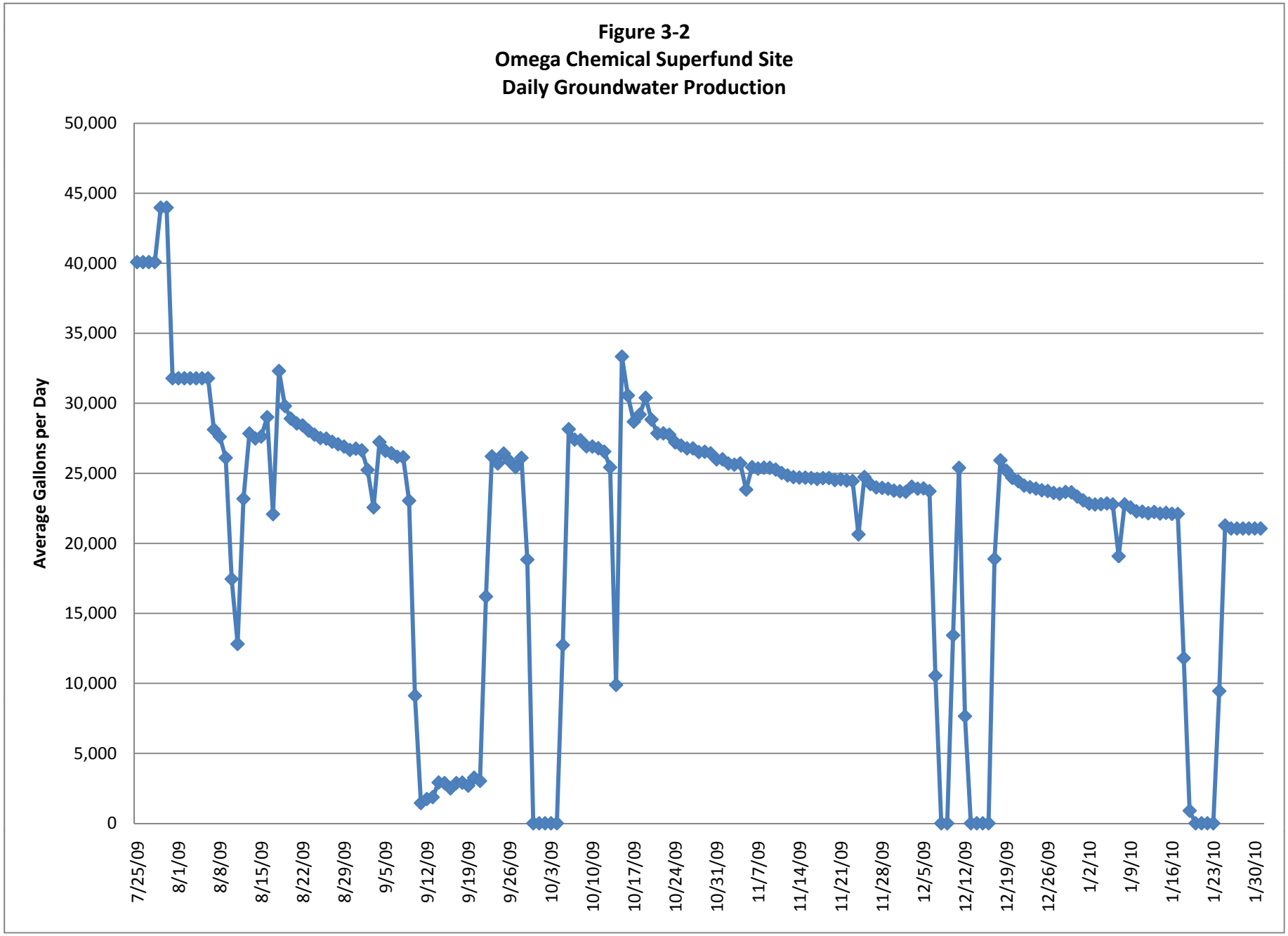


Figure 3-2
Omega Chemical Superfund Site
Daily Groundwater Production
Average Gallons per Day
50,000
45,000
40,000
35,000
30,000
25,000
20,000
15,000
10,000
5,000
0
7/25/09
8/1/09
8/8/09
8/15/09
8/22/09
8/29/09
9/5/09
9/12/09
9/19/09
9/26/09
10/3/09
10/10/09
10/17/09
10/24/09
10/31/09
11/7/09
11/14/09
11/21/09
11/28/09
12/5/09
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1/16/10
1/23/10
1/30/10

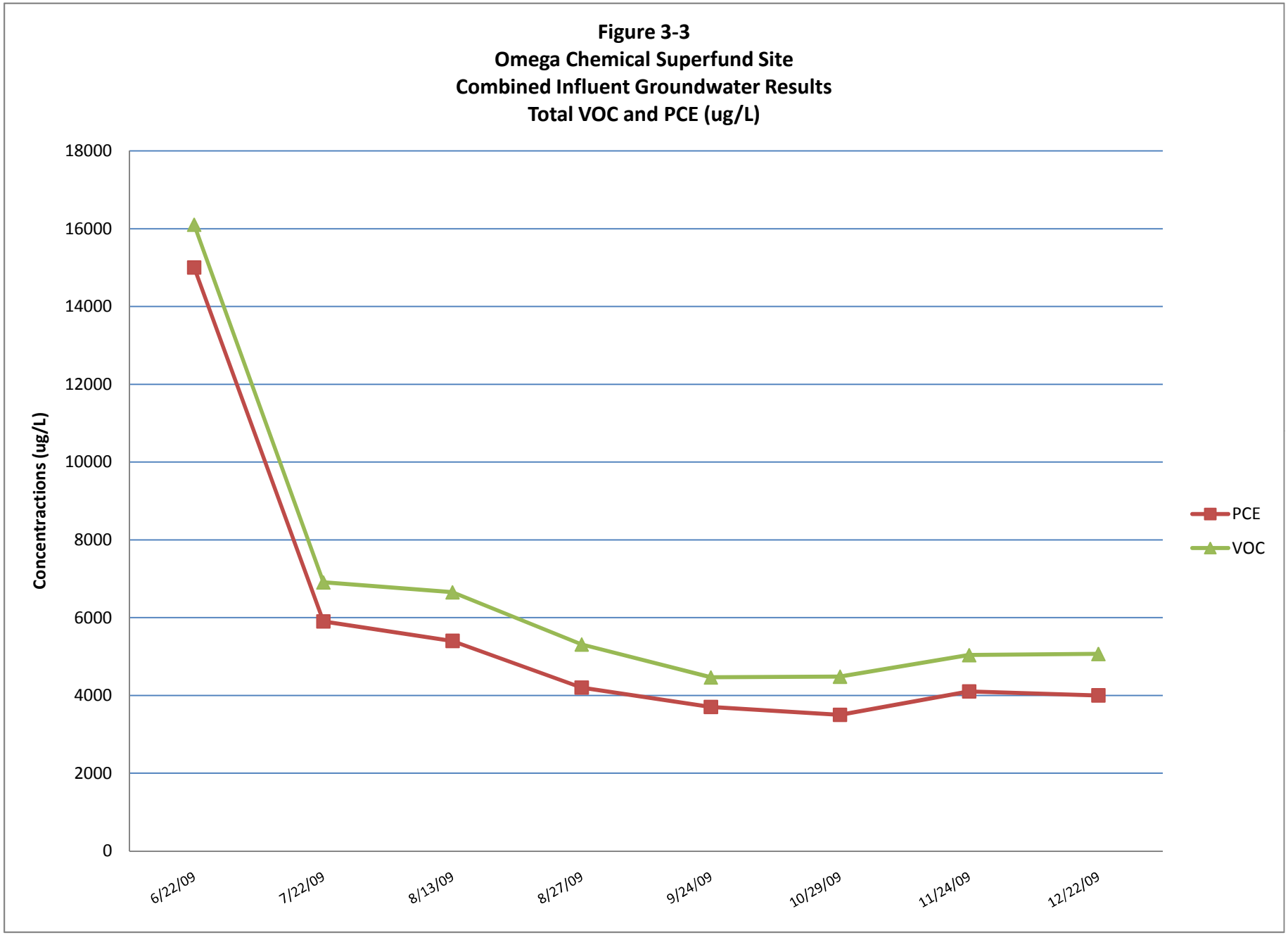
Figure 3-3
Omega Chemical Superfund Site
Combined Influent Groundwater Results
Total VOC and PCE (ug/L)
Concentractions (ug/L)
18000
16000
14000
12000
10000
8000
6000
4000
2000
0
6/22/09
7/22/09
8/13/09
8/27/09
9/24/09
10/29/09
11/24/09
12/22/09
PCE
VOC

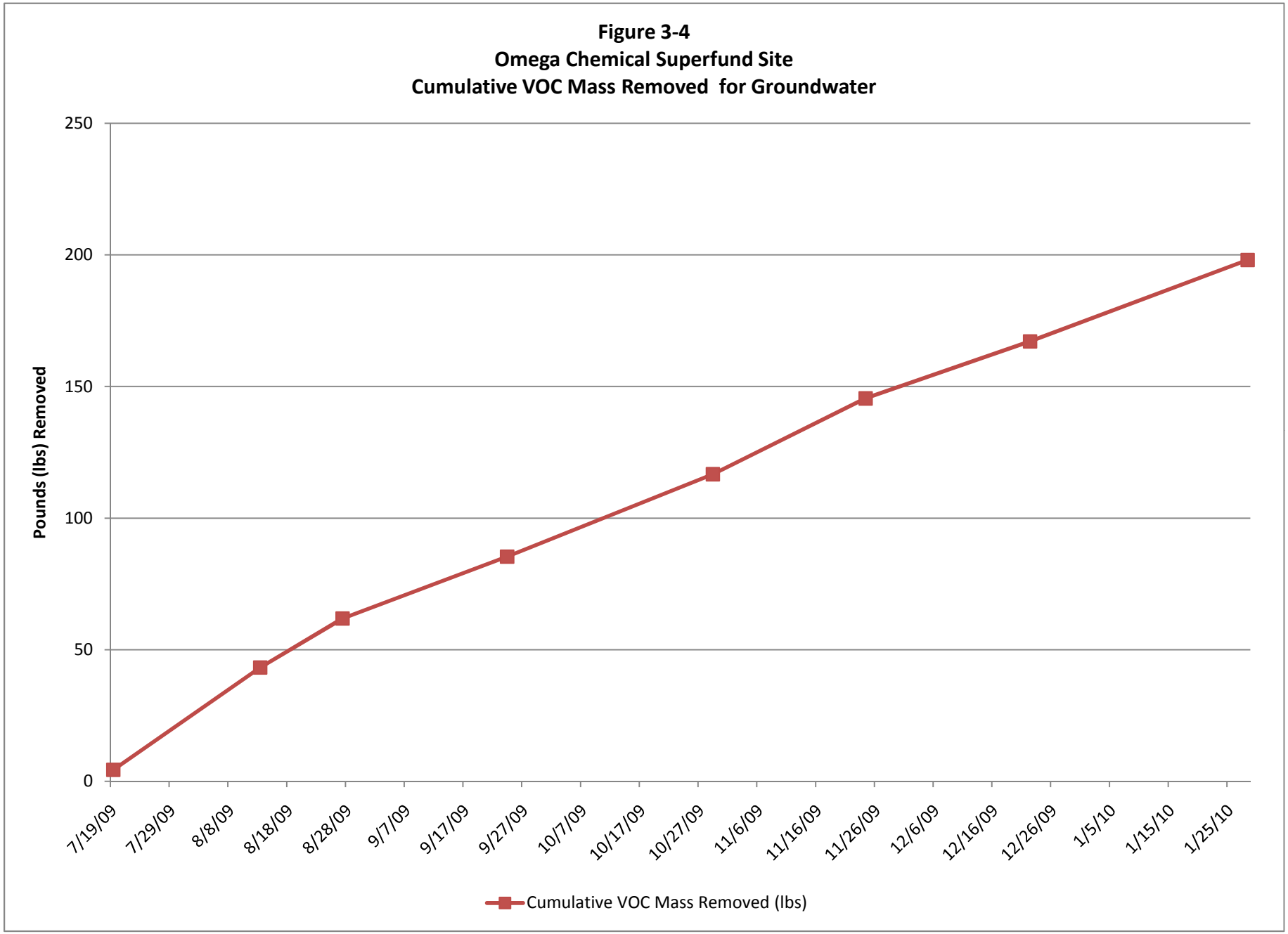
Figure 3-4
Omega Chemical Superfund Site
Cumulative VOC Mass Removed for Groundwater
Pounds (lbs) Removed
250
200
150
100
50
0
7/19/09
7/29/09
8/8/09
8/18/09
8/28/09
9/7/09
9/17/09
9/27/09
10/7/09
10/17/09
10/27/09
11/6/09
11/16/09
11/26/09
12/6/09
12/16/09
12/26/09
1/5/10
1/15/10
1/25/10
Cumulative VOC Mass Removed (lbs)

Table 3-1
Omega Chemical Superfund Site
Groundwater System Summary

Month of Operation	Total Groundwater Treated (Average gallons per month)	Average System Flow Rate (gallons per minute)	Average System Flow Rate (gallons per day)	System Uptime (%)	Approximate VOC Mass Removed (lbs)
July 2009	378,740	11.4	16416.0	43%	40.0
August 2009	853,401	19.1	27504.0	100%	22.0
September 2009	458,018	10.6	15264.0	96%	24.0
October 2009	715,721	16.0	23040.0	86%	31.0
November 2009	739,366	17.1	24624.0	99.7%	29.0
December 2009	658,087	15.2	21936.2	43%	21.6
January 2010	545,866	12.2	17608.6	81%	30.9
Operation Summary	4,349,199	14.5	20913.3	84%	198.6

Notes:
System began operation on 7/25/09.
Groundwater volumes are collected from the effluent totalizer.

Table 3-2
Omega Chemical Superfund Site
Extraction Well Flow Summary

Date & Time	Extraction Wells											
	EW-1				EW-2				EW-3			
	Q_{setpt} (gpm)	Totalizer (gal)	Q_{avg} (gpm)	Q_{avg} (gpd)	Q_{setpt} (gpm)	Totalizer (gal)	Q_{avg} (gpm)	Q_{avg} (gpd)	Q_{setpt} (gpm)	Totalizer (gal)	Q_{avg} (gpm)	Q_{avg} (gpd)
7/28/2009	16.1	136,365			12.7	108,625			4.3*	36,266		
7/30/2009	13.9*	176,426	12.7	18,256	14.2	152,837	14.0	20,147	6.4*	42,059	1.8	2,640
8/13/2009	11.6	353,521	8.9	12,873	13.4	361,472	10.5	15,166	NM	67,779	1.3	1,870
8/27/2009	7.6	461,672	5.3	7,656	14.4	658,096	14.6	20,998	5.0	86,520	0.9	1,327
9/2/2009	7.0	500,028	4.6	6,603	14.1	778,242	14.4	20,683	0.0*	93,242	0.8	1,157
9/15/2009	10.6	618,604	6.2	8,884	0.0	932,309	8.0	11,543	0.0	109,850	0.9	1,244
9/24/2009	5.6	736,198	9.4	13,472	14.3	972,324	3.2	4,584	0.0	120,707	0.9	1,244
10/5/2009	6.8	773,897	2.3	3,360	14.8	1,082,631	6.8	9,830	0.0	120,707	0.0	0
10/15/2009	4.4	848,847	5.3	7,651	22.8	1,273,592	13.5	19,494	0.0	120,707	0.0	0
10/22/2009	3.3	874,953	2.6	3,734	18.0	1,463,138	18.8	27,108	4.0	120,793	0.0	12
10/29/2009	4.2*	895,474	2.1	2,952	16.5	1,633,366	17.0	24,488	3.2*	124,659	0.4	556
11/5/2009	3.8	914,285	1.9	2,690	15.3	1,793,357	15.9	22,879	3.5	127,988	0.3	476
11/13/2009	4.7	935,061	1.8	2,570	14.5	1,972,307	15.4	22,138	3.8	131,249	0.3	403
11/19/2009	4.7*	950,381	1.8	2,527	15.5	2,103,418	15.0	21,627	4.0*	133,521	0.3	375
11/24/2009	4.8*	962,473	1.7	2,450	15.3	2,209,609	14.9	21,513	3.0*	135,267	0.2	354
12/3/2009	4.8*	983,800	1.7	2,490	15.3	2,395,744	15.1	21,735	3.0*	138,379	0.3	363
12/10/2009	4.8*	993,512	1.0	1,387	15.3	2,480,909	8.4	12,166	3.0*	139,759	0.1	197
12/17/2009	4.8*	1,002,321	0.9	1,258	15.3	2,522,028	4.1	5,874	3.0*	141,084	0.1	189
12/22/2009	4.8*	1,021,652	2.7	3,866	15.3	2,628,657	14.8	21,326	3.0*	144,133	0.4	610
12/29/2009	4.8*	1,038,765	1.7	2,445	15.3	2,769,825	14.0	20,167	3.0*	146,594	0.2	352
1/7/2010	4.8*	1,055,808	1.3	1,894	15.3	2,953,631	14.2	20,423	3.0*	150,111	0.3	391
1/14/2010	4.8*	1,074,422	1.8	2,659	15.3	3,255,738	30.0	43,158	3.0*	156,488	0.6	911
1/28/2010	4.8*	1,082,669	0.4	589	15.3	3,255,738	0.0	0	3.0*	156,488	0.0	0
Dec 2090 Sumry	**-**	**76,292**	**1.5**	**2,207**	**-**	**560,216**	**11.3**	**16,208**		**11,327**	**0.2**	**328**
Jan 2010 Sumry	**-**	**43,904**	**1.0**	**1,463**	**-**	**485,913**	**11.2**	**16,197**		**9,894**	**0.2**	**330**
Cumulative	**-**	**946,304**	**3.6**	**5,155**	**-**	**3,147,113**	**11.9**	**17,145**	**-**	**120,222**	**0.5**	**655**

Notes: Q (setpt) is the pump set point
Q (avg) is the average pumping rate based on well production
* - pump is cycling on and off

Date & Time	Extraction Wells							
	EW-4				EW-5			
	Q_{setpt} (gpm)	Totalizer (gal)	Q_{avg} (gpm)	Q_{avg} (gpd)	Q_{setpt} (gpm)	Totalizer (gal)	Q_{avg} (gpm)	Q_{avg} (gpd)
7/28/2009	4.0*	5,451			4.0*	6,992		
7/30/2009	4.8*	7,509	0.7	938	4.8*	9,860	0.9	1,307
8/13/2009	5.8	17,028	0.5	692	4.8	26,192	0.8	1,187
8/27/2009	0.0	24,095	0.3	500	0.0	40,931	0.7	1,043
9/2/2009	0.0*	26,546	0.3	422	5.0*	46,985	0.7	1,042
9/15/2009	0.0	32,121	0.3	418	0.0	57,525	0.5	790
9/24/2009	5.7*	36,169	0.3	464	4.95*	65,468	0.6	910
10/5/2009	5.6*	38,317	0.1	191	5.0*	70,093	0.3	412
10/15/2009	0.0*	42,484	0.3	425	5.6*	77,981	0.6	805
10/22/2009	5.5	44,865	0.2	341	5.3	83,907	0.6	847
10/29/2009	5.5*	46,933	0.2	297	5.5	89,474	0.6	801
11/5/2009	5.6	48,916	0.2	284	5.3	94,840	0.5	767
11/13/2009	5.6	51,102	0.2	270	5.1	100,857	0.5	744
11/19/2009	5.8*	52,697	0.2	263	5.0*	105,216	0.5	719
11/24/2009	6.0*	53,956	0.2	255	5.8*	108,736	0.5	713
12/3/2009	6.0*	56,174	0.2	259	5.8*	114,955	0.5	726
12/10/2009	6.0*	57,198	0.1	146	5.8*	117,680	0.3	389
12/17/2009	6.0*	57,913	0.1	102	5.8*	117,850	0.0	24
12/22/2009	6.0*	59,491	0.2	316	5.8*	121,678	0.5	766
12/29/2009	6.0*	61,236	0.2	249	5.8*	126,150	0.4	639
1/7/2010	6.0*	63,375	0.2	238	5.8*	131,857	0.4	634
1/14/2010	6.0*	67,318	0.4	563	5.8*	141,521	1.0	1,381
1/28/2010	6.0*	67,318	0.0	0	5.8*	141,521	0.0	0
Dec 2090 Sumry	**-**	**7,280**	**0.1**	**211**	**-**	**17,414**	**0.3**	**504**
Jan 2010 Sumry	**-**	**6,082**	**0.1**	**203**	**-**	**15,371**	**0.4**	**512**
Cumulative	**-**	**61,867**	**0.2**	**337**	**-**	**134,529**	**0.5**	**733**

Table 3-3
Omega Chemical Superfund Site
Analytical Summary for Influent and Effluent Samples
Detected Results

Well ID	Sample Date	Sample Type	Total VOCs	PCE	TCE	1,1,1-TCA	1,1,2-TCA	1,1-DCA	1,1-DCE	1,2-DCA	1,4-Dioxane	Acetone	Benzene	c-1,2-DCE	Chloroform	Freon 113	t-1,2-DCE	Freon 11
SP-200	22-Jun-09	IN	16100	15000	440	250 U	250 U	250 U	400	120 U	280	--	120 U	250 U	260	--	250 U	250 U
SP-220A	22-Jun-09	EFF	0.0	1 U	1 U	1 U	1 U	1 U	1 U	0.5 U	250	--	0.5 U	1 U	1 U	--	1 U	1 U
SP-220A	15-Jul-09	EFF	35	1 U	1 U	1 U	1 U	1 U	1 U	0.5 U	210	35	0.5 U	1 U	1 U	5 U	1 U	1 U
SP-200	22-Jul-09	IN	6905	5900	230	20 U	20 U	20 U	250	14	97	200 U	10 U	20 U	180	250	20 U	81
SP-220A	22-Jul-09	EFF	0.0	1 U	1 U	1 U	1 U	1 U	1 U	0.5 U	110	10 U	0.5 U	1 U	1 U	5 U	1 U	1 U
SP-200	13-Aug-09	IN	6652	5400	230	20 U	20 U	20 U	220	32	230	200 U	10 U	20 U	130	520	20 U	120
SP-220A	13-Aug-09	EFF	0.0	1 U	1 U	1 U	1 U	1 U	1 U	0.5 U	220	10 U	0.5 U	1 U	1 U	5 U	1 U	1 U
SP-200	27-Aug-09	IN	5310	4200	190	50 U	50 U	50 U	300	25 U	94	500 U	25 U	50 U	110	400	50 U	110
SP-220A	27-Aug-09	EFF	0.0	1 U	1 U	1 U	1 U	1 U	1 U	0.5 U	84	10 U	0.5 U	1 U	1 U	5 U	1 U	1 U
SP-210	24-Sep-09	IN	4464.46	3700	130	3.6	2.7	5.6	130	23	120	10 U	0.66	1	80	290	5.9	92
SP-220A	24-Sep-09	EFF	0.0	1 U	1 U	1 U	1 U	1 U	1 U	0.5 U	150	10 U	0.5 U	1 U	1 U	5 U	1 U	1 U
SP-200	29-Oct-09	IN	4483	3500	150	50 U	50 U	50 U	220	25 U	--	500 U	25 U	50 U	73	450	50 U	90
SP-220A	29-Oct-09	EFF	0.0	1 U	1 U	1 U	1 U	1 U	1 U	0.5 U	73	10 U	0.5 U	1 U	1 U	5 U	1 U	1 U
SP-210	24-Nov-09	IN	5035	4100	160	10 U	10 U	10 U	250	17	94	100 U	5 U	10 U	69	340	10 U	99
SP-220A	24-Nov-09	EFF	0.0	1 U	1 U	1 U	1 U	1 U	1 U	0.5 U	56	10 U	0.5 U	1 U	1 U	5 U	1 U	1 U
SP-210	22-Dec-09	IN	5066	4000	140	40 U	40 U	40 U	270	20 U	65	400 U	20 U	40 U	76	470	40 U	110
SP-220A	22-Dec-09	EFF	0.0	1 U	1 U	1 U	1 U	1 U	1 U	0.5 U	94	10 U	0.5 U	1 U	1 U	5 U	1 U	1 U

Notes:
All results are in micrograms per liter (ug/L)
Only results detected at least once in one sample are presented on this table
IN = Influent
EFF = Effluent
U = not detected above reporting limit listed
"--" = Not Analyzed

PCE = Tetrachloroethene; TCE = Trichloroethene; TCA = Trichloroethane; DCE = Dichloroethene; DCA = Dichloroethane; Freon 113 = 1,1,2-Trichloro-1,2,2-trifluoroethane; Freon 11 = Trichlorofluoromethane.

Table 3-4
Vapor Phase GAC Analytical Results
Omega Chemical Superfund Site

Sample ID		SP241	SP245	SP242	SP241	SP245	SP242	SP241	SP245	SP242	SP241	SP245	SP242
Location		Influent	Midpoint	Effluent	Influent	Midpoint	Effluent	Influent	Midpoint	Effluent	Influent	Midpoint	Effluent
Date Collected		6/22/09	6/22/09	6/22/09	7/15/09	7/15/09	7/15/09	7/22/09	7/22/09	7/22/09	8/13/09	8/13/09	8/13/09
Pollutant	Permit Limits (ppbv)	(ppbv)	(ppbv)	(ppbv)	(ppbv)	(ppbv)	(ppbv)	(ppbv)	(ppbv)	(ppbv)	(ppbv)	(ppbv)	(ppbv)
Vinyl chloride	20	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Methylene chloride	31.2	29	1 J	ND	150	ND	0.56 J	19	ND	1.2 J	44	98.00	ND
1,1-Dichloroethane	60	ND	1 J	ND	19 J	ND	ND	16 J	ND	ND	10 J	ND	ND
t-Butyl methyl ether	20	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Chloroform	13	340	11	ND	300	ND	0.68 J	290	ND	1.8 J	180	ND	0.21 J
Carbon tetrachloride	10	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Benzene	20	19 J	1 J	ND	11 J	ND	0.46 J	ND	1.4 J	0.63 J	ND	0.51 J	0.39 J
1,2-Dichloroethane	4.6	72	2	ND	57 J	ND	ND	26 J	ND	ND	54	ND	ND
Trichloroethene	13.4	440	14	ND	480	ND	0.63 J	430	ND	1.3 J	270	ND	ND
1,1,2-Trichloroethane	30	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Tetrachloroethane	268.6	12,000	360	0.46 J	9,400	0.99 J	15.00	6,000	1.6 J	23	4,500	0.42 J	5.30
1,4-Dichlorobenzene	10	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Naphthalene	10	ND	ND	ND	ND	0.99 J	ND	ND	ND	ND	ND	ND	ND
LAB TOC		NA	NA	NA	10,000	0.99 J	17 J	6,800	3.0 J	29 J	5,100	99	5.9
TOC (including J qualified data)		12,900	390	0	10,417	2	17	6,781	3	28	5,058	99	6
PID readings (as isobutylene)	1.95	21	0	0	24	0	0	NR[1]	NR[1]	NR[1]	9	0	0

Notes:

1 - card failure and system shutdown after sample collection and before PID readings taken.

J = Result is estimated as detected below the laboratory reporting limit

ppbv = parts per billion volume

NA = Not Analyzed

ND = Not Detected

TOC = Total

Table 3-4
Vapor Phase GAC Analytical Results
Omega Chemical Superfund Site

Sample ID		SP241	SP245	SP242	SP241	SP245	SP242	SP241	SP245	SP242	SP241	SP245	SP242
Location		Influent	Midpoint	Effluent	Influent	Midpoint	Effluent	Influent	Midpoint	Effluent	Influent	Midpoint	Effluent
Date Collected		8/27/09	8/27/09	8/27/09	9/24/09	9/24/09	9/24/09	10/15/09	10/15/09	10/15/09	10/29/09	10/29/09	10/29/09
Pollutant	Permit Limits (ppbv)	(ppbv)	(ppbv)	(ppbv)	(ppbv)	(ppbv)	(ppbv)	(ppbv)	(ppbv)	(ppbv)	(ppbv)	(ppbv)	(ppbv)
Vinyl chloride	20	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Methylene chloride	31.2	11	58	9	8.2 J	8.40	68	ND	8.8	ND	ND	5.10	ND
1,1-Dichloroethane	60	8	ND	ND	6 J	ND	ND	ND	ND	ND	3 J	ND	ND
t-Butyl methyl ether	20	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Chloroform	13	140	ND	0.17 J	100	ND	1.1 J	120	ND	0.70 J	51	ND	ND
Carbon tetrachloride	10	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Benzene	20	2.5	0.68 J	0.54 J	5.4 J	0.61 J	0.59 J	1,300	0.43 J	0.36 J	32.0	0.55 J	0.44 J
1,2-Dichloroethane	4.6	35	ND	ND	28	ND	ND	28	ND	ND	10	ND	ND
Trichloroethene	13.4	210	ND	ND	190	ND	1.60 J	210	ND	1.2 J	88	ND	0.66 J
1,1,2-Trichloroethane	30	2.6	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Tetrachloroethane	268.6	3,200	1.1 J	6.9	3,500	0.74 J	28	3,800	0.37 J	24.0	1,400	ND	14
1,4-Dichlorobenzene	10	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Naphthalene	10	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
LAB TOC		3,600	2 J	16	3,700	9.8	99	5,500	9.6	26	1,600	5.70	15.00
TOC (including J qualified data)		3,609	60	16	3,838	10	99	5,458	10	26	1,584	6	15
PID readings (as isobutylene)	1.95	7	1	1	10	2	2	9	0	0	4	0	0

Table 3-4
Vapor Phase GAC Analytical Results
Omega Chemical Superfund Site

Sample ID		SP241	SP245	SP242	SP241	SP245	SP242	SP241	SP245	SP242	SP241	SP245	SP242
Location		Influent	Midpoint	Effluent	Influent	Midpoint	Effluent	Influent	Midpoint	Effluent	Influent	Midpoint	Effluent
Date Collected		11/13/09	11/13/09	11/13/09	11/24/09	11/24/09	11/24/09	12/10/09	12/10/09	12/10/09	12/22/09	12/22/09	12/22/09
Pollutant	Permit Limits (ppbv)	(ppbv)	(ppbv)	(ppbv)	(ppbv)	(ppbv)	(ppbv)	(ppbv)	(ppbv)	(ppbv)	(ppbv)	(ppbv)	(ppbv)
Vinyl chloride	20	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Methylene chloride	31.2	ND	ND	7.5	ND	0.60 J	4.1	ND	ND	ND	ND	ND	ND
1,1-Dichloroethane	60	ND	ND	ND	2.4 J	0.65 J	ND	ND	1.2 J	ND	ND	ND	1.1 J
t-Butyl methyl ether	20	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Chloroform	13	35	0.8 J	ND	40	3.0	ND	20	6.3	ND	47	0.4 J	6.1
Carbon tetrachloride	10	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Benzene	20	4 J	ND	ND	2.9 J	ND	ND	1.4 J	ND	ND	4.1 J	ND	ND
1,2-Dichloroethane	4.6	9	ND	ND	10	ND	ND	4.7 J	ND	ND	15	ND	ND
Trichloroethene	13.4	90	ND	ND	72	ND	ND	52	2.5	ND	77	0.78 J	ND
1,1,2-Trichloroethane	30	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Tetrachloroethane	268.6	1,200	ND	8.2	1,200	1.0 J	8.3	730	1.8 J	6.7	1,600	15.0	1.8 J
1,4-Dichlorobenzene	10	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Naphthalene	10	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
LAB TOC		1,300	1	16	1,300	5.30	12.00	760	12	6.7	1,700	16	9.0
TOC (including J qualified data)		1,337	1	16	1,327	5	12	808	12	7	1,743	16	9
PID readings (as isobutylene)	1.95	3	0	0	3	0	0	2	0	0	3.2-4.8	0	0.0

Table 3-4
Vapor Phase GAC Analytical Results
Omega Chemical Superfund Site

Sample ID		SP241	SP245	SP242	SP241	SP245	SP242	SP241	SP245	SP242
Location		Influent	Midpoint	Effluent	Influent	Midpoint	Effluent	Influent	Midpoint	Effluent
Date Collected		12/29/09	12/29/09	12/29/09	1/7/10	1/7/10	1/7/10	1/28/10	1/28/10	1/28/10
Pollutant	Permit Limits (ppbv)	(ppbv)	(ppbv)	(ppbv)	(ppbv)	(ppbv)	(ppbv)	(ppbv)	(ppbv)	(ppbv)
Vinyl chloride	20	ND	ND	ND	ND	ND	ND	ND	ND	ND
Methylene chloride	31.2	ND	1.0 J	ND	ND	0.92 J	ND	ND	ND	2 J
1,1-Dichloroethane	60	ND	1.7 J	ND	ND	1.90 J	ND	4.1 J	4.1	ND
t-Butyl methyl ether	20	ND	ND	ND	ND	ND	ND	ND	ND	ND
Chloroform	13	45	9.3	0.27 J	30	7.4	ND	57	17.0	ND
Carbon tetrachloride	10	ND	ND	ND	ND	ND	ND	ND	ND	ND
Benzene	20	3.8 J	0.86 J	0.77 J	2.1 J	ND	0.52 J	2.9 J	0.41 J	0.39 J
1,2-Dichloroethane	4.6	11 J	ND	ND	8.2 J	ND	ND	16	ND	ND
Trichloroethene	13.4	120	ND	0.52 J	81	ND	ND	110	ND	ND
1,1,2-Trichloroethane	30	ND	ND	ND	ND	ND	ND	ND	ND	ND
Tetrachloroethane	268.6	1,700	9.5	12	1,200	7.2	1.4 J	1,900	11.0	1.3 J
1,4-Dichlorobenzene	10	ND	ND	ND	ND	ND	ND	ND	ND	ND
Naphthalene	10	ND	ND	ND	ND	ND	ND	ND	ND	ND
LAB TOC		1,800	22	14	1,300	17	1.9 J	2,200	33	3
TOC (including J qualified data)		1,880	22	14	1,321	17	1.9	2,090	33	3
PID readings (as isobutylene)	1.95	4	0	0	3.2-4.8	0.0	0.0	2.9	0.0	0.0

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