INFORMATION HANDOUT

For Contract No. 12-0M4704
At 12-Ora-1-22.0/29.9

Identified by
Project ID 1212000065

WATER QUALITY

Discharge Authorization and Monitoring and Reporting Program No. R8-2015-0004-025 Letter dated October 7, 2015

MATERIALS INFORMATION

Geotechnical Design Report for Traffic Signals dated March 3, 2016

Site Investigation Letter Report dated March 16, 2016

CALIFORNIA
Water Boards

EDMUND G. BROWN JR.
GOVERNOR

MATTHEW RODRIQUEZ
SECRETARY FOR
ENVIRONMENTAL PROTECTION

Santa Ana Regional Water Quality Control Board

October 7, 2015

Grace Pina-Garrett, Chief NPDES/Storm Water Unit
California Dept. of Transportation (Caltrans) District 12
3347 Michelson Drive, Suite 100
Irvine, CA 92612

DISCHARGE AUTHORIZATION AND MONITORING AND REPORTING PROGRAM NO. R8-2015-0004-025, UNDER GENERAL DE MINIMIS PERMIT NO. R8-2015-0004, NPDES NO. CAG998001, CALTRANS DISTRICT 12, CONSTRUCTION SITES AT VARIOUS LOCATIONS

Dear Ms. Pina-Garrett:

On September 28, 2015, you submitted a complete Notice of Intent to continue discharging wastewater from construction sites at various locations within the Caltrans right of way under the terms and conditions of the Regional Board's general permit, Order No. R8-2015-0004. This Order replaces Order No. R8-2009-0003, for which you previously had authorization to discharge.

Effective immediately, you are authorized to discharge wastewater under the terms and conditions of Order No. R8-2015-0004. Enclosed is Monitoring and Reporting Program (MRP) No. R8-2015-0004-025, which specifies the frequency of sampling and the constituents to be monitored.

Please note that monitoring reports are due by the 30th day of each month and that the California Water Code requires the Regional Board to assess a mandatory minimum penalty of $3,000 for each month your monthly monitoring reports are overdue. Please also note that you are required to notify this office five (5) days in advance of any dewatering activities.

If you have any questions regarding the Discharge Authorization or the MRP, please contact Bill Norton of our Compliance, Regulations and Permitting Section at (951) 782-4381 or at bill.norton@waterboards.ca.gov.

Sincerely,

Kurt V. Berchtold
Executive Officer

Enclosures: MRP No. R8-2015-0004-025

R8-2015-0004-025_CaltransDistrict12

Attachment E – Monitoring and Reporting Program

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Attachment E – Monitoring and Reporting Program (MRP)

The Code of Federal Regulations (CFR) at 40 CFR §122.48 requires that all NPDES permits specify monitoring and reporting requirements. CWC Sections 13267 and 13383 also authorize the Regional Water Quality Control Board (Regional Water Board) to require technical and monitoring reports. This MRP establishes monitoring and reporting requirements that implement the federal and California regulations.

I. GENERAL MONITORING PROVISIONS

A. General Monitoring Provision

1. All sampling and sample preservation shall be in accordance with the current edition of "Standard Methods for the Examination of Water and Wastewater" (American Public Health Association).

2. All laboratory analyses shall be performed in accordance with test procedures under 40 CFR 136 (revised as of April 11, 2007) "Guidelines Establishing Test Procedures for the Analysis of Pollutants," promulgated by the United States Environmental Protection Agency (EPA), unless otherwise specified in this Monitoring and Reporting Program. In addition, the Regional Water Board and/or EPA, at their discretion, may specify test methods that are more sensitive than those specified in 40 CFR 136.

3. Chemical analyses shall be conducted at a laboratory certified for such analyses by the State Water Resources Control Board in accordance with Water Code Section 13176, or conducted at a laboratory certified for such analyses by the EPA or at laboratories approved by the Regional Water Board's Executive Officer.

4. The Discharger shall report the results of analytical determinations for the presence of chemical constituents in a sample using the following reporting protocols:

   a. Sample results greater than or equal to the reported ML shall be reported as measured by the laboratory (i.e., the measured chemical concentration in the sample).
   b. Sample results less than the reported ML, but greater than or equal to the laboratory's current Method Detection Limit (MDL)[1], shall be reported as "Detected, but Not Quantified," or "DNQ." The estimated chemical concentration of the sample shall also be reported.
   c. Sample results not detected above the laboratory's MDL shall be reported as "not detected" or "ND."

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1 *MDL is the minimum concentration of a substance that can be measured and reported with 99 percent confidence that the analytical concentration is greater than zero, as defined in 40 CFR 136, Appendix B, revised as of April 11, 2007.*

5. The Discharger shall submit to the Regional Water Board reports necessary to determine compliance with effluent limitations in this Order. The Discharger shall report with each sample result:

   a. The reporting level achieved by the testing laboratory; and
   b. The laboratory's current MDL, as determined by the procedure found in 40 CFR 136 (revised as of April 11, 2007).

6. The Discharger shall have, and implement an acceptable written quality assurance (QA) plan for laboratory analyses. Duplicate chemical analyses must be conducted on a minimum of ten percent (10%) of the samples, or at least one sample per month, whichever is greater. A similar frequency shall be maintained for analyzing spiked samples. When requested by the Regional Water Board or EPA, the Discharger will participate in the NPDES discharge monitoring report QA performance study.

7. The Discharger shall assure that records of all monitoring information are maintained and accessible for a period of at least five years (this retention period supersedes the retention period specified in Section IV.A. of Attachment D) from the date of the sample, report, or application. This period of retention shall be extended during the course of any unresolved litigation regarding this discharge or by the request of the Regional Water Board at any time. Records of monitoring information shall include:

   a. The information listed in Attachment D - IV Standard Provisions – Records, subparagraph B. of this Order;
   b. The laboratory which performed the analyses;
   c. The date(s) analyses were performed;
   d. The individual(s) who performed the analyses;
   e. The modification(s) to analytical techniques or methods used;
   f. All sampling and analytical results, including
      (1) Units of measurement used;
      (2) Minimum reporting level for the analysis (minimum level);
      (3) Results less than the reporting level but above the method detection limit (MDL);
      (4) Data qualifiers and a description of the qualifiers;
      (5) Quality control test results (and a written copy of the laboratory quality assurance plan);
      (6) Dilution factors, if used; and
      (7) Sample matrix type.
   g. All monitoring equipment calibration and maintenance records;
   h. All original strip charts from continuous monitoring devices;
   i. All data used to complete the application for this Order; and,
   j. Copies of all reports required by this Order.
   k. Electronic data and information generated by the Supervisory Control And Data Acquisition (SCADA) System.

8. Monitoring and reporting shall be in accordance with the following:

   a. Samples and measurements taken for the purpose of monitoring shall be representative of the monitored activity.

   b. Whenever the Discharger monitors any pollutant more frequently than is required by this Order, the results of this monitoring shall be included in the calculation and reporting of the data submitted in the discharge monitoring report specified by the Executive Officer.

   c. A "grab" sample is defined as any individual sample collected in less than 15 minutes.

   d. Daily samples shall be collected on each day of the week.

II. MONITORING LOCATIONS

The Discharger shall establish monitoring locations to demonstrate compliance with the effluent limitations, discharge specifications, and other requirements in this Order. The monitoring locations shall be located where representative samples of the discharge can be obtained.

III. INFLUENT MONITORING REQUIREMENTS – NOT APPLICABLE

IV. EFFLUENT MONITORING REQUIREMENTS

A. The following shall constitute the effluent monitoring program for discharges other than decant filter backwash wastewater and/or sludge dewatering filtrate water. If there is no discharge see Section VIII.B.2., below.

Standard Effluent Monitoring Program

Parameter	Unit	Sample Type	Minimum Sampling Frequency
Flow	gpd	Estimate	Daily
Total Petroleum Hydrocarbons[2]	µg/L	Grab	During the first 30-minutes of each discharge then weekly, thereafter; or as directed by the Executive Officer
Total Residual Chlorine[3, 4]	mg/L	Grab	"
Total Suspended Solids[4]	mg/L	Grab	"
pH	Std. Units	Grab	"

V. WHOLE EFFLUENT TOXICITY TESTING REQUIREMENTS – NOT APPLICABLE

VI. LAND DISCHARGE MONITORING REQUIREMENTS – NOT APPLICABLE

VII. RECEIVING WATER MONITORING REQUIREMENTS

Whenever there is a discharge and the Discharger asserts that the discharge percolated before it reached a stream with aquatic life, the Discharger shall record in a permanent log the following information: (a) the date(s), time(s), and duration(s) of the discharge; (b) a description of the location where the discharge(s) percolated into the ground, (c) the climatic condition in the area during the discharge and (d) the name of the individual(s) who performed the observation.

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2 *Only for groundwater dewatering projects in an area where: (1) gasoline leaks, spills, or contamination has occurred; or (2) active groundwater remediation projects are occurring (e.g., gasoline service station leaking underground storage tanks).*

3 *Unless it is known that chlorine is not in the discharge.*

4 *Not applicable if all wastewater will percolate prior to reaching receiving waters.*

For discharges that do reach a stream, the Discharger shall on a weekly basis make visual observations of the receiving water (only when a discharge is occurring) for any visible oil sheen or coloration of the receiving water. The findings of these observations shall be recorded in a permanent log.

Copies of the above logs shall be submitted with the required monthly report.

VIII. REPORTING REQUIREMENTS

A. General Monitoring and Reporting Requirements

1. The Discharger shall comply with all Federal Standard Provisions (Attachment D) related to monitoring, reporting, and recordkeeping.

2. Discharge monitoring data shall be submitted in a format acceptable to the Regional Water Board. Specific reporting format may include preprinted forms and/or electronic media. The results of all monitoring required by this Order shall be reported to the Regional Water Board, and shall be submitted in such a format as to allow direct comparison with the limitations and requirements of this Order.

3. All monitoring reports, or information submitted to the Regional Water Board shall be signed and certified in accordance with 40 CFR 122.22 and shall be submitted under penalty of perjury.

4. Five days prior to any discharge from locations already reported, the Discharger shall notify the Regional Board staff by phone or e-mail indicating the date and time of the proposed discharge.

5. Five days prior to any planned discharge[5] from locations not yet reported, the discharger shall notify the Regional Board staff by phone or by a fax letter indicating the following:

   a. Specific type of the proposed wastewater discharge (see listing on Finding 1 of the Order);
   b. The estimated average and maximum daily flow rates;
   c. The frequency and duration of the discharge;
   d. The affected receiving water(s);
   e. A description of the proposed treatment system (if appropriate); and
   f. A description of the path from the point of initial discharge to the ultimate location of discharge (fax a map if possible);

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[5] *For those unplanned discharges, as much prior notification as possible is required before any discharge is initiated.*

6. Noncompliance Reporting

   a. The discharger shall report any noncompliance that may endanger health or the environment. Any information shall be provided to the Executive Officer (951-782-4130) and the Office of Emergency Services (1-800-852-7550) orally within 24 hours from the time the discharger becomes aware of the circumstances. A written submission shall also be provided within 5 days of the time the discharger becomes aware of the circumstances. The written submission shall contain a description of the noncompliance and its cause, the period of noncompliance, including exact dates and times and, if the noncompliance has not been corrected, the anticipated time it is expected to continue, and, steps taken or planned to reduce, eliminate, and prevent reoccurrence of the noncompliance.

   b. Any violation of a maximum daily discharge limitation for any of the pollutants listed in this Order shall be included as information that must be reported within 24 hours.

   c. The Regional Water Board may waive the above required written report on a case-by-case basis.

7. Except for data determined to be confidential under Section 308 of the Clean Water Act (CWA), all reports prepared in accordance with the terms of this Order shall be available for public inspection at the offices of the Regional Water Quality Control Board and the Regional Administrator of EPA. As required by the CWA, effluent data shall not be considered confidential.

8. For Dischargers discharging at a volume equal to or greater than 150,000 gallons per day, the Discharger shall submit semi-annual reports that tabulate all measured flows and measured parameters within the most recent six month period. Where discharges associated with these projects last less than 6 months, a report covering the period of discharges shall be submitted. Copies of these monitoring reports shall be submitted to the Regional Water Board and to the Water Quality Director of the Orange County Water District at P.O. Box 8300, Fountain Valley, CA 92728-8300.

B. Self-Monitoring Reports (SMRs)

1. Monitoring reports shall be submitted by the 30th day of each month following the monitoring period and shall include:

   a. The results of all physical/chemical analyses for the previous month,
   b. The daily flow data,
   c. A copy of the receiving water observation log,
   d. A summary of the month's activities including a report detailing compliance or noncompliance with the task for the specific schedule date, and

2. If no discharge occurs during the previous monitoring period, a letter to that effect shall be submitted in lieu of a monitoring report.

3. At any time during the term of this Order, the Regional Water Board may notify the Discharger to electronically submit Self-Monitoring Reports (SMRs) using the State Water Board's California Integrated Water Quality System (CIWQS) Program Web site (http://www.waterboards.ca.gov/ciwqs/index.html). Until such notification is given, the Discharger shall submit hard copy SMRs. The CIWQS Web site will provide additional directions for SMR submittal in the event there will be service interruption for electronic submittal.

C. Other Reports – Not Applicable

State of California
DEPARTMENT OF TRANSPORTATION

California State Transportation Agency

M e m o r a n d u m

Serious drought.
Help save water!

To: MR. SON NGUYEN,
Branch Chief
District 12, Office of Design Branch E

Attn: Seyed Hashemi

Date: March 3, 2015

File: 12-ORA-001-PM21.99/29.99
1212000065 (12-0M470)

From: DEPARTMENT OF TRANSPORTATION
DIVISION OF ENGINEERING SERVICES
Geotechnical Services
Office of Geotechnical Design – South 1 MS # 18

Subject: GEOTECHNICAL DESIGN REPORT FOR TRAFFIC SIGNALS IN ORANGE COUNTY, ON ROUTE 1 FROM BROOKHURST STREET TO WARNER AVENUE

1.0 INTRODUCTION

1.1 Project Description

The Office of Geotechnical Design South 1 has prepared this Memorandum to provide geotechnical design recommendations for traffic signals at six (06) intersections of Route 1, Pacific Coast Highway (PCH) and Brookhurst St., Magnolia St., Newland St., First St., Goldenwest St. and Warner St. This report is based on the information on layout plans provided by your office on Dec, 08th 2104. This report includes discussion of geology at the above locations.

1.2 Project Constraints and Requirement

Groundwater level is approximately 4 to 6 feet below pavement at some locations.
Existing utilities lines are present in the vicinity of all proposed traffic signal locations.

2.0 SCOPE OF WORK

This Safety project lies on Route 1, in Orange County will include the construction and relocation of traffic signals at six (06) intersections to meet current safety standard. The proposed locations are indicated on the layout plans.

CIDH pile details for traffic signals are included in Caltrans Standard Plans. Subsurface investigation was not done for this investigation due to nearby As-Built log of test borings and geologic mapping review. Geoprofessional staff visited 06 proposed locations for visual investigation of site conditions and groundwater interpretations. Geoprofessional staff also reviewed As-Built LOTBs to verify groundwater level at these locations.

Boundary conditions for traffic signal 29A-5-100 were analyzed and provided by Mr. K.C. Liu. The computer software of Shaft and LPILE plus were employed to evaluate the vertical and lateral capacity of CIDH pile detailed in Standard Plan ES-7G.

3.0 SITE EXPLORATION

Office of Geotechnical Design South 1 conducted field review at six (06) proposed locations and research archived geotechnical and geologic data to provide geotechnical design report and recommendations for proposed signal pole foundations.

Table 1. Summary of Site Investigation

Project Layout Sheet No.	Plan Location	Site Conditions Influencing Foundation Design for Traffic Signals	As-Built LOTB Bridge Number/ Archive Date
L-1	Warner St	Ground water is between 4-5 feet below pavement surface.	55-1068 3/10/2006
L-2	Goldenwest St	Ground water is between 25-26 feet below pavement surface.	55-1045 5/24/2001
L-3	First St	Ground water is between 5-6 feet below pavement surface.	55-1045 5/24/2001
L-4	Newland St	Ground water is between 5-6 feet below pavement surface.	55-1045 5/24/2001
L-5	Magnolia St	Ground water is between 5-6 feet below pavement surface.	55-0658 10/07/1992
L-6	Brookhurst St	Ground water is between 8-9 feet below pavement surface.	55-0658 10/07/1992

4.0 SITE CONDITIONS

4.1 Regional Geology

The project lies within the Peninsular Range Geomorphic Province. The Peninsular Ranges Province is characterized by northwest to southeast trending mountain ranges and faults. The project lies along the coastal plain where there are mesas and gaps consisting of from the north; San Gabriel River at County Line, Landing Hill at Seal Beach, Sunset Gap at Sunset Beach, Bolsa Chica Mesa, Bolsa Gap, Huntington Beach Mesa at Huntington Beach, Santa Ana Gap at the Santa Ana River. The Coyote Hills and the Santa Ana Mountains are some distance off to the north and the northeast and off to the east lie the San Joaquin Hills. Faults associated with this area include the Newport Inglewood Fault, the Thums Huntington Beach Fault and the Compton Fault.

4.2 Site Geology

All of the project sites (except PCH at Goldenwest) lie within an area of relatively flat beach or wetlands area with an elevation of approximately 6 to 12 feet above sea level. The roadway rises near Goldenwest to a slightly higher elevation approximately 30 feet above sea level. The area at Goldenwest is mapped as being Quaternary age terrace deposits. All of the other areas of the project are mapped as being comprised of Quaternary age alluvium and beach sand (Morton and Miller, 1981).

4.2.1 Subsurface Soil Conditions

Subsurface soil conditions are based on As-Built log of test borings for nearby structures. The subsurface near PCH and Goldenwest consists of loose to dense sand and silty sand from the surface to approximately 25 feet in depth. The subsurface at all other signpost locations consists of a thin layer (0.5-2 feet) of dense gravelly sand fill overlying a thick (20-30 feet) interbedded medium dense to dense sand and silty sand and medium stiff clayey silt and silty clay. Some locations have thin layers (0.5 feet thick) of sand and silty sand with organic material within interbedded sandy material. Groundwater is discussed in Section 4.3 Groundwater.

4.3 Groundwater

Due to the low elevation of Pacific Coast Highway (ranges from 6.0 to 12 feet above mean sea level) at all locations groundwater should be anticipated to be encountered during construction of the signal pole foundations (except for PCH at Goldenwest approximate elevation 33 feet). Review of the As-Builts for bridges near the project finds that the groundwater elevation ranges from approximate elevation 0.0 to 4.0 feet above mean sea level. Groundwater elevation is close to the surface at these locations and may be influenced by the tides causing the elevation to fluctuate up to 1 or more feet up or down on a daily basis. Groundwater could be encountered as high as elevation 5.0 feet above mean sea level at some locations. The areas surrounding the project are primarily the beach to the south and low lying wetlands to the north and some wetland areas are inundated with water at high tides. Due to the close proximity to the wetlands and the beach the groundwater should be considered corrosive to steel and concrete. We recommend contacting Environmental Engineering Branch, Hazardous Waste Unit to get recommendations for disposal of groundwater removed from construction of signal pole foundations. At PCH and Goldenwest groundwater is expected to be deeper than 25 feet and should not be encountered during construction of the signal pole foundations.

4.4 Faulting and Seismicity

The seismicity in the area of the project is based on several different faults located in the project area. The proposed Signal Post sites are not within an Alquist-Priolo Earthquake Fault Zone. The designs are based on Standard Plans and do not require input from Headquarters Structure Design. Therefore, no analysis has been performed to develop and recommend ground motion parameters for the seismic design of these structures. The signal poles are basically a single cast in place pile with a steel pole bolted to the pile foundation and are not critical structures that may be impacted by earthquakes. The main issue in an earthquake is ground shaking and deformation of the soils

from settlement, ground rupture and liquefaction induced settlement and spreading. If these signal poles are subjected to earthquakes they may expect to be damaged primarily by heavy ground shaking which could be expected to produce damage in the form of settlement and possible breakage of the electrical connections into or out of the signal poles.

4.5 Liquefaction Potential

Liquefaction is a phenomenon in which loose and saturated, fine grained granular soils behave like a fluid when subjected to high intensity ground shaking. Liquefaction occurs when three general conditions exist: (1) shallow ground water (2) low-density, fine sandy soils and (3) high-intensity ground motion. Saturated, loose and medium dense, near surface cohesionless soils exhibit the liquefaction potential, while dense cohesionless soil and cohesive soil exhibit the lowest, negligible liquefaction potential. Effects of liquefaction on ground surface include sand boils, settlement and lateral spreading. Shallow groundwater was encountered during field investigations and historically therefore liquefaction potential for this project area is considered high. It is not feasible or cost effective to design the signal poles to withstand a large earthquake event. A large earthquake event will most likely cause liquefaction in the project area that will damage not only the signal poles but also the roadway in this area which will most likely require closure of the road to repair the damage.

4.6 Corrosion Evaluation

High chloride concentration in salt water groundwater generates an aggressive corrosive environment. Appropriate corrosion mitigation measures shall be used for design and protection of steel and concrete.

5.0 ANALYSIS AND DESIGN

5.1 External Load

In order to review the proposed CIDH pile foundation to support the proposed traffic signs per Standard Plan ES-7A, ES-7F and ES-7G, the most critical case of traffic sign Type 29A-5-100 was chosen for foundation analysis. CIDH pile vertical and lateral capacities were analyzed. Service level loads at the top of pile for this sign were estimated and provided by Mr. K C Liu as follows:

Table 2. – Service level load & Maximum allowable pile deflection

Type	Axial Force (Kips)	Shear Force (Kips)	Bending Moment (Kips-ft)	Maximum allowable Pile-head deflection (inch)
Type 29A-5-100	2.3	12.2	372	1.0

5.2 Foundation Material and Effect of Water

Soil material within 15 feet from pavement surface is primarily medium dense to dense sand, silty sand, sand and silty sand with organic material, clayey silt and silty clay.

The presence of high groundwater table could affect the integrity of CIDH piles, hence construction method and/or dewatering is an important factor to ensure integrity of the pile foundations. Groundwater is expected to be encountered at all pile locations except PCH at Goldenwest. At PCH and Goldenwest loose sandy soils may be present and caving is expected. Precautions for caving should be taken during construction.

5.3 Static Design Analysis

The computer software of Shaft and LPILE plus were employed to estimate the vertical and lateral capacity of CIDH pile to exceed external load in Table 2. The properties of subsurface soils at the location of pile were obtained from the previous foundation report listed above in Table 1.

Based on the results of analysis, it is found that the CIDH pile design lengths and diameters per Standard Plan ES-7A, ES-7F and ES-7G are sufficient to support traffic signs. This office shall be contacted if different subsurface condition is encountered at the location of pile.

6.0 RECOMENDATION

From Geotechnical standpoint, design and construction of CIDH piles for signal and light at above locations per Caltrans Standard Plans ES-7A, ES-7F and ES-7G are feasible.

High ground water table and sandy soil material are major factors influencing the integrity of CIDH piles. Wet method and/ or temporary casing are recommended.

7.0 CONSTRUCTION CONSIDERATIONS

1. When groundwater is encountered during the construction of CIDH piles, wet method and/ or temporary casing and dewatering will be necessary. Groundwater should be anticipated for all locations except at PCH and Goldenwest where caving of loose sandy soils should be expected.

2. Concrete for CIDH piles shall follow Section 90-1.02H., Concrete in Corrosive Environment. Minimum concrete cover for reinforcement shall not be less than 3 inches.

3. Earthwork should be performed in accordance with Sections 6 and 19 of the latest Caltrans Standard Specifications.

4. Construction of CIDH piles shall comply with Section 49 of the latest Caltrans Standard Specification.

If you have any questions or comments, please call Huy Ngo at (213) 620-2389, or Christopher Harris at (213) 620-2147.

Prepared by: Date: 03/03/2015

Digitally signed by Huy Ngo
Date: 2015.03.04 06:44:35 -08'00'

REGISTERED PROFESSIONAL ENGINEER HUY THAI NGO C 71021 CIVIL STATE OF CALIFORNIA

Huy Ngo, P.E., P.L.S.
Transportation Engineer
Office of Geotechnical Design – South 1
Branch C

Supervised by: Date: 03/03/2015

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REGISTERED PROFESSIONAL ENGINEER CHI-TSENG TED LIU NO. 2669 Exp. 6-30-2016 GEOTECHNICAL STATE OF CALIFORNIA

Chi-Tseng Ted Liu, Ph.D., P.E., G.E.
Senior Transportation Engineer
Office of Geotechnical Design – South 1
Branch C

Prepared by: Date: 03/03/2015

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PROFESSIONAL GEOLOGIST CHRISTOPHER R HARRIS 2196 CERTIFIED ENGINEERING GEOLOGIST EXP. 9/30/15 STATE OF CALIFORNIA

Christopher Harris, P.G., C.E.G.
Engineering Geologist
Office of Geotechnical Design – South 1
Branch C

c: District 12 Project Manager – @dot.ca.gov

Geocon Project No. S9890-06-05
March 16, 2015

VIA EMAIL

Mr. Wayne Chiou
Caltrans – District 12
Office of Environmental Engineering & Corridor Studies
3347 Michaelson Drive, Suite 100
Irvine, California 92612

Subject: TOTAL PETROLEUM HYDROCARBON INVESTIGATION FOR REPLACEMENT OF TRAFFIC SIGNALS ALONG PACIFIC COAST HIGHWAY RESULTS PACIFIC COAST HIGHWAY AT WARNER AND GOLDENWEST HUNTINGTON BEACH, ORANGE COUNTY CALIFORNIA CONTRACT 12A1535; EA 0M4701; TO 12-0M4701-05

Dear Mr. Chiou:

In accordance with the California Department of Transportation's (Caltrans) Contract No. 12A1535 and Task Order No. 12-0M4701-05, dated December 16, 2014, we performed sampling and analytical testing to evaluate the potential presence of total petroleum hydrocarbons (TPH) in soil and groundwater at locations specified by Caltrans along Pacific Coast Highway (PCH) at the intersections of Warner Avenue and Goldenwest Street in the City of Huntington Beach, California. This report summarizes the purpose of the project and the scope of services requested by Caltrans, and outlines procedures and methods employed by Geocon to complete the project. The sampling locations are depicted on Figure 1.

PURPOSE AND SCOPE OF SERVICES

Caltrans intends to replace the traffic signals at various locations along PCH including the two locations mentioned above. The proposed improvements will require excavation and management of the soil and groundwater. The purpose of this investigation was to evaluate soil and groundwater at these two locations for the potential presence of TPH suspected due adjacent property uses. It is our understanding that Caltrans will use information obtained from the investigation to determine soil and or groundwater reuse and/or disposal options and potential worker health and safety concerns. Our scope of services included collection and laboratory analysis of soil and groundwater samples and preparation of this report to document results of the investigation.

SAMPLING AND ANALYTICAL TESTING

On February 11, 2015, Geocon advanced one soil boring at the intersection of PCH and Goldenwest Street (labeled boring B1), and one soil boring at the intersection of PCH and Warner Avenue (labeled boring B2). The approximate locations of the borings are shown on Figures 2 and 3.

The borings were advanced with a direct-push Geoprobe rig. Soil samples were collected from each boring at depths of 1.5 feet, 5 feet, 10 feet, and 15 feet. A groundwater sample was also collected from one of the borings.

Each of the boring locations were excavated by hand to a depth of 5-feet to check for subsurface utilities prior to advancing the boring with the direct-push rig. The soil samples collected from a depth of 1.5 feet in each boring were obtained by transferring the soil from the bottom end of the hand-auger bucket to laboratory-provided glass sample jars with Teflon–lined lids. Samples obtained from depths of 5 feet, 10 feet, and 15 feet were collected into acetate liners advanced with the direct-push rig. Sample jars and acetate liners were labeled with a unique sample identification number, Geocon project number, and date and time of collection. The samples were then placed in a cooler to be transported to the analytical laboratory for analyses under chain-of-custody procedures.

Groundwater was encountered at a depth of approximately 10 feet in the boring located at PCH and Warner Avenue (boring B2). A 15-foot deep temporary well, constructed of ¾-inch PCV casing and screen wrapped in filter fabric, was placed in the completed boring to facilitate the collection of a groundwater sample. The groundwater sample was extracted from the temporary well with a peristaltic pump and discharged directly in laboratory provided sample containers. The sample containers were capped and labeled with unique sample identification number, Geocon project number, and date and time of collection. The samples were then placed in a cooler and transported to the analytical laboratory for analyses under chain-of –custody procedures. No groundwater sample was collected from boring B1 because groundwater was not encountered.

Sampling equipment was cleansed prior to each sampling effort using a non-phosphate detergent solution and two distilled/purified water rinses. Decontamination water was discharged to the ground surface away from areas potentially associated with surface water bodies or storm drain inlets. The temporary well was removed from boring B2 and the borings locations were backfilled with bentonite grout and surface was patched with asphalt.

The soil and groundwater samples were submitted to Advanced Technology Laboratories (ATL), a State-certified laboratory located in Signal Hill, California following chain-of-custody procedures. The eight soil samples were analyzed for Gasoline Range Organics (GRO), Diesel Range Organics (DRO), and Oil Range Organics (ORO) using U.S. Environmental Protection Agency (EPA) Test Method 8015B.

The groundwater sample was also analyzed for GRO, DRO and ORO by EPA Test Method 8015B, Volatile Organic Compounds (VOCs) by EPA Test Method 8260B, and Total Dissolved Solids (TDS) by Test Method SM 2540C.

SAMPLE ANALYTICAL RESULTS

Analytical results are summarized below and in Table 1 for soil samples and Table 2 for the groundwater sample. Copies of the laboratory report and chain-of-custody documentations are attached.

- GRO, DRO, and ORO were reported for one of the eight samples analyzed. Soil sample B2-1.5, collected from boring B2 at a depth of 1.5 feet was reported to contain GRO at a concentration of 1.1 milligrams per kilogram (mg/kg), DRO at a concentration of 200 mg/kg, and ORO at a concentration of 550 mg/kg.
- GRO was not reported for the groundwater sample at a concentration equal to or greater that the laboratory reporting limit.
- DRO was reported for the groundwater sample at a concentration of 0.72 milligrams per liter (mg/l).
- ORO was reported for the groundwater sample at a concentration of 1.5 mg/l.
- VOCs were not reported for the groundwater sample at concentration equal or greater than the laboratory reporting limits.

TDS was reported for the groundwater sample at a concentration of 15,000 mg/l.

CONCLUSION AND RECOMMENDATION

Based on these results, the soil excavated during construction activities during the replacement of the traffic signals at these two locations would be classified as a non-hazardous waste based on TPH content.

If excess groundwater waste is generated during the construction of the traffic signal at the intersection of PCH and Warner Avenue, we recommend that the groundwater be collected into containers to prevent it from entering storm drains. Based on the analytical results the waste groundwater would be classified as a non-hazardous waste.

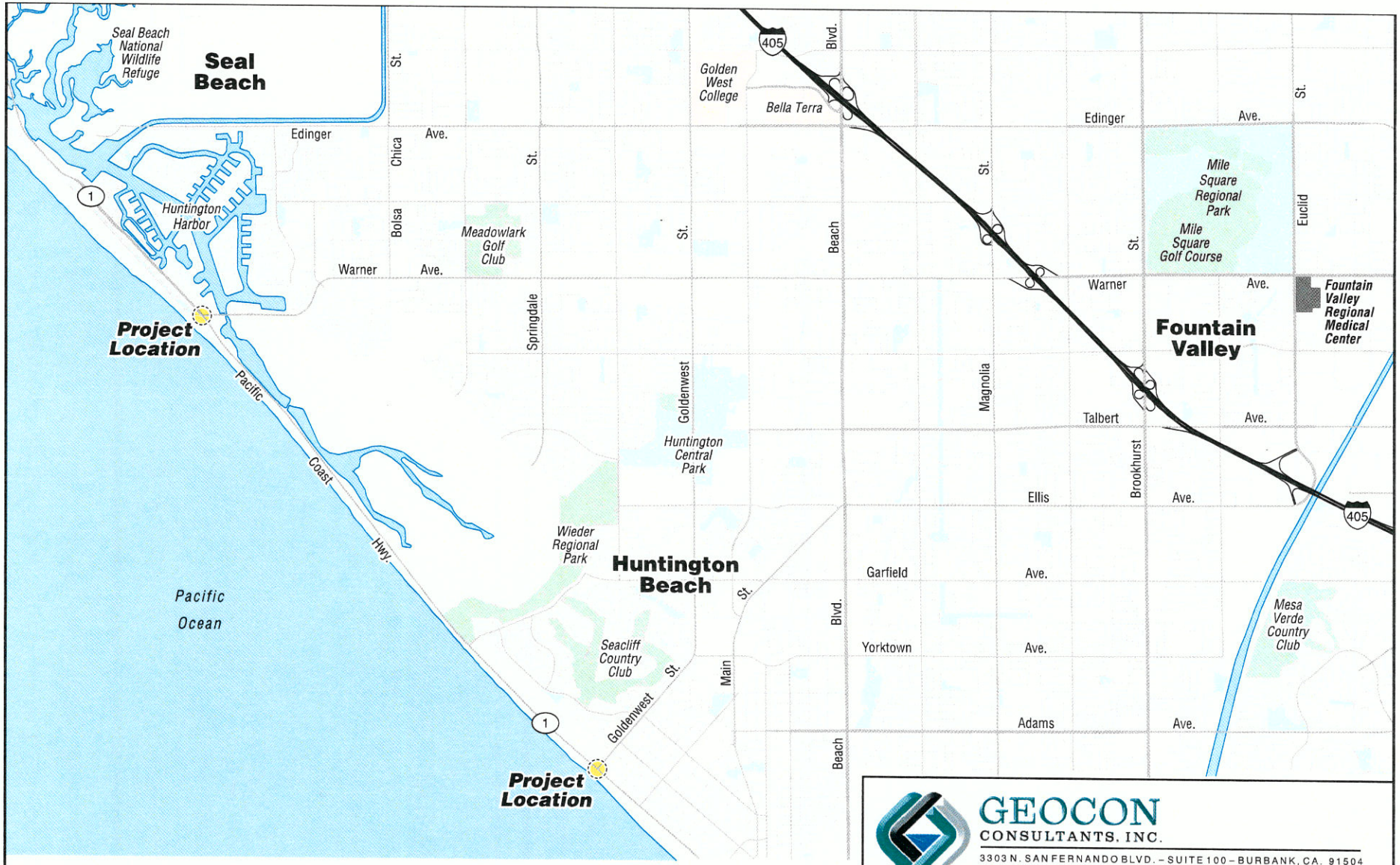
Please call if you have any questions or desire additional information.

Very truly yours,

GEOCON CONSULTANTS, INC.

Mike Conkle, PG
Senior Geologist

Attachments: Figure 1 – Vicinity Map
Figures 2 and 3 – Site Plans
Table 1 – Summary of Soil Analytical Results
Table 2 – Summary of Groundwater Analytical Results
Laboratory Analytical Report and Chain-of-custody Documentation



GEOCON
CONSULTANTS, INC.
3303 N. SAN FERNANDO BLVD. – SUITE 100 – BURBANK, CA. 91504
PHONE 818.841.8388 – FAX 818.841.1704

Pacific Coast Highway at Warner and Goldenwest

Orange County, California

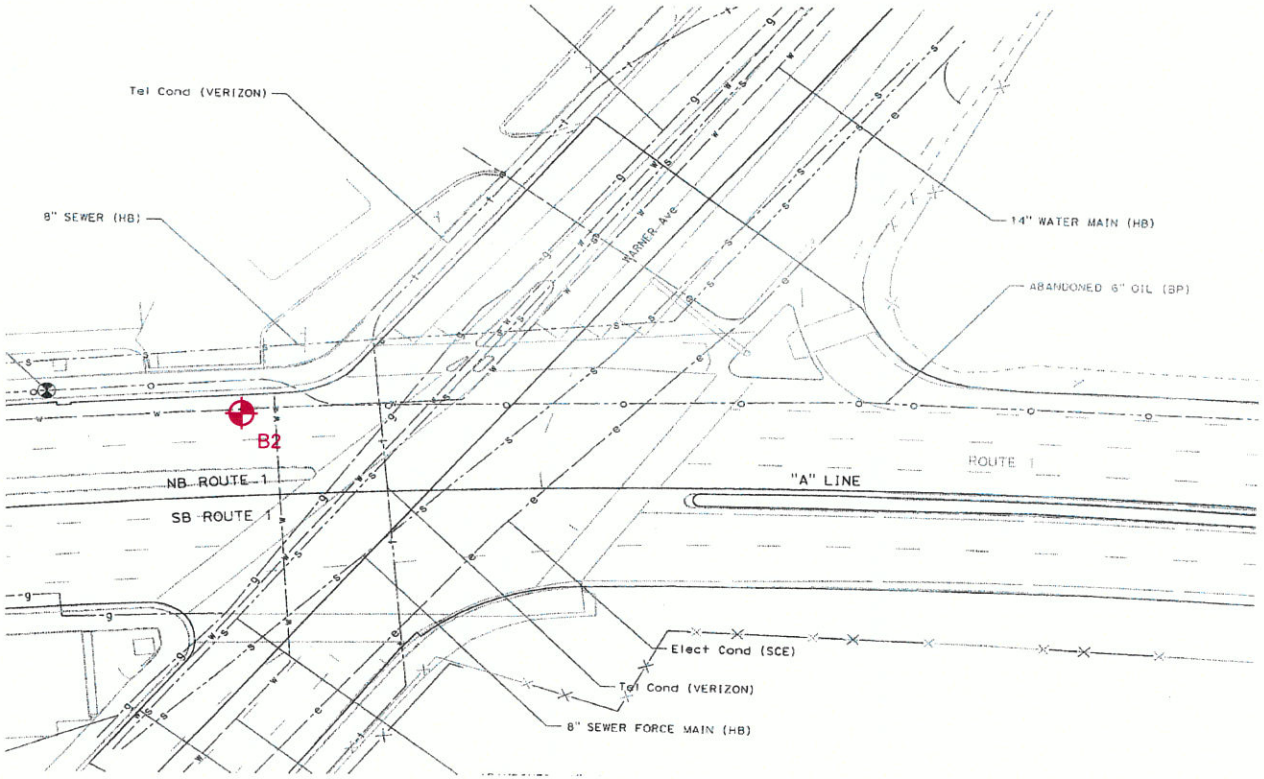
VICINITY MAP

GEOCON Proj. No. S9890-06-05

Task Order No. 12-0M4701-05

March 2015

Figure 1



LEGEND

Approximate Location of Boring

B2

GEOCON CONSULTANTS, INC.

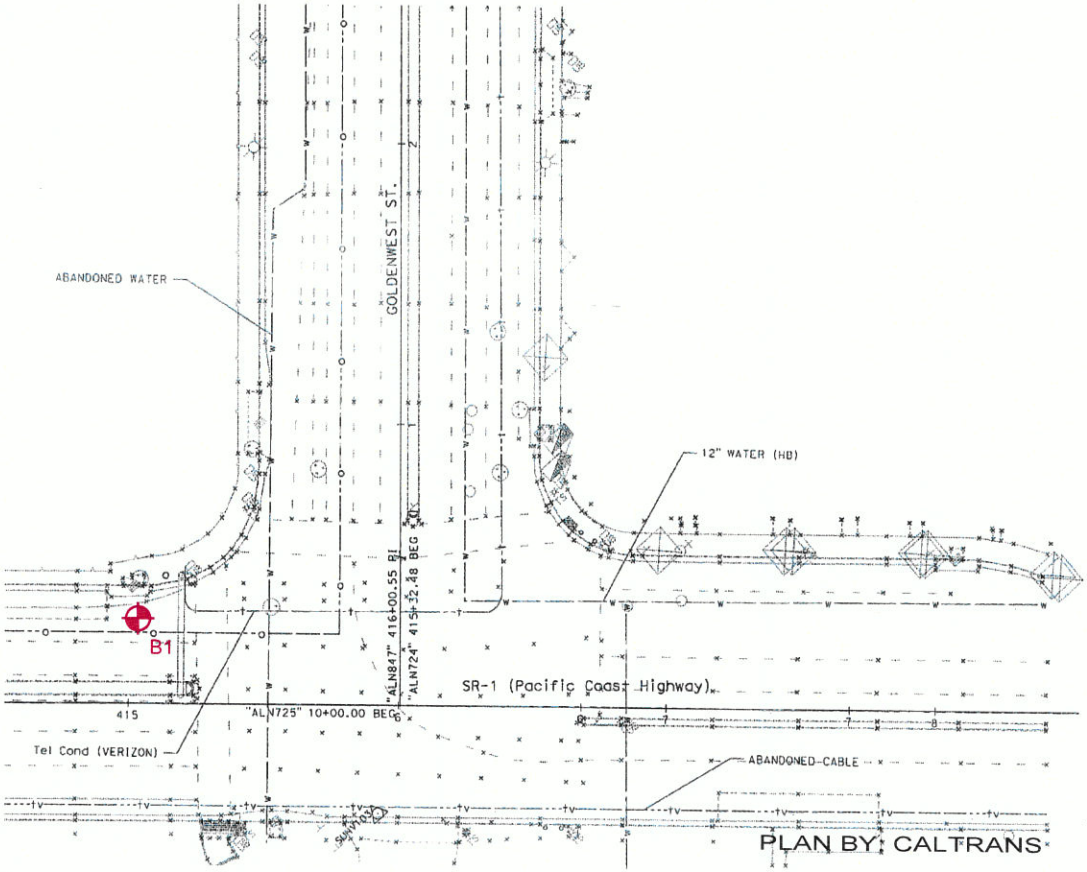
ENVIRONMENTAL GEOTECHNICAL MATERIALS
3303 N. SAN FERNANDO BLVD. - SUITE 100 - BURBANK, CA 91504
PHONE (818) 841-8388 - FAX (818) 841-1704

MKA		8000

SITE PLAN

TRAFFIC SIGNAL REPLACEMENT
PACIFIC COAST HIGHWAY AT WARNER AND GOLDENWEST
HUNTINGTON BEACH
ORANGE COUNTY, CALIFORNIA

MARCH 2015	PROJECT NO. S9890-06-05	FIG. 2



LEGEND

B1 Approximate Location of Boring

GEOCON CONSULTANTS, INC.
ENVIRONMENTAL GEOTECHNICAL MATERIALS
3303 N. SAN FERNANDO BLVD. - SUITE 100 - BURBANK, CA 91504
PHONE (818) 841-8388 - FAX (818) 841-1704

MKA		8000

SITE PLAN

TRAFFIC SIGNAL REPLACEMENT
PACIFIC COAST HIGHWAY AT WARNER AND GOLDENWEST
HUNTINGTON BEACH
ORANGE COUNTY, CALIFORNIA

MARCH 2015	PROJECT NO. S9890-06-05	FIG. 3

TABLE 1

SUMMARY OF SOIL ANALYTICAL RESULTS - PETROLEUM HYDROCARBONS

PACIFIC COAST HIGHWAY AT WARNER AND GOLDENWEST

HUNTINGTON BEACH, ORANGE COUNTY, CALIFORNIA

SAMPLE ID	GRO (mg/kg)	DRO (mg/kg)	ORO (mg/kg)
B1-1.5	<1.0	<10	<10
B1-5	<1.0	<10	<10
B1-10	<1.0	<10	<10
B1-15	<1.0	<10	<10
B2-1.5	**1.1**	**200**	**550**
B2-5	<1.0	<10	<10
B2-10	<1.0	<10	<10
B2-15	<1.0	<10	<10

Notes:

mg/kg = milligrams per kilogram

GRO = Gasoilne Range Organics by EPA Test Method 8015B

DRO - Diesel Range Organics by EPA Test Method 8015B

ORO = Oil Range Organics by EPS Test Method 8015B

<1.0 = Not detected at a concentration equal to or greater than the laboratory reporting limit specified

TABLE 2

SUMMARY OF GROUNDWATER ANALYTICAL RESULTS

PACIFIC COAST HIGHWAY AT WARNER AND GOLDENWEST

HUNTINGTON BEACH, ORANGE COUNTY, CALIFORNIA

SAMPLE ID	GRO (mg/L)	DRO (mg/L)	ORO (mg/L)	VOCs (mg/L)	TDS (mg/L)
B2-15	<0.05	0.72	1.5	ND	15,000

Notes:

mg/L = milligrams per liter

GRO = Gasoline Range Organics by EPA Test Method 8015B

DRO = Diesel Ramge Organics by EPA Test Method 8015B

ORO = Oil Range Organics by EPA Test Method 8015B

<0.05 = Not detected at a concentration equal to or greater than the laboratory reporting limit specified

VOCs = Volatile Organic Compounds by EPA Test Method 8260 B

TDS - Total Dissolved Solids by EPA Test Method SM 2540C

ND = None Detected at concentrations equal to or greater than laboratory detection limit

ADVANCED TECHNOLOGY LABORATORIES

February 19, 2015

Mike Conkle
Geocon West, Inc.
3303 N. San Fernando Blvd., Suite 100
Burbank, CA 91504
Tel: (818) 841-8388
Fax:(818) 841-1704

ELAP No.: 1838
CSDLAC No.: 10196
ORELAP No.: CA300003
TCEQ No. : T104704502

Re: ATL Work Order Number : 1500553
Client Reference : PCH at Warner St & Golden West, S9890-06-05

Enclosed are the results for sample(s) received on February 11, 2015 by Advanced Technology Laboratories. The sample(s) are tested for the parameters as indicated on the enclosed chain of custody in accordance with applicable laboratory certifications. The laboratory results contained in this report specifically pertains to the sample(s) submitted.

Thank you for the opportunity to serve the needs of your company. If you have any questions, please feel free to contact me or your Project Manager.

Sincerely,

Eddie Rodriguez
Laboratory Director

Certificate of Analysis

Geocon West, Inc.	Project Number : PCH at Warner St & Golden West, S9890
3303 N. San Fernando Blvd., Suite 100	Report To : Mike Conkle
Burbank , CA 91504	Reported : 02/19/2015

SUMMARY OF SAMPLES

Sample ID	Laboratory ID	Matrix	Date Sampled	Date Received
B1-1.5	1500553-01	Soil	2/11/15 8:12	2/11/15 15:15
B1-5.0	1500553-02	Soil	2/11/15 8:26	2/11/15 15:15
B1-10	1500553-03	Soil	2/11/15 8:36	2/11/15 15:15
B1-15	1500553-04	Soil	2/11/15 8:46	2/11/15 15:15
B2-1.5	1500553-05	Soil	2/11/15 11:08	2/11/15 15:15
B2-5.0	1500553-06	Soil	2/11/15 11:20	2/11/15 15:15
B2-10	1500553-07	Soil	2/11/15 11:30	2/11/15 15:15
B2-15	1500553-08	Soil	2/11/15 11:43	2/11/15 15:15
B2-15	1500553-09	Groundwater	2/10/15 12:15	2/11/15 15:15

CASE NARRATIVE

Results were J-flagged. "J" is used to flag those results that are between the PQL (Practical Quantitation Limit) and the calculated MDL (Method Detection Limit). Results that are "J" flagged are estimated values since it becomes difficult to accurately quantitate the analyte near the MDL.

Certificate of Analysis

Geocon West, Inc.	Project Number : PCH at Warner St & Golden West, S9890
3303 N. San Fernando Blvd., Suite 100	Report To : Mike Conkle
Burbank , CA 91504	Reported : 02/19/2015

Client Sample ID B1-1.5

Lab ID: 1500553-01

Gasoline Range Organics by EPA 8015B (Modified) **Analyst: MFR**

Analyte	Result (mg/kg)	PQL (mg/kg)	MDL (mg/kg)	Dilution	Batch	Prepared	Date/Time Analyzed	Notes
Gasoline Range Organics	ND	1.0	0.20	1	B5B0322	02/12/2015	02/12/15 12:42	
Surrogate: 4-Bromofluorobenzene	*80.1 %*	*33 - 151*			B5B0322	02/12/2015	*02/12/15 12:42*	

Diesel Range Organics by EPA 8015B **Analyst: CR**

Analyte	Result (mg/kg)	PQL (mg/kg)	MDL (mg/kg)	Dilution	Batch	Prepared	Date/Time Analyzed	Notes
DRO	ND	10	10	1	B5B0335	02/12/2015	02/12/15 18:27	
ORO	ND	10	10	1	B5B0335	02/12/2015	02/12/15 18:27	
Surrogate: p-Terphenyl	*89.6 %*	*62 - 138*			B5B0335	02/12/2015	*02/12/15 18:27*	

Certificate of Analysis

Geocon West, Inc.	Project Number : PCH at Warner St & Golden West, S9890
3303 N. San Fernando Blvd., Suite 100	Report To : Mike Conkle
Burbank , CA 91504	Reported : 02/19/2015

Client Sample ID B1-5.0

Lab ID: 1500553-02

Gasoline Range Organics by EPA 8015B (Modified) **Analyst: MFR**

Analyte	Result (mg/kg)	PQL (mg/kg)	MDL (mg/kg)	Dilution	Batch	Prepared	Date/Time Analyzed	Notes
Gasoline Range Organics	ND	1.0	0.20	1	B5B0322	02/12/2015	02/12/15 14:32	
Surrogate: 4-Bromofluorobenzene	*93.0 %*	*33 - 151*			B5B0322	02/12/2015	*02/12/15 14:32*	

Diesel Range Organics by EPA 8015B **Analyst: CR**

Analyte	Result (mg/kg)	PQL (mg/kg)	MDL (mg/kg)	Dilution	Batch	Prepared	Date/Time Analyzed	Notes
DRO	ND	10	10	1	B5B0335	02/12/2015	02/12/15 17:54	
ORO	ND	10	10	1	B5B0335	02/12/2015	02/12/15 17:54	
Surrogate: p-Terphenyl	*90.1 %*	*62 - 138*			B5B0335	02/12/2015	*02/12/15 17:54*	

Certificate of Analysis

Geocon West, Inc.	Project Number : PCH at Warner St & Golden West, S9890
3303 N. San Fernando Blvd., Suite 100	Report To : Mike Conkle
Burbank , CA 91504	Reported : 02/19/2015

Client Sample ID B1-10

Lab ID: 1500553-03

Gasoline Range Organics by EPA 8015B (Modified) — **Analyst: MFR**

Analyte	Result (mg/kg)	PQL (mg/kg)	MDL (mg/kg)	Dilution	Batch	Prepared	Date/Time Analyzed	Notes
Gasoline Range Organics	ND	1.0	0.20	1	B5B0322	02/12/2015	02/12/15 14:49	
Surrogate: 4-Bromofluorobenzene	*92.1 %*	*33 - 151*			B5B0322	02/12/2015	*02/12/15 14:49*	

Diesel Range Organics by EPA 8015B — **Analyst: CR**

Analyte	Result (mg/kg)	PQL (mg/kg)	MDL (mg/kg)	Dilution	Batch	Prepared	Date/Time Analyzed	Notes
DRO	ND	10	10	1	B5B0335	02/12/2015	02/12/15 17:38	
ORO	ND	10	10	1	B5B0335	02/12/2015	02/12/15 17:38	
Surrogate: p-Terphenyl	*87.6 %*	*62 - 138*			B5B0335	02/12/2015	*02/12/15 17:38*	

Certificate of Analysis

Geocon West, Inc.	Project Number : PCH at Warner St & Golden West, S9890
3303 N. San Fernando Blvd., Suite 100	Report To : Mike Conkle
Burbank , CA 91504	Reported : 02/19/2015

Client Sample ID B1-15

Lab ID: 1500553-04

Gasoline Range Organics by EPA 8015B (Modified) — **Analyst: MFR**

Analyte	Result (mg/kg)	PQL (mg/kg)	MDL (mg/kg)	Dilution	Batch	Prepared	Date/Time Analyzed	Notes
Gasoline Range Organics	ND	1.0	0.20	1	B5B0322	02/12/2015	02/12/15 15:04	
Surrogate: 4-Bromofluorobenzene	*92.5 %*	*33 - 151*			B5B0322	02/12/2015	*02/12/15 15:04*	

Diesel Range Organics by EPA 8015B — **Analyst: CR**

Analyte	Result (mg/kg)	PQL (mg/kg)	MDL (mg/kg)	Dilution	Batch	Prepared	Date/Time Analyzed	Notes
DRO	ND	10	10	1	B5B0335	02/12/2015	02/12/15 17:22	
ORO	ND	10	10	1	B5B0335	02/12/2015	02/12/15 17:22	
Surrogate: p-Terphenyl	*89.9 %*	*62 - 138*			B5B0335	02/12/2015	*02/12/15 17:22*	

Certificate of Analysis

Geocon West, Inc.	Project Number : PCH at Warner St & Golden West, S9890
3303 N. San Fernando Blvd., Suite 100	Report To : Mike Conkle
Burbank , CA 91504	Reported : 02/19/2015

Client Sample ID B2-1.5

Lab ID: 1500553-05

Gasoline Range Organics by EPA 8015B (Modified)

Analyst: MFR

Analyte	Result (mg/kg)	PQL (mg/kg)	MDL (mg/kg)	Dilution	Batch	Prepared	Date/Time Analyzed	Notes
Gasoline Range Organics	**1.1**	1.0	0.20	1	B5B0322	02/12/2015	02/12/15 15:20	
Surrogate: 4-Bromofluorobenzene	*126 %*	*33 - 151*			B5B0322	02/12/2015	*02/12/15 15:20*	

Diesel Range Organics by EPA 8015B

Analyst: CR

Analyte	Result (mg/kg)	PQL (mg/kg)	MDL (mg/kg)	Dilution	Batch	Prepared	Date/Time Analyzed	Notes
DRO	**200**	10	10	1	B5B0335	02/12/2015	02/12/15 18:59	
ORO	**550**	10	10	1	B5B0335	02/12/2015	02/12/15 18:59	
Surrogate: p-Terphenyl	*79.3 %*	*62 - 138*			B5B0335	02/12/2015	*02/12/15 18:59*	

Certificate of Analysis

Geocon West, Inc.	Project Number : PCH at Warner St & Golden West, S9890
3303 N. San Fernando Blvd., Suite 100	Report To : Mike Conkle
Burbank , CA 91504	Reported : 02/19/2015

Client Sample ID B2-5.0

Lab ID: 1500553-06

Gasoline Range Organics by EPA 8015B (Modified) **Analyst: MFR**

Analyte	Result (mg/kg)	PQL (mg/kg)	MDL (mg/kg)	Dilution	Batch	Prepared	Date/Time Analyzed	Notes
Gasoline Range Organics	ND	1.0	0.20	1	B5B0322	02/12/2015	02/12/15 15:36	
Surrogate: 4-Bromofluorobenzene	*100 %*	*33 - 151*			B5B0322	02/12/2015	*02/12/15 15:36*	

Diesel Range Organics by EPA 8015B **Analyst: CR**

Analyte	Result (mg/kg)	PQL (mg/kg)	MDL (mg/kg)	Dilution	Batch	Prepared	Date/Time Analyzed	Notes
DRO	ND	10	10	1	B5B0335	02/12/2015	02/12/15 17:06	
ORO	ND	10	10	1	B5B0335	02/12/2015	02/12/15 17:06	
Surrogate: p-Terphenyl	*87.1 %*	*62 - 138*			B5B0335	02/12/2015	*02/12/15 17:06*	

Certificate of Analysis

Geocon West, Inc.	Project Number : PCH at Warner St & Golden West, S9890
3303 N. San Fernando Blvd., Suite 100	Report To : Mike Conkle
Burbank , CA 91504	Reported : 02/19/2015

Client Sample ID B2-10

Lab ID: 1500553-07

Gasoline Range Organics by EPA 8015B (Modified) — **Analyst: MFR**

Analyte	Result (mg/kg)	PQL (mg/kg)	MDL (mg/kg)	Dilution	Batch	Prepared	Date/Time Analyzed	Notes
Gasoline Range Organics	ND	1.0	0.20	1	B5B0322	02/12/2015	02/12/15 15:52	
Surrogate: 4-Bromofluorobenzene	*98.7 %*	*33 - 151*			B5B0322	02/12/2015	*02/12/15 15:52*	

Diesel Range Organics by EPA 8015B — **Analyst: CR**

Analyte	Result (mg/kg)	PQL (mg/kg)	MDL (mg/kg)	Dilution	Batch	Prepared	Date/Time Analyzed	Notes
DRO	ND	10	10	1	B5B0335	02/12/2015	02/12/15 16:49	
ORO	ND	10	10	1	B5B0335	02/12/2015	02/12/15 16:49	
Surrogate: p-Terphenyl	*86.2 %*	*62 - 138*			B5B0335	02/12/2015	*02/12/15 16:49*	

Certificate of Analysis

Geocon West, Inc.	Project Number : PCH at Warner St & Golden West, S9890
3303 N. San Fernando Blvd., Suite 100	Report To : Mike Conkle
Burbank , CA 91504	Reported : 02/19/2015

Client Sample ID B2-15

Lab ID: 1500553-08

Gasoline Range Organics by EPA 8015B (Modified) — **Analyst: MFR**

Analyte	Result (mg/kg)	PQL (mg/kg)	MDL (mg/kg)	Dilution	Batch	Prepared	Date/Time Analyzed	Notes
Gasoline Range Organics	ND	1.0	0.20	1	B5B0322	02/12/2015	02/12/15 16:07	
Surrogate: 4-Bromofluorobenzene	*96.1 %*	*33 - 151*			B5B0322	02/12/2015	*02/12/15 16:07*	

Diesel Range Organics by EPA 8015B — **Analyst: CR**

Analyte	Result (mg/kg)	PQL (mg/kg)	MDL (mg/kg)	Dilution	Batch	Prepared	Date/Time Analyzed	Notes
DRO	ND	10	10	1	B5B0335	02/12/2015	02/12/15 16:33	
ORO	ND	10	10	1	B5B0335	02/12/2015	02/12/15 16:33	
Surrogate: p-Terphenyl	*87.0 %*	*62 - 138*			B5B0335	02/12/2015	*02/12/15 16:33*	

Certificate of Analysis

Geocon West, Inc.	Project Number : PCH at Warner St & Golden West, S9890
3303 N. San Fernando Blvd., Suite 100	Report To : Mike Conkle
Burbank , CA 91504	Reported : 02/19/2015

Client Sample ID B2-15

Lab ID: 1500553-09

Total Dissolved Solids (Residue, Filterable) by SM 2540C

Analyst: PT

Analyte	Result (mg/L)	PQL (mg/L)	MDL (mg/L)	Dilution	Batch	Prepared	Date/Time Analyzed	Notes
Residue, Dissolved	**15000**	100	100	1	B5B0366	02/12/2015	02/13/15 09:30	

Gasoline Range Organics by EPA 8015B (Modified)

Analyst: BT/

Analyte	Result (mg/L)	PQL (mg/L)	MDL (mg/L)	Dilution	Batch	Prepared	Date/Time Analyzed	Notes
Gasoline Range Organics	ND	0.05	0.05	1	B5B0484	02/18/2015	02/18/15 11:48	
Surrogate: 4-Bromofluorobenzene	*97.5 %*		*70 - 130*		B5B0484	02/18/2015	*02/18/15 11:48*	

Diesel Range Organics by EPA 8015B

Analyst: CR

Analyte	Result (mg/L)	PQL (mg/L)	MDL (mg/L)	Dilution	Batch	Prepared	Date/Time Analyzed	Notes
DRO	**0.72**	0.05	0.05	1	B5B0376	02/13/2015	02/13/15 17:45	
ORO	**1.5**	0.05	0.05	1	B5B0376	02/13/2015	02/13/15 17:45	
Surrogate: p-Terphenyl	*80.6 %*		*39 - 127*		B5B0376	02/13/2015	*02/13/15 17:45*	

Volatile Organic Compounds by EPA 8260B

Analyst: SL

Analyte	Result (ug/L)	PQL (ug/L)	MDL (ug/L)	Dilution	Batch	Prepared	Date/Time Analyzed	Notes
1,1,1,2-Tetrachloroethane	ND	0.50	0.38	1	B5B0353	02/13/2015	02/13/15 13:55	
1,1,1-Trichloroethane	ND	0.50	0.20	1	B5B0353	02/13/2015	02/13/15 13:55	
1,1,2,2-Tetrachloroethane	ND	0.50	0.38	1	B5B0353	02/13/2015	02/13/15 13:55	
1,1,2-Trichloroethane	ND	0.50	0.38	1	B5B0353	02/13/2015	02/13/15 13:55	
1,1-Dichloroethane	ND	0.50	0.26	1	B5B0353	02/13/2015	02/13/15 13:55	
1,1-Dichloroethene	ND	0.50	0.26	1	B5B0353	02/13/2015	02/13/15 13:55	
1,1-Dichloropropene	ND	0.50	0.21	1	B5B0353	02/13/2015	02/13/15 13:55	
1,2,3-Trichloropropane	ND	0.50	0.20	1	B5B0353	02/13/2015	02/13/15 13:55	
1,2,3-Trichlorobenzene	ND	0.50	0.47	1	B5B0353	02/13/2015	02/13/15 13:55	
1,2,4-Trichlorobenzene	ND	0.50	0.44	1	B5B0353	02/13/2015	02/13/15 13:55	
1,2,4-Trimethylbenzene	ND	0.50	0.24	1	B5B0353	02/13/2015	02/13/15 13:55	
1,2-Dibromo-3-chloropropane	ND	0.50	0.40	1	B5B0353	02/13/2015	02/13/15 13:55	
1,2-Dibromoethane	ND	0.50	0.24	1	B5B0353	02/13/2015	02/13/15 13:55	
1,2-Dichlorobenzene	ND	0.50	0.35	1	B5B0353	02/13/2015	02/13/15 13:55	
1,2-Dichloroethane	ND	0.50	0.27	1	B5B0353	02/13/2015	02/13/15 13:55	
1,2-Dichloropropane	ND	0.50	0.27	1	B5B0353	02/13/2015	02/13/15 13:55	

Certificate of Analysis

Geocon West, Inc.	Project Number : PCH at Warner St & Golden West, S9890
3303 N. San Fernando Blvd., Suite 100	Report To : Mike Conkle
Burbank , CA 91504	Reported : 02/19/2015

Client Sample ID B2-15

Lab ID: 1500553-09

Volatile Organic Compounds by EPA 8260B **Analyst: SL**

Analyte	Result (ug/L)	PQL (ug/L)	MDL (ug/L)	Dilution	Batch	Prepared	Date/Time Analyzed	Notes
1,3,5-Trimethylbenzene	ND	0.50	0.26	1	B5B0353	02/13/2015	02/13/15 13:55	
1,3-Dichlorobenzene	ND	0.50	0.39	1	B5B0353	02/13/2015	02/13/15 13:55	
1,3-Dichloropropane	ND	0.50	0.34	1	B5B0353	02/13/2015	02/13/15 13:55	
1,4-Dichlorobenzene	ND	0.50	0.42	1	B5B0353	02/13/2015	02/13/15 13:55	
2,2-Dichloropropane	ND	0.50	0.23	1	B5B0353	02/13/2015	02/13/15 13:55	
2-Chlorotoluene	ND	0.50	0.28	1	B5B0353	02/13/2015	02/13/15 13:55	
4-Chlorotoluene	ND	0.50	0.30	1	B5B0353	02/13/2015	02/13/15 13:55	
4-Isopropyltoluene	ND	0.50	0.22	1	B5B0353	02/13/2015	02/13/15 13:55	
Benzene	ND	0.50	0.22	1	B5B0353	02/13/2015	02/13/15 13:55	
Bromobenzene	ND	0.50	0.32	1	B5B0353	02/13/2015	02/13/15 13:55	
Bromodichloromethane	ND	0.50	0.20	1	B5B0353	02/13/2015	02/13/15 13:55	
Bromoform	ND	0.50	0.34	1	B5B0353	02/13/2015	02/13/15 13:55	
Bromomethane	ND	0.50	0.49	1	B5B0353	02/13/2015	02/13/15 13:55	
Carbon tetrachloride	ND	0.50	0.18	1	B5B0353	02/13/2015	02/13/15 13:55	
Chlorobenzene	ND	0.50	0.33	1	B5B0353	02/13/2015	02/13/15 13:55	
Chloroethane	ND	0.50	0.23	1	B5B0353	02/13/2015	02/13/15 13:55	
Chloroform	ND	0.50	0.32	1	B5B0353	02/13/2015	02/13/15 13:55	
Chloromethane	ND	0.50	0.30	1	B5B0353	02/13/2015	02/13/15 13:55	
cis-1,2-Dichloroethene	ND	0.50	0.25	1	B5B0353	02/13/2015	02/13/15 13:55	
cis-1,3-Dichloropropene	ND	0.50	0.30	1	B5B0353	02/13/2015	02/13/15 13:55	
Dibromochloromethane	ND	0.50	0.44	1	B5B0353	02/13/2015	02/13/15 13:55	
Dibromomethane	ND	0.50	0.27	1	B5B0353	02/13/2015	02/13/15 13:55	
Dichlorodifluoromethane	ND	0.50	0.23	1	B5B0353	02/13/2015	02/13/15 13:55	
Ethylbenzene	ND	0.50	0.31	1	B5B0353	02/13/2015	02/13/15 13:55	
Hexachlorobutadiene	ND	0.50	0.47	1	B5B0353	02/13/2015	02/13/15 13:55	
Isopropylbenzene	ND	0.50	0.25	1	B5B0353	02/13/2015	02/13/15 13:55	
m,p-Xylene	ND	1.0	0.46	1	B5B0353	02/13/2015	02/13/15 13:55	
Methylene chloride	ND	1.0	1.0	1	B5B0353	02/13/2015	02/13/15 13:55	
n-Butylbenzene	ND	0.50	0.27	1	B5B0353	02/13/2015	02/13/15 13:55	
n-Propylbenzene	ND	0.50	0.26	1	B5B0353	02/13/2015	02/13/15 13:55	
Naphthalene	ND	0.50	0.40	1	B5B0353	02/13/2015	02/13/15 13:55	
o-Xylene	ND	0.50	0.29	1	B5B0353	02/13/2015	02/13/15 13:55	
sec-Butylbenzene	ND	0.50	0.36	1	B5B0353	02/13/2015	02/13/15 13:55	
Styrene	ND	0.50	0.29	1	B5B0353	02/13/2015	02/13/15 13:55	
tert-Butylbenzene	ND	0.50	0.32	1	B5B0353	02/13/2015	02/13/15 13:55	
Tetrachloroethene	ND	0.50	0.28	1	B5B0353	02/13/2015	02/13/15 13:55	
Toluene	ND	0.50	0.21	1	B5B0353	02/13/2015	02/13/15 13:55	

Certificate of Analysis

Geocon West, Inc.	Project Number : PCH at Warner St & Golden West, S9890
3303 N. San Fernando Blvd., Suite 100	Report To : Mike Conkle
Burbank , CA 91504	Reported : 02/19/2015

Client Sample ID B2-15

Lab ID: 1500553-09

Volatile Organic Compounds by EPA 8260B **Analyst: SL**

Analyte	Result (ug/L)	PQL (ug/L)	MDL (ug/L)	Dilution	Batch	Prepared	Date/Time Analyzed	Notes
trans-1,2-Dichloroethene	ND	0.50	0.22	1	B5B0353	02/13/2015	02/13/15 13:55	
Trichloroethene	ND	0.50	0.31	1	B5B0353	02/13/2015	02/13/15 13:55	
Trichlorofluoromethane	ND	0.50	0.28	1	B5B0353	02/13/2015	02/13/15 13:55	
Vinyl chloride	ND	0.50	0.23	1	B5B0353	02/13/2015	02/13/15 13:55	
Surrogate: 1,2-Dichloroethane-d4	*109 %*	*49 - 148*			B5B0353	02/13/2015	*02/13/15 13:55*	
Surrogate: 4-Bromofluorobenzene	*90.0 %*	*65 - 132*			B5B0353	02/13/2015	*02/13/15 13:55*	
Surrogate: Dibromofluoromethane	*102 %*	*55 - 138*			B5B0353	02/13/2015	*02/13/15 13:55*	
Surrogate: Toluene-d8	*88.2 %*	*60 - 120*			B5B0353	02/13/2015	*02/13/15 13:55*	

Certificate of Analysis

Geocon West, Inc.	Project Number : PCH at Warner St & Golden West, S9890
3303 N. San Fernando Blvd., Suite 100	Report To : Mike Conkle
Burbank , CA 91504	Reported : 02/19/2015

QUALITY CONTROL SECTION

Total Dissolved Solids (Residue, Filterable) by SM 2540C - Quality Control

Analyte	Result (mg/L)	PQL (mg/L)	Spike Level	Source Result	% Rec	% Rec Limits	RPD	RPD Limit	Notes
Batch B5B0366 - No_Prep_WC1_W									
Blank (B5B0366-BLK1)				Prepared: 2/12/2015 Analyzed: 2/13/2015					
Residue, Dissolved	ND	10			NR				
LCS (B5B0366-BS1)				Prepared: 2/12/2015 Analyzed: 2/13/2015					
Residue, Dissolved	980.000	10	970.000		101	80 - 120			
Duplicate (B5B0366-DUP1)		**Source: 1500516-01**		Prepared: 2/12/2015 Analyzed: 2/13/2015					
Residue, Dissolved	935.000	10		940.000	NR		0.533	10	

Certificate of Analysis

Geocon West, Inc.	Project Number : PCH at Warner St & Golden West, S9890
3303 N. San Fernando Blvd., Suite 100	Report To : Mike Conkle
Burbank , CA 91504	Reported : 02/19/2015

Gasoline Range Organics by EPA 8015B (Modified) - Quality Control

Analyte	Result (mg/kg)	PQL (mg/kg)	Spike Level	Source Result	% Rec	% Rec Limits	RPD	RPD Limit	Notes
Batch B5B0322 - GCVOA_S									
Blank (B5B0322-BLK1)				Prepared: 2/12/2015 Analyzed: 2/12/2015					
Gasoline Range Organics	ND	1.0			NR				
Surrogate: 4-Bromofluorobenzene	*0.1865*		*0.200000*		*93.2*	*33 - 151*			
LCS (B5B0322-BS1)				Prepared: 2/12/2015 Analyzed: 2/12/2015					
Gasoline Range Organics	4.93800	1.0	5.00000		98.8	70 - 130			
Surrogate: 4-Bromofluorobenzene	*0.1907*		*0.200000*		*95.3*	*33 - 151*			
Duplicate (B5B0322-DUP1)		**Source: 1500553-01**		Prepared: 2/12/2015 Analyzed: 2/12/2015					
Gasoline Range Organics	ND	1.0		ND	NR			20	
Surrogate: 4-Bromofluorobenzene	*0.1790*		*0.200000*		*89.5*	*33 - 151*			
Matrix Spike (B5B0322-MS1)		**Source: 1500553-01**		Prepared: 2/12/2015 Analyzed: 2/12/2015					
Gasoline Range Organics	5.34900	1.0	5.00000	ND	107	33 - 119			
Surrogate: 4-Bromofluorobenzene	*0.1831*		*0.200000*		*91.5*	*33 - 151*			
Matrix Spike Dup (B5B0322-MSD1)		**Source: 1500553-01**		Prepared: 2/12/2015 Analyzed: 2/12/2015					
Gasoline Range Organics	5.70100	1.0	5.00000	ND	114	33 - 119	6.37	20	
Surrogate: 4-Bromofluorobenzene	*0.1919*		*0.200000*		*96.0*	*33 - 151*			
Batch B5B0484 - GCVOA_W									
Blank (B5B0484-BLK1)				Prepared: 2/18/2015 Analyzed: 2/18/2015					
Gasoline Range Organics	ND	0.05			NR				
Surrogate: 4-Bromofluorobenzene	*0.09608*		*0.100000*		*96.1*	*70 - 130*			
LCS (B5B0484-BS1)				Prepared: 2/18/2015 Analyzed: 2/18/2015					
Gasoline Range Organics	0.894000	0.05	1.00000		89.4	70 - 130			
Surrogate: 4-Bromofluorobenzene	*0.1030*		*0.100000*		*103*	*70 - 130*			
LCS Dup (B5B0484-BSD1)				Prepared: 2/18/2015 Analyzed: 2/18/2015					
Gasoline Range Organics	0.980000	0.05	1.00000		98.0	70 - 130	9.18	20	
Surrogate: 4-Bromofluorobenzene	*0.1053*		*0.100000*		*105*	*70 - 130*			
Duplicate (B5B0484-DUP1)		**Source: 1500628-01**		Prepared: 2/18/2015 Analyzed: 2/18/2015					
Gasoline Range Organics	ND	0.05		ND	NR			20	
Surrogate: 4-Bromofluorobenzene	*0.09985*		*0.100000*		*99.8*	*70 - 130*			

Certificate of Analysis

Geocon West, Inc.	Project Number : PCH at Warner St & Golden West, S9890
3303 N. San Fernando Blvd., Suite 100	Report To : Mike Conkle
Burbank , CA 91504	Reported : 02/19/2015

Diesel Range Organics by EPA 8015B - Quality Control

Analyte	Result (mg/kg)	PQL (mg/kg)	Spike Level	Source Result	% Rec	% Rec Limits	RPD	RPD Limit	Notes
Batch B5B0335 - GCSEMI_DRO_S									
Blank (B5B0335-BLK1)					Prepared: 2/12/2015 Analyzed: 2/12/2015				
DRO	ND	10			NR				
ORO	ND	10			NR				
Surrogate: p-Terphenyl	*75.04*		*80.0000*		*93.8*	*62 - 138*			
LCS (B5B0335-BS1)					Prepared: 2/12/2015 Analyzed: 2/12/2015				
DRO	874.280	10	1000.00		87.4	66 - 139			
Surrogate: p-Terphenyl	*64.56*		*80.0000*		*80.7*	*62 - 138*			
Duplicate (B5B0335-DUP1)		**Source: 1500553-01**			Prepared: 2/12/2015 Analyzed: 2/12/2015				
DRO	ND	10		ND	NR			20	
Surrogate: p-Terphenyl	*68.95*		*80.0000*		*86.2*	*62 - 138*			
Matrix Spike (B5B0335-MS1)		**Source: 1500550-05**			Prepared: 2/12/2015 Analyzed: 2/12/2015				
DRO	965.450	10	1000.00	78.1700	88.7	39 - 157			
Surrogate: p-Terphenyl	*70.96*		*80.0000*		*88.7*	*62 - 138*			
Matrix Spike Dup (B5B0335-MSD1)		**Source: 1500550-05**			Prepared: 2/12/2015 Analyzed: 2/12/2015				
DRO	1004.06	10	1000.00	78.1700	92.6	39 - 157	3.92	20	
Surrogate: p-Terphenyl	*65.13*		*80.0000*		*81.4*	*62 - 138*			
Batch B5B0376 - GCSEMI_DRO_W									
Blank (B5B0376-BLK1)					Prepared: 2/13/2015 Analyzed: 2/13/2015				
DRO	ND	0.05			NR				
ORO	ND	0.05			NR				
Surrogate: p-Terphenyl	*0.05299*		*8.00000E-2*		*66.2*	*39 - 127*			
LCS (B5B0376-BS1)					Prepared: 2/13/2015 Analyzed: 2/13/2015				
DRO	0.649250	0.05	1.00000		64.9	48 - 119			
Surrogate: p-Terphenyl	*0.05357*		*8.00000E-2*		*67.0*	*39 - 127*			
LCS Dup (B5B0376-BSD1)					Prepared: 2/13/2015 Analyzed: 2/13/2015				
DRO	0.626890	0.05	1.00000		62.7	48 - 119	3.50	20	
Surrogate: p-Terphenyl	*0.06431*		*8.00000E-2*		*80.4*	*39 - 127*			

Certificate of Analysis

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3303 N. San Fernando Blvd., Suite 100	Report To : Mike Conkle
Burbank , CA 91504	Reported : 02/19/2015

Volatile Organic Compounds by EPA 8260B - Quality Control

Analyte	Result (ug/L)	PQL (ug/L)	Spike Level	Source Result	% Rec	% Rec Limits	RPD	RPD Limit	Notes
Batch B5B0353 - MSVOA_LL_W									
Blank (B5B0353-BLK1)				Prepared: 2/13/2015 Analyzed: 2/13/2015					
1,1,1,2-Tetrachloroethane	ND	0.50			NR				
1,1,1-Trichloroethane	ND	0.50			NR				
1,1,2,2-Tetrachloroethane	ND	0.50			NR				
1,1,2-Trichloroethane	ND	0.50			NR				
1,1-Dichloroethane	ND	0.50			NR				
1,1-Dichloroethene	ND	0.50			NR				
1,1-Dichloropropene	ND	0.50			NR				
1,2,3-Trichloropropane	ND	0.50			NR				
1,2,3-Trichlorobenzene	ND	0.50			NR				
1,2,4-Trichlorobenzene	ND	0.50			NR				
1,2,4-Trimethylbenzene	ND	0.50			NR				
1,2-Dibromo-3-chloropropane	ND	0.50			NR				
1,2-Dibromoethane	ND	0.50			NR				
1,2-Dichlorobenzene	ND	0.50			NR				
1,2-Dichloroethane	ND	0.50			NR				
1,2-Dichloropropane	ND	0.50			NR				
1,3,5-Trimethylbenzene	ND	0.50			NR				
1,3-Dichlorobenzene	ND	0.50			NR				
1,3-Dichloropropane	ND	0.50			NR				
1,4-Dichlorobenzene	ND	0.50			NR				
2,2-Dichloropropane	ND	0.50			NR				
2-Chlorotoluene	ND	0.50			NR				
4-Chlorotoluene	ND	0.50			NR				
4-Isopropyltoluene	ND	0.50			NR				
Benzene	ND	0.50			NR				
Bromobenzene	ND	0.50			NR				
Bromodichloromethane	ND	0.50			NR				
Bromoform	ND	0.50			NR				
Bromomethane	ND	0.50			NR				
Carbon tetrachloride	ND	0.50			NR				
Chlorobenzene	ND	0.50			NR				
Chloroethane	ND	0.50			NR				
Chloroform	ND	0.50			NR				
Chloromethane	ND	0.50			NR				
cis-1,2-Dichloroethene	ND	0.50			NR				
cis-1,3-Dichloropropene	ND	0.50			NR				
Dibromochloromethane	ND	0.50			NR				
Dibromomethane	ND	0.50			NR				
Dichlorodifluoromethane	ND	0.50			NR				
Ethylbenzene	ND	0.50			NR				
Hexachlorobutadiene	ND	0.50			NR				

Certificate of Analysis

Geocon West, Inc.	Project Number : PCH at Warner St & Golden West, S9890
3303 N. San Fernando Blvd., Suite 100	Report To : Mike Conkle
Burbank , CA 91504	Reported : 02/19/2015

Volatile Organic Compounds by EPA 8260B - Quality Control (cont'd)

Analyte	Result (ug/L)	PQL (ug/L)	Spike Level	Source Result	% Rec	% Rec Limits	RPD	RPD Limit	Notes
Batch B5B0353 - MSVOA_LL_W (continued)									
Blank (B5B0353-BLK1) - Continued				Prepared: 2/13/2015 Analyzed: 2/13/2015					
Isopropylbenzene	ND	0.50			NR				
m,p-Xylene	ND	1.0			NR				
Methylene chloride	ND	1.0			NR				
n-Butylbenzene	ND	0.50			NR				
n-Propylbenzene	ND	0.50			NR				
Naphthalene	ND	0.50			NR				
o-Xylene	ND	0.50			NR				
sec-Butylbenzene	ND	0.50			NR				
Styrene	ND	0.50			NR				
tert-Butylbenzene	ND	0.50			NR				
Tetrachloroethene	ND	0.50			NR				
Toluene	ND	0.50			NR				
trans-1,2-Dichloroethene	ND	0.50			NR				
Trichloroethene	ND	0.50			NR				
Trichlorofluoromethane	ND	0.50			NR				
Vinyl chloride	ND	0.50			NR				
Surrogate: 1,2-Dichloroethane-d4	*26.55*		*25.0000*		*106*	*49 - 148*			
Surrogate: 4-Bromofluorobenzene	*24.01*		*25.0000*		*96.0*	*65 - 132*			
Surrogate: Dibromofluoromethane	*25.76*		*25.0000*		*103*	*55 - 138*			
Surrogate: Toluene-d8	*22.46*		*25.0000*		*89.8*	*60 - 120*			
LCS (B5B0353-BS1)				Prepared: 2/13/2015 Analyzed: 2/13/2015					
1,1-Dichloroethene	17.6800	0.50	20.0000		88.4	61 - 136			
Benzene	39.2100	0.50	40.0000		98.0	72 - 127			
Chlorobenzene	20.4400	0.50	20.0000		102	78 - 125			
MTBE	17.6300	0.50	20.0000		88.2	60 - 132			
Toluene	41.4100	0.50	40.0000		104	59 - 140			
Trichloroethene	19.2100	0.50	20.0000		96.0	67 - 130			
Surrogate: 1,2-Dichloroethane-d4	*19.10*		*25.0000*		*76.4*	*49 - 148*			
Surrogate: 4-Bromofluorobenzene	*26.49*		*25.0000*		*106*	*65 - 132*			
Surrogate: Dibromofluoromethane	*19.42*		*25.0000*		*77.7*	*55 - 138*			
Surrogate: Toluene-d8	*20.72*		*25.0000*		*82.9*	*60 - 120*			
LCS Dup (B5B0353-BSD1)				Prepared: 2/13/2015 Analyzed: 2/13/2015					
1,1-Dichloroethene	18.7400	0.50	20.0000		93.7	61 - 136	5.82	20	
Benzene	39.4300	0.50	40.0000		98.6	72 - 127	0.560	20	
Chlorobenzene	20.2000	0.50	20.0000		101	78 - 125	1.18	20	
MTBE	16.7500	0.50	20.0000		83.8	60 - 132	5.12	20	
Toluene	40.9700	0.50	40.0000		102	59 - 140	1.07	20	
Trichloroethene	19.7600	0.50	20.0000		98.8	67 - 130	2.82	20	
Surrogate: 1,2-Dichloroethane-d4	*17.99*		*25.0000*		*72.0*	*49 - 148*			

Certificate of Analysis

Geocon West, Inc.	Project Number : PCH at Warner St & Golden West, S9890
3303 N. San Fernando Blvd., Suite 100	Report To : Mike Conkle
Burbank , CA 91504	Reported : 02/19/2015

Volatile Organic Compounds by EPA 8260B - Quality Control (cont'd)

Analyte	Result (ug/L)	PQL (ug/L)	Spike Level	Source Result	% Rec	% Rec Limits	RPD	RPD Limit	Notes
Batch B5B0353 - MSVOA_LL_W (continued)									
LCS Dup (B5B0353-BSD1) - Continued				Prepared: 2/13/2015 Analyzed: 2/13/2015					
Surrogate: 4-Bromofluorobenzene	*25.39*		*25.0000*		*102*	*65 - 132*			
Surrogate: Dibromofluoromethane	*19.21*		*25.0000*		*76.8*	*55 - 138*			
Surrogate: Toluene-d8	*19.59*		*25.0000*		*78.4*	*60 - 120*			
Duplicate (B5B0353-DUP1)		**Source: 1500553-09**		Prepared: 2/13/2015 Analyzed: 2/13/2015					
1,1-Dichloroethene	ND	0.50		ND	NR			20	
Benzene	ND	0.50		ND	NR			20	
Chlorobenzene	ND	0.50		ND	NR			20	
MTBE	ND	0.50		ND	NR			20	
Toluene	ND	0.50		ND	NR			20	
Trichloroethene	ND	0.50		ND	NR			20	
Surrogate: 1,2-Dichloroethane-d4	*26.49*		*25.0000*		*106*	*49 - 148*			
Surrogate: 4-Bromofluorobenzene	*21.58*		*25.0000*		*86.3*	*65 - 132*			
Surrogate: Dibromofluoromethane	*25.32*		*25.0000*		*101*	*55 - 138*			
Surrogate: Toluene-d8	*21.24*		*25.0000*		*85.0*	*60 - 120*			

Certificate of Analysis

Geocon West, Inc.		Project Number :	PCH at Warner St & Golden West, S9890
3303 N. San Fernando Blvd., Suite 100		Report To :	Mike Conkle
Burbank , CA 91504		Reported :	02/19/2015

Notes and Definitions

ND	Analyte is not detected at or above the Practical Quantitation Limit (PQL). When client requests quantitation against MDL, analyte is not detected at or above the Method Detection Limit (MDL)
PQL	Practical Quantitation Limit
MDL	Method Detection Limit
NR	Not Reported
RPD	Relative Percent Difference
CA2	CA-ELAP (CDPH)
OR1	OR-NELAP (OSPHL)
TX1	TX-NELAP (TCEQ)

Notes:
(1) The reported MDL and PQL are based on prep ratio variation and analytical dilution.
(2) The suffix [2C] of specific analytes signifies that the reported result is taken from the instrument's second column.
(3) Results are wet unless otherwise specified.

ADVANCED TECHNOLOGY LABORATORIES

3275 Walnut Ave., Signal Hill, CA 90755
Tel: (562) 989-4045 • Fax: (562) 989-4040

CHAIN OF CUSTODY RECORD

Page 1 of 1

Instruction: Complete all shaded areas.

For Laboratory Use Only — ATLCOC Ver: 20130715

Method of Transport: ☐ Client ☐ ATL ☐ FedEx ☐ OnTrac ☐ GSO ☐ Other:

Sample Conditions Upon Receipt

Condition	Y	N	Condition	Y	N
1. CHILLED	☑	☐	5. # OF SAMPLES MATCH COC	☑	☐
2. HEADSPACE (VOA)	☐	☑	6. PRESERVED	☐	☐
3. CONTAINER INTACT	☑	☐	7. COOLER TEMP, deg C:	2.5	
4. SEALED	☐	☐			

CUSTOMER

Company: Geocon
Address: 3303 N. San Fernando Blvd Ste 100 Tel: 818-841-8388
City: Burbank State: CA Zip: 91504 Fax: 818-841-7062

SEND REPORT TO:
Attn: Mike Conkle Email:
Company: Geocon
Address: 3303 N. San Fernando Blvd Ste 100
City: Burbank State: CA Zip: 91504

SEND INVOICE TO: ☐ same as SEND REPORT TO
Attn: Same Email:
Company:
Address:
City: State: Zip:

PROJECT SAMPLES

Project Name: PCH Warner & Golden West
Project No.: S9890-06-08
Sampler: Mike Akoto
Quote No:
PO #:
Special Instructions/Comments:

Encircle or Write Requested Analysis: 8260 / 624 (Volatiles); 8015(GRO); 8015(DRO); 8270(Semi-volatiles); 8081(Organochlorine Pesticides); 8082(PCBs); 6010 / 7000(Title 22 Metals); TO-15; TPHg by 8015; TPHd by 8015; TPHo by 8015

Encircle Sample Matrix: SOIL / SEDIMENT / SLUDGE; SOLIDS / WIPE / FILTER; WATER - DRINKING / GROUND; WATER - STORM / WASTE; AQUEOUS / LAYERED - OIL

Container: TAT; # ; Type: 1=Tube; 2=VOA; 3=Liter; 4=Pint; 5=Jar; 6=Tedlar; 7=Canister; Material: 1=Glass; 2=Plastic; 3=Metal; Preservative: 1=HCl; 2=HNO3; 3=H2SO4; 4=4C; 5=Zn ((Ac)2; 6=NaOH; 7=NA2S2O3

QA/QC: ☐ Routine ☐ Caltrans ☐ Legal ☐ RWQCB ☐ Level IV

ITEM	Lab No.	Sample ID / Location	Date	Time	8260	8015(GRO)	8015(DRO)	8270	8081	8082	6010	TO-15	TPHg	TPHd	TPHo	SOIL	SOLIDS	WATER	WATER	AQUEOUS	TAT	#	Type	Material	Preservative	REMARKS
1		B1 - 1.5	2/11/15	0812									X	X	X	X					5	1	5	1		
2		B1 - 5.0		0826									X	X	X	X					5	1	1	2		
3		B1 - 10		0836									X	X	X	X					5	1	1	2		
4		B1 - 15		0846									X	X	X	X					5	1	1	2		
5		B2 - 1.5		1108									X	X	X	X					5	1	5	1		
6		B2 - 5.0		1120									X	X	X	X					5	1	1	2		
7		B2 - 10		1130									X	X	X	X					5	1	1	2		
8		B2 - 15		1143									X	X	X	X					5	1	1	2		
9		B2 - 15	X	1215	X								X	X	X			X			5	8	2	1		
10																										

TERMS

1. Sample receiving hours: 7:30 AM to 7:30 PM Monday - Friday; Saturday 8:00 AM to 12:00 PM.
2. Samples Submitted AFTER 3:00 PM, are considered received the following Business day at 8:00 AM.
3. The following turnaround time conditions apply:
   - TAT = 0 : 300% Surcharge SAME BUSINESS DAY if received by 9:00 AM
   - TAT = 1 : 100% Surcharge NEXT BUSINESS DAY (COB 5:00 PM)
   - TAT = 2 : 50% Surcharge 2ND BUSINESS DAY (COB 5:00 PM)
   - TAT = 3 : 30% Surcharge 3RD BUSINESS DAY (COB 5:00 PM)
   - TAT = 4 : 20% Surcharge 4TH BUSINESS DAY (COB 5:00 PM)
   - TAT = 5 : NO SURCHARGE 5th BUSINESS DAY (COB 5:00 PM)
4. Weekend, holiday, after-hours work - ask for quote.
5. Subcontract TAT is 10 - 15 business days. Projects requiring shorter TATs will incur a surcharge respective to the subcontract lab --- ask for quote.
6. Liquid and solid samples will be disposed of after 45 calendar days from receipt of samples; air samples will be disposed of after 14 calendar days after receipt of samples.
7. Electronic records maintained for five (5) years from report date.
8. Hard copy reports will be disposed of after 45 calendar days from report date.
9. Storage and Report Fees:
   - Liquid & solid samples: Complimentary storage for forty-five (45) calendar days from receipt of samples; $2/sample/month if extended storage or hold is requested.
   - Air samples: Complimentary storage for ten (10) calendar days from receipt of samples; $20/ sample/week if extended storage is requested.
   - Hard copy and regenerated reports/EDDs: $17.50 per hard copy report requested; $50.00 per regenerated/reforma? ed report; $35 per reprocessed EDD.
10. Rush TCLP/STLC samples: add 2 days to analysis TAT for extraction on procedure.
11. Unanalyzed samples will incur a disposal fee of $7 per sample.

As the authorized agent of the company above, I hereby purchase laboratory services from ATL as shown above and hereby guarantee payment as quoted.

Mike Akoto — Submitter Print Name
Signature

CUSTODY

Relinquished by: (Signature and Printed Name)	Date	Time	Received by: (Signature and Printed Name)	Date	Time
Mike Akoto	2/11/15	1515	C. Aguila	2/11/15	1515