

**VIA EMAIL AND U.S. MAIL**

September 22, 2015

State Water Resources Control Board  
Office of Chief Counsel  
Adrianna M. Crowl  
P.O. Box 100  
Sacramento, CA 95812-0100  
email: [waterqualitypetitions@waterboards.ca.gov](mailto:waterqualitypetitions@waterboards.ca.gov)

**RE: ROIC PARAMOUNT PLAZA LLC – Petition for Review and Request  
for Stay of Waste Discharge Requirement Order Issued by the  
California Regional Water Quality Control Board, Los Angeles  
Region**

Dear Ms. Crowl:

Enclosed please find a copy of the above referenced Petition for Review and Request for Stay. If you wish to discuss this matter, please contact me at 510.465.5750, ext. 1. Thank you.

Sincerely,



Jon K. Wactor  
of  
Wactor & Wick LLP

Cc: Samuel Unger, Executive Officer LARWQCB

1 JON K. WACTOR (State Bar No. 141566)  
Email: jonwactor@ww-envlaw.com  
2 PETER TON (State Bar No. 223226)  
Email: pton@ww-envlaw.com  
3 WACTOR & WICK LLP  
180 Grand Avenue, Suite 950  
4 Oakland CA 94612-3572  
Telephone: (510) 465-5750  
5 Facsimile: (510) 465-5697

6 Attorneys or Petitioners  
7 ROIC PARAMOUNT PLAZA LLC

8 **THE STATE WATER RESOURCES CONTROL BOARD**  
9 **STATE OF CALIFORNIA**

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11 In the Matter of

12 ROIC Paramount Plaza LLC

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14 Petitioner,

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16 For the Review of Los Angeles Regional  
Water Quality Control Board Inaction on  
Termination Request for Waste  
17 Discharge Requirements for the Former  
Paramount Plaza Dry Cleaners, located at  
18 15729 Downey Avenue, Paramount,  
California

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**PETITION FOR REVIEW OF REGIONAL  
BOARD WASTE DISCHARGE  
REQUIREMENT ORDER, AND REQUEST  
FOR STAY**

**[SUPPORTING DECLARATION OF JON  
K. WACTOR FILED HEREWITH]**

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Pursuant to Section 13320 of California Water Code and Title 23 of the California Code of  
21 Regulations §§ 2050 *et seq.*, ROIC Paramount Plaza LLC (“Petitioner”) hereby petitions the State  
22 Water Resources Control Board (“State Board”) for termination of *Waste Discharge Requirements*  
23 *for Injection of Emulsified Vegetable Oil and Bioaugmentation Organisms*, Order No. R4-2014-  
24 0187, Series No. 12, CI-10108 issued to Petitioner by the California Regional Water Quality  
25 Control Board--Los Angeles Region (“Regional Board”) on December 19, 2014 (“WDR Order”  
26 attached as Exhibit 1.)<sup>1</sup> The WDR concerns the former Paramount Plaza Dry Cleaners located at  
27 15729 Downey Avenue, Paramount, California, for which Petitioner has undertaken voluntary

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<sup>1</sup> All exhibits referenced in this Petition are attached to the Declaration of Jon K. Wactor (“Wactor Decl.”).

1 investigation, monitoring and cleanup and for which Petitioner was previously named by the  
2 Regional Board as a responsible party under Administrative Order under Water Code § 13267,  
3 issued on December 21, 2010, as amended on July 12, 2012 and November 1, 2012. (“13267  
4 Order” attached as Exhibit 2.) The 13267 Order remains in effect and Petitioner is working with  
5 the Regional Board under it.

6 On June 24, 2015 counsel for Petitioner requested via email that the Regional Board  
7 Executive Officer Samuel Unger terminate the WDR, based on current site conditions and the  
8 duplicative requirements of the 13267 Order. (Email correspondence attached as Exhibit 3.)  
9 Counsel for Petitioner repeated this request to the Regional Board Executive Officer Samuel  
10 Unger in a letter dated August 27, 2015, and asked for a response within seven days, by  
11 September 3, 2015. (Correspondence attached as Exhibit 4.) Petitioner received no official  
12 response from the Regional Board on its request for termination of the WDR.

13 Therefore, Petitioner respectfully requests review of the Regional Board’s inaction by the  
14 State Water Resources Control Board (“State Board”) with the requested relief of terminating the  
15 WDR Order, and a stay of the WDR requirements. The following elements are required by the  
16 Petition process:

17  
18 **1. Name and address of the petitioner.**

19 ROIC Paramount Plaza LLC  
20 8905 Towne Centre Drive, Suite 108  
21 San Diego, CA 92122  
22 Attn: Richard Schoebel  
Email: [rschoebel@roireit.net](mailto:rschoebel@roireit.net)

23 **2. The specific action or inaction of the regional board which the state board is**  
24 **requested to review and a copy of any order or resolution of the regional board which is**  
25 **referred to in the petition.**

26 Petitioner requests review of Regional Board’s inaction on Petitioner’s request to terminate  
27 the WDR Order. (Exhibit 1).

28 **3. The date on which the Regional Board acted or refused to act or on which the**  
**regional board was requested to act.**

1 On June 24, 2015 counsel for Petitioner requested via email that the Regional Board  
2 Executive Officer Samuel Unger terminate the WDR, based on current site conditions and the  
3 duplicative requirements of a Order issued by the Regional Board to Petitioner under Water Code  
4 § 13267. (Exhibit 3.) After discussing the matter with Regional Board staff, counsel for  
5 Petitioner formalized this request in a letter dated August 27, 2015 to Mr. Unger, and asked for a  
6 response by September 3, 2015, noticing Petitioner's intent to file a petition for review to the State  
7 Board if no response was given. (Exhibit 4.) Petitioner has received no response from the  
8 Regional Board by September 3 (or thereafter) on its requests for termination of the WDR, and  
9 therefore its inaction is continuing.

10 **4. A full and complete statement of the reasons the action or failure to act was**  
11 **inappropriate or improper.**

12 The Regional Board failure to officially respond to Petitioner's request for termination has  
13 resulted in Petitioner being billed for an annual WDR permit fee for the 2015-2016 fiscal year and  
14 is resulting in extra monitoring work that is duplicative of the work Petitioner is already  
15 performing under the 13267 Order. Because no additional injection events are planned other than  
16 the initial one performed in January 2015, and no exceedances of water quality objectives  
17 occurred, and the 13267 Order compels essentially the same monitoring work, continuing the  
18 WDR Order is unnecessary for the protection of human health or the environment and has no  
19 purpose. The Regional Board's refusal to respond to or grant Petitioner's WDR termination  
20 request is inappropriate and improper, and therefore Petitioner seeks relief from the State Board.

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22 **5. The manner in which the Petitioners are aggrieved.**

23 As stated above, the Regional Board's WDR Order is unnecessary and duplicative, and  
24 further requires payment of an annual WDR fee and duplicative monitoring work and reporting  
25 without justification. The Regional Board failure to terminate the WDR Order has aggrieved  
26 Petitioner because the WDR Order's directives are arbitrary, capricious, and costly and  
27 duplicative. Petitioner will incur significant and unnecessary costs in complying with the WDR  
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1 Order's directives, and suffer economic damages and other consequential damages unless the  
2 WDR is terminated.

3  
4 **6. The specific action by the State or Regional Board which petitioners request.**

5 Petitioner requests that the State or Regional Board terminate the WDR Order and cancel  
6 the WDR fee for the 2015-16 year.

7 Petitioners also request that the State Board grant an immediate stay of the WDR Order  
8 pursuant to Water Code § 13320(e) which provides:

9 If a petition for state board review of a regional board action on waste discharge  
10 requirements includes a request for a stay of the waste discharge requirements, the state  
11 board shall act on the requested stay portion of the petition within 60 days of accepting the  
12 petition. The board may order any stay to be in effect from the effective date of the waste  
13 discharge requirements.

14 Water Code § 13320(e); see also 23 CCR § 2053(d) (same).

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**7. A statement of points and authorities in support of legal issues raised in the petition.**

For the purposes of this filing, this Statement of Points and Authorities incorporates herein  
the facts and positions included in Section 4 of this Petition. Petitioner reserves the right to file a  
Supplemental Statement of Points and Authorities, including references to the complete  
administrative record and additional evidence, if it becomes necessary to pursue this appeal due to  
the Regional Board's continued inaction. Petitioner also reserves the right to supplement its  
request for hearing to consider testimony, other evidence, and argument.

**A. Petitioner's In Situ Remediation Complied with the WDR Order and No  
Further Injection Events are Planned or Required**

The former Paramount Dry Cleaners (Site) was located in the northwestern portion of a  
multitenant shopping center at 15729 Downey Avenue, Paramount, California. The shopping  
center is owned by Petitioner. Groundwater sampling results collected pursuant to the 13267  
Order indicated the presence of volatile organic compounds (VOCs) including PCE, which is  
typically associated with dry cleaning chemicals.

1 On December 6, 2013, the Regional Board staff approved Petitioner's *Remedial Action*  
2 *Plan* (RAP), dated June 28, 2013, which involved the one-time injection of a non-toxic sodium  
3 lactate solution--7,260 gallons of 10% emulsified vegetable oil solution, 45 liters of  
4 Bioaugmentation organisms, and 720 gallons of anaerobic chase water--at 15 injection points at  
5 depths from approximately 17 to 37 feet below ground surface. (Exh. 1). The Regional Board  
6 staff reviewed the Petitioner's RAP and determined that the injection of the sodium lactate  
7 solution for groundwater remediation of VOCs met the requirements of *General Waste Discharge*  
8 *Requirements for In-Situ Groundwater Remediation and Groundwater Re-Injection* (General  
9 WDR Order No. R4-2014-0187, adopted by the Regional Board on September 11, 2014), and on  
10 December 19, 2014 sent Petitioner the General WDR Order requirements, adding that the  
11 Regional Board's standard Monitoring and Reporting Program (MRP) No. CI-10108 also applied.  
12 (Exh. 1.) In the cover letter, the Regional Board stated:

13 To avoid paying future annual fees, please submit a written request for termination of your  
14 enrollment under the general WDR in a separate letter when the project is completed and  
15 the WDR is no longer needed. Be aware the annual fee covers the fiscal year billing period  
16 beginning July 1 and ending June 30, the following year. You will pay the full annual fee  
17 if your request for termination is made after the beginning of the new fiscal year beginning  
18 July 1.  
19 (Exh. 1, WDR Order)

20 The injection event was performed in January 2015. Petitioner paid the WDR permit fee  
21 for the 2014-2015 fiscal year, which is the year the injection took place. However, as no  
22 subsequent injection events are planned or required and groundwater monitoring is already being  
23 carried out pursuant to the 13267 Order, continuing the WDR Order "is no longer needed" and  
24 should be terminated pursuant to the WDR's provision quoted above. Petitioner's counsel submitted  
25 the termination request prior to July 1<sup>st</sup> as provided by the WDR and so no permit fee should be  
26 owed to the Regional Board for the 2015-2016 fiscal year (Exh. 3, Exh. 4).

27 **B. The Monitoring Work Required by the MRP is Unnecessary and**  
28 **Duplicative to the 13267 Order**

29 The MRP requirements of the WDR Order impose quarterly monitoring of six of the Site's  
30 groundwater monitoring wells: MW-1, MW-2, MW-3, MW-6, and MW-7. Quarterly monitoring  
31 reports are due April 30, July 30, October 30, and January 30. The MRP also requires inspection

1 of each injection point even though no further injections beyond the first event are planned or  
2 required. (Exh. 1.) Moreover, Petitioner submitted a monitoring report of its multiple post-  
3 injection sampling events to Regional Board staff on April 30, 2015, which indicated that there  
4 were no exceedances of the WDR Order’s water quality objectives (WQOs) resulting from the  
5 injections. In fact, sampling results shows that concentrations decreased as a result of the  
6 injections, and therefore the injections are achieving their intended purpose. (*First Quarter 2015*  
7 *WDR Groundwater Injection and Monitoring Report*, dated April 30, 2015, attached as Exhibit 5).

8 Similarly, the 13267 Order, as amended on November 1, 2012, requires five of the Site’s  
9 quarterly groundwater monitoring of wells: MW-2, MW-4, MW-5, MW-6 and MW-7. These  
10 reports are due April 15, July 15, October 15, and January 15. In addition, the 13267 Order  
11 required semi-annual groundwater monitoring of four additional groundwater monitoring wells:  
12 MW-1, MW-3, and Shell Oil wells MW-10 and MW-11, with reports due April 15 and October  
13 15.<sup>2</sup> (Exh. 2.) Thus, the Site is being regularly monitored pursuant to the 13627 Order with the  
14 substantially same substance and schedule as the WDR Order.

15 Thus, the sampling and reporting required by the MRP of the WDR Order and the 13267 is  
16 duplicative, and places an undue burden on Petitioner to submit and prepare dual reports with no  
17 environmental benefit. Moreover, the WDR Order requires that the pay a permit fee of \$8,823  
18 and incur approximately an additional \$30,000 for duplicate sampling and reporting for the 2015-  
19 2016 fiscal year for the essentially the same work as the 13267, and even though no more  
20 injections are planned and there are no exceedances of WQOs set by the WDR Order.

21 Furthermore, Petitioner is already paying Regional Board oversight fees for the 13267 Order  
22 sampling. The 13267 Order is entirely adequate to address both the impacts of remedial in situ  
23 injections and any residual VOC contamination, and balances Petitioner’s stakeholder’s rights that  
24 unnecessary work not be required. *See* Water Code § 13267(b)(1) (authorizing a Regional Board  
25 to require dischargers to “furnish [...] technical or monitoring program reports” as part of its  
26 “investigation” into “the quality of waters within its region” but only if “the burden, including  
27

28 <sup>2</sup> On December 16, 2014, the Regional Board subsequently agreed to remove MW-1, MW-3  
and Shell well MW-10 from the sampling program.

1 costs, of these reports [...] bear a reasonable relationship to the need for the report and the benefits  
2 to be obtained from the reports”). Conversely, the Regional Board has provided no rationale why  
3 the WDR permit fee and dual reports should be required, nor has it identified any “reasonable  
4 relationship” to any environmental benefit in doing so.

5  
6 **C. The WDR Order Should be Terminated As a Matter of Law and**  
7 **Petitioner’s Request for Stay Granted**

8 For the reasons set forth above, the Regional Board’s WDR Order should be terminated  
9 and no WDR permit fee should be owed to the Regional Board.

10 Furthermore, because Petitioner meets the legal grounds for stay of the WDR, its request a  
11 stay also should be granted. 23 CCR § 2053(a) provides that stay shall be granted if Petitioner  
12 shows, supported by proof by declaration, that “(1) substantial harm to petitioner or to the public  
13 interest if a stay is not granted, (2) a lack of substantial harm to other interested persons and to the  
14 public interest if a stay is granted, and (3) substantial questions of fact or law regarding the  
15 disputed action.” 23 CCR § 2053(a). Alternatively, the state board may issue a stay, on its own  
16 motion, without the need for declarations. 223 CCR § 2053(c).

17  
18 1. Petitioner Will Suffer Substantial Harm If the Stay is Not Granted

19 Petitioner is currently complying with the groundwater monitoring and reporting  
20 requirements of the 13627 Order. (Wactor Decl. ¶10.) In addition, Petitioner paid the WDR  
21 permit fee for the 2014-2015 fiscal year, the period in which Petitioner performed the one time  
22 injection of sodium lactate solution. (Wactor Decl. ¶5.) Requiring to Petitioner to conduct  
23 sampling and monitoring which substantially duplicates what it is already performing under the  
24 13267 Order results in extra costs of work with no environmental benefit. (Wactor Decl. ¶4) In  
25 addition, requiring Petitioner to pay an additional WDR permit fee for the 2015-2016, even though  
26 no more injections are planned or required during this period, results in additional costs to  
27 Petitioner and serves no valid purpose. (Wactor Decl. ¶¶5, 6.)

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2. There is a Lack of Substantial Harm to Other Interested Persons or the Public Interest if the Stay is Granted

No substantial harm to other interested persons or the public would result if the State Board grants a stay of the WDR Order’s requirement. As noted above, staying the WDR requirements would not result in no monitoring work because the 13267 Order already requires substantially the same monitoring work. (Wactor Decl. ¶4.) Moreover, the sodium lactate solution injections are non-toxic and, in fact, reduce VOC concentrations by enhancing biodegradation. (Wactor Decl. ¶4; Exhibit 5.) If further work is required, it can be done through Petitioner’s existing enrollment in the Regional Board’s voluntary cleanup program and the 13627 Order. (Exh. 2.)

3. There Are Substantial Questions of Fact or Law of Whether the WDR is Necessary

For the foregoing reasons, there exist substantial questions of fact and law regarding the necessity of the WDR requirements in light of the requirements of the 13267 Order and the nature of Petitioner’s remedial activities. (Exh. 1 and Exh. 2.)

**8. A list of persons, if any, other than the Petitioners and discharger, if not the Petitioners, known by the Regional Board to have an interest in the subject matter of the petition. Such list shall be obtained from the regional board.**

Petitioners are unaware of another person known by the Regional Board to have an interest in the subject matter of the petition.

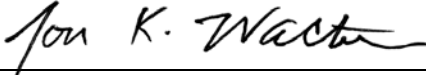
**9. A statement that the petition has been sent to the appropriate Regional Board and the discharger, if not the Petitioner.**

A copy of this Petition is being sent to the Los Angeles Regional Board, to the attention of Samuel Unger, Executive Officer.

1 Dated: September 22, 2015

Respectfully submitted,

WACTOR & WICK LLP

4 By   
5 JON K. WACTOR  
6 Attorneys for Petitioner  
ROIC PARAMOUNT PLAZA LLC

7 Enclosures

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1 JON K. WACTOR (State Bar No. 141566)  
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5 Facsimile: (510) 465-5697

6 Attorneys for Petitioners  
7 ROIC PARAMOUNT PLAZA LLC

8 **STATE WATER RESOURCES CONTROL BOARD**

9 **STATE OF CALIFORNIA**

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In the Matter of

12

13 ROIC Paramount Plaza LLC

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Petitioner,

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16 For the Review of Los Angeles Regional  
Water Quality Control Board Inaction on  
17 Termination Request for Waste  
Discharge Requirements for the Former  
18 Paramount Plaza Dry Cleaners, located at  
15729 Downey Avenue, Paramount, CA

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**DECLARATION OF JON K. WACTOR IN  
SUPPORT OF ROIC PARAMOUNT  
PLAZA LLC'S PETITION FOR REVIEW  
OF REGIONAL BOARD WASTE  
DISCHARGE REQUIREMENT ORDER,  
AND REQUEST FOR STAY**

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21 I, Jon K. Wactor, declare:

22

23 1. I am an attorney duly licensed to practice law in the State of California, am a  
24 partner of the law firm Wactor & Wick LLP, and am counsel for petitioner ROIC Paramount Plaza  
25 LLC ("Petitioner") in this action.

26

27 2. I have personal knowledge of the facts set forth below, and if called as a witness, I  
28 could and would testify to these facts. I make this Declaration in support of Petitioner's petition  
for review and request for stay.

1           3.       On December 19, 2014, the California Regional Water Quality Control Board--Los  
2 Angeles Region ("Regional Board") issued *Waste Discharge Requirements for Injection of*  
3 *Emulsified Vegetable Oil and Bioaugmentation Organisms*, Order No. R4-2014-0187, Series No.  
4 12, CI-10108 ("WDR Order") to Petitioner for its in situ remediation activities at the former  
5 Paramount Dry Cleaners (Site) located in the northwestern portion of a multi-tenant shopping  
6 center at 15729 Downey Avenue, Paramount, California. The WDR Order requires payment of an  
7 annual permit fee of about \$8800. In addition, the WDR Order requires quarterly groundwater  
8 monitoring and reporting to be conducted in the fiscal year commencing July 1, 2014 and ending  
9 June 30, 2015 ("FY2014-2015"). The sampling and reporting costs about \$30,000 annually.  
10 Attached hereto as **Exhibit 1** is a true and accurate copy of the WDR Order.

11           4.       On December 21, 2010, the Regional Board issued to Petitioner an administrative  
12 order seeking technical information pursuant to its authority under Water Code § 13267 ("13267  
13 Order"). The 13267 Order was amended on July 12, 2012 and November 1, 2012. Among other  
14 requirements, the 13267 Order requires groundwater monitoring and reporting to the Regional  
15 Board of substantially the same frequency and scope as the WDR Order. Attached hereto as  
16 **Exhibit 2** is a true and correct copy of the 13267 Order, as amended.

17           5.       During the month of January 2015, as part of the Regional Board-approved  
18 *Remedial Action Plan*, dated June 28, 2013, Petitioner performed a one-time injection of a non-  
19 toxic sodium lactate solution to reduce VOC concentrations in the subsurface, and paid the WDR  
20 permit fee FY2014-2015 for this activity.

21           6.       The WDR Order requires Petitioner to pay the WDR permit fee for the fiscal year,  
22 commencing July 1, 2015 and ending June 30, 2016 ("FY2015-2016") unless a request for  
23 termination is made to the Regional Board before July 1, 2015.

24           7.       On June 24, 2015 (prior to the July 1<sup>st</sup> start of FY2015-2016), I sent an email on  
25 behalf of Petitioner to Samuel Unger, Executive Officer of the Regional Board, asking that the  
26 Regional Board terminate the WDR Order. A true correct copy of my correspondence is attached  
27 as **Exhibit 3**. I received no response from Mr. Unger.

28           8.       In a letter, dated August 27, 2015, I followed up to my June 24, 2015 email

1 correspondence reiterating Petitioner's request for termination of the WDR Order. In this letter, I  
2 also asked for a response from the Regional Board within seven days, by September 3, 2015, and  
3 noticed the Regional Board of Petitioner's intent to lodge a petition for review with the State  
4 Water Resources Control Board ("State Board") if no response was given either way. A true and  
5 correct copy of that letter is attached as **Exhibit 4**.


6 9. Petitioner submitted a monitoring report of its post-injection samplings to Regional  
7 Board staff on April 30, 2015, which indicated that there were no exceedances of the WDR  
8 Order's set water quality objectives (WQOs) resulting from the injections. A true and correct  
9 copy of the *First Quarter 2015 WDR Groundwater Injection and Monitoring Report*, dated April  
10 30, 2015 is attached as **Exhibit 5**.

11 10. Petitioner has, and is, complying with the 13627 Order requirement of submitting  
12 quarterly groundwater monitoring reports to the Regional Board.

13  
14 I declare under penalty of perjury under the laws of the State of California that upon  
15 information and belief the foregoing is true and correct, and that this declaration was executed on  
16 September 22, 2015 at Oakland, California.

17  
18 Dated: September 22, 2015

WACTOR & WICK LLP

19  
20  
21 By   
22 JON K. WACTOR  
23 Attorneys for Petitioner  
24 ROIC PARAMOUNT PLAZA LLC

# **Exhibit 1**

## Los Angeles Regional Water Quality Control Board

December 19, 2014

Ms. Courtney Pease  
Retail Opportunity Investments Corporation  
8905 Towne Centre Drive, #108  
San Diego, California 92122

Certified Mail  
Return Receipt Required  
Claim No. 7013 1090 0000 7172 9698

**GENERAL WASTE DISCHARGE REQUIREMENTS FOR INJECTION OF EMULSIFIED VEGETABLE OIL AND BIOAUGMENTATION ORGANISMS – FORMER PARAMOUNT PLAZA DRY CLEANERS, 15729 DOWNEY AVENUE, PARAMOUNT, CALIFORNIA (FILE NO. 14-136, ORDER NO. R4-2014-0187, SERIES NO. 012, CI-10108, GLOBAL ID. WDR 100020352)**

Dear Ms. Pease,

The California Regional Water Quality Control Board, Los Angeles Region (Regional Board), is the public agency with primary responsibility for the protection of ground and surface water quality for all beneficial uses within major portions of Los Angeles and Ventura Counties, including the referenced property above.

The former Paramount Plaza Dry Cleaners (Site) is located in the northwestern portion of a multi-tenant shopping center at 15729 Downey Avenue, Paramount, California. The shopping center is currently owned by Retail Opportunity Investments Corporation Paramount Plaza, LLC (ROIC, hereinafter Discharger). The October 2014 groundwater sampling results indicated that tetrachloroethylene and trichloroethylene were detected at concentrations up to 560 micrograms per liter ( $\mu\text{g/L}$ ) and 340  $\mu\text{g/L}$ , respectively.

On December 6, 2013, Regional Board staff approved the *Remedial Action Plan*, dated June 28, 2013. A total of 7,260 gallons of 10% emulsified vegetable oil solution, 45 liters of bioaugmentation organisms, and 720 gallons of anaerobic chase water will be injected into 15 injection points at depths from approximately 17 to 37 feet below ground surface. The injection activities are expected to take approximately one week.

Regional Board staff has completed the review of your application for coverage under General Waste Discharge Requirements (WDR) for injection of sodium lactate solution for groundwater remediation of volatile organic compounds. Regional Board staff has determined that the proposed discharge meets the conditions specified in General WDRs Order No. R4-2014-0187, *General Waste Discharge Requirements for In-Situ Groundwater Remediation and Groundwater Re-Injection*, adopted by this Regional Board on September 11, 2014.

Enclosed are your General Waste Discharge Requirements, consisting of General WDRs Order No. R4-2014-0187 (Series No. 012), Standard Provisions Applicable to Waste Discharge Requirements, and Monitoring and Reporting Program (MRP) No. CI-10108. The proposed discharge shall not cause the mineral constituents of the receiving groundwater at the compliance point, downgradient outside the application area, in excess of applicable limits (Central Basin of the Los Angeles Coastal Plain Groundwater Basin) given in Attachment B of General WDRs Order No. R4-2014-0187.

MRP No. CI-10108 requires you to implement the monitoring program on the effective date of this enrollment under Regional Board Order No. R4-2014-0187. When submitting monitoring or technical reports to the Regional Board per these requirements, please do not combine other reports with your monitoring reports. Submit each type of report as a separate document.

The Discharger shall comply with the Electronic Submittal of Information (ESI) requirements by submitting all reports required under the MRP, including groundwater monitoring data, discharge location data, and pdf monitoring reports to the State Water Resources Control Board GeoTracker database under Global ID WDR100020352. ESI training video is available at: <https://waterboards.webex.com/waterboards/ldr.php?AT=pb&SP=MC&rID=44145287&rKey=7dad4352c990334b>

For all parties who upload electronic documents to State Database GeoTracker, it is no longer necessary to email a copy of these documents to [losangeles@waterboards.ca.gov](mailto:losangeles@waterboards.ca.gov) or submit hard copies to our office. The Regional Board will no longer accept documents (submitted by either hard copy or email) already uploaded to GeoTracker. Please see Electronic Submittal to the Los Angeles Regional Board for GeoTracker Users dated December 12, 2011 at: <http://www.waterboards.ca.gov/losangeles/resources/Paperless/Paperless%20Office%20for%20GT%20Users.pdf>

To avoid paying future annual fees, please submit a written request for termination of your enrollment under the general WDR in a separate letter when the project is completed and the WDR is no longer needed. Be aware that the annual fee covers the fiscal year billing period beginning July 1 and ending June 30, the following year. You will pay the full annual fee if your request for termination is made after the beginning of the new fiscal year beginning July 1.

If you have any questions, please contact the Project Manager, Dr. Ann Chang at (213) 620-6122 ([ann.chang@waterboards.ca.gov](mailto:ann.chang@waterboards.ca.gov)), or the Chief of Groundwater Permitting Unit, Dr. Eric Wu at (213) 576-6683 ([eric.wu@waterboards.ca.gov](mailto:eric.wu@waterboards.ca.gov)).

Sincerely,

  
Samuel Unger, P.E.  
Executive Officer

Enclosures: 1. General Waste Discharge Requirements Order No. R4-2014-0187  
2. Standard Provisions, Applicable to Waste Discharge Requirements  
3. Monitoring and Reporting Program No CI-10108



**CALIFORNIA REGIONAL WATER QUALITY CONTROL BOARD  
LOS ANGELES REGION**

320 West 4<sup>th</sup> Street, Suite 200, Los Angeles, California 90013  
(213) 576-6660 • Fax (213) 576-6640  
<http://www.waterboards.ca.gov/losangeles/>

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**ORDER NO. R4-2014-0187  
GENERAL WASTE DISCHARGE REQUIREMENTS  
FOR  
IN-SITU GROUNDWATER REMEDIATION AND GROUNDWATER RE-INJECTION  
(FILE NO. 01-116)**

The California Regional Water Quality Control Board, Los Angeles Region (Regional Board) finds:

1. On January 24, 2002, pursuant to the Porter-Cologne Water Quality Control Act (Cal. Water Code §§ 13000 et seq.), the Regional Board adopted General Waste Discharge Requirements (General WDRs) (Order No. R4-2002-0030) that regulated discharges of waste associated with groundwater remediation at petroleum hydrocarbon fuel, volatile organic compound, and/or hexavalent chromium impacted sites. Those General WDRs have been revised by Order No. R4-2005-0030 adopted on May 5, 2005, and by Order No. R4-2007-0019 adopted on March 1, 2007. Order No. R4-2007-0019 authorized the use of a variety of materials for in-situ remediation purposes, including oxidation/aerobic degradation enhancement compounds, reducing/reductive degradation enhancement compounds, inorganics/nutrients, carbon sources/electron donors, and tracer study compounds.
2. Since then, additional materials for in-situ remediation have come into use at sites throughout the Los Angeles Region to remediate wastes at petroleum hydrocarbon fuel, volatile organic compound, and inorganic contaminant impacted sites. This revision of the General WDRs by this Order No. R4-2014-0187 (Order) is to authorize the use of additional materials that have been effectively used to remediate wastes in groundwater and soil.
3. Attachment A of this Order includes a list of materials that can be used for in-situ soil/groundwater remediation purposes. Newly added or revised remedial materials or amendments include chemical oxidants, chemical oxidant activators, aerobic bioremediation enhancement compounds, anaerobic degradation enhancement compounds, reduction degradation enhancement compounds, metals precipitation/stabilization compounds, surfactants/co-solvents, bioaugmentation organisms, tracer study compounds, and buffer solutions and pH adjusters.
4. The California Water Code (CWC), section 13260, subdivision (a)(1) requires that any person discharging wastes, or proposing to discharge wastes other than into a community waste water collection system, which could affect the quality of the waters of the State, shall file a Report of Waste Discharge with the Regional Board. The Regional Board shall then prescribe requirements for the discharge or proposed discharge of wastes.

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5. Section 13263, subdivision (i) of the CWC provides that a Regional Board may prescribe general waste discharge requirements for discharges produced by similar operations, involving similar types of wastes, and requiring similar treatment standards.
6. The dischargers regulated by this Order are more appropriately regulated by general WDRs than individual WDRs because the Regional Board regulates many sites using this type of process, the cleanup of these type of sites is of high priority, the issuance of individual WDRs is time-consuming without providing additional benefit, and the types of treatment used result in similar impacts that can reasonably be regulated with general WDRs. In addition, the adoption of general WDRs for in-situ groundwater remediation/cleanup or the extraction of polluted groundwater with above ground treatment and the return of treated groundwater to the same aquifer zone would: a) simplify the application process for dischargers, b) allow more efficient use of Regional Board staff time, c) minimize the time needed for Regional Board approval of waste discharges by enabling the Executive Officer to notify the discharger of the applicability of the general WDRs, d) enhance the protection of surface water quality by eliminating the discharge of treated groundwater to surface waters, e) preserve water resources by re-injection of treated groundwater into aquifers, and f) provide a level of protection comparable to individual, site-specific WDRs. This Order does not preclude the adoption of individual WDRs where appropriate.
7. Wastes, including petroleum hydrocarbon fuel, volatile organic compounds, and inorganic contaminants, are found in groundwater at various sites throughout the Los Angeles Region and cause or threaten to cause adverse impacts to existing and potential beneficial uses of the region's groundwater resources. Remediation/cleanup of groundwater at these sites includes the use and application of chemical, biological, and physical treatment processes, such as chemical oxidation, chemical oxidant activation, aerobic bioremediation, anaerobic bioremediation, chemical reduction, metals precipitation/stabilization, surfactants/co-solvents, buffering and pH adjustment, or groundwater pump and treat technology with the return of treated groundwater to the same aquifer zone in some cases.
8. The application of such materials or amendments may result in the discharge of waste and may cause unintended adverse impacts to groundwater quality. Any potential adverse water quality impacts that may result will be localized, of short-term duration, and will not impact any existing or prospective beneficial uses of groundwater. Groundwater quality will be monitored before addition of any materials, during treatment, and after treatment is completed to verify no long-term adverse impact to water quality.
9. The implementation of in-situ remediation may require a small-scale pilot testing program or demonstration study prior to the design and implementation of a full-scale remediation project. The discharges from pilot test programs or demonstration studies are also covered under this Order.
10. *The Water Quality Control Plan, for the Los Angeles Region*, (hereafter Basin Plan) designates beneficial uses, establishes water quality objectives, contains prohibitions,

contains implementation plans and policies for protecting waters of the basin, and incorporates by reference plans and policies adopted by the State Water Resources Control Board (State Water Board). Pursuant to section 13263(a) of the CWC, waste discharge requirements must implement the Basin Plan.

11. The designated beneficial uses of underlying groundwater include:
  - a. Municipal and domestic water supply (MUN);
  - b. Agricultural water supply (AGR);
  - c. Industrial service supply (IND);
  - d. Industrial process supply (PRO); and
  - e. Groundwater recharge.
12. The Basin Plan establishes numerical and narrative water quality objectives (WQOs) for surface and groundwater within the basin, and recognizes that WQOs are achieved primarily through the Regional Board's adoption of waste discharge requirements and enforcement orders. Where numerical WQOs are listed, these are limits necessary for the reasonable protection of beneficial uses of the water. Where compliance with narrative WQOs is required, the Regional Board will, on a case-by-case basis, adopt numerical limits in orders, which will implement the narrative objectives to protect beneficial uses of the waters of the State. Beneficial uses for individual hydrologic sub-areas are specified in the Basin Plan. See Attachment B (Table 3-13 from the updated 2013 Basin Plan) for WQOs for selected constituents in regional groundwater.
13. State Water Board Resolution No. 92-49 ("Policies and Procedures for Investigation and Cleanup and Abatement of Dischargers Under Water Code Section 13304")(Resolution No. 92-49) requires the Regional Board to require actions for cleanup and abatement of discharges that cause or threaten to cause pollution or nuisance to conform to the provisions of State Water Board Resolution No. 68-16 ("Statement of Policy with Respect to Maintaining High Quality of Waters in California")(Resolution No. 68-16) and the Basin Plan. Pursuant to Resolution No. 92-49, the Regional Board shall ensure that dischargers are required to clean up and abate the effects of discharges in a manner that promotes attainment of either background water quality, or if background levels of water quality cannot be restored, the best water quality which is reasonable and which complies with the Basin Plan including applicable WQOs.
14. Resolution No. 68-16 requires the Regional Board in regulating discharges to maintain high quality waters of the State until it is demonstrated that any change in quality will be consistent with maximum benefit to the people of the State, will not unreasonably affect present and potential beneficial uses, and will not result in water quality less than that described in plans and policies (e.g., quality that exceeds WQOs). Temporal degradation of groundwater may occur at sites subject to this Order within the defined treatment zone due to the use of amendments. The temporary degradation allowed by this Order is consistent with Resolution No. 68-16 since (1) the purpose is to accelerate and enhance

remediation of groundwater pollution and such remediation will benefit the people of the State; (2) the discharge facilitates a project to evaluate the effectiveness of cleanup technology in accord with Resolution No. 92-49; (3) the degradation is limited in scope and duration; (4) best practicable treatment and control, including adequate monitoring and hydraulic control to assure protection of water quality, are required; and (5) the discharge will not cause WQOs to be exceeded beyond the treatment zone and it is expected that increases in concentrations above WQOs caused by the treatment will be reduced over time.

15. The discharges of wastes, including petroleum hydrocarbon fuel, volatile organic compounds, and inorganic contaminants (such as hexavalent chromium), at many sites within the Los Angeles Region affects groundwater sources. Many of the groundwater zones contain general mineral content (total dissolved solids, chloride, sulfate, and boron, etc.) at concentrations that are considered to be naturally occurring and not the result of pollution that may exceed Basin Plan WQOs for these constituents. Treated groundwater that exhibits general mineral content that is naturally occurring and exceeds Basin Plan Objectives may be returned to the same groundwater aquifers from which it is withdrawn, with concentrations not exceeding the original background concentrations for the site. Re-injection of treated groundwater containing materials or amendments authorized by this Order and that may exhibit general mineral content exceeding the original background concentrations may be returned to the same groundwater aquifer within the treatment zone for the purpose of remediating groundwater, if it does not exacerbate the existing groundwater pollution.
16. Treated groundwater that is discharged to surface waters is prohibited unless subject to a separate National Pollutant Discharge Elimination System (NPDES) Permit.
17. This Order is applicable to groundwater remediation projects at petroleum hydrocarbon fuel, volatile organic compound, and inorganic contaminant impacted sites. Persons subject to this Order must pay an annual fee based on the threat to water quality and complexity of the discharge. The Executive Officer has determined that this Order is intended to regulate groundwater discharges that have a threat to water quality of Category 3 and Complexity rating of A for a combined rating of 3-A.
18. Discharges with a rating of 3-A contain wastes that could degrade water quality or cause a minor impairment of designated beneficial uses within the application area of the receiving groundwater. The discharges covered by these requirements are required to comply with a groundwater monitoring program as set forth in this Order.
19. The requirements contained in this Order were established by considering, and are consistent with, the applicable water quality control plans, policies, and regulations, and compliance with this Order will protect and maintain the existing beneficial uses of the receiving groundwater.
20. This Order does not relieve dischargers of any regulatory requirements from other governmental agencies.

21. In accordance with the Governor's Executive Order requiring any proposed activity be reviewed to determine whether such activity will cause additional energy usage, this Regional Board has determined that implementation of these General WDRs will not result in a change in energy usage exceeding what would be used if site-specific WDRs were issued for cleanup at the impacted sites.
22. The Regional Board is the lead agency for this project pursuant to the California Environmental Quality Act (Public Resources Code section 21000 et seq.) and has conducted an Initial Study in accordance with section 15063 of the "State CEQA Guidelines" at California Code of Regulations, title 14, section 15000 et seq. Based upon the Initial Study, the Regional Board prepared a Mitigated Negative Declaration concluding that the project will not have a significant adverse effect on the environment and the Regional Board incorporates Resolution No. R14-008 adopting the Mitigated Negative Declaration and approving the Environmental Checklist in this Order. The Mitigated Negative Declaration identifies environmental impacts that are less than significant with mitigation measures regarding (1) Air Quality, (2) Geology and Soils, (3) Hydrology and Water Quality, and (4) Transportation and Traffic. The Mitigated Negative Declaration identifies the mitigation measures and the actions to be taken to reduce the impacts to less than significant. The Dischargers are required by this Order to obtain and comply with applicable permits of other agencies. This Order includes a monitoring and reporting program to assure protection of water quality.
23. The discharges authorized in this Order are exempt from the requirements of *Consolidated Regulations for Treatment, Storage, Processing, or Disposal of Solid Waste*, set forth in the Title 27, California Code of Regulations (CCR), section 20005 et seq. (hereafter Title 27), which allows a conditional exemption from some or all of the provisions of Title 27. The exemption, pursuant to Title 27 CCR Section 20090(b), is based on the following:

- i. The Regional Water Board is issuing waste discharge requirements.
- ii. The discharge is in compliance with the applicable Basin Plan.
- iii. The wastewater does not need to be managed according to Title 22 CCR, Division 4.5 and Chapter 11 as a hazardous waste.

Section 20090(d) allows exemption for a project to clean up a condition of pollution that resulted from an unauthorized discharge of waste based on the following:

- iv. The application of amendments to groundwater is at the direction of the Regional Board to cleanup and abate conditions of pollution or nuisance resulting from the unauthorized discharge of waste;
- v. Wastes removed from the immediate place of release must be discharged according to the Title 27 regulations; and
- vi. The cleanup actions intended to contain wastes at the place of release shall implement the Title 27 regulations to the extent feasible.

24. Section 13267(b) of the California Water Code provides that:

“In conducting an investigation specified in subdivision (a), the Regional Board may require that any person who has discharged, discharges, or is suspected of having discharged or discharging, or who proposes to discharge within its region, or any citizen or domiciliary, or political agency or entity of this state who has discharged, discharges, or is suspected of having discharged or discharging, or who proposes to discharge waste outside of its region that could affect the quality of the waters of the state within its region shall furnish under penalty of perjury, technical or monitoring program reports which the Regional Board requires. The burden, including costs of these reports, shall bear a reasonable relationship to the need for the reports and the benefits to be obtained from the reports. In requiring these reports, the Regional Board shall provide the person with a written explanation with regard to the need for the reports, and shall identify the evidence that supports requiring that person to provide the reports.”

The technical reports required by this Order and the attached Monitoring and Reporting Program are necessary to assure compliance with this Order. The Discharger operates the facility that discharges the waste subject to this Order.

25. The Regional Board has notified interested agencies and persons of its intent to prescribe General WDRs for the discharges covered under these General WDRs, and has provided them with an opportunity to submit written comments and provide oral testimony at a public hearing.
26. The Regional Board, in a public meeting, heard and considered all comments pertaining to the tentative General WDRs.

**IT IS HEREBY ORDERED THAT** dischargers authorized under this Order shall meet the provisions contained in Division 7 of the California Water Code, and regulations adopted here under, by complying with the following:

**A. ELIGIBILITY**

1. A discharger may seek coverage under this Order for:
  - a. Existing and future discharges to soil and groundwater of remediation compounds for the purpose of the cleanup of wastes at petroleum hydrocarbon fuel, volatile organic compound, and/or inorganic contaminant impacted sites and similar discharges in pilot studies or full-scale applications.
  - b. Re-injection, percolation or infiltration of treated groundwater from a pump and treat remediation system(s). Treated groundwater may be used for

irrigation and/or dust control provided that the treated groundwater meets the applicable discharge limits for recycling and reuse.

2. To be covered under this Order, a discharge must meet the following criteria:
  - a. The Executive Officer must find, based on the Report of Waste Discharge submitted pursuant to Provision C, that the groundwater discharges for which coverage under this Order are sought have a threat to water quality of Category 3 and Complexity rating of A for a combined rating of 3-A, using the rating criteria noted on the Regional Board website.
  - b. The discharger must have an approved Remedial Action Plan (RAP). The discharger shall submit a copy of the approved RAP including any conditions of implementation with the Report of Waste Discharge for application of the General WDRs. At a minimum, the RAP shall comply with any requirements of a cleanup and abatement order issued by the Regional Board and include the following site-specific information:
    - The background water quality of the aquifer of the groundwater remediation site(s) including constituents of concern, total dissolved solids, sulfates, chlorides, nitrogen (NH<sub>4</sub>, NO<sub>3</sub>, NO<sub>2</sub>), chemical oxygen demand, biochemical oxygen demand, phosphorus, pH, dissolved metals, nutrients, dissolved oxygen, dissolved carbon dioxide, methane, temperature, iron, and oxidation-reduction potential;
    - Information on any potential adverse impacts to groundwater quality, and whether the impacts will be localized and short-term;
    - The results of any pilot testing performed for the treatment technology used;
    - Site-specific geology (lithology and physical parameters) and hydrogeologic parameters, hydrologic report;
    - Infiltration rate;
    - Characterization and extent of the wastes, including petroleum hydrocarbon fuel, volatile organic compounds, and inorganic contaminants;
    - Description of the treatment system(s);
    - Adequate groundwater monitoring network with historical groundwater monitoring report;
    - Description of the aerial extent of the application area and identification of monitoring wells to be used to determine water quality upgradient, within the application area, downgradient from the application area and identify the compliance point;
    - Material Safety Data Sheet (MSDS) information and other product technical information for any materials to be used for cleanup;

- Application rate(s), material type(s) and applied concentrations;
  - Evaluation of loading rates for nitrogen compounds, total dissolved solids, sulfate, and chloride compounds; and
  - GeoTracker database update whenever applicable.
- c. This Order authorizes the materials listed in Attachment A to be used for in-situ remediation purposes. The materials listed in Attachment A do not represent all chemicals that might be used in remediation, rather they meet all criteria specified in section 3 below. Any by-product or impurity of any product containing compounds listed in Attachment A is not authorized by this Order and such materials shall not be used for injection under this Order. Compounds listed under one category can also be used under another category.
3. The Executive Officer is delegated the authority to revise and update the list periodically to add materials that meet the following criteria:
- a. Effective to remediate targeted constituents;
  - b. Minimum degradation of water quality (including toxicity and by-product evaluation) that will not cause or contribute to exceedance of WQOs;
  - c. Protective of human health and safety (including prohibition of human/animal pathogens);
  - d. Availability on the market for a minimum of three years.
4. The monitoring program shall be sufficient to identify changes in geochemistry that may alter the potential occurrence of transference of chromium (III) into chromium (VI), or vice versa, during the oxidation or reduction process in the in-situ remediation under these WDRs.
5. For the purpose of replacement of existing individual WDRs with coverage under this Order, renewal is effective upon issuance of a notification of coverage by the Executive Officer and issuance of a new monitoring and reporting program.
6. When individual WDRs with more specific requirements are issued to a discharger, the applicability of this Order to that discharger is automatically terminated on the effective date of the individual WDRs.

## B. AUTHORIZATION

To be authorized to discharge under this Order, the discharger must submit a Report of Waste Discharge in accordance with the requirements of Part C of this Order. Upon receipt of the Report of Waste Discharge, the Executive Officer shall determine the completeness of the Report of Waste Discharge and the applicability of this Order to such a discharge. If



the discharge is eligible, the Executive Officer shall notify the discharger that the discharge is authorized under the terms and conditions of this Order and prescribe an appropriate monitoring and reporting program. For new discharges, the discharge shall not commence until receipt of the Executive Officer's written determination that the discharge is eligible to be covered by this Order and has issued a site-specific monitoring and reporting program.

### **C. REPORT OF WASTE DISCHARGE**

1. Deadline for Submission
  - a. New dischargers seeking coverage under this Order shall file a complete Report of Waste Discharge that includes all information identified in Items A.1 and A.2 above at least 90 days before planned commencement of any discharge.
  - b. Existing dischargers covered under individual WDRs may seek coverage under this Order by submitting a Report of Waste Discharge that includes all information identified in Items A.1 and A.2. Coverage under this Order will not occur until the discharger receives notification from the Executive Officer.
2. Forms for Report of Waste Discharge
  - a. Dischargers shall use the appropriate forms (Standard Form 200) or equivalent forms approved by the State Water Resources Control Board or the Executive Officer of the Los Angeles Regional Board.
  - b. The discharger, upon request, shall submit any additional information that the Executive Officer deems necessary to determine whether the discharge meets the criteria for coverage under this Order, and/or in prescribing an appropriate monitoring and reporting program.
  - c. The Report of Waste Discharge shall be accompanied by the first annual fee (if appropriate) in accordance with the current version of California Code of Regulation, Title 23, Division 7, Chapter 9, Waste Discharge Report and Requirements Article 1 fees for a discharge. The check or money order shall be made payable to the "State Water Resources Control Board" and submitted to the Regional Water Quality Control Board – Los Angeles Region.

### **D. DISCHARGE PROHIBITIONS**

1. The discharge of wastes, amendments, or other materials other than those which meet eligibility requirements in Part A of this Order and listed in Attachment A, is

prohibited unless the discharger obtains coverage under another general WDR or an individual site-specific WDR that regulates the discharge of such wastes.

2. The discharge of any radiological, chemical, or biological warfare agent or high level radiological waste is prohibited.
3. Creation of a pollution, contamination, or nuisance, as defined by section 13050 of the CWC, is prohibited.
4. The surfacing or overflow of wastes from the treatment system at any time and at any location is prohibited.
5. The disposal of wastes in geologically unstable areas or so as to cause earth movement is prohibited.
6. The discharge of amendments or wastes to surface water or surface water drainage courses is prohibited.
7. The discharge of amendments or wastes to land or groundwater in areas other than that proposed for remediation is prohibited.
8. The discharge of wastes or amendments to property that is not under the control of the Discharger is prohibited. The "area under the control" of the Discharger is defined to be at the borders of the treatment zone at areas owned by the Discharger and/or where the Discharger holds an agreement for purposes of investigation and remediation.
9. The migration of any by-products produced as part of the treatment process beyond the boundaries of the property owned or controlled by the discharger as defined above in Item 8 of Section D or to surface waters is prohibited.

**E. DISCHARGE LIMITATIONS**

1. The discharge of wastes shall not cause the pH of the receiving groundwater at the compliance point, downgradient outside the application area, to be outside the range of 6.5 and 8.5.
2. The discharge of wastes shall not cause the mineral constituents of the receiving groundwater at the compliance point, downgradient outside the application area, to be in excess of applicable limits given in Attachment B. In the letter of determination, the Executive Officer shall indicate the groundwater limitations in Attachment B applicable to the particular discharge, and identify the compliance point(s) for the site.

3. The discharge of wastes shall not cause the concentrations of chemical constituents and radionuclides of the receiving groundwater designated for use as domestic or municipal supply at the compliance point, downgradient outside the application area, to be in excess of the Maximum Contaminant Levels (MCLs) specified in the following provisions of Title 22 of the California Code of Regulations which are incorporated by reference into the Basin Plan: Table 64431-A of section 64431 (inorganic chemicals, including fluoride), Table 64444-A of section 64444 (organic chemicals), and Table 64442 of section 64442 and Table 64443 of section 64443 (radioactivity). This incorporation by reference is prospective including future changes to the incorporated provisions as the changes take effect.
4. Treated groundwater recycled and/or reused for irrigation or dust control shall meet the Title 22 Recycle Water Requirement for coliform not to exceed 2.2. most probable numbers per 100 milliliters (MPN/100ml). Wastewater discharged to groundwater basin/subbasin shall meet the Basin Plan objective of 1.1 MPN/100 ml.
5. Waste discharged shall not contain salts, heavy metals, or organic constituents at levels that would cause receiving groundwater at the compliance point, downgradient outside the application area, to exceed the WQOs for groundwater or groundwater that may be in hydraulic connection with surface waters designated for marine aquatic life or body contact recreation.
6. Waste discharged shall not cause the groundwater to contain concentrations of chemical substances or its by-products in amounts that adversely affect any designated beneficial use, outside the application area or treatment zone at the compliance point(s).
7. Waste discharged shall not cause the groundwater to contain residual taste or odor in concentrations that cause nuisance or adversely affect beneficial uses, outside the application area or treatment zone at the compliance point(s).
8. Waste discharged shall not cause the groundwater to contain nitrogen as nitrate-nitrogen plus nitrite-nitrogen ( $\text{NO}_3\text{-N} + \text{NO}_2\text{-N}$ ) that exceeds the background concentrations in groundwater basins, or the Basin Plan's groundwater quality objectives of 45 mg/L as Nitrate ( $\text{NO}_3$ ), or 10 mg/L as nitrate-nitrogen ( $\text{NO}_3\text{-N}$ ), or 1 mg/L as nitrite-nitrogen ( $\text{NO}_2\text{-N}$ ), whichever is lower, outside the application area or treatment zone at the compliance point(s). In a situation where the groundwater may interact with surface water or other aquifers, other relevant regulatory standards may also apply, and then the most protective criteria shall prevail.

## F. PROVISIONS

1. The Executive Officer may require any discharger authorized under this Order to apply for and obtain individual WDRs with specific requirements. The Executive Officer may require in writing that any discharger authorized to discharge under this Order to apply for individual WDRs by submitting a report of waste discharge.
2. This Order incorporates the attached "Standard Provisions Applicable to Waste Discharge Requirements" (Attachment C). If there is any conflict between provisions stated herein before and the attached "Standard Provisions," those provisions stated herein shall prevail.
3. Adequate facilities shall be provided to divert surface and storm water away from the application area and/or treatment system and areas where any wastes are stored.
4. The application of materials or the re-injection or reuse of treated groundwater shall only be at a site owned or controlled as defined above in Item 8 of Section D by the discharger.
5. Re-injection or reuse of treated groundwater shall be limited to the same aquifer where the impacted groundwater was withdrawn from for treatment. Re-injection of treated groundwater to which materials or amendments have been added shall be limited to the same aquifer and within the treatment zone.
6. All technical reports required herein that involve planning, investigation, evaluation, or design or other work requiring interpretation or proper application of engineering or geologic sciences, shall be prepared by, or under the direction of, persons registered to practice in California pursuant to California Business and Professions Code, sections 6735, 7835 and 7835.1. To demonstrate compliance with Title 16, CCR, Sections 415 and 3065, all technical reports must contain a statement of the qualifications of the responsible registered professional(s). As required by these laws, completed technical reports must bear the signature(s) and seal(s) of the registered professional(s) in a manner such that all work can be clearly attributed to the professional responsible for the work.
7. The discharge of wastes to or infiltration to a surface water of the State and United States must be covered by a separate NPDES permit.
8. The Discharger may be required to submit technical reports pursuant to California Water Code Section 13267 as directed by the Executive Officer. The technical reports required by this Order are necessary to assure compliance with this Order.

9. This Order does not alleviate the responsibility of the discharger to obtain other applicable local, state, and federal permits to construct facilities necessary for compliance with this Order; nor does this Order prevent imposition of additional standards, requirements, or conditions by any other regulatory agency. Additionally, the discharger shall notify the Native American Heritage Commission of any plans to disturb the soil in order to comply with California Environmental Quality Act (CEQA) guidelines as set forth in Section 15064.5(b)(c). Furthermore the discharger is required to provide local information prior to excavation to the California Historical Resources Information System (CHRIS). This will serve as their due diligence record search to provide proximity to Native American historical and archeological resources. The discharger shall also be required to adhere to California Health and Safety Code Section 7050.5, Public Resources Code Section 5097.98, CEQA Section 15064.5(d) and Section 15064.5 (f) to ensure that mitigation plan provisions are in-place to identify, evaluate and consult with your commission about the discovery and disposition of any recovered human remains or artifacts, should the occasion arise, during the remediation process overseen by this agency.
10. The discharger shall notify Regional Board staff by telephone within 24 hours, followed by written notification within one week, in the event it is unable to comply with any of the conditions of this Order due to:
  - a. Breakdown of waste treatment equipment,
  - b. Accident caused by human error or negligence,
  - c. Other causes such as acts of nature, or
  - d. Site construction or development operations.
11. Any discharger authorized under this Order may request to be excluded from coverage of this Order by applying for individual WDRs.
12. In accordance with section 13263(e) of the California Water Code, these requirements are subject to periodic review and revision by the Regional Board.
13. In accordance with Water Code section 13263(g), these requirements do not create a vested right to continue to discharge and are subject to rescission or modification. All discharges of waste into waters of the state are privileges, not rights.
14. The discharger shall develop a contingency plan and maintain it on site. The contingency plan shall detail appropriate actions to be taken in order to protect human health and the environment in case of any spill or failure related to the operation or mis-operation of the treatment system.

**G. MONITORING AND REPORTING REQUIREMENTS**

1. The Executive Officer is hereby authorized to prescribe a Monitoring and Reporting Program for each authorized discharger. This program may include participation of the discharger in a regional monitoring program.
2. The discharger shall file with the Regional Board technical reports on self-monitoring work conducted according to the Monitoring and Reporting Program specified by the Executive Officer and submits other reports as requested by the Regional Board.
3. The discharger shall retain records of all monitoring information and data used to complete the Report of Waste Discharge and application for coverage under this Order for at least five years from the date of permit issuance. The retention period shall be extended during any unresolved litigation regarding the discharge or when requested by the Executive Officer.
4. The discharger shall maintain all sampling, measurement, and analytical results, including the date, exact place, and time of sampling or measurement; individual(s) who did the sampling or measurement; the date(s) analyses were done; analysts' names; and analytical techniques or methods used.
5. All sampling, sample preservation, and analyses must be conducted according to test procedures under title 40 Code of Federal Regulations, section 136, unless other test procedures have been specified in this Order or by the Executive Officer.
6. All chemical, bacteriological, and bioassay analyses shall be conducted at a laboratory certified for such analyses by the California Environmental Laboratory Accreditation Program (ELAP) or other state agency authorized to undertake such certification.
7. The discharger shall calibrate and maintain all monitoring instruments and equipment to ensure accuracy of measurements, or shall ensure that both activities will be conducted.
8. In reporting the monitoring data, the discharger shall arrange the data in tabular form so that the date, constituents, and concentrations are readily discernible. The data shall be summarized to demonstrate compliance with waste discharge requirements. Laboratory analytical data from any soil testing and/or groundwater monitoring shall be reported in Electronic Deliverable Format in accordance with California Water Code section 13195 et. seq. requirements, if applicable.
9. For every item where the requirements are not met, the discharger shall submit a statement of the actions undertaken or proposed that will bring the discharge into

full compliance with requirements at the earliest time and submit a timetable for correction.

10. The discharger shall file a report of any material change or proposed change in the character, location, or volume of the discharge.
11. The discharger shall notify this Regional Board within 24 hours by telephone of any adverse condition resulting from the discharge; such notification shall be affirmed in writing within five working days.
12. Whenever wastes, associated with the discharge under this Order, are transported to a different disposal site, the following shall be reported in the monitoring report: type and quantity of wastes; name and address of the hauler (or method of transport if other than by hauling); and location of the final point(s) of disposal.
13. Each monitoring report must contain an affirmation in writing that:

"All analyses were conducted at a laboratory certified for such analyses by and in accordance with current USEPA procedures or as specified in this Monitoring and Reporting Program."

14. Each report shall contain the following completed declaration:

"I certify under penalty of law that this document, including all attachments and supplemental information, was prepared under my direction or supervision in accordance with a system designed to assure that qualified personnel properly gathered and evaluated the information submitted. Based on my inquiry of the person or persons who managed the system, or those persons directly responsible for gathering the information, the information submitted is, to the best of my knowledge and belief, true, accurate, and complete. I am aware that there are significant penalties for submitting false information, including the possibility of a fine and imprisonment.

Executed on the \_\_\_\_ day of \_\_\_\_\_ at \_\_\_\_\_

\_\_\_\_\_ (Signature)

\_\_\_\_\_ (Title)"

15. The Discharger shall comply with the Electronic Submittal of Information (ESI) requirements by submitting all correspondence and reports required under the WDRs' Monitoring and Reporting Program, including groundwater monitoring

data and discharge location data (latitude and longitude), correspondence, and pdf monitoring reports to the State Water Resources Control Board GeoTracker database.


**H. CONTINUATION OF THIS ORDER**

For those dischargers authorized to discharge under this Order, it shall continue in full force and effect until a new order is adopted. This Order will be reviewed periodically.

**I. REAUTHORIZATION**

Upon re-issuance of a new general permit Order, dischargers authorized under this Order shall file a new Report of Waste Discharge within 45 days of notification by the Executive Officer.

I, Samuel Unger, Executive Officer, do hereby certify that the foregoing is a full, true, and correct copy of an Order adopted by the California Regional Water Quality Control Board, Los Angeles Region, on September 11, 2014.

  
Samuel Unger, P.E.  
Executive Officer



**Attachment A**  
**List of Authorized Injection Material Amendments**

*The list below does not represent any endorsement of products or materials by the Regional Water Quality Control Board, Los Angeles Region (Regional Board). Many of the products/materials listed are patented. Users of these products/materials shall comply with any regulations and laws applicable to the use of the products/ materials. Some products/materials may contain by-products or impurities that are not authorized to be used by the Regional Board. Compounds listed under one category can also be used under another category.*

**1. Chemical Oxidants:**

- Fenton's reagent (hydrogen peroxide, ferrous iron catalyst, and pH buffer)
- Hydrogen Peroxide
- Ozone
- Potassium or Sodium Permanganate
- Sodium Percarbonate
- Sodium Persulfate

**2. Chemical Oxidant Activators:**

- Calcium Hydroxide
- Chelating Agents (ferric ethyldiaminetetraacetic acid (EDTA), sodium citrate, sodium malonate, sodium phytate)
- Silica and Silicates (Silicic Acid, Sodium Silicate, Silica Gel)
- Sodium Hydroxide

**3. Aerobic Bioremediation Enhancement Compounds:**

- Calcium Oxide/Peroxide
- Calcium Oxy-hydroxide
- Magnesium (Oxide/Hydroxide/Peroxide)
- Methane (Dissolved Phase)
- Propane (Dissolved Phase)

**4. Anaerobic Degradation Enhancement Compounds:**

- Calcium Sulfate (gypsum)
- Cheese Whey
- Complex organic materials (starch, wood chips, yeast extract, grain milling products)
- Complex Sugars
- Corn Syrup
- Emulsified Vegetable Oil
- Ethanol

- Glucose
- Glycerol esters of fatty acids and polylactates
- Glycerol Poly lactate/Tripoly lactate
- Glycerol, Xylitol, Sorbitol
- Guar
- Hematite
- Lactose
- Lecithin
- Magnesium sulfate
- Milk Whey
- Methanol
- Molasses
- Organic Acids (Acetate, Lactate, Propionate, Benzoate, and Oleate)
- Potassium Sulfate
- Propanol
- Sorbitol Cysteinate/Cysteine

***5. Reduction Degradation Enhancement Compounds:***

- Ferrous Chloride
- Ferrous Gluconate
- Ferrous Sulfate
- Sodium Dithionite
- Zero-Valent Iron

***6. Metals Precipitation / Stabilization:***

- Calcium Phosphate
- Calcium Polysulfide
- Ferrous Sulfate
- Sodium Tripolyphosphate (STPP)

***7. Surfactants/Co-solvents:***

- Benzenesulfonic acid
- Dioctyl Sodium Sulfocuccinate
- D-limonene
- Ethoxylated Castor Oils Surfactants
- Ethoxylated Cocamides Surfactants
- Ethoxylated Coco Fatty Acid Surfactants
- Ethoxylated Octylphenolic Surfactants
- Sorbitan Monooleate
- Xanthan Gum

**8. Bioaugmentation Organisms:** *The users shall prove that any bacterial genomes in the original injection form, its degradation form, other impurity or by-product shall not be human/animal pathogens. Genetically-modified organisms (GMO) should not be used.*

- Dehalococcoides Sp.
- Dehalobacter Sp.
- Geobacter
- Methanomethylovorans
- Desulfovibrio
- Desulfobacterium

**9. Tracer Study Compounds:** *The tracer compounds shall be highly contrasting and not reactive with current contaminants to be treated. The tracers may be chloride-based, bromide-based, or fluoride-based salts, or similar materials as approved by the Executive Officer.*

- Calcium Bromide
- Calcium Chloride
- Eosin Dyes
- Fluoride Salts
- Iodide
- Potassium Bromide
- Potassium Iodide
- Rhodamine Dyes
- Sodium Bromide
- Sodium Chloride
- Sodium Fluorescein

**10. Buffer Solutions and pH Adjusters:**

- Calcium Carbonate
- Calcium Magnesium Carbonate
- Potassium Bicarbonate
- Sodium (carbonate/bicarbonate)

## Attachment B

Table 3-13. Water Quality Objectives for Selected Constituents in Regional Ground Waters<sup>a</sup>.

BASINS			Objectives (mg/l) <sup>m</sup>				
Basin	Basin No <sup>b</sup>	1994 Basin Name	1994 Basin No	TDS	Sulfate	Chloride	Boron
Pitas Point Area <sup>c</sup>		Pitas Point Area		None specified			
Upper Ojai Valley	4-1	Ojai Valley	4-1				
Upper Ojai Valley	4-1	Upper Ojai Valley	4-1				
Upper Ojai Valley	4-1	West of Sulfur Mountain Road	4-1	1000	300	200	1.0
Upper Ojai Valley	4-1	Central Area	4-1	700	50	100	1.0
Upper Ojai Valley	4-1	Sisar Area	4-1	700	250	100	0.5
Ojai Valley	4-2	Lower Ojai Valley	4-2				0.5
Ojai Valley	4-2	West of San Antonio-Senior Canyon	4-2	1000	300	200	0.5
Ojai Valley	4-2	East of San Antonio-Senior Canyon	4-2	700	200	50	
Ventura River Valley	4-3	Ventura River Valley	4-3				
Upper Ventura River	4-3.01	Upper Ventura	4-3	800	300	100	0.5
Upper Ventura River	4-3.01	San Antonio Creek Area	4-3	1000	300	100	1.0
Lower Ventura River	4-3.02	Lower Ventura	4-3	1500	500	30	1.5
Santa Clara River Valley <sup>d</sup>	4-4	Ventura Central	4-4				
Piru	4-4.06	Santa Clara-Piru Creek Area	4-4				
Piru	4-4.06	Upper Area (above Lake Piru)	4-4	1100	400	200	2.0
Piru	4-4.06	Lower Area East of Piru Creek	4-4	2500	1200	200	1.5
Piru	4-4.06	Lower Area West of Piru Creek	4-4	1200	600	100	1.5
Fillmore	4-4.05	Santa Clara-Sespe Creek Area	4-4				
Fillmore	4-4.05	Topa Topa (upper Sespe) Area	4-4	900	350	30	2.0
Fillmore	4-4.05	Fillmore Area	4-4				
Fillmore	4-4.05	Pole Creek Fan Area	4-4	2000	800	100	1.0
Fillmore	4-4.05	South Side of Santa Clara River	4-4	1500	800	100	1.1
Fillmore	4-4.05	Remaining Fillmore Area	4-4	1000	400	50	0.7
Santa Paula	4-4.04	Santa Clara-Santa Paula Area	4-4				
Santa Paula	4-4.04	East of Peck Road	4-4	1200	600	100	1.0
Santa Paula	4-4.04	West of Peck Road	4-4	2000	800	110	1.0

BASINS			Objectives (mg/l) <sup>m</sup>				
Basin	Basin No <sup>b</sup>	1994 Basin Name	1994 Basin No	TDS	Sulfate	Chloride	Boron
Oxnard	4-4.02	Oxnard Plain	4-4				
Mound	4-4.03	Oxnard Plain	4-4				
Oxnard	4-4.02	Oxnard Forebay	4-4	1200	600	150	1.0
Oxnard	4-4.02	Confined Aquifers	4-4	1200	600	150	1.0
Oxnard	4-4.02	Unconfined & Perched Aquifers	4-4	3000	1000	500	
<b>Pleasant Valley<sup>c</sup></b>	<b>4-6</b>	<b>Pleasant Valley</b>	<b>4-6</b>				
Pleasant Valley	4-6	Confined Aquifers	4-6	700	300	150	1.0
Pleasant Valley	4-6	Unconfined & Perched Aquifers	4-6				
<b>Arroyo Santa Rosa Valley<sup>c</sup></b>	<b>4-7</b>	<b>Arroyo Santa Rosa</b>	<b>4-7</b>	<b>900</b>	<b>300</b>	<b>150</b>	<b>1.0</b>
<b>Las Posas Valley<sup>e</sup></b>	<b>4-8</b>	<b>Las Posas Valley</b>	<b>4-8</b>				
Las Posas Valley	4-8	South Las Posas Area	4-8				
Las Posas Valley	4-8	NW of Grimes Cyn Rd. & LA Ave. & Somis Rd.	4-8	700	300	100	0.5
Las Posas Valley	4-8	E of Grimes Cyn Rd & Hitch Blvd.	4-8	2500	1200	400	3.0
Las Posas Valley	4-8	S of LA Ave Between Somis Rd & Hitch Blvd.	4-8	1500	700	250	1.0
Las Posas Valley	4-8	Grimes Canyon Rd. & Broadway Area	4-8	250	30	30	0.2
Las Posas Valley	4-8	North Las Posas Area	4-8	500	250	150	1.0
<b>Acton Valley<sup>f</sup></b>	<b>4-5</b>	<b>Upper Santa Clara</b>	<b>4-5</b>				
Acton Valley	4-5	Acton Valley	4-5	550	150	100	1.0
Acton Valley	4-5	Sierra Pelona Valley (Agua Dulce)	4-5	600	100	100	0.5
Acton Valley	4-5	Upper Mint Canyon	4-5	700	150	100	0.5
Acton Valley	4-5	Upper Bouquet Canyon	4-5	400	50	30	0.5
Acton Valley	4-5	Green Valley	4-5	400	50	25	
Acton Valley	4-5	Lake Elizabeth-Lake Hughes Area	4-5	500	100	50	0.5
<b>Santa Clara River Valley East</b>	<b>4-4.07</b>	<b>Eastern Santa Clara</b>	<b>4-4.07</b>				

BASINS			Objectives (mg/l) <sup>m</sup>				
Basin	Basin No <sup>b</sup>	1994 Basin Name	1994 Basin No	TDS	Sulfate	Chloride	Boron
Santa Clara River Valley East	4-4.07	Santa Clara-Mint Canyon	4-4.07	800	150	150	1.0
Santa Clara River Valley East	4-4.07	South Fork	4-4.07	700	200	100	0.5
Santa Clara River Valley East	4-4.07	Placentia Canyon	4-4.07	700	150	100	0.5
Santa Clara River Valley East	4-4.07	Santa Clara-Bouquet & San Fransisquito Canyons	4-4.07	700	250	100	1.0
Santa Clara River Valley East	4-4.07	Castaic Valley	4-4.07	1000	350	150	1.0
Santa Clara River Valley East	4-4.07	Saugus Aquifer	4-4.07				
<b>Simi Valley</b>	<b>4-9</b>	<b>Simi Valley</b>	<b>4-9</b>				
Simi Valley	4-9	Simi Valley Basin	4-9				
Simi Valley	4-10	Confined Aquifers	4-9	1200	600	150	1.0
Simi Valley	4-11	Unconfined & Perched Aquifers	4-9				
Simi Valley	4-12	Gillibrand Basin	4-9	900	350	50	1.0
<b>Conejo Valley</b>	<b>4-10</b>	<b>Conejo Valley</b>	<b>4-10</b>	<b>800</b>	<b>250</b>	<b>150</b>	<b>1.0</b>
<b>Coastal Plain of Los Angeles</b>	<b>4-11</b>	<b>Los Angeles Coastal Plain</b>	<b>4-11</b>				
Central	4-11.04	Central Basin	4-11	700	250	150	1.0
West Coast	4-11.03	West Coast Basin	4-11	800	250	250	1.5
Hollywood	4-11.02	Hollywood Basin	4-11	750	100	100	1.0
Santa Monica	4-11.01	Santa Monica Basin	4-11	1000	250	200	0.5
<b>San Fernando Valley</b>	<b>4-12</b>	<b>San Fernando Valley</b>	<b>4-12</b>				
San Fernando Valley	4-12	Sylmar Basin	4-12	600	150	100	0.5
San Fernando Valley	4-12	Verdugo Basin	4-12	600	150	100	0.5
San Fernando Valley	4-12	San Fernando Basin	4-12				
San Fernando Valley	4-12	West of Highway 405	4-12	800	300	100	1.5
San Fernando Valley	4-12	East of Highway 405 (overall)	4-12	700	300	100	1.5
San Fernando Valley	4-12	Sunland-Tujunga Area	4-12	400	50	50	0.5
San Fernando Valley	4-12	Foothill Area	4-12	400	100	50	1.0

BASINS			Objectives (mg/l) <sup>m</sup>				
Basin	Basin No <sup>b</sup>	1994 Basin Name	1994 Basin No	TDS	Sulfate	Chloride	Boron
San Fernando Valley	4-12	Area Encompassing RT- Tujunga -Erwin-N. Hollywood-Whithall- LA/Verdugo-Crystal Springs- Headworks-Glendale/Burbank Well Fields	4-12	600	250	100	1.5
San Fernando Valley	4-12	Narrows Area (below confluence of Verdugo Wash with the LA River	4-12	900	300	150	1.5
San Fernando Valley	4-12	Eagle Rock Basin	4-12	800	150	100	0.5
<b>San Gabriel Valley<sup>g</sup>/Raymond<sup>h</sup></b>	<b>4-13</b>	<b>San Gabriel Valley</b>	<b>4-13</b>				
Raymond	4-23	Raymond Basin	4-13				
Raymond	4-23	Monk Hill Sub-Basin	4-13	450	100	100	0.5
Raymond	4-23	Santa Anita Area	4-13	450	100	100	0.5
Raymond	4-23	Pasadena Area	4-13	450	100	100	0.5
San Gabriel Valley	4-13	Main San Gabriel Basin	4-13				
San Gabriel Valley	4-13	Western Area <sup>e</sup>	4-13	450	100	100	0.5
San Gabriel Valley	4-13	Eastern Area <sup>e</sup>	4-13	600	100	100	0.5
San Gabriel Valley	4-13	Puente Basin	4-13	1000	300	150	1.0
<b>Upper Santa Ana Valley/San Gabriel Valley</b>	<b>8-2.01<sup>i</sup></b>	<b>Upper Santa Ana Valley</b>	<b>4-14</b>				
San Gabriel Valley	4-13	Live Oak Area	8-2	450	150	100	0.5
San Gabriel Valley	4-13	Claremont Heights Area	8-2	450	100	50	
San Gabriel Valley	4-13	Pomona Area	8-2	300	100	50	0.5
Upper Santa Ana Valley/ San Gabriel Valley	8-2.01/4-13	Chino Area	8-2	450	20	15	
San Gabriel Valley	4-13	Spadra Area	8-2	550	200	120	1.0
<b>Tierra Rejada</b>	<b>4-15</b>	<b>Tierra Rejada</b>	<b>4-15</b>	<b>700</b>	<b>250</b>	<b>100</b>	<b>0.5</b>
<b>Hidden Valley</b>	<b>4-16</b>	<b>Hidden Valley</b>	<b>4-16</b>	<b>1000</b>	<b>250</b>	<b>250</b>	<b>1.0</b>
<b>Lockwood Valley</b>	<b>4-17</b>	<b>Lockwood Valley</b>	<b>4-17</b>	<b>1000</b>	<b>300</b>	<b>20</b>	<b>2.0</b>
<b>Hungry Valley</b>	<b>4-18</b>	<b>Hungry Valley &amp; Peace Valley</b>	<b>4-18</b>	<b>500</b>	<b>150</b>	<b>50</b>	<b>1.0</b>

BASINS			Objectives (mg/l) <sup>m</sup>				
Basin	Basin No <sup>b</sup>	1994 Basin Name	1994 Basin No	TDS	Sulfate	Chloride	Boron
Conejo Valley	4-10	Thousand Oaks Area	4-19	1400	700	150	1.0
Russell Valley	4-20	Russell Valley	4-20				
Russell Valley	4-20	Russell Valley	4-20	1500	500	250	1.0
Thousand Oaks Area	4-19	Triunfo Canyon Area	4-20	2000	500	500	2.0
Thousand Oaks Area	4-20	Lindero Canyon Area	4-20	2000	500	500	2.0
Thousand Oaks Area	4-21	Las Virgenes Canyon Area	4-20	2000	500	500	2.0
Conejo-Tierra Rejada Volcanic Area <sup>l</sup>	No DWR#	Conejo-Tierra Rejada Volcanic Area	4-21				
Malibu Valley	4-22	Santa Monica Mountains-Southern Slopes <sup>k</sup>	4-22				
Malibu Valley	No DWR#	Camarillo Area		1000	250	250	1.0
Malibu Valley	No DWR#	Point Dume Area		1000	250	250	1.0
Malibu Valley	4-22	Malibu Valley	4-22	2000	500	500	2.0
Malibu Valley	No DWR#	Topanga Canyon Area		2000	500	500	2.0
San Pedro Channel Islands <sup>l</sup>	No DWR#	San Pedro Channel Islands					
Anacapa Island	No DWR#	Anacapa Island	No DWR#				
San Nicholas Island	No DWR#	San Nicholas Island	No DWR#	1100	150	350	
Santa Catalina Island	No DWR#	Santa Catalina Island	No DWR#	1000	100	250	1.0
San Clemente Island	No DWR#	San Clemente Island	No DWR#				
Santa Barbara	No DWR#	Santa Barbara Island	No DWR#				

- a. Objectives for ground waters outside of the major basins listed on this table and outlined in Figure 1-9 have not been specifically listed. However, ground waters outside of the major basins are, in many cases, significant sources of water. Furthermore, ground waters outside of the major basins are either potential or existing sources of water for downgradient basins and, as such, objectives in the downgradient basins shall apply to these areas.
- b. Basins are numbered according to Bulletin 118-Update 2003 (Department of Water Resources, 2003).
- c. Ground waters in the Pitas Point area (between the lower Ventura River and Rincon Point) are not considered to comprise a major basin, and accordingly have not been designated a basin number by the California Department of Water Resources (DWR) or outlined on Figure 1-9.
- d. The Santa Clara River Valley (4-4) was formerly Ventura Central Basin
- e. Pleasant Valley (4-6), Arroyo Santa Rosa Valley (4-7) and Las Posas Valley (4-8) Ground Water Basins were former sub-basins of the Ventura Central Basin (DWR, 1980).
- f. Acton Valley Basin was formerly Upper Santa Clara Basin (DWR, 1980)



- g. San Gabriel Valley is a combination of what were formerly the Western and Eastern areas of the Main San Gabriel Basin, and the Puente Basin. All of the groundwater in the former Main San Gabriel Basin is covered by the objectives listed under Main San Gabriel Basin – Eastern Area and Western Area, Walnut Creek, Big Dalton Wash, and Little Dalton Wash separate the Eastern Area from the Western Area (see the dashed line on Figure A2-17 in Appendix II). Any ground water upgradient of these areas is subject to downgradient beneficial uses and objectives, as explained in Footnote a.
- h. Raymond Basin was formerly a sub-basin of the San Gabriel Valley and is now a separate basin.
- i. The border between Regions 4 and 8 crosses the Upper Santa Ana Valley and San Gabriel Valley Ground Water Basins.
- j. Ground water in the Conejo-Tierra Rejada Volcanic Area occurs primarily in fractured volcanic rocks in the western Santa Monica Mountains and Conejo Mountain areas. These areas have not been delineated on Figure 1-9.
- k. With the exception of ground water in Malibu Valley (DWR Basin No. 4-22), ground waters along the southern slopes of the Santa Monica Mountains are not considered to comprise a major basin and accordingly have not been designated a basin number by the California Department of Water Resources (DWR) or outlined on Figure 1-9.
- l. DWR has not designated basins for ground waters on the San Pedro Channel Islands
- m. The Regional Board may grant, at its sole discretion, individual dischargers a variance from the numeric mineral quality objectives for groundwater specified in Table 3-13 under the conditions and procedures specified in “Coastal Aquifer Variance Provision for Mineral Quality Objectives” set forth in the Regional Objectives for Ground Waters.

## Attachment C

### STANDARD PROVISIONS APPLICABLE TO WASTE DISCHARGE REQUIREMENTS

1. DUTY TO COMPLY

The discharger must comply with all conditions of these waste discharge requirements. A responsible party has been designated in the Order for this project, and is legally bound to maintain the monitoring program and permit. Violations may result in enforcement actions, including Regional Board orders or court orders requiring corrective action or imposing civil monetary liability, or in modification or revocation of these waste discharge requirements by the Regional Board. [CWC Section 13261, 13263, 13265, 13268, 13300, 13301, 13304, 13340, 13350]

2. GENERAL PROHIBITION

Neither the treatment nor the discharge of waste shall create a pollution, contamination or nuisance, as defined by Section 13050 of the California Water Code (CWC). [H&SC Section 5411, CWC Section 13263]

3. AVAILABILITY

A copy of these waste discharge requirements shall be maintained at the discharge facility and be available at all times to operating personnel. [CWC Section 13263]

4. CHANGE IN OWNERSHIP

The discharger must notify the Executive Officer, in writing at least 30 days in advance of any proposed transfer of this Order's responsibility and coverage to a new discharger containing a specific date for the transfer of this Order's responsibility and coverage between the current discharger and the new discharger. This agreement shall include an acknowledgement that the existing discharger is liable for violations up to the transfer date and that the new discharger is liable from the transfer date on. [CWC Sections 13267 and 13263]

5. CHANGE IN DISCHARGE

In the event of a material change in the character, location, or volume of a discharge, the discharger shall file with this Regional Board a new Report of Waste Discharge. [CWC Section 13260(c)]. A material change includes, but is not limited to, the following:

- (a) Addition of a major industrial waste discharge to a discharge of essentially domestic sewage, or the addition of a new process or product by an industrial facility resulting in a change in the character of the Waste.

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- (b) Significant change in disposal method, e.g., change from a land disposal to a direct discharge to water, or change in the method of treatment which would significantly alter the characteristics of the waste.
- (c) Significant change in the disposal area, e.g., moving the discharge to another drainage area, to a different water body, or to a disposal area significantly removed from the original area potentially causing different water quality or nuisance problems.
- (d) Increase in flow beyond that specified in the waste discharge requirements.
- (e) Increase in the area or depth to be used for solid waste disposal beyond that specified in the waste discharge requirements. [CCR Title 23 Section 2210]

6. REVISION

These waste discharge requirements are subject to review and revision by the Regional Board. [CCR Section 13263]

7. TERMINATION

Where the discharger becomes aware that it failed to submit any relevant facts in a Report of Waste Discharge or submitted incorrect information in a Report of Waste Discharge or in any report to the Regional Board, it shall promptly submit such facts or information. [CWC Sections 13260 and 13267]

8. VESTED RIGHTS

This Order does not convey any property rights of any sort or any exclusive privileges. The requirements prescribed herein do not authorize the commission of any act causing injury to persons or property, do not protect the discharger from his liability under Federal, State or local laws, nor do they create a vested right for the discharger to continue the waste discharge. [CWC Section 13263(g)]

9. SEVERABILITY

Provisions of these waste discharge requirements are severable. If any provisions of these requirements are found invalid, the remainder of the requirements shall not be affected. [CWC Section 921]

Standard Provisions Applicable to  
Waste Discharge Requirements

10. OPERATION AND MAINTENANCE

The discharger shall, at all times, properly operate and maintain all facilities and systems of treatment and control (and related appurtenances) which are installed or used by the discharger to achieve compliance with conditions of this Order. Proper operation and maintenance includes effective performance, adequate funding, adequate operator staffing and training, and adequate laboratory and process controls including appropriate quality assurance procedures. This provision requires the operation of backup or auxiliary facilities or similar systems only when necessary to achieve compliance with the conditions of this Order. [CWC Section 13263(f)]

11. HAZARDOUS RELEASES

Except for a discharge which is in compliance with these waste discharge requirements, any person who, without regard to intent or negligence, causes or permits any hazardous substance or sewage to be discharged in or on any waters of the State, or discharged or deposited where it is, or probably will be, discharged in or on any waters of the State, shall, as soon as (a) that person has knowledge of the discharge, (b) notification is possible, and (c) notification can be provided without substantially impeding cleanup or other emergency measures, immediately notify the Office of Emergency Services of the discharge in accordance with the spill reporting provision of the State toxic disaster contingency plan adopted pursuant to Article 3.7 (commencing with Section 8574.7) of Chapter 7 of Division 1 of Title 2 of the Government Code, and immediately notify the State Board or the appropriate Regional Board of the discharge. This provision does not require reporting of any discharge of less than a reportable quantity as provided for under subdivisions (f) and (g) of Section 13271 of the Water Code unless the discharger is in violation of a prohibition in the applicable Water Quality Control plan. [CWC Section 1327(a)]

12. PETROLEUM RELEASES

Except for a discharge which is in compliance with these waste discharge requirements, any person who without regard to intent or negligence, causes or permits any oil or petroleum product to be discharged in or on any waters of the State, or discharged or deposited where it is, or probably will be, discharged in or on any waters of the State, shall, as soon as (a) such person has knowledge of the discharge, (b) notification is possible, and (c) notification can be provided without substantially impeding cleanup or other emergency measures, immediately notify the Office of Emergency Services of the discharge in accordance with the spill reporting provision of the State oil spill contingency plan adopted pursuant to Article 3.5 (commencing with Section 8574.1) of Chapter 7 of Division 1 of Title 2 of the Government Code. This provision does not require reporting of any discharge of less than 42 gallons unless the discharge is also required to be reported pursuant to Section 311 of the Clean Water Act or the discharge is in violation of a prohibition in the applicable Water Quality Control Plan. [CWC Section 13272]

Standard Provisions Applicable to  
Waste Discharge Requirements

13. ENTRY AND INSPECTION

The discharger shall allow the Regional Board, or an authorized representative upon the presentation of credentials and other documents as may be required by law, to:

- (a) Enter upon the discharger's premises where a regulated facility or activity is located or conducted, or where records must be kept under the conditions of this Order;
- (b) Have access to and copy, at reasonable times, any records that must be kept under the conditions of this Order;
- (c) Inspect at reasonable times any facilities, equipment (including monitoring and control equipment), practices, or operations regulated or required under this Order; and
- (d) Sample or monitor at reasonable times, for the purposes of assuring compliance with this Order, or as otherwise authorized by the California Water Code, any substances or parameters at any location. [CWC Section 13267]

14. MONITORING PROGRAM AND DEVICES

The discharger shall furnish, under penalty of perjury, technical monitoring program reports; such reports shall be submitted in accordance with specifications prepared by the Executive Officer, which specifications are subject to periodic revisions as may be warranted. [CWC Section 13267]

All monitoring instruments and devices used by the discharger to fulfill the prescribed monitoring program shall be properly maintained and calibrated as necessary to ensure their continued accuracy. All flow measurement devices shall be calibrated at least once per year, or more frequently, to ensure continued accuracy of the devices. Annually, the discharger shall submit to the Executive Office a written statement, signed by a registered professional engineer, certifying that all flow measurement devices have been calibrated and will reliably achieve the accuracy required.

Unless otherwise permitted by the Regional Board Executive officer, all analyses shall be conducted at a laboratory certified for such analyses by the State Department of Health Services. The Regional Board Executive Officer may allow use of an uncertified laboratory under exceptional circumstances, such as when the closest laboratory to the monitoring location is outside the State boundaries and therefore not subject to certification. All analyses shall be required to be conducted in accordance with the latest edition of "Guidelines Establishing Test Procedures for Analysis of Pollutants" [40CFR Part 136] promulgated by the U.S. Environmental Protection Agency. [CCR Title 23, Section 2230]

Standard Provisions Applicable to  
Waste Discharge Requirements

15. TREATMENT FAILURE

In an enforcement action, it shall not be a defense for the discharger that it would have been necessary to halt or to reduce the permitted activity in order to maintain compliance with this Order. Upon reduction, loss, or failure of the treatment facility, the discharger shall, to the extent necessary to maintain compliance with this Order, control production or all discharges, or both, until the facility is restored or an alternative method of treatment is provided. This provision applies, for example, when the primary source of power of the treatment facility fails, is reduced, or is lost. [CWC Section 13263(f)]

16. DISCHARGE TO NAVIGABLE WATERS

Any person discharging or proposing to discharge to navigable waters from a point source (except for discharge of dredged or fill material subject to Section 404 of the Clean Water Act and discharge subject to a general NPDES permit) must file an NPDES permit application with the Regional Board. [CCR Title 2 Section 22357]

17. ENDANGERMENT TO HEALTH AND ENVIRONMENT

The discharger shall report any noncompliance which may endanger health or the environment. Any such information shall be provided verbally to the Executive Officer within 24 hours from the time the discharger becomes aware of the circumstances. A written submission shall also be provided within five 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 recurrence of the noncompliance. The Executive officer, or an authorized representative, may waive the written report on a case-by-case basis if the oral report has been received within 24 hours. The following occurrence(s) must be reported to the Executive Office within 24 hours:

- (a) Any bypass from any portion of the treatment facility.
- (b) Any discharge of treated or untreated wastewater resulting from sewer line breaks, obstruction, surcharge or any other circumstances.
- (c) Any treatment plant upset which causes the effluent limitation of this Order to be exceeded. [CWC Sections 13263 and 13267]

18. MAINTENANCE OF RECORDS

The discharger shall retain records of all monitoring information including all calibration and maintenance records, all original strip chart recordings for continuous monitoring instrumentation, copies off all reports required by this Order, and record of all data used

Standard Provisions Applicable to  
Waste Discharge Requirements

to complete the application for this Order. Records shall be maintained for a minimum of three years from the date of the sample, measurement, report, or application. This period may be extended during the course of any unresolved litigation regarding this discharge or when requested by the Regional Board Executive Officer.

Records of monitoring information shall include:

- (a) The date, exact place, and time of sampling or measurement;
  - (b) The individual(s) who performed the sampling or measurement;
  - (c) The date(s) analyses were performed;
  - (d) The individual(s) who performed the analyses;
  - (e) The analytical techniques or method used; and
  - (f) The results of such analyses.
19. (a) All application reports or information to be submitted to the Executive Office shall be signed and certified as follows:
- (1) For a corporation – by a principal executive officer or at least the level of vice president.
  - (2) For a partnership or sole proprietorship – by a general partner or the proprietor, respectively.
  - (3) For a municipality, state, federal, or other public agency – by either a principal executive officer or ranking elected official.
- (b) A duly authorized representative of a person designated in paragraph (a) of this provision may sign documents if:
- (1) The authorization is made in writing by a person described in paragraph (a) of this provision.
  - (2) The authorization specifies either an individual or position having responsibility for the overall operation of the regulated facility or activity; and
  - (3) The written authorization is submitted to the Executive Officer.

Any person signing a document under this Section shall make the following certification:

Standard Provisions Applicable to  
Waste Discharge Requirements

"I certify under penalty of law that I have personally examined and am familiar with the information submitted in this document and all attachments and that, based on my inquiry of those individuals immediately responsible for obtaining the information, I believe that the information is true, accurate, and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment. [CWC Sections 13263, 13267, and 13268]"

20. OPERATOR CERTIFICATION

Supervisors and operators of municipal wastewater treatment plants and privately owned facilities regulated by the PUC, used in the treatment or reclamation of sewage and industrial waste shall possess a certificate of appropriate grade in accordance with Title 23, California Code of Regulations Section 3680. State Boards may accept experience in lieu of qualification training. In lieu of a properly certified wastewater treatment plant operator, the State Board may approve use of a water treatment plant operator of appropriate grade certified by the State Department of Health Services where reclamation is involved.

Each plant shall be operated and maintained in accordance with the operation and maintenance manual prepared by the municipality through the Clean Water Grant Program [CWC Title 23, Section 2233(d)]

ADDITIONAL PROVISIONS APPLICABLE TO  
PUBLICLY OWNED TREATMENT WORKS' ADEQUATE CAPACITY

21. Whenever a publicly owned wastewater treatment plant will reach capacity within four years the discharger shall notify the Regional Board. A copy of such notification shall be sent to appropriate local elected officials, local permitting agencies and the press. The discharger must demonstrate that adequate steps are being taken to address the capacity problem. The discharger shall submit a technical report to the Regional Board showing flow volumes will be prevented from exceeding capacity, or how capacity will be increased, within 120 days after providing notification to the Regional Board, or within 120 days after receipt of notification from the Regional Board, of a finding that the treatment plant will reach capacity within four years. The time for filing the required technical report may be extended by the Regional Board. An extension of 30 days may be granted by the Executive Officer, and longer extensions may be granted by the Regional Board itself. [CCR Title 23, Section 2232]



STATE OF CALIFORNIA  
CALIFORNIA REGIONAL WATER QUALITY CONTROL BOARD  
LOS ANGELES REGION

MONITORING AND REPORTING PROGRAM NO. CI-10108  
FOR  
FORMER PARAMOUNT PLAZA DRY CLEANERS  
15729 DOWNEY AVENUE, PARAMOUNT, CALIFORNIA

ENROLLMENT UNDER REGIONAL BOARD  
ORDER NO. R4-2014-0187 (SERIES NO. 012)  
FILE NO. 14-136

I. MONITORING AND REPORTING REQUIREMENTS

- A. Retail Opportunity Investments Corporation Paramount Plaza, LLC (hereinafter Discharger) shall implement this Monitoring and Reporting Program (MRP) on the effective date (December 19, 2014) under Regional Board Order No. R4-2014-0187. The first monitoring report under this program shall be received at the Regional Board by **April 30, 2015**. Subsequent monitoring reports shall be received at the Regional Board according to the following schedule:

<u>Monitoring Period</u>	<u>Report Due</u>
January – March	April 30
April – June	July 30
July – September	October 30
October – December	January 30

- B. If there is no discharge or injection, during any reporting period, the report shall so state. By March 1 of each year, the Discharger shall submit an annual summary report to the Regional Board. The report shall contain both tabular and graphical summaries of the monitoring data obtained during the previous calendar year. In addition, the Discharger shall discuss the compliance record and the corrective actions taken or planned, which may be needed to bring the discharge into full compliance with the waste discharge requirements.
- C. The Discharger shall comply with requirements contained in Section G of Order No. R4-2014-0187 "*Monitoring and Reporting Requirements*".

**II. DISCHARGE MONITORING PROGRAM**

The monitoring reports shall contain the following information regarding the injection activities:

1. Location map showing injection points used for emulsified vegetable oil, bioaugmentation organisms, and anaerobic chase water.
2. Written and tabular summary defining depth of injection points, quantity and concentration of emulsified vegetable oil, bioaugmentation organisms, and anaerobic chase water injected at each injection point, and total amount of emulsified vegetable oil, bioaugmentation organisms, and anaerobic chase water injected at the Site.
3. Visual inspection at each injection point shall be conducted and recorded during the injection.

**III. GROUNDWATER MONITORING PROGRAM**

A groundwater monitoring program shall be implemented to evaluate impacts associated with the injection activity. Groundwater samples shall be collected from monitoring wells MW-1, MW-2, MW-3, MW-4, MW-6, and MW-7 (Figure 1). The Discharger shall conduct a baseline sampling prior to the proposed injection, followed by specified schedules from all 6 monitoring wells for the following groundwater parameters:

CONSTITUENT	UNITS	TYPE OF SAMPLE	MINIMUM FREQUENCY OF ANALYSIS
Dissolved Oxygen	mg/L	grab	Baseline, months 1, 2, and 3 after injection, and quarterly thereafter
Oxidation-Reduction Potential	millivolts	grab	Baseline, months 1, 2, and 3 after injection, and quarterly thereafter
pH	pH units	grab	Baseline, months 1, 2, and 3 after injection, and quarterly thereafter
Specific Conductivity	mS/cm	grab	Baseline, months 1, 2, and 3 after injection, and quarterly thereafter

Retail Opportunity Investments Corporation  
WDR Order No. R4-2014-0187  
Monitoring and Reporting Program No. CI-100108

CONSTITUENT	UNITS	TYPE OF SAMPLE	MINIMUM FREQUENCY OF ANALYSIS
Temperature	°C	grab	Baseline, months 1, 2, and 3 after injection, and quarterly thereafter
Turbidity	NTU	grab	Baseline, months 1, 2, and 3 after injection, and quarterly thereafter
Total Organic Carbon	mg/L	grab	Baseline, months 1, 2, and 3 after injection, and quarterly thereafter
Total Dissolved Solids	mg/L	grab	Baseline, months 1, 2, and 3 after injection, and quarterly thereafter
Sulfate	mg/L	grab	Baseline, months 1, 2, and 3 after injection, and quarterly thereafter
Chloride	mg/L	grab	Baseline, months 1, 2, and 3 after injection, and quarterly thereafter
Boron	mg/L	grab	Baseline, months 1, 2, and 3 after injection, and quarterly thereafter
Nitrate and Nitrite	mg/L	grab	Baseline, months 1, 2, and 3 after injection, and quarterly thereafter
Volatile Organic Compounds	µg/L	grab	Baseline, months 1, 2, and 3 after injection, and quarterly thereafter
Dissolved Gases (methane, ethane, and ethene)	µg/L	grab	Baseline, months 1, 2, and 3 after injection, and quarterly thereafter
<i>Dehalococcoides</i> species	cells/mL	grab	Baseline, months 1, 2, and 3 after injection, and quarterly thereafter

All groundwater monitoring reports must include, at a minimum, the following:

- a. Well identification, date and time of sampling;
- b. Sampler identification, and laboratory identification;
- c. Quarterly observation of groundwater levels, recorded to 0.01 feet mean sea level and groundwater flow direction.

**IV. MONITORING FREQUENCIES**

Specifications in this monitoring program are subject to periodic revisions. Monitoring requirements may be modified or revised by the Executive Officer based on review of monitoring data submitted pursuant to this Order. Monitoring frequencies may be adjusted to a less frequent basis or parameters and locations dropped by the Executive Officer if the Discharger makes a request and the request is backed by statistical trends of monitoring data submitted.

**V. CERTIFICATION STATEMENT**

Each report shall contain the following completed declaration:

"I certify under penalty of law that this document, including all attachments and supplemental information, was prepared under my direction or supervision in accordance with a system designed to assure that qualified personnel properly gathered and evaluated the information submitted. Based on my inquiry of the person or persons who manage the system, or those persons directly responsible for gathering the information, the information submitted is, to the best of my knowledge and belief, true, accurate, and complete. I am aware that there are significant penalties for submitting false information, including the possibility of a fine and imprisonment.

Executed on the \_\_\_\_\_ day of \_\_\_\_\_ at \_\_\_\_\_

\_\_\_\_\_  
(Signature)

\_\_\_\_\_  
(Title)"


**VI. PUBLIC DOCUMENTS**

All records and reports submitted in compliance with Order No.R4-2014-0187 and Monitoring and Reporting Program No. CI-10108 are public documents and will be made available for inspection during business hours at the office of the California Regional Water Quality Control Board, Los Angeles Region, upon request by interested parties. Only proprietary information, and only at the request of the Discharger will be treated as confidential.

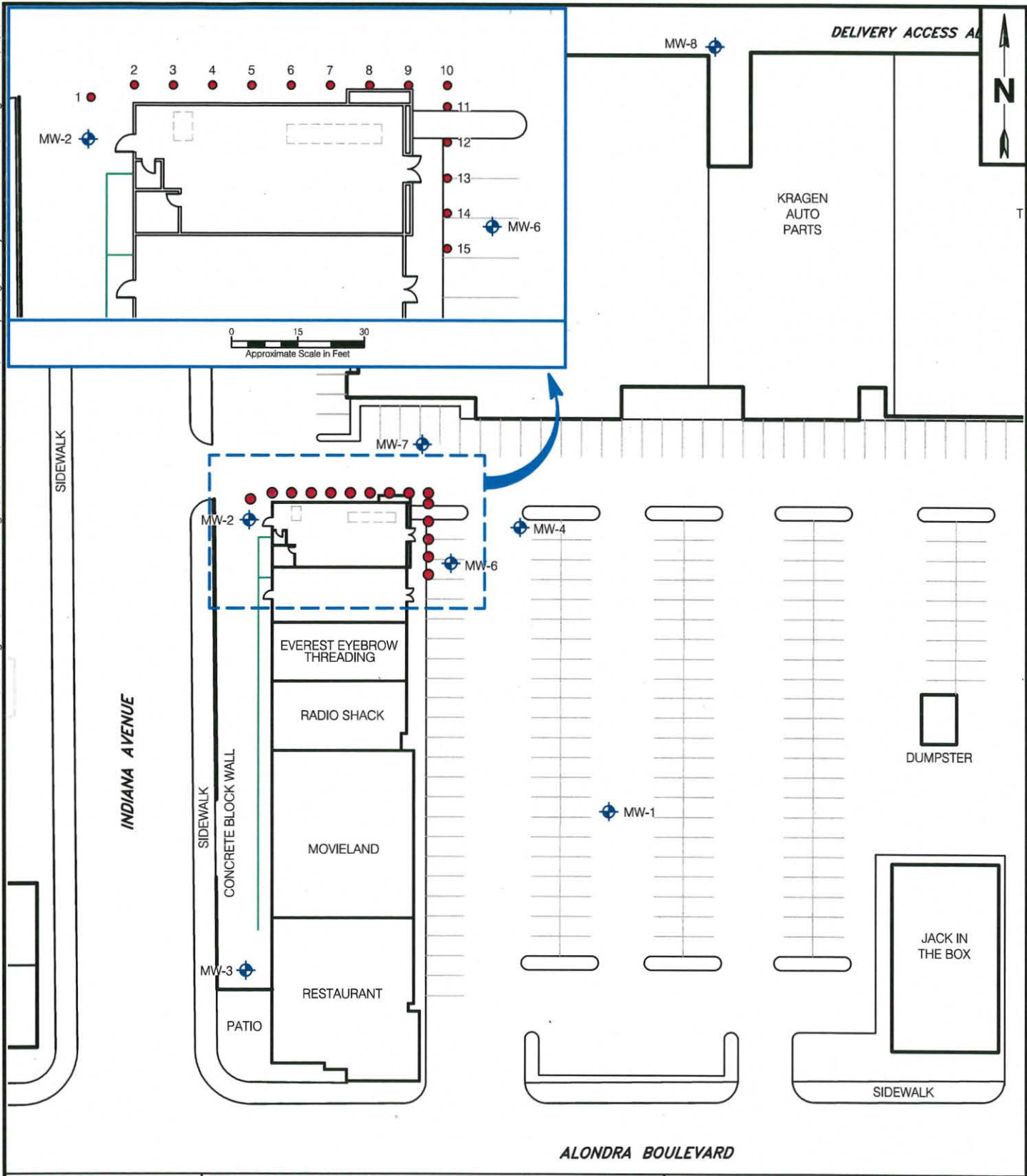
**VII. ELECTRONIC SUBMITTAL OF INFORMATION**

The Discharger shall comply with the Electronic Submittal of Information (ESI) requirements by submitting all reports required under the MRP, including groundwater monitoring data in Electronic Deliverable Format, discharge location data, and searchable Portable Document Format of monitoring reports to the State Water Resources Control Board GeoTracker database under Global ID WDR100020352.

Ordered by:

  
Samuel Unger, P.E.  
Executive Officer

Date: December 19, 2014



**Environmental  
Navigation  
Services, Inc.**

EXPLANATION BLOCK  
 MW-2 Groundwater Monitoring Well Location  
 15 Injection Point Location

**IRZ INJECTION POINTS  
AND MONITORING WELLS**

FORMER PARAMOUNT CLEANERS  
 15729 DOWNEY AVENUE  
 PARAMOUNT, CALIFORNIA 90723



PE/PG <b>JWJ</b>	Project Number <b>PARAMOUNT</b>	Figure
Project Manager <b>JWJ</b>	Drafter <b>CM</b>	Date <b>11/13/2014</b>

**1**

# **Exhibit 2**



# California Regional Water Quality Control Board

## Los Angeles Region



Linda S. Adams.  
Cal/EPA Secretary

320 W. 4th Street, Suite 200, Los Angeles, California 90013  
Phone (213) 576-6600 FAX (213) 576-6640 - Internet Address: <http://www.waterboards.ca.gov/losangeles>

Arnold Schwarzenegger  
Governor

December 21, 2010

Ms. Diana Storti  
Retail Opportunity Investments Corporation  
1750 La Costa Meadows Drive  
San Marcos, CA 92078

**REQUIREMENT FOR ADDITIONAL SITE ASSESSMENT PURSUANT TO CALIFORNIA WATER CODE 13267 ORDER - FORMER PARAMOUNT PLAZA DRY CLEANERS LOCATED AT 15729 DOWNEY AVE., PARAMOUNT, CALIFORNIA 90723 (SITE CLEANUP PROGRAM NO. 0902, SITE ID NO. 2048W00)**

Dear Ms. Storti:

The California Regional Water Quality Control Board (Regional Board), Los Angeles Region, is the public agency with primary responsibility for the protection of ground and surface water quality for all beneficial uses within major portions of the Los Angeles and Ventura counties, including the referenced site.

The Regional Board staff has completed review of the information contained in the project file. In a meeting on December 8, 2010 Regional Board staff discussed the environmental conditions and site status with Mr. Jay Jones of Environmental Navigation Services, Inc. (ENSI) and Mr. Jon Wactor of Wactor & Wick LLP. Based on the review, Regional Board staff has determined that additional assessment is warranted in order to mitigate the threat to the environment from the contamination originating from the site. This California Water Code 13267 Order provides the current site status and Regional Board requirements before the site can be considered for a no further action (NFA) status.

### **Background**

The former Paramount Plaza dry cleaners occupied a unit inside a multitenant shopping plaza located in Paramount, California. The dry cleaning operations were conducted from 1969 until 2000 at the site. Currently the former dry cleaning facility serves as a coin operated Laundromat. Since 1999, several episodes of environmental work including assessment and soil remediation had been conducted by various consultants at the site. The results of the investigations confirmed an unauthorized release of dry cleaning chemical(s) at the site resulting in the degradation of the groundwater quality affecting the beneficial uses of the waters of the State.

The analytical results of the soil, soil vapor and groundwater samples previously collected at the site indicate that volatile organic compounds (VOCs), primarily tetrachloroethene (PCE) is present in all media. PCE was detected at concentrations of up to 38,100 micrograms per kilogram ( $\mu\text{g}/\text{kg}$ ) in soil, 5,191 micrograms per liter ( $\mu\text{g}/\text{L}$ ) in soil vapor and 3,040  $\mu\text{g}/\text{L}$  in groundwater. The first groundwater at the site occurs at approximately 21 feet below ground surface (bgs).

The site is located in the Central Basin of Coastal Plain of Los Angeles County. The site is underlain with Recent age alluvial deposits of Bellflower Aquiclude and Gaspur Aquifer followed by upper Pleistocene age Exposition-Artesia Aquifer and Gage Aquifer of Lakewood Formation. According to the *Water Quality Control Plan for the Los Angeles Region (Basin Plan)*, adopted on June 13, 1994, the

**California Environmental Protection Agency**



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designated beneficial uses for groundwater in the Central Basin include municipal and domestic drinking water supply.

### Comments

Based on the review of the information provided, Regional Board staff provides the following comments:

A proper Phase I report is not provided and information regarding the operational history of the site is incomplete. In addition, the locations of potential source areas and/or waste release points such as drains, waste storage, etc. There are MIP points shown on figures but no data or explanation is provided.

There are VOCs plumes present in soil, soil vapor and groundwater that have originated from the site, which have not been completely delineated. The PCE concentrations in soil vapor indicate a concern for risk to human health from the potential intrusion of VOCs vapors into indoor air suggesting a need to conduct a human health risk assessment. Similarly, PCE concentrations in groundwater require active groundwater remediation at the site, once the contamination plume is delineated to the Regional Board's satisfaction.

### Requirements

Regional Board staff has determined that the following actions are necessary and required at the Site:

1. Prepare a Phase I environmental site assessment in compliance with ASTM E1527-00. The Phase I report is due to the Regional Board by **February 25, 2011**.
2. There is substantial information contained in the previous reports; however, this useful information is scattered, and/or incomplete and must be incorporated in one comprehensive report. This summary report, at a minimum shall include 1) operational history, 2) summary tables with historical soil, soil vapor and groundwater analytical data collected at the site, 3) figures prepared to scale showing dry cleaning unit layout and other pertinent site features; soil, soil vapor and groundwater sampling locations, as-built well construction diagrams, boring logs, and well survey data. The summary report would be useful in identifying data gaps. The summary report is due to the Regional Board by **February 25, 2011**. Based on the existing data and information, you are required to develop a conceptual site model and include it in the summary report.
3. Develop a work plan for complete delineation of the soil, soil vapor and groundwater plume originating from the site. The work plan is due to the Regional Board by **February 25, 2011**.
4. There are five groundwater monitoring wells currently present at the site that must be sampled on a regular basis. Develop a sampling and analysis plan for the existing groundwater monitoring wells at the site. The groundwater sampling and analysis plan is due to the Regional Board by **February 25, 2011**.

The site information including data and reports have not been uploaded on the State Water Resources Control Board electronic database GeoTracker. On July 1, 2005, the Regional Board informed each responsible party of new regulations requiring the electronic submittal of information (ESI), which went

Ms. Diana Storti  
Retail Opportunity Investments Corporation  
SCP No. 0902

- 3 -

December 21, 2010

into effect on January 1, 2005. You will need a GeoTracker password for submitting data and reports. To obtain instructions for receiving a GeoTracker password please go to our ESI website:  
[http://www.swrcb.ca.gov/ust/cleanup/electronic\\_reporting/index.html](http://www.swrcb.ca.gov/ust/cleanup/electronic_reporting/index.html)

Our ESI website has an on-line tutorial to aid your transition to electronic data and reporting submittal. You can access information on how to upload electronic data at the following ESI website:

[http://www.swrcb.ca.gov/ust/cleanup/electronic\\_reporting/docs/ab2886\\_primer.pdf](http://www.swrcb.ca.gov/ust/cleanup/electronic_reporting/docs/ab2886_primer.pdf)

If you have any questions or need additional information on reporting electronic data, please contact Hamid Foolad at: [hfoolad@waterboards.ca.gov](mailto:hfoolad@waterboards.ca.gov).

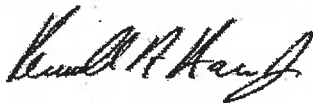
You are directed to furnish the technical report(s) as required under the provision of Section 13267 of California Water Code. Therefore, pursuant to Section 13268 of the California Water Code, failure to submit the required technical reports or documents by the due dates specified may result in civil liability administratively imposed by the Regional Board in an amount up to one thousand dollars (\$1,000) for each day the report or document is not received.

We believed that the burdens, including costs of these reports bear a reasonable relationship to the need for the reports and the benefits to be obtained from the reports.

Any person aggrieved by this action of the Regional Water Board may petition the State Water Board to review the action in accordance with Water Code section 13320 and California Code of Regulations, title 23, sections 2050 and following. The State Water Board must receive the petition by 5:00 p.m., 30 days after the date of this Order, except that if the thirtieth day following the date of this Order falls on a Saturday, Sunday, or state holiday, the petition must be received by the State Water Board by 5:00 p.m. on the next business day. Copies of the law and regulations applicable to filing petitions may be found on the Internet at: [http://www.waterboards.ca.gov/public\\_notices/petitions/water\\_quality](http://www.waterboards.ca.gov/public_notices/petitions/water_quality) or will be provided upon request.

**If you have any questions, please contact Mr. Adnan Siddiqui (project manager) at (213) 576-6812 ([asiddiqui@waterboards.ca.gov](mailto:asiddiqui@waterboards.ca.gov)).**

Sincerely,



\_\_\_\_\_  
AEO for  
Samuel Unger, PE  
Executive Officer

CC: Mr. Jon Wactor, Esq., Wactor & Wick LLP  
Mr. Jay Jones, Environmental Navigation Services, Inc

**California Environmental Protection Agency**



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# California Regional Water Quality Control Board

## Los Angeles Region



Linda S. Adams,  
Acting Secretary for  
Environmental Affairs

320 W. 4th Street, Suite 200, Los Angeles, California 90013  
Phone (213) 576-6600 FAX (213) 576-6640 - Internet Address: <http://www.waterboards.ca.gov/losangeles>

Edmund G. Brown Jr.  
Governor

July 12, 2011

Ms. Diana Storti  
Retail Opportunity Investments Corporation  
1750 La Costa Meadows Drive  
San Marcos, CA 92078

**SUBJECT: REQUIREMENTS FOR WORKPLAN FOR ADDITIONAL SITE ASSESSMENT  
PURSUANT TO CALIFORNIA WATER CODE SECTION 13267**

**SITE PARAMOUNT PLAZA DRY CLEANERS LOCATED AT 15729 DOWNEY AVE.,  
PARAMOUNT, CALIFORNIA 90723 (SITE CLEANUP PROGRAM (SCP NO.  
0902, SITE ID NO. 2048W00)**

Dear Ms. Storti:

The California Regional Water Quality Control Board (Regional Board), Los Angeles Region, is the public agency with primary responsibility for the protection of ground and surface water quality for all beneficial uses within major portions of the Los Angeles and Ventura counties, including the referenced site.

The Regional Board staff has completed review of the *Historical Research, Conceptual Site Model, and Additional Site Workplan (Workplan)* dated March 25, 2011 prepared by your environmental consultant Environmental Navigation Services, Inc. (ENSI). The Workplan was submitted in response to the California Water Code section 13267 Order (Order) dated December 21, 2010. Regional Board staff also conducted a site meeting on 15, June 2011 with Mr. Jay Jones of ENSI and discussed the current site conditions and the proposed work. Regional Board staff has determined that the Workplan must be revised prior to its implementation. Therefore, develop an addendum to the Workplan and address the following items:

1. Provide the approach for the evaluation of risk to human health from vapor intrusion at the site. You may utilize the approach described in the *Interim Final Guidance for the Evaluation of Subsurface Vapor Intrusion to Indoor Air* dated December 15, 2004 developed by the Department of Toxic Substances Control,
2. The site hydrogeology (groundwater gradient, subsurface lithology, depth to aquifers, aquicludes and aquitards) and describe the criteria for siting groundwater monitoring wells (location and design).
3. Table 4 containing the summary of proposed soil, soil vapor and groundwater sampling program and Figure 16x showing proposed sampling locations. Provide rationale for each sampling location and sampling depth.

This is an amendment to the existing Order dated December 21, 2010 and the due date to submit the Workplan addendum is **August, 31, 2011**.

***California Environmental Protection Agency***



*Our mission is to preserve and enhance the quality of California's water resources for the benefit of present and future generations.*

Ms. Diana Storti  
Paramount Plaza Dry Cleaners  
SCP No. 0902

- 2 -

July 12, 2011

You are directed to furnish the technical report(s) as required under the provision of Section 13267 of California Water Code. Therefore, pursuant to Section 13268 of the California Water Code, failure to submit the required technical reports or documents by the due dates specified may result in civil liability administratively imposed by the Regional Board in an amount up to one thousand dollars (\$1,000) for each day the report or document is not received.

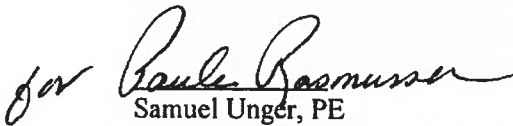
We believed that the burdens, including costs of these reports bear a reasonable relationship to the need for the reports and the benefits to be obtained from the reports.

Please note that effective immediately, the Regional Board requires you to include a perjury statement in all reports submitted under the CWC 13267 Order. The perjury statement shall be signed by a senior authorized representative of Retail Opportunity Investments Corporation (and not by a consultant). The statement shall be in the following format:

"I, [NAME], do hereby declare, under penalty of perjury under the laws of State of California, that I am [JOB TITLE] for Retail Opportunity Investments Corporation, that I am authorized to attest to the veracity of the information contained in the reports described herein, and that the information contained in [NAME AND DATE OF REPORT] is true and correct, and that this declaration was executed at [PLACE], [STATE], on [DATE]."

**If you have any questions, please contact Mr. Adnan Siddiqui (project manager) at (213) 576-6812 ([asiddiqui@waterboards.ca.gov](mailto:asiddiqui@waterboards.ca.gov)).**

Sincerely,

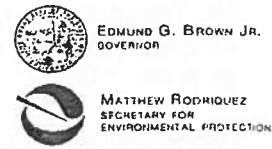
  
Samuel Unger, PE  
Executive Officer

CC: Mr. Jon Wactor, Esq., Wactor & Wick LLP  
Mr. Jay Jones, Environmental Navigation Services, Inc

**California Environmental Protection Agency**



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**Los Angeles Regional Water Quality Control Board**

November 1, 2012

Ms. Diana Storti  
Retail Opportunity Investments Corporation  
1750 La Costa Meadows Drive  
San Marcos, CA 92078

Certified Mail  
Return Receipt required  
7011 3500 0003 5491 1015

**SUBJECT: ADDITIONAL SITE ASSESSMENT AND WORK PLAN FOR WELL  
INSTALLATION PURSUANT TO CALIFORNIA WATER CODE SECTION  
13267**

**SITE PARAMOUNT PLAZA DRY CLEANERS LOCATED AT 15729 DOWNEY AVE.,  
PARAMOUNT, CALIFORNIA 90723 (SITE CLEANUP PROGRAM (SCP No.  
0902, SITE ID NO. 2048W00)**

Dear Ms. Storti:

The California Regional Water Quality Control Board (Regional Board), Los Angeles Region, is the public agency with primary responsibility for the protection of ground and surface water quality for all beneficial uses within major portions of the Los Angeles and Ventura counties, including the referenced site. To accomplish this the Regional Board issues investigative orders authorized by the Porter Cologne Water Quality Control Act (California Water Code [CWC], Division 7).

The Regional Board staff has completed review of the Additional Site Assessment, First Quarter 2011 Groundwater Monitoring, Updated Conceptual Site Model, and Monitoring Well Installation Workplan (Report) dated February 13, 2012 prepared by your environmental consultant Environmental Navigation Services, Inc. (ENSI). The work plan was submitted in response to the California Water Code section 13267 Order (Order) dated October 18, 2011. On October 15, 2012, Regional Board staff also discussed the Report with Mr. Jay Jones of ENSI.

The former Paramount Plaza Dry Cleaners occupied a unit inside a multi-tenant shopping plaza located in Paramount, California. The dry cleaning operations were conducted from 1969 until 2000 at the site. Currently, the facility serves as a self-service Laundromat where customers use soap and water for washing. Dry cleaning operations no longer occur at the site. The analytical results of the previous investigations conducted at the site confirmed that an unauthorized release of dry cleaning chemical(s), primarily tetrachloroethene (PCE), has resulted in the degradation of the groundwater quality affecting the beneficial uses of the waters of the State.

The recent investigation delineates the impact to soil, soil vapor, and groundwater and the results indicate that the volatile organic compounds (VOCs) plume is centered beneath the former dry cleaning unit. The discrete multi-depth groundwater sampling, conducted at four cone penetrometer testing (CPT) borings to 100-foot depth, confirmed that the majority of the dissolved PCE in groundwater is limited approximately to the 40-foot depth. The VOCs in soil

MARIA MEHRANIAN, CHAIR | SAMUEL UNGER, EXECUTIVE OFFICER

320 West 4th St., Suite 200, Los Angeles, CA 90013 | [www.waterboards.ca.gov/losangeles](http://www.waterboards.ca.gov/losangeles)

vapor and groundwater are detected at concentrations that require active remediation. In the Report, ENSI is proposing to install additional groundwater wells, conduct additional sub-slab vapor sampling, and continue with the groundwater monitoring at the site.

Based on the review of the submitted information you are authorized to implement the proposed work with the following additions:

1. Eliminate the installation of proposed groundwater monitoring wells 4B and 7B.
2. Move MW-7 approximately 50 feet west from its proposed location.
3. Modify the screen interval of the new wells, MW-6 and MW-7, from 25 to 40 feet bgs to approximately 15 to 40 feet bgs.
4. Upon completion of the well installation, submit a report to the Regional Board by **April 15, 2013**.
5. Based on the result of the sub-slab samples, additional sampling is proposed. Follow the steps outlined in the Vapor Intrusion Guidance dated October 2011 by the Department of Toxic Substances Control, California Environmental Protection Agency. Submit the results of second round of sub-slab sampling by **April 15, 2013**.
6. Develop a remedial action plan for the cleanup of the VOCs plumes in the vadose zone and in groundwater. The remedial action plan is due to the Regional Board by **April 15, 2013**.
7. Conduct groundwater monitoring for MW-2, MW-4, MW-5, MW-6, and MW-7 on a quarterly schedule. The groundwater monitoring reports are due to the Regional Board in accordance with the following schedule with the next report due by **April 15, 2013**:

<u>Groundwater Monitoring Period</u>	<u>Report Due Date</u>
January to March	April 15
April to June	July 15
July to September	October 15
October to December	January 15

8. Conduct groundwater monitoring for MW-1, MW-3, and Shell wells MW-10 and MW-11 on a semi-annual schedule. The groundwater monitoring reports are due to the Regional Board in accordance with the following schedule with the next report due by **April 15, 2013**:

<u>Groundwater Monitoring Period</u>	<u>Report Due Date</u>
January to March	April 15
July to September	October 15

9. The contaminants of concern at the site are VOCs. You are authorized to employ passive sampling collection methodology and utilization of polyethylene diffusion bag sampler for groundwater monitoring at the site.

Mr. Theodore Snyder  
La Brea Gateway, LLC  
SCP No. 1176

- 3 -

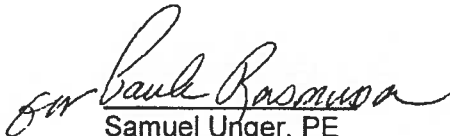
November 1, 2012

10. All work must be conducted according to a Site-specific health and safety plan (HSP) in compliance with California Occupational Safety and Health Agency (Cal-OSHA), Health and Safety Code, Title 8, California Code of Regulations (CCR), Section 5192 and other appropriate sections.
11. Prior to starting field work, obtain all applicable permits from appropriate regulatory agencies as necessary.
12. Please notify the Regional Board at least seven (7) days before the commencement of fieldwork.

The requirements to submit the technical reports stated above are amendments to the existing CWC section 13267 Order issued by the Regional Board on October 18, 2011. Pursuant to CWC section 13268, failure to submit the required technical reports by the due date specified may result in civil liability penalties administratively imposed by the Regional Board in an amount up to one thousand dollars (\$1,000) for each day the technical reports are not received

If you have any questions, please contact Mr. Adnan Siddiqui (project manager) at (213) 576-6812 (asiddiqui@waterboards.ca.gov).

Sincerely,

  
Samuel Unger, PE  
Executive Officer

CC: Mr. Jon Wactor, Esq., Wactor & Wick LLP  
Mr. Jay Jones, Environmental Navigation Services, Inc,





# **Exhibit 3**

## Peter Ton

---

**From:** Jon Wactor  
**Sent:** Wednesday, August 26, 2015 3:17 PM  
**To:** Peter Ton  
**Subject:** FW: Request for relief from duplicative Permit Fee (SCP No. 0902; Site ID No. 2048W00)

---

**From:** Jon Wactor  
**Sent:** Wednesday, June 24, 2015 1:30 PM  
**To:** [sunger@waterboards.ca.gov](mailto:sunger@waterboards.ca.gov)  
**Cc:** Carol Ebert ([carolebert@ww-envlaw.com](mailto:carolebert@ww-envlaw.com)); [jwjones4@pacbell.net](mailto:jwjones4@pacbell.net)  
**Subject:** Request for relief from duplicative Permit Fee (SCP No. 0902; Site ID No. 2048W00)

Mr. Unger:

Our client ROIC Paramount Plaza LLC ("LLC") owns a shopping center located at 15729 Downey Avenue, in Paramount California which formerly housed a dry cleaner. Significant cleanup and monitoring work has occurred over the past 15 years, overseen by the RWQCB. Groundwater contamination exists, but is located onsite and monitoring has shown significant reductions in concentration due to biodegradation over time following active remediation. In 2014, after discussion with the RWQCB project manager Adnan Siddiqui, LLC decided to inject bio-accelerants into the source area to further speed up the process. This was done pursuant to the RWQCB's new general WDR which was passed to allow such injection. The WDR permit fee was paid, the injection was completed and four rounds of post-injection well testing have been completed, with a report submitted to your office in April 2015. The report showed that the WDR requirements were complied with in that the injection did not negatively affect groundwater quality. No other activities are scheduled or necessary under the WDR. We requested that the WDR be terminated on June 19, 2015 noting that the monitoring of the wells will continue under the oversight of Mr. Siddiqui pursuant to the outstanding 13267 Order issued on December 21, 2010. However, we understand that WDR staff has or will refuse the request to terminate the permit, asking instead that it be renewed for another year, with another \$8,000 permit fee charged, even though no work is necessary to demonstrate compliance. Given that the RWQCB is already overseeing the remediation progress under the 13267 Order via well monitoring and LLC is paying for its oversight, continuing this WDR permit is duplicative, redundant and unnecessary. We request that you agree to terminate the WDR and not charge another \$8,000 oversight fee for this same work.

Please let me know if you concur.

Best Regards,

=====  
**Jon K. Wactor, Esq.; Wactor & Wick LLP Environmental Attorneys; 180 Grand Avenue, Suite 950; Oakland, California 94612; Phone: 510.465.5750; Fax: 510.465.5697; Mobile: 415.816.3580; Email: [jonwactor@ww-envlaw.com](mailto:jonwactor@ww-envlaw.com); Website: [www.ww-envlaw.com](http://www.ww-envlaw.com).** This e-mail is sent by a law firm and is privileged and confidential. If you are not the intended recipient, please delete the e-mail and any attachments without reading, printing, copying or forwarding it, and please notify us immediately. Thank you.



# **Exhibit 4**

*Via Email, Facsimile and U.S. Mail*

August 27, 2015

Samuel Unger  
Executive Officer  
Los Angeles Regional Water Quality Control Board  
320 West Fourth Street, Suite 200  
Los Angeles, CA 90013  
Email: [Samuel.unger@waterboards.ca.gov](mailto:Samuel.unger@waterboards.ca.gov)  
Fax: (213) 576-6640

**Re: Formal Request for Termination of Waste Discharge Requirement  
(WDR) Permit—  
15729 Downey Avenue, Paramount, California  
SCP No. 0902; Site ID No. 2048W00**

Dear Mr. Unger:

Our client ROIC Paramount Plaza LLC ("Paramount Plaza LLC") owns a shopping center located at 15729 Downey Avenue, in Paramount California which formerly housed a dry cleaner. Significant cleanup and monitoring work has occurred over the past 15 years, overseen by the RWQCB. Groundwater contamination exists, but is located onsite and monitoring has shown significant reductions in concentration due to biodegradation over time following active remediation.

In 2014, after discussion with the RWQCB project manager Adnan Siddiqui, Paramount Plaza LLC decided to inject non-toxic bio-accelerants into the source area to further speed up the process. This was done pursuant to the RWQCB's new general WDR which was adopted to allow such an injection. Paramount Plaza LLC paid the WDR permit fee, performed the injection and four rounds of post-injection well testing, and submitted a report to your office in April 2015. The report showed that the WDR requirements were complied with in that the injection did not negatively affect groundwater quality. No other activities are scheduled or necessary under the WDR.

On June 19, 2015, we requested that the WDR be terminated noting that the monitoring of the wells will continue under the oversight of Mr. Siddiqui pursuant to the outstanding 13267 Order issued on December 21, 2010. However, we understand that WDR staff would not or could not grant our request to terminate the permit, effectively requiring Paramount Plaza LLC to instead pay for the \$8,823 permit fee for the 2015-2016 permit year, even though no work is necessary

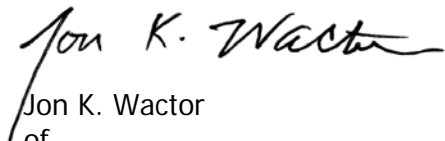
Jon Wactor Ltr. to Samuel Unger  
August 27, 2015  
Page 2 of 2

to demonstrate compliance. Given that the RWQCB is already overseeing the remediation progress under the 13267 Order via well monitoring and Paramount Plaza LLC is paying for its oversight under that Order, continuing this WDR permit is duplicative, unnecessary and provides no benefit to the environment or the people of California. We request that you terminate the WDR and not charge another \$8,823 permit fee for this same work being done under the 13267 Order.

I sought clarification on the Regional Board's positions and your concurrence on this issue in my June 24, 2015 email to you, but did not receive a response. Paramount Plaza LLC would sincerely like to resolve the matter at the Regional Board level, but as we've received no written response from you or our staff on this issue, Paramount Plaza LLC will petition the State Water Resources Control Board for a stay and review of the matter should I not hear back from you or your staff with formal concurrence (or denial, as the case may be) within the next seven (7) days.

Thank you.

Sincerely,

A handwritten signature in black ink that reads "Jon K. Wactor". The signature is written in a cursive style with a long, sweeping underline.

Jon K. Wactor  
of  
Wactor & Wick LLP

cc: Adnan Siddiqui, Los Angeles Regional Water Quality Control Board  
Jay Jones, Environmental Navigation Services, Inc.  
Richard Schoebel, ROIC Paramount Plaza LLC

# **Exhibit 5**

Dr. Ann Chang  
California Regional Water Quality Control Board- Los Angeles Region  
320 West 4<sup>th</sup> Street, Suite 200  
Los Angeles, CA 90013

April 30, 2015  
By E-mail

**RE: First Quarter 2015 WDR Groundwater Injection and Monitoring Report:  
Former Paramount Plaza Dry Cleaner Site  
Paramount Plaza Shopping Center,  
15729 Downey Avenue, Paramount, CA 90723  
FILE NO. 14-136, ORDER NO. R4-2014-0187,  
SERIES NO. 012, CI-10108, GLOBAL ID. WDR 100020352**

Dear Ms. Chang,

This report summarizes the results of activities conducted in compliance with WDR 100020352 at a former dry cleaner site (Site) located in Paramount Plaza, 15729 Downey Avenue, Paramount, CA (**Figures 1 and 2**). It has been prepared in response to the RWQCB-approved Waste Discharge Requirements (WDR) dated December 19, 2014 (**Appendix A**) and documents the groundwater remediation and WDR-required groundwater monitoring and reporting program (MRP). The groundwater remediation follows from the RWQCB-approved Remedial Action Plan (RAP), dated June 28, 2013.

The purpose of the WDR was to facilitate groundwater remediation based on the injection of a food-grade soybean oil emulsion and naturally-occurring bio-augmentation microbes into shallow groundwater. The injection work was conducted January 19 to 21, 2015 and has been completed. Groundwater monitoring data presented in this report demonstrate that the injection (“discharge”) did not cause the mineral constituents of the receiving groundwater at the compliance point, downgradient outside the application area, to be in excess of applicable limits described in the WDR.

The in-situ remediation is designed to enhance and accelerate the rate of ongoing biodegradation of PCE and PCE degradation products (e.g. TCE and cis-1,2-DCE) by establishing an in-situ reactive zone (IRZ) along the downgradient edge of the building to intercept and treat groundwater. It involves no above-ground treatment or monitoring equipment and follows from conditions specified in General WDRs Order No. R4-2014-0187, *General Waste Discharge Requirements for In-Situ Groundwater Remediation and Groundwater Re-Injection*, adopted by the RWQCB on September 11, 2014.

The current and historical groundwater monitoring data are included in **Appendix B** (Groundwater Elevation Data) and in **Appendix C** (Groundwater Sampling Results). The Laboratory Reports for the groundwater analyses are included in **Appendix D**. The field records, including documentation of the in-situ injection work, are included in **Appendix E**. The data and report will also be downloaded into the SWRCB GeoTracker database under global ID WDR 100020352.



## **BACKGROUND**

The former Paramount Plaza Dry Cleaner was in business from 1969 through 2000. The suite was subsequently occupied by a coin laundry (a self-serve Laundromat/coin laundry) until late 2012. It was remodeled and occupied by a coffee shop (Leoni Coffee) in 2014 and early 2015 and is currently vacant (as of April 2015).

A release of the dry cleaning solvent tetrachloroethylene (more commonly referred to as perc, or PCE) was first detected in 1999 and has been under investigation by the Los Angeles Regional Water Quality Control Board (LARWQCB) since 2002. Case references include SLIC Case #0902, SWRCB GeoTracker Global ID #SL2048W1709, and RWQCB Site ID no. 204FW00. To date, eight monitoring wells (MW-1 through MW-8) have been installed near the former dry cleaner Site to investigate the release of the PCE to groundwater (well locations are shown in **Figure 3**). Multiple phases of soil and groundwater investigations and remediation have been conducted since 1999 and the current and historical groundwater monitoring data are summarized herein.

The RAP describes Site conditions and the groundwater remediation design as conducted under the WDR. The in-situ remediation is designed to enhance and accelerate the rate of ongoing biodegradation of PCE and PCE degradation products (e.g. TCE and cis-1,2-DCE) by establishing an in-situ reactive zone beneath of and along the downgradient edge of the building to intercept and treat groundwater. The injectate is based on a soybean oil emulsion that will slowly degrade and provide a long-term sustainable groundwater remedy fully compatible with existing conditions.

The WDR permit allowed for the subsurface injection of 7,260 gallons of 10% emulsified vegetable oil solution, 45 liters of bio-augmentation organisms (microbes), and 720 gallons of anaerobic chase water for the microbes. The fluids were injected in accordance with the WDR into 15 injection points at depths from approximately 17 to 37 feet below ground surface as further described herein. The injectate quantities permitted under the WDR were not exceeded.

This Report documents:

- Well permits, approved December 31, 2014 (**Appendix A**)
- Background groundwater monitoring conducted January 13, 2015 (**Appendices B to E**)
- Injection activities conducted January 19, 20, and 21, 2015 (**Appendix D**)
- Month 1 groundwater monitoring conducted February 18, 2015 (**Appendices B to E**)
- Month 2 groundwater monitoring conducted March 19, 2015 (**Appendices B to E**)
- Month 3 groundwater monitoring conducted April 13, 2015 (**Appendices B to E**)

The WDR monitoring is being coordinated with the ongoing quarterly groundwater monitoring currently required under the 13257 Order for the Site, with monitoring being conducted this year in January, April, July, and October. The quarterly sampling results are described in separate reports available on the GeoTracker website (site ID# SL2048W1709).

## WELL PERMIT AND DRILLING PREPARATION

Well permits were obtained from the Los Angeles County Environmental Health Department Drinking Water Program for the conduct of the fifteen injection points described in the WDR and RAP. Permit #891779 was issued 12/31/2014. A copy is included in **Appendix A**.

Each boring location was geophysically surveyed by a private utility locator (Southwest Geophysics of San Diego, CA) on 1/12/2014 to further assess the potential for subsurface utilities on the privately-held subject property. All of the boring locations were investigated for the presence of potential drilling hazards. Some of the injection locations proposed in the RAP and described in the WDR were modified in the field due to the presence of a high pressure fire suppression line located immediately northeast of the Site building as shown in **Figure 3**.

Prior to commencement of field activities, Underground Services Alert (USA) was notified 1/14/2015 of our intent to conduct subsurface excavation at the site. The boring locations were marked-out with white paint as was the general area of the proposed borings. USA issued Ticket #B50140176 to identify the project and contacted subsurface utility owners in the vicinity and notified them of the planned investigations. Utility owners of record, or their designated agents, determined that their utilities were not present in the public right-of-way near the planned investigation.

## INJECTION ACTIVITIES (IN-SITU GROUNDWATER REMEDIATION)

The overall intent of this work, as detailed in the RWQCB-approved RAP and the WDR application, was to establish an in-situ reactive zone (IRZ) along the downgradient edge of the PCE release area. The IRZ was constructed by injecting a soybean oil-based emulsion (EOS-PRO<sup>1</sup>) into groundwater to promote chemically reducing conditions. A consortium of Dehalococcoides species (Dhc)<sup>2</sup> were also injected to accelerate the rate of ongoing biologically-mediated PCE dechlorination. The Dhc was injected within anoxic water prepared by nitrogen sparging reside within the anoxic IRZ.

**Figure 3** shows the location of the 15 injection points used to create the IRZ. Three injection intervals (17 to 22 ft bgs, 27 to 32 ft bgs, and 32 to 37 ft bgs) were established at each of the 15 injection points. The zone between 22 and 27 ft bgs was not selected for injection due the presence of a laterally continuous clay layer of low permeability. **Figure 4** depicts a schematic injection well profile relative to Site conditions.

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<sup>1</sup> EOS-PRO is an EOS Remediation Inc. product. It based on food-grade soybean oil intended “to enhance anaerobic bioremediation of chlorinated solvents”  
<http://www.eosremediation.com/family-of-products/eos-pro-product-information-sheet/>

<sup>2</sup> BAC-9, an EOS Remediation product, was used. It is “an enriched bioaugmentation culture capable of degrading chlorinated solvents to innocuous compounds efficiently via halorespiration”  
[http://www.eosremediation.com/download/product\\_information/eos\\_products/BAC-9%20Product%20Info%20Sheet.pdf](http://www.eosremediation.com/download/product_information/eos_products/BAC-9%20Product%20Info%20Sheet.pdf)

Vironex, Inc of Irvine, CA performed the drilling and injection work under contract to ENSI. A copy of their injection report that documents their work is included in **Appendix D**. A total of 45 injections were made (3 per boring). The borings and injections were conducted using a track-mounted GeoProbe 6610DT drilling rig. A 10:1 mix of EOS-PRO was prepared using potable water obtained under permit from a nearby fire hydrant. Each injection consisted of the sequential pumping of approximately 80 gallons of EOS-Pro emulsion, 8 gallons anoxic water, 1 liter of Dhc, 8 gallons anoxic water (“chaser”), and finished with 80 gallons of EOS-Pro emulsion. The quantities of injectate per boring location are summarized in **Table 1**. All volumes were within the WDR permit limits.

Four injection points were operated simultaneously as indicated by the groupings shown in **Table 2**. Following injection, the borings were completed (sealed) using hydrated bentonite chips emplaced at a depth of 17 to 1 feet bgs. The top of the borings were filled with asphaltic concrete, tightly compacted using the GeoProbe drilling hammer, and finished flush with the parking lot surface.

Limited volumes of injectate surfaced three separate times during the injection as noted. A wet vacuum was situated near the injection locations. When leakage was observed the injection was immediately ceased, the emulsion cleaned up using the wet vacuum, and the leakage successfully addressed by recompacting the top of the boring with the GeoProbe hammer. In all cases the leakage was minimal, on the order of a gallon, and readily vacuumed prior to resuming work. The observations are further documented in **Appendix D**.

**Table 1. Injection Summary (Based on detailed records in Appendix D)**

Boring ID	Date (2015)	No. of intervals	injection gpm		EOS-Pro gallons	Mix Water gallons	Total Emulsion gallons	Anoxic Water gallons	BAC-9 liters	Field Observations
			low	high						
first injection										
1	19-Jan	3	0.6	5.2	44	439.1	483.1	46.8	3	MW-6 leakage during lowest zone injection. Cap popped off, vault filled with EOS-Pro emulsion. Vault was vacuumed and the cap replaced and tightened.
3	19-Jan	3	0.6	5.2	44	439.1	483.1	46.8	3	
9	19-Jan	3	0.6	5.2	44	439.1	483.1	46.8	3	
11	19-Jan	3	0.6	5.2	44	439.1	483.1	46.8	3	
second injection										
8	20-Jan	3	1.1	5.0	44	439.1	483.1	46.8	3	Boring 9 leakage during middle zone injection. Injection immediately stopped and boring seal recompacted.
10	20-Jan	3	1.1	5.0	44	439.1	483.1	46.8	3	
12	20-Jan	3	1.1	5.0	44	439.1	483.1	46.8	3	
14	20-Jan	3	1.1	5.0	44	439.1	483.1	46.8	3	
third injection										
5	20-Jan	3	0.7	4.7	44	439.1	483.1	46.8	3	Boring 8 leakage during upper zone injection. Injection immediately stopped and boring seal recompacted.
7	20-Jan	3	0.7	4.7	44	439.1	483.1	46.8	3	
13	20-Jan	3	0.7	4.7	44	439.1	483.1	46.8	3	
15	20-Jan	3	0.7	4.7	44	439.1	483.1	46.8	3	
fourth injection										
2	21-Jan	3	0.5	6.2	44	439.1	483.1	46.8	3	
4	21-Jan	3	0.5	6.2	44	439.1	483.1	46.8	3	
6	21-Jan	3	0.5	6.2	44	439.1	483.1	46.8	3	
TOTALs		45			660	6587	7247	702	45	
WDR Permit		45				(10% mix) 7260		720	45	

## GROUNDWATER SAMPLING PROGRAM AND METHODOLOGY

### Sampling Program

Six wells are listed in the Monitoring and Reporting Program (MRP): MW-1, MW-2, MW-3, MW-4, MW-6, and MW-7. These wells, per the General WDR described in RWQCB Order No. R4-2014-0187, are intended to monitor groundwater quality so that “The proposed discharge shall not cause the mineral constituents of the receiving groundwater at the compliance point, downgradient outside the application area, in excess of applicable limits (Central Basin of the Los Angeles Coastal Plain Groundwater Basin) given in Attachment B of General WDRs Order No. R4-2014-0187.”<sup>3</sup>

Of the 6 wells listed in the MRP two (MW-4 and MW-7) are located downgradient outside the application area and thus are suitable for compliance monitoring per the WDR. MW-1 and MW-3 are upgradient and MW-2 and MW-6 are within the application area.

The MRP analytical program is summarized in **Table 2**. The analytical work was primarily done by Sierra Analytical Labs, Inc., a California ELAP-certified lab located in Laguna Hills, CA. Microbial analyses for *Dehalococcoides* sp. were conducted by Microbial Insights of Knoxville,

<sup>3</sup> From paragraph 1, page 2 of the WDR transmittal letter dated December 19, 2014.

TN (no ELAP-certified labs could be located that are certified for Dehalococcoides sp.). Field measurements using field-calibrated equipment were used for DO, ORP, temperature, and turbidity measurements.

**Table 2. Groundwater Monitoring Analytical Program (WDR MRP)**

Constituent	Data Table	Units	Test Method
Dissolved Oxygen	5	mg/L	field measurement
Oxidation-Reduction Potential	5	milliVolts	field measurement
pH	6	log units	EPA 150.1
Specific (Electrical) Conductivity	6	µmhos/cm	EPA 120.1
Temperature	5	Celcius	field measurement
Turbidity	5	NTUs	field measurement
Total Organic Carbon	6	mg/L	SM 5210 B
Total Dissolved Solids**	4	mg/L	EPA 160.1
Sulfate**	4	mg/L	EPA 375.4
Chloride**	4	mg/L	SM 4500-Cl-B
Boron**	4	mg/L	EPA 200.7
Nitrite	6	mg/L	SM4500-NO2B
Nitrate	6	mg/L	EPA 353.3
Volatile Organic Compounds	3	µg/L	EPA m8260B
Dissolved Gases (methane, ethane, and ethene)	3	µg/L	EPA m8015B
Dehalococcoides species	6	cells/ml	CENSUS*

\*\*General WDR Appendix B mineral constituents

(\*Microbial Insights)

Grab samples were obtained by ENSI personnel in accordance with the WDR. Dedicated bailers were used to collect groundwater samples for all but the VOC samples. VOC samples were obtained using passive diffusion samplers<sup>4</sup>, consistent with the ongoing groundwater monitoring program approved by the RWQCB under the 13267 Order. The passive diffusion samplers consist of low density polyethylene (LDPE) bags filled with deionized water hung in the wells approximately at the midpoint of the well screens in each of the wells. The samplers were obtained from ALS Environmental (former Columbia Analytical)

<sup>4</sup> A more extensive description of the use of passive diffusion samplers can be referenced at <http://www.itrcweb.org/Documents/DSP-5.pdf>. Diffusion samplers have been in use for over a decade. Initial testing was conducted by the US Geological Survey (e.g. Vroblesky, D. A. 2001. User's Guide for Polyethylene-Based Passive Diffusion Bag Samplers to Obtain Volatile Organic Compounds Concentrations in Wells, Part 1- Deployment, Recovery, Data Interpretation, and Quality Control and Assurance and Part 2- Field Tests. U.S. Geological Survey Water Resources Investigation Reports 01-4060 and 01-4061.

(<http://www.caslab.com/Passive-Diffusion-Sampling/>) and consist of 24-inch long LDPE sampling bags that hold approximately 350 mL of water. The samplers were placed within protective polyethylene mesh covers and lowered into the wells using high-strength Dacron line. The samplers are approximately 1.5 inches in diameter and readily fit within the 2-in diameter monitoring wells. Weights are attached to the samplers to help the samplers attain full deployment depth.

The LPDE acts as a filter so the samples were clear, sediment-free, and of high quality. Laboratory supplied de-ionized water was used to replenish the samplers prior to redeployment for the next sampling event. Groundwater samples collected in the field followed specific handling procedures to ensure sample integrity. The groundwater samples were inspected for headspace, labeled, enclosed in separate plastic bags, and placed in a cooler with ice pending transport to the analytical laboratory.

Samples for *Dehalococcoides* sp. were obtained using filters supplied by the analytical laboratory (Microbial Insights). A one to two liter sample of groundwater is passed through the filter using a peristaltic pump. The filter extracts the microbes from the water, provides for in-field sample preparation, and reduces the potential for sample leakage or loss during shipping.

The groundwater samples were transported, under chain-of-custody procedures, to Sierra Analytical (Sierra) of Laguna Hills, CA. Sierra is a state-certified environmental laboratory. The microbial filter samples were sent, under chain-of-custody procedures, via FedEx overnight delivery to Microbial Insights. The possession of samples was traceable from the time of collection until analysis by the contract laboratory. Sample chain-of-custody is defined by the following criteria:

- The sample was in a person's possession or in his view after being in possession; or,
- The sample was in a person's possession and was locked up or transferred to a designated secure area.

Each time the sample(s) changed hands both the sender and receiver signed and dated the chain-of-custody form and specified what item(s) had changed hands. **Appendix E** includes copies of the laboratory reports together with copies of the chain-of-custody forms.

## GROUNDWATER SAMPLING RESULTS

### *General Observations from Injection and Sampling*

- The overall hydraulic gradient determined from groundwater level elevation data obtained over the past 15 years has been generally consistent with wells MW-1 and MW-3 being well upgradient of the former dry cleaner Site. These two upgradient monitoring wells are located approximately 80 and 130 feet from the line of injection points, respectively, and far outside of the short-term hydraulic influence of the injection.

Groundwater velocity calculations support that MW-1 and MW-3 are well upgradient of the injection area. The uppermost aquifer is comprised of silty sands, sandy silts, and clay. The hydraulic conductivity of silty sands to fine sand ranges from  $10^{-5}$  to  $10^{-3}$  cm/sec<sup>5</sup>. Groundwater flow rates will therefore range between 0.26 and 26 feet/year based on a hydraulic gradient of 0.005 ft/ft and an effective porosity of 0.20<sup>6</sup>. Groundwater advection will be the dominant transport mechanism for solutes in the aquifer- diffusion rates are typically many orders of magnitude lower and in this case will be negligible compared to advective transport rates.

- The dry cleaning solvent PCE is the primary contaminant of concern in groundwater. PCE degradation compounds TCE and cis-1,2 DCE also occur in groundwater. It was the intent of the injection to create an in-situ reactive zone to intercept groundwater and increase the rate of degradation along the downgradient side of the PCE release from the former dry cleaner.
- Dehalococcoides, a microbe known to degrade PCE, was injected into groundwater. Test results show that is naturally-occurring because it was detected in groundwater prior to the injection.
- Ambient groundwater quality is poor. Prior and recent groundwater sampling data support that the water quality is well below drinking water standards for many inorganic chemicals unrelated to the PCE release and non-potable. Drinking water standards and LA RWQCB Central Basin WQOs were exceeded for TDS, sulfate, chloride, Fe, and Mn in all wells prior to the injection. Exceedances are Site-wide and include upgradient wells. All of these constituents reflect the poor water quality of the shallow urban aquifer system- none are related to the chlorinated solvent release.
- Multiple analyte concentrations in upgradient and downgradient wells were observed to decrease following injection. These include sulfate TOC, nitrate, TDS, and chloride. *Because the changes are Site-wide the overall decrease is likely due to dilution related to rainfall recharge and not the injection.* Rainfall is seasonal in the region, occurring

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<sup>5</sup> See, for example, values presented in Table 4.5 of Applied Hydrogeology, by C.W.Fetter. 1988 Merrill Publishing.

<sup>6</sup> Per Darcy's law: Velocity = (hydraulic conductivity)\*(hydraulic gradient)/(effective porosity)

primarily in the wintertime. The bulk of the rainfall during Winter 2014/2015 occurred in December.

- The injectate (EOS-Pro emulsion) spread throughout the subsurface during injection. EOS-Pro was observed to flow out of MW-6 and daylighted at two of the injection points (see notes in **Table 1**). It was also observed during sampling as a residue on the dedicated samplers located in wells MW-2 and MW-6.
- The effective radius of the injectate around the injection interval was approximately 10 feet. Thus, as planned, the injection points created a continuous IRZ underneath and along the building perimeter (see **Figure 3**).

#### *Groundwater Elevation Maps*

Water level data from monitoring wells were regularly collected from 2000 to 2009, and from November 2011 to present. These data are compiled in **Appendix B**. Water level elevations measured January 13, February 18, March 19, and April 13, 2015 are depicted in **Figures 5A to 5D** and tabulated in **Appendix B**. The inferred groundwater flow direction in the shallow unconfined aquifer system is towards the north-northeast. The horizontal hydraulic gradient away from the Site was consistent from January to April 2015 and relatively low, 0.005 ft/ft (directed from MW-7 to MW-8).

Review of the data supports that the hydraulic effect of the injection was short-term - water level data obtained one month following injection are very similar to pre-injection water levels and hydraulic gradients were unaffected. The injection volume was approximately 7,960 gallons (1,065 ft<sup>3</sup>) applied over an approximately 15,000 ft<sup>3</sup> area, equivalent to 0.07 ft<sup>3</sup> per ft<sup>2</sup> of area. Assuming an effective porosity of 20%, the amount of water level rise would have averaged 0.35 feet over the area. This calculation supports that the hydraulic impact of the injection was short-term and would have had minimal effect on hydraulic gradients.

#### January 2015 (Figure 5A)

The water level data obtained January 13, 2015 appear to be slightly 'mounded' around MW-1. The well cap at MW-1 was found to be vandalized (detached and broken) and it is inferred from the low TDS of the groundwater sample obtained 1/13/2015 that runoff entered the well following heavy rainfall that occurred late December 2014.

The mounding ranged in height up to approximately 6 inches and is limited to the area around MW-1. Subsequent water level measurements do not exhibit any mounding. Water chemistry results as indicated by TDS show that there was some dilution in the well water and that the effect of the dilution dissipated and was not evident after January.

#### February, March, and April 2015 (Figures 5B, 5C, and 5D)

Post-injection water level data were obtained February 18, March 19, and April 13, 2015. Overall water levels dropped approximately 0.78 to 0.89 feet between January 13 and April 13 with minimal change in the overall hydraulic gradient or inferred flow direction.



Current hydraulic gradient direction and magnitude measurements are within historic ranges. Wells 1 and 3 have historically been and continue to be located hydraulically upgradient of the Site and the groundwater treatment zone (IRZ).

*Sampling Results for PCE, TCE, and cis-1,2 DCE*

**Figure 6A** depicts the reported concentration of PCE, TCE, and cis-1,2 DCE in groundwater obtained during January 2015 from the monitoring wells prior to the injection. PCE was detected in samples from five of the monitoring wells (MW-2, MW-3, MW-4, MW-6, and MW-7) during the baseline sampling event at concentrations of 69, 1.3, 44, 300, and 170  $\mu\text{g/L}$ , respectively. TCE and cis-1,2 DCE were observed to occur in the five PCE bearing wells- TCE at concentrations ranging between 1.9 and 500  $\mu\text{g/L}$ , and cis-1,2 DCE ranging between 3.3 and 12  $\mu\text{g/L}$ . TCE and cis-1,2 DCE were also observed to occur at low levels in the absence of PCE in downgradient well MW-8.

The contours presented in **Figure 6A** depict PCE in groundwater, in  $\mu\text{g/L}$ , for the former dry cleaner when sampled in January. Sampling for VOCs was conducted in February, March, and April. **Figure 6B** depicts the April 2015 results. PCE was detected five of the monitoring wells (MW-2, MW-3, MW-4, MW-6, and MW-7) during this sampling event at concentrations of 61, 3.4, 41, 5.7, and 170  $\mu\text{g/L}$ , respectively. TCE and cis-1,2 DCE were observed to occur in the five PCE bearing wells- TCE at concentrations ranging between 2.8 and 240  $\mu\text{g/L}$ , and cis-1,2 DCE ranging between 2.3 and 17  $\mu\text{g/L}$ .

A significant decrease in PCE and TCE concentrations was observed in MW-6, located within the injection zone. TCE concentrations have also decreased in MW-2, located within the injection zone, and in downgradient wells MW-4 and MW-7.

Historical HVOC data are tabulated in **Appendix C** and depicted in **Figure 7 (A to G)**. PCE concentrations were decreasing prior to the January 2015 injection. TCE and cis-1,2 DCE concentration trends are further discussed below.

Low concentrations of HVOCs have been observed in upgradient wells MW-1 and MW-3, typically at concentrations below drinking water MCLs. There is an active dry cleaner located further upgradient and to the south of the site (Courtesy Cleaner, identified as #14 in Figure 2 [8400 Alondra]). It is suspected that the low level concentrations of HVOCs detected in groundwater are related to the active off-site dry cleaner.

PCE degrades in the environment to TCE and then TCE degrades to cis-1,2 DCE, generally under anaerobic and geochemically reducing conditions. Review of the historical and current TCE and cis-1,2 DCE data clearly indicate that PCE degradation is occurring at a relatively high rate across the Site. The PCE degradation product concentrations observed to occur in monitoring wells are summarized in **Table 3**. The relative concentration of degradation product versus PCE in groundwater is indicative of the in-situ biodegradation rates. The percentage, by mass, of degradation compounds ranges from 39 to 100 percent of the total HVOC concentration in each well (**Table 3**).

*Sampling Results: Constituents listed Attachment B of General WDRs Order No. R4-2014-0187*

The results of the sampling program are summarized in **Table 4** for the four Water Quality Objectives (WQOs). Data obtained in 2011 are also included. The numeric criteria for the constituents for sites located within the Central Basin of the Los Angeles Coastal Plain Groundwater Basin are identified in parentheses for each of the constituents in the MRP.

TDS (WQO is 700 mg/L)

TDS exceeded WQOs in all wells when tested prior to the injection. TDS was observed to decrease in upgradient and downgradient wells following the injection. It varies across the Site.

Sulfate (WQO is 250 mg/L)

Sulfate exceeded WQOs in all wells when tested prior to the injection. Sulfate was observed to decrease in upgradient and downgradient wells following the injection. Sulfate ranged from 180 to 490 mg/L.

Chloride (WQO is 150 mg/L)

Chloride generally exceeded WQOs in all wells when tested prior to the injection. Chloride was observed to decrease in upgradient and downgradient wells following the injection. Chloride ranged from 113 to 1,480 mg/L.

Boron (WQO is 1.0 mg/L)

Boron did not exceed WQOs in any of the wells when tested prior to or following the injection. Boron ranged from 0.10 to 0.94 mg/L. There are no significant trends in the Boron data and the data support that the injection had no effect on Boron concentrations.

*Sampling Results: Other mineral and organic Constituents listed in the WDR*

The results of the sampling program for all other WDR constituents are summarized in **Tables 5 and 6**. The results are described by analyte.

Dissolved Oxygen, ORP, and Temperature

These data were obtained using field-calibrated test equipment to measure water samples obtained from the wells. In general the samples were aerobic and oxygenated. Field temperatures varied primarily due to ambient air temperature at the time of sampling.

pH

The pH of the samples was tested at the analytical laboratory. There are no significant trends in the pH data prior to or following the injection. pH ranged from 6.52 to 7.16. The injection did not cause the pH of the receiving groundwater at the compliance point downgradient outside the application area, to be outside the range of 6.5 and 8.5.

Specific Conductivity

The specific conductivity of the samples was tested by the analytical laboratory. Specific conductivity varies non-systematically across the Site and was observed to decrease in upgradient and downgradient wells following the injection similar to TDS. It ranged from 1,010 to 4,330  $\mu\text{mhos/cm}$ .

### Turbidity

The turbidity of the grab samples was tested at the time of sampling. All of the samples were turbid (> 10 NTUs) as the monitoring wells are affected by fine-grained silt.

### Total Organic Carbon (TOC)

TOC was observed to decrease in upgradient and downgradient wells following the injection similar to TDS. The EOS-Pro emulsion has the potential to increase TOC in groundwater; however, the emulsion has low mobility in groundwater and thus had minimal impact outside of the application area. TOC ranged from 0.58 to 2.6 mg/L.

### Nitrate/nitrite

Nitrate was observed to decrease in upgradient and downgradient wells following the injection similar to TDS. Nitrate as N ranged from 1.1 to 2.4 mg/L. Very little nitrite was observed in groundwater, from none reported ('non-detect') to approximately 0.02 mg/L.

The injection did not cause the groundwater to contain nitrogen as nitrate-nitrogen plus nitrite-nitrogen ( $\text{NO}_3\text{-N} + \text{NO}_2\text{-N}$ ) in exceedance of the RWQCB Basin Plan groundwater quality objectives of 45 mg/L as Nitrate ( $\text{NO}_3$ ), or 10 mg/L as nitrate-nitrogen ( $\text{NO}_3\text{-N}$ ), or 1 mg/L as nitrite-nitrogen ( $\text{NO}_2\text{-N}$ ), whichever is lower, outside the application area or treatment zone at the compliance point(s).

### VOCs and Dissolved gases

PCE is the primary VOC. See **Table 3** and prior discussions.

No dissolved gases were detected in groundwater.

### Dehalococcoides sp. (Dhc)

A consortium of Dhc was included in the injectate. It occurs naturally at the Site and was detected in groundwater in 4 of the 5 wells tested prior to injection at concentrations ranging from 3.8 to 316 cells/ml. It was notably absent in downgradient well MW-4. (The 6<sup>th</sup> well [MW-3] was not able to be sampled for Dhc due to clogging of the sampling filter).

Following one month after injection neither of the downgradient wells had detectable Dhc. It was detected two months later in MW-4 in March and again in April, indicating that the Dhc is becoming established in the area downgradient of the injection zone.

**TABLE 3. HVOC Sampling Results, in ug/L**

Analyte	Date	upgradient		treatment zone		downgradient	
		MW-1	MW-3	MW-2	MW-6	MW-4	MW-7
PCE	01/13/15	ND<1	1.3	69	300	44	170
	02/18/15	ns-up	ns-up	67	2.8	65	260
	03/19/15	ns-up	ns-up	47	6.1	29	190
	04/13/15	ND<1	3.4	61	5.7	41	170
TCE	01/13/15	ND<1	1.9	280	500	100	370
	02/18/15	ns-up	ns-up	80	6.5	85	230
	03/19/15	ns-up	ns-up	89	12	88	200
	04/13/15	ND<1	2.8	100	5.7	92	240
cis-1,2 DCE	01/13/15	ND<1	2.8	6.3	12	3.3	13
	02/18/15	ns-up	ns-up	2.7	1	4.1	16
	03/19/15	ns-up	ns-up	4.1	1.7	3.7	12
	04/13/15	ND<1	2.3	6.1	ND<1	5	17
Dissolved Gases (methane, ethane, ethene)	01/13/15	ND<5	ND<5	ND<5	ND<5	ND<5	ND<5
	02/18/15	ns-up	ns-up	ns-inj	ns-inj	ND<5	ND<5
	03/19/15	ns-up	ns-up	ns-inj	ns-inj	ND<5	ND<5
	04/13/15	ns-up	ns-up	ns-inj	ns-inj	ND<5	ND<5
% PCE degradation compounds, by mass	01/13/15	--	78%	81%	63%	70%	69%
	02/18/15	ns-up	ns-up	55%	73%	58%	49%
	03/19/15	ns-up	ns-up	66%	69%	76%	53%
	04/13/15	--	60	63%	74%	70%	60%

- Notes
1. ns-up, upgradient well not required to be sampled
  2. ns-inj, injection (application area) well not required to be sampled
  3. ND<x, 'non-detect', reporting limit as indicated

**TABLE 4. WQO Results, in ug/L**

WQO Analyte	Date	upgradient		treatment zone		downgradient	
		MW-1	MW-3	MW-2	MW-6	MW-4	MW-7
TDS (700 mg/L)	11/03/11	<b>854</b>	<b>2010</b>	<b>1450</b>	no well	<b>3840</b>	no well
	01/13/15	113*	<b>1890</b>	<b>1650</b>	<b>1710</b>	<b>2840</b>	<b>1700</b>
	02/18/15	<b>1390</b>	<b>1820</b>	ns-inj	ns-inj	<b>2690</b>	<b>1590</b>
	03/19/15	<b>1400</b>	<b>1950</b>	ns-inj	ns-inj	<b>2370</b>	<b>1560</b>
	04/13/15	<b>1320</b>	<b>1720</b>	ns-inj	ns-inj	<b>1980</b>	<b>1520</b>
Sulfate (250 mg/L)	11/03/11	<b>1050</b>	<b>214</b>	188	no well	<b>450</b>	no well
	01/13/15	180*	<b>380</b>	<b>520</b>	<b>380</b>	<b>425</b>	<b>490</b>
	02/18/15	<b>250</b>	<b>358</b>	ns-inj	ns-inj	<b>500</b>	<b>400</b>
	03/19/15	<b>230</b>	<b>310</b>	ns-inj	ns-inj	<b>430</b>	<b>300</b>
	04/13/15	<b>275</b>	<b>300</b>	ns-inj	ns-inj	<b>400</b>	<b>375</b>
Chloride (150 mg/L)	11/03/11	<b>854</b>	<b>190</b>	<b>139</b>	no well	<b>1480</b>	no well
	01/13/15	113*	<b>136</b>	<b>157</b>	<b>258</b>	<b>880</b>	<b>218</b>
	02/18/15	<b>270</b>	<b>151</b>	ns-inj	ns-inj	<b>780</b>	<b>220</b>
	03/19/15	<b>248</b>	<b>153</b>	ns-inj	ns-inj	<b>621</b>	<b>228</b>
	04/13/15	<b>249</b>	<b>156</b>	ns-inj	ns-inj	<b>458</b>	<b>219</b>
Boron (1.0 mg/L)	11/03/11	na	na	na	no well	na	no well
	01/13/15	0.10*	0.73	0.49	0.42	0.24	0.18
	02/18/15	0.21	0.94	ns-inj	ns-inj	0.22	0.15
	03/19/15	0.21	0.87	ns-inj	ns-inj	0.23	0.16
	04/13/15	0.19	0.79	ns-inj	ns-inj	0.20	0.13

- Notes
1. ns-up, upgradient well not required to be sampled
  2. ns-inj, injection (application area) well not required to be sampled
  3. ND<x, 'non-detect', reporting limit as indicated
  4. **BOLD**: Exceeds Water Quality Objectives for Central Basin
  5. \* Suspect Rainfall Infiltration due to vandalized well cap
  6. no well, well installed after 11/2011
  7. Sampling done 11/3/2011 for site characterization (13267 Order)

**TABLE 5. Field Parameters (WDR list)**

Parameter	Date	<u>upgradient</u>		<u>treatment zone</u>		<u>downgradient</u>	
		MW-1	MW-3	MW-2	MW-6	MW-4	MW-7
Diss Oxygen	01/13/15	nm-f	nm-f	nm-f	nm-f	nm-f	nm-f
	02/18/15	0.20	2.0	ns-inj	ns-inj	1.32	0.0
	03/19/15	3.58	4.05	ns-inj	ns-inj	3.38	3.41
	04/13/15	nm-f	nm-f	ns-inj	ns-inj	nm-f	nm-f
ORP	01/13/15	95	77	-25	-27	100	6
	02/18/15	31	115	ns-inj	ns-inj	nm	532
	03/19/15	6	38	ns-inj	ns-inj	53	500
	04/13/15	494	62	ns-inj	ns-inj	57	503
Temp (deg C)	01/13/15	21.8	19.3	21.8	22.3	27.2	22.7
	02/18/15	25	24.9	ns-inj	ns-inj	19.8	26.1
	03/19/15	27.6	22.6	ns-inj	ns-inj	21.7	21.6
	04/13/15	22.4	21.6	ns-inj	ns-inj	26.2	21.7
NTUs	01/13/15	69	808	190.0	340	242	195
	02/18/15	59.60	803	ns-inj	ns-inj	62	260
	03/19/15	~10	>500	ns-inj	ns-inj	~100	>100
	04/13/15	~5	>100	ns-inj	ns-inj	~50	>100

- Notes
1. nm-f, not measured due to meter failure/ calibration failure
  2. ns-inj, injection (application area) well not required to be sampled
  3. ND<x, 'non-detect', reporting limit as indicated

**TABLE 6. WDR Analytes**

WDR Analyte	Date	upgradient		treatment zone		downgradient	
		MW-1	MW-3	MW-2	MW-6	MW-4	MW-7
pH	11/03/11	6.77	7.29	7.07	no well	6.81	no well
	01/13/15	6.59	7.11	6.89	6.91	6.88	6.94
	02/18/15	6.52	7.04	ns-inj	ns-inj	7.01	7.03
	03/19/15	7.09	7.16	ns-inj	ns-inj	6.93	7.03
	04/13/15	6.68	7.03	ns-inj	ns-inj	6.71	6.83
Spec Cond	11/03/11	5430	3030	2150	no well	5800	no well
	01/13/15	1010*	2880	2520	2610	4330	2570
	02/18/15	2130	2790	ns-inj	ns-inj	4110	2430
	03/19/15	2140	2990	ns-inj	ns-inj	3620	2380
	04/13/15	2130	2770	ns-inj	ns-inj	3190	2450
TOC	11/03/11	na	na	na	no well	na	no well
	01/13/15	2.6	1.4	1.3	0.80	0.9	0.95
	02/18/15	2.1	1.2	ns-inj	ns-inj	0.67	0.63
	03/19/15	2.0	1.2	ns-inj	ns-inj	0.89	0.62
	04/13/15	1.8	1.0	ns-inj	ns-inj	0.69	0.58
Nitrate as N	11/03/11	na	na	na	no well	na	no well
	01/13/15	2.40	4.10	1.40	1.80	2.80	1.90
	02/18/15	1.40	2.40	ns-inj	ns-inj	1.10	1.71
	03/19/15	1.50	1.60	ns-inj	ns-inj	1.20	1.42
	04/13/15	1.50	1.80	ns-inj	ns-inj	1.10	1.72
Nitrate/Nitrite as N	11/03/11	na	na	na	no well	na	no well
	01/13/15	2.40	4.11	1.41	1.80	2.81	1.90
	02/18/15	1.40	2.41	ns-inj	ns-inj	1.10	1.71
	03/19/15	1.51	1.62	ns-inj	ns-inj	1.20	1.42
	04/13/15	1.63	1.92	ns-inj	ns-inj	1.10	1.70
Sulfate (MCL= 250)	11/03/11	<b>1050</b>	214	188	no well	450	no well
	01/13/15	180*	<b>380</b>	<b>520</b>	<b>380</b>	<b>425</b>	<b>490</b>
	02/18/15	<b>250</b>	<b>350</b>	ns-inj	ns-inj	<b>500</b>	<b>400</b>
	03/19/15	230	<b>310</b>	ns-inj	ns-inj	<b>430</b>	<b>300</b>
	04/13/15	<b>275</b>	<b>300</b>	ns-inj	ns-inj	<b>400</b>	<b>375</b>
Dehalococcoides (cells/ml)	11/03/11	na	na	na	na	na	na
	01/13/15	316	ns	98.5	58.5	ND<0.5	3.8
	02/18/15	ns-up	ns-up	ns-inj	ns-inj	ND<0.3	ND<0.3
	03/19/15	ns-up	ns-up	ns-inj	ns-inj	15.90	ND<0.3
	04/13/15	ns-up	ns-up	ns-inj	ns-inj	11.70	ND<0.3

- Notes
1. ns-up, upgradient well not required to be sampled
  2. ns-inj, injection (application area) well not required to be sampled
  3. ND<x, 'non-detect', reporting limit as indicated
  4. **BOLD**: Exceeds Water Quality Objectives for Central Basin
  5. \* Suspect Rainfall Infiltration due to vandalized well cap
  6. no well, well installed after 11/2011
  7. Sampling done 11/3/2011 for site characterization (13267 Order)

## SUMMARY

- Groundwater occurs at a depth of approximately 25 feet below ground surface.
- The pre-injection hydraulic gradient inferred from the January 2015 water level data is directed to the north-northeast with a magnitude of  $5 \times 10^{-3}$  ft/ft (**Figure 3**). Water level data from the adjacent Shell gas station were used to support the overall interpretation of water levels. The gradient magnitude and direction are similar to previous monitoring events.
- The injection went according to plan and the IRZ was successfully installed along the downgradient edge of the former dry cleaner building.
- Post-injection water level maps (February, March, and April 2015) show that the injection had no significant impact on groundwater levels or hydraulic gradients. There was minimal change in the hydraulic gradient magnitude or direction.
- Concentrations of PCE and TCE in groundwater have responded to the groundwater injection. PCE concentrations in MW-6 within the application area have dropped to near-MCL levels. TCE concentrations have dropped in MW-2, also in the application area. Overall, HVOC concentrations have decreased.
- Groundwater monitoring included testing for mineral constituents listed in Attachment B of General WDRs Order No. R4-2014-0187. These include TDS, sulfate, chloride, and boron. Pre-injection groundwater monitoring demonstrated that background concentrations of TDS, sulfate, and chloride exceeded applicable limits for the Central Basin of the Los Angeles Coastal Plain Groundwater Basin.

Post-injection sampling results demonstrate that the injection had no significant effect on WQOs. Groundwater quality did improve, particularly with respect to the PCE release.

- Dehalococcoides, the bioaugmentation microbe used in the injection, was present in groundwater in multiple wells across the Site prior to injection. It was not present in downgradient well MW-4 prior to the injection but was detected in March and April, supporting that the insitu reactive zone is developing as intended.
- Review of the sampling data for all of the other mineral and biological constituents included in the WDR MRP NO. CI-10108 (pages T-2 and T-3) demonstrates that the injection had no significant or deleterious effects. Decreases in HVOC concentrations did occur and were and expected and intended consequence.



## CLOSING REMARKS

The results of the MRP conducted for the WDR demonstrate that the groundwater injection (“discharge”) conducted for groundwater remediation did not cause the mineral constituents of the receiving groundwater at the compliance point, downgradient outside the application area, to be in excess of applicable limits (Central Basin of the Los Angeles Coastal Plain Groundwater Basin) given in Attachment B of General WDRs Order No. R4-2014-0187. This finding is based on the results of four groundwater sampling events as described and documented in this Report.

Further, based on review of historical data and recent groundwater observations no exceedances of WQOs are expected to occur. No additional sampling for MRP analytes is necessary or recommended to support that the injection had no significant or deleterious impacts on groundwater quality.

The WDR permit requires an annual fee that covers the fiscal year billing period beginning July 1 and ending June 30, the following year. It is requested that the WDR be terminated on or before June 30, 2015 prior to the new fiscal year beginning July 1, 2015.

Quarterly groundwater monitoring for HVOCs will continue under the 13267 Order to assess the continued performance of the groundwater remedy.

Please contact the undersigned should you have any questions or need additional information.

Sincerely,



Jay W. Jones, PG#4106, Ph.D.  
Environmental Navigation Services, Inc.



Attached:

Figures 1, 2, 3, 4, 5(A to D), 6(A and B), and 7(A to G)

Appendix A: RWQCB WDR

Appendix B: Historical Groundwater Elevation Data

Appendix C: Historical Groundwater Sampling Results including WDR MRP Results

Appendix D: Field Records

Appendix E: Laboratory Reports

**CERTIFICATION**

"I certify under penalty or law that this document, including all attachments and supplemental information, was prepared under my direction or supervision in accordance with a system designed to assure that qualified personnel properly gathered and evaluated the information submitted. Based on my inquiry of the person or persons who managed the system, or those persons directly responsible for gathering the information, the information submitted is, to the best of my knowledge and belief, true, accurate, and complete. I am aware that there are significant penalties for submitting false information, including the possibility of a fine and imprisonment.

Executed on the 30<sup>th</sup> day of April 2015 at Encinitas, CA

A handwritten signature in black ink, appearing to be "John A. ...", written over a horizontal line.

(Signature)

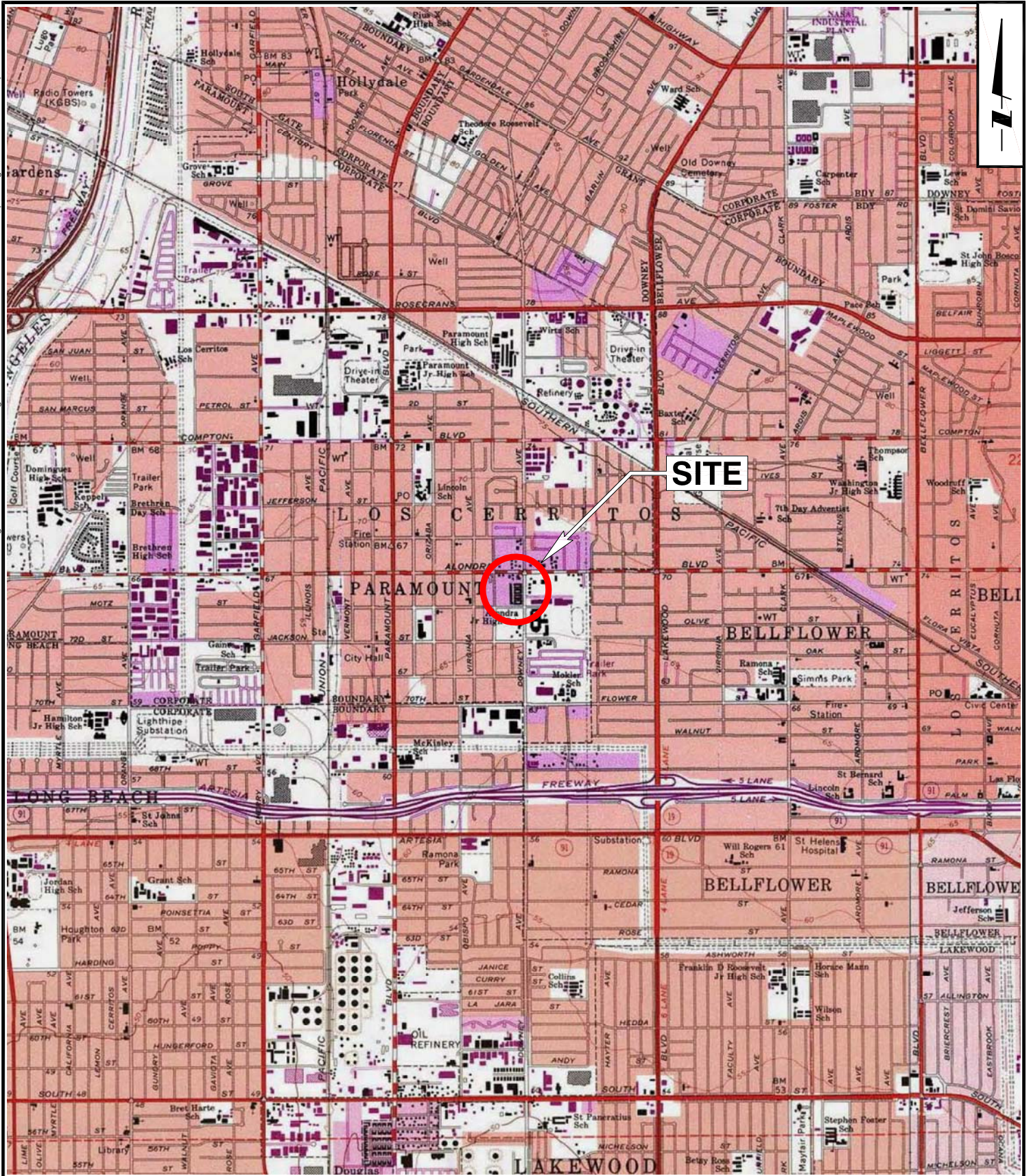
President, Environmental Navigation Services, Inc.

## **LIMITATIONS**

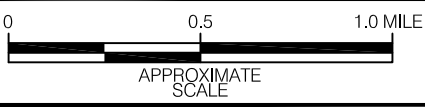
This report was prepared for the exclusive use of Wactor & Wick LLP, their clients, and their assigned parties. It is based upon information provided by others identified in this report. This report does not serve to warrant the accuracy of their information.

The opinions and analyses provided in this report were provided in accordance with generally accepted professional principles and practices at the time that this report was prepared. It is also assumed that the available data from the site are representative of actual site conditions. Actual site conditions may differ due to the complex nature of the fate and transport of chemicals in the subsurface and the uncertainty inherent to measurements of natural systems. No other warranty, expressed or implied, is made.

In the event that changes occur in site conditions or site use, or that new data are provided or discovered that may affect the findings of this report, it is requested that the author of this report be notified so that the findings of this report can be modified or verified in writing as appropriate. No responsibility can be taken for the improper use of this report.



**ENVIRONMENTAL  
NAVIGATION  
SERVICES, INC.**



EXPLANATION

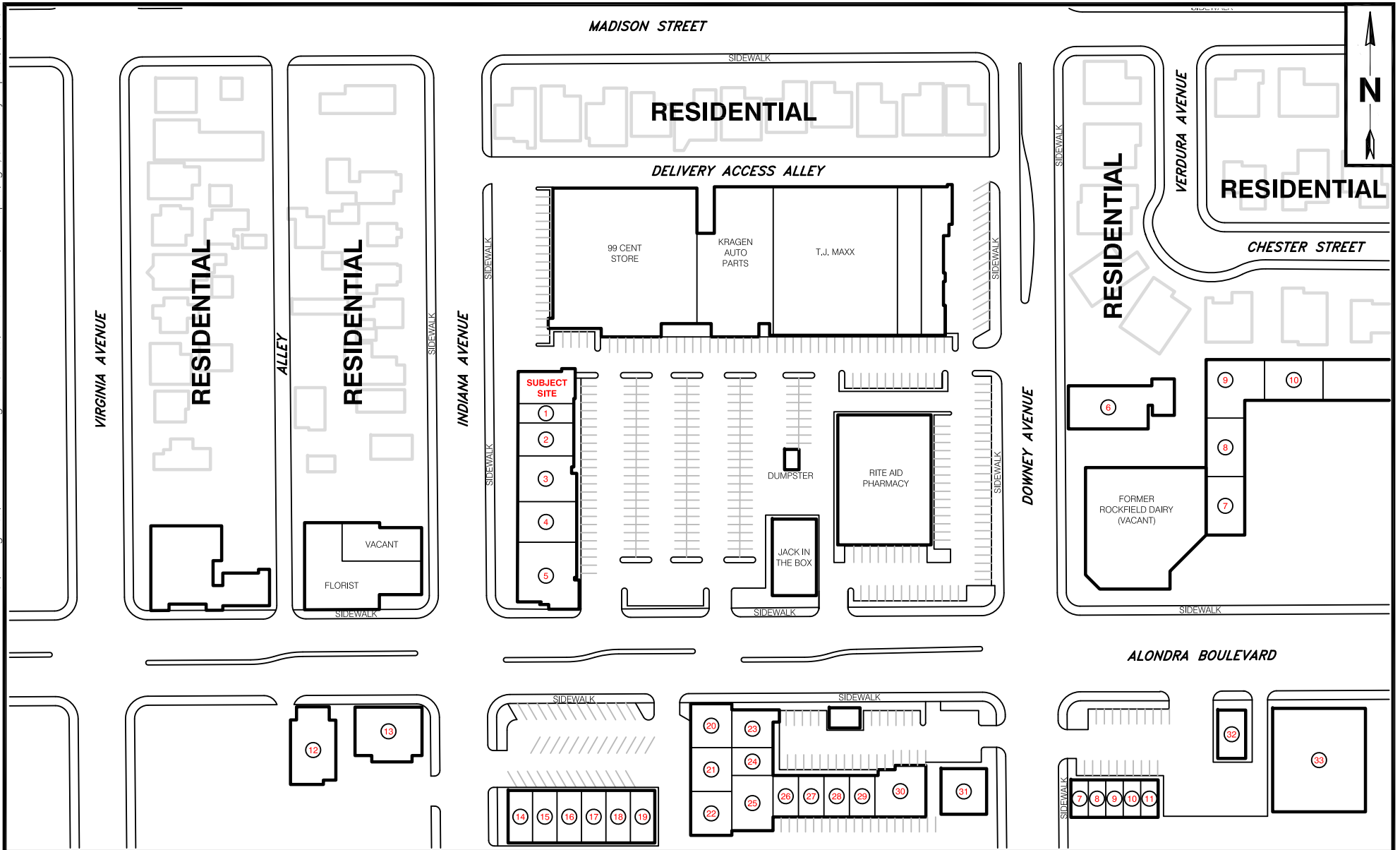
 SITE LOCATION

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Quadrangle Map, South Gate, CA - 1970,  
Photorevised 1981

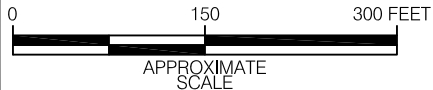
**SITE LOCATION MAP**

FORMER PARAMOUNT CLEANERS  
1729 DOWNEY AVENUE  
PARAMOUNT, CALIFORNIA

PE/PG <b>JWJ</b>	Project Number	Figure <b>1</b>
Project Manager <b>JWJ</b>	Drafter <b>CM</b>	
	Date <b>04/22/2015</b>	



**Environmental  
Navigation  
Services, Inc.**



**EXPLANATION**

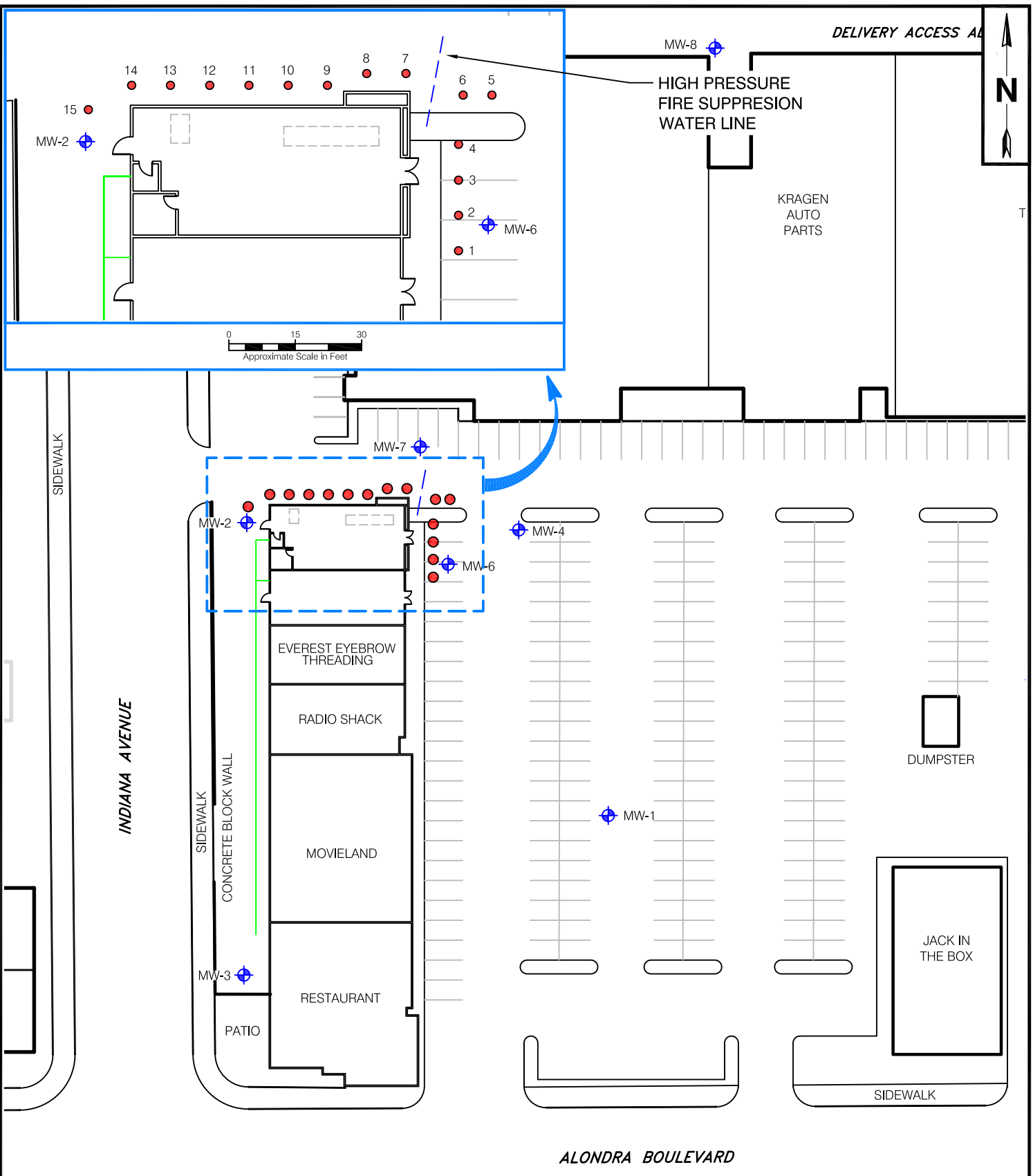
- |                             |                          |                          |
|-----------------------------|--------------------------|--------------------------|
| ① EVEREST EYEBROW THREADING | ⑫ MEATS AND DELI         | ⑲ DENTIST                |
| ② RADIO SHACK               | ⑬ CASA CAMINO RESTAURANT | ⑳ WATER STORE            |
| ③ RE/MAX REALTY             | ⑭ COURTESY CLEANERS      | ㉑ SALON                  |
| ④ MOVIELAND                 | ⑮ BHAN D HUANG THAI      | ㉒ BARBER                 |
| ⑤ ALONDRA HOT WINGS         | ⑯ MAJESTIC COOKING       | ㉓ TAX SERVICES           |
| ⑥ TRANSMISSION              | ⑰ BARBER SHOP            | ㉔ TOBACCO CITY           |
| ⑦ K-INN DONUTS              | ⑱ BEAUTY SUPPLY          | ㉕ VACANT                 |
| ⑧ QUEEN BEAUTY SUPPLY       | ⑲ THAI SMILE RESTAURANT  | ㉖ TAMS BURGERS           |
| ⑨ STATE FARM                | ㉑ STARLITE LIQUOR        | ㉗ TROPICANA RANCH MARKET |
| ⑩ TAX SERVICES              | ㉒ HAIR DESIGN            | ㉘ GOLDEN BOWL TERIYAKI   |
| ⑪ DD TOBACCO                | ㉓ LAUNDRY-PLUS           | ㉙ GOODWILL THRIFT STORE  |

**SITE VICINITY MAP**

**FORMER PARAMOUNT CLEANERS**  
15729 DOWNEY AVENUE  
PARAMOUNT, CALIFORNIA 90723

PE/PG <b>JWJ</b>	Project Number <b>PARAMOUNT</b>	Figure
Project Manager <b>JWJ</b>	Drafter <b>CM</b>	Date <b>04/22/2015</b>

**2**

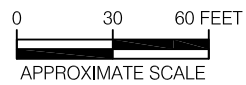


**Environmental  
Navigation  
Services, Inc.**

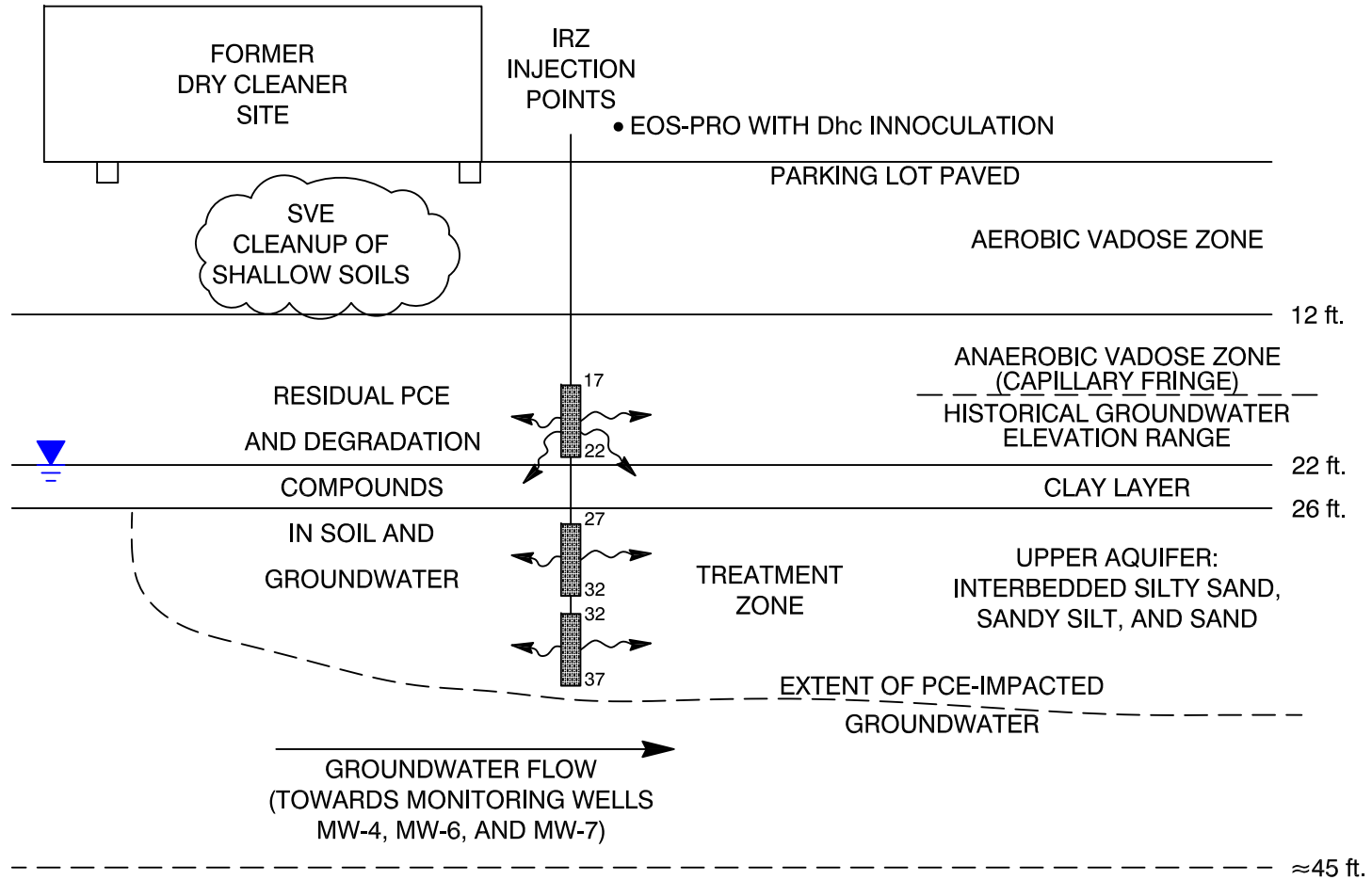
EXPLANATION BLOCK  
 MW-2 Groundwater Monitoring Well Location  
 15 Injection Point Location

**IRZ INJECTION POINTS  
AND MONITORING WELLS**

FORMER PARAMOUNT CLEANERS  
 15729 DOWNEY AVENUE  
 PARAMOUNT, CALIFORNIA 90723



PE/PG <b>JWJ</b>	Project Number <b>PARAMOUNT</b>	Figure <b>3</b>
Project Manager <b>JWJ</b>	Drafter <b>CM</b>	
Date <b>04/27/2015</b>		



**Environmental Navigation Services, Inc.**

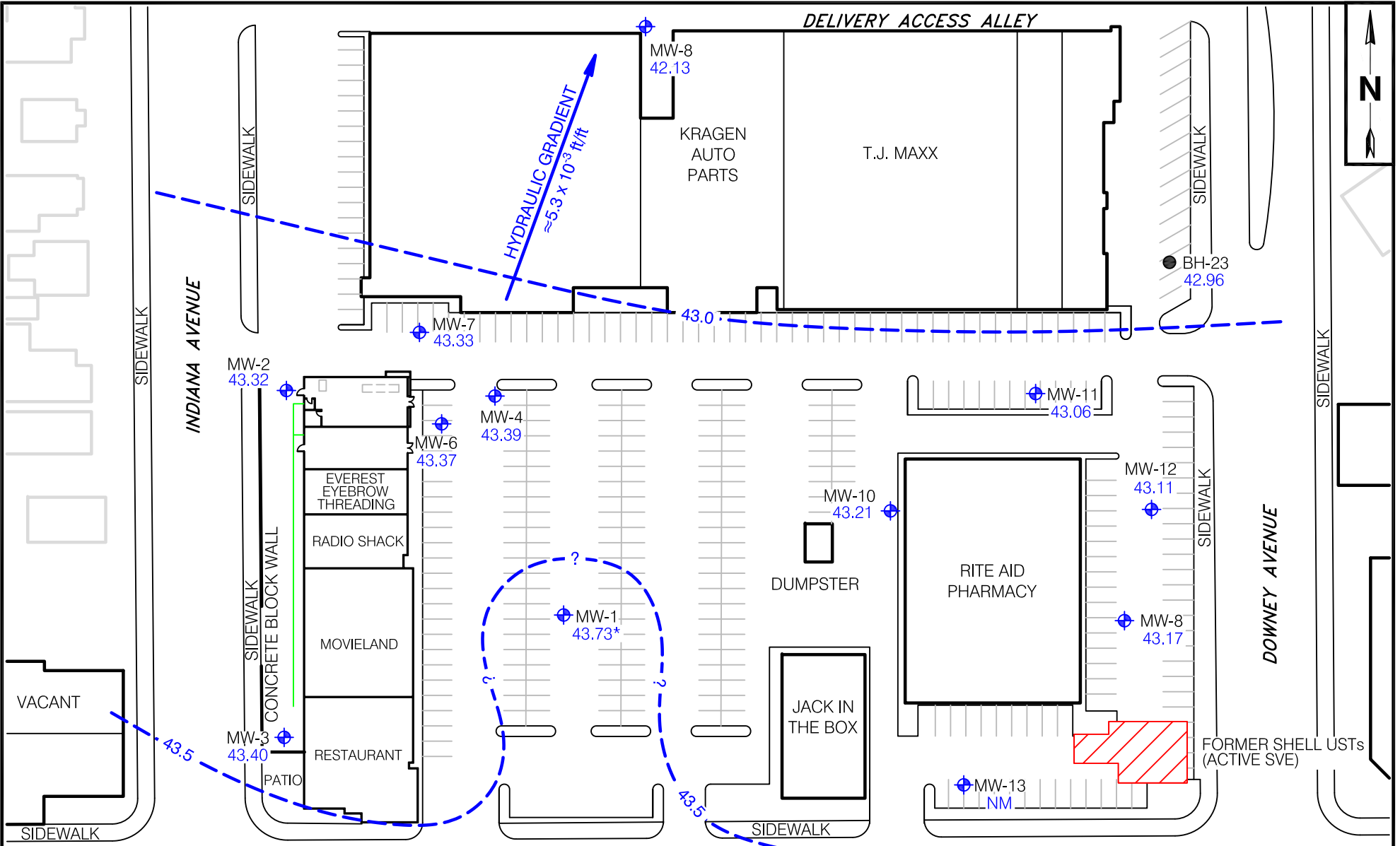
SCHEMATIC NOT TO SCALE

EXPLANATION BLOCK

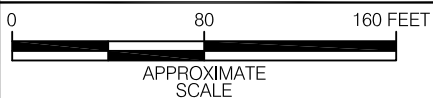
**SELECTED REMEDY AND IRZ SCHEMATIC PROFILE**

FORMER PARAMOUNT CLEANERS  
 15729 DOWNEY AVENUE  
 PARAMOUNT, CALIFORNIA 90723

PE/PG JWJ	Project Number PARAMOUNT	Figure 4
Project Manager JWJ	Drafter CM	Date 06/25/2013



**Environmental  
 Navigation  
 Services, Inc.**



**EXPLANATION BLOCK**

- MW-2 Groundwater Monitoring Well Location  
 43.32 Groundwater Depth, Mean Sea Level (msl)
- BH-23 Soil Boring/Monitoring Well Location
- 43.5 -- Water Level Elevation Contour

NOTES: All wells east of MW-1 installed for the adjacent Shell Lust Site.  
 NM = Not measured  
 \* = Suspect rainwater leakage

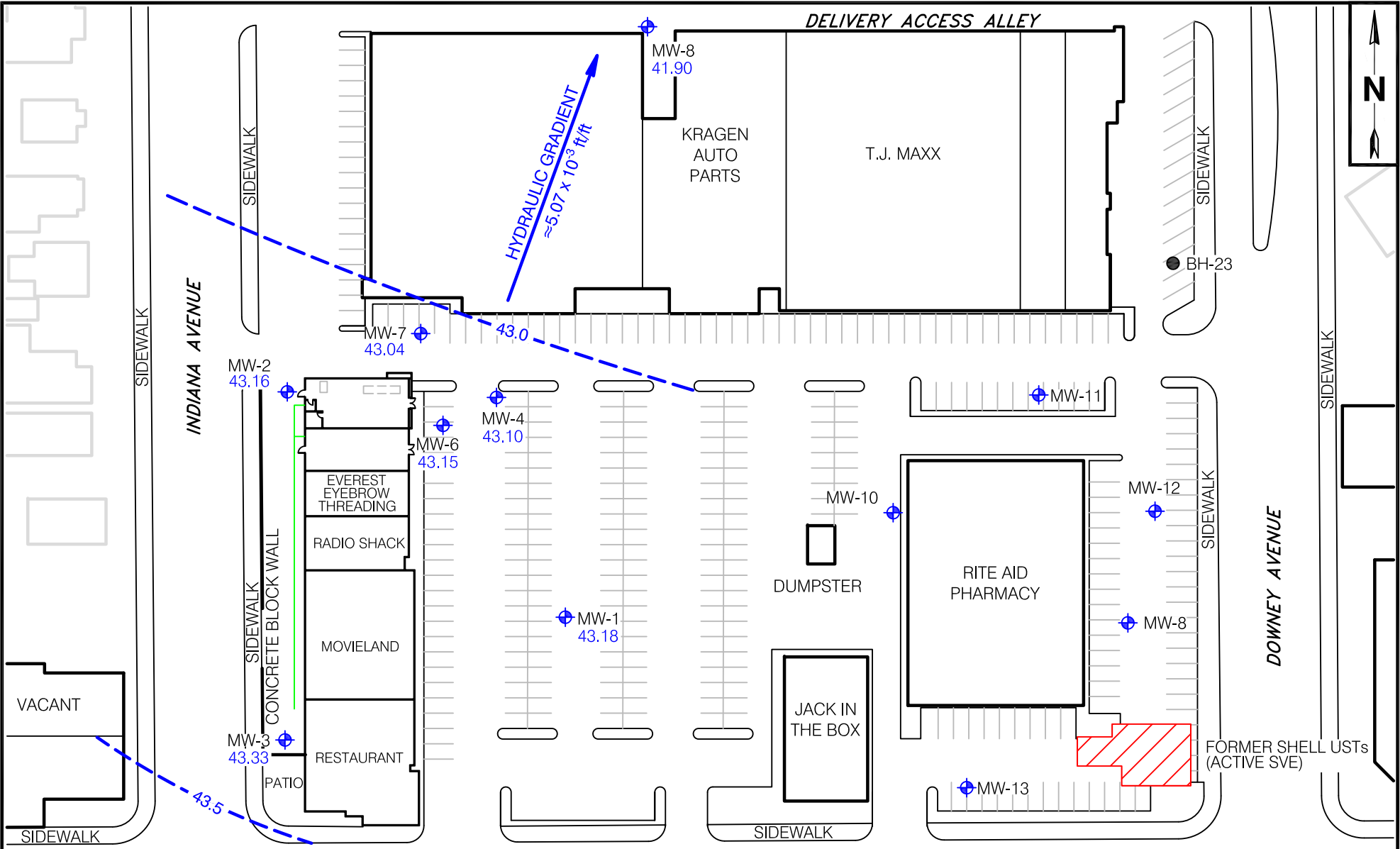
**WATER LEVEL ELEVATION  
 FIRST QUARTER 2015  
 (01/06 & 15/2015)**

FORMER PARAMOUNT CLEANERS  
 15729 DOWNEY AVENUE  
 PARAMOUNT, CALIFORNIA 90723

PE/PG <b>JWJ</b>	Project Number <b>PARAMOUNT</b>	Figure
Project Manager <b>JWJ</b>	Drafter <b>CM</b>	Date <b>02/04/2015</b>

**5A**





**Environmental  
Navigation  
Services, Inc.**

EXPLANATION BLOCK

- MW-2 Groundwater Monitoring Well Location  
43.16 Groundwater Depth, Mean Sea Level (msl)
- BH-23 Soil Boring/Monitoring Well Location
- 43.5 -- Water Level Elevation Contour

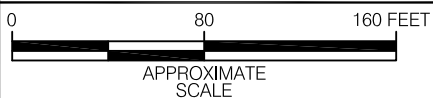
NOTES: All wells east of MW-1 installed for the adjacent Shell Lust Site.  
NM = Not measured

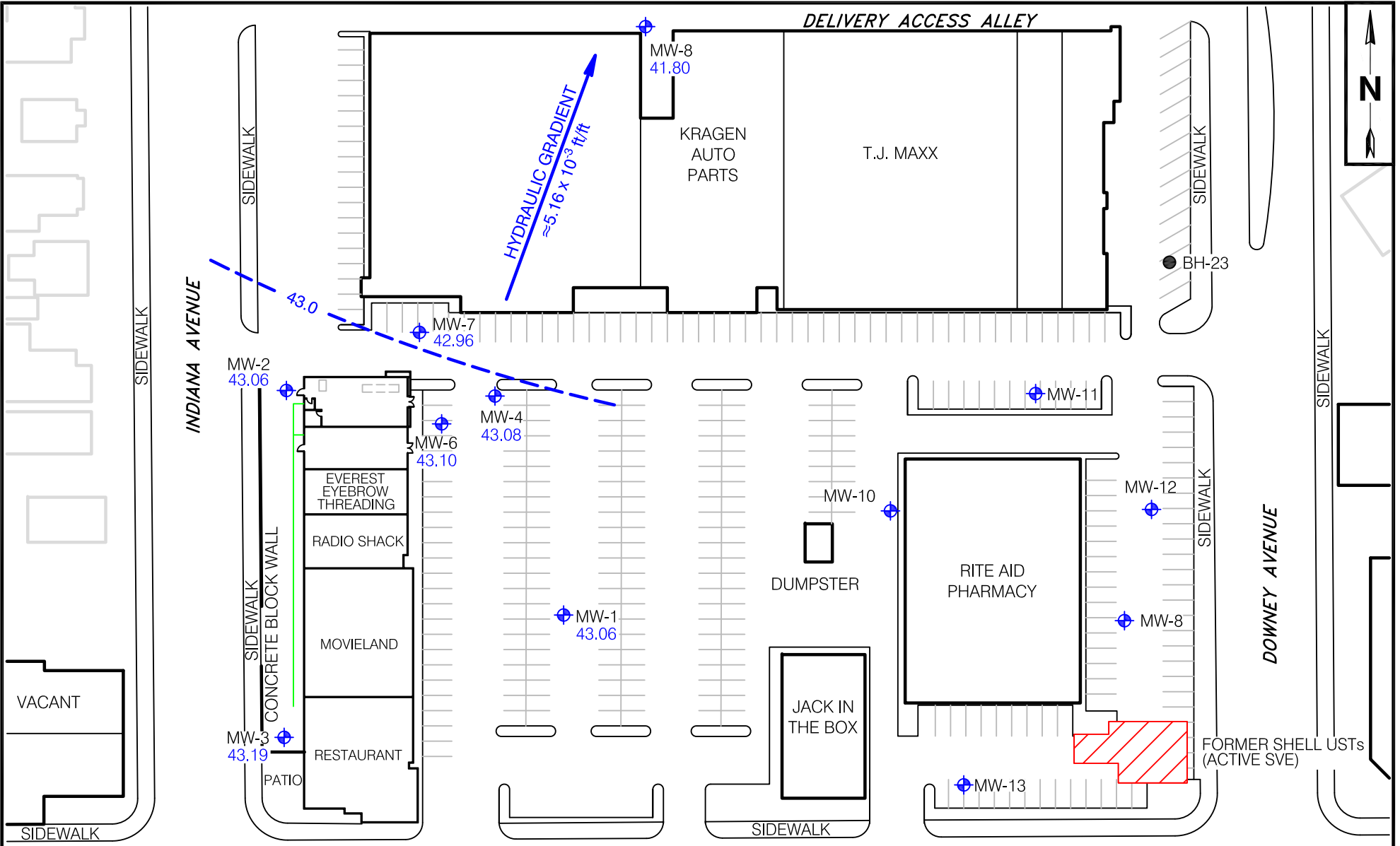
**2/18/2015  
WATER LEVEL ELEVATION  
MAP**

FORMER PARAMOUNT CLEANERS  
15729 DOWNEY AVENUE  
PARAMOUNT, CALIFORNIA 90723

PE/PG <b>JWJ</b>	Project Number <b>PARAMOUNT</b>	Figure
Project Manager <b>JWJ</b>	Drafter <b>CM</b>	Date <b>04/23/2015</b>

**5B**





**Environmental  
Navigation  
Services, Inc.**

EXPLANATION BLOCK

- MW-2 Groundwater Monitoring Well Location  
43.06 Groundwater Depth, Mean Sea Level (msl)
- BH-23 Soil Boring/Monitoring Well Location
- 43.0 -- Water Level Elevation Contour

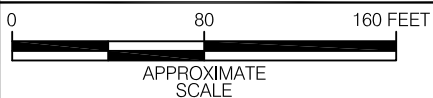
NOTES: All wells east of MW-1 installed for the adjacent Shell Lust Site.  
NM = Not measured

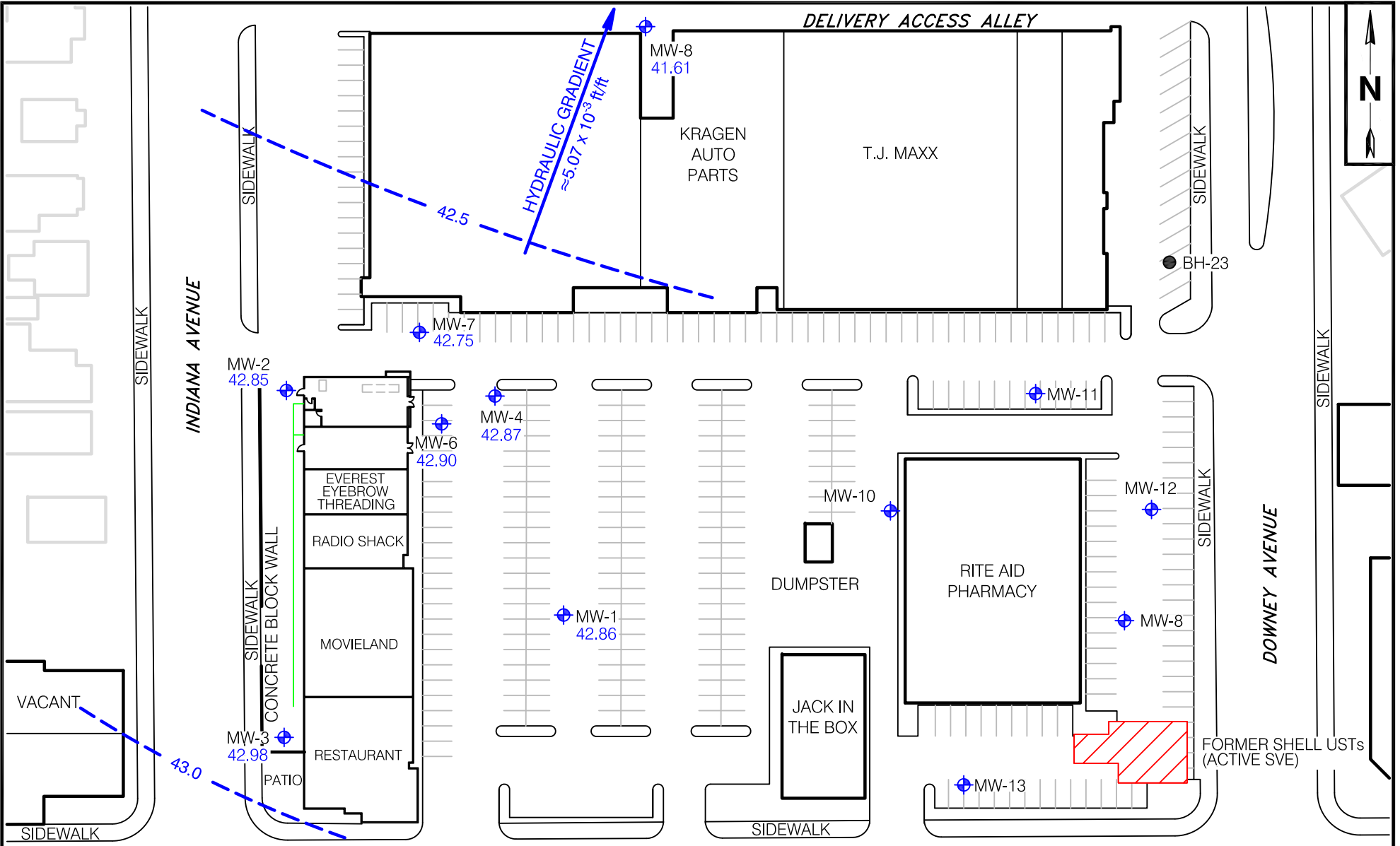
**3/19/2015  
WATER LEVEL ELEVATION  
MAP**

FORMER PARAMOUNT CLEANERS  
15729 DOWNEY AVENUE  
PARAMOUNT, CALIFORNIA 90723

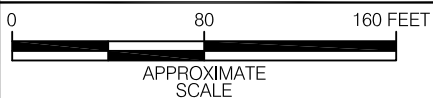
PE/PG <b>JWJ</b>	Project Number <b>PARAMOUNT</b>	Figure
Project Manager <b>JWJ</b>	Drafter <b>CM</b>	Date <b>04/23/2015</b>

**5C**





**Environmental  
 Navigation  
 Services, Inc.**



**EXPLANATION BLOCK**

- MW-2 Groundwater Monitoring Well Location  
 42.85 Groundwater Depth, Mean Sea Level (msl)
- BH-23 Soil Boring/Monitoring Well Location
- 43.0 -- Water Level Elevation Contour

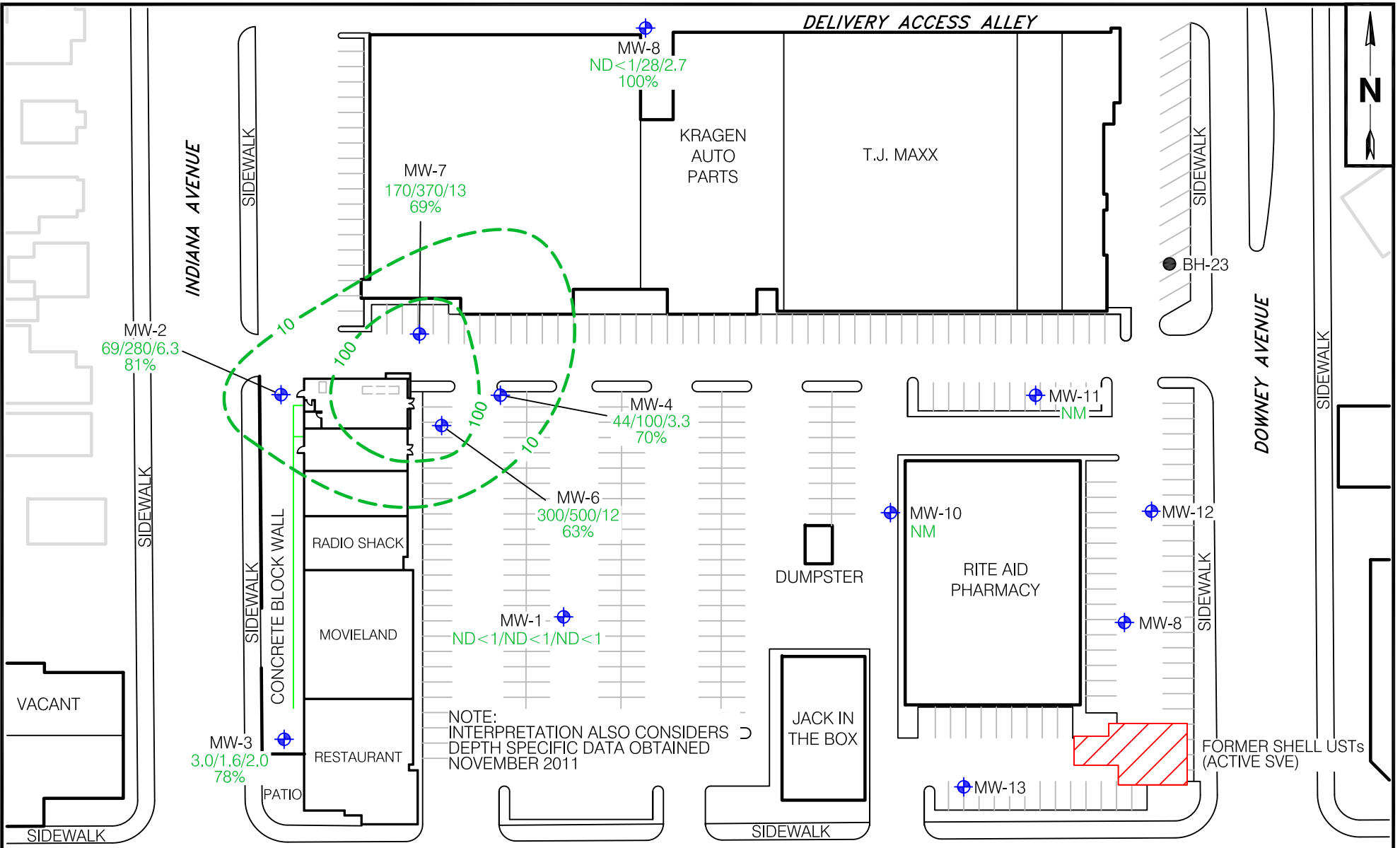
**NOTES:** All wells east of MW-1 installed for the adjacent Shell Lust Site.  
 NM = Not measured

**WATER LEVEL ELEVATION  
 SECOND QUARTER 2015  
 (04/13/2015)**

**FORMER PARAMOUNT CLEANERS  
 15729 DOWNEY AVENUE  
 PARAMOUNT, CALIFORNIA 90723**

PE/PG <b>JWJ</b>	Project Number <b>PARAMOUNT</b>	Figure
Project Manager <b>JWJ</b>	Drafter <b>CM</b>	Date <b>04/23/2015</b>

**5D**



**Environmental  
Navigation  
Services, Inc.**

**EXPLANATION BLOCK**

MW-2 GROUNDWATER MONITORING WELL LOCATION  
69/280/6.3  
81%  
PCE/TCE/C12-DCE IN  $\mu\text{g/L}$   
PERCENT PCE DEGRADATION AS INDICATED (BY MASS)

PCE IN GROUNDWATER

BH-23 SOIL BORING LOCATION  
(WITH COMPLETED WELL)

**NOTE:**  
All wells east of MW-1 installed for the adjacent Shell LUST site

PCE - Tetrachloroethene  
TCE - Trichloroethene  
C12-DCE - cis-1,2-Dichloroethene  
ND - < 1  $\mu\text{g/L}$

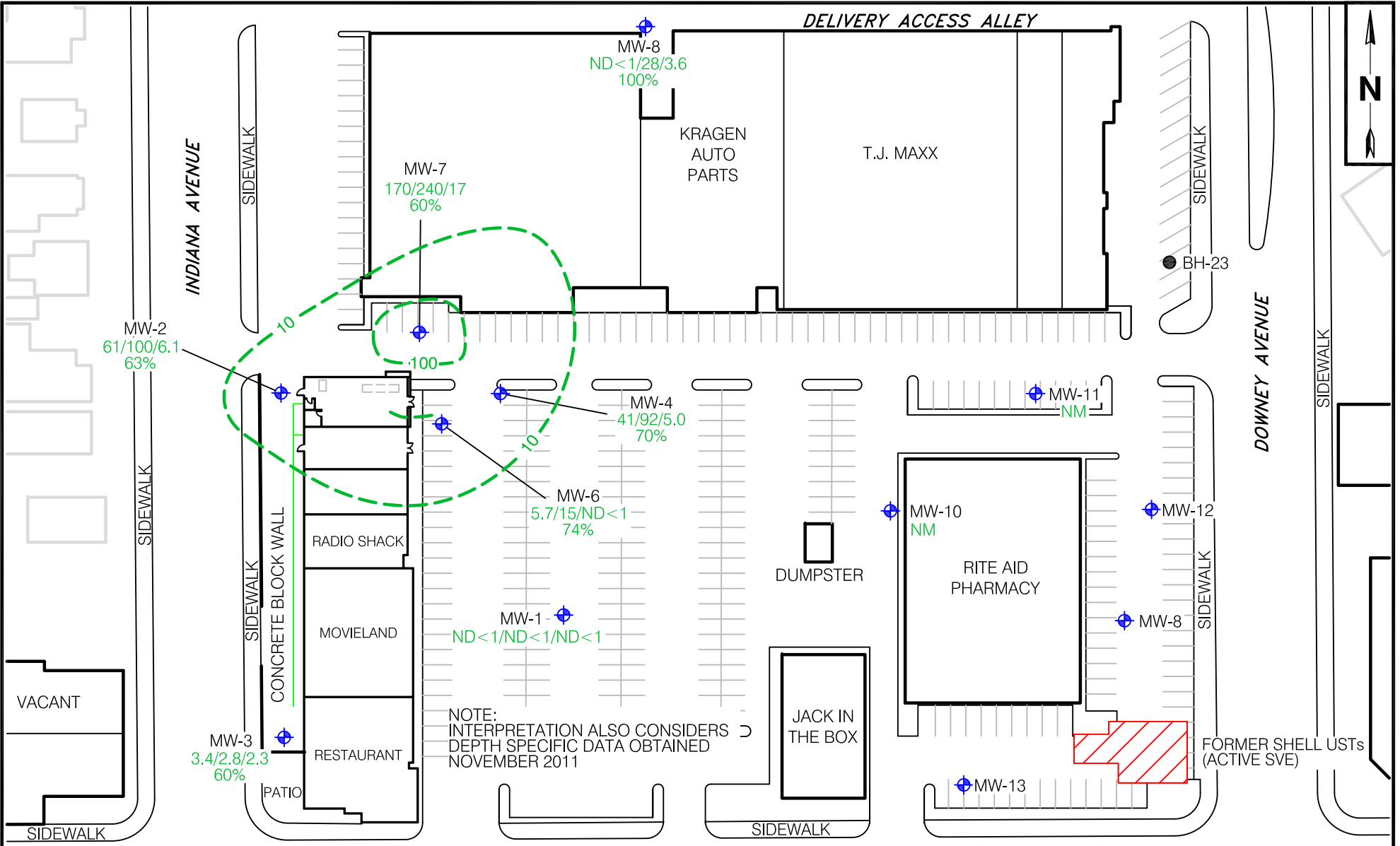
**HVOCs IN GROUNDWATER  
FIRST QUARTER, 2015  
(01/13/2015)**

FORMER PARAMOUNT CLEANERS  
15729 DOWNEY AVENUE  
PARAMOUNT, CALIFORNIA 90723

PE/PG	JWJ	Project Number	PARAMOUNT	Figure
Project Manager	JWJ	Drafter	CM	Date
				02/05/2015

**6A**





**Environmental Navigation Services, Inc.**

0 80 160 FEET  
APPROXIMATE SCALE

**EXPLANATION BLOCK**

MW-2 GROUNDWATER MONITORING WELL LOCATION  
61/100/6.1  
63%  
PCE/TCE/C12-DCE IN  $\mu\text{g/L}$   
PERCENT PCE DEGRADATION AS INDICATED (BY MASS)

PCE IN GROUNDWATER

BH-23 SOIL BORING LOCATION (WITH COMPLETED WELL)

**NOTE:**  
All wells east of MW-1 installed for the adjacent Shell LUST site

PCE - Tetrachloroethene  
TCE - Trichloroethene  
C12-DCE - cis-1,2-Dichloroethene  
ND - < 1  $\mu\text{g/L}$

**HVOCs IN GROUNDWATER  
SECOND QUARTER, 2015  
(04/13/2015)**

FORMER PARAMOUNT CLEANERS  
15729 DOWNEY AVENUE  
PARAMOUNT, CALIFORNIA 90723

PE/PG <b>JWJ</b>	Project Number <b>PARAMOUNT</b>	Figure
Project Manager <b>JWJ</b>	Drafter <b>CM</b>	Date <b>04/23/2015</b>

**6B**

Figure 7A:  
MW-1

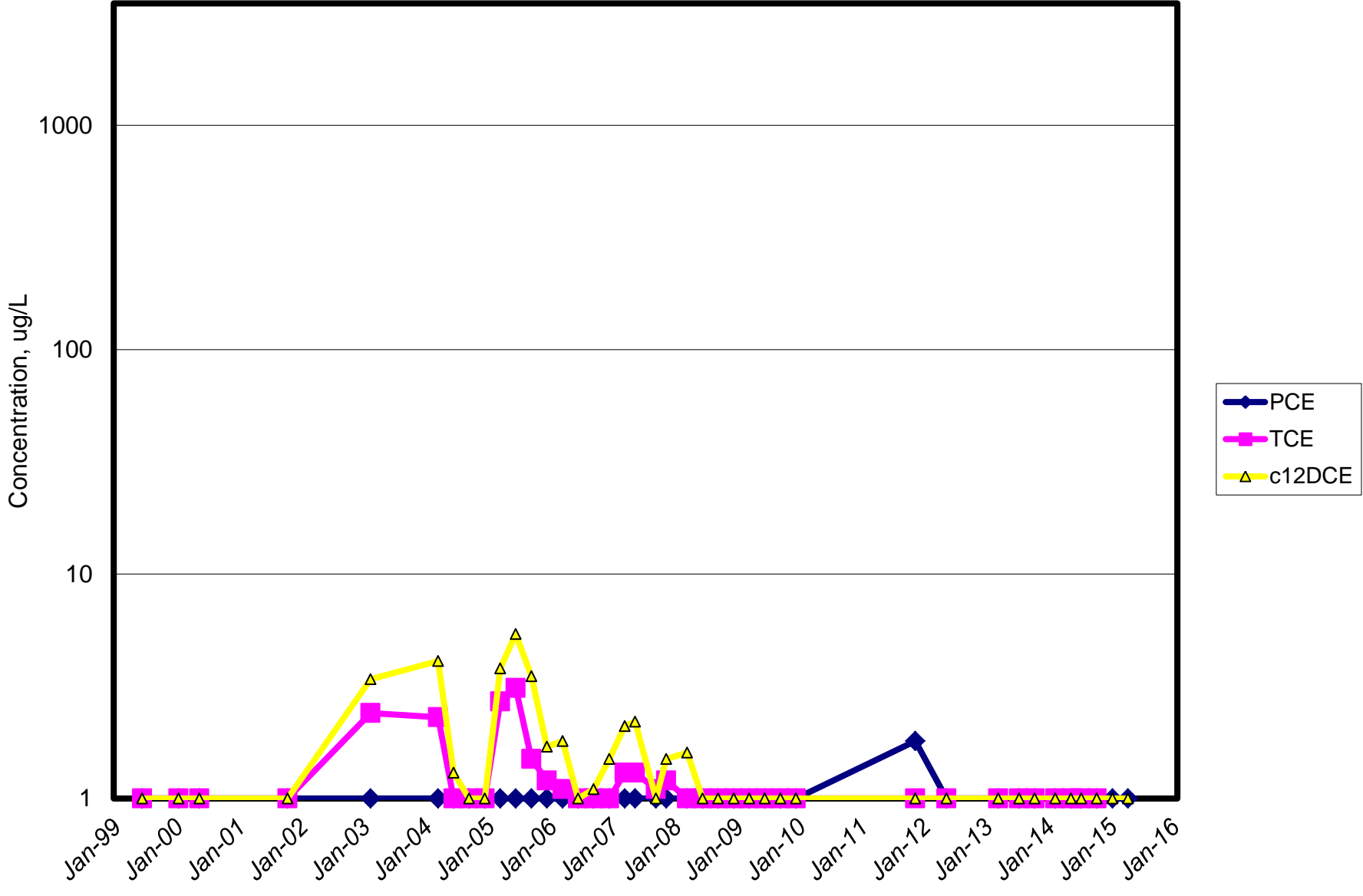
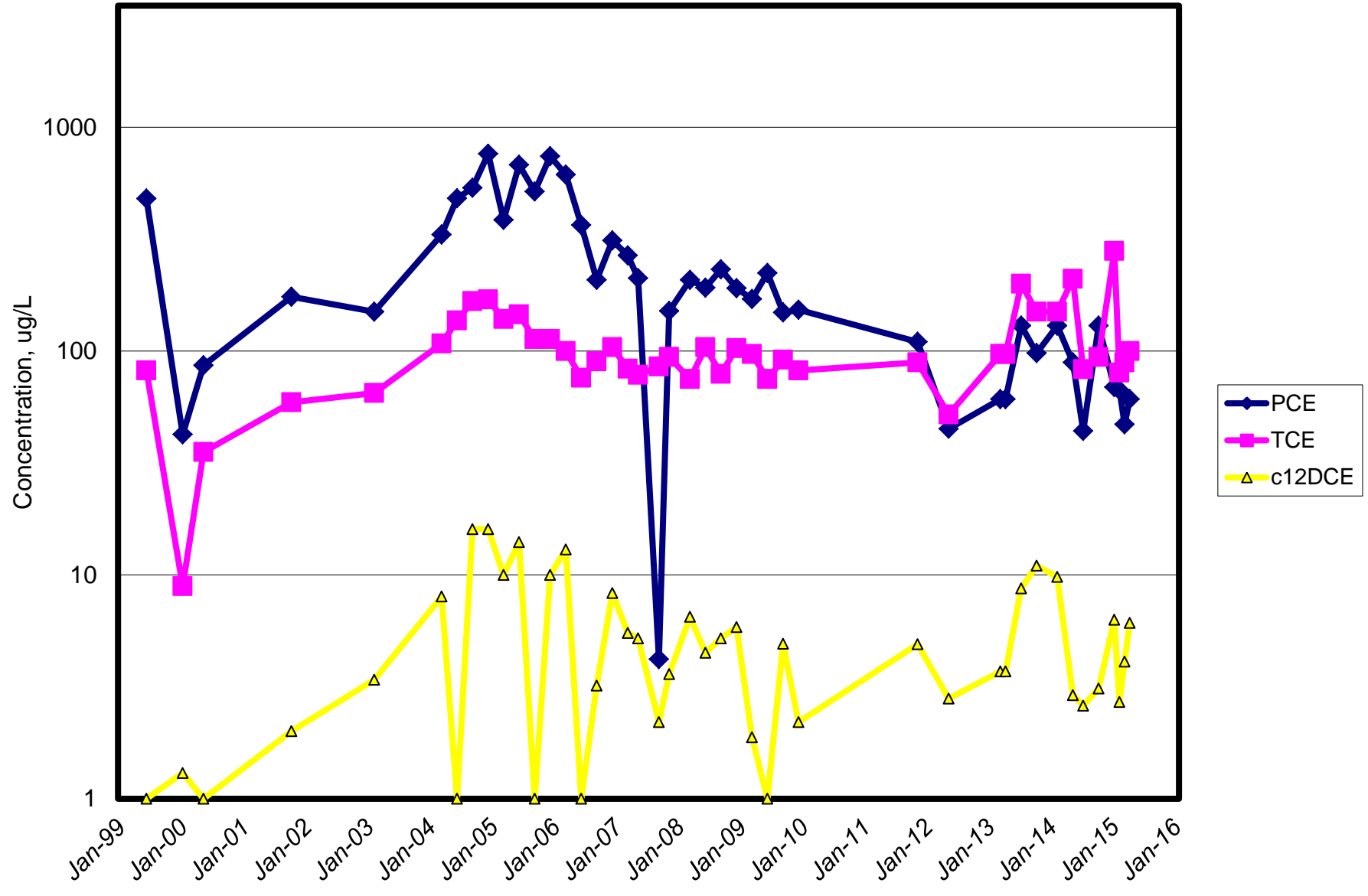


Figure 7B:  
MW-2



**Figure 7C:  
MW-3**

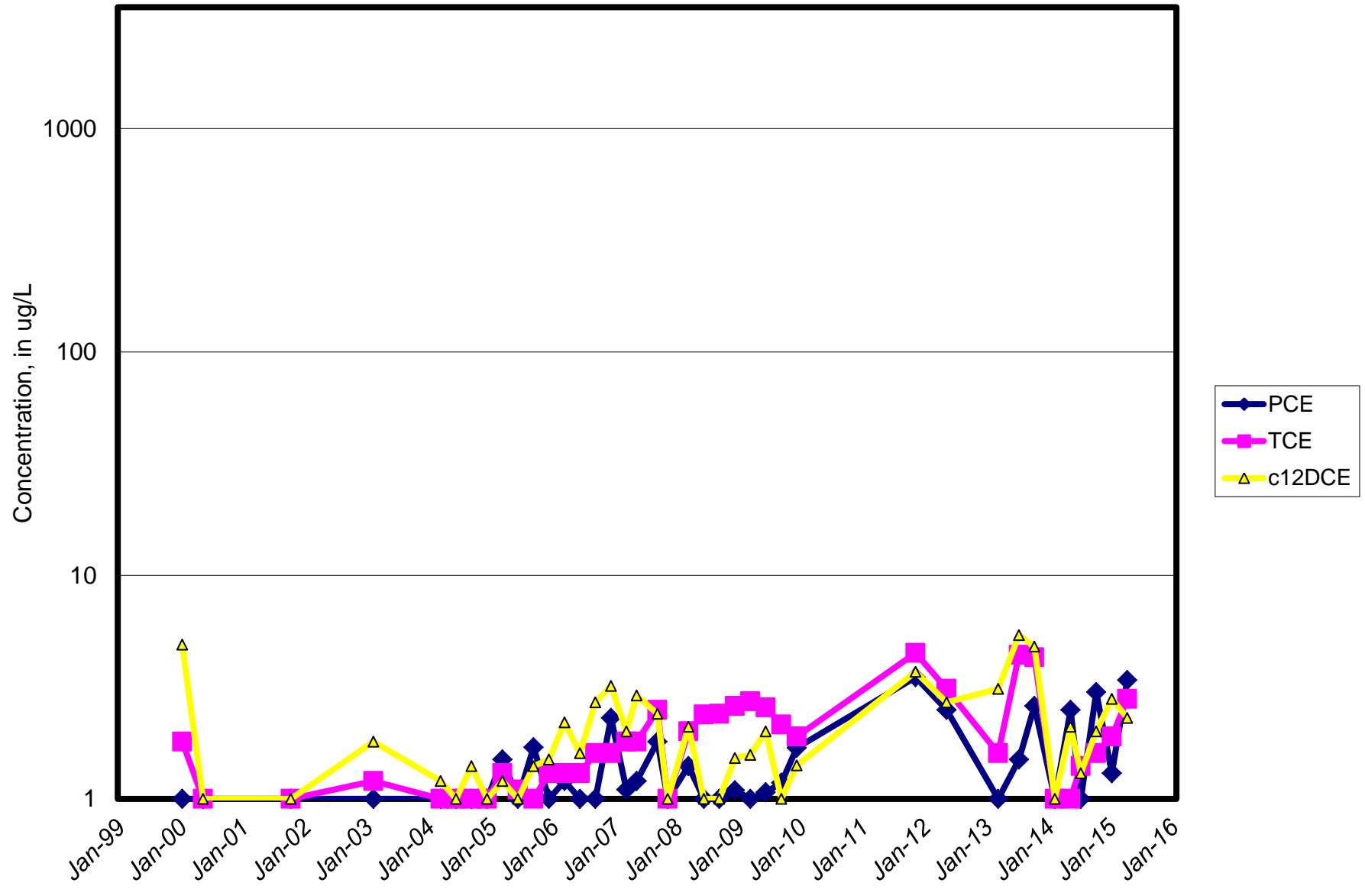




Figure 7D:  
MW-4

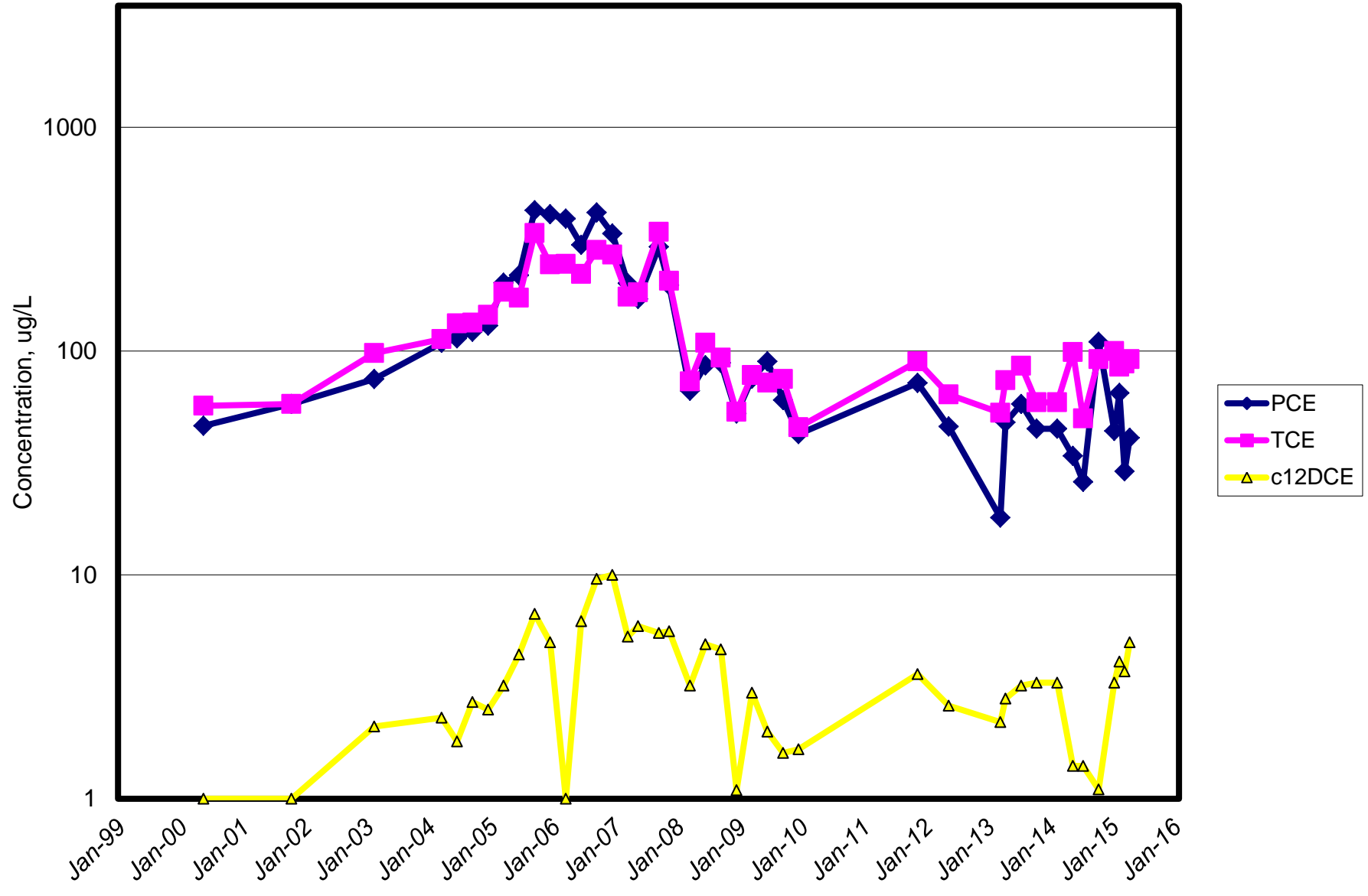


Figure 7E:  
MW-5

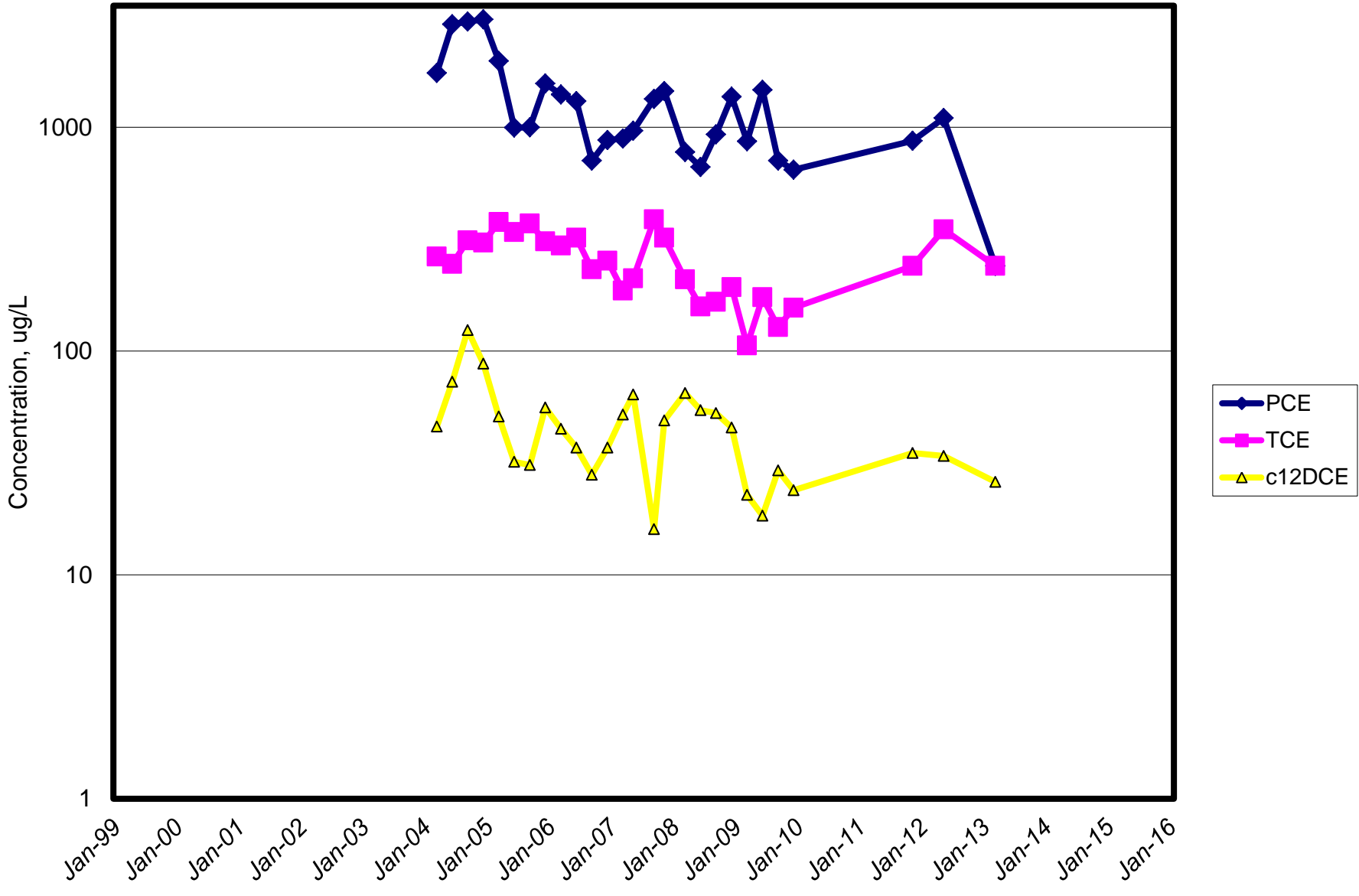
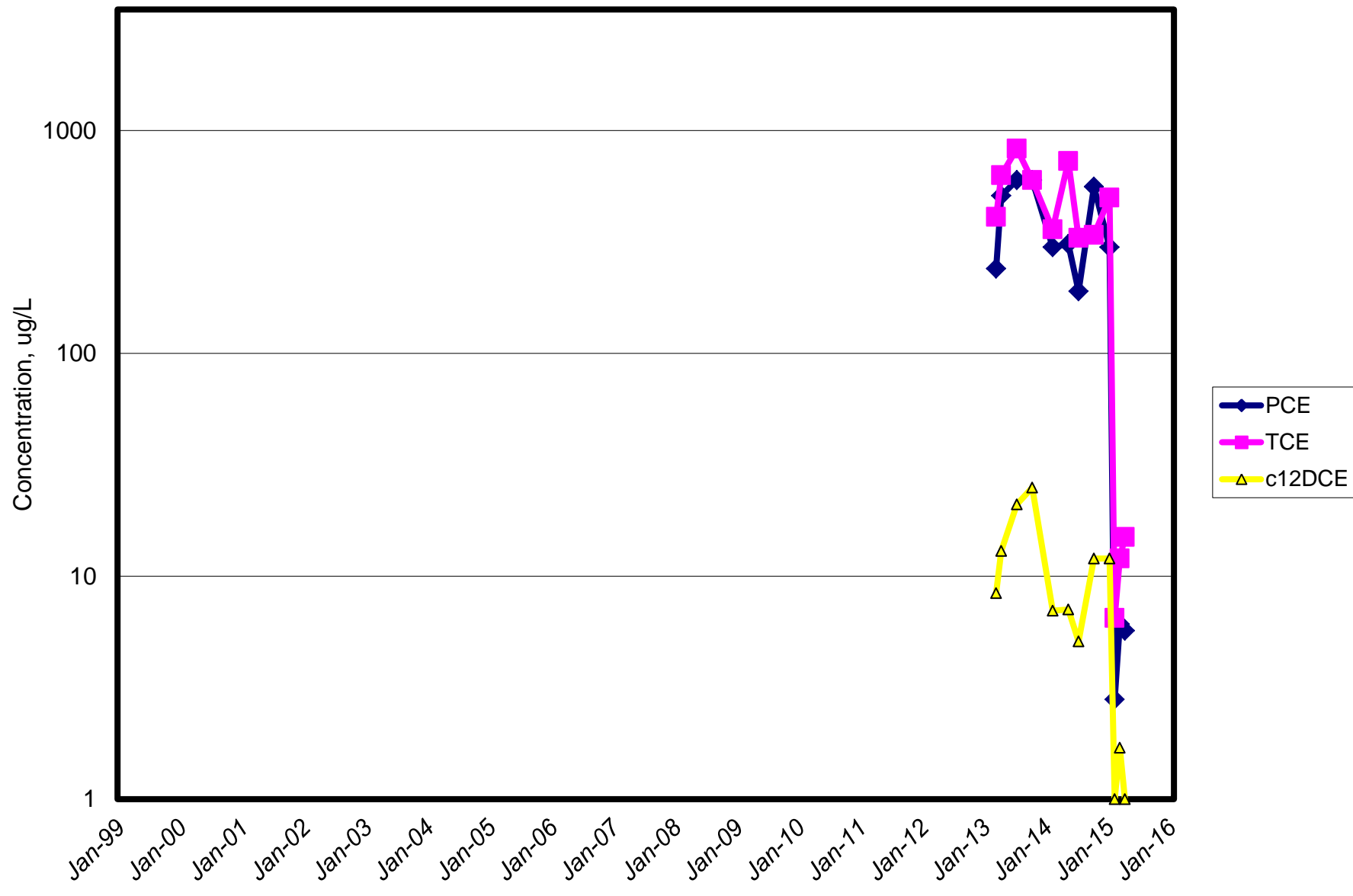
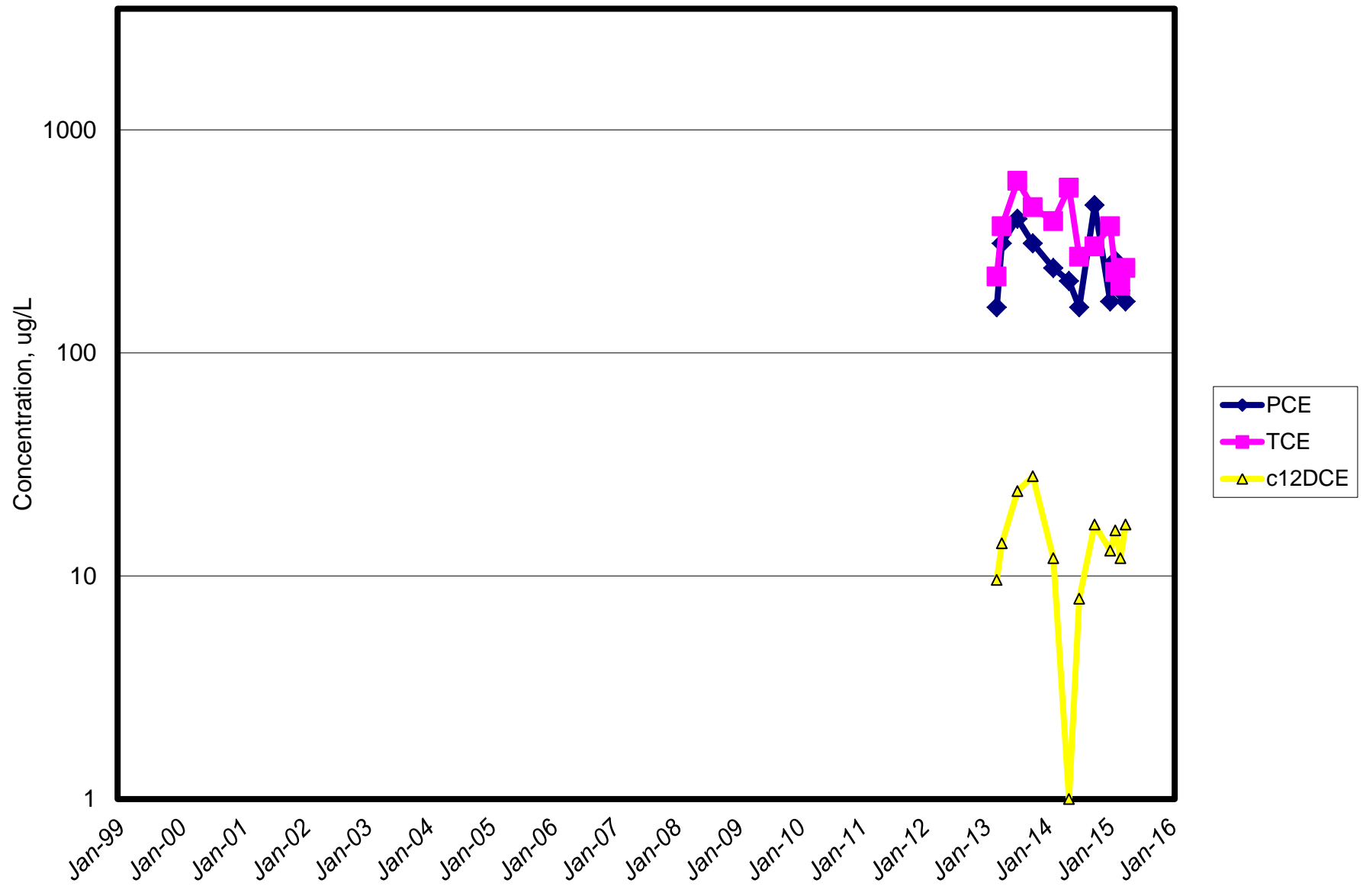


Figure 7F:  
MW-6



**Figure 7G:  
MW-7**



**APPENDIX A:  
WELL PERMIT  
RWQCB WDR**



# ENVIRONMENTAL HEALTH

## Drinking Water Program



5050 Commerce Drive, Baldwin Park, CA 91706

Telephone: (626) 430-5420 • Facsimile: (626) 813-3013 • Email: waterquality@ph.lacounty.gov

[http://publichealth.lacounty.gov/eh/ep/dw/dw\\_main.htm](http://publichealth.lacounty.gov/eh/ep/dw/dw_main.htm)

### Well Permit Approval

TO BE COMPLETED BY APPLICANT:

WORK SITE ADDRESS <b>15729 Downey Avenue</b>	CITY <b>Paramount</b>	ZIP <b>90723</b>	EMAIL ADDRESS FOR WELL PERMIT APPROVAL <b>jwjones4@pacbell.net</b>
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**NOTICE:**

- WORK PLAN APPROVALS ARE VALID FOR 180 DAYS. 30 DAY EXTENSIONS OF WORK PLAN APPROVALS ARE CONSIDERED ON AN INDIVIDUAL (CASE-BY-CASE) BASIS AND MAY BE SUBJECT TO ADDITIONAL PLAN REVIEW FEES (HOURLY RATE AS APPLICABLE).
- WORK PLAN MODIFICATIONS MAY BE REQUIRED IF WELL AND GEOLOGIC CONDITIONS ENCOUNTERED AT THE SITE INSPECTION ARE FOUND TO DIFFER FROM THE SCOPE OF WORK PRESENTED TO THE DEPARTMENT OF PUBLIC HEALTH—DRINKING WATER PROGRAM.
- THIS WELL PERMIT APPROVAL IS LIMITED TO COMPLIANCE WITH THE CALIFORNIA WELL STANDARDS AND THE LOS ANGELES COUNTY CODE AND DOES NOT GRANT ANY RIGHTS TO CONSTRUCT, RENOVATE, OR DECOMMISSION ANY WELL. THE APPLICANT IS RESPONSIBLE FOR SECURING ALL OTHER NECESSARY PERMITS SUCH AS WATER RIGHTS, PROPERTY RIGHTS, COASTAL COMMISSION APPROVALS, USE COVENANTS, ENCROACHMENT PERMISSIONS, UTILITY LINE SETBACKS, CITY/COUNTY PUBLIC WORKS RIGHTS OF WAY, ETC.
- ALL FIELD WORK MUST BE CONDUCTED UNDER THE DIRECT SUPERVISION OF A PROFESSIONAL GEOLOGIST LICENSED IN THE STATE OF CALIFORNIA.
- THIS PERMIT IS NOT COMPLETE UNTIL ALL OF THE FOLLOWING REQUIREMENTS ARE SIGNED BY THE DEPUTY HEALTH OFFICER. WORK SHALL NOT BE INITIATED WITHOUT A WORK PLAN APPROVAL STAMPED BY THE DEPARTMENT OF PUBLIC HEALTH—DRINKING WATER PROGRAM.
- NOTIFY THE DRINKING WATER PROGRAM BY EMAIL 3 BUSINESS DAYS BEFORE WORK IS SCHEDULED TO BEGIN.

*Juan Rodriguez 626-430-5386 or jurodriguez@ph.lacounty.gov*

TO BE COMPLETED BY DEPARTMENT OF PUBLIC HEALTH—DRINKING WATER PROGRAM:

<input type="checkbox"/> WORK PLAN INCOMPLETE; SUBMIT THE FOLLOWING:	<input checked="" type="checkbox"/> WORK PLAN APPROVED	DATE: <b>12/31/14</b>
	Los Angeles County Drinking Water stamp	ADDITIONAL APPROVAL CONDITIONS:
		<i>on 12/30/14 \$1,950.00 was paid for Permit # 891779 to advance 15 soil borings into groundwater at above site.</i>
	<i>Juan Rodriguez</i>	

ANNULAR SEAL FINAL INSPECTION REQUIRED

WELL COMPLETION LOG REQUIRED

DATE ACCEPTED: \_\_\_\_\_ REHS signature \_\_\_\_\_

DATE ACCEPTED: \_\_\_\_\_ REHS signature \_\_\_\_\_

WATER QUALITY—BACTERIOLOGICAL STANDARDS REQUIRED

WATER QUALITY—CHEMICAL STANDARDS REQUIRED

DATE ACCEPTED: \_\_\_\_\_ REHS signature \_\_\_\_\_

DATE ACCEPTED: \_\_\_\_\_ REHS signature \_\_\_\_\_

WATER SUPPLY YIELD REQUIRED

OTHER REQUIREMENT

DATE ACCEPTED: \_\_\_\_\_ REHS signature \_\_\_\_\_

DATE ACCEPTED: \_\_\_\_\_ REHS signature \_\_\_\_\_

## Los Angeles Regional Water Quality Control Board

December 19, 2014

Ms. Courtney Pease  
Retail Opportunity Investments Corporation  
8905 Towne Centre Drive, #108  
San Diego, California 92122

Certified Mail  
Return Receipt Required  
Claim No. 7013 1090 0000 7172 9698

**GENERAL WASTE DISCHARGE REQUIREMENTS FOR INJECTION OF EMULSIFIED VEGETABLE OIL AND BIOAUGMENTATION ORGANISMS – FORMER PARAMOUNT PLAZA DRY CLEANERS, 15729 DOWNEY AVENUE, PARAMOUNT, CALIFORNIA (FILE NO. 14-136, ORDER NO. R4-2014-0187, SERIES NO. 012, CI-10108, GLOBAL ID. WDR 100020352)**

Dear Ms. Pease,

The California Regional Water Quality Control Board, Los Angeles Region (Regional Board), is the public agency with primary responsibility for the protection of ground and surface water quality for all beneficial uses within major portions of Los Angeles and Ventura Counties, including the referenced property above.

The former Paramount Plaza Dry Cleaners (Site) is located in the northwestern portion of a multi-tenant shopping center at 15729 Downey Avenue, Paramount, California. The shopping center is currently owned by Retail Opportunity Investments Corporation Paramount Plaza, LLC (ROIC, hereinafter Discharger). The October 2014 groundwater sampling results indicated that tetrachloroethylene and trichloroethylene were detected at concentrations up to 560 micrograms per liter ( $\mu\text{g/L}$ ) and 340  $\mu\text{g/L}$ , respectively.

On December 6, 2013, Regional Board staff approved the *Remedial Action Plan*, dated June 28, 2013. A total of 7,260 gallons of 10% emulsified vegetable oil solution, 45 liters of bioaugmentation organisms, and 720 gallons of anaerobic chase water will be injected into 15 injection points at depths from approximately 17 to 37 feet below ground surface. The injection activities are expected to take approximately one week.

Regional Board staff has completed the review of your application for coverage under General Waste Discharge Requirements (WDR) for injection of sodium lactate solution for groundwater remediation of volatile organic compounds. Regional Board staff has determined that the proposed discharge meets the conditions specified in General WDRs Order No. R4-2014-0187, *General Waste Discharge Requirements for In-Situ Groundwater Remediation and Groundwater Re-Injection*, adopted by this Regional Board on September 11, 2014.

Enclosed are your General Waste Discharge Requirements, consisting of General WDRs Order No. R4-2014-0187 (Series No. 012), Standard Provisions Applicable to Waste Discharge Requirements, and Monitoring and Reporting Program (MRP) No. CI-10108. The proposed discharge shall not cause the mineral constituents of the receiving groundwater at the compliance point, downgradient outside the application area, in excess of applicable limits (Central Basin of the Los Angeles Coastal Plain Groundwater Basin) given in Attachment B of General WDRs Order No. R4-2014-0187.

MRP No. CI-10108 requires you to implement the monitoring program on the effective date of this enrollment under Regional Board Order No. R4-2014-0187. When submitting monitoring or technical reports to the Regional Board per these requirements, please do not combine other reports with your monitoring reports. Submit each type of report as a separate document.

The Discharger shall comply with the Electronic Submittal of Information (ESI) requirements by submitting all reports required under the MRP, including groundwater monitoring data, discharge location data, and pdf monitoring reports to the State Water Resources Control Board GeoTracker database under Global ID WDR100020352. ESI training video is available at: <https://waterboards.webex.com/waterboards/ldr.php?AT=pb&SP=MC&rID=44145287&rKey=7dad4352c990334b>

For all parties who upload electronic documents to State Database GeoTracker, it is no longer necessary to email a copy of these documents to [losangeles@waterboards.ca.gov](mailto:losangeles@waterboards.ca.gov) or submit hard copies to our office. The Regional Board will no longer accept documents (submitted by either hard copy or email) already uploaded to GeoTracker. Please see Electronic Submittal to the Los Angeles Regional Board for GeoTracker Users dated December 12, 2011 at: <http://www.waterboards.ca.gov/losangeles/resources/Paperless/Paperless%20Office%20for%20GT%20Users.pdf>

To avoid paying future annual fees, please submit a written request for termination of your enrollment under the general WDR in a separate letter when the project is completed and the WDR is no longer needed. Be aware that the annual fee covers the fiscal year billing period beginning July 1 and ending June 30, the following year. You will pay the full annual fee if your request for termination is made after the beginning of the new fiscal year beginning July 1.

If you have any questions, please contact the Project Manager, Dr. Ann Chang at (213) 620-6122 ([ann.chang@waterboards.ca.gov](mailto:ann.chang@waterboards.ca.gov)), or the Chief of Groundwater Permitting Unit, Dr. Eric Wu at (213) 576-6683 ([eric.wu@waterboards.ca.gov](mailto:eric.wu@waterboards.ca.gov)).

Sincerely,

  
Samuel Unger, P.E.  
Executive Officer

Enclosures: 1. General Waste Discharge Requirements Order No. R4-2014-0187  
2. Standard Provisions, Applicable to Waste Discharge Requirements  
3. Monitoring and Reporting Program No CI-10108



**CALIFORNIA REGIONAL WATER QUALITY CONTROL BOARD  
LOS ANGELES REGION**

320 West 4<sup>th</sup> Street, Suite 200, Los Angeles, California 90013  
(213) 576-6660 • Fax (213) 576-6640  
<http://www.waterboards.ca.gov/losangeles/>

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**ORDER NO. R4-2014-0187  
GENERAL WASTE DISCHARGE REQUIREMENTS  
FOR  
IN-SITU GROUNDWATER REMEDIATION AND GROUNDWATER RE-INJECTION  
(FILE NO. 01-116)**

The California Regional Water Quality Control Board, Los Angeles Region (Regional Board) finds:

1. On January 24, 2002, pursuant to the Porter-Cologne Water Quality Control Act (Cal. Water Code §§ 13000 et seq.), the Regional Board adopted General Waste Discharge Requirements (General WDRs) (Order No. R4-2002-0030) that regulated discharges of waste associated with groundwater remediation at petroleum hydrocarbon fuel, volatile organic compound, and/or hexavalent chromium impacted sites. Those General WDRs have been revised by Order No. R4-2005-0030 adopted on May 5, 2005, and by Order No. R4-2007-0019 adopted on March 1, 2007. Order No. R4-2007-0019 authorized the use of a variety of materials for in-situ remediation purposes, including oxidation/aerobic degradation enhancement compounds, reducing/reductive degradation enhancement compounds, inorganics/nutrients, carbon sources/electron donors, and tracer study compounds.
2. Since then, additional materials for in-situ remediation have come into use at sites throughout the Los Angeles Region to remediate wastes at petroleum hydrocarbon fuel, volatile organic compound, and inorganic contaminant impacted sites. This revision of the General WDRs by this Order No. R4-2014-0187 (Order) is to authorize the use of additional materials that have been effectively used to remediate wastes in groundwater and soil.
3. Attachment A of this Order includes a list of materials that can be used for in-situ soil/groundwater remediation purposes. Newly added or revised remedial materials or amendments include chemical oxidants, chemical oxidant activators, aerobic bioremediation enhancement compounds, anaerobic degradation enhancement compounds, reduction degradation enhancement compounds, metals precipitation/stabilization compounds, surfactants/co-solvents, bioaugmentation organisms, tracer study compounds, and buffer solutions and pH adjusters.
4. The California Water Code (CWC), section 13260, subdivision (a)(1) requires that any person discharging wastes, or proposing to discharge wastes other than into a community waste water collection system, which could affect the quality of the waters of the State, shall file a Report of Waste Discharge with the Regional Board. The Regional Board shall then prescribe requirements for the discharge or proposed discharge of wastes.

September 11, 2014

5. Section 13263, subdivision (i) of the CWC provides that a Regional Board may prescribe general waste discharge requirements for discharges produced by similar operations, involving similar types of wastes, and requiring similar treatment standards.
6. The dischargers regulated by this Order are more appropriately regulated by general WDRs than individual WDRs because the Regional Board regulates many sites using this type of process, the cleanup of these type of sites is of high priority, the issuance of individual WDRs is time-consuming without providing additional benefit, and the types of treatment used result in similar impacts that can reasonably be regulated with general WDRs. In addition, the adoption of general WDRs for in-situ groundwater remediation/cleanup or the extraction of polluted groundwater with above ground treatment and the return of treated groundwater to the same aquifer zone would: a) simplify the application process for dischargers, b) allow more efficient use of Regional Board staff time, c) minimize the time needed for Regional Board approval of waste discharges by enabling the Executive Officer to notify the discharger of the applicability of the general WDRs, d) enhance the protection of surface water quality by eliminating the discharge of treated groundwater to surface waters, e) preserve water resources by re-injection of treated groundwater into aquifers, and f) provide a level of protection comparable to individual, site-specific WDRs. This Order does not preclude the adoption of individual WDRs where appropriate.
7. Wastes, including petroleum hydrocarbon fuel, volatile organic compounds, and inorganic contaminants, are found in groundwater at various sites throughout the Los Angeles Region and cause or threaten to cause adverse impacts to existing and potential beneficial uses of the region's groundwater resources. Remediation/cleanup of groundwater at these sites includes the use and application of chemical, biological, and physical treatment processes, such as chemical oxidation, chemical oxidant activation, aerobic bioremediation, anaerobic bioremediation, chemical reduction, metals precipitation/stabilization, surfactants/co-solvents, buffering and pH adjustment, or groundwater pump and treat technology with the return of treated groundwater to the same aquifer zone in some cases.
8. The application of such materials or amendments may result in the discharge of waste and may cause unintended adverse impacts to groundwater quality. Any potential adverse water quality impacts that may result will be localized, of short-term duration, and will not impact any existing or prospective beneficial uses of groundwater. Groundwater quality will be monitored before addition of any materials, during treatment, and after treatment is completed to verify no long-term adverse impact to water quality.
9. The implementation of in-situ remediation may require a small-scale pilot testing program or demonstration study prior to the design and implementation of a full-scale remediation project. The discharges from pilot test programs or demonstration studies are also covered under this Order.
10. *The Water Quality Control Plan, for the Los Angeles Region*, (hereafter Basin Plan) designates beneficial uses, establishes water quality objectives, contains prohibitions,

contains implementation plans and policies for protecting waters of the basin, and incorporates by reference plans and policies adopted by the State Water Resources Control Board (State Water Board). Pursuant to section 13263(a) of the CWC, waste discharge requirements must implement the Basin Plan.

11. The designated beneficial uses of underlying groundwater include:
  - a. Municipal and domestic water supply (MUN);
  - b. Agricultural water supply (AGR);
  - c. Industrial service supply (IND);
  - d. Industrial process supply (PRO); and
  - e. Groundwater recharge.
12. The Basin Plan establishes numerical and narrative water quality objectives (WQOs) for surface and groundwater within the basin, and recognizes that WQOs are achieved primarily through the Regional Board's adoption of waste discharge requirements and enforcement orders. Where numerical WQOs are listed, these are limits necessary for the reasonable protection of beneficial uses of the water. Where compliance with narrative WQOs is required, the Regional Board will, on a case-by-case basis, adopt numerical limits in orders, which will implement the narrative objectives to protect beneficial uses of the waters of the State. Beneficial uses for individual hydrologic sub-areas are specified in the Basin Plan. See Attachment B (Table 3-13 from the updated 2013 Basin Plan) for WQOs for selected constituents in regional groundwater.
13. State Water Board Resolution No. 92-49 ("Policies and Procedures for Investigation and Cleanup and Abatement of Dischargers Under Water Code Section 13304")(Resolution No. 92-49) requires the Regional Board to require actions for cleanup and abatement of discharges that cause or threaten to cause pollution or nuisance to conform to the provisions of State Water Board Resolution No. 68-16 ("Statement of Policy with Respect to Maintaining High Quality of Waters in California")(Resolution No. 68-16) and the Basin Plan. Pursuant to Resolution No. 92-49, the Regional Board shall ensure that dischargers are required to clean up and abate the effects of discharges in a manner that promotes attainment of either background water quality, or if background levels of water quality cannot be restored, the best water quality which is reasonable and which complies with the Basin Plan including applicable WQOs.
14. Resolution No. 68-16 requires the Regional Board in regulating discharges to maintain high quality waters of the State until it is demonstrated that any change in quality will be consistent with maximum benefit to the people of the State, will not unreasonably affect present and potential beneficial uses, and will not result in water quality less than that described in plans and policies (e.g., quality that exceeds WQOs). Temporal degradation of groundwater may occur at sites subject to this Order within the defined treatment zone due to the use of amendments. The temporary degradation allowed by this Order is consistent with Resolution No. 68-16 since (1) the purpose is to accelerate and enhance

remediation of groundwater pollution and such remediation will benefit the people of the State; (2) the discharge facilitates a project to evaluate the effectiveness of cleanup technology in accord with Resolution No. 92-49; (3) the degradation is limited in scope and duration; (4) best practicable treatment and control, including adequate monitoring and hydraulic control to assure protection of water quality, are required; and (5) the discharge will not cause WQOs to be exceeded beyond the treatment zone and it is expected that increases in concentrations above WQOs caused by the treatment will be reduced over time.

15. The discharges of wastes, including petroleum hydrocarbon fuel, volatile organic compounds, and inorganic contaminants (such as hexavalent chromium), at many sites within the Los Angeles Region affects groundwater sources. Many of the groundwater zones contain general mineral content (total dissolved solids, chloride, sulfate, and boron, etc.) at concentrations that are considered to be naturally occurring and not the result of pollution that may exceed Basin Plan WQOs for these constituents. Treated groundwater that exhibits general mineral content that is naturally occurring and exceeds Basin Plan Objectives may be returned to the same groundwater aquifers from which it is withdrawn, with concentrations not exceeding the original background concentrations for the site. Re-injection of treated groundwater containing materials or amendments authorized by this Order and that may exhibit general mineral content exceeding the original background concentrations may be returned to the same groundwater aquifer within the treatment zone for the purpose of remediating groundwater, if it does not exacerbate the existing groundwater pollution.
16. Treated groundwater that is discharged to surface waters is prohibited unless subject to a separate National Pollutant Discharge Elimination System (NPDES) Permit.
17. This Order is applicable to groundwater remediation projects at petroleum hydrocarbon fuel, volatile organic compound, and inorganic contaminant impacted sites. Persons subject to this Order must pay an annual fee based on the threat to water quality and complexity of the discharge. The Executive Officer has determined that this Order is intended to regulate groundwater discharges that have a threat to water quality of Category 3 and Complexity rating of A for a combined rating of 3-A.
18. Discharges with a rating of 3-A contain wastes that could degrade water quality or cause a minor impairment of designated beneficial uses within the application area of the receiving groundwater. The discharges covered by these requirements are required to comply with a groundwater monitoring program as set forth in this Order.
19. The requirements contained in this Order were established by considering, and are consistent with, the applicable water quality control plans, policies, and regulations, and compliance with this Order will protect and maintain the existing beneficial uses of the receiving groundwater.
20. This Order does not relieve dischargers of any regulatory requirements from other governmental agencies.

21. In accordance with the Governor's Executive Order requiring any proposed activity be reviewed to determine whether such activity will cause additional energy usage, this Regional Board has determined that implementation of these General WDRs will not result in a change in energy usage exceeding what would be used if site-specific WDRs were issued for cleanup at the impacted sites.
22. The Regional Board is the lead agency for this project pursuant to the California Environmental Quality Act (Public Resources Code section 21000 et seq.) and has conducted an Initial Study in accordance with section 15063 of the "State CEQA Guidelines" at California Code of Regulations, title 14, section 15000 et seq. Based upon the Initial Study, the Regional Board prepared a Mitigated Negative Declaration concluding that the project will not have a significant adverse effect on the environment and the Regional Board incorporates Resolution No. R14-008 adopting the Mitigated Negative Declaration and approving the Environmental Checklist in this Order. The Mitigated Negative Declaration identifies environmental impacts that are less than significant with mitigation measures regarding (1) Air Quality, (2) Geology and Soils, (3) Hydrology and Water Quality, and (4) Transportation and Traffic. The Mitigated Negative Declaration identifies the mitigation measures and the actions to be taken to reduce the impacts to less than significant. The Dischargers are required by this Order to obtain and comply with applicable permits of other agencies. This Order includes a monitoring and reporting program to assure protection of water quality.
23. The discharges authorized in this Order are exempt from the requirements of *Consolidated Regulations for Treatment, Storage, Processing, or Disposal of Solid Waste*, set forth in the Title 27, California Code of Regulations (CCR), section 20005 et seq. (hereafter Title 27), which allows a conditional exemption from some or all of the provisions of Title 27. The exemption, pursuant to Title 27 CCR Section 20090(b), is based on the following:
  - i. The Regional Water Board is issuing waste discharge requirements.
  - ii. The discharge is in compliance with the applicable Basin Plan.
  - iii. The wastewater does not need to be managed according to Title 22 CCR, Division 4.5 and Chapter 11 as a hazardous waste.

Section 20090(d) allows exemption for a project to clean up a condition of pollution that resulted from an unauthorized discharge of waste based on the following:

- iv. The application of amendments to groundwater is at the direction of the Regional Board to cleanup and abate conditions of pollution or nuisance resulting from the unauthorized discharge of waste;
- v. Wastes removed from the immediate place of release must be discharged according to the Title 27 regulations; and
- vi. The cleanup actions intended to contain wastes at the place of release shall implement the Title 27 regulations to the extent feasible.

24. Section 13267(b) of the California Water Code provides that:

“In conducting an investigation specified in subdivision (a), the Regional Board may require that any person who has discharged, discharges, or is suspected of having discharged or discharging, or who proposes to discharge within its region, or any citizen or domiciliary, or political agency or entity of this state who has discharged, discharges, or is suspected of having discharged or discharging, or who proposes to discharge waste outside of its region that could affect the quality of the waters of the state within its region shall furnish under penalty of perjury, technical or monitoring program reports which the Regional Board requires. The burden, including costs of these reports, shall bear a reasonable relationship to the need for the reports and the benefits to be obtained from the reports. In requiring these reports, the Regional Board shall provide the person with a written explanation with regard to the need for the reports, and shall identify the evidence that supports requiring that person to provide the reports.”

The technical reports required by this Order and the attached Monitoring and Reporting Program are necessary to assure compliance with this Order. The Discharger operates the facility that discharges the waste subject to this Order.

25. The Regional Board has notified interested agencies and persons of its intent to prescribe General WDRs for the discharges covered under these General WDRs, and has provided them with an opportunity to submit written comments and provide oral testimony at a public hearing.
26. The Regional Board, in a public meeting, heard and considered all comments pertaining to the tentative General WDRs.

**IT IS HEREBY ORDERED THAT** dischargers authorized under this Order shall meet the provisions contained in Division 7 of the California Water Code, and regulations adopted here under, by complying with the following:

**A. ELIGIBILITY**

1. A discharger may seek coverage under this Order for:
  - a. Existing and future discharges to soil and groundwater of remediation compounds for the purpose of the cleanup of wastes at petroleum hydrocarbon fuel, volatile organic compound, and/or inorganic contaminant impacted sites and similar discharges in pilot studies or full-scale applications.
  - b. Re-injection, percolation or infiltration of treated groundwater from a pump and treat remediation system(s). Treated groundwater may be used for

irrigation and/or dust control provided that the treated groundwater meets the applicable discharge limits for recycling and reuse.

2. To be covered under this Order, a discharge must meet the following criteria:
  - a. The Executive Officer must find, based on the Report of Waste Discharge submitted pursuant to Provision C, that the groundwater discharges for which coverage under this Order are sought have a threat to water quality of Category 3 and Complexity rating of A for a combined rating of 3-A, using the rating criteria noted on the Regional Board website.
  - b. The discharger must have an approved Remedial Action Plan (RAP). The discharger shall submit a copy of the approved RAP including any conditions of implementation with the Report of Waste Discharge for application of the General WDRs. At a minimum, the RAP shall comply with any requirements of a cleanup and abatement order issued by the Regional Board and include the following site-specific information:
    - The background water quality of the aquifer of the groundwater remediation site(s) including constituents of concern, total dissolved solids, sulfates, chlorides, nitrogen (NH<sub>4</sub>, NO<sub>3</sub>, NO<sub>2</sub>), chemical oxygen demand, biochemical oxygen demand, phosphorus, pH, dissolved metals, nutrients, dissolved oxygen, dissolved carbon dioxide, methane, temperature, iron, and oxidation-reduction potential;
    - Information on any potential adverse impacts to groundwater quality, and whether the impacts will be localized and short-term;
    - The results of any pilot testing performed for the treatment technology used;
    - Site-specific geology (lithology and physical parameters) and hydrogeologic parameters, hydrologic report;
    - Infiltration rate;
    - Characterization and extent of the wastes, including petroleum hydrocarbon fuel, volatile organic compounds, and inorganic contaminants;
    - Description of the treatment system(s);
    - Adequate groundwater monitoring network with historical groundwater monitoring report;
    - Description of the aerial extent of the application area and identification of monitoring wells to be used to determine water quality upgradient, within the application area, downgradient from the application area and identify the compliance point;
    - Material Safety Data Sheet (MSDS) information and other product technical information for any materials to be used for cleanup;

- Application rate(s), material type(s) and applied concentrations;
  - Evaluation of loading rates for nitrogen compounds, total dissolved solids, sulfate, and chloride compounds; and
  - GeoTracker database update whenever applicable.
- c. This Order authorizes the materials listed in Attachment A to be used for in-situ remediation purposes. The materials listed in Attachment A do not represent all chemicals that might be used in remediation, rather they meet all criteria specified in section 3 below. Any by-product or impurity of any product containing compounds listed in Attachment A is not authorized by this Order and such materials shall not be used for injection under this Order. Compounds listed under one category can also be used under another category.
3. The Executive Officer is delegated the authority to revise and update the list periodically to add materials that meet the following criteria:
- a. Effective to remediate targeted constituents;
  - b. Minimum degradation of water quality (including toxicity and by-product evaluation) that will not cause or contribute to exceedance of WQOs;
  - c. Protective of human health and safety (including prohibition of human/animal pathogens);
  - d. Availability on the market for a minimum of three years.
4. The monitoring program shall be sufficient to identify changes in geochemistry that may alter the potential occurrence of transference of chromium (III) into chromium (VI), or vice versa, during the oxidation or reduction process in the in-situ remediation under these WDRs.
5. For the purpose of replacement of existing individual WDRs with coverage under this Order, renewal is effective upon issuance of a notification of coverage by the Executive Officer and issuance of a new monitoring and reporting program.
6. When individual WDRs with more specific requirements are issued to a discharger, the applicability of this Order to that discharger is automatically terminated on the effective date of the individual WDRs.

## B. AUTHORIZATION

To be authorized to discharge under this Order, the discharger must submit a Report of Waste Discharge in accordance with the requirements of Part C of this Order. Upon receipt of the Report of Waste Discharge, the Executive Officer shall determine the completeness of the Report of Waste Discharge and the applicability of this Order to such a discharge. If



the discharge is eligible, the Executive Officer shall notify the discharger that the discharge is authorized under the terms and conditions of this Order and prescribe an appropriate monitoring and reporting program. For new discharges, the discharge shall not commence until receipt of the Executive Officer's written determination that the discharge is eligible to be covered by this Order and has issued a site-specific monitoring and reporting program.

### **C. REPORT OF WASTE DISCHARGE**

1. Deadline for Submission
  - a. New dischargers seeking coverage under this Order shall file a complete Report of Waste Discharge that includes all information identified in Items A.1 and A.2 above at least 90 days before planned commencement of any discharge.
  - b. Existing dischargers covered under individual WDRs may seek coverage under this Order by submitting a Report of Waste Discharge that includes all information identified in Items A.1 and A.2. Coverage under this Order will not occur until the discharger receives notification from the Executive Officer.
2. Forms for Report of Waste Discharge
  - a. Dischargers shall use the appropriate forms (Standard Form 200) or equivalent forms approved by the State Water Resources Control Board or the Executive Officer of the Los Angeles Regional Board.
  - b. The discharger, upon request, shall submit any additional information that the Executive Officer deems necessary to determine whether the discharge meets the criteria for coverage under this Order, and/or in prescribing an appropriate monitoring and reporting program.
  - c. The Report of Waste Discharge shall be accompanied by the first annual fee (if appropriate) in accordance with the current version of California Code of Regulation, Title 23, Division 7, Chapter 9, Waste Discharge Report and Requirements Article 1 fees for a discharge. The check or money order shall be made payable to the "State Water Resources Control Board" and submitted to the Regional Water Quality Control Board – Los Angeles Region.

### **D. DISCHARGE PROHIBITIONS**

1. The discharge of wastes, amendments, or other materials other than those which meet eligibility requirements in Part A of this Order and listed in Attachment A, is

prohibited unless the discharger obtains coverage under another general WDR or an individual site-specific WDR that regulates the discharge of such wastes.

2. The discharge of any radiological, chemical, or biological warfare agent or high level radiological waste is prohibited.
3. Creation of a pollution, contamination, or nuisance, as defined by section 13050 of the CWC, is prohibited.
4. The surfacing or overflow of wastes from the treatment system at any time and at any location is prohibited.
5. The disposal of wastes in geologically unstable areas or so as to cause earth movement is prohibited.
6. The discharge of amendments or wastes to surface water or surface water drainage courses is prohibited.
7. The discharge of amendments or wastes to land or groundwater in areas other than that proposed for remediation is prohibited.
8. The discharge of wastes or amendments to property that is not under the control of the Discharger is prohibited. The "area under the control" of the Discharger is defined to be at the borders of the treatment zone at areas owned by the Discharger and/or where the Discharger holds an agreement for purposes of investigation and remediation.
9. The migration of any by-products produced as part of the treatment process beyond the boundaries of the property owned or controlled by the discharger as defined above in Item 8 of Section D or to surface waters is prohibited.

**E. DISCHARGE LIMITATIONS**

1. The discharge of wastes shall not cause the pH of the receiving groundwater at the compliance point, downgradient outside the application area, to be outside the range of 6.5 and 8.5.
2. The discharge of wastes shall not cause the mineral constituents of the receiving groundwater at the compliance point, downgradient outside the application area, to be in excess of applicable limits given in Attachment B. In the letter of determination, the Executive Officer shall indicate the groundwater limitations in Attachment B applicable to the particular discharge, and identify the compliance point(s) for the site.

3. The discharge of wastes shall not cause the concentrations of chemical constituents and radionuclides of the receiving groundwater designated for use as domestic or municipal supply at the compliance point, downgradient outside the application area, to be in excess of the Maximum Contaminant Levels (MCLs) specified in the following provisions of Title 22 of the California Code of Regulations which are incorporated by reference into the Basin Plan: Table 64431-A of section 64431 (inorganic chemicals, including fluoride), Table 64444-A of section 64444 (organic chemicals), and Table 64442 of section 64442 and Table 64443 of section 64443 (radioactivity). This incorporation by reference is prospective including future changes to the incorporated provisions as the changes take effect.
4. Treated groundwater recycled and/or reused for irrigation or dust control shall meet the Title 22 Recycle Water Requirement for coliform not to exceed 2.2. most probable numbers per 100 milliliters (MPN/100ml). Wastewater discharged to groundwater basin/subbasin shall meet the Basin Plan objective of 1.1 MPN/100 ml.
5. Waste discharged shall not contain salts, heavy metals, or organic constituents at levels that would cause receiving groundwater at the compliance point, downgradient outside the application area, to exceed the WQOs for groundwater or groundwater that may be in hydraulic connection with surface waters designated for marine aquatic life or body contact recreation.
6. Waste discharged shall not cause the groundwater to contain concentrations of chemical substances or its by-products in amounts that adversely affect any designated beneficial use, outside the application area or treatment zone at the compliance point(s).
7. Waste discharged shall not cause the groundwater to contain residual taste or odor in concentrations that cause nuisance or adversely affect beneficial uses, outside the application area or treatment zone at the compliance point(s).
8. Waste discharged shall not cause the groundwater to contain nitrogen as nitrate-nitrogen plus nitrite-nitrogen ( $\text{NO}_3\text{-N} + \text{NO}_2\text{-N}$ ) that exceeds the background concentrations in groundwater basins, or the Basin Plan's groundwater quality objectives of 45 mg/L as Nitrate ( $\text{NO}_3$ ), or 10 mg/L as nitrate-nitrogen ( $\text{NO}_3\text{-N}$ ), or 1 mg/L as nitrite-nitrogen ( $\text{NO}_2\text{-N}$ ), whichever is lower, outside the application area or treatment zone at the compliance point(s). In a situation where the groundwater may interact with surface water or other aquifers, other relevant regulatory standards may also apply, and then the most protective criteria shall prevail.

## F. PROVISIONS

1. The Executive Officer may require any discharger authorized under this Order to apply for and obtain individual WDRs with specific requirements. The Executive Officer may require in writing that any discharger authorized to discharge under this Order to apply for individual WDRs by submitting a report of waste discharge.
2. This Order incorporates the attached "Standard Provisions Applicable to Waste Discharge Requirements" (Attachment C). If there is any conflict between provisions stated herein before and the attached "Standard Provisions," those provisions stated herein shall prevail.
3. Adequate facilities shall be provided to divert surface and storm water away from the application area and/or treatment system and areas where any wastes are stored.
4. The application of materials or the re-injection or reuse of treated groundwater shall only be at a site owned or controlled as defined above in Item 8 of Section D by the discharger.
5. Re-injection or reuse of treated groundwater shall be limited to the same aquifer where the impacted groundwater was withdrawn from for treatment. Re-injection of treated groundwater to which materials or amendments have been added shall be limited to the same aquifer and within the treatment zone.
6. All technical reports required herein that involve planning, investigation, evaluation, or design or other work requiring interpretation or proper application of engineering or geologic sciences, shall be prepared by, or under the direction of, persons registered to practice in California pursuant to California Business and Professions Code, sections 6735, 7835 and 7835.1. To demonstrate compliance with Title 16, CCR, Sections 415 and 3065, all technical reports must contain a statement of the qualifications of the responsible registered professional(s). As required by these laws, completed technical reports must bear the signature(s) and seal(s) of the registered professional(s) in a manner such that all work can be clearly attributed to the professional responsible for the work.
7. The discharge of wastes to or infiltration to a surface water of the State and United States must be covered by a separate NPDES permit.
8. The Discharger may be required to submit technical reports pursuant to California Water Code Section 13267 as directed by the Executive Officer. The technical reports required by this Order are necessary to assure compliance with this Order.

9. This Order does not alleviate the responsibility of the discharger to obtain other applicable local, state, and federal permits to construct facilities necessary for compliance with this Order; nor does this Order prevent imposition of additional standards, requirements, or conditions by any other regulatory agency. Additionally, the discharger shall notify the Native American Heritage Commission of any plans to disturb the soil in order to comply with California Environmental Quality Act (CEQA) guidelines as set forth in Section 15064.5(b)(c). Furthermore the discharger is required to provide local information prior to excavation to the California Historical Resources Information System (CHRIS). This will serve as their due diligence record search to provide proximity to Native American historical and archeological resources. The discharger shall also be required to adhere to California Health and Safety Code Section 7050.5, Public Resources Code Section 5097.98, CEQA Section 15064.5(d) and Section 15064.5 (f) to ensure that mitigation plan provisions are in-place to identify, evaluate and consult with your commission about the discovery and disposition of any recovered human remains or artifacts, should the occasion arise, during the remediation process overseen by this agency.
10. The discharger shall notify Regional Board staff by telephone within 24 hours, followed by written notification within one week, in the event it is unable to comply with any of the conditions of this Order due to:
  - a. Breakdown of waste treatment equipment,
  - b. Accident caused by human error or negligence,
  - c. Other causes such as acts of nature, or
  - d. Site construction or development operations.
11. Any discharger authorized under this Order may request to be excluded from coverage of this Order by applying for individual WDRs.
12. In accordance with section 13263(e) of the California Water Code, these requirements are subject to periodic review and revision by the Regional Board.
13. In accordance with Water Code section 13263(g), these requirements do not create a vested right to continue to discharge and are subject to rescission or modification. All discharges of waste into waters of the state are privileges, not rights.
14. The discharger shall develop a contingency plan and maintain it on site. The contingency plan shall detail appropriate actions to be taken in order to protect human health and the environment in case of any spill or failure related to the operation or mis-operation of the treatment system.

**G. MONITORING AND REPORTING REQUIREMENTS**

1. The Executive Officer is hereby authorized to prescribe a Monitoring and Reporting Program for each authorized discharger. This program may include participation of the discharger in a regional monitoring program.
2. The discharger shall file with the Regional Board technical reports on self-monitoring work conducted according to the Monitoring and Reporting Program specified by the Executive Officer and submits other reports as requested by the Regional Board.
3. The discharger shall retain records of all monitoring information and data used to complete the Report of Waste Discharge and application for coverage under this Order for at least five years from the date of permit issuance. The retention period shall be extended during any unresolved litigation regarding the discharge or when requested by the Executive Officer.
4. The discharger shall maintain all sampling, measurement, and analytical results, including the date, exact place, and time of sampling or measurement; individual(s) who did the sampling or measurement; the date(s) analyses were done; analysts' names; and analytical techniques or methods used.
5. All sampling, sample preservation, and analyses must be conducted according to test procedures under title 40 Code of Federal Regulations, section 136, unless other test procedures have been specified in this Order or by the Executive Officer.
6. All chemical, bacteriological, and bioassay analyses shall be conducted at a laboratory certified for such analyses by the California Environmental Laboratory Accreditation Program (ELAP) or other state agency authorized to undertake such certification.
7. The discharger shall calibrate and maintain all monitoring instruments and equipment to ensure accuracy of measurements, or shall ensure that both activities will be conducted.
8. In reporting the monitoring data, the discharger shall arrange the data in tabular form so that the date, constituents, and concentrations are readily discernible. The data shall be summarized to demonstrate compliance with waste discharge requirements. Laboratory analytical data from any soil testing and/or groundwater monitoring shall be reported in Electronic Deliverable Format in accordance with California Water Code section 13195 et. seq. requirements, if applicable.
9. For every item where the requirements are not met, the discharger shall submit a statement of the actions undertaken or proposed that will bring the discharge into

full compliance with requirements at the earliest time and submit a timetable for correction.

10. The discharger shall file a report of any material change or proposed change in the character, location, or volume of the discharge.
11. The discharger shall notify this Regional Board within 24 hours by telephone of any adverse condition resulting from the discharge; such notification shall be affirmed in writing within five working days.
12. Whenever wastes, associated with the discharge under this Order, are transported to a different disposal site, the following shall be reported in the monitoring report: type and quantity of wastes; name and address of the hauler (or method of transport if other than by hauling); and location of the final point(s) of disposal.
13. Each monitoring report must contain an affirmation in writing that:

"All analyses were conducted at a laboratory certified for such analyses by and in accordance with current USEPA procedures or as specified in this Monitoring and Reporting Program."

14. Each report shall contain the following completed declaration:

"I certify under penalty of law that this document, including all attachments and supplemental information, was prepared under my direction or supervision in accordance with a system designed to assure that qualified personnel properly gathered and evaluated the information submitted. Based on my inquiry of the person or persons who managed the system, or those persons directly responsible for gathering the information, the information submitted is, to the best of my knowledge and belief, true, accurate, and complete. I am aware that there are significant penalties for submitting false information, including the possibility of a fine and imprisonment.

Executed on the \_\_\_\_ day of \_\_\_\_\_ at \_\_\_\_\_

\_\_\_\_\_ (Signature)

\_\_\_\_\_ (Title)"

15. The Discharger shall comply with the Electronic Submittal of Information (ESI) requirements by submitting all correspondence and reports required under the WDRs' Monitoring and Reporting Program, including groundwater monitoring

data and discharge location data (latitude and longitude), correspondence, and pdf monitoring reports to the State Water Resources Control Board GeoTracker database.


**H. CONTINUATION OF THIS ORDER**

For those dischargers authorized to discharge under this Order, it shall continue in full force and effect until a new order is adopted. This Order will be reviewed periodically.

**I. REAUTHORIZATION**

Upon re-issuance of a new general permit Order, dischargers authorized under this Order shall file a new Report of Waste Discharge within 45 days of notification by the Executive Officer.

I, Samuel Unger, Executive Officer, do hereby certify that the foregoing is a full, true, and correct copy of an Order adopted by the California Regional Water Quality Control Board, Los Angeles Region, on September 11, 2014.

  
Samuel Unger, P.E.  
Executive Officer



**Attachment A**  
**List of Authorized Injection Material Amendments**

*The list below does not represent any endorsement of products or materials by the Regional Water Quality Control Board, Los Angeles Region (Regional Board). Many of the products/materials listed are patented. Users of these products/materials shall comply with any regulations and laws applicable to the use of the products/ materials. Some products/materials may contain by-products or impurities that are not authorized to be used by the Regional Board. Compounds listed under one category can also be used under another category.*

**1. Chemical Oxidants:**

- Fenton's reagent (hydrogen peroxide, ferrous iron catalyst, and pH buffer)
- Hydrogen Peroxide
- Ozone
- Potassium or Sodium Permanganate
- Sodium Percarbonate
- Sodium Persulfate

**2. Chemical Oxidant Activators:**

- Calcium Hydroxide
- Chelating Agents (ferric ethyldiaminetetraacetic acid (EDTA), sodium citrate, sodium malonate, sodium phytate)
- Silica and Silicates (Silicic Acid, Sodium Silicate, Silica Gel)
- Sodium Hydroxide

**3. Aerobic Bioremediation Enhancement Compounds:**

- Calcium Oxide/Peroxide
- Calcium Oxy-hydroxide
- Magnesium (Oxide/Hydroxide/Peroxide)
- Methane (Dissolved Phase)
- Propane (Dissolved Phase)

**4. Anaerobic Degradation Enhancement Compounds:**

- Calcium Sulfate (gypsum)
- Cheese Whey
- Complex organic materials (starch, wood chips, yeast extract, grain milling products)
- Complex Sugars
- Corn Syrup
- Emulsified Vegetable Oil
- Ethanol

- Glucose
- Glycerol esters of fatty acids and polylactates
- Glycerol Polylactate/Tripolylactate
- Glycerol, Xylitol, Sorbitol
- Guar
- Hematite
- Lactose
- Lecithin
- Magnesium sulfate
- Milk Whey
- Methanol
- Molasses
- Organic Acids (Acetate, Lactate, Propionate, Benzoate, and Oleate)
- Potassium Sulfate
- Propanol
- Sorbitol Cysteinate/Cysteine

***5. Reduction Degradation Enhancement Compounds:***

- Ferrous Chloride
- Ferrous Gluconate
- Ferrous Sulfate
- Sodium Dithionite
- Zero-Valent Iron

***6. Metals Precipitation / Stabilization:***

- Calcium Phosphate
- Calcium Polysulfide
- Ferrous Sulfate
- Sodium Tripolyphosphate (STPP)

***7. Surfactants/Co-solvents:***

- Benzenesulfonic acid
- Dioctyl Sodium Sulfocuccinate
- D-limonene
- Ethoxylated Castor Oils Surfactants
- Ethoxylated Cocamides Surfactants
- Ethoxylated Coco Fatty Acid Surfactants
- Ethoxylated Octylphenolic Surfactants
- Sorbitan Monooleate
- Xanthan Gum

**8. Bioaugmentation Organisms:** *The users shall prove that any bacterial genomes in the original injection form, its degradation form, other impurity or by-product shall not be human/animal pathogens. Genetically-modified organisms (GMO) should not be used.*

- Dehalococcoides Sp.
- Dehalobacter Sp.
- Geobacter
- Methanomethylovorans
- Desulfovibrio
- Desulfobacterium

**9. Tracer Study Compounds:** *The tracer compounds shall be highly contrasting and not reactive with current contaminants to be treated. The tracers may be chloride-based, bromide-based, or fluoride-based salts, or similar materials as approved by the Executive Officer.*

- Calcium Bromide
- Calcium Chloride
- Eosin Dyes
- Fluoride Salts
- Iodide
- Potassium Bromide
- Potassium Iodide
- Rhodamine Dyes
- Sodium Bromide
- Sodium Chloride
- Sodium Fluorescein

**10. Buffer Solutions and pH Adjusters:**

- Calcium Carbonate
- Calcium Magnesium Carbonate
- Potassium Bicarbonate
- Sodium (carbonate/bicarbonate)

## Attachment B

Table 3-13. Water Quality Objectives for Selected Constituents in Regional Ground Waters<sup>a</sup>.

BASINS			Objectives (mg/l) <sup>m</sup>				
Basin	Basin No <sup>b</sup>	1994 Basin Name	1994 Basin No	TDS	Sulfate	Chloride	Boron
Pitas Point Area <sup>c</sup>		Pitas Point Area		None specified			
Upper Ojai Valley	4-1	Ojai Valley	4-1				
Upper Ojai Valley	4-1	Upper Ojai Valley	4-1				
Upper Ojai Valley	4-1	West of Sulfur Mountain Road	4-1	1000	300	200	1.0
Upper Ojai Valley	4-1	Central Area	4-1	700	50	100	1.0
Upper Ojai Valley	4-1	Sisar Area	4-1	700	250	100	0.5
Ojai Valley	4-2	Lower Ojai Valley	4-2				0.5
Ojai Valley	4-2	West of San Antonio-Senior Canyon	4-2	1000	300	200	0.5
Ojai Valley	4-2	East of San Antonio-Senior Canyon	4-2	700	200	50	
Ventura River Valley	4-3	Ventura River Valley	4-3				
Upper Ventura River	4-3.01	Upper Ventura	4-3	800	300	100	0.5
Upper Ventura River	4-3.01	San Antonio Creek Area	4-3	1000	300	100	1.0
Lower Ventura River	4-3.02	Lower Ventura	4-3	1500	500	30	1.5
Santa Clara River Valley <sup>d</sup>	4-4	Ventura Central	4-4				
Piru	4-4.06	Santa Clara-Piru Creek Area	4-4				
Piru	4-4.06	Upper Area (above Lake Piru)	4-4	1100	400	200	2.0
Piru	4-4.06	Lower Area East of Piru Creek	4-4	2500	1200	200	1.5
Piru	4-4.06	Lower Area West of Piru Creek	4-4	1200	600	100	1.5
Fillmore	4-4.05	Santa Clara-Sespe Creek Area	4-4				
Fillmore	4-4.05	Topa Topa (upper Sespe) Area	4-4	900	350	30	2.0
Fillmore	4-4.05	Fillmore Area	4-4				
Fillmore	4-4.05	Pole Creek Fan Area	4-4	2000	800	100	1.0
Fillmore	4-4.05	South Side of Santa Clara River	4-4	1500	800	100	1.1
Fillmore	4-4.05	Remaining Fillmore Area	4-4	1000	400	50	0.7
Santa Paula	4-4.04	Santa Clara-Santa Paula Area	4-4				
Santa Paula	4-4.04	East of Peck Road	4-4	1200	600	100	1.0
Santa Paula	4-4.04	West of Peck Road	4-4	2000	800	110	1.0

BASINS			Objectives (mg/l) <sup>m</sup>				
Basin	Basin No <sup>b</sup>	1994 Basin Name	1994 Basin No	TDS	Sulfate	Chloride	Boron
Oxnard	4-4.02	Oxnard Plain	4-4				
Mound	4-4.03	Oxnard Plain	4-4				
Oxnard	4-4.02	Oxnard Forebay	4-4	1200	600	150	1.0
Oxnard	4-4.02	Confined Aquifers	4-4	1200	600	150	1.0
Oxnard	4-4.02	Unconfined & Perched Aquifers	4-4	3000	1000	500	
<b>Pleasant Valley<sup>c</sup></b>	<b>4-6</b>	<b>Pleasant Valley</b>	<b>4-6</b>				
Pleasant Valley	4-6	Confined Aquifers	4-6	700	300	150	1.0
Pleasant Valley	4-6	Unconfined & Perched Aquifers	4-6				
<b>Arroyo Santa Rosa Valley<sup>c</sup></b>	<b>4-7</b>	<b>Arroyo Santa Rosa</b>	<b>4-7</b>	<b>900</b>	<b>300</b>	<b>150</b>	<b>1.0</b>
<b>Las Posas Valley<sup>e</sup></b>	<b>4-8</b>	<b>Las Posas Valley</b>	<b>4-8</b>				
Las Posas Valley	4-8	South Las Posas Area	4-8				
Las Posas Valley	4-8	NW of Grimes Cyn Rd. & LA Ave. & Somis Rd.	4-8	700	300	100	0.5
Las Posas Valley	4-8	E of Grimes Cyn Rd & Hitch Blvd.	4-8	2500	1200	400	3.0
Las Posas Valley	4-8	S of LA Ave Between Somis Rd & Hitch Blvd.	4-8	1500	700	250	1.0
Las Posas Valley	4-8	Grimes Canyon Rd. & Broadway Area	4-8	250	30	30	0.2
Las Posas Valley	4-8	North Las Posas Area	4-8	500	250	150	1.0
<b>Acton Valley<sup>f</sup></b>	<b>4-5</b>	<b>Upper Santa Clara</b>	<b>4-5</b>				
Acton Valley	4-5	Acton Valley	4-5	550	150	100	1.0
Acton Valley	4-5	Sierra Pelona Valley (Agua Dulce)	4-5	600	100	100	0.5
Acton Valley	4-5	Upper Mint Canyon	4-5	700	150	100	0.5
Acton Valley	4-5	Upper Bouquet Canyon	4-5	400	50	30	0.5
Acton Valley	4-5	Green Valley	4-5	400	50	25	
Acton Valley	4-5	Lake Elizabeth-Lake Hughes Area	4-5	500	100	50	0.5
<b>Santa Clara River Valley East</b>	<b>4-4.07</b>	<b>Eastern Santa Clara</b>	<b>4-4.07</b>				

BASINS			Objectives (mg/l) <sup>m</sup>				
Basin	Basin No <sup>b</sup>	1994 Basin Name	1994 Basin No	TDS	Sulfate	Chloride	Boron
Santa Clara River Valley East	4-4.07	Santa Clara-Mint Canyon	4-4.07	800	150	150	1.0
Santa Clara River Valley East	4-4.07	South Fork	4-4.07	700	200	100	0.5
Santa Clara River Valley East	4-4.07	Placentia Canyon	4-4.07	700	150	100	0.5
Santa Clara River Valley East	4-4.07	Santa Clara-Bouquet & San Fransisquito Canyons	4-4.07	700	250	100	1.0
Santa Clara River Valley East	4-4.07	Castaic Valley	4-4.07	1000	350	150	1.0
Santa Clara River Valley East	4-4.07	Saugus Aquifer	4-4.07				
<b>Simi Valley</b>	<b>4-9</b>	<b>Simi Valley</b>	<b>4-9</b>				
Simi Valley	4-9	Simi Valley Basin	4-9				
Simi Valley	4-10	Confined Aquifers	4-9	1200	600	150	1.0
Simi Valley	4-11	Unconfined & Perched Aquifers	4-9				
Simi Valley	4-12	Gillibrand Basin	4-9	900	350	50	1.0
<b>Conejo Valley</b>	<b>4-10</b>	<b>Conejo Valley</b>	<b>4-10</b>	<b>800</b>	<b>250</b>	<b>150</b>	<b>1.0</b>
<b>Coastal Plain of Los Angeles</b>	<b>4-11</b>	<b>Los Angeles Coastal Plain</b>	<b>4-11</b>				
Central	4-11.04	Central Basin	4-11	700	250	150	1.0
West Coast	4-11.03	West Coast Basin	4-11	800	250	250	1.5
Hollywood	4-11.02	Hollywood Basin	4-11	750	100	100	1.0
Santa Monica	4-11.01	Santa Monica Basin	4-11	1000	250	200	0.5
<b>San Fernando Valley</b>	<b>4-12</b>	<b>San Fernando Valley</b>	<b>4-12</b>				
San Fernando Valley	4-12	Sylmar Basin	4-12	600	150	100	0.5
San Fernando Valley	4-12	Verdugo Basin	4-12	600	150	100	0.5
San Fernando Valley	4-12	San Fernando Basin	4-12				
San Fernando Valley	4-12	West of Highway 405	4-12	800	300	100	1.5
San Fernando Valley	4-12	East of Highway 405 (overall)	4-12	700	300	100	1.5
San Fernando Valley	4-12	Sunland-Tujunga Area	4-12	400	50	50	0.5
San Fernando Valley	4-12	Foothill Area	4-12	400	100	50	1.0

BASINS			Objectives (mg/l) <sup>m</sup>				
Basin	Basin No <sup>b</sup>	1994 Basin Name	1994 Basin No	TDS	Sulfate	Chloride	Boron
San Fernando Valley	4-12	Area Encompassing RT- Tujunga -Erwin-N. Hollywood-Whithall- LA/Verdugo-Crystal Springs- Headworks-Glendale/Burbank Well Fields	4-12	600	250	100	1.5
San Fernando Valley	4-12	Narrows Area (below confluence of Verdugo Wash with the LA River	4-12	900	300	150	1.5
San Fernando Valley	4-12	Eagle Rock Basin	4-12	800	150	100	0.5
<b>San Gabriel Valley<sup>g</sup>/Raymond<sup>h</sup></b>	<b>4-13</b>	<b>San Gabriel Valley</b>	<b>4-13</b>				
Raymond	4-23	Raymond Basin	4-13				
Raymond	4-23	Monk Hill Sub-Basin	4-13	450	100	100	0.5
Raymond	4-23	Santa Anita Area	4-13	450	100	100	0.5
Raymond	4-23	Pasadena Area	4-13	450	100	100	0.5
San Gabriel Valley	4-13	Main San Gabriel Basin	4-13				
San Gabriel Valley	4-13	Western Area <sup>e</sup>	4-13	450	100	100	0.5
San Gabriel Valley	4-13	Eastern Area <sup>e</sup>	4-13	600	100	100	0.5
San Gabriel Valley	4-13	Puente Basin	4-13	1000	300	150	1.0
<b>Upper Santa Ana Valley/San Gabriel Valley</b>	<b>8-2.01<sup>i</sup></b>	<b>Upper Santa Ana Valley</b>	<b>4-14</b>				
San Gabriel Valley	4-13	Live Oak Area	8-2	450	150	100	0.5
San Gabriel Valley	4-13	Claremont Heights Area	8-2	450	100	50	
San Gabriel Valley	4-13	Pomona Area	8-2	300	100	50	0.5
Upper Santa Ana Valley/ San Gabriel Valley	8-2.01/4-13	Chino Area	8-2	450	20	15	
San Gabriel Valley	4-13	Spadra Area	8-2	550	200	120	1.0
<b>Tierra Rejada</b>	<b>4-15</b>	<b>Tierra Rejada</b>	<b>4-15</b>	<b>700</b>	<b>250</b>	<b>100</b>	<b>0.5</b>
<b>Hidden Valley</b>	<b>4-16</b>	<b>Hidden Valley</b>	<b>4-16</b>	<b>1000</b>	<b>250</b>	<b>250</b>	<b>1.0</b>
<b>Lockwood Valley</b>	<b>4-17</b>	<b>Lockwood Valley</b>	<b>4-17</b>	<b>1000</b>	<b>300</b>	<b>20</b>	<b>2.0</b>
<b>Hungry Valley</b>	<b>4-18</b>	<b>Hungry Valley &amp; Peace Valley</b>	<b>4-18</b>	<b>500</b>	<b>150</b>	<b>50</b>	<b>1.0</b>

BASINS			Objectives (mg/l) <sup>m</sup>				
Basin	Basin No <sup>b</sup>	1994 Basin Name	1994 Basin No	TDS	Sulfate	Chloride	Boron
Conejo Valley	4-10	Thousand Oaks Area	4-19	1400	700	150	1.0
Russell Valley	4-20	Russell Valley	4-20				
Russell Valley	4-20	Russell Valley	4-20	1500	500	250	1.0
Thousand Oaks Area	4-19	Triunfo Canyon Area	4-20	2000	500	500	2.0
Thousand Oaks Area	4-20	Lindero Canyon Area	4-20	2000	500	500	2.0
Thousand Oaks Area	4-21	Las Virgenes Canyon Area	4-20	2000	500	500	2.0
Conejo-Tierra Rejada Volcanic Area <sup>l</sup>	No DWR#	Conejo-Tierra Rejada Volcanic Area	4-21				
Malibu Valley	4-22	Santa Monica Mountains-Southern Slopes <sup>k</sup>	4-22				
Malibu Valley	No DWR#	Camarillo Area		1000	250	250	1.0
Malibu Valley	No DWR#	Point Dume Area		1000	250	250	1.0
Malibu Valley	4-22	Malibu Valley	4-22	2000	500	500	2.0
Malibu Valley	No DWR#	Topanga Canyon Area		2000	500	500	2.0
San Pedro Channel Islands <sup>l</sup>	No DWR#	San Pedro Channel Islands					
Anacapa Island	No DWR#	Anacapa Island	No DWR#				
San Nicholas Island	No DWR#	San Nicholas Island	No DWR#	1100	150	350	
Santa Catalina Island	No DWR#	Santa Catalina Island	No DWR#	1000	100	250	1.0
San Clemente Island	No DWR#	San Clemente Island	No DWR#				
Santa Barbara	No DWR#	Santa Barbara Island	No DWR#				

- a. Objectives for ground waters outside of the major basins listed on this table and outlined in Figure 1-9 have not been specifically listed. However, ground waters outside of the major basins are, in many cases, significant sources of water. Furthermore, ground waters outside of the major basins are either potential or existing sources of water for downgradient basins and, as such, objectives in the downgradient basins shall apply to these areas.
- b. Basins are numbered according to Bulletin 118-Update 2003 (Department of Water Resources, 2003).
- c. Ground waters in the Pitas Point area (between the lower Ventura River and Rincon Point) are not considered to comprise a major basin, and accordingly have not been designated a basin number by the California Department of Water Resources (DWR) or outlined on Figure 1-9.
- d. The Santa Clara River Valley (4-4) was formerly Ventura Central Basin
- e. Pleasant Valley (4-6), Arroyo Santa Rosa Valley (4-7) and Las Posas Valley (4-8) Ground Water Basins were former sub-basins of the Ventura Central Basin (DWR, 1980).
- f. Acton Valley Basin was formerly Upper Santa Clara Basin (DWR, 1980)



- g. San Gabriel Valley is a combination of what were formerly the Western and Eastern areas of the Main San Gabriel Basin, and the Puente Basin. All of the groundwater in the former Main San Gabriel Basin is covered by the objectives listed under Main San Gabriel Basin – Eastern Area and Western Area, Walnut Creek, Big Dalton Wash, and Little Dalton Wash separate the Eastern Area from the Western Area (see the dashed line on Figure A2-17 in Appendix II). Any ground water upgradient of these areas is subject to downgradient beneficial uses and objectives, as explained in Footnote a.
- h. Raymond Basin was formerly a sub-basin of the San Gabriel Valley and is now a separate basin.
- i. The border between Regions 4 and 8 crosses the Upper Santa Ana Valley and San Gabriel Valley Ground Water Basins.
- j. Ground water in the Conejo-Tierra Rejada Volcanic Area occurs primarily in fractured volcanic rocks in the western Santa Monica Mountains and Conejo Mountain areas. These areas have not been delineated on Figure 1-9.
- k. With the exception of ground water in Malibu Valley (DWR Basin No. 4-22), ground waters along the southern slopes of the Santa Monica Mountains are not considered to comprise a major basin and accordingly have not been designated a basin number by the California Department of Water Resources (DWR) or outlined on Figure 1-9.
- l. DWR has not designated basins for ground waters on the San Pedro Channel Islands
- m. The Regional Board may grant, at its sole discretion, individual dischargers a variance from the numeric mineral quality objectives for groundwater specified in Table 3-13 under the conditions and procedures specified in “Coastal Aquifer Variance Provision for Mineral Quality Objectives” set forth in the Regional Objectives for Ground Waters.

## Attachment C

### STANDARD PROVISIONS APPLICABLE TO WASTE DISCHARGE REQUIREMENTS

1. DUTY TO COMPLY

The discharger must comply with all conditions of these waste discharge requirements. A responsible party has been designated in the Order for this project, and is legally bound to maintain the monitoring program and permit. Violations may result in enforcement actions, including Regional Board orders or court orders requiring corrective action or imposing civil monetary liability, or in modification or revocation of these waste discharge requirements by the Regional Board. [CWC Section 13261, 13263, 13265, 13268, 13300, 13301, 13304, 13340, 13350]

2. GENERAL PROHIBITION

Neither the treatment nor the discharge of waste shall create a pollution, contamination or nuisance, as defined by Section 13050 of the California Water Code (CWC). [H&SC Section 5411, CWC Section 13263]

3. AVAILABILITY

A copy of these waste discharge requirements shall be maintained at the discharge facility and be available at all times to operating personnel. [CWC Section 13263]

4. CHANGE IN OWNERSHIP

The discharger must notify the Executive Officer, in writing at least 30 days in advance of any proposed transfer of this Order's responsibility and coverage to a new discharger containing a specific date for the transfer of this Order's responsibility and coverage between the current discharger and the new discharger. This agreement shall include an acknowledgement that the existing discharger is liable for violations up to the transfer date and that the new discharger is liable from the transfer date on. [CWC Sections 13267 and 13263]

5. CHANGE IN DISCHARGE

In the event of a material change in the character, location, or volume of a discharge, the discharger shall file with this Regional Board a new Report of Waste Discharge. [CWC Section 13260(c)]. A material change includes, but is not limited to, the following:

- (a) Addition of a major industrial waste discharge to a discharge of essentially domestic sewage, or the addition of a new process or product by an industrial facility resulting in a change in the character of the Waste.

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- (b) Significant change in disposal method, e.g., change from a land disposal to a direct discharge to water, or change in the method of treatment which would significantly alter the characteristics of the waste.
- (c) Significant change in the disposal area, e.g., moving the discharge to another drainage area, to a different water body, or to a disposal area significantly removed from the original area potentially causing different water quality or nuisance problems.
- (d) Increase in flow beyond that specified in the waste discharge requirements.
- (e) Increase in the area or depth to be used for solid waste disposal beyond that specified in the waste discharge requirements. [CCR Title 23 Section 2210]

6. REVISION

These waste discharge requirements are subject to review and revision by the Regional Board. [CCR Section 13263]

7. TERMINATION

Where the discharger becomes aware that it failed to submit any relevant facts in a Report of Waste Discharge or submitted incorrect information in a Report of Waste Discharge or in any report to the Regional Board, it shall promptly submit such facts or information. [CWC Sections 13260 and 13267]

8. VESTED RIGHTS

This Order does not convey any property rights of any sort or any exclusive privileges. The requirements prescribed herein do not authorize the commission of any act causing injury to persons or property, do not protect the discharger from his liability under Federal, State or local laws, nor do they create a vested right for the discharger to continue the waste discharge. [CWC Section 13263(g)]

9. SEVERABILITY

Provisions of these waste discharge requirements are severable. If any provisions of these requirements are found invalid, the remainder of the requirements shall not be affected. [CWC Section 921]

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Waste Discharge Requirements

10. OPERATION AND MAINTENANCE

The discharger shall, at all times, properly operate and maintain all facilities and systems of treatment and control (and related appurtenances) which are installed or used by the discharger to achieve compliance with conditions of this Order. Proper operation and maintenance includes effective performance, adequate funding, adequate operator staffing and training, and adequate laboratory and process controls including appropriate quality assurance procedures. This provision requires the operation of backup or auxiliary facilities or similar systems only when necessary to achieve compliance with the conditions of this Order. [CWC Section 13263(f)]

11. HAZARDOUS RELEASES

Except for a discharge which is in compliance with these waste discharge requirements, any person who, without regard to intent or negligence, causes or permits any hazardous substance or sewage to be discharged in or on any waters of the State, or discharged or deposited where it is, or probably will be, discharged in or on any waters of the State, shall, as soon as (a) that person has knowledge of the discharge, (b) notification is possible, and (c) notification can be provided without substantially impeding cleanup or other emergency measures, immediately notify the Office of Emergency Services of the discharge in accordance with the spill reporting provision of the State toxic disaster contingency plan adopted pursuant to Article 3.7 (commencing with Section 8574.7) of Chapter 7 of Division 1 of Title 2 of the Government Code, and immediately notify the State Board or the appropriate Regional Board of the discharge. This provision does not require reporting of any discharge of less than a reportable quantity as provided for under subdivisions (f) and (g) of Section 13271 of the Water Code unless the discharger is in violation of a prohibition in the applicable Water Quality Control plan. [CWC Section 1327(a)]

12. PETROLEUM RELEASES

Except for a discharge which is in compliance with these waste discharge requirements, any person who without regard to intent or negligence, causes or permits any oil or petroleum product to be discharged in or on any waters of the State, or discharged or deposited where it is, or probably will be, discharged in or on any waters of the State, shall, as soon as (a) such person has knowledge of the discharge, (b) notification is possible, and (c) notification can be provided without substantially impeding cleanup or other emergency measures, immediately notify the Office of Emergency Services of the discharge in accordance with the spill reporting provision of the State oil spill contingency plan adopted pursuant to Article 3.5 (commencing with Section 8574.1) of Chapter 7 of Division 1 of Title 2 of the Government Code. This provision does not require reporting of any discharge of less than 42 gallons unless the discharge is also required to be reported pursuant to Section 311 of the Clean Water Act or the discharge is in violation of a prohibition in the applicable Water Quality Control Plan. [CWC Section 13272]

Standard Provisions Applicable to  
Waste Discharge Requirements

13. ENTRY AND INSPECTION

The discharger shall allow the Regional Board, or an authorized representative upon the presentation of credentials and other documents as may be required by law, to:

- (a) Enter upon the discharger's premises where a regulated facility or activity is located or conducted, or where records must be kept under the conditions of this Order;
- (b) Have access to and copy, at reasonable times, any records that must be kept under the conditions of this Order;
- (c) Inspect at reasonable times any facilities, equipment (including monitoring and control equipment), practices, or operations regulated or required under this Order; and
- (d) Sample or monitor at reasonable times, for the purposes of assuring compliance with this Order, or as otherwise authorized by the California Water Code, any substances or parameters at any location. [CWC Section 13267]

14. MONITORING PROGRAM AND DEVICES

The discharger shall furnish, under penalty of perjury, technical monitoring program reports; such reports shall be submitted in accordance with specifications prepared by the Executive Officer, which specifications are subject to periodic revisions as may be warranted. [CWC Section 13267]

All monitoring instruments and devices used by the discharger to fulfill the prescribed monitoring program shall be properly maintained and calibrated as necessary to ensure their continued accuracy. All flow measurement devices shall be calibrated at least once per year, or more frequently, to ensure continued accuracy of the devices. Annually, the discharger shall submit to the Executive Office a written statement, signed by a registered professional engineer, certifying that all flow measurement devices have been calibrated and will reliably achieve the accuracy required.

Unless otherwise permitted by the Regional Board Executive officer, all analyses shall be conducted at a laboratory certified for such analyses by the State Department of Health Services. The Regional Board Executive Officer may allow use of an uncertified laboratory under exceptional circumstances, such as when the closest laboratory to the monitoring location is outside the State boundaries and therefore not subject to certification. All analyses shall be required to be conducted in accordance with the latest edition of "Guidelines Establishing Test Procedures for Analysis of Pollutants" [40CFR Part 136] promulgated by the U.S. Environmental Protection Agency. [CCR Title 23, Section 2230]

Standard Provisions Applicable to  
Waste Discharge Requirements

15. TREATMENT FAILURE

In an enforcement action, it shall not be a defense for the discharger that it would have been necessary to halt or to reduce the permitted activity in order to maintain compliance with this Order. Upon reduction, loss, or failure of the treatment facility, the discharger shall, to the extent necessary to maintain compliance with this Order, control production or all discharges, or both, until the facility is restored or an alternative method of treatment is provided. This provision applies, for example, when the primary source of power of the treatment facility fails, is reduced, or is lost. [CWC Section 13263(f)]

16. DISCHARGE TO NAVIGABLE WATERS

Any person discharging or proposing to discharge to navigable waters from a point source (except for discharge of dredged or fill material subject to Section 404 of the Clean Water Act and discharge subject to a general NPDES permit) must file an NPDES permit application with the Regional Board. [CCR Title 2 Section 22357]

17. ENDANGERMENT TO HEALTH AND ENVIRONMENT

The discharger shall report any noncompliance which may endanger health or the environment. Any such information shall be provided verbally to the Executive Officer within 24 hours from the time the discharger becomes aware of the circumstances. A written submission shall also be provided within five 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 recurrence of the noncompliance. The Executive officer, or an authorized representative, may waive the written report on a case-by-case basis if the oral report has been received within 24 hours. The following occurrence(s) must be reported to the Executive Office within 24 hours:

- (a) Any bypass from any portion of the treatment facility.
- (b) Any discharge of treated or untreated wastewater resulting from sewer line breaks, obstruction, surcharge or any other circumstances.
- (c) Any treatment plant upset which causes the effluent limitation of this Order to be exceeded. [CWC Sections 13263 and 13267]

18. MAINTENANCE OF RECORDS

The discharger shall retain records of all monitoring information including all calibration and maintenance records, all original strip chart recordings for continuous monitoring instrumentation, copies off all reports required by this Order, and record of all data used

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to complete the application for this Order. Records shall be maintained for a minimum of three years from the date of the sample, measurement, report, or application. This period may be extended during the course of any unresolved litigation regarding this discharge or when requested by the Regional Board Executive Officer.

Records of monitoring information shall include:

- (a) The date, exact place, and time of sampling or measurement;
  - (b) The individual(s) who performed the sampling or measurement;
  - (c) The date(s) analyses were performed;
  - (d) The individual(s) who performed the analyses;
  - (e) The analytical techniques or method used; and
  - (f) The results of such analyses.
19. (a) All application reports or information to be submitted to the Executive Office shall be signed and certified as follows:
- (1) For a corporation – by a principal executive officer or at least the level of vice president.
  - (2) For a partnership or sole proprietorship – by a general partner or the proprietor, respectively.
  - (3) For a municipality, state, federal, or other public agency – by either a principal executive officer or ranking elected official.
- (b) A duly authorized representative of a person designated in paragraph (a) of this provision may sign documents if:
- (1) The authorization is made in writing by a person described in paragraph (a) of this provision.
  - (2) The authorization specifies either an individual or position having responsibility for the overall operation of the regulated facility or activity; and
  - (3) The written authorization is submitted to the Executive Officer.

Any person signing a document under this Section shall make the following certification:

Standard Provisions Applicable to  
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"I certify under penalty of law that I have personally examined and am familiar with the information submitted in this document and all attachments and that, based on my inquiry of those individuals immediately responsible for obtaining the information, I believe that the information is true, accurate, and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment. [CWC Sections 13263, 13267, and 13268]"

20. OPERATOR CERTIFICATION

Supervisors and operators of municipal wastewater treatment plants and privately owned facilities regulated by the PUC, used in the treatment or reclamation of sewage and industrial waste shall possess a certificate of appropriate grade in accordance with Title 23, California Code of Regulations Section 3680. State Boards may accept experience in lieu of qualification training. In lieu of a properly certified wastewater treatment plant operator, the State Board may approve use of a water treatment plant operator of appropriate grade certified by the State Department of Health Services where reclamation is involved.

Each plant shall be operated and maintained in accordance with the operation and maintenance manual prepared by the municipality through the Clean Water Grant Program [CWC Title 23, Section 2233(d)]

ADDITIONAL PROVISIONS APPLICABLE TO  
PUBLICLY OWNED TREATMENT WORKS' ADEQUATE CAPACITY

21. Whenever a publicly owned wastewater treatment plant will reach capacity within four years the discharger shall notify the Regional Board. A copy of such notification shall be sent to appropriate local elected officials, local permitting agencies and the press. The discharger must demonstrate that adequate steps are being taken to address the capacity problem. The discharger shall submit a technical report to the Regional Board showing flow volumes will be prevented from exceeding capacity, or how capacity will be increased, within 120 days after providing notification to the Regional Board, or within 120 days after receipt of notification from the Regional Board, of a finding that the treatment plant will reach capacity within four years. The time for filing the required technical report may be extended by the Regional Board. An extension of 30 days may be granted by the Executive Officer, and longer extensions may be granted by the Regional Board itself. [CCR Title 23, Section 2232]



STATE OF CALIFORNIA  
CALIFORNIA REGIONAL WATER QUALITY CONTROL BOARD  
LOS ANGELES REGION

MONITORING AND REPORTING PROGRAM NO. CI-10108  
FOR  
FORMER PARAMOUNT PLAZA DRY CLEANERS  
15729 DOWNEY AVENUE, PARAMOUNT, CALIFORNIA

ENROLLMENT UNDER REGIONAL BOARD  
ORDER NO. R4-2014-0187 (SERIES NO. 012)  
FILE NO. 14-136

I. MONITORING AND REPORTING REQUIREMENTS

- A. Retail Opportunity Investments Corporation Paramount Plaza, LLC (hereinafter Discharger) shall implement this Monitoring and Reporting Program (MRP) on the effective date (December 19, 2014) under Regional Board Order No. R4-2014-0187. The first monitoring report under this program shall be received at the Regional Board by **April 30, 2015**. Subsequent monitoring reports shall be received at the Regional Board according to the following schedule:

<u>Monitoring Period</u>	<u>Report Due</u>
January – March	April 30
April – June	July 30
July – September	October 30
October – December	January 30

- B. If there is no discharge or injection, during any reporting period, the report shall so state. By March 1 of each year, the Discharger shall submit an annual summary report to the Regional Board. The report shall contain both tabular and graphical summaries of the monitoring data obtained during the previous calendar year. In addition, the Discharger shall discuss the compliance record and the corrective actions taken or planned, which may be needed to bring the discharge into full compliance with the waste discharge requirements.
- C. The Discharger shall comply with requirements contained in Section G of Order No. R4-2014-0187 "*Monitoring and Reporting Requirements*".

**II. DISCHARGE MONITORING PROGRAM**

The monitoring reports shall contain the following information regarding the injection activities:

1. Location map showing injection points used for emulsified vegetable oil, bioaugmentation organisms, and anaerobic chase water.
2. Written and tabular summary defining depth of injection points, quantity and concentration of emulsified vegetable oil, bioaugmentation organisms, and anaerobic chase water injected at each injection point, and total amount of emulsified vegetable oil, bioaugmentation organisms, and anaerobic chase water injected at the Site.
3. Visual inspection at each injection point shall be conducted and recorded during the injection.

**III. GROUNDWATER MONITORING PROGRAM**

A groundwater monitoring program shall be implemented to evaluate impacts associated with the injection activity. Groundwater samples shall be collected from monitoring wells MW-1, MW-2, MW-3, MW-4, MW-6, and MW-7 (Figure 1). The Discharger shall conduct a baseline sampling prior to the proposed injection, followed by specified schedules from all 6 monitoring wells for the following groundwater parameters:

CONSTITUENT	UNITS	TYPE OF SAMPLE	MINIMUM FREQUENCY OF ANALYSIS
Dissolved Oxygen	mg/L	grab	Baseline, months 1, 2, and 3 after injection, and quarterly thereafter
Oxidation-Reduction Potential	millivolts	grab	Baseline, months 1, 2, and 3 after injection, and quarterly thereafter
pH	pH units	grab	Baseline, months 1, 2, and 3 after injection, and quarterly thereafter
Specific Conductivity	mS/cm	grab	Baseline, months 1, 2, and 3 after injection, and quarterly thereafter

Retail Opportunity Investments Corporation  
WDR Order No. R4-2014-0187  
Monitoring and Reporting Program No. CI-100108

CONSTITUENT	UNITS	TYPE OF SAMPLE	MINIMUM FREQUENCY OF ANALYSIS
Temperature	°C	grab	Baseline, months 1, 2, and 3 after injection, and quarterly thereafter
Turbidity	NTU	grab	Baseline, months 1, 2, and 3 after injection, and quarterly thereafter
Total Organic Carbon	mg/L	grab	Baseline, months 1, 2, and 3 after injection, and quarterly thereafter
Total Dissolved Solids	mg/L	grab	Baseline, months 1, 2, and 3 after injection, and quarterly thereafter
Sulfate	mg/L	grab	Baseline, months 1, 2, and 3 after injection, and quarterly thereafter
Chloride	mg/L	grab	Baseline, months 1, 2, and 3 after injection, and quarterly thereafter
Boron	mg/L	grab	Baseline, months 1, 2, and 3 after injection, and quarterly thereafter
Nitrate and Nitrite	mg/L	grab	Baseline, months 1, 2, and 3 after injection, and quarterly thereafter
Volatile Organic Compounds	µg/L	grab	Baseline, months 1, 2, and 3 after injection, and quarterly thereafter
Dissolved Gases (methane, ethane, and ethene)	µg/L	grab	Baseline, months 1, 2, and 3 after injection, and quarterly thereafter
<i>Dehalococcoides</i> species	cells/mL	grab	Baseline, months 1, 2, and 3 after injection, and quarterly thereafter

All groundwater monitoring reports must include, at a minimum, the following:

- a. Well identification, date and time of sampling;
- b. Sampler identification, and laboratory identification;
- c. Quarterly observation of groundwater levels, recorded to 0.01 feet mean sea level and groundwater flow direction.

**IV. MONITORING FREQUENCIES**

Specifications in this monitoring program are subject to periodic revisions. Monitoring requirements may be modified or revised by the Executive Officer based on review of monitoring data submitted pursuant to this Order. Monitoring frequencies may be adjusted to a less frequent basis or parameters and locations dropped by the Executive Officer if the Discharger makes a request and the request is backed by statistical trends of monitoring data submitted.

**V. CERTIFICATION STATEMENT**

Each report shall contain the following completed declaration:

"I certify under penalty of law that this document, including all attachments and supplemental information, was prepared under my direction or supervision in accordance with a system designed to assure that qualified personnel properly gathered and evaluated the information submitted. Based on my inquiry of the person or persons who manage the system, or those persons directly responsible for gathering the information, the information submitted is, to the best of my knowledge and belief, true, accurate, and complete. I am aware that there are significant penalties for submitting false information, including the possibility of a fine and imprisonment.

Executed on the \_\_\_\_\_ day of \_\_\_\_\_ at \_\_\_\_\_

\_\_\_\_\_  
(Signature)

\_\_\_\_\_  
(Title)"


**VI. PUBLIC DOCUMENTS**

All records and reports submitted in compliance with Order No.R4-2014-0187 and Monitoring and Reporting Program No. CI-10108 are public documents and will be made available for inspection during business hours at the office of the California Regional Water Quality Control Board, Los Angeles Region, upon request by interested parties. Only proprietary information, and only at the request of the Discharger will be treated as confidential.

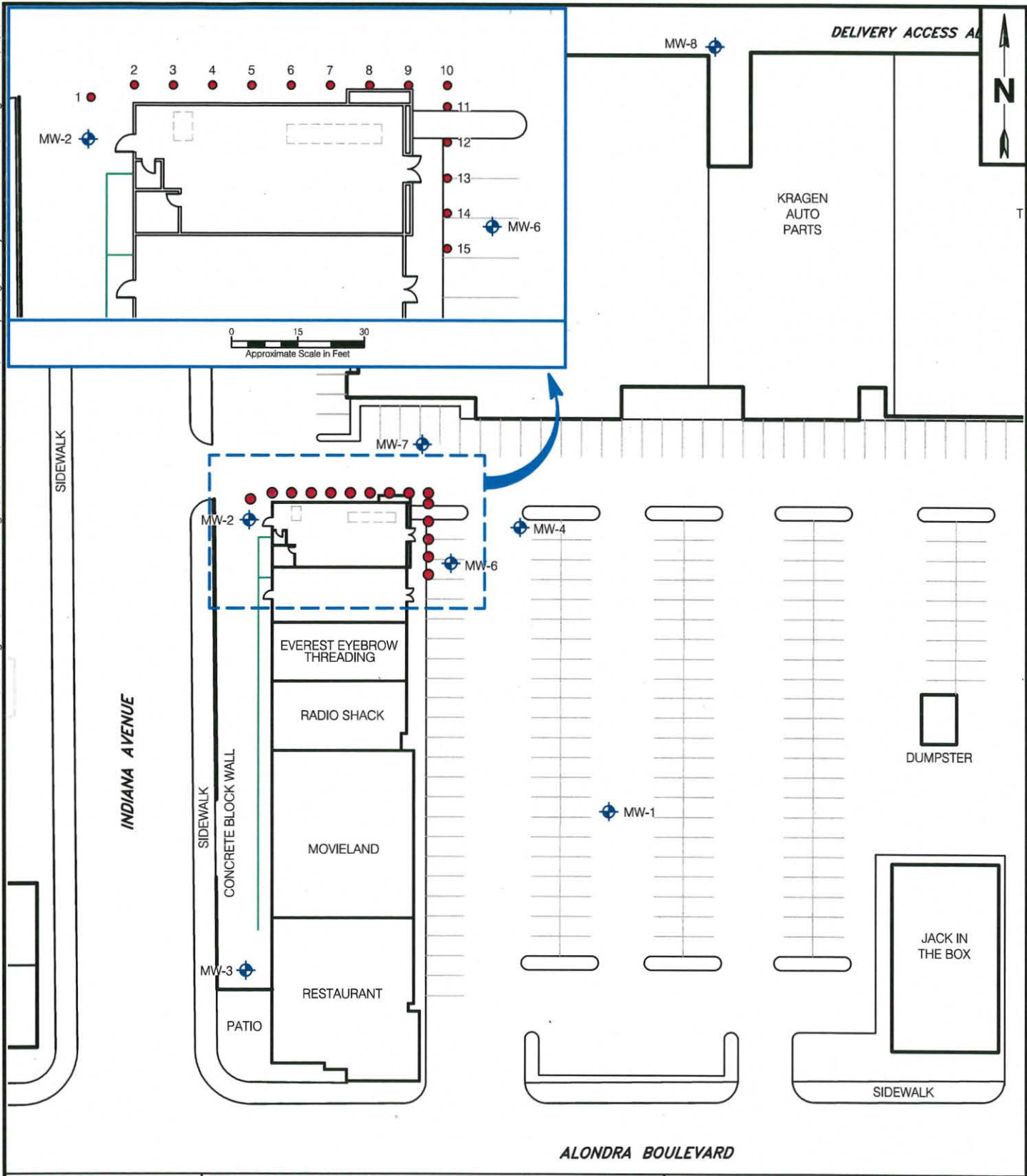
**VII. ELECTRONIC SUBMITTAL OF INFORMATION**

The Discharger shall comply with the Electronic Submittal of Information (ESI) requirements by submitting all reports required under the MRP, including groundwater monitoring data in Electronic Deliverable Format, discharge location data, and searchable Portable Document Format of monitoring reports to the State Water Resources Control Board GeoTracker database under Global ID WDR100020352.

Ordered by:

  
Samuel Unger, P.E.  
Executive Officer

Date: December 19, 2014



**Environmental  
Navigation  
Services, Inc.**

EXPLANATION BLOCK  
 MW-2 Groundwater Monitoring Well Location  
 15 Injection Point Location

**IRZ INJECTION POINTS  
AND MONITORING WELLS**

FORMER PARAMOUNT CLEANERS  
 15729 DOWNEY AVENUE  
 PARAMOUNT, CALIFORNIA 90723



PE/PG <b>JWJ</b>	Project Number <b>PARAMOUNT</b>	Figure
Project Manager <b>JWJ</b>	Drafter <b>CM</b>	Date <b>11/13/2014</b>

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**APPENDIX B:**

**HISTORICAL GROUNDWATER  
ELEVATION DATA**

Appendix B

MW-1

date	elev	dtw	change	t/csg (ft MSL)
5/31/2000	52.03	17.06		69.09 rev 3/04
10/18/2001	51.81	17.28	-0.22	
2/4/2003	50.34	18.75	-1.47	Well Details
3/23/2004	50.03	19.06	-0.31	t/scr
6/30/2004	49.70	19.39	-0.33	10 ft below t/csg
9/29/2004	49.39	19.70	-0.31	b/scr
12/22/2004	50.51	18.58	1.12	40 ft below t/csg
3/9/2005	50.98	18.11	0.47	csg dia
6/7/2005	49.57	19.52	-1.41	2 inches
9/28/2005	51.58	17.51	2.01	
12/28/2005	51.35	17.74	-0.23	38.3 TD (1/13/15)
3/22/2006	50.82	18.27	-0.53	
6/20/2006	51.15	17.94	0.33	
9/29/2006	50.91	18.18	-0.24	
12/13/2006	50.72	18.37	-0.19	
3/19/2007	50.01	19.08	-0.71	
5/31/2007	51.15	17.94	1.14	
9/21/2007	50.53	18.56	-0.62	
11/30/2007	50.63	18.46	0.10	
3/28/2008	50.06	19.03	-0.57	
6/27/2008	50.08	19.01	0.02	
9/10/2008	49.58	19.51	-0.50	
12/17/2008	49.21	19.88	-0.37	
3/23/2009	49.63	19.46	0.42	
6/26/2009	48.79	20.30	-0.84	
9/9/2009	49.93	19.16	1.14	
12/9/2009	47.69	21.40	-2.24	
11/3/2011	48.01	21.08	0.32	
5/14/2012	47.42	21.67	-0.59	
2/27/2013	46.23	22.86	-1.19	
3/13/2013	46.46	22.63	0.23	
4/22/2013	46.23	22.86	-0.23	
7/25/2013	45.97	23.12	-0.26	
10/16/2013	45.40	23.69	-0.57	43.53
2/11/2014	45.14	23.95	-0.26	
5/5/2014	44.79	24.30	-0.35	
7/2/2014	44.49	24.60	-0.30	
10/15/2014	43.73	25.36	-0.76	
1/13/2015	43.27	25.82	-0.46	
2/18/2015	43.18	25.91	-0.09	
3/19/2015	43.06	26.03	-0.12	
4/13/2015	42.86	26.23	-0.20	



Appendix B

MW-2

date	elev	dtw
5/31/2000	52.14	17.50
10/18/2001	52.01	17.63
2/4/2003	50.36	19.28
3/23/2004	50.06	19.58
6/30/2004	49.83	19.81
9/29/2004	49.41	20.23
12/22/2004	49.97	19.67
3/9/2005	51.37	18.27
6/7/2005	49.60	20.04
9/28/2005	51.84	17.80
12/28/2005	52.52	17.12
3/22/2006	50.86	18.78
6/20/2006	51.15	18.49
9/29/2006	50.94	18.70
12/13/2006	50.73	18.91
3/19/2007	50.43	19.21
5/31/2007	51.54	18.10
9/21/2007	49.64	20.00
11/30/2007	50.74	18.90
3/28/2008	50.28	19.36
6/27/2008	50.03	19.61
9/10/2008	49.43	20.21
12/17/2008	49.04	20.60
3/23/2009	49.95	19.69
6/26/2009	48.72	20.92
9/9/2009	50.17	19.47
12/9/2009	47.56	22.08
11/3/2011	47.94	21.70
5/14/2012	47.29	22.35
2/27/2013	46.30	23.34
3/13/2013	46.43	23.21
4/22/2013	46.31	23.33
7/25/2013	45.91	23.73
10/16/2013	45.35	24.29
2/11/2014	45.03	24.61
5/5/2014	44.70	24.94
7/2/2014	44.42	25.22
10/15/2014	43.69	25.95
1/13/2015	43.32	26.32
2/18/2015	43.16	26.48
3/19/2015	43.06	26.58
4/13/2015	42.85	26.79

t/csg (ft MSL)
69.64 rev 3/04
69.65 rev 2/13
-0.13
-1.65
-0.30
-0.23
-0.42
0.56
1.40
-1.77
2.24
0.68
-1.66
0.29
-0.21
-0.21
-0.30
1.11
-1.90
1.10
-0.46
-0.25
-0.60
-0.39
0.91
-1.23
1.45
-2.61
0.38
-0.65
-0.99
0.13
-0.12
-0.40
-0.56
-0.32
-0.33
-0.28
-0.73
-0.37
-0.16
-0.10
-0.21

Well Details

t/scr	
10	ft below t/csg
b/scr	
40	ft below t/csg
csg dia	
2	inches

39.0 TD (1/13/15)

Appendix B

MW-3

date	elev	dtw
5/31/2000	52.26	17.33
10/18/2001	52.00	17.59
2/4/2003	50.49	19.10
3/23/2004	50.22	19.37
6/30/2004	49.92	19.67
9/29/2004	49.58	20.01
12/22/2004	50.42	19.17
3/9/2005	51.20	18.39
6/7/2005	49.80	19.79
9/28/2005	52.00	17.59
12/28/2005	51.58	18.01
3/22/2006	51.02	18.57
6/20/2006	51.40	18.19
9/29/2006	51.30	18.29
12/13/2006	50.78	18.81
3/19/2007	50.57	19.02
5/31/2007	51.58	18.01
9/21/2007	49.79	19.80
11/30/2007	50.49	19.10
3/28/2008	50.27	19.32
6/27/2008	50.23	19.36
9/10/2008	50.36	19.23
12/17/2008	49.03	20.56
3/23/2009	49.85	19.74
6/26/2009	48.90	20.69
9/9/2009	50.08	19.51
12/9/2009	47.65	21.94
11/3/2011	48.16	21.43
5/14/2012	47.50	22.09
2/27/2013	46.48	23.11
3/13/2013	46.62	22.97
4/22/2013	46.48	23.11
7/25/2013	46.11	23.48
10/16/2013	45.55	24.04
2/11/2014	45.25	24.34
5/5/2014	44.88	24.71
7/2/2014	44.62	24.97
10/15/2014	43.87	25.72
1/13/2015	43.40	26.19
2/18/2015	43.33	26.26
3/19/2015	43.19	26.40
4/13/2015	42.98	26.61

t/csg (ft MSL)		
69.59	rev 3/04	
-0.26		
-1.51	Well Details	
-0.27	t/scr	
-0.30	10	ft below t/csg
-0.34	b/scr	
0.84	30	ft below t/csg
0.78	csg dia	
-1.40	2	inches
2.20		
-0.42	28.3	TD (1/13/15)
-0.56		
0.38		
-0.10		
-0.52		
-0.21		
1.01		
-1.79		
0.70		
-0.22		
-0.04		
0.13		
-1.33		
0.82		
-0.95		
1.18		
-2.43		
0.51		
-0.66		
-1.02		
0.14		
-0.14		
-0.37		
-0.56		
-0.30		
-0.37		
-0.26		
-0.75		
-0.47		
-0.07		
-0.14		
-0.21		

Appendix B

MW-4

date	elev	dtw
5/31/2000	52.14	16.23
10/18/2001	51.89	16.48
2/4/2003	50.18	18.19
3/23/2004	49.82	18.55
6/30/2004	49.67	18.70
9/29/2004	49.34	19.03
12/22/2004	50.06	18.31
3/9/2005	50.89	17.48
6/7/2005	49.54	18.83
9/28/2005	51.17	17.20
12/28/2005	51.38	16.99
3/22/2006	50.73	17.64
6/20/2006	51.07	17.30
9/29/2006	50.75	17.62
12/13/2006	50.62	17.75
3/19/2007	50.07	18.30
5/31/2007	50.57	17.80
9/21/2007	49.56	18.81
11/30/2007	50.39	17.98
3/28/2008	49.18	19.19
6/27/2008	50.09	18.28
9/10/2008	49.58	18.79
12/17/2008	49.16	19.21
3/23/2009	48.79	19.58
6/26/2009	48.78	19.59
9/9/2009	49.14	19.23
12/9/2009	47.53	20.84
11/3/2011	47.98	20.39
5/14/2012	47.37	21.00
2/27/2013	46.25	22.12
3/13/2013	46.44	21.93
4/22/2013	46.30	22.07
7/25/2013	45.94	22.43
10/16/2013	45.37	23.00
2/11/2014	45.09	23.28
5/5/2014	44.77	23.60
7/2/2014	44.45	23.92
10/15/2014	43.72	24.65
1/13/2015	43.39	24.98
2/18/2015	43.10	25.27
3/19/2015	43.08	25.29
4/13/2015	42.87	25.50

t/csg (ft MSL)
68.37 rev 3/04
68.38 rev 2/13
-0.25
-1.71
-0.36
-0.15
-0.33
0.72
0.83
-1.35
1.63
0.21
-0.65
0.34
-0.32
-0.13
-0.55
0.50
-1.01
0.83
-1.21
0.91
-0.51
-0.42
-0.37
-0.01
0.36
-1.61
0.45
-0.61
-1.12
0.19
-0.14
-0.36
-0.57
-0.28
-0.32
-0.32
-0.73
-0.33
-0.29
-0.02
-0.21

Well Details

t/scr	
10	ft below t/csg
b/scr	
30	ft below t/csg
csg dia	
2	inches

28.9 TD (1/13/15)

Appendix B

MW-5

date	elev	dtw
3/23/2004	50.07	19.60
6/30/2004	49.82	19.85
9/29/2004	49.45	20.22
12/22/2004	50.28	19.39
3/9/2005	51.19	18.48
6/7/2005	49.66	20.01
9/28/2005	52.01	17.66
12/28/2005	52.13	17.54
3/22/2006	51.26	18.41
6/20/2006	51.59	18.08
9/29/2006	50.95	18.72
12/13/2006	50.86	18.81
3/19/2007	50.41	19.26
5/31/2007	51.88	17.79
9/21/2007	50.69	18.98
11/30/2007	50.72	18.95
3/28/2008	50.86	18.81
6/27/2008	50.13	19.54
9/10/2008	49.58	20.09
12/17/2008	49.15	20.52
3/23/2009	50.43	19.24
6/26/2009	48.86	20.81
9/9/2009	50.66	19.01
12/9/2009	47.76	21.91
11/3/2011	48.08	21.59
5/14/2012	47.43	22.24
2/27/2013	47.55	22.12
3/13/2013	46.58	23.09
4/22/2013	46.42	23.25
well destroyed		

t/csg (ft MSL)  

69.67
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 rev 3/04

-0.25  
 -0.37  
 0.83  
 0.91  
 -1.53  
 2.35  
 0.12  
 -0.87  
 0.33  
 -0.64  
 -0.09  
 -0.45  
 1.47  
 -1.19  
 0.03  
 0.14  
 -0.73  
 -0.55  
 -0.43  
 1.28  
 -1.57  
 1.80  
 -2.90  
 0.32  
 -0.65  
 0.12  
 -0.97  
 -0.16

Well Details

t/scr	
10	ft below t/csg
b/scr	
30	ft below t/csg
csg dia	
4	inches

Appendix B

**MW-6**

date	elev	dtw
2/27/2013	45.89	23.50
3/13/2013	46.47	22.92
4/22/2013	46.29	23.10
7/25/2013	45.95	23.44
10/16/2013	45.36	24.03
2/11/2014	45.07	24.32
5/5/2014	44.76	24.63
7/2/2014	44.43	24.96
10/15/2014	43.72	25.67
1/13/2015	43.37	26.02
2/18/2015	43.15	26.24
3/19/2015	43.10	26.29
4/13/2015	42.90	26.49

	t/csg (ft MSL)	
	<b>69.39</b>	rev 2/13
0.58		
-0.18		
	<u>Well Details</u>	
-0.34	t/scr	
-0.59	15	ft below t/csg
-0.29	b/scr	
-0.31	45	ft below t/csg
-0.33	csg dia	
-0.71	2	inches
-0.35		
-0.22	<b>44.6</b>	TD (1/13/15)
-0.05		
-0.20	-0.82	

**MW-7**

date	elev	dtw
2/27/2013	46.12	23.21
3/13/2013	46.28	23.05
4/22/2013	46.13	23.20
7/25/2013	45.81	23.52
10/16/2013	45.24	24.09
2/11/2014	44.96	24.37
5/5/2014	44.65	24.68
7/2/2014	44.34	24.99
10/15/2014	43.61	25.72
1/13/2015	43.33	26.00
2/18/2015	43.04	26.29
3/19/2015	42.96	26.37
4/13/2015	42.75	26.58

	t/csg (ft MSL)	
	<b>69.33</b>	rev 2/13
0.16		
-0.15		
	<u>Well Details</u>	
-0.32	t/scr	
-0.57	15	ft below t/csg
-0.28	b/scr	
-0.31	45	ft below t/csg
-0.31	csg dia	
-0.73	2	inches
-0.28		
-0.29	<b>44.3</b>	TD (1/13/15)
-0.08		
-0.21		

**Appendix B**

**MW-8 (ROIC)**

date	elev	dtw
2/11/2014	43.75	24.71
5/5/2014	43.41	25.05
7/2/2014	43.11	25.35
10/15/2014	42.39	26.07
1/13/2015	42.13	26.33
2/18/2015	41.90	26.56
3/19/2015	41.80	26.66
4/13/2015	41.61	26.85

t/csg (ft MSL)  
68.464 installed Dec 2013

-0.34  
-0.30  
-0.72  
-0.26  
-0.23  
-0.10  
-0.19

Well Details

t/scr	
15	ft below t/csg
b/scr	
45	ft below t/csg
csg dia	
2	inches

-0.78

44.9 TD (1/13/15)

**Gradient MW-7 to MW-8 (224 ft)**

2/11/2014	5.38E-03
5/5/2014	5.52E-03
7/2/2014	5.47E-03
10/15/2014	5.43E-03
1/13/2015	5.34E-03
2/18/2015	5.07E-03
3/19/2015	5.16E-03
4/13/2015	5.07E-03

**Appendix B**

**MW-8 (Shell)**

date	elev	dtw
11/3/2011	47.48	21.74
5/14/2012	47.44	21.78
2/26/2013	44.57	24.65
4/22/2013	44.73	24.49
7/25/2013	45.71	23.51
10/21/2013	44.06	25.16
1/20/2014	45.11	24.11
4/10/2014	44.88	24.34
7/3/2014	44.40	24.82
10/6/2014	43.79	25.43
1/6/2015	43.17	26.05

	t/csg (ft MSL)	
	69.22	(top of csg calc from Shell GWM data)
-0.04		
-2.87		
	<u>Well Details</u>	
0.16	t/scr	
0.98	10	ft below t/csg
-1.65	b/scr	
1.05	40	ft below t/csg
-0.23	csg dia	
-0.48	4	inches
-0.61		
-0.62		

**MW-10 (Shell)**

date	elev	dtw
11/3/2011	46.95	23.24
5/14/2012	47.42	22.77
2/26/2013	45.91	24.28
4/22/2013	46.05	24.14
7/25/2013	45.79	24.40
10/21/2013	45.09	25.10
1/20/2014	45.13	25.06
4/10/2014	44.91	25.28
7/3/2014	44.41	25.78
7/4/2014	43.81	26.38
1/6/2015	43.21	26.98

	t/csg (ft MSL)	
	70.19	(top of csg calc from Shell GWM data)
0.47		
-1.51		
	<u>Well Details</u>	
0.14	t/scr	
-0.26	10	ft below t/csg
-0.70	b/scr	
0.04	40	ft below t/csg
-0.22	csg dia	
-0.50	4	inches
-0.60		
-0.60		

**MW-11 (Shell)**

date	elev	dtw
11/3/2011	47.74	21.46
5/14/2012	47.30	21.90
2/26/2013	45.90	23.30
4/22/2013	45.99	23.21
5/25/2013	45.75	23.45
10/21/2013	45.00	24.20
1/20/2014	45.00	24.20
4/10/2014	44.76	24.44
7/3/2014	44.26	24.94
10/6/2014	43.65	25.55
1/6/2015	43.06	26.14

	t/csg (ft MSL)	
	69.20	(top of csg calc from Shell GWM data)
-0.44		
-1.40		
	<u>Well Details</u>	
0.09	t/scr	
-0.24	8	ft below t/csg
-0.75	b/scr	
0.00	38	ft below t/csg
-0.24	csg dia	
-0.50	4	inches
-0.61		
-0.59		

**Appendix B**

**MW-12 (Shell)**

date	elev	dtw
11/3/2011	47.66	21.27
4/15/2012	47.39	21.54
2/26/2013	45.34	23.59
4/22/2013	45.45	23.48
5/25/2013	45.75	23.18
10/21/2013	44.63	24.30
1/20/2014	45.05	23.88
4/10/2014	44.81	24.12
7/3/2014	44.34	24.59
10/6/2014	43.71	25.22
1/6/2015	43.11	25.82

t/csg (ft MSL)  
**68.93** (top of csg calc from Shell GWM data)  
 -0.27  
 -2.05  
 Well Details  
 0.11 t/scr  
 0.30 8 ft below t/csg  
 -1.12 b/scr  
 0.42 38 ft below t/csg  
 -0.24 csg dia  
 -0.47 4 inches  
 -0.63  
 -0.60

**MW-13 (Shell)**

date	elev	dtw
11/3/2011	47.80	21.22
4/15/2012	47.64	21.38
2/26/2013	nm	
5/25/2013	nm	
4/23/2013	nm	
1/20/2014	nm	
7/3/2014	nm	

t/csg (ft MSL)  
**69.02** (top of csg calc from Shell GWM data)  
 Well Details  
 t/scr  
 8 ft below t/csg  
 b/scr  
 38 ft below t/csg  
 csg dia  
 4 inches

**BH-23 (Shell)**

date	elev	dtw
11/3/2011	47.70	21.30
4/15/2012	47.22	21.78
2/26/2013	45.97	23.03
4/22/2013	46.02	22.98
5/25/2013	45.67	23.33
10/21/2013	44.98	24.02
1/20/2014	44.86	24.14
4/10/2014	44.66	24.34
7/3/2014	44.17	24.83
10/6/2014	43.53	25.47
1/6/2015	42.96	26.04

t/csg (ft MSL)  
**69.00** (top of csg calc from Shell GWM data)  
 -0.48  
 -1.25  
 Well Details  
 0.05 t/scr  
 -0.35 7 ft below t/csg  
 -0.69 b/scr  
 -0.12 35 ft below t/csg  
 -0.20 csg dia  
 -0.49 2 inches  
 -0.64  
 -0.57



**APPENDIX C:**

**HISTORICAL SAMPLING DATA  
HVOCs IN GROUNDWATER**

## Appendix C

### MW-1

date	PCE	TCE	c12DCE	% deg
6/30/1999	ND<1	ND<1	ND<1	--
1/13/2000	ND<1	ND<1	ND<1	--
5/31/2000	ND<1	ND<1	ND<1	--
10/18/2001	ND<1	ND<1	ND<1	--
2/4/2003	ND<1	2.4	3.4	100%
3/23/2004	ND<1	2.3	4.1	100%
6/30/2004	ND<1	ND<1	1.3	100%
9/29/2004	ND<1	ND<1	ND<1	--
12/22/2004	ND<1	ND<1	ND<1	--
3/9/2005	ND<1	2.7	3.8	100%
6/7/2005	ND<1	3.1	5.4	100%
9/28/2005	ND<1	1.5	3.5	100%
12/28/2005	ND<1	1.2	1.7	100%
3/22/2006	ND<1	1.1	1.8	100%
6/20/2006	ND<1	ND<1	ND<1	--
9/29/2006	ND<1	ND<1	1.1	100%
12/13/2006	ND<1	ND<1	1.5	100%
3/19/2007	ND<1	1.3	2.1	100%
5/31/2007	ND<1	1.3	2.2	100%
9/21/2007	ND<1	1.1	ND<1	100%
11/30/2007	ND<1	1.2	1.5	100%
3/28/2008	ND<1	ND<1	1.6	100%
6/27/2008	ND<1	ND<1	ND<1	--
9/10/2008	ND<1	ND<1	ND<1	--
12/17/2008	ND<1	ND<1	ND<1	--
3/23/2009	ND<1	ND<1	ND<1	--
6/26/2009	ND<1	ND<1	ND<1	--
9/9/2009	ND<1	ND<1	ND<1	--
12/9/2009	ND<1	ND<1	ND<1	--
11/3/2011	1.8	ND<1	ND<1	0%
5/14/2012	ND<1	ND<1	ND<1	--
3/13/2013	ND<1	ND<1	ND<1	--
7/25/2013	ND<1	ND<1	ND<1	--
10/16/2013	ND<1	ND<1	ND<1	--
2/11/2014	ND<1	ND<1	ND<1	--
5/5/2014	ND<1	ND<1	ND<1	--
7/2/2014	ND<1	ND<1	ND<1	--
10/15/2014	ND<1	ND<1	ND<1	--
1/13/2015	ND<1	ND<1	ND<1	--
4/13/2015	ND<1	ND<1	ND<1	--

SVE Operation Period

1

Value used to plot non-detect (ND<1) values

## Appendix C

### MW-2

date	PCE	TCE	c12DCE	%deg
6/30/1999	480	82	ND<1	15%
1/13/2000	42	9	1.3	19%
5/31/2000	86	35	ND<1	30%
10/18/2001	175	59	2.0	26%
2/4/2003	150	65	3.4	31%
3/23/2004	332	108	8.0	26%
6/30/2004	482	137	ND<1	22%
9/29/2004	536	167	16.0	25%
12/22/2004	762	170	16.0	20%
3/9/2005	386	139	10.0	28%
6/7/2005	680	146	14.0	19%
9/28/2005	517	113	ND<1	18%
12/28/2005	742	113	10.0	14%
3/22/2006	614	100	13.0	16%
6/20/2006	366	76	ND<1	17%
9/29/2006	208	90	3.2	31%
12/13/2006	312	104	8.3	26%
3/19/2007	268	83	5.5	25%
5/31/2007	212	78	5.2	28%
9/21/2007	4.2	85	2.2	95%
11/30/2007	151	94	3.6	39%
3/28/2008	208	75	6.5	28%
6/27/2008	192	104	4.5	36%
9/10/2008	232	79	5.2	27%
12/17/2008	191	103	5.8	36%
3/23/2009	171	97	1.9	37%
6/26/2009	223	75	ND<1	25%
9/9/2009	149	92	4.9	39%
12/9/2009	153	82	2.2	35%
11/3/2011	110	89	4.9	46%
5/14/2012	45	52	2.8	55%
3/13/2013	61	97	3.7	62%
4/22/2013	61	97	3.7	62%
7/25/2013	130	200	8.7	62%
10/16/2013	98	150	11.0	62%
2/11/2014	130	150	9.8	55%
5/5/2014	89	210	2.9	71%
7/2/2014	44	83	2.6	66%
10/15/2014	130	94	3.1	43%
1/13/2015	69	280	6.3	81%
2/18/2015	67	80	2.7	55%
3/18/2015	47	89	4.1	66%
4/13/2015	61	100	6.1	63%

maximum PCE Reported to date

SVE Operation Period

1  
Value used to plot non-detect (ND<1) values

<< total has dropped, TCE less


### Groundwater Monitoring Data, 1999 to 2015 PCE, TCE and cis-1,2-DCE, in ug/L

## Appendix C

### MW-3

date	PCE	TCE	c12DCE	% deg
1/13/2000	ND<1	1.8	4.9	100%
5/31/2000	ND<1	ND<1	ND<1	--
10/18/2001	ND<1	ND<1	ND<1	--
2/4/2003	ND<1	1.2	1.8	100%
3/23/2004	ND<1	ND<1	1.2	100%
6/30/2004	ND<1	ND<1	ND<1	--
9/29/2004	ND<1	ND<1	1.4	100%
12/22/2004	ND<1	ND<1	1.0	100%
3/9/2005	1.5	1.3	1.2	63%
6/7/2005	ND<1	1.1	ND<1	100%
9/28/2005	1.7	1.0	1.4	59%
12/28/2005	1.0	1.3	1.5	74%
3/22/2006	1.2	1.3	2.2	74%
6/20/2006	ND<1	1.3	1.6	100%
9/29/2006	ND<1	1.6	2.7	100%
12/13/2006	2.3	1.6	3.2	68%
3/19/2007	1.1	1.8	2.0	78%
5/31/2007	1.2	1.8	2.9	80%
9/21/2007	1.8	2.5	2.4	73%
11/30/2007	ND<1	ND<1	ND<1	--
3/28/2008	1.4	2.0	2.1	75%
6/27/2008	ND<1	2.4	ND<1	100%
9/10/2008	ND<1	2.4	ND<1	100%
12/17/2008	1.1	2.6	1.5	79%
3/23/2009	ND<1	2.7	1.6	100%
6/26/2009	1.1	2.6	2.0	81%
9/9/2009	1.2	2.2	1.0	73%
12/9/2009	1.7	1.9	1.4	66%
11/3/2011	3.5	4.5	3.7	70%
5/14/2012	2.5	3.1	2.7	70%
3/13/2013	1.0	1.6	3.1	82%
7/25/2013	1.5	4.4	5.4	87%
10/16/2013	2.6	4.3	4.8	78%
2/11/2014	ND<1	ND<1	ND<1	--
5/5/2014	2.5	ND<1	2.1	55%
7/2/2014	1.0	1.4	1.3	73%
10/15/2014	3.0	1.6	2.0	55%
1/13/2015	1.3	1.9	2.8	78%
4/13/2015	3.4	2.8	2.3	60%

 SVE Operation Period

 1

Value used to plot non-detect (ND<1) values

## Appendix C

### MW-4

date	PCE	TCE	c12DCE	% deg
5/31/2000	46	57	ND<1	56%
10/18/2001	58	58	ND<1	50%
2/4/2003	75	98	2.1	57%
3/23/2004	109	113	2.3	51%
6/30/2004	114	133	1.8	54%
9/29/2004	122	134	2.7	53%
12/22/2004	130	145	2.5	53%
3/9/2005	202	184	3.2	48%
6/7/2005	218	173	4.4	45%
9/28/2005	426	337	6.7	45%
12/28/2005	409	244	5.0	38%
3/22/2006	391	245	ND<1	39%
6/20/2006	298	221	6.2	43%
9/29/2006	416	283	9.6	41%
12/13/2006	335	270	10.0	46%
3/19/2007	201	175	5.3	47%
5/31/2007	171	183	5.9	52%
9/21/2007	292	341	5.5	54%
11/30/2007	197	206	5.6	52%
3/28/2008	67	73	3.2	53%
6/27/2008	86	109	4.9	57%
9/10/2008	89	93	4.6	53%
12/17/2008	53	54	1.1	51%
3/23/2009	75	78	3.0	52%
6/26/2009	90	72	2.0	45%
9/9/2009	60	75	1.6	56%
12/9/2009	43	46	1.7	53%
11/3/2011	72	90	3.6	57%
5/14/2012	46	64	2.6	59%
3/13/2013	18	53	2.2	75%
4/22/2013	48	74	2.8	62%
7/25/2013	58	86	3.2	61%
10/16/2013	45	59	3.3	58%
2/11/2014	45	59	3.3	58%
5/5/2014	34	99	1.4	75%
7/2/2014	26	50	1.4	66%
10/15/2014	110	92	1.1	46%
1/13/2015	44	100	3.3	70%
2/18/2015	65	85	4.1	58%
3/19/2015	29	88	3.7	76%
4/13/2015	41	92	5.0	70%

maximum PCE Reported to date

SVE Operation Period

1

Value used to plot non-detect (ND<1) values

<< outside of zone/ no influence yet

## Appendix C

### MW-5

date	PCE	TCE	c12DCE	% deg
3/23/2004	1750	264	46	15%
6/30/2004	2890	245	73	10%
9/29/2004	2970	312	124	13%
12/22/2004	3040	305	88	11%
3/9/2005	1980	377	51	18%
6/7/2005	997	340	32	27%
9/28/2005	1000	371	31	29%
12/28/2005	1570	309	56	19%
3/22/2006	1400	296	45	20%
6/20/2006	1310	321	37	21%
9/29/2006	709	232	28	27%
12/13/2006	877	253	37	25%
3/19/2007	891	186	52	21%
5/31/2007	965	211	64	22%
9/21/2007	1340	388	16	23%
11/30/2007	1450	321	49	20%
3/28/2008	776	209	65	26%
6/27/2008	664	158	55	24%
9/10/2008	930	166	53	19%
12/17/2008	1370	193	46	15%
3/23/2009	866	106	23	13%
6/26/2009	1470	174	18	12%
9/9/2009	709	128	29	18%
12/9/2009	646	156	24	22%
11/3/2011	870	240	35	24%
5/14/2012	1100	350	34	26%
3/13/2013	240	240	26	53%

maximum PCE Reported to date

SVE Operation Period

1  
Value used to plot non-detect (ND<1) values

well destroyed

## Appendix C

### MW-6

date	PCE	TCE	c12DCE	% deg
3/13/2013	240	410	8.4	64%
4/22/2013	510	630	13	56%
7/25/2013	600	830	21	59%
10/16/2013	600	600	25	51%
2/11/2014	300	360	7.0	55%
5/5/2014	310	730	7.1	70%
7/2/2014	190	330	5.1	64%
10/15/2014	560	340	12.0	39%
1/13/2015	300	500	12.0	63%
2/18/2015	2.8	6.5	ND<1	73%
3/19/2015	6.1	12.0	1.7	69%
4/13/2015	5.7	15.0	ND<1	74%

maximum PCE Reported to date

<< major drop (had EOS in well/ flushed out)

### MW-7

date	PCE	TCE	c12DCE	% deg
3/13/2013	160	220	10	59%
4/22/2013	310	370	14	55%
7/25/2013	400	590	24	61%
10/16/2013	310	450	28	61%
2/11/2014	240	390	12	63%
5/5/2014	210	550	ND<1	72%
7/2/2014	160	270	7.9	63%
10/15/2014	460	300	17.0	41%
1/13/2015	170	370	13.0	69%
2/18/2015	260	230	16.0	49%
3/19/2015	190	200	12.0	53%
4/13/2015	170	240	17.0	60%

maximum PCE Reported to date

<< PCE>TCE

### MW-8

date	PCE	TCE	c12DCE	% deg
2/11/2014	ND<1	12	ND<1	100%
5/5/2014	ND<1	35	2	100%
7/2/2014	ND<1	ND<1	1.1	100%
10/15/2014	ND<1	19	2.5	100%
1/13/2015	ND<1	28	2.7	100%
4/13/2015	ND<1	28	3.6	100%

## Appendix C

### Adjacent site wells

#### MW-10

date	PCE	TCE	c12DCE	% deg
11/3/2011	ND<1	ND<1	ND<1	--
5/14/2012	ND<1	ND<1	ND<1	--
2/26/2013	ND<1	ND<1	ND<1	--
7/25/2013	ND<1	ND<1	ND<1	--
1/20/2014	ND<1	ND<1	ND<1	--
7/3/2014	ND<1	ND<1	ND<1	--

#### MW-11

date	PCE	TCE	c12DCE	% deg
11/3/2011	ND<1	3	18	100%
5/14/2012	ND<1	1	13	100%
2/26/2013	ND<1	5	62	100%
7/25/2013	ND<1	6	28	100%
1/20/2014	ND<1	8	13	100%
7/3/2014	ND<1	8	13	100%

#### MW-13

date	PCE	TCE	c12DCE	% deg
11/3/2011	ND<1	ND<1	ND<1	--
5/14/2012	ND<1	ND<1	ND<1	--





# Injection Services Report

Prepared for:

ENSI

Environmental Navigation Services Inc.

Prepared by:



Former Paramount Plaza Dry Cleaners

15729 Downey Ave

Paramount, CA

Monday, January 19, 2015

to

Wednesday, January 21, 2015

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## Project Summary

**Project Name:** Env Navigation Services - Paramount, CA - EVO Inj

**Scope of Work:**

Inject EOS Pro Emulsified Vegetable Oil (10:1 ratio) and BAC-9 Dehalococcoides Microbial Culture into 15 Direct Push Injection Points.

- In Zone 1 approximately 161 gallons EOS Mixture (~14.5 gal EOS + ~147 gal H2O) will be between 17-22 feet

- In Zone 2 approximately 323 gallons EOS Mixture (~29 gal EOS + ~293 gal H2O) gallons will be between 27-37 feet

Approximately 1 liter of BAC-9 Dehalococcoides Microbial Culture will be applied to each 5-foot treatment interval, the BAC-9 culture will be preceded with ~7.8 gallons and followed by ~7.8 gallons of Anoxic water.

**Project Start Date:** Monday, January 19, 2015

**Project End Date:** Wednesday, January 21, 2015

**Vironex Crew:** Alex Jernigan  
Mike Gerber  
Guillermo Gonzalez

**Injection Equip:** Vironex Specialized Injection Rig - Truck Platform

**Direct Push Equip.:** Geoprobe 6610 Track Mounted Direct Push Rig

**Probe Rod:** 2.25" OD Direct Push Rod

**Injection Tool:** 2.25" OD Fixed-Open Tool with 5' Screen

**Injection Method:** Top-Down Direct Push Injection

**Compound:** EOS-Pro by EOS Remediation  
BAC-9 By EOS Remediation

**Water Source:** Fire Hydrant



### Injection Summary

	Date	On-site Time	Off-site Time	Points Completed	EOS Pro Injected Gallons	BAC-9 Injected Liters	Anoxic Water Injected Gallons	Water Injected Gallons	Total Gallons Injected
Monday	1/19/2015	7:00 AM	5:00 PM	4.0	176	12	199	1,756	2,119
Tuesday	1/20/2015	7:00 AM	5:00 AM	8.0	352	24	363	3,512	4,238
Wednesday	1/21/2015	7:00 AM	2:30 PM	3.0	132	9	140	1,318	1,590
Thursday									
Friday									

<b>Total</b>	15	660	45.0	702.0	6,586	7,947
<b>Design</b>	15	660	45	702	6,587	7,947
<b>Balance</b>	0.0	0	0	0	0	0
<b>Project Average</b>	5.0	219.9	15.0	234.0	2,195.5	2,649.0



Injection Locations Summary

Boring ID:	Start Date	Total Number of Intervals	EOS Pro Injected Gallons	Anoxic Water Injected Gallons	BAC-9 Injected Liters	Water Injected Gallons	Total Gallons Injected
1	1/19/2015	3	44	46.8	3	439	530
3	1/19/2015	3	44	46.8	3	439	530
9	1/19/2015	3	44	46.8	3	439	530
11	1/19/2015	3	44	46.8	3	439	530
8	1/20/2014	3	44	46.8	3	439	530
10	1/20/2014	3	44	46.8	3	439	530
12	1/20/2014	3	44	46.8	3	439	530
14	1/20/2014	3	44	46.8	3	439	530
5	1/20/2015	3	44	46.8	3	439	530
7	1/20/2015	3	44	46.8	3	439	530
13	1/20/2015	3	44	46.8	3	439	530
15	1/20/2015	3	44	46.8	3	439	530
2	1/21/2015	3	44	46.8	3	439	530
4	1/21/2015	3	44	46.8	3	439	530
6	1/21/2015	3	44	46.8	3	439	530

Project Images



**Vironex Injection Rig**



**Vironex Direct Push Rig**



**Water Source**



**700 Gallon Water Trailer For Anoxic Water**



**Testing Anoxic Water For DO**



**Injection Tooling**

Project Images



**Advancing Injection Tooling**



**Simultaneous Injection Locations**



**Site Set Up In Front of Business**



**Remediation Compounds**



**Site Set Up On The Backside of Business**



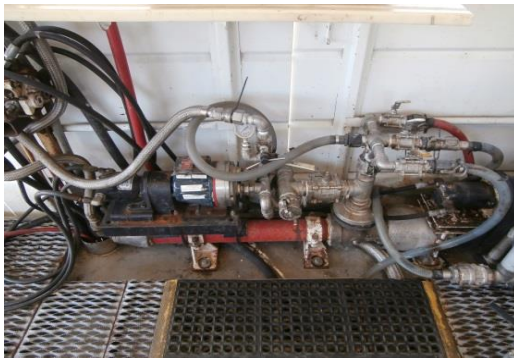
Project Images



**Drum of EOS-Pro With Transfer Pump**



**~138 Gallons of Water, ~14 Gallons of EOS-Pro and 4 Ounces of EOS-Pro Additive Mixed into a Solution**



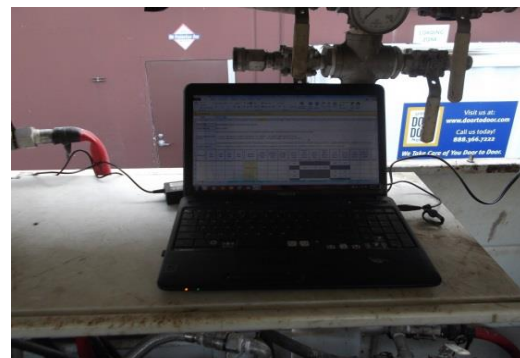
**EOS-Pro Mixed Into a Solution**



**Injection Pump**



**Managing Pressures and Flow Rates**



**Monitoring and Recording of Data**



## Appendix A - Injection Logs

**Project Name:** Env Navigation Services - Paramount, CA - EVO Inj

**Inj Rig Operator:** Alex Jernigan

**Original Injection Scope of work:** Inject EOS Pro Emulsified Vegetable Oil (10:1 ratio) and BAC-9 Dehalococoides Microbial Culture into 15 Direct Push Injection Points.  
 • In Zone 1 approximately 161 gallons EOS Mixture (~14.5 gal EOS + ~147 gal H2O) will be between 17-22 feet  
 • In Zone 2 approximately 323 gallons EOS Mixture (~29 gal EOS + ~293 gal H2O) gallons will be between 27-37 feet  
 Approximately 1 liter of BAC-9 Dehalococoides Microbial Culture will be applied to each 5-foot treatment interval, the BAC-9 culture will be preceded with ~7.8 gallons and followed by ~7.8 gallons of Anoxic water.

**Injection Approach:** Vironex Assumed Injection Approach: Top-Down direct push injection, targeting of 5-foot treatment intervals, 4 simultaneous injection locations, 2-3 gpm injection rate per point

Boring ID	Start Date	Start Time	End Date	End Time	Injection Interval	Initial Pressure (PSI)	Sustained Pressure (PSI)	Average Flow Rate (GPM)	EOS Pro Injected Gallons	Anoxic Water Injected Gallons	BAC-9 Injected Liters	Anoxic Water Injected Gallons	Water Injected Gallons	Total Gallons Injected	Mark (X) For any Day Lighting	Field Notes
1	1/19/2015	10:30 AM	1/19/2015	11:03 AM	17.0 to 22.0	0	10	2.4	7.33				73.2	80.5		
	1/19/2015	11:05 AM	1/19/2015	11:30 AM		0	0	0.6		7.80	1.00	7.80		15.60		
	1/19/2015	11:35 AM	1/19/2015	12:02 PM		0	10	3.0	7.33				73.2	80.50		
	1/19/2015	12:25 PM	1/19/2015	12:50 PM	27.0 to 32.0	0	0	3.2	7.33				73.2	80.5		
	1/19/2015	12:53 PM	1/19/2015	1:06 PM		0	0	1.2		7.80	1.00	7.80		15.6		
	1/19/2015	1:07 PM	1/19/2015	1:30 PM		0	10	3.5	7.33				73.2	80.5		
	1/19/2015	1:48 PM	1/19/2015	2:25 PM	32.0 to 37.0	0	0	2.2	7.33				73.2	80.5		Communicating with MW-6
	1/19/2015	2:36 PM	1/19/2015	2:39 PM		0	0	5.2		7.80	1.00	7.80		15.6		
	1/19/2015	2:40 PM	1/19/2015	2:59 PM		0	0	4.2	7.33				73.2	80.5		Flush with 10 gallons water
Totals									44.0	46.8	3.0		439.1	529.80	3	

3	1/19/2015	10:30 AM	1/19/2015	11:03 AM	17.0 to 22.0	10	15	2.4	7.33				73.2	80.5		
	1/19/2015	11:05 AM	1/19/2015	11:30 AM		0	0	0.6		7.80	1.00	7.80		15.60		
	1/19/2015	11:35 AM	1/19/2015	12:02 PM		10	15	3.0	7.33				73.2	80.50		
	1/19/2015	12:25 PM	1/19/2015	12:50 PM	27.0 to 32.0	10	10	3.2	7.33				73.2	80.5		
	1/19/2015	12:53 PM	1/19/2015	1:06 PM		0	0	1.2		7.80	1.00	7.80		15.6		
	1/19/2015	1:07 PM	1/19/2015	1:30 PM		10	10	3.5	7.33				73.2	80.5		
	1/19/2015	1:48 PM	1/19/2015	2:25 PM	32.0 to 37.0	15	15	2.2	7.33				73.2	80.5		
	1/19/2015	2:36 PM	1/19/2015	2:39 PM		0	0	5.2		7.80	1.00	7.80		15.6		
	1/19/2015	2:40 PM	1/19/2015	2:59 PM		15	15	4.2	7.33				73.2	80.5		Flush with 10 gallons water
Totals									44.0	46.8	3.0		439.1	530	3	

9	1/19/2015	10:30 AM	1/19/2015	11:03 AM	17.0 to 22.0	0	10	2.4	7.33				73.2	80.5		
	1/19/2015	11:05 AM	1/19/2015	11:30 AM		0	0	0.6		7.80	1.00	7.80		15.60		
	1/19/2015	11:35 AM	1/19/2015	12:02 PM		25	25	3.0	7.33				73.2	80.50		
	1/19/2015	12:25 PM	1/19/2015	12:50 PM	27.0 to 32.0	30	30	3.2	7.33				73.2	80.5		
	1/19/2015	12:53 PM	1/19/2015	1:06 PM		0	0	1.2		7.80	1.00	7.80		15.6		
	1/19/2015	1:07 PM	1/19/2015	1:30 PM		35	35	3.5	7.33				73.2	80.5		
	1/19/2015	1:48 PM	1/19/2015	2:25 PM	32.0 to 37.0	40	40	2.2	7.33				73.2	80.5		
	1/19/2015	2:36 PM	1/19/2015	2:39 PM		0	0	5.2		7.80	1.00	7.80		15.6		
	1/19/2015	2:40 PM	1/19/2015	2:59 PM		40	40	4.2	7.33				73.2	80.5		Flush with 10 gallons water
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**Injection Approach:** Vironex Assumed Injection Approach: Top-Down direct push injection, targeting of 5-foot treatment intervals, 4 simultaneous injection locations, 2-3 gpm injection rate per point

Boring ID	Start Date	Start Time	End Date	End Time	Injection Interval	Initial Pressure (PSI)	Sustained Pressure (PSI)	Average Flow Rate (GPM)	EOS Pro Injected Gallons	Anoxic Water Injected Gallons	BAC-9 Injected Liters	Anoxic Water Injected Gallons	Water Injected Gallons	Total Gallons Injected	Mark (X) For any Day Lighting	Field Notes
11	1/19/2015	10:30 AM	1/19/2015	11:03 AM	17.0 to 22.0	0	0	2.4	7.33				73.2	80.5		
	1/19/2015	11:05 AM	1/19/2015	11:30 AM		0	0	0.6		7.80	1.00	7.80		15.60		
	1/19/2015	11:35 AM	1/19/2015	12:02 PM		0	0	3.0	7.33				73.2	80.50		
	1/19/2015	12:25 PM	1/19/2015	12:50 PM	27.0 to 32.0	0	0	3.2	7.33				73.2	80.5		
	1/19/2015	12:53 PM	1/19/2015	1:06 PM		0	0	1.2		7.80	1.00	7.80		15.6		
	1/19/2015	1:07 PM	1/19/2015	1:30 PM		0	0	3.5	7.33				73.2	80.5		
	1/19/2015	1:48 PM	1/19/2015	2:25 PM	32.0 to 37.0	0	0	2.2	7.33				73.2	80.5		
	1/19/2015	2:36 PM	1/19/2015	2:39 PM		0	0	5.2		7.80	1.00	7.80		15.6		
	1/19/2015	2:40 PM	1/19/2015	2:59 PM		0	0	4.2	7.33				73.2	80.5		Flush with 10 gallons water
Totals									44.0	46.8	3.0		439.1	530	3	

8	1/20/2014	8:00 AM	1/20/2015	8:18 AM	17.0 to 22.0	20	20	4.5	7.33				73.2	80.5		
	1/20/2015	8:19 AM	1/20/2015	8:33 AM		0	0	1.1		7.80	1.00	7.80		15.60		
	1/20/2015	8:33 AM	1/20/2015	8:49 AM		20	20	5.0	7.33				73.2	80.50		
	1/20/2015	9:08 AM	1/20/2015	9:37 AM	27.0 to 32.0	60	35	2.8	7.33				73.2	80.5	X	9:16 AM: Day lighting from boring 9. in-between 8 and 10. packed down bentonite with drill rig. 9:24 AM: Resume injection
	1/20/2015	9:38 AM	1/20/2015	9:49 AM		0	0	1.4		7.80	1.00	7.80		15.6		
	1/20/2015	9:50 AM	1/20/2015	10:07 AM		35	35	4.7	7.33				73.2	80.5		
	1/20/2015	10:22 AM	1/20/2015	10:44 AM	32.0 to 37.0	40	40	3.7	7.33				73.2	80.5		
	1/20/2015	10:45 AM	1/20/2015	10:59 AM		0	0	1.1		7.80	1.00	7.80		15.6		
	1/20/2015	10:59 AM	1/20/2015	11:21 AM		35	35	3.7	7.33				73.2	80.5		Flush with 10 gallons water
Totals									44.0	46.8	3.0		439.1	530	3	

10	1/20/2014	8:00 AM	1/20/2015	8:18 AM	17.0 to 22.0	0	0	4.5	7.33				73.2	80.5		
	1/20/2015	8:19 AM	1/20/2015	8:33 AM		0	0	1.1		7.80	1.00	7.80		15.60		
	1/20/2015	8:33 AM	1/20/2015	8:49 AM		0	0	5.0	7.33				73.2	80.50		
	1/20/2015	9:08 AM	1/20/2015	9:37 AM	27.0 to 32.0	0	0	2.8	7.33				73.2	80.5		
	1/20/2015	9:38 AM	1/20/2015	9:49 AM		0	0	1.4		7.80	1.00	7.80		15.6		
	1/20/2015	9:50 AM	1/20/2015	10:07 AM		0	0	4.7	7.33				73.2	80.5		
	1/20/2015	10:22 AM	1/20/2015	10:44 AM	32.0 to 37.0	0	0	3.7	7.33				73.2	80.5		
	1/20/2015	10:45 AM	1/20/2015	10:59 AM		0	0	1.1		7.80	1.00	7.80		15.6		
	1/20/2015	10:59 AM	1/20/2015	11:21 AM		0	0	3.7	7.33				73.2	80.5		Flush with 10 gallons water
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12	1/20/2014	8:00 AM	1/20/2015	8:18 AM	17.0 to 22.0	0	0	4.5	7.33				73.2	80.5		
	1/20/2015	8:19 AM	1/20/2015	8:33 AM		0	0	1.1		7.80	1.00	7.80		15.60		
	1/20/2015	8:33 AM	1/20/2015	8:49 AM		0	0	5.0	7.33				73.2	80.50		
	1/20/2015	9:08 AM	1/20/2015	9:37 AM	27.0 to 32.0	0	0	2.8	7.33				73.2	80.5		
	1/20/2015	9:38 AM	1/20/2015	9:49 AM		0	0	1.4		7.80	1.00	7.80		15.6		
	1/20/2015	9:50 AM	1/20/2015	10:07 AM		0	0	4.7	7.33				73.2	80.5		
	1/20/2015	10:22 AM	1/20/2015	10:44 AM	32.0 to 37.0	0	0	3.7	7.33				73.2	80.5		
	1/20/2015	10:45 AM	1/20/2015	10:59 AM		0	0	1.1		7.80	1.00	7.80		15.6		
	1/20/2015	10:59 AM	1/20/2015	11:21 AM		0	0	3.7	7.33				73.2	80.5		Flush with 10 gallons water
Totals									44.0	46.8	3.0		439.1	530	3	
14	1/20/2014	8:00 AM	1/20/2015	8:18 AM	17.0 to 22.0	0	0	4.5	7.33				73.2	80.5		
	1/20/2015	8:19 AM	1/20/2015	8:33 AM		0	0	1.1		7.80	1.00	7.80		15.60		
	1/20/2015	8:33 AM	1/20/2015	8:49 AM		0	0	5.0	7.33				73.2	80.50		
	1/20/2015	9:08 AM	1/20/2015	9:37 AM	27.0 to 32.0	0	0	2.8	7.33				73.2	80.5		
	1/20/2015	9:38 AM	1/20/2015	9:49 AM		0	0	1.4		7.80	1.00	7.80		15.6		
	1/20/2015	9:50 AM	1/20/2015	10:07 AM		0	0	4.7	7.33				73.2	80.5		
	1/20/2015	10:22 AM	1/20/2015	10:44 AM	32.0 to 37.0	0	0	3.7	7.33				73.2	80.5		
	1/20/2015	10:45 AM	1/20/2015	10:59 AM		0	0	1.1		7.80	1.00	7.80		15.6		
	1/20/2015	10:59 AM	1/20/2015	11:21 AM		0	0	3.7	7.33				73.2	80.5		Flush with 10 gallons water
Totals									44.0	46.8	3.0		439.1	530	3	
5	1/20/2015	12:44 PM	1/20/2015	1:20 PM	17.0 to 22.0	20	20	2.2	7.33				73.2	80.5	X	1:00 PM: Ceased injection due to day lighting from old boring 8. 1:15 PM: Resume injection
	1/20/2015	1:21 PM	1/20/2015	1:36 PM		0	0	1.0		7.80	1.00	7.80		15.60		
	1/20/2015	1:36 PM	1/20/2015	1:58 PM		10	10	3.7	7.33				73.2	80.50		
	1/20/2015	2:16 PM	1/20/2015	2:34 PM	27.0 to 32.0	25	15	4.5	7.33				73.2	80.5		
	1/20/2015	2:36 PM	1/20/2015	2:58 PM		0	0	0.7		7.80	1.00	7.80		15.6		
	1/20/2015	2:58 PM	1/20/2015	3:15 PM		20	20	4.7	7.33				73.2	80.5		
	1/20/2015	3:27 PM	1/20/2015	3:46 PM	32.0 to 37.0	40	25	4.2	7.33				73.2	80.5		
	1/20/2015	3:46 PM	1/20/2015	4:04 PM		0	0	0.9		7.80	1.00	7.80		15.6		
	1/20/2015	4:05 PM	1/20/2015	4:24 PM		25	25	4.2	7.33				73.2	80.5		Flush with 10 gallons water
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**Injection Approach:** Vironex Assumed Injection Approach: Top-Down direct push injection, targeting of 5-foot treatment intervals, 4 simultaneous injection locations, 2-3 gpm injection rate per point

Boring ID	Start Date	Start Time	End Date	End Time	Injection Interval	Initial Pressure (PSI)	Sustained Pressure (PSI)	Average Flow Rate (GPM)	EOS Pro Injected Gallons	Anoxic Water Injected Gallons	BAC-9 Injected Liters	Anoxic Water Injected Gallons	Water Injected Gallons	Total Gallons Injected	Mark (X) For any Day Lighting	Field Notes
7	1/20/2015	12:44 PM	1/20/2015	1:20 PM	17.0 to 22.0	0	0	2.2	7.33				73.2	80.5		
	1/20/2015	1:21 PM	1/20/2015	1:36 PM		0	0	1.0		7.80	1.00	7.80		15.60		
	1/20/2015	1:36 PM	1/20/2015	1:58 PM		0	0	3.7	7.33				73.2	80.50		
	1/20/2015	2:16 PM	1/20/2015	2:34 PM	27.0 to 32.0	0	0	4.5	7.33				73.2	80.5		
	1/20/2015	2:36 PM	1/20/2015	2:58 PM		0	0	0.7		7.80	1.00	7.80		15.6		
	1/20/2015	2:58 PM	1/20/2015	3:15 PM		0	0	4.7	7.33				73.2	80.5		
	1/20/2015	3:27 PM	1/20/2015	3:46 PM	32.0 to 37.0	0	0	4.2	7.33				73.2	80.5		
	1/20/2015	3:46 PM	1/20/2015	4:04 PM		0	0	0.9		7.80	1.00	7.80		15.6		
	1/20/2015	4:05 PM	1/20/2015	4:24 PM		0	0	4.2	7.33				73.2	80.5		Flush with 10 gallons water
Totals									44.0	46.8	3.0		439.1	530	3	

13	1/20/2015	12:44 PM	1/20/2015	1:20 PM	17.0 to 22.0	0	0	2.2	7.33				73.2	80.5		
	1/20/2015	1:21 PM	1/20/2015	1:36 PM		0	0	1.0		7.80	1.00	7.80		15.60		
	1/20/2015	1:36 PM	1/20/2015	1:58 PM		0	0	3.7	7.33				73.2	80.50		
	1/20/2015	2:16 PM	1/20/2015	2:34 PM	27.0 to 32.0	0	0	4.5	7.33				73.2	80.5		
	1/20/2015	2:36 PM	1/20/2015	2:58 PM		0	0	0.7		7.80	1.00	7.80		15.6		
	1/20/2015	2:58 PM	1/20/2015	3:15 PM		0	0	4.7	7.33				73.2	80.5		
	1/20/2015	3:27 PM	1/20/2015	3:46 PM	32.0 to 37.0	0	0	4.2	7.33				73.2	80.5		
	1/20/2015	3:46 PM	1/20/2015	4:04 PM		0	0	0.9		7.80	1.00	7.80		15.6		
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15	1/20/2015	12:44 PM	1/20/2015	1:20 PM	17.0 to 22.0	0	0	2.2	7.33				73.2	80.5		
	1/20/2015	1:21 PM	1/20/2015	1:36 PM		0	0	1.0		7.80	1.00	7.80		15.60		
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	1/20/2015	2:36 PM	1/20/2015	2:58 PM		0	0	0.7		7.80	1.00	7.80		15.6		
	1/20/2015	2:58 PM	1/20/2015	3:15 PM		0	0	4.7	7.33				73.2	80.5		
	1/20/2015	3:27 PM	1/20/2015	3:46 PM	32.0 to 37.0	0	0	4.2	7.33				73.2	80.5		
	1/20/2015	3:46 PM	1/20/2015	4:04 PM		0	0	0.9		7.80	1.00	7.80		15.6		
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2	1/21/2015	8:46 AM	1/21/2015	9:05 AM	17.0 to 22.0	0	0	4.2	7.33				73.2	80.5		Flushed with 15 gallons of water to flush lines and system.
	1/21/2015	9:05 AM	1/21/2015	9:35 AM		0	0	0.5		7.80	1.00	7.80		15.60		
	1/21/2015	9:52 AM	1/21/2015	10:05 AM		0	0	6.2	7.33				73.2	80.50		
	1/21/2015	10:25 AM	1/21/2015	10:42 AM	27.0 to 32.0	0	0	4.7	7.33				73.2	80.5		
	1/21/2015	10:45 AM	1/21/2015	11:01 AM		0	0	1.0		7.80	1.00	7.80		15.6		
	1/21/2015	11:01 AM	1/21/2015	11:26 AM		0	0	3.2	7.33				73.2	80.5		
	1/21/2015	11:33 AM	1/21/2015	11:54 AM	32.0 to 37.0	0	0	3.8	7.33				73.2	80.5		
	1/21/2015	11:55 AM	1/21/2015	12:16 PM		0	0	0.7		7.80	1.00	7.80		15.6		
	1/21/2015	12:16 PM	1/21/2015	12:40 PM		0	0	3.4	7.33				73.2	80.5		
Totals									44.0	46.8	3.0		439.1	530	3	

4	1/21/2015	8:46 AM	1/21/2015	9:05 AM	17.0 to 22.0	0	0	4.2	7.33				73.2	80.5		Flushed with 15 gallons of water to flush lines and system.
	1/21/2015	9:05 AM	1/21/2015	9:35 AM		0	0	0.5		7.80	1.00	7.80		15.60		
	1/21/2015	9:52 AM	1/21/2015	10:05 AM		0	0	6.2	7.33				73.2	80.50		
	1/21/2015	10:25 AM	1/21/2015	10:42 AM	27.0 to 32.0	0	0	4.7	7.33				73.2	80.5		
	1/21/2015	10:45 AM	1/21/2015	11:01 AM		0	0	1.0		7.80	1.00	7.80		15.6		
	1/21/2015	11:01 AM	1/21/2015	11:26 AM		0	0	3.2	7.33				73.2	80.5		
	1/21/2015	11:33 AM	1/21/2015	11:54 AM	32.0 to 37.0	0	0	3.8	7.33				73.2	80.5		
	1/21/2015	11:55 AM	1/21/2015	12:16 PM		0	0	0.7		7.80	1.00	7.80		15.6		
	1/21/2015	12:16 PM	1/21/2015	12:40 PM		0	0	3.4	7.33				73.2	80.5		
Totals									44.0	46.8	3.0		439.1	530	3	

6	1/21/2015	8:46 AM	1/21/2015	9:05 AM	17.0 to 22.0	0	0	4.2	7.33				73.2	80.5		Flushed with 15 gallons of water to flush lines and system.
	1/21/2015	9:05 AM	1/21/2015	9:35 AM		0	0	0.5		7.80	1.00	7.80		15.60		
	1/21/2015	9:52 AM	1/21/2015	10:05 AM		0	0	6.2	7.33				73.2	80.50		
	1/21/2015	10:25 AM	1/21/2015	10:42 AM	27.0 to 32.0	0	0	4.7	7.33				73.2	80.5		
	1/21/2015	10:45 AM	1/21/2015	11:01 AM		0	0	1.0		7.80	1.00	7.80		15.6		
	1/21/2015	11:01 AM	1/21/2015	11:26 AM		0	0	3.2	7.33				73.2	80.5		
	1/21/2015	11:33 AM	1/21/2015	11:54 AM	32.0 to 37.0	0	0	3.8	7.33				73.2	80.5		
	1/21/2015	11:55 AM	1/21/2015	12:16 PM		0	0	0.7		7.80	1.00	7.80		15.6		
	1/21/2015	12:16 PM	1/21/2015	12:40 PM		0	0	3.4	7.33				73.2	80.5		
Totals									44.0	46.8	3.0		439.1	530	3	

Date: JAN 12, 2015

Location: PARAMOUNT Run 2A (FORMER DRY CLEANER)

Well ID	Time	DTW	Sample ID	bolts	tabs	seal	vault	lock	dry?	General Notes
MW-1	8:43	25.84	MW-1-GW-011215	1	2	old	OK	y	N	one bolt, stripped in place top.
	1:13	25.82								✓ needs cap (broken seal) ⇒ <u>INDEXED</u> / OPEN.
MW-2	11:25	26.32	MW-2-GW-011315	0	25	NO	OK	y	wet	- Dried out vault (full)
	11:13									
MW-3	9:57	26.19	MW-3-GW-011315	2	2	old	OK	N	y	Lock won't fit in cog
MW-4	1:15	26.98	MW-4-GW-011315	2	STR	old	OK	y	y	old well, bolts don't hold, ~2" in asphalt
MW-6	12:20	26.02	MW-6-GW-011315	2	2	new	OK	y	wet	new. VGC
MW-7	2:15	26.00	MW-7-GW-011315	2	2	new	OK	y	wet	new. VGC
MW-8	3:21	26.33	MW-8-GW-011315	2	2	new	OK	y	wet	new. VGC.
<u>WELL</u>	<u>ID'S</u>	<u>(MEASURED THIS QUARTER)</u>	<u>(ft)</u>							
1	38.3		<u>WATER COLUMN =</u>	12.5						
2	39.0			12.7						
3	28.3			2.1						
4	28.9			2.9						
6	44.6			18.6						
7	44.3			18.3						
8	new (24" to 45)			~18						
NOTE: ALL SAMPLED WITH PASSIVE DIFFUSION SAMPLERS.										

MW-#-GW-mo/day/yr

DTW = Depth to Water







Date: April 13, 2015

Location: PARAMOUNT PLAZA

Well ID	Time	DTW	Sample ID	bolts	tabs	seal	vault	lock	dry?	General Notes
MW-1	10:45	26.23	MW-1-GW-041315	2	OK	OLD	OK	y	wet	-emptied vault.
MW-2	10:00	26.79	MW-2-GW-041315	2	strapped	OLD	OK	y	y	soy odor in well. IN TREATMENT ZONE
MW-3	9:25	26.61	MW-3-GW-041315	2	loose head	OLD	OK	N	yes	9:35 SAMPLE TIME
MW-4	11:44	<del>28.70</del> 25.50	MW-4-GW-041315	2	4	STRAP	OK	y	y	SEE NOTES FOR W.L.
MW-6	11:15	26.49	MW-6-GW-041315	2	OK	OK	OK	N	NO	IN TREATMENT ZONE
MW-7	7:45	26.58	MW-7-GW-041315	2	2	good	good	y	moist	9:55 SAMPLE TIME. END @ 8:45 (FILTER)
MW-8	12:55	26.85	MW-8-GW-041315	2	2	good	good	y	moist	
			MW-4 NOTES							
			TDC @ 28.70							
			WL BELOW TOP OF PASSIVE SAMPLER							
			PULLED SAMPLER, WL SHOW TO RECOVER							
			11:44 BUSY SAMPLER							
			11:50 DTW = 25.58							
			11:54 DTW = 25.53							
			12:00 DTW = 25.51							
			EST DTW = 25.50 (PDB WAS SUBMERGED)							

\* No MW-5

MW#-GW-mo/day/yr

**APPENDIX E:  
ANALYTICAL REPORTS**



26 January 2015

Jay Jones  
Environmental Navigation Services, Inc.  
P.O. Box 231026  
Encinitas, CA 92024  
RE:Paramount Plaza  
Work Order No.: 1501165

Attached are the results of the analyses for samples received by the laboratory on 01/13/15 17:45.

The samples were received by Sierra Analytical Labs, Inc. with a chain of custody record attached or completed at the submittal of the samples.

The analyses were performed according to the prescribed method as outlined by EPA, Standard Methods, and A.S.T.M.

The remaining portions of the samples will be disposed of within 30 days from the date of this report.  
If you require any additional retaining time, please advise us.

Sincerely,

A handwritten signature in black ink that reads "Richard K. Forsyth". The signature is written in a cursive style and is positioned above a solid horizontal line.

Richard K. Forsyth

Laboratory Director

Sierra Analytical Labs, Inc. is certified by the California Department of Health Services (DOHS),  
Environmental Laboratory Accreditation Program (ELAP) No. 2320.



Environmental Navigation Services, Inc.  
P.O. Box 231026  
Encinitas CA, 92024

Project: Paramount Plaza  
Project Number: [none]  
Project Manager: Jay Jones

**Reported:**  
01/26/15 09:25

**ANALYTICAL REPORT FOR SAMPLES**

Sample ID	Laboratory ID	Matrix	Date Sampled	Date Received
MW-1-GW-011215	1501165-01	Liquid	01/12/15 08:43	01/13/15 17:45
MW-2-GW-011315	1501165-02	Liquid	01/13/15 11:25	01/13/15 17:45
MW-3-GW-011315	1501165-03	Liquid	01/13/15 09:57	01/13/15 17:45
MW-4-GW-011315	1501165-04	Liquid	01/13/15 13:15	01/13/15 17:45
MW-6-GW-011315	1501165-05	Liquid	01/13/15 12:20	01/13/15 17:45
MW-7-GW-011315	1501165-06	Liquid	01/13/15 14:15	01/13/15 17:45
MW-8-GW-011315	1501165-07	Liquid	01/13/15 15:21	01/13/15 17:45

*The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.*



Environmental Navigation Services, Inc.  
 P.O. Box 231026  
 Encinitas CA, 92024

Project: Paramount Plaza  
 Project Number: [none]  
 Project Manager: Jay Jones

Reported:  
 01/26/15 09:25

**Volatile Organic Compounds by EPA Method 8260B**  
**Sierra Analytical Labs, Inc.**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
<b>MW-1-GW-011215 (1501165-01) Liquid    Sampled: 01/12/15 08:43    Received: 01/13/15 17:45</b>									
Benzene	ND	1.0	µg/L	1	B5A1934	01/18/15	01/19/15 12:02	EPA 8260B	
Bromobenzene	ND	1.0	"	"	"	"	"	"	
Bromochloromethane	ND	1.0	"	"	"	"	"	"	
Bromodichloromethane	ND	1.0	"	"	"	"	"	"	
Bromoform	ND	1.0	"	"	"	"	"	"	
Bromomethane	ND	1.0	"	"	"	"	"	"	
n-Butylbenzene	ND	1.0	"	"	"	"	"	"	
sec-Butylbenzene	ND	1.0	"	"	"	"	"	"	
tert-Butylbenzene	ND	1.0	"	"	"	"	"	"	
Carbon tetrachloride	ND	1.0	"	"	"	"	"	"	
Chlorobenzene	ND	1.0	"	"	"	"	"	"	
Chloroethane	ND	1.0	"	"	"	"	"	"	
Chloroform	ND	1.0	"	"	"	"	"	"	
Chloromethane	ND	1.0	"	"	"	"	"	"	
2-Chlorotoluene	ND	1.0	"	"	"	"	"	"	
4-Chlorotoluene	ND	1.0	"	"	"	"	"	"	
Dibromochloromethane	ND	1.0	"	"	"	"	"	"	
1,2-Dibromo-3-chloropropane	ND	5.0	"	"	"	"	"	"	
1,2-Dibromoethane (EDB)	ND	1.0	"	"	"	"	"	"	
Dibromomethane	ND	1.0	"	"	"	"	"	"	
1,2-Dichlorobenzene	ND	1.0	"	"	"	"	"	"	
1,3-Dichlorobenzene	ND	1.0	"	"	"	"	"	"	
1,4-Dichlorobenzene	ND	1.0	"	"	"	"	"	"	
Dichlorodifluoromethane	ND	1.0	"	"	"	"	"	"	
1,1-Dichloroethane	ND	1.0	"	"	"	"	"	"	
1,2-Dichloroethane	ND	1.0	"	"	"	"	"	"	
1,1-Dichloroethene	ND	1.0	"	"	"	"	"	"	
cis-1,2-Dichloroethene	ND	1.0	"	"	"	"	"	"	
trans-1,2-Dichloroethene	ND	1.0	"	"	"	"	"	"	
1,2-Dichloropropane	ND	1.0	"	"	"	"	"	"	
1,3-Dichloropropane	ND	1.0	"	"	"	"	"	"	
2,2-Dichloropropane	ND	1.0	"	"	"	"	"	"	
1,1-Dichloropropene	ND	1.0	"	"	"	"	"	"	
cis-1,3-Dichloropropene	ND	1.0	"	"	"	"	"	"	
trans-1,3-Dichloropropene	ND	1.0	"	"	"	"	"	"	
Ethylbenzene	ND	1.0	"	"	"	"	"	"	
Hexachlorobutadiene	ND	1.0	"	"	"	"	"	"	
Isopropylbenzene	ND	1.0	"	"	"	"	"	"	
p-Isopropyltoluene	ND	1.0	"	"	"	"	"	"	
Methylene chloride	ND	1.0	"	"	"	"	"	"	
Methyl tert-butyl ether	ND	1.0	"	"	"	"	"	"	

*The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.*



Environmental Navigation Services, Inc.  
 P.O. Box 231026  
 Encinitas CA, 92024

Project: Paramount Plaza  
 Project Number: [none]  
 Project Manager: Jay Jones

Reported:  
 01/26/15 09:25

**Volatile Organic Compounds by EPA Method 8260B**

**Sierra Analytical Labs, Inc.**

Analyte	Result	Reporting		Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit								
<b>MW-1-GW-011215 (1501165-01) Liquid Sampled: 01/12/15 08:43 Received: 01/13/15 17:45</b>										
Naphthalene	ND	1.0		µg/L	1	B5A1934	01/18/15	01/19/15 12:02	EPA 8260B	
n-Propylbenzene	ND	1.0		"	"	"	"	"	"	"
Styrene	ND	1.0		"	"	"	"	"	"	"
1,1,1,2-Tetrachloroethane	ND	1.0		"	"	"	"	"	"	"
1,1,2,2-Tetrachloroethane	ND	1.0		"	"	"	"	"	"	"
Tetrachloroethene	ND	1.0		"	"	"	"	"	"	"
Toluene	ND	1.0		"	"	"	"	"	"	"
1,2,3-Trichlorobenzene	ND	1.0		"	"	"	"	"	"	"
1,2,4-Trichlorobenzene	ND	1.0		"	"	"	"	"	"	"
1,1,1-Trichloroethane	ND	1.0		"	"	"	"	"	"	"
1,1,2-Trichloroethane	ND	1.0		"	"	"	"	"	"	"
Trichloroethene	ND	1.0		"	"	"	"	"	"	"
Trichlorofluoromethane	ND	1.0		"	"	"	"	"	"	"
1,2,3-Trichloropropane	ND	1.0		"	"	"	"	"	"	"
1,2,4-Trimethylbenzene	ND	1.0		"	"	"	"	"	"	"
1,3,5-Trimethylbenzene	ND	1.0		"	"	"	"	"	"	"
Vinyl chloride	ND	1.0		"	"	"	"	"	"	"
m,p-Xylene	ND	1.0		"	"	"	"	"	"	"
o-Xylene	ND	1.0		"	"	"	"	"	"	"
Surrogate: Dibromofluoromethane		114 %		86-118		"	"	"	"	"
Surrogate: Toluene-d8		97.6 %		88-110		"	"	"	"	"
Surrogate: 4-Bromofluorobenzene		102 %		86-115		"	"	"	"	"

<b>MW-2-GW-011315 (1501165-02) Liquid Sampled: 01/13/15 11:25 Received: 01/13/15 17:45</b>										
Benzene	ND	1.0		µg/L	1	B5A1934	01/18/15	01/19/15 12:02	EPA 8260B	
Bromobenzene	ND	1.0		"	"	"	"	"	"	"
Bromochloromethane	ND	1.0		"	"	"	"	"	"	"
Bromodichloromethane	ND	1.0		"	"	"	"	"	"	"
Bromoform	ND	1.0		"	"	"	"	"	"	"
Bromomethane	ND	1.0		"	"	"	"	"	"	"
n-Butylbenzene	ND	1.0		"	"	"	"	"	"	"
sec-Butylbenzene	ND	1.0		"	"	"	"	"	"	"
tert-Butylbenzene	ND	1.0		"	"	"	"	"	"	"
Carbon tetrachloride	ND	1.0		"	"	"	"	"	"	"
Chlorobenzene	ND	1.0		"	"	"	"	"	"	"
Chloroethane	ND	1.0		"	"	"	"	"	"	"
Chloroform	ND	1.0		"	"	"	"	"	"	"
Chloromethane	ND	1.0		"	"	"	"	"	"	"
2-Chlorotoluene	ND	1.0		"	"	"	"	"	"	"
4-Chlorotoluene	ND	1.0		"	"	"	"	"	"	"
Dibromochloromethane	ND	1.0		"	"	"	"	"	"	"

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Environmental Navigation Services, Inc.  
 P.O. Box 231026  
 Encinitas CA, 92024

Project: Paramount Plaza  
 Project Number: [none]  
 Project Manager: Jay Jones

Reported:  
 01/26/15 09:25

**Volatile Organic Compounds by EPA Method 8260B**

**Sierra Analytical Labs, Inc.**

Analyte	Result	Reporting		Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit								
<b>MW-2-GW-011315 (1501165-02) Liquid Sampled: 01/13/15 11:25 Received: 01/13/15 17:45</b>										
1,2-Dibromo-3-chloropropane	ND	5.0		µg/L	1	B5A1934	01/18/15	01/19/15 12:02	EPA 8260B	
1,2-Dibromoethane (EDB)	ND	1.0		"	"	"	"	"	"	"
Dibromomethane	ND	1.0		"	"	"	"	"	"	"
1,2-Dichlorobenzene	ND	1.0		"	"	"	"	"	"	"
1,3-Dichlorobenzene	ND	1.0		"	"	"	"	"	"	"
1,4-Dichlorobenzene	ND	1.0		"	"	"	"	"	"	"
Dichlorodifluoromethane	ND	1.0		"	"	"	"	"	"	"
1,1-Dichloroethane	ND	1.0		"	"	"	"	"	"	"
1,2-Dichloroethane	ND	1.0		"	"	"	"	"	"	"
1,1-Dichloroethene	ND	1.0		"	"	"	"	"	"	"
<b>cis-1,2-Dichloroethene</b>	<b>6.3</b>	1.0		"	"	"	"	"	"	"
<b>trans-1,2-Dichloroethene</b>	<b>1.5</b>	1.0		"	"	"	"	"	"	"
1,2-Dichloropropane	ND	1.0		"	"	"	"	"	"	"
1,3-Dichloropropane	ND	1.0		"	"	"	"	"	"	"
2,2-Dichloropropane	ND	1.0		"	"	"	"	"	"	"
1,1-Dichloropropene	ND	1.0		"	"	"	"	"	"	"
cis-1,3-Dichloropropene	ND	1.0		"	"	"	"	"	"	"
trans-1,3-Dichloropropene	ND	1.0		"	"	"	"	"	"	"
Ethylbenzene	ND	1.0		"	"	"	"	"	"	"
Hexachlorobutadiene	ND	1.0		"	"	"	"	"	"	"
Isopropylbenzene	ND	1.0		"	"	"	"	"	"	"
p-Isopropyltoluene	ND	1.0		"	"	"	"	"	"	"
Methylene chloride	ND	1.0		"	"	"	"	"	"	"
Methyl tert-butyl ether	ND	1.0		"	"	"	"	"	"	"
Naphthalene	ND	1.0		"	"	"	"	"	"	"
n-Propylbenzene	ND	1.0		"	"	"	"	"	"	"
Styrene	ND	1.0		"	"	"	"	"	"	"
1,1,1,2-Tetrachloroethane	ND	1.0		"	"	"	"	"	"	"
1,1,2,2-Tetrachloroethane	ND	1.0		"	"	"	"	"	"	"
<b>Tetrachloroethene</b>	<b>69</b>	1.0		"	"	"	"	"	"	"
Toluene	ND	1.0		"	"	"	"	"	"	"
1,2,3-Trichlorobenzene	ND	1.0		"	"	"	"	"	"	"
1,2,4-Trichlorobenzene	ND	1.0		"	"	"	"	"	"	"
1,1,1-Trichloroethane	ND	1.0		"	"	"	"	"	"	"
1,1,2-Trichloroethane	ND	1.0		"	"	"	"	"	"	"
<b>Trichloroethene</b>	<b>280</b>	1.0		"	"	"	"	"	"	"
Trichlorofluoromethane	ND	1.0		"	"	"	"	"	"	"
1,2,3-Trichloropropane	ND	1.0		"	"	"	"	"	"	"
1,2,4-Trimethylbenzene	ND	1.0		"	"	"	"	"	"	"
1,3,5-Trimethylbenzene	ND	1.0		"	"	"	"	"	"	"
Vinyl chloride	ND	1.0		"	"	"	"	"	"	"

The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.



Environmental Navigation Services, Inc.  
P.O. Box 231026  
Encinitas CA, 92024

Project: Paramount Plaza  
Project Number: [none]  
Project Manager: Jay Jones

Reported:  
01/26/15 09:25

**Volatile Organic Compounds by EPA Method 8260B**

**Sierra Analytical Labs, Inc.**

Analyte	Result	Reporting		Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit								
<b>MW-2-GW-011315 (1501165-02) Liquid Sampled: 01/13/15 11:25 Received: 01/13/15 17:45</b>										
m,p-Xylene	ND	1.0		µg/L	1	B5A1934	01/18/15	01/19/15 12:02	EPA 8260B	
o-Xylene	ND	1.0		"	"	"	"	"	"	"
<i>Surrogate: Dibromofluoromethane</i>		106 %		86-118		"	"	"	"	"
<i>Surrogate: Toluene-d8</i>		96.0 %		88-110		"	"	"	"	"
<i>Surrogate: 4-Bromofluorobenzene</i>		102 %		86-115		"	"	"	"	"
<b>MW-3-GW-011315 (1501165-03) Liquid Sampled: 01/13/15 09:57 Received: 01/13/15 17:45</b>										
Benzene	ND	1.0		µg/L	1	B5A1934	01/18/15	01/19/15 12:02	EPA 8260B	
Bromobenzene	ND	1.0		"	"	"	"	"	"	"
Bromochloromethane	ND	1.0		"	"	"	"	"	"	"
Bromodichloromethane	ND	1.0		"	"	"	"	"	"	"
Bromoform	ND	1.0		"	"	"	"	"	"	"
Bromomethane	ND	1.0		"	"	"	"	"	"	"
n-Butylbenzene	ND	1.0		"	"	"	"	"	"	"
sec-Butylbenzene	ND	1.0		"	"	"	"	"	"	"
tert-Butylbenzene	ND	1.0		"	"	"	"	"	"	"
Carbon tetrachloride	ND	1.0		"	"	"	"	"	"	"
Chlorobenzene	ND	1.0		"	"	"	"	"	"	"
Chloroethane	ND	1.0		"	"	"	"	"	"	"
Chloroform	ND	1.0		"	"	"	"	"	"	"
Chloromethane	ND	1.0		"	"	"	"	"	"	"
2-Chlorotoluene	ND	1.0		"	"	"	"	"	"	"
4-Chlorotoluene	ND	1.0		"	"	"	"	"	"	"
Dibromochloromethane	ND	1.0		"	"	"	"	"	"	"
1,2-Dibromo-3-chloropropane	ND	5.0		"	"	"	"	"	"	"
1,2-Dibromoethane (EDB)	ND	1.0		"	"	"	"	"	"	"
Dibromomethane	ND	1.0		"	"	"	"	"	"	"
1,2-Dichlorobenzene	ND	1.0		"	"	"	"	"	"	"
1,3-Dichlorobenzene	ND	1.0		"	"	"	"	"	"	"
1,4-Dichlorobenzene	ND	1.0		"	"	"	"	"	"	"
Dichlorodifluoromethane	ND	1.0		"	"	"	"	"	"	"
1,1-Dichloroethane	ND	1.0		"	"	"	"	"	"	"
1,2-Dichloroethane	ND	1.0		"	"	"	"	"	"	"
1,1-Dichloroethene	ND	1.0		"	"	"	"	"	"	"
<b>cis-1,2-Dichloroethene</b>	<b>2.8</b>	1.0		"	"	"	"	"	"	"
trans-1,2-Dichloroethene	ND	1.0		"	"	"	"	"	"	"
1,2-Dichloropropane	ND	1.0		"	"	"	"	"	"	"
1,3-Dichloropropane	ND	1.0		"	"	"	"	"	"	"
2,2-Dichloropropane	ND	1.0		"	"	"	"	"	"	"
1,1-Dichloropropene	ND	1.0		"	"	"	"	"	"	"
cis-1,3-Dichloropropene	ND	1.0		"	"	"	"	"	"	"

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Environmental Navigation Services, Inc.  
 P.O. Box 231026  
 Encinitas CA, 92024

Project: Paramount Plaza  
 Project Number: [none]  
 Project Manager: Jay Jones

Reported:  
 01/26/15 09:25

**Volatile Organic Compounds by EPA Method 8260B**

**Sierra Analytical Labs, Inc.**

Analyte	Result	Reporting		Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit								
<b>MW-3-GW-011315 (1501165-03) Liquid Sampled: 01/13/15 09:57 Received: 01/13/15 17:45</b>										
trans-1,3-Dichloropropene	ND	1.0		µg/L	1	B5A1934	01/18/15	01/19/15 12:02	EPA 8260B	
Ethylbenzene	ND	1.0		"	"	"	"	"	"	"
Hexachlorobutadiene	ND	1.0		"	"	"	"	"	"	"
Isopropylbenzene	ND	1.0		"	"	"	"	"	"	"
p-Isopropyltoluene	ND	1.0		"	"	"	"	"	"	"
Methylene chloride	ND	1.0		"	"	"	"	"	"	"
Methyl tert-butyl ether	ND	1.0		"	"	"	"	"	"	"
Naphthalene	ND	1.0		"	"	"	"	"	"	"
n-Propylbenzene	ND	1.0		"	"	"	"	"	"	"
Styrene	ND	1.0		"	"	"	"	"	"	"
1,1,1,2-Tetrachloroethane	ND	1.0		"	"	"	"	"	"	"
1,1,2,2-Tetrachloroethane	ND	1.0		"	"	"	"	"	"	"
<b>Tetrachloroethene</b>	<b>1.3</b>	1.0		"	"	"	"	"	"	"
Toluene	ND	1.0		"	"	"	"	"	"	"
1,2,3-Trichlorobenzene	ND	1.0		"	"	"	"	"	"	"
1,2,4-Trichlorobenzene	ND	1.0		"	"	"	"	"	"	"
1,1,1-Trichloroethane	ND	1.0		"	"	"	"	"	"	"
1,1,2-Trichloroethane	ND	1.0		"	"	"	"	"	"	"
<b>Trichloroethene</b>	<b>1.9</b>	1.0		"	"	"	"	"	"	"
Trichlorofluoromethane	ND	1.0		"	"	"	"	"	"	"
1,2,3-Trichloropropane	ND	1.0		"	"	"	"	"	"	"
1,2,4-Trimethylbenzene	ND	1.0		"	"	"	"	"	"	"
1,3,5-Trimethylbenzene	ND	1.0		"	"	"	"	"	"	"
Vinyl chloride	ND	1.0		"	"	"	"	"	"	"
m,p-Xylene	ND	1.0		"	"	"	"	"	"	"
o-Xylene	ND	1.0		"	"	"	"	"	"	"
<i>Surrogate: Dibromofluoromethane</i>		117 %		86-118		"	"	"	"	"
<i>Surrogate: Toluene-d8</i>		93.8 %		88-110		"	"	"	"	"
<i>Surrogate: 4-Bromofluorobenzene</i>		98.8 %		86-115		"	"	"	"	"

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Environmental Navigation Services, Inc.  
P.O. Box 231026  
Encinitas CA, 92024

Project: Paramount Plaza  
Project Number: [none]  
Project Manager: Jay Jones

Reported:  
01/26/15 09:25

**Volatile Organic Compounds by EPA Method 8260B**

**Sierra Analytical Labs, Inc.**

Analyte	Result	Reporting		Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit								
<b>MW-4-GW-011315 (1501165-04) Liquid Sampled: 01/13/15 13:15 Received: 01/13/15 17:45</b>										
Benzene	ND	1.0		µg/L	1	B5A1934	01/18/15	01/19/15 12:02	EPA 8260B	
Bromobenzene	ND	1.0		"	"	"	"	"	"	"
Bromochloromethane	ND	1.0		"	"	"	"	"	"	"
Bromodichloromethane	ND	1.0		"	"	"	"	"	"	"
Bromoform	ND	1.0		"	"	"	"	"	"	"
Bromomethane	ND	1.0		"	"	"	"	"	"	"
n-Butylbenzene	ND	1.0		"	"	"	"	"	"	"
sec-Butylbenzene	ND	1.0		"	"	"	"	"	"	"
tert-Butylbenzene	ND	1.0		"	"	"	"	"	"	"
Carbon tetrachloride	ND	1.0		"	"	"	"	"	"	"
Chlorobenzene	ND	1.0		"	"	"	"	"	"	"
Chloroethane	ND	1.0		"	"	"	"	"	"	"
Chloroform	ND	1.0		"	"	"	"	"	"	"
Chloromethane	ND	1.0		"	"	"	"	"	"	"
2-Chlorotoluene	ND	1.0		"	"	"	"	"	"	"
4-Chlorotoluene	ND	1.0		"	"	"	"	"	"	"
Dibromochloromethane	ND	1.0		"	"	"	"	"	"	"
1,2-Dibromo-3-chloropropane	ND	5.0		"	"	"	"	"	"	"
1,2-Dibromoethane (EDB)	ND	1.0		"	"	"	"	"	"	"
Dibromomethane	ND	1.0		"	"	"	"	"	"	"
1,2-Dichlorobenzene	ND	1.0		"	"	"	"	"	"	"
1,3-Dichlorobenzene	ND	1.0		"	"	"	"	"	"	"
1,4-Dichlorobenzene	ND	1.0		"	"	"	"	"	"	"
Dichlorodifluoromethane	ND	1.0		"	"	"	"	"	"	"
1,1-Dichloroethane	ND	1.0		"	"	"	"	"	"	"
1,2-Dichloroethane	ND	1.0		"	"	"	"	"	"	"
1,1-Dichloroethene	ND	1.0		"	"	"	"	"	"	"
<b>cis-1,2-Dichloroethene</b>	<b>3.3</b>	1.0		"	"	"	"	"	"	"
trans-1,2-Dichloroethene	ND	1.0		"	"	"	"	"	"	"
1,2-Dichloropropane	ND	1.0		"	"	"	"	"	"	"
1,3-Dichloropropane	ND	1.0		"	"	"	"	"	"	"
2,2-Dichloropropane	ND	1.0		"	"	"	"	"	"	"
1,1-Dichloropropene	ND	1.0		"	"	"	"	"	"	"
cis-1,3-Dichloropropene	ND	1.0		"	"	"	"	"	"	"
trans-1,3-Dichloropropene	ND	1.0		"	"	"	"	"	"	"
Ethylbenzene	ND	1.0		"	"	"	"	"	"	"
Hexachlorobutadiene	ND	1.0		"	"	"	"	"	"	"
Isopropylbenzene	ND	1.0		"	"	"	"	"	"	"
p-Isopropyltoluene	ND	1.0		"	"	"	"	"	"	"
Methylene chloride	ND	1.0		"	"	"	"	"	"	"
Methyl tert-butyl ether	ND	1.0		"	"	"	"	"	"	"

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Environmental Navigation Services, Inc.  
 P.O. Box 231026  
 Encinitas CA, 92024

Project: Paramount Plaza  
 Project Number: [none]  
 Project Manager: Jay Jones

Reported:  
 01/26/15 09:25

**Volatile Organic Compounds by EPA Method 8260B**

**Sierra Analytical Labs, Inc.**

Analyte	Result	Reporting		Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit								
<b>MW-4-GW-011315 (1501165-04) Liquid Sampled: 01/13/15 13:15 Received: 01/13/15 17:45</b>										
Naphthalene	ND	1.0		µg/L	1	B5A1934	01/18/15	01/19/15 12:02	EPA 8260B	
n-Propylbenzene	ND	1.0		"	"	"	"	"	"	"
Styrene	ND	1.0		"	"	"	"	"	"	"
1,1,1,2-Tetrachloroethane	ND	1.0		"	"	"	"	"	"	"
1,1,2,2-Tetrachloroethane	ND	1.0		"	"	"	"	"	"	"
<b>Tetrachloroethene</b>	<b>44</b>	1.0		"	"	"	"	"	"	"
Toluene	ND	1.0		"	"	"	"	"	"	"
1,2,3-Trichlorobenzene	ND	1.0		"	"	"	"	"	"	"
1,2,4-Trichlorobenzene	ND	1.0		"	"	"	"	"	"	"
1,1,1-Trichloroethane	ND	1.0		"	"	"	"	"	"	"
1,1,2-Trichloroethane	ND	1.0		"	"	"	"	"	"	"
<b>Trichloroethene</b>	<b>100</b>	1.0		"	"	"	"	"	"	"
Trichlorofluoromethane	ND	1.0		"	"	"	"	"	"	"
1,2,3-Trichloropropane	ND	1.0		"	"	"	"	"	"	"
1,2,4-Trimethylbenzene	ND	1.0		"	"	"	"	"	"	"
1,3,5-Trimethylbenzene	ND	1.0		"	"	"	"	"	"	"
Vinyl chloride	ND	1.0		"	"	"	"	"	"	"
m,p-Xylene	ND	1.0		"	"	"	"	"	"	"
o-Xylene	ND	1.0		"	"	"	"	"	"	"
<i>Surrogate: Dibromofluoromethane</i>		116 %		86-118		"	"	"	"	"
<i>Surrogate: Toluene-d8</i>		88.8 %		88-110		"	"	"	"	"
<i>Surrogate: 4-Bromofluorobenzene</i>		104 %		86-115		"	"	"	"	"

<b>MW-6-GW-011315 (1501165-05) Liquid Sampled: 01/13/15 12:20 Received: 01/13/15 17:45</b>										
Benzene	ND	1.0		µg/L	1	B5A1934	01/18/15	01/19/15 12:02	EPA 8260B	
Bromobenzene	ND	1.0		"	"	"	"	"	"	"
Bromochloromethane	ND	1.0		"	"	"	"	"	"	"
Bromodichloromethane	ND	1.0		"	"	"	"	"	"	"
Bromoform	ND	1.0		"	"	"	"	"	"	"
Bromomethane	ND	1.0		"	"	"	"	"	"	"
n-Butylbenzene	ND	1.0		"	"	"	"	"	"	"
sec-Butylbenzene	ND	1.0		"	"	"	"	"	"	"
tert-Butylbenzene	ND	1.0		"	"	"	"	"	"	"
Carbon tetrachloride	ND	1.0		"	"	"	"	"	"	"
Chlorobenzene	ND	1.0		"	"	"	"	"	"	"
Chloroethane	ND	1.0		"	"	"	"	"	"	"
Chloroform	ND	1.0		"	"	"	"	"	"	"
Chloromethane	ND	1.0		"	"	"	"	"	"	"
2-Chlorotoluene	ND	1.0		"	"	"	"	"	"	"
4-Chlorotoluene	ND	1.0		"	"	"	"	"	"	"
Dibromochloromethane	ND	1.0		"	"	"	"	"	"	"

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Environmental Navigation Services, Inc.  
 P.O. Box 231026  
 Encinitas CA, 92024

Project: Paramount Plaza  
 Project Number: [none]  
 Project Manager: Jay Jones

Reported:  
 01/26/15 09:25

**Volatile Organic Compounds by EPA Method 8260B**

**Sierra Analytical Labs, Inc.**

Analyte	Result	Reporting		Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit								
<b>MW-6-GW-011315 (1501165-05) Liquid Sampled: 01/13/15 12:20 Received: 01/13/15 17:45</b>										
1,2-Dibromo-3-chloropropane	ND	5.0		µg/L	1	B5A1934	01/18/15	01/19/15 12:02	EPA 8260B	
1,2-Dibromoethane (EDB)	ND	1.0		"	"	"	"	"	"	
Dibromomethane	ND	1.0		"	"	"	"	"	"	
1,2-Dichlorobenzene	ND	1.0		"	"	"	"	"	"	
1,3-Dichlorobenzene	ND	1.0		"	"	"	"	"	"	
1,4-Dichlorobenzene	ND	1.0		"	"	"	"	"	"	
Dichlorodifluoromethane	ND	1.0		"	"	"	"	"	"	
1,1-Dichloroethane	ND	1.0		"	"	"	"	"	"	
1,2-Dichloroethane	ND	1.0		"	"	"	"	"	"	
1,1-Dichloroethene	ND	1.0		"	"	"	"	"	"	
<b>cis-1,2-Dichloroethene</b>	<b>12</b>	1.0		"	"	"	"	"	"	
<b>trans-1,2-Dichloroethene</b>	<b>1.3</b>	1.0		"	"	"	"	"	"	
1,2-Dichloropropane	ND	1.0		"	"	"	"	"	"	
1,3-Dichloropropane	ND	1.0		"	"	"	"	"	"	
2,2-Dichloropropane	ND	1.0		"	"	"	"	"	"	
1,1-Dichloropropene	ND	1.0		"	"	"	"	"	"	
cis-1,3-Dichloropropene	ND	1.0		"	"	"	"	"	"	
trans-1,3-Dichloropropene	ND	1.0		"	"	"	"	"	"	
Ethylbenzene	ND	1.0		"	"	"	"	"	"	
Hexachlorobutadiene	ND	1.0		"	"	"	"	"	"	
Isopropylbenzene	ND	1.0		"	"	"	"	"	"	
p-Isopropyltoluene	ND	1.0		"	"	"	"	"	"	
Methylene chloride	ND	1.0		"	"	"	"	"	"	
Methyl tert-butyl ether	ND	1.0		"	"	"	"	"	"	
Naphthalene	ND	1.0		"	"	"	"	"	"	
n-Propylbenzene	ND	1.0		"	"	"	"	"	"	
Styrene	ND	1.0		"	"	"	"	"	"	
1,1,1,2-Tetrachloroethane	ND	1.0		"	"	"	"	"	"	
1,1,2,2-Tetrachloroethane	ND	1.0		"	"	"	"	"	"	
<b>Tetrachloroethene</b>	<b>300</b>	10		"	10	"	"	"	"	
Toluene	ND	1.0		"	1	"	"	"	"	
1,2,3-Trichlorobenzene	ND	1.0		"	"	"	"	"	"	
1,2,4-Trichlorobenzene	ND	1.0		"	"	"	"	"	"	
1,1,1-Trichloroethane	ND	1.0		"	"	"	"	"	"	
1,1,2-Trichloroethane	ND	1.0		"	"	"	"	"	"	
<b>Trichloroethene</b>	<b>500</b>	10		"	10	"	"	"	"	
Trichlorofluoromethane	ND	1.0		"	1	"	"	"	"	
1,2,3-Trichloropropane	ND	1.0		"	"	"	"	"	"	
1,2,4-Trimethylbenzene	ND	1.0		"	"	"	"	"	"	
1,3,5-Trimethylbenzene	ND	1.0		"	"	"	"	"	"	
Vinyl chloride	ND	1.0		"	"	"	"	"	"	

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Environmental Navigation Services, Inc.  
 P.O. Box 231026  
 Encinitas CA, 92024

Project: Paramount Plaza  
 Project Number: [none]  
 Project Manager: Jay Jones

Reported:  
 01/26/15 09:25

**Volatile Organic Compounds by EPA Method 8260B**

**Sierra Analytical Labs, Inc.**

Analyte	Result	Reporting		Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit								
<b>MW-6-GW-011315 (1501165-05) Liquid Sampled: 01/13/15 12:20 Received: 01/13/15 17:45</b>										
m,p-Xylene	ND	1.0		µg/L	1	B5A1934	01/18/15	01/19/15 12:02	EPA 8260B	
o-Xylene	ND	1.0		"	"	"	"	"	"	
<i>Surrogate: Dibromofluoromethane</i>		<i>111 %</i>		<i>86-118</i>		<i>"</i>	<i>"</i>	<i>"</i>	<i>"</i>	<i>"</i>
<i>Surrogate: Toluene-d8</i>		<i>95.8 %</i>		<i>88-110</i>		<i>"</i>	<i>"</i>	<i>"</i>	<i>"</i>	<i>"</i>
<i>Surrogate: 4-Bromofluorobenzene</i>		<i>109 %</i>		<i>86-115</i>		<i>"</i>	<i>"</i>	<i>"</i>	<i>"</i>	<i>"</i>
<b>MW-7-GW-011315 (1501165-06) Liquid Sampled: 01/13/15 14:15 Received: 01/13/15 17:45</b>										
Benzene	ND	1.0		µg/L	1	B5A1934	01/18/15	01/19/15 12:02	EPA 8260B	
Bromobenzene	ND	1.0		"	"	"	"	"	"	
Bromochloromethane	ND	1.0		"	"	"	"	"	"	
Bromodichloromethane	ND	1.0		"	"	"	"	"	"	
Bromoform	ND	1.0		"	"	"	"	"	"	
Bromomethane	ND	1.0		"	"	"	"	"	"	
n-Butylbenzene	ND	1.0		"	"	"	"	"	"	
sec-Butylbenzene	ND	1.0		"	"	"	"	"	"	
tert-Butylbenzene	ND	1.0		"	"	"	"	"	"	
Carbon tetrachloride	ND	1.0		"	"	"	"	"	"	
Chlorobenzene	ND	1.0		"	"	"	"	"	"	
Chloroethane	ND	1.0		"	"	"	"	"	"	
Chloroform	ND	1.0		"	"	"	"	"	"	
Chloromethane	ND	1.0		"	"	"	"	"	"	
2-Chlorotoluene	ND	1.0		"	"	"	"	"	"	
4-Chlorotoluene	ND	1.0		"	"	"	"	"	"	
Dibromochloromethane	ND	1.0		"	"	"	"	"	"	
1,2-Dibromo-3-chloropropane	ND	5.0		"	"	"	"	"	"	
1,2-Dibromoethane (EDB)	ND	1.0		"	"	"	"	"	"	
Dibromomethane	ND	1.0		"	"	"	"	"	"	
1,2-Dichlorobenzene	ND	1.0		"	"	"	"	"	"	
1,3-Dichlorobenzene	ND	1.0		"	"	"	"	"	"	
1,4-Dichlorobenzene	ND	1.0		"	"	"	"	"	"	
Dichlorodifluoromethane	ND	1.0		"	"	"	"	"	"	
1,1-Dichloroethane	ND	1.0		"	"	"	"	"	"	
1,2-Dichloroethane	ND	1.0		"	"	"	"	"	"	
<b>1,1-Dichloroethene</b>	<b>1.4</b>	1.0		"	"	"	"	"	"	
<b>cis-1,2-Dichloroethene</b>	<b>13</b>	1.0		"	"	"	"	"	"	
<b>trans-1,2-Dichloroethene</b>	<b>2.1</b>	1.0		"	"	"	"	"	"	
1,2-Dichloropropane	ND	1.0		"	"	"	"	"	"	
1,3-Dichloropropane	ND	1.0		"	"	"	"	"	"	
2,2-Dichloropropane	ND	1.0		"	"	"	"	"	"	
1,1-Dichloropropene	ND	1.0		"	"	"	"	"	"	
cis-1,3-Dichloropropene	ND	1.0		"	"	"	"	"	"	

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Environmental Navigation Services, Inc.  
 P.O. Box 231026  
 Encinitas CA, 92024

Project: Paramount Plaza  
 Project Number: [none]  
 Project Manager: Jay Jones

Reported:  
 01/26/15 09:25

**Volatile Organic Compounds by EPA Method 8260B**

**Sierra Analytical Labs, Inc.**

Analyte	Result	Reporting		Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit								
<b>MW-7-GW-011315 (1501165-06) Liquid Sampled: 01/13/15 14:15 Received: 01/13/15 17:45</b>										
trans-1,3-Dichloropropene	ND	1.0		µg/L	1	B5A1934	01/18/15	01/19/15 12:02	EPA 8260B	
Ethylbenzene	ND	1.0		"	"	"	"	"	"	"
Hexachlorobutadiene	ND	1.0		"	"	"	"	"	"	"
Isopropylbenzene	ND	1.0		"	"	"	"	"	"	"
p-Isopropyltoluene	ND	1.0		"	"	"	"	"	"	"
Methylene chloride	ND	1.0		"	"	"	"	"	"	"
Methyl tert-butyl ether	ND	1.0		"	"	"	"	"	"	"
Naphthalene	ND	1.0		"	"	"	"	"	"	"
n-Propylbenzene	ND	1.0		"	"	"	"	"	"	"
Styrene	ND	1.0		"	"	"	"	"	"	"
1,1,1,2-Tetrachloroethane	ND	1.0		"	"	"	"	"	"	"
1,1,2,2-Tetrachloroethane	ND	1.0		"	"	"	"	"	"	"
<b>Tetrachloroethene</b>	<b>170</b>	1.0		"	"	"	"	"	"	"
Toluene	ND	1.0		"	"	"	"	"	"	"
1,2,3-Trichlorobenzene	ND	1.0		"	"	"	"	"	"	"
1,2,4-Trichlorobenzene	ND	1.0		"	"	"	"	"	"	"
1,1,1-Trichloroethane	ND	1.0		"	"	"	"	"	"	"
1,1,2-Trichloroethane	ND	1.0		"	"	"	"	"	"	"
<b>Trichloroethene</b>	<b>370</b>	1.0		"	"	"	"	"	"	"
Trichlorofluoromethane	ND	1.0		"	"	"	"	"	"	"
1,2,3-Trichloropropane	ND	1.0		"	"	"	"	"	"	"
1,2,4-Trimethylbenzene	ND	1.0		"	"	"	"	"	"	"
1,3,5-Trimethylbenzene	ND	1.0		"	"	"	"	"	"	"
Vinyl chloride	ND	1.0		"	"	"	"	"	"	"
m,p-Xylene	ND	1.0		"	"	"	"	"	"	"
o-Xylene	ND	1.0		"	"	"	"	"	"	"
<i>Surrogate: Dibromofluoromethane</i>		117 %		86-118		"	"	"	"	"
<i>Surrogate: Toluene-d8</i>		101 %		88-110		"	"	"	"	"
<i>Surrogate: 4-Bromofluorobenzene</i>		103 %		86-115		"	"	"	"	"

The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.





Environmental Navigation Services, Inc.  
P.O. Box 231026  
Encinitas CA, 92024

Project: Paramount Plaza  
Project Number: [none]  
Project Manager: Jay Jones

Reported:  
01/26/15 09:25

**Volatile Organic Compounds by EPA Method 8260B**

**Sierra Analytical Labs, Inc.**

Analyte	Result	Reporting		Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit								
<b>MW-8-GW-011315 (1501165-07) Liquid Sampled: 01/13/15 15:21 Received: 01/13/15 17:45</b>										
Benzene	ND	1.0		µg/L	1	B5A1934	01/18/15	01/19/15 12:02	EPA 8260B	
Bromobenzene	ND	1.0		"	"	"	"	"	"	"
Bromochloromethane	ND	1.0		"	"	"	"	"	"	"
Bromodichloromethane	ND	1.0		"	"	"	"	"	"	"
Bromoform	ND	1.0		"	"	"	"	"	"	"
Bromomethane	ND	1.0		"	"	"	"	"	"	"
n-Butylbenzene	ND	1.0		"	"	"	"	"	"	"
sec-Butylbenzene	ND	1.0		"	"	"	"	"	"	"
tert-Butylbenzene	ND	1.0		"	"	"	"	"	"	"
Carbon tetrachloride	ND	1.0		"	"	"	"	"	"	"
Chlorobenzene	ND	1.0		"	"	"	"	"	"	"
Chloroethane	ND	1.0		"	"	"	"	"	"	"
Chloroform	ND	1.0		"	"	"	"	"	"	"
Chloromethane	ND	1.0		"	"	"	"	"	"	"
2-Chlorotoluene	ND	1.0		"	"	"	"	"	"	"
4-Chlorotoluene	ND	1.0		"	"	"	"	"	"	"
Dibromochloromethane	ND	1.0		"	"	"	"	"	"	"
1,2-Dibromo-3-chloropropane	ND	5.0		"	"	"	"	"	"	"
1,2-Dibromoethane (EDB)	ND	1.0		"	"	"	"	"	"	"
Dibromomethane	ND	1.0		"	"	"	"	"	"	"
1,2-Dichlorobenzene	ND	1.0		"	"	"	"	"	"	"
1,3-Dichlorobenzene	ND	1.0		"	"	"	"	"	"	"
1,4-Dichlorobenzene	ND	1.0		"	"	"	"	"	"	"
Dichlorodifluoromethane	ND	1.0		"	"	"	"	"	"	"
1,1-Dichloroethane	ND	1.0		"	"	"	"	"	"	"
1,2-Dichloroethane	ND	1.0		"	"	"	"	"	"	"
<b>1,1-Dichloroethene</b>	<b>1.0</b>	1.0		"	"	"	"	"	"	"
<b>cis-1,2-Dichloroethene</b>	<b>2.7</b>	1.0		"	"	"	"	"	"	"
trans-1,2-Dichloroethene	ND	1.0		"	"	"	"	"	"	"
1,2-Dichloropropane	ND	1.0		"	"	"	"	"	"	"
1,3-Dichloropropane	ND	1.0		"	"	"	"	"	"	"
2,2-Dichloropropane	ND	1.0		"	"	"	"	"	"	"
1,1-Dichloropropene	ND	1.0		"	"	"	"	"	"	"
cis-1,3-Dichloropropene	ND	1.0		"	"	"	"	"	"	"
trans-1,3-Dichloropropene	ND	1.0		"	"	"	"	"	"	"
Ethylbenzene	ND	1.0		"	"	"	"	"	"	"
Hexachlorobutadiene	ND	1.0		"	"	"	"	"	"	"
Isopropylbenzene	ND	1.0		"	"	"	"	"	"	"
p-Isopropyltoluene	ND	1.0		"	"	"	"	"	"	"
Methylene chloride	ND	1.0		"	"	"	"	"	"	"
Methyl tert-butyl ether	ND	1.0		"	"	"	"	"	"	"

The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.



Environmental Navigation Services, Inc.  
P.O. Box 231026  
Encinitas CA, 92024

Project: Paramount Plaza  
Project Number: [none]  
Project Manager: Jay Jones

Reported:  
01/26/15 09:25

**Volatile Organic Compounds by EPA Method 8260B**

**Sierra Analytical Labs, Inc.**

Analyte	Result	Reporting		Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit	Units						
<b>MW-8-GW-011315 (1501165-07) Liquid Sampled: 01/13/15 15:21 Received: 01/13/15 17:45</b>									
Naphthalene	ND	1.0	µg/L	1	B5A1934	01/18/15	01/19/15 12:02	EPA 8260B	
n-Propylbenzene	ND	1.0	"	"	"	"	"	"	"
Styrene	ND	1.0	"	"	"	"	"	"	"
1,1,1,2-Tetrachloroethane	ND	1.0	"	"	"	"	"	"	"
1,1,2,2-Tetrachloroethane	ND	1.0	"	"	"	"	"	"	"
Tetrachloroethene	ND	1.0	"	"	"	"	"	"	"
Toluene	ND	1.0	"	"	"	"	"	"	"
1,2,3-Trichlorobenzene	ND	1.0	"	"	"	"	"	"	"
1,2,4-Trichlorobenzene	ND	1.0	"	"	"	"	"	"	"
1,1,1-Trichloroethane	ND	1.0	"	"	"	"	"	"	"
1,1,2-Trichloroethane	ND	1.0	"	"	"	"	"	"	"
<b>Trichloroethene</b>	<b>28</b>	1.0	"	"	"	"	"	"	"
Trichlorofluoromethane	ND	1.0	"	"	"	"	"	"	"
1,2,3-Trichloropropane	ND	1.0	"	"	"	"	"	"	"
1,2,4-Trimethylbenzene	ND	1.0	"	"	"	"	"	"	"
1,3,5-Trimethylbenzene	ND	1.0	"	"	"	"	"	"	"
Vinyl chloride	ND	1.0	"	"	"	"	"	"	"
m,p-Xylene	ND	1.0	"	"	"	"	"	"	"
o-Xylene	ND	1.0	"	"	"	"	"	"	"
<i>Surrogate: Dibromofluoromethane</i>		<i>110 %</i>		<i>86-118</i>					
<i>Surrogate: Toluene-d8</i>		<i>90.0 %</i>		<i>88-110</i>					
<i>Surrogate: 4-Bromofluorobenzene</i>		<i>100 %</i>		<i>86-115</i>					

The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.



Environmental Navigation Services, Inc.  
 P.O. Box 231026  
 Encinitas CA, 92024

Project: Paramount Plaza  
 Project Number: [none]  
 Project Manager: Jay Jones

Reported:  
 01/26/15 09:25

**Volatile Organic Compounds by EPA Method 8260B - Quality Control**

**Sierra Analytical Labs, Inc.**

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
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**Batch B5A1934 - EPA 5030B P & T**

**Blank (B5A1934-BLK1)**

Prepared: 01/18/15 Analyzed: 01/19/15

Benzene	ND	1.0	µg/L							
Bromobenzene	ND	1.0	"							
Bromochloromethane	ND	1.0	"							
Bromodichloromethane	ND	1.0	"							
Bromoform	ND	1.0	"							
Bromomethane	ND	1.0	"							
n-Butylbenzene	ND	1.0	"							
sec-Butylbenzene	ND	1.0	"							
tert-Butylbenzene	ND	1.0	"							
Carbon tetrachloride	ND	1.0	"							
Chlorobenzene	ND	1.0	"							
Chloroethane	ND	1.0	"							
Chloroform	ND	1.0	"							
Chloromethane	ND	1.0	"							
2-Chlorotoluene	ND	1.0	"							
4-Chlorotoluene	ND	1.0	"							
Dibromochloromethane	ND	1.0	"							
1,2-Dibromo-3-chloropropane	ND	5.0	"							
1,2-Dibromoethane (EDB)	ND	1.0	"							
Dibromomethane	ND	1.0	"							
1,2-Dichlorobenzene	ND	1.0	"							
1,3-Dichlorobenzene	ND	1.0	"							
1,4-Dichlorobenzene	ND	1.0	"							
Dichlorodifluoromethane	ND	1.0	"							
1,1-Dichloroethane	ND	1.0	"							
1,2-Dichloroethane	ND	1.0	"							
1,1-Dichloroethene	ND	1.0	"							
cis-1,2-Dichloroethene	ND	1.0	"							
trans-1,2-Dichloroethene	ND	1.0	"							
1,2-Dichloropropane	ND	1.0	"							
1,3-Dichloropropane	ND	1.0	"							
2,2-Dichloropropane	ND	1.0	"							
1,1-Dichloropropene	ND	1.0	"							
cis-1,3-Dichloropropene	ND	1.0	"							
trans-1,3-Dichloropropene	ND	1.0	"							
Ethylbenzene	ND	1.0	"							
Hexachlorobutadiene	ND	1.0	"							

*The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.*



Environmental Navigation Services, Inc.  
P.O. Box 231026  
Encinitas CA, 92024

Project: Paramount Plaza  
Project Number: [none]  
Project Manager: Jay Jones

Reported:  
01/26/15 09:25

**Volatile Organic Compounds by EPA Method 8260B - Quality Control**  
**Sierra Analytical Labs, Inc.**

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
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**Batch B5A1934 - EPA 5030B P & T**

**Blank (B5A1934-BLK1)**

Prepared: 01/18/15 Analyzed: 01/19/15

Isopropylbenzene	ND	1.0	µg/L							
p-Isopropyltoluene	ND	1.0	"							
Methylene chloride	ND	1.0	"							
Methyl tert-butyl ether	ND	1.0	"							
Naphthalene	ND	1.0	"							
n-Propylbenzene	ND	1.0	"							
Styrene	ND	1.0	"							
1,1,1,2-Tetrachloroethane	ND	1.0	"							
1,1,2,2-Tetrachloroethane	ND	1.0	"							
Tetrachloroethene	ND	1.0	"							
Toluene	ND	1.0	"							
1,2,3-Trichlorobenzene	ND	1.0	"							
1,2,4-Trichlorobenzene	ND	1.0	"							
1,1,1-Trichloroethane	ND	1.0	"							
1,1,2-Trichloroethane	ND	1.0	"							
Trichloroethene	ND	1.0	"							
Trichlorofluoromethane	ND	1.0	"							
1,2,3-Trichloropropane	ND	1.0	"							
1,2,4-Trimethylbenzene	ND	1.0	"							
1,3,5-Trimethylbenzene	ND	1.0	"							
Vinyl chloride	ND	1.0	"							
m,p-Xylene	ND	1.0	"							
o-Xylene	ND	1.0	"							
<i>Surrogate: Dibromofluoromethane</i>	52.2		"	50.0		104	86-118			
<i>Surrogate: Toluene-d8</i>	45.8		"	50.0		91.6	88-110			
<i>Surrogate: 4-Bromofluorobenzene</i>	51.4		"	50.0		103	86-115			

**LCS (B5A1934-BS1)**

Prepared: 01/18/15 Analyzed: 01/19/15

Benzene	45.5	1.0	µg/L	50.0		91.0	80-120			
Chlorobenzene	40.2	1.0	"	50.0		80.4	80-120			
1,1-Dichloroethene	40.1	1.0	"	50.0		80.2	80-120			
Toluene	54.0	1.0	"	50.0		108	80-120			
Trichloroethene	59.6	1.0	"	50.0		119	80-120			

*The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.*



Environmental Navigation Services, Inc.  
 P.O. Box 231026  
 Encinitas CA, 92024

Project: Paramount Plaza  
 Project Number: [none]  
 Project Manager: Jay Jones

Reported:  
 01/26/15 09:25

**Volatile Organic Compounds by EPA Method 8260B - Quality Control**  
**Sierra Analytical Labs, Inc.**

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
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**Batch B5A1934 - EPA 5030B P & T**

**Matrix Spike (B5A1934-MS1)**

Source: 1501166-01

Prepared: 01/18/15

Analyzed: 01/19/15

Benzene	39.5	1.0	µg/L	50.0	ND	79.0	37-151			
Chlorobenzene	39.3	1.0	"	50.0	ND	78.6	37-160			
1,1-Dichloroethene	47.4	1.0	"	50.0	ND	94.8	50-150			
Toluene	49.6	1.0	"	50.0	ND	99.2	47-150			
Trichloroethene	53.8	1.0	"	50.0	ND	108	71-157			

**Matrix Spike Dup (B5A1934-MSD1)**

Source: 1501166-01

Prepared: 01/18/15

Analyzed: 01/19/15

Benzene	39.0	1.0	µg/L	50.0	ND	78.0	37-151	1.27	30	
Chlorobenzene	40.5	1.0	"	50.0	ND	81.0	37-160	3.01	30	
1,1-Dichloroethene	40.8	1.0	"	50.0	ND	81.6	50-150	15.0	30	
Toluene	44.4	1.0	"	50.0	ND	88.8	47-150	11.1	30	
Trichloroethene	51.1	1.0	"	50.0	ND	102	71-157	5.15	30	

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Environmental Navigation Services, Inc.  
P.O. Box 231026  
Encinitas CA, 92024

Project: Paramount Plaza  
Project Number: [none]  
Project Manager: Jay Jones

**Reported:**  
01/26/15 09:25

### Notes and Definitions

DET Analyte DETECTED  
ND Analyte NOT DETECTED at or above the reporting limit  
NR Not Reported  
dry Sample results reported on a dry weight basis  
RPD Relative Percent Difference

---

*The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.*



**SIERRA ANALYTICAL**  
 TEL: 949-348-9389  
 FAX: 949-348-9115  
 26052 Merit Circle • Suite 104 • Laguna Hills, CA • 92653

**CHAIN OF CUSTODY RECORD**

Date: 1/13/15 Page 1 of 1

Lab Project No.: 1501165

**Analysis Requested**

Client Sample ID	Sierra No.	Date	Time	Matrix	Preservative	Container Type	No. of Containers
MW-1	01	1/12	843	HRD	HCL	10ML	3
MW-2	02	1/13	1125				
MW-3	03	1/13	957				
MW-4	04	1/13	115				
MW-6	05	1/13	1220				
MW-7	06	1/13	215				
MW-8	07	1/13	324				

Client Project ID: PARAMOUNT

Turn Around Time Requested:  24 Hour  48 Hour  72 Hour  5 Day  Mobile

Immediate  4 Day  Normal

Client: ENST

Client Address: PUB 231026  
BEVERLY HILLS CA 92023-1026

Client Tel. No.: 760 944 9576

Client Fax No.: 760 944 9576

Client Proj. Mgr.: Jay Jones

Geotracker EDD Info: ENNE

Client LOGCODE

Site Global ID

Field Point Names/Comments: MW-1  
MW-2  
MW-3  
MW-4  
MW-6  
MW-7  
MW-8

Client Sample ID	Sierra No.	Date	Time	Matrix	Preservative	Container Type	No. of Containers
MW-1	01	1/12	843	HRD	HCL	10ML	3
MW-2	02	1/13	1125				
MW-3	03	1/13	957				
MW-4	04	1/13	115				
MW-6	05	1/13	1220				
MW-7	06	1/13	215				
MW-8	07	1/13	324				

Shipped Via: HAND-DELIVER

Received By: J Jones Date: 1/13 Time: 1:15

Company: Sierra

Received By: J Jones Date: 1/13 Time: 1:15

Company: Sierra

Received By: \_\_\_\_\_ Date: \_\_\_\_\_ Time: \_\_\_\_\_

Company: \_\_\_\_\_

Received By: \_\_\_\_\_ Date: \_\_\_\_\_ Time: \_\_\_\_\_

Company: \_\_\_\_\_

Received By: \_\_\_\_\_ Date: \_\_\_\_\_ Time: \_\_\_\_\_

Company: \_\_\_\_\_

Received By: \_\_\_\_\_ Date: \_\_\_\_\_ Time: \_\_\_\_\_

Company: \_\_\_\_\_

Total Number of Containers Submitted to Laboratory: 21

Total Number of Containers Received by Laboratory: 20

Sample Disposal:  Return to Client  Lab Disposal\*  Archive mos.  Other \_\_\_\_\_

FOR LABORATORY USE ONLY - Sample Receipt Conditions:

Intact  Chilled - Temp. (°C) 4.0

Sample Seals  Preservatives - Verified By \_\_\_\_\_

Properly Labelled  Other \_\_\_\_\_

Appropriate Sample Container  Storage Location: MSA



26 January 2015

Jay Jones  
Environmental Navigation Services, Inc.  
P.O. Box 231026  
Encinitas, CA 92024  
RE:Paramount Plaza  
Work Order No.: 1501164

Attached are the results of the analyses for samples received by the laboratory on 01/13/15 17:45.

The samples were received by Sierra Analytical Labs, Inc. with a chain of custody record attached or completed at the submittal of the samples.

The analyses were performed according to the prescribed method as outlined by EPA, Standard Methods, and A.S.T.M.

The remaining portions of the samples will be disposed of within 30 days from the date of this report.  
If you require any additional retaining time, please advise us.

Sincerely,

A handwritten signature in black ink that reads "Richard K. Forsyth". The signature is written in a cursive style and is positioned above a solid horizontal line.

Richard K. Forsyth

Laboratory Director

Sierra Analytical Labs, Inc. is certified by the California Department of Health Services (DOHS),  
Environmental Laboratory Accreditation Program (ELAP) No. 2320.





Environmental Navigation Services, Inc.  
P.O. Box 231026  
Encinitas CA, 92024

Project: Paramount Plaza  
Project Number: [none]  
Project Manager: Jay Jones

**Reported:**  
01/26/15 09:27

**ANALYTICAL REPORT FOR SAMPLES**

Sample ID	Laboratory ID	Matrix	Date Sampled	Date Received
MW-1-GW-011315	1501164-01	Liquid	01/13/15 08:25	01/13/15 17:45
MW-2-GW-011315	1501164-02	Liquid	01/13/15 11:25	01/13/15 17:45
MW-3-GW-011315	1501164-03	Liquid	01/13/15 10:30	01/13/15 17:45
MW-4-GW-011315	1501164-04	Liquid	01/13/15 13:15	01/13/15 17:45
MW-6-GW-011315	1501164-05	Liquid	01/13/15 12:30	01/13/15 17:45
MW-7-GW-011315	1501164-06	Liquid	01/13/15 14:15	01/13/15 17:45

*The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.*



Environmental Navigation Services, Inc.  
P.O. Box 231026  
Encinitas CA, 92024

Project: Paramount Plaza  
Project Number: [none]  
Project Manager: Jay Jones

Reported:  
01/26/15 09:27

**Conventional Chemistry Parameters by APHA/EPA Methods**  
**Sierra Analytical Labs, Inc.**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
<b>MW-1-GW-011315 (1501164-01) Liquid    Sampled: 01/13/15 08:25    Received: 01/13/15 17:45</b>									
Chloride	113	0.500	mg/L	1	B5A2042	01/13/15	01/13/15 18:00	SM 4500-Cl- B	
Specific Conductance (EC)	1010	0.100	µmhos/cm	"	"	"	"	EPA 120.1	
Nitrite as N	ND	0.0200	mg/L	"	"	"	"	SM4500-NO2B	
Nitrate as N	2.40	0.0200	"	"	"	"	"	EPA 353.3	
Nitrate/Nitrite as N	2.40	0.0200	"	"	"	"	"	"	
pH	6.59	0.100	pH Units	"	"	"	"	EPA 150.1	
Sulfate as SO4	180	0.500	mg/L	"	"	"	"	EPA 375.4	
Total Dissolved Solids	670	1.00	"	"	"	"	"	EPA 160.1	
<b>MW-2-GW-011315 (1501164-02) Liquid    Sampled: 01/13/15 11:25    Received: 01/13/15 17:45</b>									
Chloride	157	0.500	mg/L	1	B5A2042	01/13/15	01/13/15 18:00	SM 4500-Cl- B	
Specific Conductance (EC)	2520	0.100	µmhos/cm	"	"	"	"	EPA 120.1	
Nitrite as N	ND	0.0200	mg/L	"	"	"	"	SM4500-NO2B	
Nitrate as N	1.40	0.0200	"	"	"	"	"	EPA 353.3	
Nitrate/Nitrite as N	1.41	0.0200	"	"	"	"	"	"	
pH	6.89	0.100	pH Units	"	"	"	"	EPA 150.1	
Sulfate as SO4	520	0.500	mg/L	"	"	"	"	EPA 375.4	
Total Dissolved Solids	1650	1.00	"	"	"	"	"	EPA 160.1	
<b>MW-3-GW-011315 (1501164-03) Liquid    Sampled: 01/13/15 10:30    Received: 01/13/15 17:45</b>									
Chloride	136	0.500	mg/L	1	B5A2042	01/13/15	01/13/15 18:00	SM 4500-Cl- B	
Specific Conductance (EC)	2880	0.100	µmhos/cm	"	"	"	"	EPA 120.1	
Nitrite as N	ND	0.0200	mg/L	"	"	"	"	SM4500-NO2B	
Nitrate as N	4.10	0.0200	"	"	"	"	"	EPA 353.3	
Nitrate/Nitrite as N	4.11	0.0200	"	"	"	"	"	"	
pH	7.11	0.100	pH Units	"	"	"	"	EPA 150.1	
Sulfate as SO4	380	0.500	mg/L	"	"	"	"	EPA 375.4	
Total Dissolved Solids	1890	1.00	"	"	"	"	"	EPA 160.1	

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Environmental Navigation Services, Inc.  
P.O. Box 231026  
Encinitas CA, 92024

Project: Paramount Plaza  
Project Number: [none]  
Project Manager: Jay Jones

Reported:  
01/26/15 09:27

**Conventional Chemistry Parameters by APHA/EPA Methods**  
**Sierra Analytical Labs, Inc.**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
<b>MW-4-GW-011315 (1501164-04) Liquid    Sampled: 01/13/15 13:15    Received: 01/13/15 17:45</b>									
Chloride	880	0.500	mg/L	1	B5A2042	01/13/15	01/13/15 18:00	SM 4500-Cl- B	
Specific Conductance (EC)	4330	0.100	µmhos/cm	"	"	"	"	EPA 120.1	
Nitrite as N	ND	0.0200	mg/L	"	"	"	"	SM4500-NO2B	
Nitrate as N	2.80	0.0200	"	"	"	"	"	EPA 353.3	
Nitrate/Nitrite as N	2.81	0.0200	"	"	"	"	"	"	
pH	6.88	0.100	pH Units	"	"	"	"	EPA 150.1	
Sulfate as SO4	425	0.500	mg/L	"	"	"	"	EPA 375.4	
Total Dissolved Solids	2840	1.00	"	"	"	"	"	EPA 160.1	
<b>MW-6-GW-011315 (1501164-05) Liquid    Sampled: 01/13/15 12:30    Received: 01/13/15 17:45</b>									
Chloride	258	0.500	mg/L	1	B5A2042	01/13/15	01/13/15 18:00	SM 4500-Cl- B	
Specific Conductance (EC)	2610	0.100	µmhos/cm	"	"	"	"	EPA 120.1	
Nitrite as N	ND	0.0200	mg/L	"	"	"	"	SM4500-NO2B	
Nitrate as N	1.80	0.0200	"	"	"	"	"	EPA 353.3	
Nitrate/Nitrite as N	1.80	0.0200	"	"	"	"	"	"	
pH	6.91	0.100	pH Units	"	"	"	"	EPA 150.1	
Sulfate as SO4	380	0.500	mg/L	"	"	"	"	EPA 375.4	
Total Dissolved Solids	1710	1.00	"	"	"	"	"	EPA 160.1	
<b>MW-7-GW-011315 (1501164-06) Liquid    Sampled: 01/13/15 14:15    Received: 01/13/15 17:45</b>									
Chloride	218	0.500	mg/L	1	B5A2042	01/13/15	01/13/15 18:00	SM 4500-Cl- B	
Specific Conductance (EC)	2570	0.100	µmhos/cm	"	"	"	"	EPA 120.1	
Nitrite as N	ND	0.0200	mg/L	"	"	"	"	SM4500-NO2B	
Nitrate as N	1.90	0.0200	"	"	"	"	"	EPA 353.3	
Nitrate/Nitrite as N	1.90	0.0200	"	"	"	"	"	"	
pH	6.94	0.100	pH Units	"	"	"	"	EPA 150.1	
Sulfate as SO4	490	0.500	mg/L	"	"	"	"	EPA 375.4	
Total Dissolved Solids	1700	1.00	"	"	"	"	"	EPA 160.1	

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Environmental Navigation Services, Inc.  
 P.O. Box 231026  
 Encinitas CA, 92024

Project: Paramount Plaza  
 Project Number: [none]  
 Project Manager: Jay Jones

**Reported:**  
 01/26/15 09:27

**Total Organic Carbon (TOC) by SM 5310 B**  
**Sierra Analytical Labs, Inc.**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
<b>MW-1-GW-011315 (1501164-01) Liquid</b>	<b>Sampled: 01/13/15 08:25 Received: 01/13/15 17:45</b>								
<b>Total Organic Carbon</b>	<b>2.6</b>	0.50	mg/L	1	B5A2042	01/13/15	01/13/15 18:00	SM 5310 B	
<b>MW-2-GW-011315 (1501164-02) Liquid</b>	<b>Sampled: 01/13/15 11:25 Received: 01/13/15 17:45</b>								
<b>Total Organic Carbon</b>	<b>1.3</b>	0.50	mg/L	1	B5A2042	01/13/15	01/13/15 18:00	SM 5310 B	
<b>MW-3-GW-011315 (1501164-03) Liquid</b>	<b>Sampled: 01/13/15 10:30 Received: 01/13/15 17:45</b>								
<b>Total Organic Carbon</b>	<b>1.4</b>	0.50	mg/L	1	B5A2042	01/13/15	01/13/15 18:00	SM 5310 B	
<b>MW-4-GW-011315 (1501164-04) Liquid</b>	<b>Sampled: 01/13/15 13:15 Received: 01/13/15 17:45</b>								
<b>Total Organic Carbon</b>	<b>0.90</b>	0.50	mg/L	1	B5A2042	01/13/15	01/13/15 18:00	SM 5310 B	
<b>MW-6-GW-011315 (1501164-05) Liquid</b>	<b>Sampled: 01/13/15 12:30 Received: 01/13/15 17:45</b>								
<b>Total Organic Carbon</b>	<b>0.80</b>	0.50	mg/L	1	B5A2042	01/13/15	01/13/15 18:00	SM 5310 B	
<b>MW-7-GW-011315 (1501164-06) Liquid</b>	<b>Sampled: 01/13/15 14:15 Received: 01/13/15 17:45</b>								
<b>Total Organic Carbon</b>	<b>0.95</b>	0.50	mg/L	1	B5A2042	01/13/15	01/13/15 18:00	SM 5310 B	

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Environmental Navigation Services, Inc.  
P.O. Box 231026  
Encinitas CA, 92024

Project: Paramount Plaza  
Project Number: [none]  
Project Manager: Jay Jones

**Reported:**  
01/26/15 09:27

**Metals by EPA 200 Series Methods**  
**Sierra Analytical Labs, Inc.**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
<b>MW-1-GW-011315 (1501164-01) Liquid    Sampled: 01/13/15 08:25    Received: 01/13/15 17:45</b>									
<b>Boron</b>	<b>0.10</b>	0.066	mg/L	1	B5A1385	01/13/15	01/16/15 13:36	EPA 200.7	
<b>MW-2-GW-011315 (1501164-02) Liquid    Sampled: 01/13/15 11:25    Received: 01/13/15 17:45</b>									
<b>Boron</b>	<b>0.49</b>	0.066	mg/L	1	B5A1385	01/13/15	01/16/15 13:36	EPA 200.7	
<b>MW-3-GW-011315 (1501164-03) Liquid    Sampled: 01/13/15 10:30    Received: 01/13/15 17:45</b>									
<b>Boron</b>	<b>0.75</b>	0.066	mg/L	1	B5A1385	01/13/15	01/16/15 13:36	EPA 200.7	
<b>MW-4-GW-011315 (1501164-04) Liquid    Sampled: 01/13/15 13:15    Received: 01/13/15 17:45</b>									
<b>Boron</b>	<b>0.24</b>	0.066	mg/L	1	B5A1385	01/13/15	01/16/15 13:36	EPA 200.7	
<b>MW-6-GW-011315 (1501164-05) Liquid    Sampled: 01/13/15 12:30    Received: 01/13/15 17:45</b>									
<b>Boron</b>	<b>0.42</b>	0.066	mg/L	1	B5A1385	01/13/15	01/16/15 13:36	EPA 200.7	
<b>MW-7-GW-011315 (1501164-06) Liquid    Sampled: 01/13/15 14:15    Received: 01/13/15 17:45</b>									
<b>Boron</b>	<b>0.18</b>	0.066	mg/L	1	B5A1386	01/13/15	01/16/15 14:08	EPA 200.7	

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Environmental Navigation Services, Inc.  
P.O. Box 231026  
Encinitas CA, 92024

Project: Paramount Plaza  
Project Number: [none]  
Project Manager: Jay Jones

Reported:  
01/26/15 09:27

**Hydrocarbons by Headspace GC-FID**

**Sierra Analytical Labs, Inc.**

Analyte	Result	Reporting		Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit								
<b>MW-1-GW-011315 (1501164-01) Liquid Sampled: 01/13/15 08:25 Received: 01/13/15 17:45</b>										
Methane	ND	5.0		µg/L	1	B5A1501	01/15/15	01/19/15 11:32	EPA 8015B	
Ethane	ND	5.0		"	"	"	"	"	"	"
Ethene	ND	5.0		"	"	"	"	"	"	"
<b>MW-2-GW-011315 (1501164-02) Liquid Sampled: 01/13/15 11:25 Received: 01/13/15 17:45</b>										
Methane	ND	5.0		µg/L	1	B5A1501	01/15/15	01/19/15 11:32	EPA 8015B	
Ethane	ND	5.0		"	"	"	"	"	"	"
Ethene	ND	5.0		"	"	"	"	"	"	"
<b>MW-3-GW-011315 (1501164-03) Liquid Sampled: 01/13/15 10:30 Received: 01/13/15 17:45</b>										
Methane	ND	5.0		µg/L	1	B5A1501	01/15/15	01/19/15 11:32	EPA 8015B	
Ethane	ND	5.0		"	"	"	"	"	"	"
Ethene	ND	5.0		"	"	"	"	"	"	"
<b>MW-4-GW-011315 (1501164-04) Liquid Sampled: 01/13/15 13:15 Received: 01/13/15 17:45</b>										
Methane	ND	5.0		µg/L	1	B5A1501	01/15/15	01/19/15 11:32	EPA 8015B	
Ethane	ND	5.0		"	"	"	"	"	"	"
Ethene	ND	5.0		"	"	"	"	"	"	"
<b>MW-6-GW-011315 (1501164-05) Liquid Sampled: 01/13/15 12:30 Received: 01/13/15 17:45</b>										
Methane	ND	5.0		µg/L	1	B5A1501	01/15/15	01/19/15 11:32	EPA 8015B	
Ethane	ND	5.0		"	"	"	"	"	"	"
Ethene	ND	5.0		"	"	"	"	"	"	"
<b>MW-7-GW-011315 (1501164-06) Liquid Sampled: 01/13/15 14:15 Received: 01/13/15 17:45</b>										
Methane	ND	5.0		µg/L	1	B5A1501	01/15/15	01/19/15 11:32	EPA 8015B	
Ethane	ND	5.0		"	"	"	"	"	"	"
Ethene	ND	5.0		"	"	"	"	"	"	"

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Environmental Navigation Services, Inc.  
P.O. Box 231026  
Encinitas CA, 92024

Project: Paramount Plaza  
Project Number: [none]  
Project Manager: Jay Jones

**Reported:**  
01/26/15 09:27

**Conventional Chemistry Parameters by APHA/EPA Methods - Quality Control**

**Sierra Analytical Labs, Inc.**

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
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**Batch B5A2042 - General Preparation**

**Blank (B5A2042-BLK1)**

Prepared & Analyzed: 01/13/15

Chloride	ND	0.500	mg/L							
Nitrate as N	ND	0.0200	"							
Nitrate/Nitrite as N	ND	0.0200	"							
Nitrite as N	ND	0.0200	"							
Sulfate as SO4	ND	0.500	"							

**Blank (B5A2042-BLK2)**

Prepared & Analyzed: 01/14/15

Chloride	ND	0.500	mg/L							
Nitrate as N	ND	0.0200	"							
Nitrate/Nitrite as N	ND	0.0200	"							
Nitrite as N	ND	0.0200	"							
Sulfate as SO4	ND	0.500	"							

**Blank (B5A2042-BLK3)**

Prepared & Analyzed: 01/15/15

Chloride	ND	0.500	mg/L							
Nitrate as N	ND	0.0200	"							
Nitrate/Nitrite as N	ND	0.0200	"							
Nitrite as N	ND	0.0200	"							
Sulfate as SO4	ND	0.500	"							

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Environmental Navigation Services, Inc.  
P.O. Box 231026  
Encinitas CA, 92024

Project: Paramount Plaza  
Project Number: [none]  
Project Manager: Jay Jones

**Reported:**  
01/26/15 09:27

**Total Organic Carbon (TOC) by SM 5310 B - Quality Control**

**Sierra Analytical Labs, Inc.**

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
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**Batch B5A2042 - General Preparation**

<b>Blank (B5A2042-BLK1)</b>				Prepared & Analyzed: 01/13/15						
Total Organic Carbon	ND	0.50	mg/L							
<b>Blank (B5A2042-BLK2)</b>				Prepared & Analyzed: 01/14/15						
Total Organic Carbon	ND	0.50	mg/L							
<b>Blank (B5A2042-BLK3)</b>				Prepared & Analyzed: 01/15/15						
Total Organic Carbon	ND	0.50	mg/L							

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Environmental Navigation Services, Inc.  
 P.O. Box 231026  
 Encinitas CA, 92024

Project: Paramount Plaza  
 Project Number: [none]  
 Project Manager: Jay Jones

Reported:  
 01/26/15 09:27

**Metals by EPA 200 Series Methods - Quality Control**  
**Sierra Analytical Labs, Inc.**

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
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**Batch B5A1385 - EPA 200 Series**

<b>Blank (B5A1385-BLK1)</b>				Prepared: 01/13/15 Analyzed: 01/16/15						
Boron	ND	0.066	mg/L							
<b>Blank (B5A1385-BLK2)</b>				Prepared: 01/13/15 Analyzed: 01/16/15						
Boron	ND	0.066	mg/L							
<b>LCS (B5A1385-BS1)</b>				Prepared: 01/13/15 Analyzed: 01/16/15						
Boron	0.195	0.066	mg/L	0.200		97.5	80-121			
<b>LCS (B5A1385-BS2)</b>				Prepared: 01/13/15 Analyzed: 01/16/15						
Boron	0.201	0.066	mg/L	0.200		100	80-121			
<b>Matrix Spike (B5A1385-MS1)</b>				Source: 1501147-01 Prepared: 01/13/15 Analyzed: 01/16/15						
Boron	0.348	0.066	mg/L	0.200	0.13	109	70-130			
<b>Matrix Spike (B5A1385-MS2)</b>				Source: 1501158-01 Prepared: 01/13/15 Analyzed: 01/16/15						
Boron	1.19	0.066	mg/L	0.200	0.93	130	70-130			
<b>Matrix Spike Dup (B5A1385-MSD1)</b>				Source: 1501147-01 Prepared: 01/13/15 Analyzed: 01/16/15						
Boron	0.346	0.066	mg/L	0.200	0.13	108	70-130	0.576	20	
<b>Matrix Spike Dup (B5A1385-MSD2)</b>				Source: 1501158-01 Prepared: 01/13/15 Analyzed: 01/16/15						
Boron	1.20	0.066	mg/L	0.200	0.93	135	70-130	0.837	20	QM-07

**Batch B5A1386 - EPA 200 Series**

<b>Blank (B5A1386-BLK1)</b>				Prepared: 01/13/15 Analyzed: 01/16/15						
Boron	ND	0.066	mg/L							

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Environmental Navigation Services, Inc.  
P.O. Box 231026  
Encinitas CA, 92024

Project: Paramount Plaza  
Project Number: [none]  
Project Manager: Jay Jones

**Reported:**  
01/26/15 09:27

**Metals by EPA 200 Series Methods - Quality Control**  
**Sierra Analytical Labs, Inc.**

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
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**Batch B5A1386 - EPA 200 Series**

**LCS (B5A1386-BS1)**

Prepared: 01/13/15 Analyzed: 01/16/15

Boron	0.192	0.066	mg/L	0.200		96.0	80-121			
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**Matrix Spike (B5A1386-MS1)**

**Source: 1501164-06**

Prepared: 01/13/15 Analyzed: 01/16/15

Boron	0.382	0.066	mg/L	0.200	0.18	101	70-130			
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**Matrix Spike Dup (B5A1386-MSD1)**

**Source: 1501164-06**

Prepared: 01/13/15 Analyzed: 01/16/15

Boron	0.394	0.066	mg/L	0.200	0.18	107	70-130	3.09	20	
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Environmental Navigation Services, Inc.  
 P.O. Box 231026  
 Encinitas CA, 92024

Project: Paramount Plaza  
 Project Number: [none]  
 Project Manager: Jay Jones

**Reported:**  
 01/26/15 09:27

**Hydrocarbons by Headspace GC-FID - Quality Control**

**Sierra Analytical Labs, Inc.**

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
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**Batch B5A1501 - EPA 3810 Headspace**

**Blank (B5A1501-BLK1)**

Prepared: 01/15/15 Analyzed: 01/19/15

Methane	ND	5.0	µg/L							
Ethane	ND	5.0	"							
Ethene	ND	5.0	"							

**LCS (B5A1501-BS1)**

Prepared: 01/15/15 Analyzed: 01/19/15

Methane	215	5.0	µg/L	250		86.0	80-120			
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**Duplicate (B5A1501-DUP1)**

**Source: 1501166-01**

Prepared: 01/15/15 Analyzed: 01/19/15

Methane	ND	5.0	µg/L		ND				30	
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Environmental Navigation Services, Inc.  
P.O. Box 231026  
Encinitas CA, 92024

Project: Paramount Plaza  
Project Number: [none]  
Project Manager: Jay Jones

**Reported:**  
01/26/15 09:27

### Notes and Definitions

- QM-07 The spike recovery was outside acceptance limits for the MS and/or MSD. The batch was accepted based on acceptable LCS recovery.
- DET Analyte DETECTED
- ND Analyte NOT DETECTED at or above the reporting limit
- NR Not Reported
- dry Sample results reported on a dry weight basis
- RPD Relative Percent Difference

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**SIERRA ANALYTICAL**  
 TEL: 949-348-9389  
 FAX: 949-348-9115  
 26052 Merit Circle • Suite 104 • Laguna Hills, CA • 92653

**CHAIN OF CUSTODY RECORD**

Date: 1/13/15 Page 1 of 1

Lab Project No.: 1501164

Client: ENST Client Project ID: RAMMOUNT

Client Address: POB 231026  
ESCONDIDO CA 92025-1026

Client Tel. No.: 760 944 9576  
 Client Fax. No.: \_\_\_\_\_  
 Client Proj. Mgr.: \_\_\_\_\_

Turn Around Time Requested

Immediate  24 Hour  
 48 Hour  72 Hour  
 4 Day  5 Day  
 Normal  Mobile

Geotracker EDD Info:  
ENAE  
 Client LOGCODE \_\_\_\_\_  
 Site Global ID \_\_\_\_\_

Client Sample ID	Sierra No.	Date	Time	Matrix	Preservative	Container Type	No. of Containers	Analysis Requested	Field Point Names/Comments
MW-1-6w-011315	01	1/13	8:25	H2O			5	TOPE ORGANIC (ASD) ✓ Sulfate ✓ Chloride ✓ Barium ✓ Nitrate/Nitrite ✓ Diss Gases ✓ Metals, trace, etc.	MW-1
MW-2-6w-011315	02		11:25				5		MW-2
MW-3-6w-011315	03		10:30				5		MW-3
MW-4-6w-011315	04		1:15				5		MW-4
MW-6-6w-011315	05		12:30				5		MW-6
MW-7-6w-011315	06		2:15				5		MW-7
QUANTITIES: 3 40ml VOA w/ HCL 1 1/2 yellow distil (No pres.) 1 250 ml HNO3									

1. Sampler Signature: [Signature] Shipped Via: HAND-DELIVER

2. Relinquished By: [Signature] Received By: [Signature]  
 Date: 1/13 Date: 1/13  
 Time: 12:45 Time: 12:45  
 Company: SIERRA Company: SIERRA

3. Relinquished By: \_\_\_\_\_ Received By: \_\_\_\_\_  
 Date: \_\_\_\_\_ Date: \_\_\_\_\_  
 Time: \_\_\_\_\_ Time: \_\_\_\_\_  
 Company: \_\_\_\_\_ Company: \_\_\_\_\_

4. Relinquished By: \_\_\_\_\_ Received By: \_\_\_\_\_  
 Date: \_\_\_\_\_ Date: \_\_\_\_\_  
 Time: \_\_\_\_\_ Time: \_\_\_\_\_  
 Company: \_\_\_\_\_ Company: \_\_\_\_\_

Special Instructions: REL QUOTE DATED 12/29/2014

Total Number of Containers Submitted to Laboratory: 30

Total Number of Containers Received by Laboratory: (30)

FOR LABORATORY USE ONLY - Sample Receipt Conditions:

Intact  Chilled - Temp. (°C) 10  
 Sample Seals  Preservatives - Verified By \_\_\_\_\_  
 Properly Labelled  Other \_\_\_\_\_  
 Appropriate Sample Container  Storage Location: (ASD)



10515 Research Drive  
Knoxville, TN 37932  
Phone: (865) 573-8188  
Fax: (865) 573-8133

---

**Client:** Jay Jones  
Environmental Navigation Services, Inc ( ENSI )  
PO Box 231026  
Encinitas, CA 92023-1026

**Phone:** 760 944 9576

**Fax:**

**Identifier:** 036MA

**Date Rec:** 01/15/2015

**Report Date:** 01/19/2015

**Client Project #:**

**Client Project Name:** Paramount

**Purchase Order #:**

**Analysis Requested:** CENSUS

**Reviewed By:**

A handwritten signature in black ink that reads 'Cary Brown'.

---

NOTICE: This report is intended only for the addressee shown above and may contain confidential or privileged information. If the recipient of this material is not the intended recipient or if you have received this in error, please notify Microbial Insights, Inc. immediately. The data and other information in this report represent only the sample(s) analyzed and are rendered upon condition that it is not to be reproduced without approval from Microbial Insights, Inc. Thank you for your cooperation.

**Client:** Environmental Navigation Services, Inc ( ENS)  
**Project:** Paramount

**MI Project Number:** 036MA  
**Date Received:** 01/15/2015

**Sample Information**

Client Sample ID:	MW-1	MW-2	MW-4	MW-6	MW-7
Sample Date:	01/13/2015	01/13/2015	01/13/2015	01/13/2015	01/13/2015
Units:	cells/mL	cells/mL	cells/mL	cells/mL	cells/mL
Analyst:	CB	CB	CB	CB	CB

**Dechlorinating Bacteria**

<i>Dehalococcoides</i>	DHC	3.16E+02	9.85E+01	<5.00E-01	5.85E+01	3.80E+00
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**Legend:**

NA = Not Analyzed    NS = Not Sampled    J = Estimated gene copies below PQL but above LQL    I = Inhibited  
 < = Result not detected



11 March 2015

Jay Jones  
Environmental Navigation Services, Inc.  
P.O. Box 231026  
Encinitas, CA 92024  
RE:Paramount Plaza  
Work Order No.: 1502271

Attached are the results of the analyses for samples received by the laboratory on 02/18/15 15:35.

The samples were received by Sierra Analytical Labs, Inc. with a chain of custody record attached or completed at the submittal of the samples.

The analyses were performed according to the prescribed method as outlined by EPA, Standard Methods, and A.S.T.M.

The remaining portions of the samples will be disposed of within 30 days from the date of this report.  
If you require any additional retaining time, please advise us.

Sincerely,

Richard K. Forsyth

Laboratory Director

Sierra Analytical Labs, Inc. is certified by the California Department of Health Services (DOHS),  
Environmental Laboratory Accreditation Program (ELAP) No. 2320.





Environmental Navigation Services, Inc.  
P.O. Box 231026  
Encinitas CA, 92024

Project: Paramount Plaza  
Project Number: [none]  
Project Manager: Jay Jones

**Reported:**  
03/11/15 09:58

**ANALYTICAL REPORT FOR SAMPLES**

Sample ID	Laboratory ID	Matrix	Date Sampled	Date Received
MW-1-GW-021815	1502271-01	Liquid	02/18/15 13:13	02/18/15 15:35
MW-2-GW-021815	1502271-02	Liquid	02/18/15 12:15	02/18/15 15:35
MW-3-GW-021815	1502271-03	Liquid	02/18/15 14:00	02/18/15 15:35
MW-4-GW-021815	1502271-04	Liquid	02/18/15 07:46	02/18/15 15:35
MW-6-GW-021815	1502271-05	Liquid	02/18/15 09:55	02/18/15 15:35
MW-7-GW-021815	1502271-06	Liquid	02/18/15 10:30	02/18/15 15:35

*The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.*



Environmental Navigation Services, Inc.  
 P.O. Box 231026  
 Encinitas CA, 92024

Project: Paramount Plaza  
 Project Number: [none]  
 Project Manager: Jay Jones

Reported:  
 03/11/15 09:58

**Conventional Chemistry Parameters by APHA/EPA Methods**  
**Sierra Analytical Labs, Inc.**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
<b>MW-1-GW-021815 (1502271-01) Liquid    Sampled: 02/18/15 13:13    Received: 02/18/15 15:35</b>									
Chloride	270	0.500	mg/L	1	B5B1907	02/18/15	02/18/15 16:26	SM 4500-Cl- B	
Specific Conductance (EC)	2130	0.100	µmhos/cm	"	"	"	"	EPA 120.1	
Nitrite as N	ND	0.0200	mg/L	"	"	"	"	SM4500-NO2B	
Nitrate as N	1.40	0.0200	"	"	"	"	"	EPA 353.3	
Nitrate/Nitrite as N	1.40	0.0200	"	"	"	"	"	"	
pH	6.52	0.100	pH Units	"	"	"	"	EPA 150.1	
Sulfate as SO4	250	0.500	mg/L	"	"	"	"	EPA 375.4	
Total Dissolved Solids	1390	1.00	"	"	"	"	"	EPA 160.1	
<b>MW-3-GW-021815 (1502271-03) Liquid    Sampled: 02/18/15 14:00    Received: 02/18/15 15:35</b>									
Chloride	151	0.500	mg/L	1	B5B1907	02/18/15	02/18/15 16:26	SM 4500-Cl- B	
Specific Conductance (EC)	2790	0.100	µmhos/cm	"	"	"	"	EPA 120.1	
Nitrite as N	ND	0.0200	mg/L	"	"	"	"	SM4500-NO2B	
Nitrate as N	2.40	0.0200	"	"	"	"	"	EPA 353.3	
Nitrate/Nitrite as N	2.41	0.0200	"	"	"	"	"	"	
pH	7.04	0.100	pH Units	"	"	"	"	EPA 150.1	
Sulfate as SO4	350	0.500	mg/L	"	"	"	"	EPA 375.4	
Total Dissolved Solids	1820	1.00	"	"	"	"	"	EPA 160.1	
<b>MW-4-GW-021815 (1502271-04) Liquid    Sampled: 02/18/15 07:46    Received: 02/18/15 15:35</b>									
Chloride	780	0.500	mg/L	1	B5B1907	02/18/15	02/18/15 16:26	SM 4500-Cl- B	
Specific Conductance (EC)	4110	0.100	µmhos/cm	"	"	"	"	EPA 120.1	
Nitrite as N	ND	0.0200	mg/L	"	"	"	"	SM4500-NO2B	
Nitrate as N	1.10	0.0200	"	"	"	"	"	EPA 353.3	
Nitrate/Nitrite as N	1.10	0.0200	"	"	"	"	"	"	
pH	7.01	0.100	pH Units	"	"	"	"	EPA 150.1	
Sulfate as SO4	500	0.500	mg/L	"	"	"	"	EPA 375.4	
Total Dissolved Solids	2690	1.00	"	"	"	"	"	EPA 160.1	

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Environmental Navigation Services, Inc.  
 P.O. Box 231026  
 Encinitas CA, 92024

Project: Paramount Plaza  
 Project Number: [none]  
 Project Manager: Jay Jones

**Reported:**  
 03/11/15 09:58

**Conventional Chemistry Parameters by APHA/EPA Methods**  
**Sierra Analytical Labs, Inc.**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
<b>MW-7-GW-021815 (1502271-06) Liquid    Sampled: 02/18/15 10:30    Received: 02/18/15 15:35</b>									
<b>Chloride</b>	<b>220</b>	0.500	mg/L	1	B5B1907	02/18/15	02/18/15 16:26	SM 4500-Cl- B	
<b>Specific Conductance (EC)</b>	<b>2430</b>	0.100	µmhos/cm	"	"	"	"	EPA 120.1	
Nitrite as N	ND	0.0200	mg/L	"	"	"	"	SM4500-NO2B	
<b>Nitrate as N</b>	<b>1.70</b>	0.0200	"	"	"	"	"	EPA 353.3	
<b>Nitrate/Nitrite as N</b>	<b>1.71</b>	0.0200	"	"	"	"	"	"	
<b>pH</b>	<b>7.03</b>	0.100	pH Units	"	"	"	"	EPA 150.1	
<b>Sulfate as SO4</b>	<b>400</b>	0.500	mg/L	"	"	"	"	EPA 375.4	
<b>Total Dissolved Solids</b>	<b>1590</b>	1.00	"	"	"	"	"	EPA 160.1	

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Environmental Navigation Services, Inc.  
P.O. Box 231026  
Encinitas CA, 92024

Project: Paramount Plaza  
Project Number: [none]  
Project Manager: Jay Jones

**Reported:**  
03/11/15 09:58

**Total Organic Carbon (TOC) by SM 5310 B**  
**Sierra Analytical Labs, Inc.**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
<b>MW-1-GW-021815 (1502271-01) Liquid    Sampled: 02/18/15 13:13    Received: 02/18/15 15:35</b>									
<b>Total Organic Carbon</b>	<b>2.1</b>	0.50	mg/L	1	B5B2427	02/24/15	02/24/15 10:09	SM 5310 B	
<b>MW-3-GW-021815 (1502271-03) Liquid    Sampled: 02/18/15 14:00    Received: 02/18/15 15:35</b>									
<b>Total Organic Carbon</b>	<b>1.2</b>	0.50	mg/L	1	B5B2427	02/24/15	02/24/15 10:09	SM 5310 B	
<b>MW-4-GW-021815 (1502271-04) Liquid    Sampled: 02/18/15 07:46    Received: 02/18/15 15:35</b>									
<b>Total Organic Carbon</b>	<b>0.67</b>	0.50	mg/L	1	B5B2427	02/24/15	02/24/15 10:09	SM 5310 B	
<b>MW-7-GW-021815 (1502271-06) Liquid    Sampled: 02/18/15 10:30    Received: 02/18/15 15:35</b>									
<b>Total Organic Carbon</b>	<b>0.63</b>	0.50	mg/L	1	B5B2427	02/24/15	02/24/15 10:09	SM 5310 B	

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Environmental Navigation Services, Inc.  
 P.O. Box 231026  
 Encinitas CA, 92024

Project: Paramount Plaza  
 Project Number: [none]  
 Project Manager: Jay Jones

**Reported:**  
 03/11/15 09:58

**Metals by EPA 200 Series Methods**  
**Sierra Analytical Labs, Inc.**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
<b>MW-1-GW-021815 (1502271-01) Liquid    Sampled: 02/18/15 13:13    Received: 02/18/15 15:35</b>									
<b>Boron</b>	<b>0.21</b>	0.066	mg/L	1	B5B1903	02/19/15	03/05/15 19:39	EPA 200.7	
<b>MW-3-GW-021815 (1502271-03) Liquid    Sampled: 02/18/15 14:00    Received: 02/18/15 15:35</b>									
<b>Boron</b>	<b>0.94</b>	0.066	mg/L	1	B5B1903	02/19/15	03/05/15 19:39	EPA 200.7	
<b>MW-4-GW-021815 (1502271-04) Liquid    Sampled: 02/18/15 07:46    Received: 02/18/15 15:35</b>									
<b>Boron</b>	<b>0.22</b>	0.066	mg/L	1	B5B1903	02/19/15	03/05/15 19:39	EPA 200.7	
<b>MW-7-GW-021815 (1502271-06) Liquid    Sampled: 02/18/15 10:30    Received: 02/18/15 15:35</b>									
<b>Boron</b>	<b>0.15</b>	0.066	mg/L	1	B5B1903	02/19/15	03/05/15 19:39	EPA 200.7	

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Environmental Navigation Services, Inc.  
 P.O. Box 231026  
 Encinitas CA, 92024

Project: Paramount Plaza  
 Project Number: [none]  
 Project Manager: Jay Jones

**Reported:**  
 03/11/15 09:58

**Hydrocarbons by Headspace GC-FID**

**Sierra Analytical Labs, Inc.**

Analyte	Result	Reporting		Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit								
<b>MW-4-GW-021815 (1502271-04) Liquid    Sampled: 02/18/15 07:46    Received: 02/18/15 15:35</b>										
Methane	ND	5.0		µg/L	1	B5B1902	02/19/15	02/19/15 13:30	EPA 8015B	
Ethane	ND	5.0		"	"	"	"	"	"	"
Ethene	ND	5.0		"	"	"	"	"	"	"
<b>MW-7-GW-021815 (1502271-06) Liquid    Sampled: 02/18/15 10:30    Received: 02/18/15 15:35</b>										
Methane	ND	5.0		µg/L	1	B5B1902	02/19/15	02/19/15 13:30	EPA 8015B	
Ethane	ND	5.0		"	"	"	"	"	"	"
Ethene	ND	5.0		"	"	"	"	"	"	"

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Environmental Navigation Services, Inc.  
P.O. Box 231026  
Encinitas CA, 92024

Project: Paramount Plaza  
Project Number: [none]  
Project Manager: Jay Jones

Reported:  
03/11/15 09:58

**Volatile Organic Compounds by EPA Method 8260B**

**Sierra Analytical Labs, Inc.**

Analyte	Result	Reporting		Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit								
<b>MW-2-GW-021815 (1502271-02) Liquid    Sampled: 02/18/15 12:15    Received: 02/18/15 15:35</b>										
Benzene	ND	1.0		µg/L	1	B5B1901	02/19/15	02/19/15 16:22	EPA 8260B	
Bromobenzene	ND	1.0		"	"	"	"	"	"	"
Bromochloromethane	ND	1.0		"	"	"	"	"	"	"
Bromodichloromethane	ND	1.0		"	"	"	"	"	"	"
Bromoform	ND	1.0		"	"	"	"	"	"	"
Bromomethane	ND	1.0		"	"	"	"	"	"	"
n-Butylbenzene	ND	1.0		"	"	"	"	"	"	"
sec-Butylbenzene	ND	1.0		"	"	"	"	"	"	"
tert-Butylbenzene	ND	1.0		"	"	"	"	"	"	"
Carbon tetrachloride	ND	1.0		"	"	"	"	"	"	"
Chlorobenzene	ND	1.0		"	"	"	"	"	"	"
Chloroethane	ND	1.0		"	"	"	"	"	"	"
Chloroform	ND	1.0		"	"	"	"	"	"	"
Chloromethane	ND	1.0		"	"	"	"	"	"	"
2-Chlorotoluene	ND	1.0		"	"	"	"	"	"	"
4-Chlorotoluene	ND	1.0		"	"	"	"	"	"	"
Dibromochloromethane	ND	1.0		"	"	"	"	"	"	"
1,2-Dibromo-3-chloropropane	ND	5.0		"	"	"	"	"	"	"
1,2-Dibromoethane (EDB)	ND	1.0		"	"	"	"	"	"	"
Dibromomethane	ND	1.0		"	"	"	"	"	"	"
1,2-Dichlorobenzene	ND	1.0		"	"	"	"	"	"	"
1,3-Dichlorobenzene	ND	1.0		"	"	"	"	"	"	"
1,4-Dichlorobenzene	ND	1.0		"	"	"	"	"	"	"
Dichlorodifluoromethane	ND	1.0		"	"	"	"	"	"	"
1,1-Dichloroethane	ND	1.0		"	"	"	"	"	"	"
1,2-Dichloroethane	ND	1.0		"	"	"	"	"	"	"
1,1-Dichloroethene	ND	1.0		"	"	"	"	"	"	"
<b>cis-1,2-Dichloroethene</b>	<b>2.7</b>	1.0		"	"	"	"	"	"	"
trans-1,2-Dichloroethene	ND	1.0		"	"	"	"	"	"	"
1,2-Dichloropropane	ND	1.0		"	"	"	"	"	"	"
1,3-Dichloropropane	ND	1.0		"	"	"	"	"	"	"
2,2-Dichloropropane	ND	1.0		"	"	"	"	"	"	"
1,1-Dichloropropene	ND	1.0		"	"	"	"	"	"	"
cis-1,3-Dichloropropene	ND	1.0		"	"	"	"	"	"	"
trans-1,3-Dichloropropene	ND	1.0		"	"	"	"	"	"	"
Ethylbenzene	ND	1.0		"	"	"	"	"	"	"
Hexachlorobutadiene	ND	1.0		"	"	"	"	"	"	"
Isopropylbenzene	ND	1.0		"	"	"	"	"	"	"
p-Isopropyltoluene	ND	1.0		"	"	"	"	"	"	"
Methylene chloride	ND	1.0		"	"	"	"	"	"	"
Methyl tert-butyl ether	ND	1.0		"	"	"	"	"	"	"

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Environmental Navigation Services, Inc.  
 P.O. Box 231026  
 Encinitas CA, 92024

Project: Paramount Plaza  
 Project Number: [none]  
 Project Manager: Jay Jones

Reported:  
 03/11/15 09:58

**Volatile Organic Compounds by EPA Method 8260B**

**Sierra Analytical Labs, Inc.**

Analyte	Result	Reporting		Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit								
<b>MW-2-GW-021815 (1502271-02) Liquid Sampled: 02/18/15 12:15 Received: 02/18/15 15:35</b>										
Naphthalene	ND	1.0		µg/L	1	B5B1901	02/19/15	02/19/15 16:22	EPA 8260B	
n-Propylbenzene	ND	1.0		"	"	"	"	"	"	"
Styrene	ND	1.0		"	"	"	"	"	"	"
1,1,1,2-Tetrachloroethane	ND	1.0		"	"	"	"	"	"	"
1,1,2,2-Tetrachloroethane	ND	1.0		"	"	"	"	"	"	"
<b>Tetrachloroethene</b>	<b>67</b>	1.0		"	"	"	"	"	"	"
Toluene	ND	1.0		"	"	"	"	"	"	"
1,2,3-Trichlorobenzene	ND	1.0		"	"	"	"	"	"	"
1,2,4-Trichlorobenzene	ND	1.0		"	"	"	"	"	"	"
1,1,1-Trichloroethane	ND	1.0		"	"	"	"	"	"	"
1,1,2-Trichloroethane	ND	1.0		"	"	"	"	"	"	"
<b>Trichloroethene</b>	<b>80</b>	1.0		"	"	"	"	"	"	"
Trichlorofluoromethane	ND	1.0		"	"	"	"	"	"	"
1,2,3-Trichloropropane	ND	1.0		"	"	"	"	"	"	"
1,2,4-Trimethylbenzene	ND	1.0		"	"	"	"	"	"	"
1,3,5-Trimethylbenzene	ND	1.0		"	"	"	"	"	"	"
Vinyl chloride	ND	1.0		"	"	"	"	"	"	"
m,p-Xylene	ND	1.0		"	"	"	"	"	"	"
o-Xylene	ND	1.0		"	"	"	"	"	"	"
<i>Surrogate: Dibromofluoromethane</i>		102 %		86-118		"	"	"	"	"
<i>Surrogate: Toluene-d8</i>		89.8 %		88-110		"	"	"	"	"
<i>Surrogate: 4-Bromofluorobenzene</i>		95.2 %		86-115		"	"	"	"	"

<b>MW-4-GW-021815 (1502271-04) Liquid Sampled: 02/18/15 07:46 Received: 02/18/15 15:35</b>										
Benzene	ND	1.0		µg/L	1	B5B1901	02/19/15	02/19/15 16:57	EPA 8260B	
Bromobenzene	ND	1.0		"	"	"	"	"	"	"
Bromochloromethane	ND	1.0		"	"	"	"	"	"	"
Bromodichloromethane	ND	1.0		"	"	"	"	"	"	"
Bromoform	ND	1.0		"	"	"	"	"	"	"
Bromomethane	ND	1.0		"	"	"	"	"	"	"
n-Butylbenzene	ND	1.0		"	"	"	"	"	"	"
sec-Butylbenzene	ND	1.0		"	"	"	"	"	"	"
tert-Butylbenzene	ND	1.0		"	"	"	"	"	"	"
Carbon tetrachloride	ND	1.0		"	"	"	"	"	"	"
Chlorobenzene	ND	1.0		"	"	"	"	"	"	"
Chloroethane	ND	1.0		"	"	"	"	"	"	"
Chloroform	ND	1.0		"	"	"	"	"	"	"
Chloromethane	ND	1.0		"	"	"	"	"	"	"
2-Chlorotoluene	ND	1.0		"	"	"	"	"	"	"
4-Chlorotoluene	ND	1.0		"	"	"	"	"	"	"
Dibromochloromethane	ND	1.0		"	"	"	"	"	"	"

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Environmental Navigation Services, Inc.  
P.O. Box 231026  
Encinitas CA, 92024

Project: Paramount Plaza  
Project Number: [none]  
Project Manager: Jay Jones

Reported:  
03/11/15 09:58

**Volatile Organic Compounds by EPA Method 8260B**

**Sierra Analytical Labs, Inc.**

Analyte	Result	Reporting		Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit								
<b>MW-4-GW-021815 (1502271-04) Liquid Sampled: 02/18/15 07:46 Received: 02/18/15 15:35</b>										
1,2-Dibromo-3-chloropropane	ND	5.0		µg/L	1	B5B1901	02/19/15	02/19/15 16:57	EPA 8260B	
1,2-Dibromoethane (EDB)	ND	1.0		"	"	"	"	"	"	"
Dibromomethane	ND	1.0		"	"	"	"	"	"	"
1,2-Dichlorobenzene	ND	1.0		"	"	"	"	"	"	"
1,3-Dichlorobenzene	ND	1.0		"	"	"	"	"	"	"
1,4-Dichlorobenzene	ND	1.0		"	"	"	"	"	"	"
Dichlorodifluoromethane	ND	1.0		"	"	"	"	"	"	"
1,1-Dichloroethane	ND	1.0		"	"	"	"	"	"	"
1,2-Dichloroethane	ND	1.0		"	"	"	"	"	"	"
1,1-Dichloroethene	ND	1.0		"	"	"	"	"	"	"
<b>cis-1,2-Dichloroethene</b>	<b>4.1</b>	1.0		"	"	"	"	"	"	"
trans-1,2-Dichloroethene	ND	1.0		"	"	"	"	"	"	"
1,2-Dichloropropane	ND	1.0		"	"	"	"	"	"	"
1,3-Dichloropropane	ND	1.0		"	"	"	"	"	"	"
2,2-Dichloropropane	ND	1.0		"	"	"	"	"	"	"
1,1-Dichloropropene	ND	1.0		"	"	"	"	"	"	"
cis-1,3-Dichloropropene	ND	1.0		"	"	"	"	"	"	"
trans-1,3-Dichloropropene	ND	1.0		"	"	"	"	"	"	"
Ethylbenzene	ND	1.0		"	"	"	"	"	"	"
Hexachlorobutadiene	ND	1.0		"	"	"	"	"	"	"
Isopropylbenzene	ND	1.0		"	"	"	"	"	"	"
p-Isopropyltoluene	ND	1.0		"	"	"	"	"	"	"
Methylene chloride	ND	1.0		"	"	"	"	"	"	"
Methyl tert-butyl ether	ND	1.0		"	"	"	"	"	"	"
Naphthalene	ND	1.0		"	"	"	"	"	"	"
n-Propylbenzene	ND	1.0		"	"	"	"	"	"	"
Styrene	ND	1.0		"	"	"	"	"	"	"
1,1,1,2-Tetrachloroethane	ND	1.0		"	"	"	"	"	"	"
1,1,2,2-Tetrachloroethane	ND	1.0		"	"	"	"	"	"	"
<b>Tetrachloroethene</b>	<b>65</b>	1.0		"	"	"	"	"	"	"
Toluene	ND	1.0		"	"	"	"	"	"	"
1,2,3-Trichlorobenzene	ND	1.0		"	"	"	"	"	"	"
1,2,4-Trichlorobenzene	ND	1.0		"	"	"	"	"	"	"
1,1,1-Trichloroethane	ND	1.0		"	"	"	"	"	"	"
1,1,2-Trichloroethane	ND	1.0		"	"	"	"	"	"	"
<b>Trichloroethene</b>	<b>85</b>	1.0		"	"	"	"	"	"	"
Trichlorofluoromethane	ND	1.0		"	"	"	"	"	"	"
1,2,3-Trichloropropane	ND	1.0		"	"	"	"	"	"	"
1,2,4-Trimethylbenzene	ND	1.0		"	"	"	"	"	"	"
1,3,5-Trimethylbenzene	ND	1.0		"	"	"	"	"	"	"
Vinyl chloride	ND	1.0		"	"	"	"	"	"	"

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Environmental Navigation Services, Inc.  
 P.O. Box 231026  
 Encinitas CA, 92024

Project: Paramount Plaza  
 Project Number: [none]  
 Project Manager: Jay Jones

Reported:  
 03/11/15 09:58

**Volatile Organic Compounds by EPA Method 8260B**

**Sierra Analytical Labs, Inc.**

Analyte	Result	Reporting		Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit								
<b>MW-4-GW-021815 (1502271-04) Liquid Sampled: 02/18/15 07:46 Received: 02/18/15 15:35</b>										
m,p-Xylene	ND	1.0		µg/L	1	B5B1901	02/19/15	02/19/15 16:57	EPA 8260B	
o-Xylene	ND	1.0		"	"	"	"	"	"	
<i>Surrogate: Dibromofluoromethane</i>		93.0 %		86-118		"	"	"	"	
<i>Surrogate: Toluene-d8</i>		91.6 %		88-110		"	"	"	"	
<i>Surrogate: 4-Bromofluorobenzene</i>		96.2 %		86-115		"	"	"	"	
<b>MW-6-GW-021815 (1502271-05) Liquid Sampled: 02/18/15 09:55 Received: 02/18/15 15:35</b>										
Benzene	ND	1.0		µg/L	1	B5B1901	02/19/15	02/19/15 17:32	EPA 8260B	
Bromobenzene	ND	1.0		"	"	"	"	"	"	
Bromochloromethane	ND	1.0		"	"	"	"	"	"	
Bromodichloromethane	ND	1.0		"	"	"	"	"	"	
Bromoform	ND	1.0		"	"	"	"	"	"	
Bromomethane	ND	1.0		"	"	"	"	"	"	
n-Butylbenzene	ND	1.0		"	"	"	"	"	"	
sec-Butylbenzene	ND	1.0		"	"	"	"	"	"	
tert-Butylbenzene	ND	1.0		"	"	"	"	"	"	
Carbon tetrachloride	ND	1.0		"	"	"	"	"	"	
Chlorobenzene	ND	1.0		"	"	"	"	"	"	
Chloroethane	ND	1.0		"	"	"	"	"	"	
Chloroform	ND	1.0		"	"	"	"	"	"	
Chloromethane	ND	1.0		"	"	"	"	"	"	
2-Chlorotoluene	ND	1.0		"	"	"	"	"	"	
4-Chlorotoluene	ND	1.0		"	"	"	"	"	"	
Dibromochloromethane	ND	1.0		"	"	"	"	"	"	
1,2-Dibromo-3-chloropropane	ND	5.0		"	"	"	"	"	"	
1,2-Dibromoethane (EDB)	ND	1.0		"	"	"	"	"	"	
Dibromomethane	ND	1.0		"	"	"	"	"	"	
1,2-Dichlorobenzene	ND	1.0		"	"	"	"	"	"	
1,3-Dichlorobenzene	ND	1.0		"	"	"	"	"	"	
1,4-Dichlorobenzene	ND	1.0		"	"	"	"	"	"	
Dichlorodifluoromethane	ND	1.0		"	"	"	"	"	"	
1,1-Dichloroethane	ND	1.0		"	"	"	"	"	"	
1,2-Dichloroethane	ND	1.0		"	"	"	"	"	"	
1,1-Dichloroethene	ND	1.0		"	"	"	"	"	"	
cis-1,2-Dichloroethene	ND	1.0		"	"	"	"	"	"	
trans-1,2-Dichloroethene	ND	1.0		"	"	"	"	"	"	
1,2-Dichloropropane	ND	1.0		"	"	"	"	"	"	
1,3-Dichloropropane	ND	1.0		"	"	"	"	"	"	
2,2-Dichloropropane	ND	1.0		"	"	"	"	"	"	
1,1-Dichloropropene	ND	1.0		"	"	"	"	"	"	
cis-1,3-Dichloropropene	ND	1.0		"	"	"	"	"	"	

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Environmental Navigation Services, Inc.  
 P.O. Box 231026  
 Encinitas CA, 92024

Project: Paramount Plaza  
 Project Number: [none]  
 Project Manager: Jay Jones

Reported:  
 03/11/15 09:58

**Volatile Organic Compounds by EPA Method 8260B**

**Sierra Analytical Labs, Inc.**

Analyte	Result	Reporting		Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit								
<b>MW-6-GW-021815 (1502271-05) Liquid Sampled: 02/18/15 09:55 Received: 02/18/15 15:35</b>										
trans-1,3-Dichloropropene	ND	1.0		µg/L	1	B5B1901	02/19/15	02/19/15 17:32	EPA 8260B	
Ethylbenzene	ND	1.0		"	"	"	"	"	"	"
Hexachlorobutadiene	ND	1.0		"	"	"	"	"	"	"
Isopropylbenzene	ND	1.0		"	"	"	"	"	"	"
p-Isopropyltoluene	ND	1.0		"	"	"	"	"	"	"
Methylene chloride	ND	1.0		"	"	"	"	"	"	"
Methyl tert-butyl ether	ND	1.0		"	"	"	"	"	"	"
Naphthalene	ND	1.0		"	"	"	"	"	"	"
n-Propylbenzene	ND	1.0		"	"	"	"	"	"	"
Styrene	ND	1.0		"	"	"	"	"	"	"
1,1,1,2-Tetrachloroethane	ND	1.0		"	"	"	"	"	"	"
1,1,2,2-Tetrachloroethane	ND	1.0		"	"	"	"	"	"	"
<b>Tetrachloroethene</b>	<b>2.8</b>	1.0		"	"	"	"	"	"	"
Toluene	ND	1.0		"	"	"	"	"	"	"
1,2,3-Trichlorobenzene	ND	1.0		"	"	"	"	"	"	"
1,2,4-Trichlorobenzene	ND	1.0		"	"	"	"	"	"	"
1,1,1-Trichloroethane	ND	1.0		"	"	"	"	"	"	"
1,1,2-Trichloroethane	ND	1.0		"	"	"	"	"	"	"
<b>Trichloroethene</b>	<b>6.5</b>	1.0		"	"	"	"	"	"	"
Trichlorofluoromethane	ND	1.0		"	"	"	"	"	"	"
1,2,3-Trichloropropane	ND	1.0		"	"	"	"	"	"	"
1,2,4-Trimethylbenzene	ND	1.0		"	"	"	"	"	"	"
1,3,5-Trimethylbenzene	ND	1.0		"	"	"	"	"	"	"
Vinyl chloride	ND	1.0		"	"	"	"	"	"	"
m,p-Xylene	ND	1.0		"	"	"	"	"	"	"
o-Xylene	ND	1.0		"	"	"	"	"	"	"
<i>Surrogate: Dibromofluoromethane</i>		86.2 %		86-118		"	"	"	"	"
<i>Surrogate: Toluene-d8</i>		94.6 %		88-110		"	"	"	"	"
<i>Surrogate: 4-Bromofluorobenzene</i>		93.2 %		86-115		"	"	"	"	"

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Environmental Navigation Services, Inc.  
P.O. Box 231026  
Encinitas CA, 92024

Project: Paramount Plaza  
Project Number: [none]  
Project Manager: Jay Jones

Reported:  
03/11/15 09:58

**Volatile Organic Compounds by EPA Method 8260B**

**Sierra Analytical Labs, Inc.**

Analyte	Result	Reporting		Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit								
<b>MW-7-GW-021815 (1502271-06) Liquid Sampled: 02/18/15 10:30 Received: 02/18/15 15:35</b>										
Benzene	ND	1.0		µg/L	1	B5B1901	02/19/15	02/19/15 18:07	EPA 8260B	
Bromobenzene	ND	1.0		"	"	"	"	"	"	"
Bromochloromethane	ND	1.0		"	"	"	"	"	"	"
Bromodichloromethane	ND	1.0		"	"	"	"	"	"	"
Bromoform	ND	1.0		"	"	"	"	"	"	"
Bromomethane	ND	1.0		"	"	"	"	"	"	"
n-Butylbenzene	ND	1.0		"	"	"	"	"	"	"
sec-Butylbenzene	ND	1.0		"	"	"	"	"	"	"
tert-Butylbenzene	ND	1.0		"	"	"	"	"	"	"
Carbon tetrachloride	ND	1.0		"	"	"	"	"	"	"
Chlorobenzene	ND	1.0		"	"	"	"	"	"	"
Chloroethane	ND	1.0		"	"	"	"	"	"	"
Chloroform	ND	1.0		"	"	"	"	"	"	"
Chloromethane	ND	1.0		"	"	"	"	"	"	"
2-Chlorotoluene	ND	1.0		"	"	"	"	"	"	"
4-Chlorotoluene	ND	1.0		"	"	"	"	"	"	"
Dibromochloromethane	ND	1.0		"	"	"	"	"	"	"
1,2-Dibromo-3-chloropropane	ND	5.0		"	"	"	"	"	"	"
1,2-Dibromoethane (EDB)	ND	1.0		"	"	"	"	"	"	"
Dibromomethane	ND	1.0		"	"	"	"	"	"	"
1,2-Dichlorobenzene	ND	1.0		"	"	"	"	"	"	"
1,3-Dichlorobenzene	ND	1.0		"	"	"	"	"	"	"
1,4-Dichlorobenzene	ND	1.0		"	"	"	"	"	"	"
Dichlorodifluoromethane	ND	1.0		"	"	"	"	"	"	"
1,1-Dichloroethane	ND	1.0		"	"	"	"	"	"	"
1,2-Dichloroethane	ND	1.0		"	"	"	"	"	"	"
1,1-Dichloroethene	ND	1.0		"	"	"	"	"	"	"
<b>cis-1,2-Dichloroethene</b>	<b>16</b>	1.0		"	"	"	"	"	"	"
<b>trans-1,2-Dichloroethene</b>	<b>1.3</b>	1.0		"	"	"	"	"	"	"
1,2-Dichloropropane	ND	1.0		"	"	"	"	"	"	"
1,3-Dichloropropane	ND	1.0		"	"	"	"	"	"	"
2,2-Dichloropropane	ND	1.0		"	"	"	"	"	"	"
1,1-Dichloropropene	ND	1.0		"	"	"	"	"	"	"
cis-1,3-Dichloropropene	ND	1.0		"	"	"	"	"	"	"
trans-1,3-Dichloropropene	ND	1.0		"	"	"	"	"	"	"
Ethylbenzene	ND	1.0		"	"	"	"	"	"	"
Hexachlorobutadiene	ND	1.0		"	"	"	"	"	"	"
Isopropylbenzene	ND	1.0		"	"	"	"	"	"	"
p-Isopropyltoluene	ND	1.0		"	"	"	"	"	"	"
Methylene chloride	ND	1.0		"	"	"	"	"	"	"
Methyl tert-butyl ether	ND	1.0		"	"	"	"	"	"	"

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Environmental Navigation Services, Inc.  
 P.O. Box 231026  
 Encinitas CA, 92024

Project: Paramount Plaza  
 Project Number: [none]  
 Project Manager: Jay Jones

Reported:  
 03/11/15 09:58

**Volatile Organic Compounds by EPA Method 8260B**

**Sierra Analytical Labs, Inc.**

Analyte	Result	Reporting		Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit	Units						
<b>MW-7-GW-021815 (1502271-06) Liquid Sampled: 02/18/15 10:30 Received: 02/18/15 15:35</b>									
Naphthalene	ND	1.0	µg/L	1	B5B1901	02/19/15	02/19/15 18:07	EPA 8260B	
n-Propylbenzene	ND	1.0	"	"	"	"	"	"	"
Styrene	ND	1.0	"	"	"	"	"	"	"
1,1,1,2-Tetrachloroethane	ND	1.0	"	"	"	"	"	"	"
1,1,2,2-Tetrachloroethane	ND	1.0	"	"	"	"	"	"	"
<b>Tetrachloroethene</b>	<b>260</b>	1.0	"	"	"	"	"	"	"
Toluene	ND	1.0	"	"	"	"	"	"	"
1,2,3-Trichlorobenzene	ND	1.0	"	"	"	"	"	"	"
1,2,4-Trichlorobenzene	ND	1.0	"	"	"	"	"	"	"
1,1,1-Trichloroethane	ND	1.0	"	"	"	"	"	"	"
1,1,2-Trichloroethane	ND	1.0	"	"	"	"	"	"	"
<b>Trichloroethene</b>	<b>230</b>	1.0	"	"	"	"	"	"	"
Trichlorofluoromethane	ND	1.0	"	"	"	"	"	"	"
1,2,3-Trichloropropane	ND	1.0	"	"	"	"	"	"	"
1,2,4-Trimethylbenzene	ND	1.0	"	"	"	"	"	"	"
1,3,5-Trimethylbenzene	ND	1.0	"	"	"	"	"	"	"
Vinyl chloride	ND	1.0	"	"	"	"	"	"	"
m,p-Xylene	ND	1.0	"	"	"	"	"	"	"
o-Xylene	ND	1.0	"	"	"	"	"	"	"
<i>Surrogate: Dibromofluoromethane</i>		92.8 %		86-118	"	"	"	"	"
<i>Surrogate: Toluene-d8</i>		96.8 %		88-110	"	"	"	"	"
<i>Surrogate: 4-Bromofluorobenzene</i>		90.8 %		86-115	"	"	"	"	"

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Environmental Navigation Services, Inc.  
 P.O. Box 231026  
 Encinitas CA, 92024

Project: Paramount Plaza  
 Project Number: [none]  
 Project Manager: Jay Jones

**Reported:**  
 03/11/15 09:58

**Conventional Chemistry Parameters by APHA/EPA Methods - Quality Control**

**Sierra Analytical Labs, Inc.**

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
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**Batch B5B1907 - General Preparation**

**Blank (B5B1907-BLK1)**

Prepared & Analyzed: 02/18/15

Chloride	ND	0.500	mg/L							
Nitrate as N	ND	0.0200	"							
Nitrate/Nitrite as N	ND	0.0200	"							
Nitrite as N	ND	0.0200	"							
Sulfate as SO4	ND	0.500	"							
Total Dissolved Solids	ND	1.00	"							

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Environmental Navigation Services, Inc.  
P.O. Box 231026  
Encinitas CA, 92024

Project: Paramount Plaza  
Project Number: [none]  
Project Manager: Jay Jones

**Reported:**  
03/11/15 09:58

**Total Organic Carbon (TOC) by SM 5310 B - Quality Control**

**Sierra Analytical Labs, Inc.**

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
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**Batch B5B2427 - Organic Carbon**

**Blank (B5B2427-BLK1)**

Prepared & Analyzed: 02/24/15

Total Organic Carbon                      ND                      0.30      mg/L

**LCS (B5B2427-BS1)**

Prepared & Analyzed: 02/24/15

Total Organic Carbon                      4.15                      0.30      mg/L                      4.00                      104      80-120

**Duplicate (B5B2427-DUP1)**

**Source: 1502271-01**

Prepared & Analyzed: 02/24/15

Total Organic Carbon                      1.98                      0.30      mg/L                      2.1                      5.88                      30

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Environmental Navigation Services, Inc.  
P.O. Box 231026  
Encinitas CA, 92024

Project: Paramount Plaza  
Project Number: [none]  
Project Manager: Jay Jones

**Reported:**  
03/11/15 09:58

**Metals by EPA 200 Series Methods - Quality Control**

**Sierra Analytical Labs, Inc.**

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
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**Batch B5B1903 - EPA 200 Series**

**Blank (B5B1903-BLK1)**

Prepared: 02/19/15 Analyzed: 03/05/15

Boron ND 0.066 mg/L

**LCS (B5B1903-BS1)**

Prepared: 02/19/15 Analyzed: 03/05/15

Boron 0.199 0.066 mg/L 0.200 99.5 80-121

**Matrix Spike (B5B1903-MS1)**

**Source: 1502271-01**

Prepared: 02/19/15 Analyzed: 03/05/15

Boron 0.437 0.066 mg/L 0.200 0.21 114 70-130

**Matrix Spike Dup (B5B1903-MSD1)**

**Source: 1502271-01**

Prepared: 02/19/15 Analyzed: 03/05/15

Boron 0.439 0.066 mg/L 0.200 0.21 114 70-130 0.457 20

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Environmental Navigation Services, Inc.  
 P.O. Box 231026  
 Encinitas CA, 92024

Project: Paramount Plaza  
 Project Number: [none]  
 Project Manager: Jay Jones

**Reported:**  
 03/11/15 09:58

**Hydrocarbons by Headspace GC-FID - Quality Control**

**Sierra Analytical Labs, Inc.**

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
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**Batch B5B1902 - EPA 3810 Headspace**

**Blank (B5B1902-BLK1)**

Prepared & Analyzed: 02/19/15

Methane	ND	5.0	µg/L							
Ethane	ND	5.0	"							
Ethene	ND	5.0	"							

**LCS (B5B1902-BS1)**

Prepared & Analyzed: 02/19/15

Methane	49.2	5.0	µg/L	50.0		98.4	80-120			
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**Duplicate (B5B1902-DUP1)**

**Source: 1502271-04**

Prepared & Analyzed: 02/19/15

Methane	ND	5.0	µg/L		ND				30	
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Environmental Navigation Services, Inc.  
P.O. Box 231026  
Encinitas CA, 92024

Project: Paramount Plaza  
Project Number: [none]  
Project Manager: Jay Jones

Reported:  
03/11/15 09:58

**Volatile Organic Compounds by EPA Method 8260B - Quality Control**

**Sierra Analytical Labs, Inc.**

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
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**Batch B5B1901 - EPA 5030B P & T**

**Blank (B5B1901-BLK1)**

Prepared & Analyzed: 02/19/15

Benzene	ND	1.0	µg/L							
Bromobenzene	ND	1.0	"							
Bromochloromethane	ND	1.0	"							
Bromodichloromethane	ND	1.0	"							
Bromoform	ND	1.0	"							
Bromomethane	ND	1.0	"							
n-Butylbenzene	ND	1.0	"							
sec-Butylbenzene	ND	1.0	"							
tert-Butylbenzene	ND	1.0	"							
Carbon tetrachloride	ND	1.0	"							
Chlorobenzene	ND	1.0	"							
Chloroethane	ND	1.0	"							
Chloroform	ND	1.0	"							
Chloromethane	ND	1.0	"							
2-Chlorotoluene	ND	1.0	"							
4-Chlorotoluene	ND	1.0	"							
Dibromochloromethane	ND	1.0	"							
1,2-Dibromo-3-chloropropane	ND	5.0	"							
1,2-Dibromoethane (EDB)	ND	1.0	"							
Dibromomethane	ND	1.0	"							
1,2-Dichlorobenzene	ND	1.0	"							
1,3-Dichlorobenzene	ND	1.0	"							
1,4-Dichlorobenzene	ND	1.0	"							
Dichlorodifluoromethane	ND	1.0	"							
1,1-Dichloroethane	ND	1.0	"							
1,2-Dichloroethane	ND	1.0	"							
1,1-Dichloroethene	ND	1.0	"							
cis-1,2-Dichloroethene	ND	1.0	"							
trans-1,2-Dichloroethene	ND	1.0	"							
1,2-Dichloropropane	ND	1.0	"							
1,3-Dichloropropane	ND	1.0	"							
2,2-Dichloropropane	ND	1.0	"							
1,1-Dichloropropene	ND	1.0	"							
cis-1,3-Dichloropropene	ND	1.0	"							
trans-1,3-Dichloropropene	ND	1.0	"							
Ethylbenzene	ND	1.0	"							
Hexachlorobutadiene	ND	1.0	"							

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Environmental Navigation Services, Inc.  
P.O. Box 231026  
Encinitas CA, 92024

Project: Paramount Plaza  
Project Number: [none]  
Project Manager: Jay Jones

Reported:  
03/11/15 09:58

**Volatile Organic Compounds by EPA Method 8260B - Quality Control**

**Sierra Analytical Labs, Inc.**

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
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**Batch B5B1901 - EPA 5030B P & T**

**Blank (B5B1901-BLK1)**

Prepared & Analyzed: 02/19/15

Isopropylbenzene	ND	1.0	µg/L							
p-Isopropyltoluene	ND	1.0	"							
Methylene chloride	ND	1.0	"							
Methyl tert-butyl ether	ND	1.0	"							
Naphthalene	ND	1.0	"							
n-Propylbenzene	ND	1.0	"							
Styrene	ND	1.0	"							
1,1,1,2-Tetrachloroethane	ND	1.0	"							
1,1,2,2-Tetrachloroethane	ND	1.0	"							
Tetrachloroethene	ND	1.0	"							
Toluene	ND	1.0	"							
1,2,3-Trichlorobenzene	ND	1.0	"							
1,2,4-Trichlorobenzene	ND	1.0	"							
1,1,1-Trichloroethane	ND	1.0	"							
1,1,2-Trichloroethane	ND	1.0	"							
Trichloroethene	ND	1.0	"							
Trichlorofluoromethane	ND	1.0	"							
1,2,3-Trichloropropane	ND	1.0	"							
1,2,4-Trimethylbenzene	ND	1.0	"							
1,3,5-Trimethylbenzene	ND	1.0	"							
Vinyl chloride	ND	1.0	"							
m,p-Xylene	ND	1.0	"							
o-Xylene	ND	1.0	"							
<i>Surrogate: Dibromofluoromethane</i>	43.2		"	50.0		86.4	86-118			
<i>Surrogate: Toluene-d8</i>	46.2		"	50.0		92.4	88-110			
<i>Surrogate: 4-Bromofluorobenzene</i>	49.9		"	50.0		99.8	86-115			

**LCS (B5B1901-BS1)**

Prepared & Analyzed: 02/19/15

Benzene	48.5	1.0	µg/L	50.0		97.0	80-120			
Chlorobenzene	55.1	1.0	"	50.0		110	80-120			
1,1-Dichloroethene	46.2	1.0	"	50.0		92.4	80-120			
Toluene	45.6	1.0	"	50.0		91.2	80-120			
Trichloroethene	43.6	1.0	"	50.0		87.2	80-120			

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Environmental Navigation Services, Inc.  
 P.O. Box 231026  
 Encinitas CA, 92024

Project: Paramount Plaza  
 Project Number: [none]  
 Project Manager: Jay Jones

Reported:  
 03/11/15 09:58

**Volatile Organic Compounds by EPA Method 8260B - Quality Control**

**Sierra Analytical Labs, Inc.**

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
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**Batch B5B1901 - EPA 5030B P & T**

**Matrix Spike (B5B1901-MS1)**

Source: 1502271-05

Prepared & Analyzed: 02/19/15

Benzene	35.8	1.0	µg/L	50.0	ND	71.6	37-151			
Chlorobenzene	65.5	1.0	"	50.0	ND	131	37-160			
1,1-Dichloroethene	32.8	1.0	"	50.0	ND	65.6	50-150			
Toluene	43.9	1.0	"	50.0	ND	87.8	47-150			
Trichloroethene	45.2	1.0	"	50.0	6.5	77.4	71-157			

**Matrix Spike Dup (B5B1901-MSD1)**

Source: 1502271-05

Prepared & Analyzed: 02/19/15

Benzene	32.6	1.0	µg/L	50.0	ND	65.2	37-151	9.36	30	
Chlorobenzene	57.9	1.0	"	50.0	ND	116	37-160	12.3	30	
1,1-Dichloroethene	30.2	1.0	"	50.0	ND	60.4	50-150	8.25	30	
Toluene	39.9	1.0	"	50.0	ND	79.8	47-150	9.55	30	
Trichloroethene	42.8	1.0	"	50.0	6.5	72.6	71-157	5.45	30	

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Environmental Navigation Services, Inc.  
P.O. Box 231026  
Encinitas CA, 92024

Project: Paramount Plaza  
Project Number: [none]  
Project Manager: Jay Jones

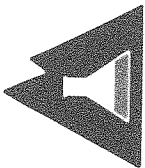
**Reported:**  
03/11/15 09:58

### Notes and Definitions

DET Analyte DETECTED  
ND Analyte NOT DETECTED at or above the reporting limit  
NR Not Reported  
dry Sample results reported on a dry weight basis  
RPD Relative Percent Difference

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SIERRA ANALYTICAL  
 TEL: 949-348-9389  
 FAX: 949-348-9115  
 26052 Merit Circle • Suite 105 • Laguna Hills, CA • 92653

CHAIN OF CUSTODY RECORD

Date: 2/18/15 Page 1 of 1

Lab Project No.: 150137C

Client Project ID: FALANCAST

Turn Around  Immediate  24 Hour  
 Time Requested  48 Hour  72 Hour  
 4 Day  5 Day  
 Normal  Mobile

Client: ENAE  
 Client Address: 706 231026  
INENMAY CA  
92023-1026  
 Client Tel. No.: 700 944 9876  
 Client Fax. No.: Juanavest@arsen.nex  
 Client Proj. Mgr.: Jay Jones

Analysis Requested

Client Sample ID	Sierra No.	Date	Time	Matrix	Preservative	Container Type	No. of Containers
MW-1-GW-021815	01	2/19/15	1:13	H <sub>2</sub> O	see	BC	2
MW-2-GW-021815	02	12:15	2:00	H <sub>2</sub> O	below	A	3
MW-3-GW-021815	03						
MW-4-GW-021815	04	7:46	9:55	H <sub>2</sub> O	}	ZAB,C	0
MW-6-GW-021815	05						
MW-7-GW-021815	06	10:30		H <sub>2</sub> O	g	ZABC	0

Geotracker EDD Info:  
 Client LOGCODE: ENAE  
 Site Global ID: \_\_\_\_\_  
 Field Point Names/Comments:  
 MW-1 PH  
 MW-2 Field Camp  
 MW-3 NITRATE/NITRATE  
 MW-4 Boron  
 MW-6 Sulfate  
 MW-7 TDS, m 160.1  
 VOCs, M82608  
 Diss. Gases, M8260  
 Total Organic Carbon

1. Sampler Signature: [Signature]  
 Printed Name: Jay Jones  
 Shipped Via: Hand-Delivered  
 (Carrier/Voucher No.)  
 2. Relinquished By: [Signature]  
 Date: 2/19/15 Time: 5:35  
 Received By: [Signature]  
 Date: 2/18/15 Time: 15:35  
 Company: Sierra  
 3. Relinquished By: \_\_\_\_\_  
 Date: \_\_\_\_\_ Time: \_\_\_\_\_  
 Company: \_\_\_\_\_  
 4. Relinquished By: \_\_\_\_\_  
 Date: \_\_\_\_\_ Time: \_\_\_\_\_  
 Company: \_\_\_\_\_

Total Number of Containers Submitted to Laboratory: \_\_\_\_\_  
 Total Number of Containers Received by Laboratory: \_\_\_\_\_

FOR LABORATORY USE ONLY - Sample Receipt Conditions:  
 Intact  Chilled Temp. (°C) 4.0  
 Sample Seals  Preservatives - Verified By: \_\_\_\_\_  
 Properly Labelled  Other: \_\_\_\_\_  
 Appropriate Sample Container  Storage Location: DBA-435

Special Instructions: \_\_\_\_\_



10515 Research Drive  
Knoxville, TN 37932  
Phone: (865) 573-8188  
Fax: (865) 573-8133

---

**Client:** Jay Jones  
Environmental Navigation Services, Inc ( ENSI )  
PO Box 231026  
Encinitas, CA 92023-1026

**Phone:** 760 944 9576

**Fax:**

**Identifier:** 052MB      **Date Rec:** 02/20/2015      **Report Date:** 02/25/2015

**Client Project #:**      **Client Project Name:** Paramount

**Purchase Order #:**

**Analysis Requested:** CENSUS

**Reviewed By:**

A handwritten signature in black ink that reads 'Cary Brown'.

---

NOTICE: This report is intended only for the addressee shown above and may contain confidential or privileged information. If the recipient of this material is not the intended recipient or if you have received this in error, please notify Microbial Insights, Inc. immediately. The data and other information in this report represent only the sample(s) analyzed and are rendered upon condition that it is not to be reproduced without approval from Microbial Insights, Inc. Thank you for your cooperation.

**Client:** Environmental Navigation Services, Inc ( ENS)  
**Project:** Paramount

**MI Project Number:** 052MB  
**Date Received:** 02/20/2015

**Sample Information**

<b>Client Sample ID:</b>	<b>MW-4-GW</b>	<b>MW-7-GW</b>
Sample Date:	02/18/2015	02/18/2015
Units:	cells/mL	cells/mL
Analyst:	CB	CB

**Dechlorinating Bacteria**

<i>Dehalococcoides</i>	DHC	<3.00E-01	<3.00E-01
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**Legend:**

NA = Not Analyzed    NS = Not Sampled    J = Estimated gene copies below PQL but above LQL    I = Inhibited  
< = Result not detected





27 March 2015

Jay Jones  
Environmental Navigation Services, Inc.  
P.O. Box 231026  
Encinitas, CA 92024  
RE:Paramount Plaza  
Work Order No.: 1503292

Attached are the results of the analyses for samples received by the laboratory on 03/19/15 13:10.

The samples were received by Sierra Analytical Labs, Inc. with a chain of custody record attached or completed at the submittal of the samples.

The analyses were performed according to the prescribed method as outlined by EPA, Standard Methods, and A.S.T.M.

The remaining portions of the samples will be disposed of within 30 days from the date of this report.  
If you require any additional retaining time, please advise us.

Sincerely,

A handwritten signature in black ink that reads "Richard K. Forsyth". The signature is written in a cursive style and is positioned above a horizontal line.

Richard K. Forsyth

Laboratory Director

Sierra Analytical Labs, Inc. is certified by the California Department of Health Services (DOHS),  
Environmental Laboratory Accreditation Program (ELAP) No. 2320.



Environmental Navigation Services, Inc.  
P.O. Box 231026  
Encinitas CA, 92024

Project: Paramount Plaza  
Project Number: [none]  
Project Manager: Jay Jones

**Reported:**  
03/27/15 14:07

**ANALYTICAL REPORT FOR SAMPLES**

Sample ID	Laboratory ID	Matrix	Date Sampled	Date Received
MW-1-GW-031915	1503292-01	Liquid	03/19/15 11:36	03/19/15 13:10
MW-2-GW-031915	1503292-02	Liquid	03/19/15 10:51	03/19/15 13:10
MW-3-GW-031915	1503292-03	Liquid	03/19/15 10:20	03/19/15 13:10
MW-4-GW-031915	1503292-04	Liquid	03/19/15 07:45	03/19/15 13:10
MW-6-GW-031915	1503292-05	Liquid	03/19/15 11:13	03/19/15 13:10
MW-7-GW-031915	1503292-06	Liquid	03/19/15 09:14	03/19/15 13:10

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Environmental Navigation Services, Inc.  
 P.O. Box 231026  
 Encinitas CA, 92024

Project: Paramount Plaza  
 Project Number: [none]  
 Project Manager: Jay Jones

Reported:  
 03/27/15 14:07

**Conventional Chemistry Parameters by APHA/EPA Methods**  
**Sierra Analytical Labs, Inc.**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
<b>MW-1-GW-031915 (1503292-01) Liquid    Sampled: 03/19/15 11:36    Received: 03/19/15 13:10</b>									
Chloride	248	0.500	mg/L	1	B5C2446	03/19/15	03/19/15 15:30	SM 4500-Cl- B	
Specific Conductance (EC)	2140	0.100	µmhos/cm	"	"	"	"	EPA 120.1	
Nitrite as N	ND	0.0200	mg/L	"	"	"	"	SM4500-NO2B	
Nitrate as N	1.50	0.0200	"	"	"	"	"	EPA 353.3	
Nitrate/Nitrite as N	1.51	0.0200	"	"	"	"	"	"	
pH	7.09	0.100	pH Units	"	"	"	"	EPA 150.1	
Sulfate as SO4	230	5.00	mg/L	10	"	"	"	EPA 375.4	
Total Dissolved Solids	1400	1.00	"	1	"	"	"	EPA 160.1	
<b>MW-3-GW-031915 (1503292-03) Liquid    Sampled: 03/19/15 10:20    Received: 03/19/15 13:10</b>									
Chloride	153	0.500	mg/L	1	B5C2446	03/19/15	03/19/15 15:30	SM 4500-Cl- B	
Specific Conductance (EC)	2990	0.100	µmhos/cm	"	"	"	"	EPA 120.1	
Nitrite as N	0.0230	0.0200	mg/L	"	"	"	"	SM4500-NO2B	
Nitrate as N	1.60	0.0200	"	"	"	"	"	EPA 353.3	
Nitrate/Nitrite as N	1.62	0.0200	"	"	"	"	"	"	
pH	7.16	0.100	pH Units	"	"	"	"	EPA 150.1	
Sulfate as SO4	310	5.00	mg/L	10	"	"	"	EPA 375.4	
Total Dissolved Solids	1950	1.00	"	1	"	"	"	EPA 160.1	
<b>MW-4-GW-031915 (1503292-04) Liquid    Sampled: 03/19/15 07:45    Received: 03/19/15 13:10</b>									
Chloride	621	0.500	mg/L	1	B5C2446	03/19/15	03/19/15 15:30	SM 4500-Cl- B	
Specific Conductance (EC)	3620	0.100	µmhos/cm	"	"	"	"	EPA 120.1	
Nitrite as N	0.0220	0.0200	mg/L	"	"	"	"	SM4500-NO2B	
Nitrate as N	1.20	0.0200	"	"	"	"	"	EPA 353.3	
Nitrate/Nitrite as N	1.22	0.0200	"	"	"	"	"	"	
pH	6.93	0.100	pH Units	"	"	"	"	EPA 150.1	
Sulfate as SO4	430	5.00	mg/L	10	"	"	"	EPA 375.4	
Total Dissolved Solids	2370	1.00	"	1	"	"	"	EPA 160.1	

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Environmental Navigation Services, Inc.  
 P.O. Box 231026  
 Encinitas CA, 92024

Project: Paramount Plaza  
 Project Number: [none]  
 Project Manager: Jay Jones

**Reported:**  
 03/27/15 14:07

**Conventional Chemistry Parameters by APHA/EPA Methods**  
**Sierra Analytical Labs, Inc.**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
<b>MW-7-GW-031915 (1503292-06) Liquid    Sampled: 03/19/15 09:14    Received: 03/19/15 13:10</b>									
<b>Chloride</b>	<b>228</b>	0.500	mg/L	1	B5C2446	03/19/15	03/19/15 15:30	SM 4500-Cl- B	
<b>Specific Conductance (EC)</b>	<b>2380</b>	0.100	µmhos/cm	"	"	"	"	EPA 120.1	
<b>Nitrite as N</b>	<b>0.0250</b>	0.0200	mg/L	"	"	"	"	SM4500-NO2B	
<b>Nitrate as N</b>	<b>1.40</b>	0.0200	"	"	"	"	"	EPA 353.3	
<b>Nitrate/Nitrite as N</b>	<b>1.42</b>	0.0200	"	"	"	"	"	"	
<b>pH</b>	<b>7.03</b>	0.100	pH Units	"	"	"	"	EPA 150.1	
<b>Sulfate as SO4</b>	<b>300</b>	5.00	mg/L	10	"	"	"	EPA 375.4	
<b>Total Dissolved Solids</b>	<b>1560</b>	1.00	"	1	"	"	"	EPA 160.1	

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Environmental Navigation Services, Inc.  
P.O. Box 231026  
Encinitas CA, 92024

Project: Paramount Plaza  
Project Number: [none]  
Project Manager: Jay Jones

**Reported:**  
03/27/15 14:07

**Total Organic Carbon (TOC) by SM 5310 B**  
**Sierra Analytical Labs, Inc.**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
<b>MW-1-GW-031915 (1503292-01) Liquid    Sampled: 03/19/15 11:36    Received: 03/19/15 13:10</b>									
<b>Total Organic Carbon</b>	<b>2.0</b>	0.50	mg/L	1	B5C2609	03/25/15	03/25/15 15:18	SM 5310 B	
<b>MW-3-GW-031915 (1503292-03) Liquid    Sampled: 03/19/15 10:20    Received: 03/19/15 13:10</b>									
<b>Total Organic Carbon</b>	<b>1.2</b>	0.50	mg/L	1	B5C2609	03/25/15	03/25/15 15:18	SM 5310 B	
<b>MW-4-GW-031915 (1503292-04) Liquid    Sampled: 03/19/15 07:45    Received: 03/19/15 13:10</b>									
<b>Total Organic Carbon</b>	<b>0.89</b>	0.50	mg/L	1	B5C2609	03/25/15	03/25/15 15:18	SM 5310 B	
<b>MW-7-GW-031915 (1503292-06) Liquid    Sampled: 03/19/15 09:14    Received: 03/19/15 13:10</b>									
<b>Total Organic Carbon</b>	<b>0.62</b>	0.50	mg/L	1	B5C2609	03/25/15	03/25/15 15:18	SM 5310 B	

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Environmental Navigation Services, Inc.  
P.O. Box 231026  
Encinitas CA, 92024

Project: Paramount Plaza  
Project Number: [none]  
Project Manager: Jay Jones

**Reported:**  
03/27/15 14:07

**Metals by EPA 200 Series Methods**  
**Sierra Analytical Labs, Inc.**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
<b>MW-1-GW-031915 (1503292-01) Liquid    Sampled: 03/19/15 11:36    Received: 03/19/15 13:10</b>									
<b>Boron</b>	<b>0.21</b>	0.066	mg/L	1	B5C1918	03/19/15	03/20/15 12:40	EPA 200.7	
<b>MW-3-GW-031915 (1503292-03) Liquid    Sampled: 03/19/15 10:20    Received: 03/19/15 13:10</b>									
<b>Boron</b>	<b>0.87</b>	0.066	mg/L	1	B5C1918	03/19/15	03/20/15 12:40	EPA 200.7	
<b>MW-4-GW-031915 (1503292-04) Liquid    Sampled: 03/19/15 07:45    Received: 03/19/15 13:10</b>									
<b>Boron</b>	<b>0.23</b>	0.066	mg/L	1	B5C1918	03/19/15	03/20/15 12:40	EPA 200.7	
<b>MW-7-GW-031915 (1503292-06) Liquid    Sampled: 03/19/15 09:14    Received: 03/19/15 13:10</b>									
<b>Boron</b>	<b>0.16</b>	0.066	mg/L	1	B5C1918	03/19/15	03/20/15 12:40	EPA 200.7	

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Environmental Navigation Services, Inc.  
 P.O. Box 231026  
 Encinitas CA, 92024

Project: Paramount Plaza  
 Project Number: [none]  
 Project Manager: Jay Jones

**Reported:**  
 03/27/15 14:07

**Hydrocarbons by Headspace GC-FID**

**Sierra Analytical Labs, Inc.**

Analyte	Result	Reporting		Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit								
<b>MW-4-GW-031915 (1503292-04) Liquid    Sampled: 03/19/15 07:45    Received: 03/19/15 13:10</b>										
Methane	ND	5.0		µg/L	1	B5C2611	03/26/15	03/26/15 11:48	EPA 8015B	
Ethane	ND	5.0		"	"	"	"	"	"	"
Ethene	ND	5.0		"	"	"	"	"	"	"
<b>MW-7-GW-031915 (1503292-06) Liquid    Sampled: 03/19/15 09:14    Received: 03/19/15 13:10</b>										
Methane	ND	5.0		µg/L	1	B5C2611	03/26/15	03/26/15 11:48	EPA 8015B	
Ethane	ND	5.0		"	"	"	"	"	"	"
Ethene	ND	5.0		"	"	"	"	"	"	"

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Environmental Navigation Services, Inc.  
 P.O. Box 231026  
 Encinitas CA, 92024

Project: Paramount Plaza  
 Project Number: [none]  
 Project Manager: Jay Jones

Reported:  
 03/27/15 14:07

**Volatile Organic Compounds by EPA Method 8260B**

**Sierra Analytical Labs, Inc.**

Analyte	Result	Reporting		Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit								
<b>MW-2-GW-031915 (1503292-02) Liquid Sampled: 03/19/15 10:51 Received: 03/19/15 13:10</b>										
Benzene	ND	1.0		µg/L	1	B5C2443	03/23/15	03/23/15 18:41	EPA 8260B	
Bromobenzene	ND	1.0		"	"	"	"	"	"	"
Bromochloromethane	ND	1.0		"	"	"	"	"	"	"
Bromodichloromethane	ND	1.0		"	"	"	"	"	"	"
Bromoform	ND	1.0		"	"	"	"	"	"	"
Bromomethane	ND	1.0		"	"	"	"	"	"	"
n-Butylbenzene	ND	1.0		"	"	"	"	"	"	"
sec-Butylbenzene	ND	1.0		"	"	"	"	"	"	"
tert-Butylbenzene	ND	1.0		"	"	"	"	"	"	"
Carbon tetrachloride	ND	1.0		"	"	"	"	"	"	"
Chlorobenzene	ND	1.0		"	"	"	"	"	"	"
Chloroethane	ND	1.0		"	"	"	"	"	"	"
Chloroform	ND	1.0		"	"	"	"	"	"	"
Chloromethane	ND	1.0		"	"	"	"	"	"	"
2-Chlorotoluene	ND	1.0		"	"	"	"	"	"	"
4-Chlorotoluene	ND	1.0		"	"	"	"	"	"	"
Dibromochloromethane	ND	1.0		"	"	"	"	"	"	"
1,2-Dibromo-3-chloropropane	ND	5.0		"	"	"	"	"	"	"
1,2-Dibromoethane (EDB)	ND	1.0		"	"	"	"	"	"	"
Dibromomethane	ND	1.0		"	"	"	"	"	"	"
1,2-Dichlorobenzene	ND	1.0		"	"	"	"	"	"	"
1,3-Dichlorobenzene	ND	1.0		"	"	"	"	"	"	"
1,4-Dichlorobenzene	ND	1.0		"	"	"	"	"	"	"
Dichlorodifluoromethane	ND	1.0		"	"	"	"	"	"	"
1,1-Dichloroethane	ND	1.0		"	"	"	"	"	"	"
1,2-Dichloroethane	ND	1.0		"	"	"	"	"	"	"
1,1-Dichloroethene	ND	1.0		"	"	"	"	"	"	"
<b>cis-1,2-Dichloroethene</b>	<b>4.1</b>	1.0		"	"	"	"	"	"	"
trans-1,2-Dichloroethene	ND	1.0		"	"	"	"	"	"	"
1,2-Dichloropropane	ND	1.0		"	"	"	"	"	"	"
1,3-Dichloropropane	ND	1.0		"	"	"	"	"	"	"
2,2-Dichloropropane	ND	1.0		"	"	"	"	"	"	"
1,1-Dichloropropene	ND	1.0		"	"	"	"	"	"	"
cis-1,3-Dichloropropene	ND	1.0		"	"	"	"	"	"	"
trans-1,3-Dichloropropene	ND	1.0		"	"	"	"	"	"	"
Ethylbenzene	ND	1.0		"	"	"	"	"	"	"
Hexachlorobutadiene	ND	1.0		"	"	"	"	"	"	"
Isopropylbenzene	ND	1.0		"	"	"	"	"	"	"
p-Isopropyltoluene	ND	1.0		"	"	"	"	"	"	"
Methylene chloride	ND	1.0		"	"	"	"	"	"	"
Methyl tert-butyl ether	ND	1.0		"	"	"	"	"	"	"

The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.





Environmental Navigation Services, Inc.  
 P.O. Box 231026  
 Encinitas CA, 92024

Project: Paramount Plaza  
 Project Number: [none]  
 Project Manager: Jay Jones

Reported:  
 03/27/15 14:07

**Volatile Organic Compounds by EPA Method 8260B**

**Sierra Analytical Labs, Inc.**

Analyte	Result	Reporting		Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit								
<b>MW-2-GW-031915 (1503292-02) Liquid Sampled: 03/19/15 10:51 Received: 03/19/15 13:10</b>										
Naphthalene	ND	1.0		µg/L	1	B5C2443	03/23/15	03/23/15 18:41	EPA 8260B	
n-Propylbenzene	ND	1.0		"	"	"	"	"	"	"
Styrene	ND	1.0		"	"	"	"	"	"	"
1,1,1,2-Tetrachloroethane	ND	1.0		"	"	"	"	"	"	"
1,1,2,2-Tetrachloroethane	ND	1.0		"	"	"	"	"	"	"
<b>Tetrachloroethene</b>	<b>47</b>	1.0		"	"	"	"	"	"	"
Toluene	ND	1.0		"	"	"	"	"	"	"
1,2,3-Trichlorobenzene	ND	1.0		"	"	"	"	"	"	"
1,2,4-Trichlorobenzene	ND	1.0		"	"	"	"	"	"	"
1,1,1-Trichloroethane	ND	1.0		"	"	"	"	"	"	"
1,1,2-Trichloroethane	ND	1.0		"	"	"	"	"	"	"
<b>Trichloroethene</b>	<b>89</b>	1.0		"	"	"	"	"	"	"
Trichlorofluoromethane	ND	1.0		"	"	"	"	"	"	"
1,2,3-Trichloropropane	ND	1.0		"	"	"	"	"	"	"
1,2,4-Trimethylbenzene	ND	1.0		"	"	"	"	"	"	"
1,3,5-Trimethylbenzene	ND	1.0		"	"	"	"	"	"	"
Vinyl chloride	ND	1.0		"	"	"	"	"	"	"
m,p-Xylene	ND	1.0		"	"	"	"	"	"	"
o-Xylene	ND	1.0		"	"	"	"	"	"	"
<i>Surrogate: Dibromofluoromethane</i>		102 %		86-118		"	"	"	"	"
<i>Surrogate: Toluene-d8</i>		94.4 %		88-110		"	"	"	"	"
<i>Surrogate: 4-Bromofluorobenzene</i>		107 %		86-115		"	"	"	"	"

<b>MW-4-GW-031915 (1503292-04) Liquid Sampled: 03/19/15 07:45 Received: 03/19/15 13:10</b>										
Benzene	ND	1.0		µg/L	1	B5C2443	03/23/15	03/23/15 19:17	EPA 8260B	
Bromobenzene	ND	1.0		"	"	"	"	"	"	"
Bromochloromethane	ND	1.0		"	"	"	"	"	"	"
Bromodichloromethane	ND	1.0		"	"	"	"	"	"	"
Bromoform	ND	1.0		"	"	"	"	"	"	"
Bromomethane	ND	1.0		"	"	"	"	"	"	"
n-Butylbenzene	ND	1.0		"	"	"	"	"	"	"
sec-Butylbenzene	ND	1.0		"	"	"	"	"	"	"
tert-Butylbenzene	ND	1.0		"	"	"	"	"	"	"
Carbon tetrachloride	ND	1.0		"	"	"	"	"	"	"
Chlorobenzene	ND	1.0		"	"	"	"	"	"	"
Chloroethane	ND	1.0		"	"	"	"	"	"	"
Chloroform	ND	1.0		"	"	"	"	"	"	"
Chloromethane	ND	1.0		"	"	"	"	"	"	"
2-Chlorotoluene	ND	1.0		"	"	"	"	"	"	"
4-Chlorotoluene	ND	1.0		"	"	"	"	"	"	"
Dibromochloromethane	ND	1.0		"	"	"	"	"	"	"

The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.



Environmental Navigation Services, Inc.  
P.O. Box 231026  
Encinitas CA, 92024

Project: Paramount Plaza  
Project Number: [none]  
Project Manager: Jay Jones

Reported:  
03/27/15 14:07

**Volatile Organic Compounds by EPA Method 8260B**

**Sierra Analytical Labs, Inc.**

Analyte	Result	Reporting		Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit								
<b>MW-4-GW-031915 (1503292-04) Liquid Sampled: 03/19/15 07:45 Received: 03/19/15 13:10</b>										
1,2-Dibromo-3-chloropropane	ND	5.0		µg/L	1	B5C2443	03/23/15	03/23/15 19:17	EPA 8260B	
1,2-Dibromoethane (EDB)	ND	1.0		"	"	"	"	"	"	"
Dibromomethane	ND	1.0		"	"	"	"	"	"	"
1,2-Dichlorobenzene	ND	1.0		"	"	"	"	"	"	"
1,3-Dichlorobenzene	ND	1.0		"	"	"	"	"	"	"
1,4-Dichlorobenzene	ND	1.0		"	"	"	"	"	"	"
Dichlorodifluoromethane	ND	1.0		"	"	"	"	"	"	"
1,1-Dichloroethane	ND	1.0		"	"	"	"	"	"	"
1,2-Dichloroethane	ND	1.0		"	"	"	"	"	"	"
1,1-Dichloroethene	ND	1.0		"	"	"	"	"	"	"
<b>cis-1,2-Dichloroethene</b>	<b>3.7</b>	1.0		"	"	"	"	"	"	"
trans-1,2-Dichloroethene	ND	1.0		"	"	"	"	"	"	"
1,2-Dichloropropane	ND	1.0		"	"	"	"	"	"	"
1,3-Dichloropropane	ND	1.0		"	"	"	"	"	"	"
2,2-Dichloropropane	ND	1.0		"	"	"	"	"	"	"
1,1-Dichloropropene	ND	1.0		"	"	"	"	"	"	"
cis-1,3-Dichloropropene	ND	1.0		"	"	"	"	"	"	"
trans-1,3-Dichloropropene	ND	1.0		"	"	"	"	"	"	"
Ethylbenzene	ND	1.0		"	"	"	"	"	"	"
Hexachlorobutadiene	ND	1.0		"	"	"	"	"	"	"
Isopropylbenzene	ND	1.0		"	"	"	"	"	"	"
p-Isopropyltoluene	ND	1.0		"	"	"	"	"	"	"
Methylene chloride	ND	1.0		"	"	"	"	"	"	"
Methyl tert-butyl ether	ND	1.0		"	"	"	"	"	"	"
Naphthalene	ND	1.0		"	"	"	"	"	"	"
n-Propylbenzene	ND	1.0		"	"	"	"	"	"	"
Styrene	ND	1.0		"	"	"	"	"	"	"
1,1,1,2-Tetrachloroethane	ND	1.0		"	"	"	"	"	"	"
1,1,2,2-Tetrachloroethane	ND	1.0		"	"	"	"	"	"	"
<b>Tetrachloroethene</b>	<b>29</b>	1.0		"	"	"	"	"	"	"
Toluene	ND	1.0		"	"	"	"	"	"	"
1,2,3-Trichlorobenzene	ND	1.0		"	"	"	"	"	"	"
1,2,4-Trichlorobenzene	ND	1.0		"	"	"	"	"	"	"
1,1,1-Trichloroethane	ND	1.0		"	"	"	"	"	"	"
1,1,2-Trichloroethane	ND	1.0		"	"	"	"	"	"	"
<b>Trichloroethene</b>	<b>88</b>	1.0		"	"	"	"	"	"	"
Trichlorofluoromethane	ND	1.0		"	"	"	"	"	"	"
1,2,3-Trichloropropane	ND	1.0		"	"	"	"	"	"	"
1,2,4-Trimethylbenzene	ND	1.0		"	"	"	"	"	"	"
1,3,5-Trimethylbenzene	ND	1.0		"	"	"	"	"	"	"
Vinyl chloride	ND	1.0		"	"	"	"	"	"	"

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Environmental Navigation Services, Inc.  
 P.O. Box 231026  
 Encinitas CA, 92024

Project: Paramount Plaza  
 Project Number: [none]  
 Project Manager: Jay Jones

Reported:  
 03/27/15 14:07

**Volatile Organic Compounds by EPA Method 8260B**

**Sierra Analytical Labs, Inc.**

Analyte	Result	Reporting		Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit								
<b>MW-4-GW-031915 (1503292-04) Liquid Sampled: 03/19/15 07:45 Received: 03/19/15 13:10</b>										
m,p-Xylene	ND	1.0		µg/L	1	B5C2443	03/23/15	03/23/15 19:17	EPA 8260B	
o-Xylene	ND	1.0		"	"	"	"	"	"	
<i>Surrogate: Dibromofluoromethane</i>		97.6 %		86-118		"	"	"	"	
<i>Surrogate: Toluene-d8</i>		105 %		88-110		"	"	"	"	
<i>Surrogate: 4-Bromofluorobenzene</i>		102 %		86-115		"	"	"	"	
<b>MW-6-GW-031915 (1503292-05) Liquid Sampled: 03/19/15 11:13 Received: 03/19/15 13:10</b>										
Benzene	ND	1.0		µg/L	1	B5C2443	03/23/15	03/23/15 19:54	EPA 8260B	
Bromobenzene	ND	1.0		"	"	"	"	"	"	
Bromochloromethane	ND	1.0		"	"	"	"	"	"	
Bromodichloromethane	ND	1.0		"	"	"	"	"	"	
Bromoform	ND	1.0		"	"	"	"	"	"	
Bromomethane	ND	1.0		"	"	"	"	"	"	
n-Butylbenzene	ND	1.0		"	"	"	"	"	"	
sec-Butylbenzene	ND	1.0		"	"	"	"	"	"	
tert-Butylbenzene	ND	1.0		"	"	"	"	"	"	
Carbon tetrachloride	ND	1.0		"	"	"	"	"	"	
Chlorobenzene	ND	1.0		"	"	"	"	"	"	
Chloroethane	ND	1.0		"	"	"	"	"	"	
Chloroform	ND	1.0		"	"	"	"	"	"	
Chloromethane	ND	1.0		"	"	"	"	"	"	
2-Chlorotoluene	ND	1.0		"	"	"	"	"	"	
4-Chlorotoluene	ND	1.0		"	"	"	"	"	"	
Dibromochloromethane	ND	1.0		"	"	"	"	"	"	
1,2-Dibromo-3-chloropropane	ND	5.0		"	"	"	"	"	"	
1,2-Dibromoethane (EDB)	ND	1.0		"	"	"	"	"	"	
Dibromomethane	ND	1.0		"	"	"	"	"	"	
1,2-Dichlorobenzene	ND	1.0		"	"	"	"	"	"	
1,3-Dichlorobenzene	ND	1.0		"	"	"	"	"	"	
1,4-Dichlorobenzene	ND	1.0		"	"	"	"	"	"	
Dichlorodifluoromethane	ND	1.0		"	"	"	"	"	"	
1,1-Dichloroethane	ND	1.0		"	"	"	"	"	"	
1,2-Dichloroethane	ND	1.0		"	"	"	"	"	"	
1,1-Dichloroethene	ND	1.0		"	"	"	"	"	"	
<b>cis-1,2-Dichloroethene</b>	<b>1.7</b>	1.0		"	"	"	"	"	"	
trans-1,2-Dichloroethene	ND	1.0		"	"	"	"	"	"	
1,2-Dichloropropane	ND	1.0		"	"	"	"	"	"	
1,3-Dichloropropane	ND	1.0		"	"	"	"	"	"	
2,2-Dichloropropane	ND	1.0		"	"	"	"	"	"	
1,1-Dichloropropene	ND	1.0		"	"	"	"	"	"	
cis-1,3-Dichloropropene	ND	1.0		"	"	"	"	"	"	

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Environmental Navigation Services, Inc.  
 P.O. Box 231026  
 Encinitas CA, 92024

Project: Paramount Plaza  
 Project Number: [none]  
 Project Manager: Jay Jones

Reported:  
 03/27/15 14:07

**Volatile Organic Compounds by EPA Method 8260B**

**Sierra Analytical Labs, Inc.**

Analyte	Result	Reporting		Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit								
<b>MW-6-GW-031915 (1503292-05) Liquid Sampled: 03/19/15 11:13 Received: 03/19/15 13:10</b>										
trans-1,3-Dichloropropene	ND	1.0		µg/L	1	B5C2443	03/23/15	03/23/15 19:54	EPA 8260B	
Ethylbenzene	ND	1.0		"	"	"	"	"	"	"
Hexachlorobutadiene	ND	1.0		"	"	"	"	"	"	"
Isopropylbenzene	ND	1.0		"	"	"	"	"	"	"
p-Isopropyltoluene	ND	1.0		"	"	"	"	"	"	"
Methylene chloride	ND	1.0		"	"	"	"	"	"	"
Methyl tert-butyl ether	ND	1.0		"	"	"	"	"	"	"
Naphthalene	ND	1.0		"	"	"	"	"	"	"
n-Propylbenzene	ND	1.0		"	"	"	"	"	"	"
Styrene	ND	1.0		"	"	"	"	"	"	"
1,1,1,2-Tetrachloroethane	ND	1.0		"	"	"	"	"	"	"
1,1,2,2-Tetrachloroethane	ND	1.0		"	"	"	"	"	"	"
<b>Tetrachloroethene</b>	<b>6.1</b>	1.0		"	"	"	"	"	"	"
Toluene	ND	1.0		"	"	"	"	"	"	"
1,2,3-Trichlorobenzene	ND	1.0		"	"	"	"	"	"	"
1,2,4-Trichlorobenzene	ND	1.0		"	"	"	"	"	"	"
1,1,1-Trichloroethane	ND	1.0		"	"	"	"	"	"	"
1,1,2-Trichloroethane	ND	1.0		"	"	"	"	"	"	"
<b>Trichloroethene</b>	<b>12</b>	1.0		"	"	"	"	"	"	"
Trichlorofluoromethane	ND	1.0		"	"	"	"	"	"	"
1,2,3-Trichloropropane	ND	1.0		"	"	"	"	"	"	"
1,2,4-Trimethylbenzene	ND	1.0		"	"	"	"	"	"	"
1,3,5-Trimethylbenzene	ND	1.0		"	"	"	"	"	"	"
Vinyl chloride	ND	1.0		"	"	"	"	"	"	"
m,p-Xylene	ND	1.0		"	"	"	"	"	"	"
o-Xylene	ND	1.0		"	"	"	"	"	"	"
<i>Surrogate: Dibromofluoromethane</i>		93.6 %		86-118		"	"	"	"	"
<i>Surrogate: Toluene-d8</i>		99.2 %		88-110		"	"	"	"	"
<i>Surrogate: 4-Bromofluorobenzene</i>		100 %		86-115		"	"	"	"	"

The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.



Environmental Navigation Services, Inc.  
 P.O. Box 231026  
 Encinitas CA, 92024

Project: Paramount Plaza  
 Project Number: [none]  
 Project Manager: Jay Jones

Reported:  
 03/27/15 14:07

**Volatile Organic Compounds by EPA Method 8260B**

**Sierra Analytical Labs, Inc.**

Analyte	Result	Reporting		Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit								
<b>MW-7-GW-031915 (1503292-06) Liquid Sampled: 03/19/15 09:14 Received: 03/19/15 13:10</b>										
Benzene	ND	1.0		µg/L	1	B5C2443	03/23/15	03/23/15 20:30	EPA 8260B	
Bromobenzene	ND	1.0		"	"	"	"	"	"	"
Bromochloromethane	ND	1.0		"	"	"	"	"	"	"
Bromodichloromethane	ND	1.0		"	"	"	"	"	"	"
Bromoform	ND	1.0		"	"	"	"	"	"	"
Bromomethane	ND	1.0		"	"	"	"	"	"	"
n-Butylbenzene	ND	1.0		"	"	"	"	"	"	"
sec-Butylbenzene	ND	1.0		"	"	"	"	"	"	"
tert-Butylbenzene	ND	1.0		"	"	"	"	"	"	"
Carbon tetrachloride	ND	1.0		"	"	"	"	"	"	"
Chlorobenzene	ND	1.0		"	"	"	"	"	"	"
<b>Chloroethane</b>	<b>2.0</b>	1.0		"	"	"	"	"	"	"
Chloroform	ND	1.0		"	"	"	"	"	"	"
Chloromethane	ND	1.0		"	"	"	"	"	"	"
2-Chlorotoluene	ND	1.0		"	"	"	"	"	"	"
4-Chlorotoluene	ND	1.0		"	"	"	"	"	"	"
Dibromochloromethane	ND	1.0		"	"	"	"	"	"	"
1,2-Dibromo-3-chloropropane	ND	5.0		"	"	"	"	"	"	"
1,2-Dibromoethane (EDB)	ND	1.0		"	"	"	"	"	"	"
Dibromomethane	ND	1.0		"	"	"	"	"	"	"
1,2-Dichlorobenzene	ND	1.0		"	"	"	"	"	"	"
1,3-Dichlorobenzene	ND	1.0		"	"	"	"	"	"	"
1,4-Dichlorobenzene	ND	1.0		"	"	"	"	"	"	"
Dichlorodifluoromethane	ND	1.0		"	"	"	"	"	"	"
1,1-Dichloroethane	ND	1.0		"	"	"	"	"	"	"
1,2-Dichloroethane	ND	1.0		"	"	"	"	"	"	"
1,1-Dichloroethene	ND	1.0		"	"	"	"	"	"	"
<b>cis-1,2-Dichloroethene</b>	<b>12</b>	1.0		"	"	"	"	"	"	"
trans-1,2-Dichloroethene	ND	1.0		"	"	"	"	"	"	"
1,2-Dichloropropane	ND	1.0		"	"	"	"	"	"	"
1,3-Dichloropropane	ND	1.0		"	"	"	"	"	"	"
2,2-Dichloropropane	ND	1.0		"	"	"	"	"	"	"
1,1-Dichloropropene	ND	1.0		"	"	"	"	"	"	"
cis-1,3-Dichloropropene	ND	1.0		"	"	"	"	"	"	"
trans-1,3-Dichloropropene	ND	1.0		"	"	"	"	"	"	"
Ethylbenzene	ND	1.0		"	"	"	"	"	"	"
Hexachlorobutadiene	ND	1.0		"	"	"	"	"	"	"
Isopropylbenzene	ND	1.0		"	"	"	"	"	"	"
p-Isopropyltoluene	ND	1.0		"	"	"	"	"	"	"
Methylene chloride	ND	1.0		"	"	"	"	"	"	"
Methyl tert-butyl ether	ND	1.0		"	"	"	"	"	"	"

The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.



Environmental Navigation Services, Inc.  
 P.O. Box 231026  
 Encinitas CA, 92024

Project: Paramount Plaza  
 Project Number: [none]  
 Project Manager: Jay Jones

Reported:  
 03/27/15 14:07

**Volatile Organic Compounds by EPA Method 8260B**

**Sierra Analytical Labs, Inc.**

Analyte	Result	Reporting		Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit	Units						
<b>MW-7-GW-031915 (1503292-06) Liquid Sampled: 03/19/15 09:14 Received: 03/19/15 13:10</b>									
Naphthalene	ND	1.0	µg/L	1	B5C2443	03/23/15	03/23/15 20:30	EPA 8260B	
n-Propylbenzene	ND	1.0	"	"	"	"	"	"	"
Styrene	ND	1.0	"	"	"	"	"	"	"
1,1,1,2-Tetrachloroethane	ND	1.0	"	"	"	"	"	"	"
1,1,2,2-Tetrachloroethane	ND	1.0	"	"	"	"	"	"	"
<b>Tetrachloroethene</b>	<b>190</b>	1.0	"	"	"	"	"	"	"
Toluene	ND	1.0	"	"	"	"	"	"	"
1,2,3-Trichlorobenzene	ND	1.0	"	"	"	"	"	"	"
1,2,4-Trichlorobenzene	ND	1.0	"	"	"	"	"	"	"
1,1,1-Trichloroethane	ND	1.0	"	"	"	"	"	"	"
1,1,2-Trichloroethane	ND	1.0	"	"	"	"	"	"	"
<b>Trichloroethene</b>	<b>200</b>	1.0	"	"	"	"	"	"	"
Trichlorofluoromethane	ND	1.0	"	"	"	"	"	"	"
1,2,3-Trichloropropane	ND	1.0	"	"	"	"	"	"	"
1,2,4-Trimethylbenzene	ND	1.0	"	"	"	"	"	"	"
1,3,5-Trimethylbenzene	ND	1.0	"	"	"	"	"	"	"
Vinyl chloride	ND	1.0	"	"	"	"	"	"	"
m,p-Xylene	ND	1.0	"	"	"	"	"	"	"
o-Xylene	ND	1.0	"	"	"	"	"	"	"
<i>Surrogate: Dibromofluoromethane</i>		99.4 %		86-118	"	"	"	"	"
<i>Surrogate: Toluene-d8</i>		91.8 %		88-110	"	"	"	"	"
<i>Surrogate: 4-Bromofluorobenzene</i>		105 %		86-115	"	"	"	"	"

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Environmental Navigation Services, Inc.  
 P.O. Box 231026  
 Encinitas CA, 92024

Project: Paramount Plaza  
 Project Number: [none]  
 Project Manager: Jay Jones

**Reported:**  
 03/27/15 14:07

**Conventional Chemistry Parameters by APHA/EPA Methods - Quality Control**

**Sierra Analytical Labs, Inc.**

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
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**Batch B5C2446 - General Preparation**

**Blank (B5C2446-BLK1)**

Prepared & Analyzed: 03/19/15

Chloride	ND	0.500	mg/L							
Nitrate as N	ND	0.0200	"							
Nitrate/Nitrite as N	ND	0.0200	"							
Nitrite as N	ND	0.0200	"							
Specific Conductance (EC)	ND	0.100	µmhos/cm							
Sulfate as SO4	ND	0.500	mg/L							
Total Dissolved Solids	ND	1.00	"							

*The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.*



Environmental Navigation Services, Inc.  
P.O. Box 231026  
Encinitas CA, 92024

Project: Paramount Plaza  
Project Number: [none]  
Project Manager: Jay Jones

**Reported:**  
03/27/15 14:07

**Total Organic Carbon (TOC) by SM 5310 B - Quality Control**

**Sierra Analytical Labs, Inc.**

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
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**Batch B5C2609 - Organic Carbon**

**Blank (B5C2609-BLK1)**

Prepared & Analyzed: 03/25/15

Total Organic Carbon                      ND                      0.50      mg/L

**LCS (B5C2609-BS1)**

Prepared & Analyzed: 03/25/15

Total Organic Carbon                      3.87                      0.50      mg/L                      4.00                      96.8      80-120

**Duplicate (B5C2609-DUP1)**

**Source: 1503292-01**

Prepared & Analyzed: 03/25/15

Total Organic Carbon                      1.91                      0.50      mg/L                      2.0                      4.60                      30

*The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.*





Environmental Navigation Services, Inc.  
 P.O. Box 231026  
 Encinitas CA, 92024

Project: Paramount Plaza  
 Project Number: [none]  
 Project Manager: Jay Jones

**Reported:**  
 03/27/15 14:07

**Metals by EPA 200 Series Methods - Quality Control**  
**Sierra Analytical Labs, Inc.**

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
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**Batch B5C1918 - EPA 200 Series**

<b>Blank (B5C1918-BLK1)</b>				Prepared: 03/19/15 Analyzed: 03/20/15						
Boron	ND	0.066	mg/L							
<b>LCS (B5C1918-BS1)</b>				Prepared: 03/19/15 Analyzed: 03/20/15						
Boron	0.189	0.066	mg/L	0.200		94.5	80-121			
<b>Matrix Spike (B5C1918-MS1)</b>				Source: 1503292-01 Prepared: 03/19/15 Analyzed: 03/20/15						
Boron	0.417	0.066	mg/L	0.200	0.21	104	70-130			
<b>Matrix Spike Dup (B5C1918-MSD1)</b>				Source: 1503292-01 Prepared: 03/19/15 Analyzed: 03/20/15						
Boron	0.432	0.066	mg/L	0.200	0.21	111	70-130	3.53	20	

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Environmental Navigation Services, Inc.  
 P.O. Box 231026  
 Encinitas CA, 92024

Project: Paramount Plaza  
 Project Number: [none]  
 Project Manager: Jay Jones

**Reported:**  
 03/27/15 14:07

**Hydrocarbons by Headspace GC-FID - Quality Control**

**Sierra Analytical Labs, Inc.**

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
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**Batch B5C2611 - EPA 3810 Headspace**

**Blank (B5C2611-BLK1)**

Prepared & Analyzed: 03/26/15

Methane	ND	5.0	µg/L							
Ethane	ND	5.0	"							
Ethene	ND	5.0	"							

**LCS (B5C2611-BS1)**

Prepared & Analyzed: 03/26/15

Methane	48.6	5.0	µg/L	50.0		97.2	80-120			
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**Duplicate (B5C2611-DUP1)**

**Source: 1503292-04**

Prepared & Analyzed: 03/26/15

Methane	ND	5.0	µg/L		ND				30	
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Environmental Navigation Services, Inc.  
P.O. Box 231026  
Encinitas CA, 92024

Project: Paramount Plaza  
Project Number: [none]  
Project Manager: Jay Jones

Reported:  
03/27/15 14:07

**Volatile Organic Compounds by EPA Method 8260B - Quality Control**

**Sierra Analytical Labs, Inc.**

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
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**Batch B5C2443 - EPA 5030B P & T**

**Blank (B5C2443-BLK1)**

Prepared & Analyzed: 03/23/15

Benzene	ND	1.0	µg/L							
Bromobenzene	ND	1.0	"							
Bromochloromethane	ND	1.0	"							
Bromodichloromethane	ND	1.0	"							
Bromoform	ND	1.0	"							
Bromomethane	ND	1.0	"							
n-Butylbenzene	ND	1.0	"							
sec-Butylbenzene	ND	1.0	"							
tert-Butylbenzene	ND	1.0	"							
Carbon tetrachloride	ND	1.0	"							
Chlorobenzene	ND	1.0	"							
Chloroethane	ND	1.0	"							
Chloroform	ND	1.0	"							
Chloromethane	ND	1.0	"							
2-Chlorotoluene	ND	1.0	"							
4-Chlorotoluene	ND	1.0	"							
Dibromochloromethane	ND	1.0	"							
1,2-Dibromo-3-chloropropane	ND	5.0	"							
1,2-Dibromoethane (EDB)	ND	1.0	"							
Dibromomethane	ND	1.0	"							
1,2-Dichlorobenzene	ND	1.0	"							
1,3-Dichlorobenzene	ND	1.0	"							
1,4-Dichlorobenzene	ND	1.0	"							
Dichlorodifluoromethane	ND	1.0	"							
1,1-Dichloroethane	ND	1.0	"							
1,2-Dichloroethane	ND	1.0	"							
1,1-Dichloroethene	ND	1.0	"							
cis-1,2-Dichloroethene	ND	1.0	"							
trans-1,2-Dichloroethene	ND	1.0	"							
1,2-Dichloropropane	ND	1.0	"							
1,3-Dichloropropane	ND	1.0	"							
2,2-Dichloropropane	ND	1.0	"							
1,1-Dichloropropene	ND	1.0	"							
cis-1,3-Dichloropropene	ND	1.0	"							
trans-1,3-Dichloropropene	ND	1.0	"							
Ethylbenzene	ND	1.0	"							
Hexachlorobutadiene	ND	1.0	"							

*The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.*



Environmental Navigation Services, Inc.  
P.O. Box 231026  
Encinitas CA, 92024

Project: Paramount Plaza  
Project Number: [none]  
Project Manager: Jay Jones

Reported:  
03/27/15 14:07

**Volatile Organic Compounds by EPA Method 8260B - Quality Control**

**Sierra Analytical Labs, Inc.**

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
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**Batch B5C2443 - EPA 5030B P & T**

**Blank (B5C2443-BLK1)**

Prepared & Analyzed: 03/23/15

Isopropylbenzene	ND	1.0	µg/L							
p-Isopropyltoluene	ND	1.0	"							
Methylene chloride	ND	1.0	"							
Methyl tert-butyl ether	ND	1.0	"							
Naphthalene	ND	1.0	"							
n-Propylbenzene	ND	1.0	"							
Styrene	ND	1.0	"							
1,1,1,2-Tetrachloroethane	ND	1.0	"							
1,1,2,2-Tetrachloroethane	ND	1.0	"							
Tetrachloroethene	ND	1.0	"							
Toluene	ND	1.0	"							
1,2,3-Trichlorobenzene	ND	1.0	"							
1,2,4-Trichlorobenzene	ND	1.0	"							
1,1,1-Trichloroethane	ND	1.0	"							
1,1,2-Trichloroethane	ND	1.0	"							
Trichloroethene	ND	1.0	"							
Trichlorofluoromethane	ND	1.0	"							
1,2,3-Trichloropropane	ND	1.0	"							
1,2,4-Trimethylbenzene	ND	1.0	"							
1,3,5-Trimethylbenzene	ND	1.0	"							
Vinyl chloride	ND	1.0	"							
m,p-Xylene	ND	1.0	"							
o-Xylene	ND	1.0	"							
<i>Surrogate: Dibromofluoromethane</i>	54.1		"	50.0		108	86-118			
<i>Surrogate: Toluene-d8</i>	47.4		"	50.0		94.8	88-110			
<i>Surrogate: 4-Bromofluorobenzene</i>	57.5		"	50.0		115	86-115			

**LCS (B5C2443-BS1)**

Prepared & Analyzed: 03/23/15

Benzene	46.6	1.0	µg/L	50.0		93.2	80-120			
Chlorobenzene	56.7	1.0	"	50.0		113	80-120			
1,1-Dichloroethene	45.6	1.0	"	50.0		91.2	80-120			
Toluene	42.2	1.0	"	50.0		84.4	80-120			
Trichloroethene	57.4	1.0	"	50.0		115	80-120			

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Environmental Navigation Services, Inc.  
P.O. Box 231026  
Encinitas CA, 92024

Project: Paramount Plaza  
Project Number: [none]  
Project Manager: Jay Jones

Reported:  
03/27/15 14:07

**Volatile Organic Compounds by EPA Method 8260B - Quality Control**

**Sierra Analytical Labs, Inc.**

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
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**Batch B5C2443 - EPA 5030B P & T**

**Matrix Spike (B5C2443-MS1)**

Source: 1503280-02

Prepared & Analyzed: 03/23/15

Benzene	32.7	1.0	µg/L	50.0	ND	65.4	37-151			
Chlorobenzene	50.0	1.0	"	50.0	ND	100	37-160			
1,1-Dichloroethene	40.6	1.0	"	50.0	ND	81.2	50-150			
Toluene	38.4	1.0	"	50.0	ND	76.8	47-150			
Trichloroethene	45.2	1.0	"	50.0	ND	90.4	71-157			

**Matrix Spike Dup (B5C2443-MSD1)**

Source: 1503280-02

Prepared & Analyzed: 03/23/15

Benzene	39.5	1.0	µg/L	50.0	ND	79.0	37-151	18.8	30	
Chlorobenzene	61.6	1.0	"	50.0	ND	123	37-160	20.8	30	
1,1-Dichloroethene	47.4	1.0	"	50.0	ND	94.8	50-150	15.5	30	
Toluene	47.8	1.0	"	50.0	ND	95.6	47-150	21.8	30	
Trichloroethene	59.3	1.0	"	50.0	ND	119	71-157	27.0	30	

The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.



Environmental Navigation Services, Inc.  
P.O. Box 231026  
Encinitas CA, 92024

Project: Paramount Plaza  
Project Number: [none]  
Project Manager: Jay Jones

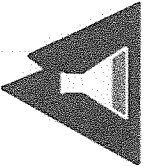
**Reported:**  
03/27/15 14:07

### Notes and Definitions

DET Analyte DETECTED  
ND Analyte NOT DETECTED at or above the reporting limit  
NR Not Reported  
dry Sample results reported on a dry weight basis  
RPD Relative Percent Difference

---

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**SIERRA ANALYTICAL**  
 TEL: 949-348-9389  
 FAX: 949-348-9115  
 26052 Merit Circle • Suite 104 • Laguna Hills, CA • 92653

**CHAIN OF CUSTODY RECORD**

Date: 3/19/2015 Page 1 of 1

Lab Project No.: 1523098

Client Sample ID.	Sierra No.	Date	Time	Matrix	Preservative	Container Type	No. of Containers	Analysis Requested	Geotracker EDD Info:
MW-1-GW-031915	01	3/19/15	11:36	H <sub>2</sub> O	SEE	BC	2	VOCs, MB2603 DSS Gases (with 20% DMS) TOTAL ORGANIC CARBON TDS m160.1 SULFATE CHLORIDE BORON NITRATE/NITR ELEC. COND PH	EDAF Client LOGCODE Site Global ID Field Point Names/Comments MW-1 MW-2 MW-3 MW-4 MW-6 MW-7 (SIERRA TO ANALYZES FROM 2/18/15)
MW-2-GW-031915	02	10:51			Below A	A	3		
MW-3-GW-031915	03	10:20				BC	2		
MW-4-GW-031915	04	7:45				2A BC	8		
MW-6-GW-031915	05	11:13				A	3		
MW-7-GW-031915	06	9:14				2A BC	8		
Shipped Via <u>HARD DELIVER</u> (Carrier/Voybill No.) Received By: <u>[Signature]</u> Date: <u>3-18-15</u> Company: <u>SIERRA</u> Received By: _____ Date: _____ Company: _____ Received By: _____ Date: _____ Company: _____ Received By: _____ Date: _____ Company: _____								Total Number of Containers Submitted to Laboratory	26
The delivery of samples and the signature on this chain of custody form constitutes authorization to perform the analysis specified above under SIERRA's Terms and Conditions, unless otherwise agreed upon in writing between SIERRA and CLIENT. * - Samples determined to be hazardous by SIERRA will be returned to CLIENT.								Total Number of Containers Received by Laboratory	26
<b>FOR LABORATORY USE ONLY - Sample Receipt Conditions:</b> <input checked="" type="checkbox"/> Intact <input checked="" type="checkbox"/> Sample Seals <input checked="" type="checkbox"/> Properly Labelled <input checked="" type="checkbox"/> Appropriate Sample Container <input checked="" type="checkbox"/> Chilled - Temp. (°C) <u>10</u> <input type="checkbox"/> Preservatives - Verified By: _____ <input type="checkbox"/> Other: _____ Storage Location: <u>(PBA-K145)</u>									

Client: ENSE  
 Client Address: POB 231026  
EXCINITAS CA  
92023-1026  
 Client Tel. No.: 760 944 9576  
 Client Fax. No.: 760 944 9576  
 Client Proj. Mgr.: AUSTINES

Client Project ID: PARAMOUNT

Turn Around:  Immediate  24 Hour  
 Time Requested:  48 Hour  72 Hour  
 4 Day  5 Day  
 Normal  Mobile



10515 Research Drive  
Knoxville, TN 37932  
Phone: (865) 573-8188  
Fax: (865) 573-8133

---

**Client:** Jay Jones  
Environmental Navigation Services, Inc ( ENSI )  
1119 Sycamoreview Dr  
Encinitas, CA 92024

**Phone:** 760 944 9576

**Fax:**

**Identifier:** 081MC                      **Date Rec:** 03/20/2015                      **Report Date:** 03/24/2015

**Client Project #:**    **Client Project Name:** Paramount

**Purchase Order #:**

**Analysis Requested:**                      CENSUS

**Reviewed By:**

---

NOTICE: This report is intended only for the addressee shown above and may contain confidential or privileged information. If the recipient of this material is not the intended recipient or if you have received this in error, please notify Microbial Insights, Inc. immediately. The data and other information in this report represent only the sample(s) analyzed and are rendered upon condition that it is not to be reproduced without approval from Microbial Insights, Inc. Thank you for your cooperation.



**Client:** Environmental Navigation Services, Inc ( ENS)  
**Project:** Paramount

**MI Project Number:** 081MC  
**Date Received:** 03/20/2015

**Sample Information**

---

<b>Client Sample ID:</b>	<b>MW-4-GW-0319</b>	<b>MW-7-GW-0319</b>
	<b>15</b>	<b>15</b>
Sample Date:	03/19/2015	03/19/2015
Units:	cells/mL	cells/mL
Analyst:	RW	RW

---

**Dechlorinating Bacteria**

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<i>Dehalococcoides</i>	DHC	1.59E+01	<3.00E-01
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**Legend:**

NA = Not Analyzed    NS = Not Sampled    J = Estimated gene copies below PQL but above LQL    I = Inhibited  
< = Result not detected



20 April 2015

Jay Jones  
Environmental Navigation Services, Inc.  
P.O. Box 231026  
Encinitas, CA 92024  
RE:Paramount Plaza  
Work Order No.: 1504190

Attached are the results of the analyses for samples received by the laboratory on 04/13/15 14:15.

The samples were received by Sierra Analytical Labs, Inc. with a chain of custody record attached or completed at the submittal of the samples.

The analyses were performed according to the prescribed method as outlined by EPA, Standard Methods, and A.S.T.M.

The remaining portions of the samples will be disposed of within 30 days from the date of this report.  
If you require any additional retaining time, please advise us.

Sincerely,

A handwritten signature in black ink that reads "Richard K. Forsyth". The signature is written in a cursive style and is positioned above a solid horizontal line.

Richard K. Forsyth

Laboratory Director

Sierra Analytical Labs, Inc. is certified by the California Department of Health Services (DOHS),  
Environmental Laboratory Accreditation Program (ELAP) No. 2320.



Environmental Navigation Services, Inc.  
P.O. Box 231026  
Encinitas CA, 92024

Project: Paramount Plaza  
Project Number: [none]  
Project Manager: Jay Jones

**Reported:**  
04/20/15 09:59

**ANALYTICAL REPORT FOR SAMPLES**

Sample ID	Laboratory ID	Matrix	Date Sampled	Date Received
MW-1-GW-041315	1504190-01	Liquid	04/13/15 10:45	04/13/15 14:15
MW-2-GW-041315	1504190-02	Liquid	04/13/15 10:00	04/13/15 14:15
MW-3-GW-041315	1504190-03	Liquid	04/13/15 09:35	04/13/15 14:15
MW-4-GW-041315	1504190-04	Liquid	04/13/15 11:44	04/13/15 14:15
MW-6-GW-041315	1504190-05	Liquid	04/13/15 11:15	04/13/15 14:15
MW-7-GW-041315	1504190-06	Liquid	04/13/15 07:55	04/13/15 14:15
MW-8-GW-041315	1504190-07	Liquid	04/13/15 12:55	04/13/15 14:15

*The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.*



Environmental Navigation Services, Inc.  
P.O. Box 231026  
Encinitas CA, 92024

Project: Paramount Plaza  
Project Number: [none]  
Project Manager: Jay Jones

**Reported:**  
04/20/15 09:59

### Hydrocarbons by Headspace GC-FID

Sierra Analytical Labs, Inc.

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
<b>MW-4-GW-041315 (1504190-04) Liquid    Sampled: 04/13/15 11:44    Received: 04/13/15 14:15</b>									
Methane	ND	5.0	µg/L	1	B5D2038	04/17/15	04/20/15 09:22	EPA 8015B	
Ethane	ND	5.0	"	"	"	"	"	"	
Ethene	ND	5.0	"	"	"	"	"	"	
<b>MW-7-GW-041315 (1504190-06) Liquid    Sampled: 04/13/15 07:55    Received: 04/13/15 14:15</b>									
Methane	ND	5.0	µg/L	1	B5D2038	04/17/15	04/20/15 09:22	EPA 8015B	
Ethane	ND	5.0	"	"	"	"	"	"	
Ethene	ND	5.0	"	"	"	"	"	"	

*The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.*



Environmental Navigation Services, Inc.  
P.O. Box 231026  
Encinitas CA, 92024

Project: Paramount Plaza  
Project Number: [none]  
Project Manager: Jay Jones

Reported:  
04/20/15 09:59

**Volatile Organic Compounds by EPA Method 8260B**

**Sierra Analytical Labs, Inc.**

Analyte	Result	Reporting		Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit								
<b>MW-1-GW-041315 (1504190-01) Liquid Sampled: 04/13/15 10:45 Received: 04/13/15 14:15</b>										
Benzene	ND	1.0		µg/L	1	B5D1538	04/15/15	04/16/15 08:45	EPA 8260B	
Bromobenzene	ND	1.0		"	"	"	"	"	"	"
Bromochloromethane	ND	1.0		"	"	"	"	"	"	"
Bromodichloromethane	ND	1.0		"	"	"	"	"	"	"
Bromoform	ND	1.0		"	"	"	"	"	"	"
Bromomethane	ND	1.0		"	"	"	"	"	"	"
n-Butylbenzene	ND	1.0		"	"	"	"	"	"	"
sec-Butylbenzene	ND	1.0		"	"	"	"	"	"	"
tert-Butylbenzene	ND	1.0		"	"	"	"	"	"	"
Carbon tetrachloride	ND	1.0		"	"	"	"	"	"	"
Chlorobenzene	ND	1.0		"	"	"	"	"	"	"
Chloroethane	ND	1.0		"	"	"	"	"	"	"
Chloroform	ND	1.0		"	"	"	"	"	"	"
Chloromethane	ND	1.0		"	"	"	"	"	"	"
2-Chlorotoluene	ND	1.0		"	"	"	"	"	"	"
4-Chlorotoluene	ND	1.0		"	"	"	"	"	"	"
Dibromochloromethane	ND	1.0		"	"	"	"	"	"	"
1,2-Dibromo-3-chloropropane	ND	5.0		"	"	"	"	"	"	"
1,2-Dibromoethane (EDB)	ND	1.0		"	"	"	"	"	"	"
Dibromomethane	ND	1.0		"	"	"	"	"	"	"
1,2-Dichlorobenzene	ND	1.0		"	"	"	"	"	"	"
1,3-Dichlorobenzene	ND	1.0		"	"	"	"	"	"	"
1,4-Dichlorobenzene	ND	1.0		"	"	"	"	"	"	"
Dichlorodifluoromethane	ND	1.0		"	"	"	"	"	"	"
1,1-Dichloroethane	ND	1.0		"	"	"	"	"	"	"
1,2-Dichloroethane	ND	1.0		"	"	"	"	"	"	"
1,1-Dichloroethene	ND	1.0		"	"	"	"	"	"	"
cis-1,2-Dichloroethene	ND	1.0		"	"	"	"	"	"	"
trans-1,2-Dichloroethene	ND	1.0		"	"	"	"	"	"	"
1,2-Dichloropropane	ND	1.0		"	"	"	"	"	"	"
1,3-Dichloropropane	ND	1.0		"	"	"	"	"	"	"
2,2-Dichloropropane	ND	1.0		"	"	"	"	"	"	"
1,1-Dichloropropene	ND	1.0		"	"	"	"	"	"	"
cis-1,3-Dichloropropene	ND	1.0		"	"	"	"	"	"	"
trans-1,3-Dichloropropene	ND	1.0		"	"	"	"	"	"	"
Ethylbenzene	ND	1.0		"	"	"	"	"	"	"
Hexachlorobutadiene	ND	1.0		"	"	"	"	"	"	"
Isopropylbenzene	ND	1.0		"	"	"	"	"	"	"
p-Isopropyltoluene	ND	1.0		"	"	"	"	"	"	"
Methylene chloride	ND	1.0		"	"	"	"	"	"	"
Methyl tert-butyl ether	ND	1.0		"	"	"	"	"	"	"

The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.



Environmental Navigation Services, Inc.  
 P.O. Box 231026  
 Encinitas CA, 92024

Project: Paramount Plaza  
 Project Number: [none]  
 Project Manager: Jay Jones

Reported:  
 04/20/15 09:59

**Volatile Organic Compounds by EPA Method 8260B**

**Sierra Analytical Labs, Inc.**

Analyte	Result	Reporting		Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit								
<b>MW-1-GW-041315 (1504190-01) Liquid Sampled: 04/13/15 10:45 Received: 04/13/15 14:15</b>										
Naphthalene	ND	1.0		µg/L	1	B5D1538	04/15/15	04/16/15 08:45	EPA 8260B	
n-Propylbenzene	ND	1.0		"	"	"	"	"	"	"
Styrene	ND	1.0		"	"	"	"	"	"	"
1,1,1,2-Tetrachloroethane	ND	1.0		"	"	"	"	"	"	"
1,1,2,2-Tetrachloroethane	ND	1.0		"	"	"	"	"	"	"
Tetrachloroethene	ND	1.0		"	"	"	"	"	"	"
Toluene	ND	1.0		"	"	"	"	"	"	"
1,2,3-Trichlorobenzene	ND	1.0		"	"	"	"	"	"	"
1,2,4-Trichlorobenzene	ND	1.0		"	"	"	"	"	"	"
1,1,1-Trichloroethane	ND	1.0		"	"	"	"	"	"	"
1,1,2-Trichloroethane	ND	1.0		"	"	"	"	"	"	"
Trichloroethene	ND	1.0		"	"	"	"	"	"	"
Trichlorofluoromethane	ND	1.0		"	"	"	"	"	"	"
1,2,3-Trichloropropane	ND	1.0		"	"	"	"	"	"	"
1,2,4-Trimethylbenzene	ND	1.0		"	"	"	"	"	"	"
1,3,5-Trimethylbenzene	ND	1.0		"	"	"	"	"	"	"
Vinyl chloride	ND	1.0		"	"	"	"	"	"	"
m,p-Xylene	ND	1.0		"	"	"	"	"	"	"
o-Xylene	ND	1.0		"	"	"	"	"	"	"
Surrogate: Dibromofluoromethane		113 %		86-118		"	"	"	"	"
Surrogate: Toluene-d8		102 %		88-110		"	"	"	"	"
Surrogate: 4-Bromofluorobenzene		115 %		86-115		"	"	"	"	"

<b>MW-2-GW-041315 (1504190-02) Liquid Sampled: 04/13/15 10:00 Received: 04/13/15 14:15</b>										
Benzene	ND	1.0		µg/L	1	B5D1538	04/15/15	04/16/15 08:45	EPA 8260B	
Bromobenzene	ND	1.0		"	"	"	"	"	"	"
Bromochloromethane	ND	1.0		"	"	"	"	"	"	"
Bromodichloromethane	ND	1.0		"	"	"	"	"	"	"
Bromoform	ND	1.0		"	"	"	"	"	"	"
Bromomethane	ND	1.0		"	"	"	"	"	"	"
n-Butylbenzene	ND	1.0		"	"	"	"	"	"	"
sec-Butylbenzene	ND	1.0		"	"	"	"	"	"	"
tert-Butylbenzene	ND	1.0		"	"	"	"	"	"	"
Carbon tetrachloride	ND	1.0		"	"	"	"	"	"	"
Chlorobenzene	ND	1.0		"	"	"	"	"	"	"
Chloroethane	ND	1.0		"	"	"	"	"	"	"
Chloroform	ND	1.0		"	"	"	"	"	"	"
Chloromethane	ND	1.0		"	"	"	"	"	"	"
2-Chlorotoluene	ND	1.0		"	"	"	"	"	"	"
4-Chlorotoluene	ND	1.0		"	"	"	"	"	"	"
Dibromochloromethane	ND	1.0		"	"	"	"	"	"	"

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Environmental Navigation Services, Inc.  
P.O. Box 231026  
Encinitas CA, 92024

Project: Paramount Plaza  
Project Number: [none]  
Project Manager: Jay Jones

Reported:  
04/20/15 09:59

**Volatile Organic Compounds by EPA Method 8260B**

**Sierra Analytical Labs, Inc.**

Analyte	Result	Reporting		Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit								
<b>MW-2-GW-041315 (1504190-02) Liquid Sampled: 04/13/15 10:00 Received: 04/13/15 14:15</b>										
1,2-Dibromo-3-chloropropane	ND	5.0		µg/L	1	B5D1538	04/15/15	04/16/15 08:45	EPA 8260B	
1,2-Dibromoethane (EDB)	ND	1.0		"	"	"	"	"	"	"
Dibromomethane	ND	1.0		"	"	"	"	"	"	"
1,2-Dichlorobenzene	ND	1.0		"	"	"	"	"	"	"
1,3-Dichlorobenzene	ND	1.0		"	"	"	"	"	"	"
1,4-Dichlorobenzene	ND	1.0		"	"	"	"	"	"	"
Dichlorodifluoromethane	ND	1.0		"	"	"	"	"	"	"
1,1-Dichloroethane	ND	1.0		"	"	"	"	"	"	"
1,2-Dichloroethane	ND	1.0		"	"	"	"	"	"	"
1,1-Dichloroethene	ND	1.0		"	"	"	"	"	"	"
<b>cis-1,2-Dichloroethene</b>	<b>6.1</b>	1.0		"	"	"	"	"	"	"
trans-1,2-Dichloroethene	ND	1.0		"	"	"	"	"	"	"
1,2-Dichloropropane	ND	1.0		"	"	"	"	"	"	"
1,3-Dichloropropane	ND	1.0		"	"	"	"	"	"	"
2,2-Dichloropropane	ND	1.0		"	"	"	"	"	"	"
1,1-Dichloropropene	ND	1.0		"	"	"	"	"	"	"
cis-1,3-Dichloropropene	ND	1.0		"	"	"	"	"	"	"
trans-1,3-Dichloropropene	ND	1.0		"	"	"	"	"	"	"
Ethylbenzene	ND	1.0		"	"	"	"	"	"	"
Hexachlorobutadiene	ND	1.0		"	"	"	"	"	"	"
Isopropylbenzene	ND	1.0		"	"	"	"	"	"	"
p-Isopropyltoluene	ND	1.0		"	"	"	"	"	"	"
Methylene chloride	ND	1.0		"	"	"	"	"	"	"
Methyl tert-butyl ether	ND	1.0		"	"	"	"	"	"	"
Naphthalene	ND	1.0		"	"	"	"	"	"	"
n-Propylbenzene	ND	1.0		"	"	"	"	"	"	"
Styrene	ND	1.0		"	"	"	"	"	"	"
1,1,1,2-Tetrachloroethane	ND	1.0		"	"	"	"	"	"	"
1,1,2,2-Tetrachloroethane	ND	1.0		"	"	"	"	"	"	"
<b>Tetrachloroethene</b>	<b>61</b>	1.0		"	"	"	"	"	"	"
Toluene	ND	1.0		"	"	"	"	"	"	"
1,2,3-Trichlorobenzene	ND	1.0		"	"	"	"	"	"	"
1,2,4-Trichlorobenzene	ND	1.0		"	"	"	"	"	"	"
1,1,1-Trichloroethane	ND	1.0		"	"	"	"	"	"	"
1,1,2-Trichloroethane	ND	1.0		"	"	"	"	"	"	"
<b>Trichloroethene</b>	<b>100</b>	1.0		"	"	"	"	"	"	"
Trichlorofluoromethane	ND	1.0		"	"	"	"	"	"	"
1,2,3-Trichloropropane	ND	1.0		"	"	"	"	"	"	"
1,2,4-Trimethylbenzene	ND	1.0		"	"	"	"	"	"	"
1,3,5-Trimethylbenzene	ND	1.0		"	"	"	"	"	"	"
Vinyl chloride	ND	1.0		"	"	"	"	"	"	"

The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.



Environmental Navigation Services, Inc.  
P.O. Box 231026  
Encinitas CA, 92024

Project: Paramount Plaza  
Project Number: [none]  
Project Manager: Jay Jones

Reported:  
04/20/15 09:59

**Volatile Organic Compounds by EPA Method 8260B**

**Sierra Analytical Labs, Inc.**

Analyte	Result	Reporting		Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit								
<b>MW-2-GW-041315 (1504190-02) Liquid Sampled: 04/13/15 10:00 Received: 04/13/15 14:15</b>										
m,p-Xylene	ND	1.0		µg/L	1	B5D1538	04/15/15	04/16/15 08:45	EPA 8260B	
o-Xylene	ND	1.0		"	"	"	"	"	"	"
<i>Surrogate: Dibromofluoromethane</i>		114 %		86-118		"	"	"	"	"
<i>Surrogate: Toluene-d8</i>		98.8 %		88-110		"	"	"	"	"
<i>Surrogate: 4-Bromofluorobenzene</i>		106 %		86-115		"	"	"	"	"
<b>MW-3-GW-041315 (1504190-03) Liquid Sampled: 04/13/15 09:35 Received: 04/13/15 14:15</b>										
Benzene	ND	1.0		µg/L	1	B5D1538	04/15/15	04/16/15 08:45	EPA 8260B	
Bromobenzene	ND	1.0		"	"	"	"	"	"	"
Bromochloromethane	ND	1.0		"	"	"	"	"	"	"
Bromodichloromethane	ND	1.0		"	"	"	"	"	"	"
Bromoform	ND	1.0		"	"	"	"	"	"	"
Bromomethane	ND	1.0		"	"	"	"	"	"	"
n-Butylbenzene	ND	1.0		"	"	"	"	"	"	"
sec-Butylbenzene	ND	1.0		"	"	"	"	"	"	"
tert-Butylbenzene	ND	1.0		"	"	"	"	"	"	"
Carbon tetrachloride	ND	1.0		"	"	"	"	"	"	"
Chlorobenzene	ND	1.0		"	"	"	"	"	"	"
Chloroethane	ND	1.0		"	"	"	"	"	"	"
Chloroform	ND	1.0		"	"	"	"	"	"	"
Chloromethane	ND	1.0		"	"	"	"	"	"	"
2-Chlorotoluene	ND	1.0		"	"	"	"	"	"	"
4-Chlorotoluene	ND	1.0		"	"	"	"	"	"	"
Dibromochloromethane	ND	1.0		"	"	"	"	"	"	"
1,2-Dibromo-3-chloropropane	ND	5.0		"	"	"	"	"	"	"
1,2-Dibromoethane (EDB)	ND	1.0		"	"	"	"	"	"	"
Dibromomethane	ND	1.0		"	"	"	"	"	"	"
1,2-Dichlorobenzene	ND	1.0		"	"	"	"	"	"	"
1,3-Dichlorobenzene	ND	1.0		"	"	"	"	"	"	"
1,4-Dichlorobenzene	ND	1.0		"	"	"	"	"	"	"
Dichlorodifluoromethane	ND	1.0		"	"	"	"	"	"	"
1,1-Dichloroethane	ND	1.0		"	"	"	"	"	"	"
1,2-Dichloroethane	ND	1.0		"	"	"	"	"	"	"
1,1-Dichloroethene	ND	1.0		"	"	"	"	"	"	"
<b>cis-1,2-Dichloroethene</b>	<b>2.3</b>	1.0		"	"	"	"	"	"	"
trans-1,2-Dichloroethene	ND	1.0		"	"	"	"	"	"	"
1,2-Dichloropropane	ND	1.0		"	"	"	"	"	"	"
1,3-Dichloropropane	ND	1.0		"	"	"	"	"	"	"
2,2-Dichloropropane	ND	1.0		"	"	"	"	"	"	"
1,1-Dichloropropene	ND	1.0		"	"	"	"	"	"	"
cis-1,3-Dichloropropene	ND	1.0		"	"	"	"	"	"	"

The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.





Environmental Navigation Services, Inc.  
 P.O. Box 231026  
 Encinitas CA, 92024

Project: Paramount Plaza  
 Project Number: [none]  
 Project Manager: Jay Jones

Reported:  
 04/20/15 09:59

**Volatile Organic Compounds by EPA Method 8260B**

**Sierra Analytical Labs, Inc.**

Analyte	Result	Reporting		Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit								
<b>MW-3-GW-041315 (1504190-03) Liquid Sampled: 04/13/15 09:35 Received: 04/13/15 14:15</b>										
trans-1,3-Dichloropropene	ND	1.0		µg/L	1	B5D1538	04/15/15	04/16/15 08:45	EPA 8260B	
Ethylbenzene	ND	1.0		"	"	"	"	"	"	
Hexachlorobutadiene	ND	1.0		"	"	"	"	"	"	
Isopropylbenzene	ND	1.0		"	"	"	"	"	"	
p-Isopropyltoluene	ND	1.0		"	"	"	"	"	"	
Methylene chloride	ND	1.0		"	"	"	"	"	"	
Methyl tert-butyl ether	ND	1.0		"	"	"	"	"	"	
Naphthalene	ND	1.0		"	"	"	"	"	"	
n-Propylbenzene	ND	1.0		"	"	"	"	"	"	
Styrene	ND	1.0		"	"	"	"	"	"	
1,1,1,2-Tetrachloroethane	ND	1.0		"	"	"	"	"	"	
1,1,2,2-Tetrachloroethane	ND	1.0		"	"	"	"	"	"	
<b>Tetrachloroethene</b>	<b>3.4</b>	1.0		"	"	"	"	"	"	
Toluene	ND	1.0		"	"	"	"	"	"	
1,2,3-Trichlorobenzene	ND	1.0		"	"	"	"	"	"	
1,2,4-Trichlorobenzene	ND	1.0		"	"	"	"	"	"	
1,1,1-Trichloroethane	ND	1.0		"	"	"	"	"	"	
1,1,2-Trichloroethane	ND	1.0		"	"	"	"	"	"	
<b>Trichloroethene</b>	<b>2.8</b>	1.0		"	"	"	"	"	"	
Trichlorofluoromethane	ND	1.0		"	"	"	"	"	"	
1,2,3-Trichloropropane	ND	1.0		"	"	"	"	"	"	
1,2,4-Trimethylbenzene	ND	1.0		"	"	"	"	"	"	
1,3,5-Trimethylbenzene	ND	1.0		"	"	"	"	"	"	
Vinyl chloride	ND	1.0		"	"	"	"	"	"	
m,p-Xylene	ND	1.0		"	"	"	"	"	"	
o-Xylene	ND	1.0		"	"	"	"	"	"	
<i>Surrogate: Dibromofluoromethane</i>		112 %		86-118		"	"	"	"	
<i>Surrogate: Toluene-d8</i>		104 %		88-110		"	"	"	"	
<i>Surrogate: 4-Bromofluorobenzene</i>		113 %		86-115		"	"	"	"	

The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.



Environmental Navigation Services, Inc.  
P.O. Box 231026  
Encinitas CA, 92024

Project: Paramount Plaza  
Project Number: [none]  
Project Manager: Jay Jones

Reported:  
04/20/15 09:59

**Volatile Organic Compounds by EPA Method 8260B**

**Sierra Analytical Labs, Inc.**

Analyte	Result	Reporting		Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit								
<b>MW-4-GW-041315 (1504190-04) Liquid    Sampled: 04/13/15 11:44    Received: 04/13/15 14:15</b>										
Benzene	ND	1.0		µg/L	1	B5D1538	04/15/15	04/16/15 08:45	EPA 8260B	
Bromobenzene	ND	1.0		"	"	"	"	"	"	"
Bromochloromethane	ND	1.0		"	"	"	"	"	"	"
Bromodichloromethane	ND	1.0		"	"	"	"	"	"	"
Bromoform	ND	1.0		"	"	"	"	"	"	"
Bromomethane	ND	1.0		"	"	"	"	"	"	"
n-Butylbenzene	ND	1.0		"	"	"	"	"	"	"
sec-Butylbenzene	ND	1.0		"	"	"	"	"	"	"
tert-Butylbenzene	ND	1.0		"	"	"	"	"	"	"
Carbon tetrachloride	ND	1.0		"	"	"	"	"	"	"
Chlorobenzene	ND	1.0		"	"	"	"	"	"	"
Chloroethane	ND	1.0		"	"	"	"	"	"	"
Chloroform	ND	1.0		"	"	"	"	"	"	"
Chloromethane	ND	1.0		"	"	"	"	"	"	"
2-Chlorotoluene	ND	1.0		"	"	"	"	"	"	"
4-Chlorotoluene	ND	1.0		"	"	"	"	"	"	"
Dibromochloromethane	ND	1.0		"	"	"	"	"	"	"
1,2-Dibromo-3-chloropropane	ND	5.0		"	"	"	"	"	"	"
1,2-Dibromoethane (EDB)	ND	1.0		"	"	"	"	"	"	"
Dibromomethane	ND	1.0		"	"	"	"	"	"	"
1,2-Dichlorobenzene	ND	1.0		"	"	"	"	"	"	"
1,3-Dichlorobenzene	ND	1.0		"	"	"	"	"	"	"
1,4-Dichlorobenzene	ND	1.0		"	"	"	"	"	"	"
Dichlorodifluoromethane	ND	1.0		"	"	"	"	"	"	"
1,1-Dichloroethane	ND	1.0		"	"	"	"	"	"	"
1,2-Dichloroethane	ND	1.0		"	"	"	"	"	"	"
<b>1,1-Dichloroethene</b>	<b>1.0</b>	1.0		"	"	"	"	"	"	"
<b>cis-1,2-Dichloroethene</b>	<b>5.0</b>	1.0		"	"	"	"	"	"	"
trans-1,2-Dichloroethene	ND	1.0		"	"	"	"	"	"	"
1,2-Dichloropropane	ND	1.0		"	"	"	"	"	"	"
1,3-Dichloropropane	ND	1.0		"	"	"	"	"	"	"
2,2-Dichloropropane	ND	1.0		"	"	"	"	"	"	"
1,1-Dichloropropene	ND	1.0		"	"	"	"	"	"	"
cis-1,3-Dichloropropene	ND	1.0		"	"	"	"	"	"	"
trans-1,3-Dichloropropene	ND	1.0		"	"	"	"	"	"	"
Ethylbenzene	ND	1.0		"	"	"	"	"	"	"
Hexachlorobutadiene	ND	1.0		"	"	"	"	"	"	"
Isopropylbenzene	ND	1.0		"	"	"	"	"	"	"
p-Isopropyltoluene	ND	1.0		"	"	"	"	"	"	"
Methylene chloride	ND	1.0		"	"	"	"	"	"	"
Methyl tert-butyl ether	ND	1.0		"	"	"	"	"	"	"

The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.



Environmental Navigation Services, Inc.  
P.O. Box 231026  
Encinitas CA, 92024

Project: Paramount Plaza  
Project Number: [none]  
Project Manager: Jay Jones

Reported:  
04/20/15 09:59

**Volatile Organic Compounds by EPA Method 8260B**

**Sierra Analytical Labs, Inc.**

Analyte	Result	Reporting		Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit								
<b>MW-4-GW-041315 (1504190-04) Liquid Sampled: 04/13/15 11:44 Received: 04/13/15 14:15</b>										
Naphthalene	ND	1.0		µg/L	1	B5D1538	04/15/15	04/16/15 08:45	EPA 8260B	
n-Propylbenzene	ND	1.0		"	"	"	"	"	"	"
Styrene	ND	1.0		"	"	"	"	"	"	"
1,1,1,2-Tetrachloroethane	ND	1.0		"	"	"	"	"	"	"
1,1,2,2-Tetrachloroethane	ND	1.0		"	"	"	"	"	"	"
<b>Tetrachloroethene</b>	<b>41</b>	1.0		"	"	"	"	"	"	"
Toluene	ND	1.0		"	"	"	"	"	"	"
1,2,3-Trichlorobenzene	ND	1.0		"	"	"	"	"	"	"
1,2,4-Trichlorobenzene	ND	1.0		"	"	"	"	"	"	"
1,1,1-Trichloroethane	ND	1.0		"	"	"	"	"	"	"
1,1,2-Trichloroethane	ND	1.0		"	"	"	"	"	"	"
<b>Trichloroethene</b>	<b>92</b>	1.0		"	"	"	"	"	"	"
Trichlorofluoromethane	ND	1.0		"	"	"	"	"	"	"
1,2,3-Trichloropropane	ND	1.0		"	"	"	"	"	"	"
1,2,4-Trimethylbenzene	ND	1.0		"	"	"	"	"	"	"
1,3,5-Trimethylbenzene	ND	1.0		"	"	"	"	"	"	"
Vinyl chloride	ND	1.0		"	"	"	"	"	"	"
m,p-Xylene	ND	1.0		"	"	"	"	"	"	"
o-Xylene	ND	1.0		"	"	"	"	"	"	"
<i>Surrogate: Dibromofluoromethane</i>		111 %		86-118		"	"	"	"	"
<i>Surrogate: Toluene-d8</i>		99.2 %		88-110		"	"	"	"	"
<i>Surrogate: 4-Bromofluorobenzene</i>		113 %		86-115		"	"	"	"	"

<b>MW-6-GW-041315 (1504190-05) Liquid Sampled: 04/13/15 11:15 Received: 04/13/15 14:15</b>										
Benzene	ND	1.0		µg/L	1	B5D1538	04/15/15	04/16/15 08:45	EPA 8260B	
Bromobenzene	ND	1.0		"	"	"	"	"	"	"
Bromochloromethane	ND	1.0		"	"	"	"	"	"	"
Bromodichloromethane	ND	1.0		"	"	"	"	"	"	"
Bromoform	ND	1.0		"	"	"	"	"	"	"
Bromomethane	ND	1.0		"	"	"	"	"	"	"
n-Butylbenzene	ND	1.0		"	"	"	"	"	"	"
sec-Butylbenzene	ND	1.0		"	"	"	"	"	"	"
tert-Butylbenzene	ND	1.0		"	"	"	"	"	"	"
Carbon tetrachloride	ND	1.0		"	"	"	"	"	"	"
Chlorobenzene	ND	1.0		"	"	"	"	"	"	"
Chloroethane	ND	1.0		"	"	"	"	"	"	"
Chloroform	ND	1.0		"	"	"	"	"	"	"
Chloromethane	ND	1.0		"	"	"	"	"	"	"
2-Chlorotoluene	ND	1.0		"	"	"	"	"	"	"
4-Chlorotoluene	ND	1.0		"	"	"	"	"	"	"
Dibromochloromethane	ND	1.0		"	"	"	"	"	"	"

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Environmental Navigation Services, Inc.  
P.O. Box 231026  
Encinitas CA, 92024

Project: Paramount Plaza  
Project Number: [none]  
Project Manager: Jay Jones

Reported:  
04/20/15 09:59

**Volatile Organic Compounds by EPA Method 8260B**

**Sierra Analytical Labs, Inc.**

Analyte	Result	Reporting		Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit								
<b>MW-6-GW-041315 (1504190-05) Liquid Sampled: 04/13/15 11:15 Received: 04/13/15 14:15</b>										
1,2-Dibromo-3-chloropropane	ND	5.0		µg/L	1	B5D1538	04/15/15	04/16/15 08:45	EPA 8260B	
1,2-Dibromoethane (EDB)	ND	1.0		"	"	"	"	"	"	"
Dibromomethane	ND	1.0		"	"	"	"	"	"	"
1,2-Dichlorobenzene	ND	1.0		"	"	"	"	"	"	"
1,3-Dichlorobenzene	ND	1.0		"	"	"	"	"	"	"
1,4-Dichlorobenzene	ND	1.0		"	"	"	"	"	"	"
Dichlorodifluoromethane	ND	1.0		"	"	"	"	"	"	"
1,1-Dichloroethane	ND	1.0		"	"	"	"	"	"	"
1,2-Dichloroethane	ND	1.0		"	"	"	"	"	"	"
1,1-Dichloroethene	ND	1.0		"	"	"	"	"	"	"
cis-1,2-Dichloroethene	ND	1.0		"	"	"	"	"	"	"
trans-1,2-Dichloroethene	ND	1.0		"	"	"	"	"	"	"
1,2-Dichloropropane	ND	1.0		"	"	"	"	"	"	"
1,3-Dichloropropane	ND	1.0		"	"	"	"	"	"	"
2,2-Dichloropropane	ND	1.0		"	"	"	"	"	"	"
1,1-Dichloropropene	ND	1.0		"	"	"	"	"	"	"
cis-1,3-Dichloropropene	ND	1.0		"	"	"	"	"	"	"
trans-1,3-Dichloropropene	ND	1.0		"	"	"	"	"	"	"
Ethylbenzene	ND	1.0		"	"	"	"	"	"	"
Hexachlorobutadiene	ND	1.0		"	"	"	"	"	"	"
Isopropylbenzene	ND	1.0		"	"	"	"	"	"	"
p-Isopropyltoluene	ND	1.0		"	"	"	"	"	"	"
Methylene chloride	ND	1.0		"	"	"	"	"	"	"
Methyl tert-butyl ether	ND	1.0		"	"	"	"	"	"	"
Naphthalene	ND	1.0		"	"	"	"	"	"	"
n-Propylbenzene	ND	1.0		"	"	"	"	"	"	"
Styrene	ND	1.0		"	"	"	"	"	"	"
1,1,1,2-Tetrachloroethane	ND	1.0		"	"	"	"	"	"	"
1,1,2,2-Tetrachloroethane	ND	1.0		"	"	"	"	"	"	"
<b>Tetrachloroethene</b>	<b>5.7</b>	1.0		"	"	"	"	"	"	"
Toluene	ND	1.0		"	"	"	"	"	"	"
1,2,3-Trichlorobenzene	ND	1.0		"	"	"	"	"	"	"
1,2,4-Trichlorobenzene	ND	1.0		"	"	"	"	"	"	"
1,1,1-Trichloroethane	ND	1.0		"	"	"	"	"	"	"
1,1,2-Trichloroethane	ND	1.0		"	"	"	"	"	"	"
<b>Trichloroethene</b>	<b>15</b>	1.0		"	"	"	"	"	"	"
Trichlorofluoromethane	ND	1.0		"	"	"	"	"	"	"
1,2,3-Trichloropropane	ND	1.0		"	"	"	"	"	"	"
1,2,4-Trimethylbenzene	ND	1.0		"	"	"	"	"	"	"
1,3,5-Trimethylbenzene	ND	1.0		"	"	"	"	"	"	"
Vinyl chloride	ND	1.0		"	"	"	"	"	"	"

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Environmental Navigation Services, Inc.  
 P.O. Box 231026  
 Encinitas CA, 92024

Project: Paramount Plaza  
 Project Number: [none]  
 Project Manager: Jay Jones

Reported:  
 04/20/15 09:59

**Volatile Organic Compounds by EPA Method 8260B**

**Sierra Analytical Labs, Inc.**

Analyte	Result	Reporting		Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit								
<b>MW-6-GW-041315 (1504190-05) Liquid Sampled: 04/13/15 11:15 Received: 04/13/15 14:15</b>										
m,p-Xylene	ND	1.0		µg/L	1	B5D1538	04/15/15	04/16/15 08:45	EPA 8260B	
o-Xylene	ND	1.0		"	"	"	"	"	"	"
<i>Surrogate: Dibromofluoromethane</i>			113 %		86-118	"	"	"	"	"
<i>Surrogate: Toluene-d8</i>			97.8 %		88-110	"	"	"	"	"
<i>Surrogate: 4-Bromofluorobenzene</i>			114 %		86-115	"	"	"	"	"
<b>MW-7-GW-041315 (1504190-06) Liquid Sampled: 04/13/15 07:55 Received: 04/13/15 14:15</b>										
Benzene	ND	1.0		µg/L	1	B5D1538	04/15/15	04/16/15 08:45	EPA 8260B	
Bromobenzene	ND	1.0		"	"	"	"	"	"	"
Bromochloromethane	ND	1.0		"	"	"	"	"	"	"
Bromodichloromethane	ND	1.0		"	"	"	"	"	"	"
Bromoform	ND	1.0		"	"	"	"	"	"	"
Bromomethane	ND	1.0		"	"	"	"	"	"	"
n-Butylbenzene	ND	1.0		"	"	"	"	"	"	"
sec-Butylbenzene	ND	1.0		"	"	"	"	"	"	"
tert-Butylbenzene	ND	1.0		"	"	"	"	"	"	"
Carbon tetrachloride	ND	1.0		"	"	"	"	"	"	"
Chlorobenzene	ND	1.0		"	"	"	"	"	"	"
Chloroethane	ND	1.0		"	"	"	"	"	"	"
Chloroform	ND	1.0		"	"	"	"	"	"	"
Chloromethane	ND	1.0		"	"	"	"	"	"	"
2-Chlorotoluene	ND	1.0		"	"	"	"	"	"	"
4-Chlorotoluene	ND	1.0		"	"	"	"	"	"	"
Dibromochloromethane	ND	1.0		"	"	"	"	"	"	"
1,2-Dibromo-3-chloropropane	ND	5.0		"	"	"	"	"	"	"
1,2-Dibromoethane (EDB)	ND	1.0		"	"	"	"	"	"	"
Dibromomethane	ND	1.0		"	"	"	"	"	"	"
1,2-Dichlorobenzene	ND	1.0		"	"	"	"	"	"	"
1,3-Dichlorobenzene	ND	1.0		"	"	"	"	"	"	"
1,4-Dichlorobenzene	ND	1.0		"	"	"	"	"	"	"
Dichlorodifluoromethane	ND	1.0		"	"	"	"	"	"	"
1,1-Dichloroethane	ND	1.0		"	"	"	"	"	"	"
1,2-Dichloroethane	ND	1.0		"	"	"	"	"	"	"
1,1-Dichloroethene	ND	1.0		"	"	"	"	"	"	"
<b>cis-1,2-Dichloroethene</b>	<b>17</b>	1.0		"	"	"	"	"	"	"
<b>trans-1,2-Dichloroethene</b>	<b>1.5</b>	1.0		"	"	"	"	"	"	"
1,2-Dichloropropane	ND	1.0		"	"	"	"	"	"	"
1,3-Dichloropropane	ND	1.0		"	"	"	"	"	"	"
2,2-Dichloropropane	ND	1.0		"	"	"	"	"	"	"
1,1-Dichloropropene	ND	1.0		"	"	"	"	"	"	"
cis-1,3-Dichloropropene	ND	1.0		"	"	"	"	"	"	"

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Environmental Navigation Services, Inc.  
 P.O. Box 231026  
 Encinitas CA, 92024

Project: Paramount Plaza  
 Project Number: [none]  
 Project Manager: Jay Jones

Reported:  
 04/20/15 09:59

**Volatile Organic Compounds by EPA Method 8260B**

**Sierra Analytical Labs, Inc.**

Analyte	Result	Reporting		Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit								
<b>MW-7-GW-041315 (1504190-06) Liquid Sampled: 04/13/15 07:55 Received: 04/13/15 14:15</b>										
trans-1,3-Dichloropropene	ND	1.0		µg/L	1	B5D1538	04/15/15	04/16/15 08:45	EPA 8260B	
Ethylbenzene	ND	1.0		"	"	"	"	"	"	"
Hexachlorobutadiene	ND	1.0		"	"	"	"	"	"	"
Isopropylbenzene	ND	1.0		"	"	"	"	"	"	"
p-Isopropyltoluene	ND	1.0		"	"	"	"	"	"	"
Methylene chloride	ND	1.0		"	"	"	"	"	"	"
Methyl tert-butyl ether	ND	1.0		"	"	"	"	"	"	"
Naphthalene	ND	1.0		"	"	"	"	"	"	"
n-Propylbenzene	ND	1.0		"	"	"	"	"	"	"
Styrene	ND	1.0		"	"	"	"	"	"	"
1,1,1,2-Tetrachloroethane	ND	1.0		"	"	"	"	"	"	"
1,1,2,2-Tetrachloroethane	ND	1.0		"	"	"	"	"	"	"
<b>Tetrachloroethene</b>	<b>170</b>	1.0		"	"	"	"	"	"	"
Toluene	ND	1.0		"	"	"	"	"	"	"
1,2,3-Trichlorobenzene	ND	1.0		"	"	"	"	"	"	"
1,2,4-Trichlorobenzene	ND	1.0		"	"	"	"	"	"	"
1,1,1-Trichloroethane	ND	1.0		"	"	"	"	"	"	"
1,1,2-Trichloroethane	ND	1.0		"	"	"	"	"	"	"
<b>Trichloroethene</b>	<b>240</b>	1.0		"	"	"	"	"	"	"
Trichlorofluoromethane	ND	1.0		"	"	"	"	"	"	"
1,2,3-Trichloropropane	ND	1.0		"	"	"	"	"	"	"
1,2,4-Trimethylbenzene	ND	1.0		"	"	"	"	"	"	"
1,3,5-Trimethylbenzene	ND	1.0		"	"	"	"	"	"	"
Vinyl chloride	ND	1.0		"	"	"	"	"	"	"
m,p-Xylene	ND	1.0		"	"	"	"	"	"	"
o-Xylene	ND	1.0		"	"	"	"	"	"	"
<i>Surrogate: Dibromofluoromethane</i>		112 %		86-118		"	"	"	"	"
<i>Surrogate: Toluene-d8</i>		100 %		88-110		"	"	"	"	"
<i>Surrogate: 4-Bromofluorobenzene</i>		101 %		86-115		"	"	"	"	"

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Environmental Navigation Services, Inc.  
P.O. Box 231026  
Encinitas CA, 92024

Project: Paramount Plaza  
Project Number: [none]  
Project Manager: Jay Jones

Reported:  
04/20/15 09:59

**Volatile Organic Compounds by EPA Method 8260B**

**Sierra Analytical Labs, Inc.**

Analyte	Result	Reporting		Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit								
<b>MW-8-GW-041315 (1504190-07) Liquid Sampled: 04/13/15 12:55 Received: 04/13/15 14:15</b>										
Benzene	ND	1.0		µg/L	1	B5D1538	04/15/15	04/16/15 08:45	EPA 8260B	
Bromobenzene	ND	1.0		"	"	"	"	"	"	"
Bromochloromethane	ND	1.0		"	"	"	"	"	"	"
Bromodichloromethane	ND	1.0		"	"	"	"	"	"	"
Bromoform	ND	1.0		"	"	"	"	"	"	"
Bromomethane	ND	1.0		"	"	"	"	"	"	"
n-Butylbenzene	ND	1.0		"	"	"	"	"	"	"
sec-Butylbenzene	ND	1.0		"	"	"	"	"	"	"
tert-Butylbenzene	ND	1.0		"	"	"	"	"	"	"
Carbon tetrachloride	ND	1.0		"	"	"	"	"	"	"
Chlorobenzene	ND	1.0		"	"	"	"	"	"	"
Chloroethane	ND	1.0		"	"	"	"	"	"	"
Chloroform	ND	1.0		"	"	"	"	"	"	"
Chloromethane	ND	1.0		"	"	"	"	"	"	"
2-Chlorotoluene	ND	1.0		"	"	"	"	"	"	"
4-Chlorotoluene	ND	1.0		"	"	"	"	"	"	"
Dibromochloromethane	ND	1.0		"	"	"	"	"	"	"
1,2-Dibromo-3-chloropropane	ND	5.0		"	"	"	"	"	"	"
1,2-Dibromoethane (EDB)	ND	1.0		"	"	"	"	"	"	"
Dibromomethane	ND	1.0		"	"	"	"	"	"	"
1,2-Dichlorobenzene	ND	1.0		"	"	"	"	"	"	"
1,3-Dichlorobenzene	ND	1.0		"	"	"	"	"	"	"
1,4-Dichlorobenzene	ND	1.0		"	"	"	"	"	"	"
Dichlorodifluoromethane	ND	1.0		"	"	"	"	"	"	"
1,1-Dichloroethane	ND	1.0		"	"	"	"	"	"	"
1,2-Dichloroethane	ND	1.0		"	"	"	"	"	"	"
1,1-Dichloroethene	ND	1.0		"	"	"	"	"	"	"
<b>cis-1,2-Dichloroethene</b>	<b>3.6</b>	1.0		"	"	"	"	"	"	"
trans-1,2-Dichloroethene	ND	1.0		"	"	"	"	"	"	"
1,2-Dichloropropane	ND	1.0		"	"	"	"	"	"	"
1,3-Dichloropropane	ND	1.0		"	"	"	"	"	"	"
2,2-Dichloropropane	ND	1.0		"	"	"	"	"	"	"
1,1-Dichloropropene	ND	1.0		"	"	"	"	"	"	"
cis-1,3-Dichloropropene	ND	1.0		"	"	"	"	"	"	"
trans-1,3-Dichloropropene	ND	1.0		"	"	"	"	"	"	"
Ethylbenzene	ND	1.0		"	"	"	"	"	"	"
Hexachlorobutadiene	ND	1.0		"	"	"	"	"	"	"
Isopropylbenzene	ND	1.0		"	"	"	"	"	"	"
p-Isopropyltoluene	ND	1.0		"	"	"	"	"	"	"
Methylene chloride	ND	1.0		"	"	"	"	"	"	"
Methyl tert-butyl ether	ND	1.0		"	"	"	"	"	"	"

The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.



Environmental Navigation Services, Inc.  
P.O. Box 231026  
Encinitas CA, 92024

Project: Paramount Plaza  
Project Number: [none]  
Project Manager: Jay Jones

Reported:  
04/20/15 09:59

**Volatile Organic Compounds by EPA Method 8260B**

**Sierra Analytical Labs, Inc.**

Analyte	Result	Reporting		Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit	Units						
<b>MW-8-GW-041315 (1504190-07) Liquid Sampled: 04/13/15 12:55 Received: 04/13/15 14:15</b>									
Naphthalene	ND	1.0	µg/L	1	B5D1538	04/15/15	04/16/15 08:45	EPA 8260B	
n-Propylbenzene	ND	1.0	"	"	"	"	"	"	"
Styrene	ND	1.0	"	"	"	"	"	"	"
1,1,1,2-Tetrachloroethane	ND	1.0	"	"	"	"	"	"	"
1,1,2,2-Tetrachloroethane	ND	1.0	"	"	"	"	"	"	"
Tetrachloroethene	ND	1.0	"	"	"	"	"	"	"
Toluene	ND	1.0	"	"	"	"	"	"	"
1,2,3-Trichlorobenzene	ND	1.0	"	"	"	"	"	"	"
1,2,4-Trichlorobenzene	ND	1.0	"	"	"	"	"	"	"
1,1,1-Trichloroethane	ND	1.0	"	"	"	"	"	"	"
1,1,2-Trichloroethane	ND	1.0	"	"	"	"	"	"	"
<b>Trichloroethene</b>	<b>28</b>	1.0	"	"	"	"	"	"	"
Trichlorofluoromethane	ND	1.0	"	"	"	"	"	"	"
1,2,3-Trichloropropane	ND	1.0	"	"	"	"	"	"	"
1,2,4-Trimethylbenzene	ND	1.0	"	"	"	"	"	"	"
1,3,5-Trimethylbenzene	ND	1.0	"	"	"	"	"	"	"
Vinyl chloride	ND	1.0	"	"	"	"	"	"	"
m,p-Xylene	ND	1.0	"	"	"	"	"	"	"
o-Xylene	ND	1.0	"	"	"	"	"	"	"
<i>Surrogate: Dibromofluoromethane</i>		<i>110 %</i>		<i>86-118</i>		<i>"</i>	<i>"</i>	<i>"</i>	<i>"</i>
<i>Surrogate: Toluene-d8</i>		<i>106 %</i>		<i>88-110</i>		<i>"</i>	<i>"</i>	<i>"</i>	<i>"</i>
<i>Surrogate: 4-Bromofluorobenzene</i>		<i>114 %</i>		<i>86-115</i>		<i>"</i>	<i>"</i>	<i>"</i>	<i>"</i>

The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.





Environmental Navigation Services, Inc.  
 P.O. Box 231026  
 Encinitas CA, 92024

Project: Paramount Plaza  
 Project Number: [none]  
 Project Manager: Jay Jones

**Reported:**  
 04/20/15 09:59

**Hydrocarbons by Headspace GC-FID - Quality Control**  
**Sierra Analytical Labs, Inc.**

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
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**Batch B5D2038 - EPA 3810 Headspace**

**Blank (B5D2038-BLK1)**

Prepared: 04/17/15 Analyzed: 04/20/15

Methane	ND	5.0	µg/L							
Ethane	ND	5.0	"							
Ethene	ND	5.0	"							

**LCS (B5D2038-BS1)**

Prepared: 04/17/15 Analyzed: 04/20/15

Methane	209	5.0	µg/L	250		83.6	80-120			
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**Duplicate (B5D2038-DUP1)**

**Source: 1504190-06**

Prepared: 04/17/15 Analyzed: 04/20/15

Methane	ND	5.0	µg/L		ND				30	
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Environmental Navigation Services, Inc.  
 P.O. Box 231026  
 Encinitas CA, 92024

Project: Paramount Plaza  
 Project Number: [none]  
 Project Manager: Jay Jones

Reported:  
 04/20/15 09:59

**Volatile Organic Compounds by EPA Method 8260B - Quality Control**

**Sierra Analytical Labs, Inc.**

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
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**Batch B5D1538 - EPA 5030B P & T**

**Blank (B5D1538-BLK1)**

Prepared: 04/15/15 Analyzed: 04/16/15

Benzene	ND	1.0	µg/L							
Bromobenzene	ND	1.0	"							
Bromochloromethane	ND	1.0	"							
Bromodichloromethane	ND	1.0	"							
Bromoform	ND	1.0	"							
Bromomethane	ND	1.0	"							
n-Butylbenzene	ND	1.0	"							
sec-Butylbenzene	ND	1.0	"							
tert-Butylbenzene	ND	1.0	"							
Carbon tetrachloride	ND	1.0	"							
Chlorobenzene	ND	1.0	"							
Chloroethane	ND	1.0	"							
Chloroform	ND	1.0	"							
Chloromethane	ND	1.0	"							
2-Chlorotoluene	ND	1.0	"							
4-Chlorotoluene	ND	1.0	"							
Dibromochloromethane	ND	1.0	"							
1,2-Dibromo-3-chloropropane	ND	5.0	"							
1,2-Dibromoethane (EDB)	ND	1.0	"							
Dibromomethane	ND	1.0	"							
1,2-Dichlorobenzene	ND	1.0	"							
1,3-Dichlorobenzene	ND	1.0	"							
1,4-Dichlorobenzene	ND	1.0	"							
Dichlorodifluoromethane	ND	1.0	"							
1,1-Dichloroethane	ND	1.0	"							
1,2-Dichloroethane	ND	1.0	"							
1,1-Dichloroethene	ND	1.0	"							
cis-1,2-Dichloroethene	ND	1.0	"							
trans-1,2-Dichloroethene	ND	1.0	"							
1,2-Dichloropropane	ND	1.0	"							
1,3-Dichloropropane	ND	1.0	"							
2,2-Dichloropropane	ND	1.0	"							
1,1-Dichloropropene	ND	1.0	"							
cis-1,3-Dichloropropene	ND	1.0	"							
trans-1,3-Dichloropropene	ND	1.0	"							
Ethylbenzene	ND	1.0	"							
Hexachlorobutadiene	ND	1.0	"							

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Environmental Navigation Services, Inc.  
P.O. Box 231026  
Encinitas CA, 92024

Project: Paramount Plaza  
Project Number: [none]  
Project Manager: Jay Jones

Reported:  
04/20/15 09:59

**Volatile Organic Compounds by EPA Method 8260B - Quality Control**

**Sierra Analytical Labs, Inc.**

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
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**Batch B5D1538 - EPA 5030B P & T**

**Blank (B5D1538-BLK1)**

Prepared: 04/15/15 Analyzed: 04/16/15

Isopropylbenzene	ND	1.0	µg/L							
p-Isopropyltoluene	ND	1.0	"							
Methylene chloride	ND	1.0	"							
Methyl tert-butyl ether	ND	1.0	"							
Naphthalene	ND	1.0	"							
n-Propylbenzene	ND	1.0	"							
Styrene	ND	1.0	"							
1,1,1,2-Tetrachloroethane	ND	1.0	"							
1,1,2,2-Tetrachloroethane	ND	1.0	"							
Tetrachloroethene	ND	1.0	"							
Toluene	ND	1.0	"							
1,2,3-Trichlorobenzene	ND	1.0	"							
1,2,4-Trichlorobenzene	ND	1.0	"							
1,1,1-Trichloroethane	ND	1.0	"							
1,1,2-Trichloroethane	ND	1.0	"							
Trichloroethene	ND	1.0	"							
Trichlorofluoromethane	ND	1.0	"							
1,2,3-Trichloropropane	ND	1.0	"							
1,2,4-Trimethylbenzene	ND	1.0	"							
1,3,5-Trimethylbenzene	ND	1.0	"							
Vinyl chloride	ND	1.0	"							
m,p-Xylene	ND	1.0	"							
o-Xylene	ND	1.0	"							
<i>Surrogate: Dibromofluoromethane</i>	52.8		"	50.0		106	86-118			
<i>Surrogate: Toluene-d8</i>	48.2		"	50.0		96.4	88-110			
<i>Surrogate: 4-Bromofluorobenzene</i>	55.8		"	50.0		112	86-115			

**LCS (B5D1538-BS1)**

Prepared: 04/15/15 Analyzed: 04/16/15

Benzene	53.0	1.0	µg/L	50.0		106	80-120			
Chlorobenzene	43.6	1.0	"	50.0		87.2	80-120			
1,1-Dichloroethene	49.3	1.0	"	50.0		98.6	80-120			
Toluene	46.4	1.0	"	50.0		92.8	80-120			
Trichloroethene	51.8	1.0	"	50.0		104	80-120			

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Environmental Navigation Services, Inc.  
P.O. Box 231026  
Encinitas CA, 92024

Project: Paramount Plaza  
Project Number: [none]  
Project Manager: Jay Jones

Reported:  
04/20/15 09:59

**Volatile Organic Compounds by EPA Method 8260B - Quality Control**  
**Sierra Analytical Labs, Inc.**

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
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**Batch B5D1538 - EPA 5030B P & T**

**Matrix Spike (B5D1538-MS1)**

**Source: 1504190-01**

Prepared: 04/15/15

Analyzed: 04/16/15

Benzene	54.9	1.0	µg/L	50.0	ND	110	37-151			
Chlorobenzene	45.1	1.0	"	50.0	ND	90.2	37-160			
1,1-Dichloroethene	54.4	1.0	"	50.0	ND	109	50-150			
Toluene	48.7	1.0	"	50.0	ND	97.4	47-150			
Trichloroethene	56.5	1.0	"	50.0	ND	113	71-157			

**Matrix Spike Dup (B5D1538-MSD1)**

**Source: 1504190-01**

Prepared: 04/15/15

Analyzed: 04/16/15

Benzene	55.0	1.0	µg/L	50.0	ND	110	37-151	0.182	30	
Chlorobenzene	43.8	1.0	"	50.0	ND	87.6	37-160	2.92	30	
1,1-Dichloroethene	58.0	1.0	"	50.0	ND	116	50-150	6.41	30	
Toluene	52.8	1.0	"	50.0	ND	106	47-150	8.08	30	
Trichloroethene	57.3	1.0	"	50.0	ND	115	71-157	1.41	30	

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Environmental Navigation Services, Inc.  
P.O. Box 231026  
Encinitas CA, 92024

Project: Paramount Plaza  
Project Number: [none]  
Project Manager: Jay Jones

**Reported:**  
04/20/15 09:59

### Notes and Definitions

DET Analyte DETECTED  
ND Analyte NOT DETECTED at or above the reporting limit  
NR Not Reported  
dry Sample results reported on a dry weight basis  
RPD Relative Percent Difference

---

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**SIERRA ANALYTICAL**  
 TEL: 949-348-9389  
 FAX: 949-348-9115  
 26052 Merit Circle • Suite 104 • Laguna Hills, CA • 92653

**CHAIN OF CUSTODY RECORD**

Date: 4/13/15 Page 1 of 1

Lab Project No.: 1801190

Client: <u>ENST</u> Client Address: <u>100 231026</u> <u>EXCINITAS CA</u> Client Tel. No.: <u>760 944 9576</u> Client Fax. No.: Client Proj. Mgr.: <u>JAMES F. REBER, NET</u>		Client Project ID: <u>PARAMONT</u> Turn Around Time Requested: <input type="checkbox"/> Immediate <input type="checkbox"/> 24 Hour <input type="checkbox"/> 48 Hour <input type="checkbox"/> 72 Hour <input type="checkbox"/> 4 Day <input type="checkbox"/> 5 Day <input checked="" type="checkbox"/> Normal <input type="checkbox"/> Mobile		Geotracker EDD Info: Client LOGCODE: <u>ENJAE</u> Site Global ID: Field Point Names/Comments: <u>MW-1</u> <u>MW-2</u> <u>MW-3</u> <u>MW-4</u> <u>MW-6</u> <u>MW-7</u> <u>MW-8</u>	
Analysis Requested <u>DIS. GASES METALS</u> <u>VCS - M82603</u>		Total Number of Containers Submitted to Laboratory: <u>21</u> Total Number of Containers Received by Laboratory: <u>21</u>			
Sample Disposal: <input type="checkbox"/> Return to Client <input checked="" type="checkbox"/> Lab Disposal* <input type="checkbox"/> Archive _____ mos. <input type="checkbox"/> Other _____		The delivery of samples and the signature on this chain of custody form constitutes authorization to perform the analysis specified above under SIERRA's Terms and Conditions, unless otherwise agreed upon in writing between SIERRA and CLIENT. *Samples determined to be hazardous by SIERRA will be returned to CLIENT.			
FOR LABORATORY USE ONLY - Sample Receipt Conditions: <input checked="" type="checkbox"/> Intact <input type="checkbox"/> Sample Seals <input checked="" type="checkbox"/> Properly Labelled <input checked="" type="checkbox"/> Appropriate Sample Container		Chilled - Temp. (°C) <u>50</u> Preservatives - Verified By _____ Other _____ Storage Location: <u>(USA)</u>			

Client Sample ID.	Sierra No.	Date	Time	Matrix	Preservative	Container Type	No. of Containers
MW-1-GW-041315	01	4/13/15	10:45	H2O	HCL	3x40	3
MW-2-GW-041315	02	4/13/15	10:00			MVVA	3
MW-3-GW-041315	03	4/13/15	9:55				3
MW-4-GW-041315	04	4/13/15	11:44				3
MW-6-GW-041315	05	4/13/15	11:15				3
MW-7-GW-041315	06	4/13/15	7:55				3
MW-8-GW-041315	07	4/13/15	12:55				3

1. Sample Signature: <u>[Signature]</u> Printed Name: <u>[Name]</u> Relinquished By: <u>[Signature]</u> Company: <u>ENST</u>	Shipped Via: <u>HAND-DELIVER</u> Received By: <u>[Signature]</u> Company: <u>SIERRA</u>
Date: <u>4/13/15</u> Time: <u>2:15</u>	Date: _____ Time: _____
Date: _____ Time: _____	Date: _____ Time: _____
Date: _____ Time: _____	Date: _____ Time: _____

Special Instructions:



20 April 2015

Jay Jones  
Environmental Navigation Services, Inc.  
P.O. Box 231026  
Encinitas, CA 92024  
RE:Paramount Plaza  
Work Order No.: 1504191

Attached are the results of the analyses for samples received by the laboratory on 04/13/15 14:15.

The samples were received by Sierra Analytical Labs, Inc. with a chain of custody record attached or completed at the submittal of the samples.

The analyses were performed according to the prescribed method as outlined by EPA, Standard Methods, and A.S.T.M.

The remaining portions of the samples will be disposed of within 30 days from the date of this report.  
If you require any additional retaining time, please advise us.

Sincerely,

Richard K. Forsyth

Laboratory Director

Sierra Analytical Labs, Inc. is certified by the California Department of Health Services (DOHS),  
Environmental Laboratory Accreditation Program (ELAP) No. 2320.



Environmental Navigation Services, Inc.  
P.O. Box 231026  
Encinitas CA, 92024

Project: Paramount Plaza  
Project Number: [none]  
Project Manager: Jay Jones

**Reported:**  
04/20/15 15:12

**ANALYTICAL REPORT FOR SAMPLES**

Sample ID	Laboratory ID	Matrix	Date Sampled	Date Received
MW-1-GW-041315	1504191-01	Liquid	04/13/15 10:45	04/13/15 14:15
MW-3-GW-041315	1504191-02	Liquid	04/13/15 09:35	04/13/15 14:15
MW-4-GW-041315	1504191-03	Liquid	04/13/15 11:44	04/13/15 14:15
MW-7-GW-041315	1504191-04	Liquid	04/13/15 07:55	04/13/15 14:15

*The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.*





Environmental Navigation Services, Inc.  
 P.O. Box 231026  
 Encinitas CA, 92024

Project: Paramount Plaza  
 Project Number: [none]  
 Project Manager: Jay Jones

Reported:  
 04/20/15 15:12

**Conventional Chemistry Parameters by APHA/EPA Methods**  
**Sierra Analytical Labs, Inc.**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
<b>MW-1-GW-041315 (1504191-01) Liquid    Sampled: 04/13/15 10:45    Received: 04/13/15 14:15</b>									
Chloride	249	0.500	mg/L	1	B5D2046	04/13/15	04/13/15 15:45	SM 4500-Cl- B	
Specific Conductance (EC)	2130	0.100	µmhos/cm	"	"	"	"	EPA 120.1	
Nitrite as N	0.127	0.0200	mg/L	"	"	"	"	SM4500-NO2B	
Nitrate as N	1.50	0.0200	"	"	"	"	"	EPA 353.3	
Nitrate/Nitrite as N	1.63	0.0200	"	"	"	"	"	"	
pH	6.68	0.100	pH Units	"	"	"	"	EPA 150.1	
Sulfate as SO4	275	0.500	mg/L	"	"	"	"	EPA 375.4	
Total Dissolved Solids	1320	1.00	"	"	"	"	"	EPA 160.1	
<b>MW-3-GW-041315 (1504191-02) Liquid    Sampled: 04/13/15 09:35    Received: 04/13/15 14:15</b>									
Chloride	156	0.500	mg/L	1	B5D2046	04/13/15	04/13/15 15:45	SM 4500-Cl- B	
Specific Conductance (EC)	2770	0.100	µmhos/cm	"	"	"	"	EPA 120.1	
Nitrite as N	ND	0.0200	mg/L	"	"	"	"	SM4500-NO2B	
Nitrate as N	1.80	0.0200	"	"	"	"	"	EPA 353.3	
Nitrate/Nitrite as N	1.82	0.0200	"	"	"	"	"	"	
pH	7.03	0.100	pH Units	"	"	"	"	EPA 150.1	
Sulfate as SO4	300	0.500	mg/L	"	"	"	"	EPA 375.4	
Total Dissolved Solids	1720	1.00	"	"	"	"	"	EPA 160.1	
<b>MW-4-GW-041315 (1504191-03) Liquid    Sampled: 04/13/15 11:44    Received: 04/13/15 14:15</b>									
Chloride	458	0.500	mg/L	1	B5D2046	04/13/15	04/13/15 15:45	SM 4500-Cl- B	
Specific Conductance (EC)	3190	0.100	µmhos/cm	"	"	"	"	EPA 120.1	
Nitrite as N	ND	0.0200	mg/L	"	"	"	"	SM4500-NO2B	
Nitrate as N	1.10	0.0200	"	"	"	"	"	EPA 353.3	
Nitrate/Nitrite as N	1.12	0.0200	"	"	"	"	"	"	
pH	6.71	0.100	pH Units	"	"	"	"	EPA 150.1	
Sulfate as SO4	400	0.500	mg/L	"	"	"	"	EPA 375.4	
Total Dissolved Solids	1980	1.00	"	"	"	"	"	EPA 160.1	

*The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.*



Environmental Navigation Services, Inc.  
 P.O. Box 231026  
 Encinitas CA, 92024

Project: Paramount Plaza  
 Project Number: [none]  
 Project Manager: Jay Jones

**Reported:**  
 04/20/15 15:12

**Conventional Chemistry Parameters by APHA/EPA Methods**  
**Sierra Analytical Labs, Inc.**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
<b>MW-7-GW-041315 (1504191-04) Liquid    Sampled: 04/13/15 07:55    Received: 04/13/15 14:15</b>									
<b>Chloride</b>	<b>219</b>	0.500	mg/L	1	B5D2046	04/13/15	04/13/15 15:45	SM 4500-Cl- B	
<b>Specific Conductance (EC)</b>	<b>2450</b>	0.100	µmhos/cm	"	"	"	"	EPA 120.1	
Nitrite as N	ND	0.0200	mg/L	"	"	"	"	SM4500-NO2B	
<b>Nitrate as N</b>	<b>1.70</b>	0.0200	"	"	"	"	"	EPA 353.3	
<b>Nitrate/Nitrite as N</b>	<b>1.72</b>	0.0200	"	"	"	"	"	"	
<b>pH</b>	<b>6.83</b>	0.100	pH Units	"	"	"	"	EPA 150.1	
<b>Sulfate as SO4</b>	<b>375</b>	0.500	mg/L	"	"	"	"	EPA 375.4	
<b>Total Dissolved Solids</b>	<b>1520</b>	1.00	"	"	"	"	"	EPA 160.1	

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Environmental Navigation Services, Inc.  
 P.O. Box 231026  
 Encinitas CA, 92024

Project: Paramount Plaza  
 Project Number: [none]  
 Project Manager: Jay Jones

**Reported:**  
 04/20/15 15:12

**Total Organic Carbon (TOC) by SM 5310 B**  
**Sierra Analytical Labs, Inc.**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
<b>MW-1-GW-041315 (1504191-01) Liquid    Sampled: 04/13/15 10:45    Received: 04/13/15 14:15</b>									
<b>Total Organic Carbon</b>	<b>1.8</b>	0.50	mg/L	1	B5D2059	04/17/15	04/17/15 10:54	SM 5310 B	
<b>MW-3-GW-041315 (1504191-02) Liquid    Sampled: 04/13/15 09:35    Received: 04/13/15 14:15</b>									
<b>Total Organic Carbon</b>	<b>1.0</b>	0.50	mg/L	1	B5D2059	04/17/15	04/17/15 10:54	SM 5310 B	
<b>MW-4-GW-041315 (1504191-03) Liquid    Sampled: 04/13/15 11:44    Received: 04/13/15 14:15</b>									
<b>Total Organic Carbon</b>	<b>0.69</b>	0.50	mg/L	1	B5D2059	04/17/15	04/17/15 10:54	SM 5310 B	
<b>MW-7-GW-041315 (1504191-04) Liquid    Sampled: 04/13/15 07:55    Received: 04/13/15 14:15</b>									
<b>Total Organic Carbon</b>	<b>0.58</b>	0.50	mg/L	1	B5D2059	04/17/15	04/17/15 10:54	SM 5310 B	

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Environmental Navigation Services, Inc.  
P.O. Box 231026  
Encinitas CA, 92024

Project: Paramount Plaza  
Project Number: [none]  
Project Manager: Jay Jones

**Reported:**  
04/20/15 15:12

**Metals by EPA 200 Series Methods**  
**Sierra Analytical Labs, Inc.**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
<b>MW-1-GW-041315 (1504191-01) Liquid    Sampled: 04/13/15 10:45    Received: 04/13/15 14:15</b>									
<b>Boron</b>	<b>0.19</b>	0.066	mg/L	1	B5D1464	04/14/15	04/15/15 12:21	EPA 200.7	
<b>MW-3-GW-041315 (1504191-02) Liquid    Sampled: 04/13/15 09:35    Received: 04/13/15 14:15</b>									
<b>Boron</b>	<b>0.79</b>	0.066	mg/L	1	B5D1464	04/14/15	04/15/15 12:21	EPA 200.7	
<b>MW-4-GW-041315 (1504191-03) Liquid    Sampled: 04/13/15 11:44    Received: 04/13/15 14:15</b>									
<b>Boron</b>	<b>0.20</b>	0.066	mg/L	1	B5D1464	04/14/15	04/15/15 12:21	EPA 200.7	
<b>MW-7-GW-041315 (1504191-04) Liquid    Sampled: 04/13/15 07:55    Received: 04/13/15 14:15</b>									
<b>Boron</b>	<b>0.13</b>	0.066	mg/L	1	B5D1464	04/14/15	04/15/15 12:21	EPA 200.7	

*The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.*



Environmental Navigation Services, Inc.  
 P.O. Box 231026  
 Encinitas CA, 92024

Project: Paramount Plaza  
 Project Number: [none]  
 Project Manager: Jay Jones

**Reported:**  
 04/20/15 15:12

**Conventional Chemistry Parameters by APHA/EPA Methods - Quality Control**  
**Sierra Analytical Labs, Inc.**

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
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**Batch B5D2046 - General Preparation**

**Blank (B5D2046-BLK1)**

Prepared & Analyzed: 04/13/15

Chloride	ND	0.500	mg/L							
Nitrate as N	ND	0.0200	"							
Nitrate/Nitrite as N	ND	0.0200	"							
Nitrite as N	ND	0.0200	"							
Sulfate as SO4	ND	0.500	"							

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Environmental Navigation Services, Inc.  
 P.O. Box 231026  
 Encinitas CA, 92024

Project: Paramount Plaza  
 Project Number: [none]  
 Project Manager: Jay Jones

**Reported:**  
 04/20/15 15:12

**Total Organic Carbon (TOC) by SM 5310 B - Quality Control**

**Sierra Analytical Labs, Inc.**

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
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**Batch B5D2059 - Organic Carbon**

**Blank (B5D2059-BLK1)**

Prepared & Analyzed: 04/17/15

Total Organic Carbon                      ND                      0.50                      mg/L

**LCS (B5D2059-BS1)**

Prepared & Analyzed: 04/17/15

Total Organic Carbon                      4.12                      0.50                      mg/L                      4.00                      103                      80-120

**Duplicate (B5D2059-DUP1)**

**Source: 1504191-01**

Prepared & Analyzed: 04/17/15

Total Organic Carbon                      1.77                      0.50                      mg/L                      1.8                      1.68                      30

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Environmental Navigation Services, Inc.  
P.O. Box 231026  
Encinitas CA, 92024

Project: Paramount Plaza  
Project Number: [none]  
Project Manager: Jay Jones

**Reported:**  
04/20/15 15:12

**Metals by EPA 200 Series Methods - Quality Control**  
**Sierra Analytical Labs, Inc.**

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
<b>Batch B5D1464 - EPA 200 Series</b>										
<b>Blank (B5D1464-BLK1)</b>				Prepared: 04/14/15 Analyzed: 04/15/15						
Boron	ND	0.066	mg/L							
<b>Blank (B5D1464-BLK2)</b>				Prepared: 04/14/15 Analyzed: 04/15/15						
Boron	ND	0.066	mg/L							
<b>LCS (B5D1464-BS1)</b>				Prepared: 04/14/15 Analyzed: 04/15/15						
Boron	0.199	0.066	mg/L	0.200		99.5	80-121			
<b>LCS (B5D1464-BS2)</b>				Prepared: 04/14/15 Analyzed: 04/15/15						
Boron	0.179	0.066	mg/L	0.200		89.5	80-121			
<b>Matrix Spike (B5D1464-MS1)</b>				Source: 1504195-03 Prepared: 04/14/15 Analyzed: 04/15/15						
Boron	0.543	0.066	mg/L	0.200	0.36	91.5	70-130			
<b>Matrix Spike (B5D1464-MS2)</b>				Source: 1504191-04 Prepared: 04/14/15 Analyzed: 04/15/15						
Boron	0.307	0.066	mg/L	0.200	0.13	88.5	70-130			
<b>Matrix Spike Dup (B5D1464-MSD1)</b>				Source: 1504195-03 Prepared: 04/14/15 Analyzed: 04/15/15						
Boron	0.490	0.066	mg/L	0.200	0.36	65.0	70-130	10.3	20	QM-07
<b>Matrix Spike Dup (B5D1464-MSD2)</b>				Source: 1504191-04 Prepared: 04/14/15 Analyzed: 04/15/15						
Boron	0.295	0.066	mg/L	0.200	0.13	82.5	70-130	3.99	20	

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Environmental Navigation Services, Inc.  
P.O. Box 231026  
Encinitas CA, 92024

Project: Paramount Plaza  
Project Number: [none]  
Project Manager: Jay Jones

**Reported:**  
04/20/15 15:12

### Notes and Definitions

QM-07 The spike recovery was outside acceptance limits for the MS and/or MSD. The batch was accepted based on acceptable LCS recovery.

DET Analyte DETECTED

ND Analyte NOT DETECTED at or above the reporting limit

NR Not Reported

dry Sample results reported on a dry weight basis

RPD Relative Percent Difference

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**SIERRA ANALYTICAL**  
 TEL: 949-348-9389  
 FAX: 949-348-9115  
 26052 Merit Circle • Suite 104 • Laguna Hills, CA • 92653

**CHAIN OF CUSTODY RECORD**

Date: 7/13/15 Page 1 of 1

Lab Project No.: 150491

Client Project ID:

Client: FRSI  
 Client Address: 788 23102C  
Escondido CA  
 Client Tel. No.: 760 944 9576  
 Client Fax No.: 760 944 9576  
 Client Proj. Mgr: delores4@arbaa.net

Turn Around Time Requested

24 Hour  
 48 Hour  
 72 Hour  
 4 Day  
 5 Day  
 Normal  
 Mobile

**Analysis Requested**

Client Sample ID.	Sierra No.	Date	Time	Matrix	Preservative	Container Type	No. of Containers
MW-1-60-04315	01	7/13/15	1045	H2O	SEE	A, B	2
MW-3-60-04315	03	7/13/15	935	H2O	NOTES	↓	2
MW-4-60-04315	03	7/13/15	1144	H2O		↓	2
MW-7-60-04315	04	7/13/15	758	H2O		↓	2

Geotracker EDD Info:
Client LOGCODE: <u>FINAE</u>
Site Global ID: _____
Field Point Names/Comments: <u>MW-1</u>
<u>MW-3</u>
<u>MW-4</u>
<u>MW-7</u>

1. Sampler Signature: [Signature]

Printed Name: Jay Williams

2. Relinquished By: [Signature] Date: 7/13/15 Time: 7:15

Company: FRSI

3. Relinquished By: \_\_\_\_\_ Date: \_\_\_\_\_ Time: \_\_\_\_\_

Company: \_\_\_\_\_

4. Relinquished By: \_\_\_\_\_ Date: \_\_\_\_\_ Time: \_\_\_\_\_

Company: \_\_\_\_\_

Special Instructions:

Total Number of Containers Submitted to Laboratory	Total Number of Containers Received by Laboratory
8	8

The delivery of samples and the signature on this chain of custody form constitutes authorization to perform the analysis specified above under SIERRA's Terms and Conditions, unless otherwise agreed upon in writing between SIERRA and CLIENT. \* - Samples determined to be hazardous by SIERRA will be returned to CLIENT.

FOR LABORATORY USE ONLY - Sample Receipt Conditions:

Intact:  Chilled - Temp. (°C): 5.0

Sample Seals:  Preservatives - Verified By: \_\_\_\_\_

Properly Labelled:  Other: \_\_\_\_\_

Appropriate Sample Container:  Storage Location: 2405



10515 Research Drive  
Knoxville, TN 37932  
Phone: (865) 573-8188  
Fax: (865) 573-8133

---

**Client:** Jay Jones  
Environmental Navigation Services, Inc ( ENSI )  
PO Box 231026  
Encinitas, CA 92023-1026

**Phone:** 760 944 9576

**Fax:**

**Identifier:** 042MD      **Date Rec:** 04/14/2015      **Report Date:** 04/15/2015

**Client Project #:**      **Client Project Name:** Paramount

**Purchase Order #:**

**Analysis Requested:** CENSUS

**Reviewed By:**

A handwritten signature in black ink, appearing to read 'Ruth W.' or similar, written on a light-colored background.

---

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**Client:** Environmental Navigation Services, Inc ( ENS)  
**Project:** Paramount

**MI Project Number:** 042MD  
**Date Received:** 04/14/2015

**Sample Information**

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<b>Client Sample ID:</b>	<b>MW-4-GW-0413</b>	<b>MW-7-GW-0413</b>
	<b>15</b>	<b>15</b>
Sample Date:	04/13/2015	04/13/2015
Units:	cells/mL	cells/mL
Analyst:	RW	RW

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**Dechlorinating Bacteria**

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<i>Dehalococcoides</i>	DHC	1.17E+01	<3.00E-01
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**Legend:**

NA = Not Analyzed    NS = Not Sampled    J = Estimated gene copies below PQL but above LQL    I = Inhibited  
< = Result not detected