State of California

Regional Water Quality Control Board
Santa Ana Region
September 16, 2016

Staff Report

Item: 10

Subject: Waste Discharge Requirements for *In situ* Remediation of Groundwater Impacted by Chlorinated Solvents, Perchlorate and Hexavalent Chromium Associated with the Triumph Processing Site – Embee Division, Inc., Order No. R8-2016-0049

Summary

The proposed individual waste discharge requirements and associated monitoring and reporting program, established pursuant to Order No. R8-2016-0049, will authorize the Triumph Processing– Embee Division, Inc. (Embee) to conduct *in situ* injections of chemical amendments, in order to remediate volatile organic compounds (VOCs), perchlorate, and hexavalent chromium that are present in groundwater as a result of historical site operations at a metal plating and finishing facility.

Background

The Embee site (Site) is located at 2136 South Hathaway Street, in the City of Santa Ana, County of Orange. Since 1962, Embee has operated its metal plating and finishing facility at the Site. These operations include the use of chromium, tin, nickel, and copper. Tetrachloroethene (PCE) and 1,1,1-trichloroethane (TCA) were historically used as vapor degreasing agents in the grinding and metal finishing operation.

Investigations have revealed that discharges associated with the Embee operations have impacted soil and groundwater beneath, and downgradient of the Site. The highest concentrations of VOCs in soil and groundwater are present in the vicinity of the former degreasers, beneath Buildings 2139 and 2148, and (to a lesser degree) beneath Buildings 2150 and 2144 (see attached Figure 2). The highest concentrations of hexavalent chromium and perchlorate in soil and groundwater are present beneath, and south of, Building 2144.

Two main water-bearing zones (WBZs) have been identified beneath the Site. The first and second WBZs extend from approximately 9.5 to 43 feet below ground surface (ft bgs) and 39 to 70 ft bgs, respectively. Investigations at the Site indicated that both WBZs have been impacted by VOCs, chromium (including hexavalent chromium) and perchlorate. Groundwater flow in the first WBZ is divergent, with flow directed towards the northwest and southwest in the western portion of the Site, and towards the east in

the eastern portion of the Site. Groundwater flow direction in the second WBZ is towards the southwest.

In situ Bioremediation/Reduction is being proposed to supplement the ongoing groundwater remediation activities in the Existing Interim Measure Area (shown in attached Figure 2), which started at the Site in 2010, and to further mitigate the groundwater impacts stemming from historical discharges of waste at the Proposed Expansion of Interim Measure Area on-site, and the Pilot Study Area off-site.

In the **Existing Interim Measure Area** (eastern portion of the Site, shown in attached Figure 2), VOCs, chromium (including hexavalent chromium) and perchlorate are the primary contaminants of concern, and are the focus of remediation. In the proposed **Expansion of Interim Measure Area** (western portion of the Site, also shown in Figure 2), VOCs are the focus of the remediation. The **Pilot Scale Study** is proposed for remediation of perchlorate and hexavalent chromium in groundwater beneath the off-site area southeast of the Site (see Figure 2).

Discussion

The In Situ Bioremediation/Reduction covered by this Order includes:

1. Injections of the following chemical amendments in both WBZs beneath the Existing Interim Measure Area – Soybean Oil, Sodium Bicarbonate, P & G Dawn Ultra Original (Surfactant), Accelerite®, and Calcium Polysulfide.
2. Injections of the following chemical amendments in both WBZs beneath the Expansion of Interim Measure Area – Soybean Oil, Sodium Bicarbonate, Surfactant, Accelerite®, Rhodamine Tracer, and KB-1 Plus® bioaugmentation agent.
3. Injections of the following chemical amendments in the second WBZ beneath the Pilot Study Area – Soybean Oil, Sodium Bicarbonate, Surfactant, Accelerite®, and Calcium Polysulfide.

The requirements for this *in situ* bioremediation/reduction program were developed based upon the proposed scope of work, background information, and site specific data presented in the Report of Waste Discharge (ROWD), *WDR Application Package, Triumph Processing-Embee Division, Inc.* (dated January 13, 2016), and in electronic submittals to Water Board staff between January and June 2016, and were approved by Regional Water Board staff on July 2016.

The proposed chemical injections could affect the quality of waters of the state (i.e. groundwater), and are therefore subject to waste discharge requirements (WDRs) in accordance with California Water Code (CWC) Section 13263. With proper management as required by Order No. R8-2016-0049, however, the potential effects should be localized, of short duration, and are not expected to unreasonably impair any

existing or prospective beneficial uses of groundwater.

Order No. R8-2016-0049 includes WDRs to regulate the specified discharge for *in situ* bioremediation-reduction of waste constituents in groundwater, namely VOCs, perchlorate, and hexavalent chromium. The CWC Section 13263(i) and General WDRs for In-Situ Groundwater Remediation at Sites within the Santa Ana Region, Order No. R8-2013-0029, have established criteria that allow for the prescription and authorization of general WDRs. Order No.R8-2013-0029 defines Compliance Point(s) as those monitoring wells located downgradient, outside of the groundwater plume, and beyond the boundaries of a treatment zone, used for assessing the impacts to water quality and the effectiveness of the remediation. Based on: (1) the Site specific information that has been provided; (2) the comingled nature of the plume of groundwater contamination in the vicinity of the Site (i.e. multiple sources of contamination); and (3) a lack of appropriate locations to meet the specific requirements of the Compliance Points as specified in Order No. R8-2013-0029, the Regional Water Board staff finds that the individual WDRs outlined by this proposed Order are necessary to regulate the discharges at the Site.

Recommendation

Staff recommends that the Board adopt proposed waste discharge requirements Order No. R8-2016-0049, and accept the proposed monitoring and reporting program as presented in its attachment.

STATE OF CALIFORNIA

CALIFORNIA REGIONAL WATER QUALITY CONTROL BOARD
SANTA ANA REGION

ORDER NO. R8-2016-0049

WASTE DISCHARGE REQUIREMENTS
FOR
***IN SITU* REMEDIATION OF GROUNDWATER**
TRIUMPH PROCESSING– EMBEE DIVISION, INC.
2136 South Hathaway Street Santa Ana

The California Regional Water Quality Control Board, Santa Ana Region (hereinafter Regional Water Board), finds that:

1. Discharges of petroleum hydrocarbon compounds, volatile organic compounds (VOCs), heavy metals, pesticides, perchlorate, 1,4-dioxane and other types of contaminants have degraded groundwater at various sites throughout the Santa Ana Region, and have impacted or are threatening to impact beneficial uses of groundwater.

2. Groundwater cleanups at such sites may be accomplished via physical removal and treatment of site contaminants, or may employ the addition (discharge) of chemicals and other reactive materials (amendments) to soil and groundwater (*in situ*), to promote remediation. A person or entity applying or proposing to discharge such amendments to soil or groundwater to promote groundwater remediation within a specified treatment zone is referred to as a Discharger. For purposes of this Order, the Discharger is identified as Triumph Processing-Embee Division (Embee).

3. *In situ* treatment includes processes such as oxygen enhancement, chemical oxidation, chemical reduction, biostimulation (addition of nutrients to enhance biodegradation), bioaugmentation (introducing appropriate bacteria), and biogeochemical transformation. The application of such amendments can be active, with hydraulic control of the treatment zone as the amendments are added to the extracted groundwater and recirculated through the subsurface, or passive, with the amendments injected into the treatment zone without hydraulic control.

4. This Order includes Waste Discharge Requirements (WDRs) to regulate the specified discharge for in situ bioremediation/reduction of the specified waste constituents, namely VOCs, hexavalent chromium, and perchlorate in groundwater at the Site. Although the California Water Code (CWC) Section 13263(i) and Regional Board Order R8-2013-0029 previously established criteria to be met in order to prescribe general WDRs, the Regional Water Board finds that, due to the comingled nature of the plume of groundwater contamination in the vicinity of the Site (i.e. multiple sources of contamination) , and a lack of appropriate locations to meet the specific requirements of the Compliance Points, individual WDRs are being prescribed herein to regulate the discharge at the Site.

5. The requirements for this *in situ* treatment program were developed based upon the proposed scope of work, background information, and site specific data presented in the Report of Waste Discharge (ROWD), *WDR Permit Application Package*, *Triumph Processing-Embee Division, Inc.* (dated January 13, 2016) and in electronic submittals to

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Regional Water Board staff from January to June 2016.

6. The discharge covered by this Order has a site specific groundwater monitoring and reporting program, **Monitoring and Reporting Program No. R8-2016-0049**, that complies with requirements prescribed in this Order and will be subject to change by the Executive Officer.

7. For purposes of this Order, the covered discharge includes injection of chemical amendments with the following specifications into the **Existing Interim Measure Area** of the Site (attached Figure 2): A total of 268,800 gallons of solution is permitted to be injected into 56 injection wells during the remediation period. The injection volume per each well is 4,800 gallons of solution, including 480 gallons of Soybean Oil (10% by volume solution), 192 pounds (lbs) Sodium Bicarbonate (0.48% solution), 9.6 gallons of P & G Dawn Ultra Original (Surfactant [0.2% by volume solution]), 9.6 gallons of Accelerite® (0.2% by volume solution),10 lbs of Calcium Polysulfide (0.025 % solution). The solution will be injected into 41 injection wells screened in the shallow water-bearing zone, IW-3A to IW-43A – screened approximately 10 to 30 feet below ground surface (bgs) and 15 injection wells in the deep water-bearing zone, IW-19C to IW43C (only odd well numbers) and IW-61C to IW 63C (screened approximately 50 to 60 feet bgs). The injection will be conducted at a flow rate of 1 to 5 gallons per minute (gpm) and a maximum injection pressure of 10 pounds per square inch (psi).

8. For purposes of this Order, the covered discharge includes injection of chemical amendments with the following specifications into the **Expansion of Interim Measure Area** at the Site (attached Figure 2): A total of 345,600 gallons of solution is permitted to be injected into 32 injection wells during the remediation period. The injection volume per each well is 10,800 gallons of solution, including 1,080 gallons of Soybean Oil (10% by volume solution), 432 lbs Sodium Bicarbonate (0.48% solution), 21.6 gallons Surfactant (0.2 % by volume solution), 21.6 gallons of Accelerite® (0.2% by volume solution), 5 lb of Rhodamine Tracer (55 ppm solution), and 0.13 gallons of KB-1 plus. The solution will be injected into 17 injection wells screened in the shallow water-bearing zone, IW-44A to IW-60A (screened approximately 11 to 31 or 30 to 45 ft bgs) and 15 injection wells screened in the deep water-bearing zone, IW-44C, IW-46C to IW-54C, and IW56C to IW-60C (screened approximately 45 to 70 feet bgs). The injection will be conducted at a flow rate of 1 to 5 gpm, and a maximum injection pressure of 10 psi.

9. For purposes of this Order, the covered discharge includes injection of chemical amendments with the following specifications into the **Pilot Study Area** at the Site (attached Figure 2): A total of 3,000 gallons of solution is permitted to be injected into 6 injection points. The injection volume per each injection point includes 50 gallons of Soybean Oil (10% by volume solution), 20 lbs Sodium Bicarbonate (0.48% solution), 1 gallon Surfactant (0.2% by volume solution), 1 gallon of Accelerite® (0.2% by volume solution), and 10.4 lbs of Calcium Polysulfide (0.25% solution). The solution will be injected into six injection points, “a” through “f” (depth of 50 to 55 feet bgs). The injection will be conducted at a flow rate of 2 to 5 gpm, and an injection pressure of 1 psi per foot of depth (i.e. maximum of 55 psi).

10. The proposed discharge of chemical amendments affects the quality of waters of the state (i.e. groundwater), and is therefore subject to WDRs, in accordance with California Water Code (CWC) Section 13263. With proper management as required by this Order; however, the potential effects will be localized, of short duration, and are not expected to unreasonably impair any existing or prospective beneficial uses of groundwater.

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11. State Water Resources Control Board (State Water Board) Resolution No. 68-16 requires that in regulating the discharge of waste, the high quality waters of the State shall be maintained unless it is demonstrated that any change in quality will be consistent with the maximum benefit to the people of the State, will not unreasonably affect beneficial uses, and will not result in water quality less than that described in water quality control policies. The temporary degradation allowed by this Order, within the *in situ* treatment zone, is consistent with Resolution No. 68-16 because(a) the purpose of discharging amendments to the groundwater is to accelerate and enhance remediation of groundwater pollution, and such remediation will benefit the people of the State; (b) the degradation is limited in scope and duration; (c) best practicable treatment and control, including adequate monitoring and hydraulic control to assure protection of water quality, are required by this Order; and (d) the proposed discharge is not anticipated to cause water quality objectives (WQOs) to be exceeded beyond the observation monitoring well network, and potential increases in concentrations above WQOs within the zone of distribution are expected to be temporary, and not result in any long-term deleterious effects on water quality.

12. This Order is consistent with State Water Board Resolution No. 92-49: "Policies and Procedures for Investigation and Cleanup and Abatement of Discharges under Section 13304 of the Water Code" by conforming with section III(F)(2)(b). This Order is also consistent with other applicable water quality policies and procedures, and regulations adopted by the State Water Board.

13. The Regional Water Board, acting in accordance with CWC section 13244, adopted a revised Water Quality Control Plan for the Santa Ana River Basin (hereinafter Basin Plan) on March 11, 1994. The Basin Plan was subsequently approved by the State Water Board on July 21, 1994. Subsequent revisions to the Basin Plan have also been adopted by the Regional Water Board and approved by the State Water Board as recently as February 2016. The Basin Plan identifies beneficial uses and WQOs for waters within the Santa Ana Region, including Groundwater Management Zones (GMZs). The requirements contained in this Order are consistent with the Basin Plan

14. In accordance with Section 2200, Title 23 of the California Code of Regulations (CCR), a discharger for whom WDRs have been prescribed is required to submit an annual fee to the State Water Board. The annual fee is based on (1) the threat to water quality and (2) the complexity of the discharge, in accordance with the ratings in the annual fee schedule contained in section 2200. It is expected that the discharge covered by this Order will have a threat to water quality of Category 3 and a complexity rating of B, for a combined rating of 3-B. Category 3 is the lowest threat to water quality category, and Category B is the middle complexity rating, for dischargers that have a physical, chemical or biological treatment system, and do not meet the higher complexity rating definition for Category A. Discharges with a rating of 3-B contain pollutants that could degrade water quality or cause a minor impairment of designated beneficial uses within the treatment zone of the receiving groundwater.

15. The Regional Water Board is the lead agency pursuant to the California Environmental Quality Act (CEQA; Public Resources Code, Section 21100 et seq.). The issuance of WDRs for the cleanup of defined groundwater contamination plume(s) at existing facilities is exempt from CEQA in accordance with Section 15301, Article 19, Chapter 3, Division 6, Title 14 of CCR. Additionally, the actions authorized by these WDRs are expected to cause only minor alterations to land, and as such, are exempt from CEQA in accordance with Section

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15304, Article 19, Chapter 3, Division 6, Title 14 of CCR.

16. The WDRs prescribed under this Order are not intended to alter or supersede any existing requirements of local governmental agencies.

17. The Regional Water Board has notified interested agencies and persons of its intent to prescribe WDRs for the discharge associated with Embee's *in situ* bioremediation/reduction program, and has provided them with an opportunity to submit their written views and recommendations.

18. The Regional Water Board in a public meeting held on September 16, 2016 heard and considered all comments pertaining to the prescribed WDRs.

IT IS HEREBY ORDERED that, pursuant to Section 13263 of the CWC, Embee is authorized to discharge under this Order and, in order to meet the provisions contained in Division 7 of the CWC, and regulations adopted thereunder, shall comply with the following:

A. DISCHARGE PROHIBITIONS

1. The discharge of wastes in a manner other than as described in this Order is prohibited.

2. The discharge of treated or untreated solid or liquid waste to a navigable waters or tributaries of navigable waters is prohibited, unless that discharge is covered under separate NPDES permits issued by the Regional Board.

3. The use of any amendment other than compounds mentioned in Sections 4, 5, and 6 above is prohibited.

4. The discharge of any radiological, chemical, or biological warfare agent or high level radiological waste is prohibited.

5. Discharges to groundwater and the surrounding geological formation that are conducted in a manner that increases the mobility and/or extent of the contaminant plume through fracturing of the geologic formation are prohibited. Additionally, fracturing of an aquitard that separates two distinct water-bearing zones is prohibited under any condition.

B.DISCHARGE LIMITATIONS AND SPECIFICATIONS

1. The amendment injection program shall be designed and implemented in such a manner as to minimize or prevent the surfacing of wastes or an overflow of wastes or chemicals used in the treatment process. Any injection that results in excessive surfacing of waste shall be discontinued, and measures shall immediately be taken to eliminate further surfacing.

2. The discharge of amendments shall not cause total dissolved solids (TDS) to exceed the concentrations specified in Table 4-1 of the Basin Plan for the Orange County Groundwater Management Zone (GMZ), at any location outside the observation monitoring well network defined in the Monitoring and Reporting Program issued by the Executive Officer.

3. The discharge of amendments shall not cause nitrogen as nitrate-nitrogen (NO_3-N) to

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exceed the concentrations specified in Table 4-1 of the Basin Plan for the Orange County GMZ, at any point outside the observation monitoring well network defined in the Monitoring and Reporting Program.

4. The discharge of amendments shall not cause the pH of the receiving groundwater to exceed the range of 6 to 9, at any point outside the observation well network defined in the Monitoring and Reporting Program.

5. The discharge of amendments shall not cause the remediation-target constituents, including their intermediate degradation products, to exceed background concentrations at any location outside of the observation monitoring well network defined in the Monitoring and Reporting Program.

6. The discharge of amendments shall not cause any other applicable WQOs specified in the Basin Plan to be exceeded in the affected groundwater at any point outside the observation monitoring well network defined in the Monitoring and Reporting Program.

7. The discharge shall not cause groundwater to contain taste or odor producing substances at concentrations that cause a nuisance or adversely affect beneficial uses at any location outside the observation monitoring well network defined in the Monitoring and Reporting Program.

8. The discharge of amendments to property that is not owned or under the control of the Discharger is prohibited. The property under the control of the Discharger includes the horizontal borders of the treatment zone where the Discharger holds an agreement with the overlying property owner for purposes of investigation and remediation.

9. The discharge of amendments shall not cause the concentrations of chemical constituents of the receiving groundwater designated as domestic and municipal supply to exceed State or Federal Drinking Water Standards at any location outside the observation monitoring well network.

10. The monitoring program shall address changes in geochemistry that may alter the oxidation/reduction state of one or more constituents and consequently result in the production of non-desirable compounds such as hexavalent chromium, during the oxidation or reduction process in the *in situ* remediation under these WDRs.

11. The Executive Officer is hereby authorized to revise the information included in the Monitoring and Reporting Program, as deemed appropriate.

C. PROVISIONS

1. Neither the treatment nor the discharge of waste shall create a pollution, contamination or nuisance, as defined by Section 13050 of the CWC.

2. A copy of this Order shall be available at all times to operating personnel.

3. The Discharger shall allow Regional Water Board staff 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,

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(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 CWC, any substances or parameters at any location.

4. A Discharger who intentionally or negligently violates this Order shall be liable civilly in accordance with CWC Section 13350.

5. The CWC provides that any Discharger failing or refusing to furnish technical or monitoring program reports, as required by this Order, or falsifying any information provided in the monitoring reports, is guilty of a misdemeanor and is subject to a civil liability in accordance with CWC Section 13268.

6. The Discharger shall report any noncompliance that may endanger health or the environment. Any such information shall be provided orally or by email to: info8@waterboards.ca.govto the Regional Water Board within 24 hours from the time the Discharger becomes aware of the circumstances. A written submission shall also be provided within 5 days of the time the Discharger becomes aware of the circumstances. The written submission shall contain a description of the noncompliance and its cause; the period of noncompliance, including exact dates and times, and if the noncompliance has not been corrected; the anticipated time it is expected to continue; and steps taken or planned to reduce, eliminate, and prevent 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 or the e-mail report has been received within 24 hours.

7. The Discharger shall take all reasonable steps to minimize or correct any adverse impact on the environment resulting 'from noncompliance with this Order, including such accelerated or additional monitoring as may be necessary to determine the nature and impact of the noncompliance.

8. 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). This includes the Monitoring and Reporting Program that the Executive Officer issues to each Discharger, in accordance with this Order.

9. Where the Discharger becomes aware that it failed to submit any relevant facts in a ROWD or submitted incorrect information in a ROWD or in any report to the Regional Water Board, it shall promptly submit such facts or information.

10. (a) All reports of waste discharge submitted to the Regional Water Board pursuant to CWC Section 13260 shall be signed and certified as follows:
    i. For a corporation – by a principal executive officer or at least the level of vice president,
    ii. For a partnership or sole proprietorship – by a general partner or the proprietor, respectively

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iii. For a municipality, state, federal, or other public agency – by either an executive officer or a ranking elected official.

(b) All other reports required by this Order and other information required by the Regional Water Board shall be signed by a person designated in paragraph (a) of this provision, or by a duly authorized representative of that person. An individual is a duly authorized representative only if all of the following are true:

i. The authorization is made in writing by a person described in paragraph (a) of this provision,

ii. The authorization specifies either an individual or a position having responsibility for the overall operation of the regulated facility or activity, and

iii. The written authorization is submitted to the Regional Water Board.

(c) Any person signing a document under this section shall make the following certification:

"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."

11. 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, nor protect the Discharger from liability under federal, State or local laws, nor create a vested right for the Discharger to continue the discharge.

12. The provisions of this Order are severable, and if any provision of this Order, or the application of any provision of this Order to any circumstance, is held invalid, the application of such provision to other circumstances, and the remainder of this Order, shall not be affected thereby.

13. This Order becomes effective on the date of adoption by the Regional Water Board. This Order is in effect until rescinded by the Regional Water Board. Coverage under this Order may be terminated by the Executive Officer at any time upon giving reasonable notice to the Discharger.

14. The discharger shall take all reasonable steps to comply with the requirements of the United States Environmental Protection Agency Underground Injection Control program, specified in the Code of Federal Regulation, Title 40, Part 144.12(a).

D. MONITORING AND REPORTING REQUIREMENTS

1. The Executive Officer is hereby authorized to prescribe a Monitoring and Reporting Program, as he deems appropriate.

2. The Discharger shall submit technical monitoring reports to the Regional Water Board in accordance with the Monitoring and Reporting Program specified by the Executive

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Officer and shall provide other reports as requested by the Executive Officer.

I, Kurt V. Berchtold, Executive Officer, do hereby certify that the forgoing is a full, true, and correct copy of an order adopted by the California Regional Water Quality Control Board, Santa Ana Region, on September 16, 2016.

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Kurt V. Berchtold
Executive Officer

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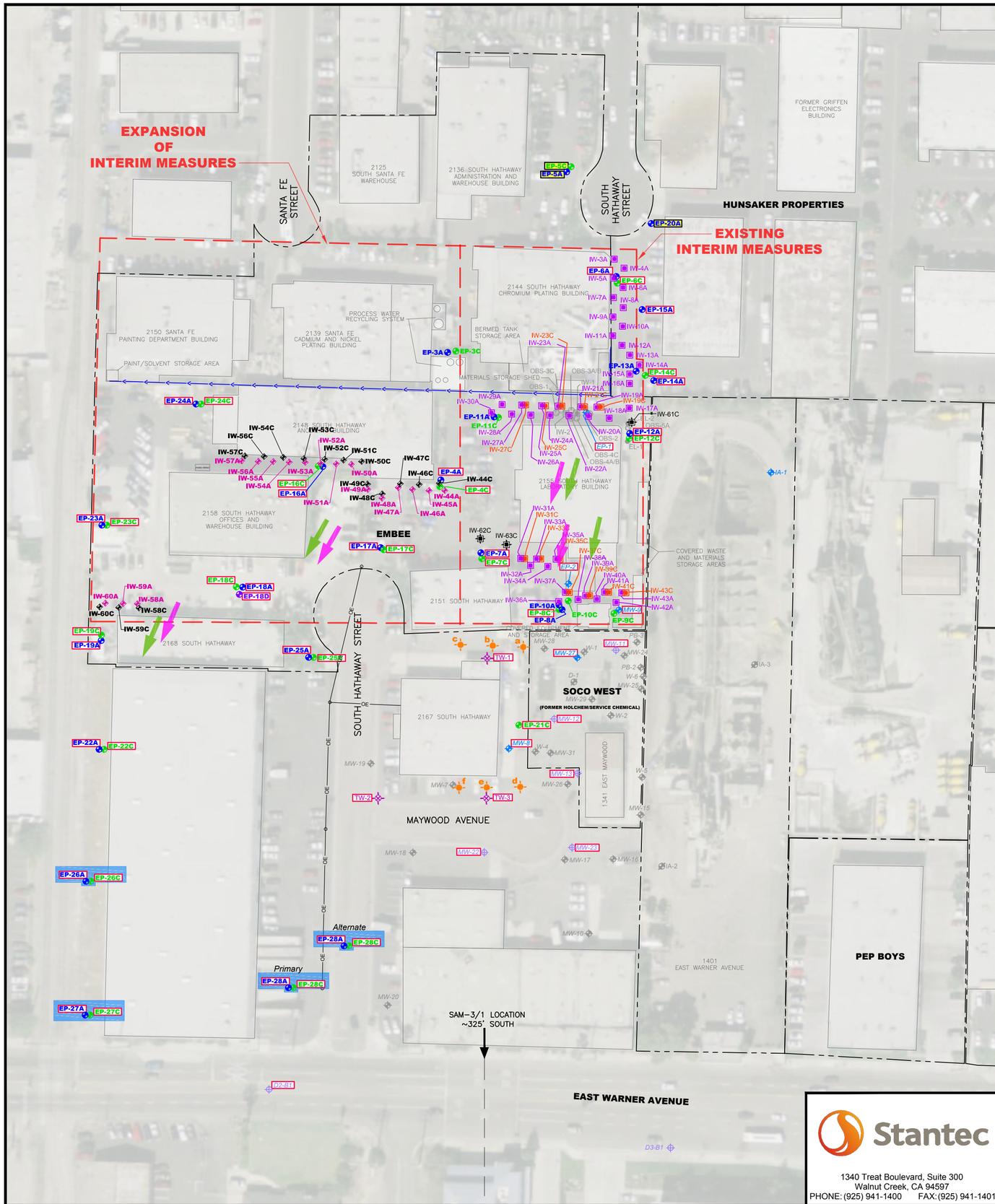

LEGEND:

- EMBEE PROPOSED ADDITIONAL PERFORMANCE MONITORING POINT
- TW-1 — PROPOSED TEMPORARY WELL
- IW-61C — PROPOSED INJECTION WELL SCREENED WITHIN 45'-70 bgs
- IW-21A — INTERIM MEASURES INJECTION WELL SCREENED WITHIN 9.5'-45' bgs
- IW-21C — INTERIM MEASURES INJECTION WELL SCREENED WITHIN 48'-70' bgs
- IW-49A — EMBEE EXPANSION OF INTERIM MEASURES INJECTION WELL SCREENED WITHIN 11'-45' bgs
- IW-49C — EMBEE EXPANSION OF INTERIM MEASURES INJECTION WELL SCREENED WITHIN 45'-70' bgs
- a — PROPOSED GEOPROBE/INJECTION LOCATION
- EP-4A — EMBEE MONITORING WELL SCREENED WITHIN 9.5'-48' bgs
- EP-4C — EMBEE MONITORING WELL SCREENED WITHIN 39'-70' bgs
- EP-18D — EMBEE MONITORING WELL SCREENED WITHIN 115'-125' bgs
- IW-2 — EMBEE PILOT STUDY INJECTION WELL SCREENED FROM 5'-20' bgs
- OBS-3A/B — EMBEE PILOT STUDY OBSERVATION WELL SCREENED WITHIN 13'-30' bgs
- OBS-3C — EMBEE PILOT STUDY OBSERVATION WELL SCREENED WITHIN 44'-52' bgs
- EL-1 — EMBEE PILOT STUDY ELECTRODE WELL SCREENED FROM 6'-31' bgs
- MW-9 — SOCO WEST MONITORING WELL SCREENED WITHIN 5'-34' bgs
- MW-12 — SOCO WEST MONITORING WELL SCREENED WITHIN 37'-62' bgs
- IA-3 — ABANDONED WELL LOCATION
- CONCRETE LINED STORMWATER CHANNEL
- APPROXIMATE LIMITS OF PROPERTY UNDER OWNERSHIP OR LEASE BY EMBEE INCORPORATED
- PERFORMANCE MONITORING POINTS
- UPGRADIENT BACKGROUND WELLS
- GROUNDWATER TREATMENT ZONE
- APPROXIMATE GROUDWATER FLOW DIRECTION IN WELLS SCREENED WITHIN 9.5' TO 45' bgs
- APPROXIMATE GROUDWATER FLOW DIRECTION IN WELLS SCREENED WITHIN 39' TO 70' bgs
- OE — OVERHEAD ELECTRICAL LINES WITH POLES

REFERENCES:

COORDINATE SYSTEM;
NAD 83; CA STATE PLANE; ZONE VI; US FOOT

AERIAL IMAGE FROM Digital Globe 2010

THIRD QUARTER 2009 GROUNDWATER MONITORING REPORT, FORMER SERVICE CHEMICAL FACILITY, ARCADIS, OCTOBER 30, 2009.

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APPROXIMATE SCALE IN FEET

Stantec
1340 Treat Boulevard, Suite 300
Walnut Creek, CA 94597
PHONE: (925) 941-1400 FAX: (925) 941-1401

FOR:
TRIUMPH PROCESSING - EMBEE DIVISION, INC.
2136 SOUTH HATHAWAY
SANTA ANA, CALIFORNIA

PROPOSED INJECTION/MONITORING LOCATIONS

FIGURE: 2

JOB NUMBER:	DRAWN BY:	CHECKED BY:	APPROVED BY:	DATE:
185702009.400.0004	RRR	GH	GH	06/24/16

20160624.08243013 V:\1857\active\185702009\07_historic\Z_dwgs_design\400.0004\EMBEE-185702009.400.0004-F2-Injection_MonitoringLocs-06242016.dwg

STATE OF CALIFORNIA

CALIFORNIA REGIONAL WATER QUALITY CONTROL BOARD
SANTA ANA REGION

MONITORING AND REPORTING PROGRAM (M&RP) NO.R8-2016-0049

(As Authorized Under ORDER NO. R8-2016-0049**)**

for

IN-SITU REMEDIATION OF GROUNDWATER
AT TRIUMPH PROCESSING– EMBEE DIVISION, INC.
2136 South Hathaway Street, Santa Ana
(Discharge Authorized on September 16, 2016)

A. Monitoring Requirements

1. All sampling, sample preservation, transport and analyses must be conducted in according with the current edition of "Standard Methods for the Examination of Water and Wastewater" (American Public Health Association) and/or with U.S. Environmental Protection Agency's guidelines for sampling, collection and preservation, unless other test procedures have been specified in this Order or by the Executive Officer.

2. Unless otherwise permitted by the Executive Officer, all analyses shall be conducted at a laboratory certified for such analyses by the State Water Resources Control Board, Division of Drinking Water. The 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 "Standard Methods for the Examination of Water and Wastewater" (American Public Health Association) and/or with U.S. Environmental Protection Agency's guidelines for sampling, collection and preservation.

3. All chemical, bacteriological, and bioassay analyses shall be conducted at a laboratory certified for such analyses by the State Water Resources Control Board, Division of Drinking Water - Environmental Laboratory Accreditation Program (ELAP) or other State agency authorized to undertake such certification, or as approved by the Executive Officer.

4. 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.

5. The Discharger shall report all instances of noncompliance, submit a statement of actions undertaken or proposed that will bring the discharge into full compliance with requirements, and submit a timetable for corrective action.

6. The Discharger shall notify the Executive Officer within 24 hours by telephone of any adverse condition resulting from the discharge; such notification shall be affirmed in writing within five working days.

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7. If the Discharger monitors any contaminants more frequently than required by this order, using applicable test procedures, or as specified in this Order, the results of this monitoring shall be included in the calculation and reporting of the data submitted in the Discharger's monitoring report. The increased frequency of monitoring shall also be reported.

8. All monitoring instruments and devices which are used by the Discharger to fulfill the prescribed monitoring program shall be properly maintained and calibrated as necessary to ensure their continued accuracy.

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

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

11. Monthly samples shall be collected on any representative day of each month.

12. The discharger shall assure that records of all monitoring information are maintained and accessible for a period of at least five years from the date of the sample, report, or application. This period of retention shall be extended during the course of any unresolved litigation regarding this discharge or by the request of the Board at any time. Records of monitoring information shall include:

    (a) The date, exact place, and time of sampling or measurements;

    (b) The individual(s) who performed the sampling, and/or measurements;

    (c) The methods used for groundwater purging/sampling;

    (d) The date(s) analyses were performed;

    (e) The individual(s) who performed the analyses;

    (f) The analytical techniques or method used; and

    (g) All sampling and analytical results, including -

        i. units of measurement used;

        ii. minimum reporting limit for the analysis (minimum level);

        iii. results less than the reporting limit but above the method detection limit (MDL);

        iv. data qualifiers and a description of the qualifiers;

        v. quality control test results (and a written copy of the laboratory quality assurance plan);

        vi. dilution factors, if used; and

        vii. sample matrix type.

13. 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 method used for sampling or measurement; the date(s) and location(s) where analyses were conducted; analysts' name(s); and analytical techniques or methods used.

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15. All reports and/or information submitted to the Executive Officer shall be signed by a responsible officer or duly authorized representative of the discharger and shall be submitted under penalty of perjury.

16. The Discharger shall file a report of any material change or proposed change in the character, location or volume of the discharge that is not mentioned in the RAP.

B. Monitoring Plan

A sampling station shall be established for each point of discharge and shall be located where representative samples of the discharge can be obtained. The following shall constitute the monitoring program:

Table 1a. Well Information for the Existing Interim Measure Area

Well ID	***Latitude***	***Longitude***	***TOC Elevation (amsl)[1,2]***
Upgradient Monitoring Wells			
EP-5A	33.7186	-117.8528	68.21
EP-20A	33.7184	-117.8525	68.40
EP-5C	33.7186	-117.8528	68.25
Existing Interim Measures Area			
Shallow Zone Monitoring Wells			
EP-1	33.71788	-117.8528	65.90
EP-2	33.71739	-117.8528	65.54
EP-6A	33.71827	-117.8527	67.25
EP-8A	33.71692	-117.8530	63.37
EP-12A	33.71782	-117.8526	65.83
MW-8[3]	33.71691	-117.8530	63.37
MW-9	33.71732	-117.8526	64.88
EP-14A	33.71797	-117.8525	67.35
EP-15A	33.71818	-117.8526	67.81
EP-28A (Primary)[4]	33.71624	-117.8537	63.10[5]
EP-28A (Alternate)[4]	33.71636	-117.8535	63.10[5]
MW-27[3]	33.71719	-117.8528	64.20

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Table 1a-Continued. Well Information for the Existing Interim Measure Area

Well ID	*Latitude*	*Longitude*	*TOC Elevation (amsl)*[1,2]
Shallow Zone Injection Wells			
IW-3A	33.7183	-117.8527	67.46
IW-4A	33.7183	-117.8526	67.38
IW-5A	33.7183	-117.8527	67.05
IW-6A	33.7182	-117.8526	67.15
IW-7A	33.7182	-117.8527	66.92
IW-8A	33.7182	-117.8526	67.00
IW-9A	33.7182	-117.8527	66.69
IW-10A	33.7181	-117.8526	66.88
IW-11A	33.7181	-117.8527	66.55
IW-12A	33.7181	-117.8526	66.70
IW-13A	33.7180	-117.8526	67.12
IW-14A	33.7180	-117.8526	67.35
IW-15A	33.7180	-117.8526	66.83
IW-16A	33.7180	-117.8526	66.58
IW-17A	33.7179	-117.8526	66.07
IW-18A	33.7179	-117.8527	65.82
IW-19A	33.7179	-117.8527	65.71
IW-20A	33.7179	-117.8527	65.67
IW-21A	33.7179	-117.8528	65.75
IW-22A	33.7179	-117.8528	65.64
IW-23A	33.7179	-117.8528	65.78
IW-24A	33.7179	-117.8529	65.62
IW-25A	33.7179	-117.8529	65.52
IW-26A	33.7179	-117.8529	65.59
IW-27A	33.7179	-117.8530	65.40
IW-28A	33.7179	-117.8530	65.21
IW-29A	33.7179	-117.8530	65.27
IW-30A	33.7179	-117.8531	65.12
IW-31A	33.7175	-117.8530	65.21
IW-32A	33.7174	-117.8529	65.30
IW-33A	33.7175	-117.8529	65.47
IW-34A	33.7174	-117.8529	65.52
IW-35A	33.7175	-117.8528	65.48
IW-36A	33.7173	-117.8528	64.56
IW-37A	33.7174	-117.8528	65.02
IW-38A	33.7174	-117.8528	64.65
IW-39A	33.7174	-117.8527	65.02
IW-40A	33.7174	-117.8527	64.67
IW-41A	33.7174	-117.8527	65.13

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Table 1a-Continued. Well Information for the Existing Interim Measure Area

Well ID	***Latitude***	***Longitude***	***TOC Elevation (amsl)[1,2]***
IW-42A	33.7173	-117.8526	64.57
IW-43A	33.7174	-117.8526	64.98
Deep Zone Monitoring Wells			
EP-6C	33.7182	-117.8527	67.32
EP-8C	33.7173	-117.8528	64.63
EP-12C	33.7178	-117.8526	65.89
EP-21C	33.7170	-117.8530	63.94
EP-28C (Primary)[4]	33.7162	-117.8537	63.10[5]
EP-28C (Alternate)[4]	33.7164	-117.8535	63.10[5]
MW-11[3]	33.7172	-117.8526	64.20
MW-12[3]	33.7170	-117.8529	63.96
MW-13[3]	33.7169	-117.8527	63.54
MW-22[3]	33.7166	-117.8531	63.13
MW-23[3]	33.7166	-117.8528	63.10
D2-B1[3]	33.7159	-117.8538	62.36
IW-19C	33.7179	-117.8527	65.62
Deep Zone Injection Wells			
IW-21C	33.7179	-117.8528	65.63
IW-23C	33.7179	-117.8528	65.60
IW-25C	33.7179	-117.8529	65.47
IW-27C	33.7179	-117.8530	65.36
IW-31C	33.7175	-117.8530	65.24
IW-33C	33.7175	-117.8529	65.70
IW-35C	33.7175	-117.8528	65.56
IW-37C	33.7174	-117.8528	65.19
IW-39C	33.7174	-117.8527	65.08
IW-41C	33.7174	-117.8527	65.01
IW-43C	33.7174	-117.8526	64.85
IW-61C	33.7179	-117.8526	65.80[5]
IW-62C	33.7175	-117.8531	64.80[5]
IW-63C	33.7175	-117.8530	64.80[5]

1. Elevation is measured from the top of the well casing (TOC).
2. amsl: above mean sea level
3. Wells belong to Soco West property located at 1341 East Maywood Street, Santa Ana
4. Two approximate well locations are proposed. The exact locations will be determined based on the access agreement.
5. Well coordinates and TOC data are approximate.

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Table 2a. Well Information for the Expansion of Interim Measure Area

Well ID	***Latitude***	***Longitude***	***TOC Elevation (amsl)[1,2]***
Expansion of Interim Measures Area			
Shallow Zone Monitoring Wells			
EP-4A	33.7177	-117.8532	64.33
EP-7A	33.7175	-117.8531	64.79
EP-16A	33.7177	-117.8536	64.38
EP-17A	33.7175	-117.8534	63.39
EP-18A	33.7174	-117.8539	63.76
EP-19A	33.7172	-117.8544	64.53
EP-22A	33.7169	-117.8544	66.11
EP-23A	33.7176	-117.8544	65.16
EP-24A	33.7179	-117.8541	65.55
EP-25A	33.7172	-117.8537	63.80
EP-26A	33.7165	-117.8544	66.00[3]
EP-27A	33.7161	-117.8544	65.90[3]
Shallow Zone Injection Wells			
IW-44A	33.7177	-117.8532	64.57
IW-45A	33.7177	-117.8533	64.16
IW-46A	33.7177	-117.8533	64.07
IW-47A	33.7177	-117.8534	63.86
IW-48A	33.7176	-117.8534	63.82
IW-49A	33.7177	-117.8535	63.83
IW-50A	33.7177	-117.8535	64.20
IW-51A	33.7177	-117.8536	64.17
IW-52A	33.7177	-117.8537	64.48
IW-53A	33.7177	-117.8537	64.61
IW-54A	33.7177	-117.8538	64.64
IW-55A	33.7177	-117.8538	64.64
IW-56A	33.7177	-117.8539	64.84
IW-57A	33.7177	-117.8539	65.04
IW-58A	33.7173	-117.8543	64.08
IW-59A	33.7173	-117.8543	64.02
IW-60A	33.7173	-117.8544	64.33

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Table 2a-Continued. Well Information for the Expansion of Interim Measure Area

Well ID	*Latitude*	*Longitude*	*TOC Elevation (amsl)*[1,2]
Deep Zone Monitoring Wells			
EP-4C	33.7177	-117.8532	64.12
EP-7C	33.7175	-117.8531	64.86
EP-16C	33.7177	-117.8537	64.2
EP-17C	33.7175	-117.8534	63.66
EP-18C	33.7174	-117.8539	63.66
EP-19C	33.7172	-117.8544	64.35
EP-22C	33.7169	-117.8544	66.18
EP-23C	33.7176	-117.8544	64.96[3]
EP-24C	33.7179	-117.8541	65.50[3]
EP-25C	33.7172	-117.8537	63.84[3]
EP-26C	33.7165	-117.8544	66.00[3]
EP-27C	33.7161	-117.8544	65.90[3]
EP-18D	33.7173	-117.8539	63.98
Deep Zone Injection Wells			
IW-44C	33.7177	-117.8532	64.46
IW-46C	33.7177	-117.8533	64.05
IW-47C	33.7177	-117.8534	63.71
IW-48C	33.7176	-117.8534	63.73
IW-49C	33.7177	-117.8535	63.76
IW-50C	33.7177	-117.8535	64.37
IW-51C	33.7177	-117.8536	64.09
IW-52C	33.7177	-117.8536	64.42
IW-53C	33.7177	-117.8537	64.54
IW-54C	33.7177	-117.8538	64.37
IW-56C	33.7177	-117.8538	64.82
IW-57C	33.7177	-117.8539	64.92
IW-58C	33.7173	-117.8543	64.22
IW-59C	33.7173	-117.8543	64.11
IW-60C	33.7173	-117.8544	63.98

1. Elevation is measured from the top of the well casing (TOC).
2. amsl: above mean sea level
3. Well coordinates and TOC data are approximate.

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Table 3a. Well Information for the Pilot Study Area

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Well ID	***Latitude***	***Longitude***	***TOC Elevation (amsl)[1,2]***
Pilot Study Area			
Deep Zone Monitoring Wells			
TW-1	33.7172	-117.8531	64.2[3]
TW-2	33.7168	-117.8534	62.7[3]
TW-3	33.7168	-117.8531	63.6[3]
Deep Zone Injection Locations			
a	33.7172	-117.8530	64.5[3]
b	33.7172	-117.8531	64.5[3]
c	33.7172	-117.8532	64.5[3]
d	33.7168	-117.8530	63.9[3]
e	33.7168	-117.8531	63.9[3]
f	33.7168	-117.8532	63.9[3]

1. Elevation is measured from the top of the well casing (TOC).
2. amsl: above mean sea level
3. Well /injection point coordinates and TOC data are approximate.

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Table 2a. Monitoring Parameters and Frequency for the Existing Interim Measure Area

Sample Parameter	Parameter Type	Unit	Method of Analysis	Sample Location	Baseline	Quarterly Events[3]
Field Parameters[1]	General Groundwater Parameters	2	Field Measurement	EP-5A, EP-20A, EP-1, EP-2, EP-6A, EP-8A, EP-12A, EP-14A, EP15A, MW-8, MW-9, MW-27, EP-28A EP-5C, EP-6C, EP-8C, EP-12C, EP-21C, EP-28C, MW-11, MW-12, MW-13, MW-22, MW-23 , D2-B1	X	X
VOCs	Contaminants of Concern	µg/L	EPA Method 8260B		X	X
Hexavalent Chromium			EPA Method 7199		X	X
Total Chromium			EPA Method 6010B		X	X
Perchlorate			EPA Method 314.0		X	X
1,4-Dioxane			EPA Modified Method 8270 SIM		X	X
Total Organic Carbon	Electron Donor/Carbon Substrate	mg/L	SM 5310B		X	X
Nitrate as nitrogen and Sulfate	Competing Electron Acceptors	mg/L	EPA Method 300.0	EP-5A, EP-2, EP-6A, EP-15A, MW-27, EP-28A EP-5C, EP-6C, EP-12C, MW-27, EP-28C	X	X
Total Dissolved Gases (Methane/Ethene/Ethane)	Effectiveness Monitoring Parameter	µg/L	EPA Method RSK-175	EP-5A, EP-1, EP-2, EP-6A, EP-12A, MW-9 EP-5C, EP-6C, EP-8C, EP-12C, MW-11	X	X

1. Field parameters include dissolved oxygen (mg/L), oxidation-reduction potential (mV), conductivity (µS/cm), temperature (°F), and pH (SU).
2. See the description of field parameters.
3. Sixteen (16) quarterly monitoring events are required.

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Table 2b. Monitoring Parameters and Frequency for the Expansion of Interim Measure Area

Sample Parameter	Parameter Type	Unit	Method of Analysis	Sample Location	Baseline	Monthly 1	Monthly 2	Quarterly Events[3]
Field Parameters[1]	General Groundwater Parameters	[2]	Field Measurement	EP-4A, EP-7A, EP-16A, EP-17A, EP-18A, EP-19A, EP-22A, EP-23A, EP-24A, EP-25A, EP-26A, EP-27A EP-4C, EP-7C, EP-16C, EP-17C, EP-18C, EP-19C, EP-22C, EP-23C, EP-24C, EP-25C, EP-26C, EP-27C, EP-18D	X	X	X	X
VOCs	Contaminants of Concern	µg/L	EPA Method 8260B		X	X	X	X
Hexavalent Chromium			EPA Method 7199		X	X	X	X
Total Chromium			EPA Method 6010B		X	X	X	X
Perchlorate			EPA Method 314.0		X	X	X	X
1,4-Dioxane			EPA Modified Method 8270 SIM		X	X	X	X
Total Organic Carbon	Electron Donor/Carbon Substrate	mg/L	SM 5310B		X	X	X	X
Rhodamine Tracer	Tracer	mg/L	Spectrophotometry		X	X	X	X
Nitrate as nitrogen and Sulfate	Competing Electron Acceptors	mg/L	EPA Method 300.0	EP-4A, EP-17A, EP-18A, EP-22A, EP-26A, EP-27A EP-4C, EP-17C, EP-18C, EP-22C, EP-26C, EP-27C	X	--	--	X
Total Dissolved Gases (Methane/Ethene/Ethane)	Effectiveness Monitoring Parameter	µg/L	EPA Method RSK-175	EP-4A, EP-7A, EP-16A, EP-19A EP-4C, EP-7C, EP-16C, EP-19C	X	--	--	X

1. Field parameters include dissolved oxygen (mg/L), oxidation-reduction potential (mV), conductivity (µS/cm), temperature (°F), and pH (SU).
2. See the description of field parameters.
3. Thirty six (36) quarterly monitoring events are required.

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Table 2C. Monitoring Parameters and Frequency for the Pilot Study Area

Sample Parameter	Parameter Type	Unit	Method of Analysis	Sample Location	Baseline	Monthly 1	Monthly 2	Quarterly 1	Quarterly 2
Field Parameters[1]	General Groundwater Parameters	--	Field Measurement	TW-1, TW-2, TW-3	X	X	X	X	X
VOCs	Contaminants of Concern	ug/L	EPA Method 8260B		X	X	X	X	X
Hexavalent Chromium			EPA Method 7199		X	X	X	X	X
Total Chromium			EPA Method 6010B		X	X	X	X	X
Perchlorate			EPA Method 314.0		X	X	X	X	X
1,4-Dioxane			EPA Modified Method 8270 SIM		X	X	X	X	X
Nitrate as nitrogen and Sulfate	Competing Electron Acceptors	mg/L	EPA Method 300.0		X	--	--	X	X
Rhodamine Tracer	Tracer	mg/L	Spectrophotometry		X	X	X	X	X
Total Organic Carbon	Electron Donor/Carbon Substrate	mg/L	SM 5310B		X	X	X	X	X

1. Field parameters include dissolved oxygen (mg/L), oxidation-reduction potential (mV), conductivity (µS/cm), temperature (°F), and pH (SU).
2. See the description of field parameters.

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C. Reporting Requirements

1. All analytical data shall be reported with method detection limit[1] (MDLs) and with identification of either reporting level or limits of quantitation (LOQs).

2. Laboratory data for effluent samples must quantify each constituent down to the approved reporting levels for specific constituents. Any internal quality control data associated with the sample must be reported when requested by the Executive Officer. The Regional Water Board will reject the quantified laboratory data if quality control data are unavailable or unacceptable.

3. Discharge monitoring data shall be submitted in a format that is acceptable to the Executive Officer and must be arranged in a manner that clearly demonstrates compliance and/or noncompliance with this Order. Monitoring results shall be reported in a tabulated format which identifies all applicable chemical constituents required to be analyzed under the monitoring program and presents the associated sample collection dates and analytical detections for each compound in relation to waste discharge limitations and requirements established by this Order.

4. For every item of monitoring data where the requirements are not met, the monitoring report shall include a statement discussing the reasons for noncompliance, and of the actions undertaken or proposed which will bring the discharge into full compliance with requirements at the earliest time, and an estimate of the date when the Discharger will be in compliance. The Discharger shall notify the Executive Officer by letter when compliance with the time schedule has been achieved.

5. Conclusions and recommendations regarding continuation of the existing process or any proposed modifications thereto shall be clearly presented for agency consideration, along with appropriate supporting justification or rationale.

6. All reports, plans and documents required under this Order shall be prepared under the direction of appropriately qualified professionals. The lead professional performing engineering and geologic evaluations and judgments shall sign and affix their professional geologist or civil engineering license stamp to all technical reports, plans or documents submitted to the Regional Water Board.

7. All monitoring reports submitted to the Executive Officer in compliance with this Order in paper copy format is also required to be submitted electronically via the Internet into the SWRCB's GeoTracker database. To comply with state regulations, the update to the GeoTracker database must include the following minimum information:

    (a) The elevation of groundwater in any permanent monitoring well relative to the surveyed elevation.

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[1] The standardized test procedure to be used to determine the method detection limit (MDL) is given at Appendix B, '"Definition and Procedure for the Determination of the Method Detection Limit' of 40 CFR 136.

(b) A site map or maps showing the location of all sampling points referred to in the report.
(c) The depth to the screened interval and the length of screened interval of any permanent monitoring well.
(d) Boring logs, in PDF format.
(e) Laboratory analytical data from any soil testing and/or groundwater monitoring shall be reported in Electronic Deliverable Format (EDF) in accordance with
CWC Section 13195 ET. seq. requirements, if applicable.
(f) A complete copy of the report, in PDF format, which includes the signed transmittal letter and professional certification.

The GeoTracker website address is: https://geotracker.waterboards.ca.gov. Deadlines for electronic submittals coincide with deadlines for paper copy submittals.

D. Report Schedule

Monitoring reports shall include all data collected during the monitoring period, and shall be submitted on a quarterly basis to Regional Water Board staff in accordance with the following schedule:

Monitoring Period	***Report Due***
January – March	May 1st
April – June	August 1st
July – September	November 1st
October – December	February 1st

The Executive Officer has the authority to change the report submittal schedule, if deemed necessary, based on changes to the Site conditions.

Monitoring reports shall be submitted

to: Executive Officer
California Regional Water Quality Control Board
Santa Ana Region
3737 Main Street, Suite 500
Riverside, CA 92501

Ordered by: _____ Kurt V. Berchtold
Executive Officer

Date: _____

Attachment: Figure 2 – *Proposed Injection/Monitoring Locations*, June 24, 2016.

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