D.W. NICHOLSON
CORPORATION
INDUSTRIAL MECHANIZATION CONTRACTORS

May 08, 2017

Mr. Keith Nowell, P.G., C.H.G.
Hazardous Materials Specialist
Alameda County Department of Environmental Health
1131 Harbor Bay Parkway
Alameda, CA 94502

SUBJECT: Soil and Groundwater Investigation Work Plan
DW Nicholson Property
24747 Clawiter Road
Hayward, California 94545
ACDEH Fuel Leak Case No. RO0003213
GeoTracker Global ID No. T10000009567

Dear Mr. Nowell:

DW Nicholson Corporation is pleased to present the enclosed work plan, prepared by Environmental Risk Assessors, for an investigation of the property located at 24747 Clawiter Road in Hayward, California. This work plan is submitted pursuant to the request from the Alameda County Department of Environmental Health (ACDEH) as noted in their letter dated March 30, 2017.

I have read and acknowledge the content, recommendations, and/or conclusions contained in the attached document or report submitted on my behalf to ACDEH's FTP server and the State Water Resource Control Board's GeoTracker website.

Please feel free to contact me via telephone at 510-887-0900 or email at reedjr@dwnicholson.com if you have any questions.

Sincerely,

Tom Reed, Jr.
DW Nicholson Corporation

Environmental Risk Assessors

Soil and Groundwater Investigation Work Plan

DW Nicholson Property
24747 Clawiter Road
Hayward, California 94545

May 15, 2017

Prepared for:
DW Nicholson Corporation
24747 Clawiter Road
Hayward, CA 94545

Prepared by:
Environmental Risk Assessors
1420 East Roseville Parkway
#140-262
Roseville, CA 95661

ACDEH Fuel Leak Case No. RO0003213

GeoTracker Global ID No. T10000009567

ERA Project No. 01-2015-1200-001

Environmental Risk Assessors

May 15, 2017

DW Nicholson Corporation
24747 Clawiter Road
Hayward, California 94545
Attn: Thomas S. Reed, Jr.

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ACDEH Fuel Leak Case No. RO0003213
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ERA Project No. 01-2015-1200-001

Dear Mr. Reed,

The attached *Soil and Groundwater Investigation Work Plan* ("the Work Plan") has been prepared by Environmental Risk Assessors (ERA) on behalf of DW Nicholson Corporation for the above-referenced property (the Site). The Work Plan was prepared in accordance with a request from the Alameda County Department of Environmental Health (ACDEH) as noted in their letter dated March 30, 2017. The proposed scope of work is presented in the attached work plan.

Please do not hesitate to contact me at (916) 677-9897 and via email at litafreeman@gmail.com if you have any questions or comments regarding this work plan.

Sincerely,

Environmental Risk Assessors

Lita D. Freeman

Lita D. Freeman, PG #7368
Professional Geologist

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CERTIFICATIONS

Report Prepared By:

May 15, 2017

Lita D. Freeman, P.G. Date
Principal Geologist
California Professional Geologist No. 7368

* All information, conclusions, and recommendations in this document have been prepared under the supervision of and reviewed by a California Professional Geologist of Environmental Risk Assessors.

A professional geologist's certification of conditions comprises a declaration of his or her professional judgment. It does not constitute a warranty or guarantee, expressed or implied, nor does it relieve any other party of its responsibility to abide by contract documents, applicable codes, standards, regulations, and ordinances.

1. INTRODUCTION

Environmental Risk Assessors (ERA) has prepared this *Soil and Groundwater Investigation Work Plan* (the "Work Plan") on behalf of DW Nicholson Corporation for the property located at 24747 Clawiter Road in Hayward, Alameda County, California (the "Site"; Figure 1). This Work Plan was prepared in accordance with a request from the Alameda County Department of Environmental Health (ACDEH) as noted in their letter dated March 30, 2017.

Background information in this Work Plan is based on findings presented in the Phase I Environmental Site Assessment (ESA) report prepared by Basics Environmental, Inc. (Basics Environmental, 2014) and ERA's Limited Phase II ESA Report (ERA, 2015). The investigation described in this Work Plan is focused on further delineating the extent of volatile organic compounds (VOCs) and petroleum hydrocarbons impacts identified at the Site during ERA's limited Phase II ESA (ERA, 2015) and evaluating potential impacts from off-site sources.

The Site has been listed as a case with the ACDEH and the California Environmental Protection Agency (Cal-EPA) State Water Resources Control Board (SWRCB). The following identification numbers have been assigned to the Site:

- ACDEH Fuel Leak Case No. RO0003213; and
- GeoTracker Global Identification No. T10000009567.

1.1 Objective and Purpose

The ultimate objective for the Site is to obtain regulatory case closure. The purpose of the proposed work, as described in this Work Plan, is summarized as follows:

- Assessing the extent of VOCs and petroleum hydrocarbons in groundwater;
- Evaluating the potential for off-site releases to have impacted site groundwater;
- Assessing the extent of VOCs and petroleum hydrocarbons in soil beneath the Site;
- Assessing the extent of VOCs in soil gas beneath the on-site building; and
- Assessing the potential for vapor intrusion to indoor air from residual subsurface sources beneath the on-site building.

1.2 Site Description

The Site is addressed 24747 Clawiter Road, Hayward, Alameda County, California, and consists of one 4-acre Alameda County parcel of land (Figure 2). The Site is developed with one 56,466-square-foot industrial/office building occupied by DW Nicholson Corporation. The eastern portion of the building is a two-story office space and the remainder of the building is divided into the Mechanical Warehouse, the Fabrication Shop, and the Equipment Repair Shop. A paint storage shed/hazardous waste storage area and two fuel underground storage tanks (USTs) are located to the west and north, respectively, of the on-site building. Paved parking lots and yards are located on the Site's northern and southern portions. Site-specific information is presented in Table 1.

Table 1. General Site Information

Project Name: DW Nicholson Property	**Current Development:** Industrial/office building
Address: 24747 Clawiter Road, Hayward	**Assessor Parcel Number:** 439-20-3-2
Location: Western side of Clawiter Road	**Occupant:** DW Nicholson

2. BACKGROUND

2.1 Site History

Basics Environmental conducted an assessment and presented the findings in the report titled *Phase I Environmental Site Assessment, 24747 Clawiter Road, Hayward, California* dated September 17, 2014. Records reviewed by Basics Environmental revealed the following:

- The Site was undeveloped prior to the mid-1940s when a portion of a residential-type structure was present on site in aerial photographs;
- By the mid-1960s, construction of the existing building began with the southern portion of the Mechanical Warehouse present at this time;
- The industrial (western) portion of the building was present on site by the late 1960s with the office addition present by the mid-1980s;
- In the 1970s and early 1980s the on-site building was occupied by Anchor Valve Company, Anchor Equipment Company, and Anchor Darling Valve (manufacturer of nuclear valves);
- DW Nicholson Corporation, a steel fabricator, has occupied the Site since the mid-1980s;
- DW Nicholson Corporation was included in several regulatory agency databases for the following: 1) permits issued in 1985 to install two USTs; 2) using and storing hazardous substances; and 3) generating hazardous waste; and
- The Site was listed as manifesting the following wastes from at least 1993 until 2012: hydrocarbon solvents (benzene, hexane, Stoddard, etc.); aqueous solutions with total organic residues less than 10 percent; waste oil; mixed oil; other organic solids; oxygenated solvents (acetone, hexane, ethyl acetate, etc.); unspecified organic liquid mixture; polychlorinated biphenyls (PCBs); PCB-containing material; other inorganic solid waste; other still bottom waste; off-specification, aged or surplus organics; unspecified oil-containing waste; unspecified solvent mixture; and liquids with halogenated compounds.

Background information is presented in Appendix A.

2.2 Previous Investigation

ERA conducted a subsurface investigation and presented the findings in the report titled *Limited Phase II Environmental Site Assessment Report, DW Nicholson Property, 24747 Clawiter Road, Hayward, California 94545* dated November 20, 2015. The areas of concern investigated during the limited Phase II ESA were: 1) the area of the USTs, 2) the Mechanical Warehouse, 3) the Equipment Repair Shop, and 4) the paint/hazardous waste storage area. The scope of work for the initial site investigation included collecting soil gas, soil, and/or groundwater samples from sampling locations at these four areas. Analytical results of the samples are summarized below. Copies of tables and figures from ERA's Limited Phase II ESA Report (ERA, 2015) are presented in Appendix B.

2.2.1 Soil Gas Sampling and Analysis

Soil gas samples collected from borings SB-1, SB-2, SB-3a, and SB-4, were analyzed for VOCs using U.S. Environmental Protection Agency (U.S. EPA) Method TO-15. Various VOCs were detected in soil gas at concentrations at or above their respective laboratory reporting limit (LRL).

VOCs reported in the samples included the following:

- Benzene in the samples from borings SB-1 (at a concentration of 37 micrograms per cubic meter [µg/m^3]), SB-2 (8.2 µg/m^3), SB-3a (32 µg/m^3), and SB-4 (12 µg/m^3);
- 1,1-dichloroethene (1,1-DCE) in the samples from borings SB-1 (2.9 µg/m^3), SB-2 (4.4 µg/m^3), and SB-3a (4.7 µg/m^3);
- Cis-1,2-dichloroethene (cis-1,2-DCE) in the samples from borings SB-1 (330 µg/m^3) and SB-3a (1,800 µg/m^3);
- Trans-1,2-dichloroethene (trans-1,2-DCE) in the samples from borings SB-1 (6.1 µg/m^3) and SB-3a (26 µg/m^3);
- Tetrachloroethene (PCE) in the samples from borings SB-2 (6.0 µg/m^3) and SB-3a (1,200 µg/m^3);
- Trichloroethene (TCE) in the samples from borings SB-1 (37 µg/m^3), SB-2 (55 µg/m^3), and SB-3a (160 µg/m^3);
- 1,1,1-trichloroethane (1,1,1-TCA) in the samples from borings SB-2 (350 µg/m^3), SB-3a (14 µg/m^3), and SB-4 (11 µg/m^3);
- Vinyl chloride (VC) in samples from borings SB-1 (3.4 µg/m^3) and SB-3a (5.4 µg/m^3); and
- 1,2-Dibromo-3-Chloropropane in sample SB-2 (0.24 µg/m^3).

The concentrations of compounds of concern (COCs) detected in soil gas samples were compared to Tier 1 Environmental Screening Levels (ESLs) and Subslab/Soil Gas Vapor Intrusion: Human Health Risk Levels (commercial/industrial land use) as established by the California Environmental Protection Agency, San Francisco Bay Regional Water Quality Control Board (SFBRWQCB, 2016).

The concentrations of reported VOCs were below their respective Tier 1 ESL with the exception of PCE (in the sample from SB-3a at a concentration of 1,200 µg/m^3) and 1,2-Dibromo-3-Chloropropane (in the sample from SB-2 at 0.24 µg/m^3). The concentrations of PCE and 1,2-Dibromo-3-Chloropropane were above their respective Tier 1 ESL of 240 µg/m^3 and 0.23 µg/m^3 but below the Subslab/Soil Gas Vapor Intrusion: Human Health Risk Levels (commercial/ industrial land use) of 2,100 µg/m^3 and 2 µg/m^3, respectively (SFBRWQCB, 2016). ESLs have not been established for each detected VOC.

Because detected VOCs concentrations in soil gas were lower that their respective Tier 1 ESL and/or Subslab/Soil Gas Vapor Intrusion: Human Health Risk Level (commercial/industrial land use) (SFBRWQCB, 2016), the presence of VOCs in soil gas beneath the concrete floor slab of the on-site building does not appear to present a human health risk to the on-site workers from vapor intrusion into the indoor air of the building.

2.2.2 Soil Sampling and Analysis

Soil samples collected from borings SB-1 (9.5 to 10-foot depth interval), SB-2 (1.5 to 2-foot depth interval), SB-3 (2 to 2.5-foot depth interval), SB-3b (4.5 to 5-foot depth interval), and SB-4 (1.5 to 2-foot depth interval), were submitted for analyses as follows:

- VOCs using U.S. EPA Method 8260B;

- Total Petroleum Hydrocarbons (TPH) quantified as gasoline (TPHg), TPH quantified as diesel (TPHd), TPH quantified as motor oil (TPHmo), TPH quantified as bunker oil (TPHbo), TPH quantified as kerosene (TPHk), and TPH quantified as Stoddard solvent (TPHss) using SW8015B; and
- California Administrative Manual 17 (CAM 17) metals using U.S. EPA Method 6000/7000 Series.

The concentrations of COCs detected in soil samples were compared to Tier 1 ESLs and Direct Exposure Human Health Risk Levels (commercial/ industrial land use) (SFBRWQCB, 2016).

VOCs were not reported in soil samples at concentrations at or above their respective LRL with the exception of cis-1,2-DCE which was detected in sample SB-3-2.5 at a concentration of 0.088 milligrams per kilogram (mg/kg). The concentration of cis-1,2-DCE and the LRLs for the remaining VOCs were at or below the Tier 1 ESLs (SFBRWQCB, 2016).

Petroleum hydrocarbons were not reported in soil samples at concentrations at or above their respective LRL except in sample SB-4-2. Petroleum hydrocarbons were detected in soil sample SB-4-2 (near the paint shed/hazardous waste storage area) as follows:

- TPHd at a concentration of 54 mg/kg;
- TPHmo at a concentration of 230 mg/kg;
- TPHbo at a concentration of 150 mg/kg; and
- TPHk at a concentration of 44 mg/kg.

The concentrations of petroleum hydrocarbons were below their respective Tier 1 ESL except TPHmo. The reported concentration of 230 mg/kg for TPHmo was above its' Tier 1 ESL of 100 mg/kg but was below its' Direct Exposure Human Health Risk Level (commercial/industrial land use) of 140,000 mg/kg. TPHg and TPHss were not detected in soil samples at concentrations at or above their respective LRL.

Various metals were detected in each of the soil samples analyzed for CAM 17 metals. The concentrations of detected metals were below their respective ESL with the exception of arsenic. The arsenic concentrations in soil samples were within natural background levels of up to 12 mg/kg for Bay Area soil.

2.2.2 Groundwater Sampling and Analysis

Groundwater samples collected from borings SB-1, SB-2, SB-3, and SB-4, were analyzed for VOCs using U.S. EPA Method 8260B and petroleum hydrocarbons using SW8015B.

The concentrations of COCs reported in groundwater samples were compared to the Tier 1 ESLs and the Groundwater Vapor Intrusion Human Health Risk Levels (deep groundwater, fine to coarse scenario for commercial/industrial land use) (SFBRWQCB, 2016).

Various VOCs were detected in groundwater samples at concentrations at or above their respective LRL, as follows:

- Acetone in the sample from boring SB-4 at a concentration of 29 micrograms per liter (µg/L);
- Cis-1,2-DCE in the samples from borings SB-1 (4.1 µg/L), SB-3 (65 µg/L), and SB-4 (1 µg/L);

- Trans-1,2-DCE in the sample from boring SB-3 (1.7 µg/L);
- TCE in the samples from borings SB-1 (4 µg/L) and SB-3 (24 µg/L);
- VC in the sample from boring SB-3 (1.6 µg/L); and
- Trichlorofluoromethane (TCFM) in the samples from borings SB-1 (0.63 µg/L), SB-2 (1.1 µg/L), and SB-4 (0.68 µg/L).

The concentrations of the VOCs cis-1,2-DCE (65 µg/L), TCE (24 µg/L), and VC (1.6 µg/L) reported in sample SB-3-W were above their respective Tier 1 ESL of 6 µg/L, 5 µg/L, and 0.061 µg/L but below the Groundwater Vapor Intrusion Human Health Risk Levels (deep groundwater, fine to coarse scenario for commercial/industrial land use) of 130,000 µg/L, 1,500 µg/L, and 17 µg/L, respectively.

Petroleum hydrocarbons were not reported in groundwater samples at concentrations at or above their respective LRL with the exception of samples SB-3-W and SB-4-W, as follows:

- TPHg in sample SB-3-W at a concentration of 92 µg/L;
- TPHd in sample SB-4-W at a concentration of 260 µg/L;
- TPHmo in sample SB-4-W at a concentration of 2,600 µg/L; and
- TPHbo in sample SB-4-W at a concentration of 2,800 µg/L.

TPHk and TPHss were not detected in the groundwater samples at concentrations at or above their respective LRL. The concentration of TPHg (92 µg/L) in sample SB-3-W was below its' Tier 1 ESL (100 µg/L) and the concentration of TPHmo (2,600 µg/L) in sample SB-4-W was below its' Tier 1 ESL (50,000 µg/L) based on Gross Contamination. The SFBRWQCB notes that TPHmo is not soluble and that TPHmo reported in groundwater is most likely petroleum degradates or less likely non-aqueous phase liquids and that TPHmo concentrations reported as petroleum degradates are to be added to TPHd concentrations and the results compared to TPHd screening levels. The sum of TPHmo and TPHd (2,600 µg/L plus 260 µg/L equals 2,860 µg/L) and the concentration of TPHd (260 µg/L) in sample SB-4-W are above the Tier 1 ESL for TPHd of 100 µg/L (SFBRWQCB, 2016). The Tier 1 ESL for TPHd is based on nuisance/odor for a drinking water source. The nuisance/odor level for a non-drinking water source, such as the aquifer beneath the site vicinity, is 5,000 µg/L which is above the sum of TPHd and TPHmo and significantly above the concentration of TPHd reported in sample SB-4-W.

An ESL has not been established for each detected compound.

3. INITIAL SITE CONCEPTUAL MODEL

The Initial Site Conceptual Model (SCM) documents the regional and site geology and hydrogeology, surface water bodies in the site vicinity, wells located within a 1,000-foot radius of the Site, reported off-site and on-site releases, COCs, residual and dissolved contamination, potential preferential pathways, potential exposure pathways, and sensitive receptors. Sufficient information has not been obtained to develop an adequate SCM; however, the Initial SCM utilizing the available information is presented in Table 2. Table 3 presents the data gaps identified during preparation of the Initial SCM and proposed investigation, proposed sampling locations are shown on Figure 3, information on the wells identified in the sensitive receptors survey are presented in Table 4, and the locations of identified wells are shown on Figure 4. A

rose diagram prepared using data obtained during monitoring events for nearby off-site wells is presented on Figure 2 (Golder, 2011, 2012, 2013, 2014, 2015, 2016, and 2017).

The purpose of presenting the Initial SCM within this Work Plan is to aid in evaluating data collected to date and help in identifying data gaps. The Initial SCM will be updated as data gaps are addressed during site investigations. Tables, figures, and select reference material noted in the Initial SCM are presented in Appendix C.

4. POTENTIAL DATA GAPS

Data gaps identified during preparation of the Initial SCM, the proposed investigation, rationale, and proposed analysis are summarized in Table 3.

5. PROPOSED SUBSURFACE INVESTIGATION ACTIVITIES

To further evaluate the current subsurface conditions and address subsurface data gaps noted in Section 4, ERA will perform a subsurface investigation.

The proposed scope of work is presented below. The sampling and analysis program is summarized in Table 5.

5.1 Pre-Field Activities

Before field activities associated with the proposed assessment are conducted, the pre-field tasks described below will be completed.

5.1.1 Health and Safety

ERA will prepare a site-specific *Health and Safety Plan* for the scope of work as required by the Occupational Health and Safety Administration (OSHA) Standard "Hazardous Waste Operations and Emergency Response" guidelines (29 CFR 1910.120). The document will be reviewed and signed by ERA personnel and contractors performing work at the Site.

5.1.2 Permitting

ERA will obtain a soil boring permit from Alameda County Public Works Agency (ACPWA), before commencing intrusive field activities. ERA will coordinate field activities with ACPWA and schedule a ACPWA inspector to document compliance with permit requirements.

5.2 Field Activities

5.2.1 Utility Clearance

Before subsurface work is conducted at the Site, the proposed sampling locations will be cleared for underground utilities by notifying Underground Services Alert North (USA North) at least 48 hours prior to intrusive field activities. In addition, a private utility locating contractor will clear each proposed sampling location before the start of intrusive field activities. Proposed sampling locations will be adjusted, as necessary, to maintain a distance of at least 3 feet from identified underground utilities/structures.

5.2.2 Drilling and Sampling

ERA personnel will oversee a soil gas survey contractor with a California C-57 drilling license using a roto-hammer or a direct-push drilling rig to advance four probes (SG-1 through SG-4 on Figure 3) for collecting soil gas samples. Soil gas sampling locations SG-1 through SG-4 will be

advanced to the proposed maximum depth of 5.5 feet bgs or boring refusal, whichever is shallower, inside the building.

In addition, ERA personnel will oversee a California licensed driller using a direct-push drilling rig to advance four borings (SB-5 through SB-8 on Figure 3) for collecting soil and groundwater samples. Borings SB-5 through SB-8 will be advanced to the proposed maximum depth of 20 feet bgs, boring refusal, or groundwater, whichever is shallower, in upgradient and downgradient on-site locations with respect to local groundwater flow direction. Based on data collected during monitoring events at a nearby property (Continental White Cap property at 24493 Clawiter Road) in 2016, shallow groundwater flow direction was inferred to be in a southwesterly direction (Golder, 2017).

The proposed sampling locations are as follows:

- Soil gas sampling locations SG-1 and SG-2 in the eastern portion of the Mechanical Warehouse near the offices to evaluate sub-slab conditions in these areas;
- Soil gas sampling location SG-3 in the Equipment Repair Shop to confirm the data collected in 2015 and evaluate deeper (5 feet) sub-slab conditions in this area;
- Soil gas sampling location SG-4 in the Fabrication Shop to evaluate sub-slab conditions in this area;
- Boring SB-5 to the west of the building to evaluate soil quality and the extent of petroleum hydrocarbons and VOCs in groundwater downgradient (southwest) of boring SB-4;
- Boring SB-6 near the Site's southwestern corner to evaluate soil quality and the extent of petroleum hydrocarbons and VOCs in groundwater downgradient of the Fabrication Shop;
- Boring SB-7 near the Site's northeastern corner and upgradient of the Mechanical Warehouse to evaluate soil quality and potential groundwater impacts from off-site releases; and
- Boring SB-8 along the northern site border and upgradient of the Equipment Repair and Fabrication Shops to evaluate soil quality and potential groundwater impacts from off-site releases.

5.2.3 Soil Gas Sampling

Soil gas samples will be collected in general accordance with the protocols presented in the *Advisory Active Soil Gas Investigations* prepared by the Cal-EPA DTSC, LARWQCB, and RWQCB-SFB (DTSC, LARWQCB, and SFBRWQCB 2015).

Soil gas samples will be collected at depths of approximately 0.5 feet and 5.5 feet below the bottom of the concrete floor slab from temporary soil gas probes at sampling locations SG-1 through SG-4 by driving a stainless steel probe equipped with a hardened, reverse-threaded steel driving point into the subsurface using a roto-hammer, direct-push rig, or similar method.

Flexible tubing will be connected to a steel vapor tip coupled in an airtight seal to the end of the drive probe. The annular space around the drive probe will be filled with sand and sealed with hydrated bentonite to the ground surface to prevent leakage of ambient air into the soil gas sample. The probes will be left in place for at least 2 hours before sampling. The samples will be collected into 50 milliliter (mL) glass syringes. The VOC 1,1-difluoroethane (1,1-DFA) will be used as a leak check compound during soil gas sampling.

5.2.4 Soil and Grab Groundwater Sampling

A direct-push unit will be used to drive a steel probe equipped with a hardened, reverse-threaded steel driving point into the subsurface to allow collection of soil and groundwater samples from borings SB-5, SB-6, SB-7 and SB-8.

Soil samples will be screened in the field with a photoionization detector (PID) and observed for evidence of chemical staining. Soil samples will be collected from each boring in new acetate or stainless steel sleeves from intervals with elevated PID readings (if any) and intervals with evidence of chemical staining (if noted). In addition to intervals with elevated PID readings and evidence of chemical staining, if any, soil samples will be collected at depths of approximately 2 feet, 5 feet, 8 or 10 feet, 15 feet, and 20 feet bgs (depending on the total depth of the boring) unless these depth intervals are saturated; soil samples will not be collected below the groundwater table.

New polyvinyl chloride (PVC) casing (with slotted casing in the lower 10 feet and blank casing from above the slotted casing to the ground surface) will be placed in the boreholes and groundwater will be allowed to flow into the casing. Up to 1 gallon of groundwater will be purged from each casing prior to sampling if a sufficient quantity of groundwater is present in the casing to fill the laboratory-provided containers appropriate for the requested analysis. After the groundwater sampling activities are completed, the casing will be removed and the boring will be backfilled in accordance with ACPWA requirements. ERA anticipates that the groundwater sampling activities will be completed by the end of each field day and that the boreholes will not remain open overnight.

The soil and groundwater samples will be placed on ice and transported under chain-of-custody protocols to the project laboratory.

5.2.5 Boring Backfill and Waste Management

After the sampling activities are complete, each borehole will be backfilled with cement grout and bentonite and sealed at grade with asphalt or concrete, as appropriate, and to match the surrounding surface. The investigation-derived waste, including soil cuttings and rinsate, produced during sampling activities will be containerized using appropriate containers and stored on site until disposal options can be evaluated after reviewing analytical data.

5.3 Analysis

The soil gas samples will be analyzed for VOCs, including 1,1-DFA, by a mobile laboratory using U.S. EPA Method 8260.

As shown in Table 5, at least two soil samples from each boring (one each from within the 0 to 5-foot depth interval and the 5-foot to 8 or 10-foot depth interval) and additional soil samples collected (if any) based on elevated PID readings and/or evidence of chemical staining will be submitted for analysis along with the grab groundwater samples. The soil and groundwater samples will be analyzed on a normal 5-business-day laboratory response time by a laboratory certified by the State of California to perform the requested analyses.

The soil and groundwater samples will be analyzed for the following analytes:

- VOCs using U.S. EPA Method 8260B;
- TPHg using U.S. EPA Method SW8015 (purgeable petroleum hydrocarbons); and

- TPHd, TPHmo, and TPHbo using U.S. EPA Method SW8015B (extractable petroleum hydrocarbons).

5.4 Report

A report of findings will present a summary of the previous investigations, as appropriate, and regulatory status, the procedures and results for this investigation, figures showing sampling locations, and tables presenting analytical results compared to published screening levels. Copies of the analytical laboratory report will be included in an appendix.

The report will be uploaded to ACDEH and SWRCB websites. In addition, as required by the drilling permit, a copy of the report will be submitted to ACPWA within 60 days of permit approval.

6. SCHEDULE

Work for the investigation will begin immediately upon receipt of ACDEH's approval of the Soil and Groundwater Work Plan. The report will be issued within 6 weeks from receipt of ACDEH's approval of this Work Plan based on the assumption that ACPWA approves the drilling permit application and schedules and inspector within 10 business days and the driller has availability within the requested time frame.

7. REFERENCES

Basics Environmental, Inc. 2014. *Phase I Environmental Site Assessment, 24747 Clawiter Road, Hayward, California*. September 17.

California Environmental Protection Agency (Cal-EPA) Department of Toxic Substances Control (DTSC), Los Angeles Regional Water Quality Control Board (LARWQCB), San Francisco Bay Regional Water Quality Control Board (SFBRWQCB). 2015. *Advisory Active Soil Gas Investigations*. July.

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TABLES

Table 2: Initial Site Conceptual Model
DW Nicholson Property
24747 Clawiter Road
Hayward, California 94545

SCM Element	SCM Sub-Element	Description	Data Gap	Task Necessary to Address Data Gap	Tables/ Graphics	References
Geology and Hydrogeology	Regional	The Site is located in the southern portion of the *East Bay Plain* with near surface geology characterized as floodplain deposits (Qhfp) of Holocene age that slope westward towards San Francisco Bay. The deposits of *East Bay Plain* in the site vicinity are characterized by thin interbeds of sand, silt, and clay that were deposited in a flat-lying marshland and shallow alluvial channels with coarser-grained deposits of gravelly sand and sandy gravel at depth. The three main alluvial cones in the region are the San Leandro Cone, the San Lorenzo Cone, and the Niles Canyon Cone. The Site is within the Niles Canyon Cone. Generally, shallow aquifer units (surface to a depth of approximately 400 feet bgs) are laterally discontinuous and hydraulically separate from aquifers in the adjacent cones. Below a depth of 400 feet, the aquifers are likely continuous across the boundaries of the three cones. The coarser-grained deposits in the site vicinity discontinuously interfinger with the fine-grained deposits. Generally, the major water-bearing zones are within the coarse-grained sediments and the fine-grained sediments form aquitards that tend to restrict vertical groundwater flow. Golder Associates (Golder) conducted groundwater monitoring events at the former White Cap facility located about	None	Not Applicable	Figure 1 (site location map) 2015 USGS Hayward and San Lenadro, CA Quadrangle Topographic Map from ERA *Soil and Groundwater Investigation Work Plan* (ERA, 2017). Geologic map by R.W. Graymer. 2000. Geologic map by California Regional Water Quality Control Board - San Francisco Bay Region (SFBRWQCB) and Alameda County Flood Control and Water Conservative District (ACFC-WCD). 1988.	USGS Topographic Maps of the 2015 Hayward and San Leandro, CA Quadrangles California Department of Water Resources (DWR). 1960. *Intrusion of Salt Water into Groundwater Basins of Southern Alameda County, Bulletin 81.* Graymer, R.W., USGS. 2000. *Geologic Map and Map Database of the Oakland Metropolitan Area, Alameda, Contra Costa, and San Francisco Counties, California.* SFBRWQCB and ACFC-WCD. 1988. *Geohydrology and Groundwater-Quality Overview of the East Bay Plain Area, Alameda County, California, 205 (j) Report. Figure 8, Generalized Geologic Map East Bay Plain Area.* June.

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		265 feet north (upgradient to crossgradient) of the Site at 24493 Clawiter Road in 2016 (Golder, 2017). Groundwater was reported by Golder at depths of 7.90 to 14.85 feet bgs in 2016. Golder's analysis of the data indicated that groundwater elevations measured during 3rd quarter (fall) monitoring events were typically about 1 foot lower than those measured during 2nd quarter (spring) monitoring events. Golder also noted that groundwater elevations in 2016 were about 1 foot higher as compared to those reported during the 2014 and 2015 events. Groundwater flow direction was inferred to be to the southwest with an average horizontal groundwater gradient of 0.003 feet/foot; these data were consistent with historical data, according to Golder (Golder, 2017).			Table 1 and Figures 1 through 4 from Golder *Groundwater Monitoring Summary Report (Golder, 2017)*.	DWR. 2003. *California's Groundwater, San Francisco Bay Hydrologic Region, Bulletin 118-2.* ACFC. 1993. *Geologic Framework of the East Bay Plain Groundwater Basin.* August. SFBRWQCB. 2007. *San Francisco Bay Water Quality Control Plan (Basin Plan).* January 18. Muir, Kenneth S. 1996. G*roundwater Yield of the East Bay Plain.* November. ERA. 2017. *Soil and Groundwater Investigation Work Plan*. May. Golder. 2017. *Groundwater Monitoring Summary Report, Former White Cap Facility, 24493 Clawiter Road, Hayward, California*. February.

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	Site	Near surface soil encountered at the Site during ERA's limited Phase II ESA consisted of black to brown silty clay and clayey silt to the maximum depth explored of 20 feet bgs (ERA, 2015). Fine-grained sand was present in boring SB-2 from approximately 14 to 14.5 feet bgs. Groundwater was encountered at depths of approximately 13 to 16 feet bgs beneath the Site during ERA's limited Phase II ESA in 2015 (ERA, 2015). As noted above, Golder conducted groundwater monitoring events at the former White Cap facility located north and upgradient to crossgradient of the Site (Golder, 2017). ERA used data obtained during Golder's monitoring events to prepare a rose diagram (see Figure 2). The data indicated that groundwater flow direction beneath this property has historically been to the southwest.	None	Not Applicable	Boring logs from ERA *Limited Phase II Environmental Site Assessment Report (ERA, 2015).* Table 1 and Figures 1 through 4 from Golder *Groundwater Monitoring Summary Report* (Golder, 2017). Figure 2 (Rose Diagram) from ERA *Soil and Groundwater Investigation Work Plan (ERA, 2017)*.	ERA. 2015. *Limited Phase II Environmental Site Assessment Report, DW Nicholson Property, 24747 Clawiter Road, Hayward, California 94545.* November 20. Golder. 2017. *Groundwater Monitoring Summary Report, Former White Cap Facility, 24493 Clawiter Road, Hayward, California*. February. ERA. 2017. *Soil and Groundwater Investigation Work Plan*. May.
Surface Water Bodies		No surface water bodies were identified within 1,000 feet of the Site. The nearest surface water body is Ward Creek located approximately 1,200 feet north of the Site (crossgradient). Ward Creek flows through a concrete channel in the site vicinity and discharges into San Francisco Bay located approximately 4,500 feet west (downgradient) of the Site.	None	Not Applicable	Figure 1 (site location map) 2015 USGS Hayward and San Leandro, CA Quadrangle Topographic Map from ERA *Soil and Groundwater Investigation*	USGS Topographic Maps of the 2015 Hayward and San Leandro, CA Quadrangles ERA. 2017. *Soil and Groundwater Investigation Work Plan*. May.

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					Work Plan (ERA, 2017).	
Nearby Wells		The SWRCB GeoTracker GAMA website includes information regarding the approximate locations of water-supply wells in California. Review of this website indicated that five water-supply wells were located approximately 700 feet east of the Site (4 through 8 in Table 4 and on Figure 4). According to available information on the GAMA website, four of the wells (wells 0103039-001, 0103039-002, 0103039-003, and 0103039-004) are owned by Mohrland Mutual Water System and one well (well 0110006-006) is owned by the City of Hayward. No additional information was available for these five wells. The COCs in groundwater beneath the Site from on-site sources would have a very low likelihood of impacting these five wells based on their distances from the Site and upgradient locations from the Site with respect to the inferred groundwater flow direction and site location. The map of well locations (dated 1910) from the Bay Plain Beneficial Use Study (Norfleet, 1998) was reviewed for water well locations in the site vicinity. Based on the available landmarks that are shown on the map and are still in existence, no water-supply wells were identified on this map within a 1,000-foot radius of the Site. According to information obtained by Golder during their assessment at the former White Cap facility at 24493	None	Not Applicable	GAMA map and spreadsheet Map of water well locations from Norfleet Consultants. 1998. *Location of Water Wells in 1910.* Table 4 and Figure 4 (wells identified within 1,000-foot radius) from ERA *Soil and Groundwater Investigation Work Plan* (ERA, 2017). Table 4 and Figure 11 from Aquifer Sciences *Request for Case Closure Report* (Aquifer Sciences, 2016).	SWRCB GeoTracker GAMA website http://geotracker.waterboards.ca.gov/gama/gamamap/public Norfleet Consultants. 1998. *Location of Water Wells in 1910, East Bay Plain Beneficial Use Study.* June 15. ERA. 2017. *Soil and Groundwater Investigation Work Plan*. May. Golder. 2017. *Groundwater Monitoring Summary Report, Former White Cap Facility, 24493 Clawiter Road, Hayward, California*. February.

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		Clawiter Road (Golder, 2017), several production wells were identified in the area with the closest well located on the property immediately south of the former White Cap facility (the property between the Site and the former White Cap facility). Golder noted that the well was reportedly installed to a depth of over 400 feet bgs and that the current status is unknown. Golder concluded that no impacts to this well from the former White Cap facility was anticipated, based on the total depth of the well, the nature and extent of the residual impacted area above the water quality objectives for the former White Cap facility, and lithology of the site vicinity. The COCs in groundwater from on-site sources would have a low likelihood of impacting this well based on its' upgradient location from the Site with respect to the inferred groundwater flow direction and site location. Aquifer Sciences, Inc. (Aquifer Sciences) obtained well survey data from the Alameda County Department of Public Works in November 2015 to identify water wells within a 0.5-mile radius of 3643 Depot Road property (Aquifer Sciences, 2016). Table 4 and Figure 11 from Aquifer Sciences' report noted four wells were in close proximity to the Site, as follows: 1. A water well located at 24701 Clawiter Road (immediately north of the Site) listed as owned by National Auto Fibers and drilled to a depth of 557				Aquifer Sciences, Inc. 2016. *Request for Case Closure, 3643 Depot Road, Hayward, California*. January 28.

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		feet bgs in 1941; this appears to be the well noted by Golder (see above) 2. A domestic water-supply well located at Clawiter Road and Depot Road (360 feet south of the Site) listed as owned by Fred Plowright; total depth and date of installation not available 3. An irrigation water well located at 24216 Clawiter Road (690 feet north of the Site) listed as owned by George Eden and drilled to a depth of 406 feet bgs in 1929 4. An industrial water well located at 25140 Clawiter Road (800 feet south of the Site) listed as owned by Golden State Dairies and drilled to a depth of 180 feet bgs in 1956 The wells identified by Aquifer Sciences' would likely not be impacted by a release from the Site, based on total depth of the wells and their locations in a crossgradient direction from the Site with respect to inferred groundwater flow direction and site location. No water-supply wells were identified within a radius of 1,000 feet from the Site and in a southwest (downgradient) direction of the Site, based on ERA's review of the available information. This data suggests that no known water-supply well is likely to be impacted by COCs migrating in groundwater from an on-site source, if any.				

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		A sensitive receptor survey was conducted by ERA using GIS data from the City of Hayward. One sensitive receptor, East Bay Upright MRI, was identified within a 1,000-foot radius of the Site. East Bay Upright MRI, a hospital, is located approximately 500 feet southeast of the Site at 25001 Industrial Boulevard. This hospital is located in a crossgradient to downgradient direction from the Site and is therefore unlikely to be impacted by a release emanating from the Site.				http://webmap.hayward-ca.gov/
Releases	Off-Site	According to information obtained by Basics Environmental during the Phase I ESA of the Site, several releases were reported in the site vicinity. Many of these releases would be unlikely to impact the Site, based on soil impacts only, location in a crossgradient direction with respect to site location and inferred groundwater flow direction, and/or time lapse since the releases occurred. Releases in close proximity to the Site are discussed below. *24785 Clawiter Road* A release was reported on the south adjoining property at 24785 Clawiter Road (Bremco Inc./Epstein Investments/Sierra Pacific Steel/Laidlaw Transit Services Inc/Industrial Passenger Service property) with this property listed in the Historical Cortese, Leaking Underground Storage Tank (LUST), and Recovered Government Archive (RGA) LUST databases. According to information reviewed by Basics Environmental, a release of diesel to soil was reported in	The potential for impacts to site groundwater from off-site releases has not been assessed.	Borings are planned along the north (upgradient) border of the Site to collect groundwater samples. See Item 4 in Table 3.	Figure 2 (Rose Diagram) from ERA *Soil and Groundwater Investigation Work Plan (ERA, 2017)*. Table 1 and Figures 1 through 4 from Golder *Groundwater Monitoring Summary Report (*Golder, 2017).	Basics Environmental. 2014. *Phase I Environmental Site Assessment, 24747 Clawiter Road, Hayward, California*. September 17. ERA. 2017. *Soil and Groundwater Investigation Work Plan, DW Nicholson Property, 24747 Clawiter Road, Hayward, California 94545.* May. Golder. 2017. *Groundwater Monitoring Summary Report, Former White Cap Facility, 24493 Clawiter Road, Hayward, California*. February.

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		February 1992. No remedial action was reported and case closure was granted in 1996. This release is unlikely to impact the Site, based on the impacts to soil only, location in a crossgradient direction with respect to the Site and inferred groundwater flow direction, and length of time since the release occurred. *24493 Clawiter Road* Releases were reported in 1988 at the White Cap (formerly known as Continental White Cap) property located about 265 feet north of the Site at 24493 Clawiter Road. From 1963 to 1997, White Cap manufactured container closures and handled and used hazardous materials, including paints and paint thinners (Golder, 2017). Continental White Cap was included in the CERCLIS NFRAP, Envirostor, and LUST (two cases) databases. Golder noted that soil and shallow groundwater were impacted by releases of petroleum-based products that were primarily stored in USTs. Xylenes and ethylbenzene from paint thinners were the main COCs. Remedial activities began in 1990 and included over-excavating impacted soil, soil vapor and groundwater extraction and treatment, and in-situ bioremediation treatment on the northern portions of the property. During investigation of the former White Cap facility, xylenes were reported at concentrations of 9 micrograms per liter (µg/L) and 2.1 µg/L in January 2003 and				

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		April 2003, respectively, in grab groundwater samples from boring W27 which was advanced on the north adjoining property at a distance of about 140 feet from the Site. Xylenes were not reported at concentrations at or above the laboratory reporting limit (LRL) of 1 µg/L in grab groundwater samples collected from this boring in September 2003. A fact sheet issued by the California Environmental Protection Agency Regional Water Quality Control Board-San Francisco Bay Region (SFBRWQCB) in June 2007 indicated that an extensive groundwater plume was present on the property adjacent to the north of the Site (to the south and downgradient of the former White Cap facility). The fact sheet noted that cleanup of groundwater in this area was complete. Based on the available information, the downgradient edge of the groundwater plume extending from the former White Cap facility onto the north adjoining property was within approximately 40 feet of the Site but reportedly did not extent onto the Site. *3111 Depot Road* The former East Bay Oil facility (later Gold Shield Distributors), located on the southwest adjoining property at 3111 Depot Road, was included in the LUST and Spills, Leaks, Investigations, Cleanups (SLIC) databases. According to ECM Group (ECM), this property was			SFBRWQCB. 2007. *Fact Sheet*. June.	SFBRWQCB. 2007. Fact Sheet. Former White Cap Facility. June. ECM Group. 2012. Technical Report on Site Cleanup Status, Former East Bay Oil Facility, 3111 Depot Road, Hayward, California. February 29.

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		developed in 1970 and stored bulk quantities of alcohols, ketones, petroleum distillates, and gasoline in USTs and 55-gallon drums for repackaging into smaller capacity containers (ECM, 2012). After 1995, repacking was limited to ethyl alcohol with other products stored and distributed in their original containers. Remedial activities included soil excavation and Hydrogen Release Compound injection with groundwater monitoring wells installed across the property. Chlorinated solvents were detected in soil and groundwater with the highest concentrations (2,763 micrograms per kilograms [µg/kg] in soil and 2,056 µg/L in groundwater) reported in the area of well MW-11 located at the northern property boundary (to the southwest of the Site across the Union Pacific Railroad Company [UPRR] tracks). Tetrachlorothene (PCE) and cis-1,1-dichloroethene (cis-1,1-DCE) were reported to be the most prevalent VOCs. Well MW-14 was installed near the northeastern corner of the property and downgradient of potential off-site source areas (Southern Pacific Railroad [now UPRR] right-of-way located between the former East Bay Oil facility and the Site, the I-Chem facility in the Hayward Industrial Park [HI Park] located immediately north of the former East Bay Oil facility and west of the Site, and the former Xerox facility located about 300 feet east of the Site at 24500 Industrial Blvd.). Cis-1,1-DCE, trichloroethene				

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		(TCE), and vinyl chloride were reported in groundwater samples from well MW-14. ECM noted that the PCE/TCE plume was centered near the northern boundary of the former East Bay Oil property, outside the area of repackaging activities which occurred inside a building with a concrete floor. ECM noted the following: 1. Southern Pacific Railroad (UPRR) right-of-way has not been assessed. 2. Groundwater monitoring wells were installed for investigations at HI Park, including the I-Chem facility. High concentrations of chlorinated solvents were reported in groundwater samples from two wells (MW-1 and MW-2) located immediately north and upgradient of the former East Bay Oil facility (west of the Site across the UPRR tracks). Reportedly, I-Chem employees were observed in the past discharging liquid from containers onto the ground outside the facility and stained pavement was observed in the area. Review of aerial photographs dated between 1954 and 1976 indicated that a pond was present at the southeast corner of HI Park (to the west of the Site across the UPRR tracks). ECM noted that the I-Chem facility drained toward the pond then towards and along the railroad tracks to the former East Bay Oil facility. ECM stated that groundwater samples analysis			Figure showing pond area from ECM *Technical Report on Site Cleanup Status* (ECM, 2012).	

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		indicated migration of VOCs from HI Park onto the East Bay Oil property. 3. Investigations at the former Xerox facility revealed VOCs in soil and groundwater at concentrations up to 2,600 µg/L in soil and 172 µg/L in groundwater. ECM noted that remedial activities began in 1990 and that case closure has been granted. No further information was available on investigations at this facility. The former Xerox property is located across Clawiter Road and Industrial Avenue and in an upgradient to cross-gradient location from the Site based on inferred groundwater flow direction and the site location. *Rose Diagram* As noted above, Golder conducted groundwater monitoring events at the former White Cap facility located north and upgradient to crossgradient of the Site (Golder, 2017). ERA used data obtained during Golder's monitoring events to prepare a rose diagram (see Figure 2). Data indicated that groundwater flow direction beneath this property has historically been to the southwest.			Figure 2 (Rose Diagram) from ERA *Soil and Groundwater Investigation Work Plan (ERA, 2017)*.	ERA. 2017. *Soil and Groundwater Investigation Work Plan*. May.
	On-Site	*Primary Sources* Basics Environmental noted that no releases have been reported on site (Basics Environmental, 2014). During the 1970s, Anchor Valve Company occupied the Site and manufactured nuclear valves. Basics Environmental noted that Anchor Valve Company had a	The potential for releases from on-site sources (if any) and migration of COCs into indoor air within the on-site building have	Collecting soil gas samples from probes advanced within the building footprint for analysis will provide data to assess potential locations	Figures and tables from ERA *Limited Phase II Environmental Site Assessment Report (ERA, 2015)*.	Basics Environmental. 2014. *Phase I Environmental Site Assessment, 24747 Clawiter Road, Hayward, California*. September 17.

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		high potential for business activities indicative to the use, storage and/or treatment of hazardous substances but no information regarding the use of hazardous substances was uncovered within the local regulatory agency files reviewed by Basics Environmental staff (Basics Environmental, 2014). Hazardous substances use and storage by D.W. Nicholson was documented by Basics Environmental from at least 1991 (Basics Environmental, 2014). Solvent storage was noted in regulatory agency files reviewed by Basics Environmental as follows: 1) 1991 – in a parts washing tub in the Machine Shop next to the stock room and a parts washing tub in the Automotive/Mechanical Shop (assumed by ERA to contain cleaning solvents) and containers in a 20-foot shipping container located outside the building; 2) 1993 – in one 30-gallon drum at unknown location; and 3) between 1997 and 2004 - in one 55-gallon drum at unknown location. Regulatory agency files indicated the following hazardous substances were present in 1991: parts washing tub in Machine Shop next to stock room; parts washing tub, 55-gallon drums of oil, one 400-gallon waste oil AST, and one 400-gallon new motor oil AST in Automotive/ Mechanical Shop; 5-gallon containers of primer and other liquids, 55-gallon drums of waste paint thinner in the Fabrication Shop; 55-gallon drums of oils with	not been assessed adequately.	of on-site releases, if any, and potential for impacts to indoor air within the on-site building. Collecting soil and groundwater samples from borings advanced across the Site for analysis will provide data to assess potential locations of on-site releases, if any. See Items 1 through 4 in Table 3.	Figure 3 and Table 5 (sample locations and analysis) from ERA *Soil and Groundwater Investigation Work Plan*. (ERA, 2017).	ERA. 2015. *Limited Phase II Environmental Site Assessment Report, DW Nicholson Property, 24747 Clawiter Road, Hayward, California 94545.* November 20. ERA. 2017. *Soil and Groundwater Investigation Work Plan*. May.

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		dispensing pumps, 5-gallon and 1-gallon containers of oils and solvents in a 20-foot shipping container located outside the building; and paints, thinners, and *other liquids* in a 20-foot shipping container located west of the building (Basics Environmental, 2014). Hazardous substances observed during the site visit by Basics Environmental in 2014 included two 55-gallon drums of waste oil, one 55-gallon drum of waste antifreeze, two 55-gallon drums of new motor oil, one 55-gallon drum of transmission fluid, one 55-gallon drum of hydraulic oil, one 55-gallon drum of engine coolant, and one 100-gallon waste oil AST in the Equipment Repair Shop (Basics Environmental, 2014). Secondary containment was provided for the waste oil and waste antifreeze. Also, two parts washing tubs and a sand-blasting booth were present in the Equipment Repair Shop. A sump was present near the sandblasting boot to collect sandblasting dust. The concrete floor in the Equipment Repair Shop was observed to be discolored from years of maintenance activities (Basics Environmental, 2014). Basics Environmental reviewed a permit issued in 1985 for installing a 6,000-gallon diesel UST and 10,000-gallon gasoline UST. A UST piping upgrade project occurred in 2003 (Basics Environmental, 2014). Diesel and benzene, toluene, ethylbenzene, and xylenes (BTEX) were				

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		not reported at concentrations at or above their LRL in three soil samples collected from below the fuel dispenser but methyl tert-butyl ether (MTBE) was reported in one sample as noted below**.** *Secondary Sources* MTBE was reported in a sample collected in 2003 from below the fuel dispenser at a concentration of 0.026 milligrams per kilogram (mg/kg). ERA collected a soil sample (at a depth of 10 feet bgs) and a groundwater sample from boring SB-1 which was advanced west of the USTs for the 2015 investigation (ERA, 2015). Petroleum hydrocarbons were not reported in soil or groundwater samples from boring SB-1 at concentrations at or above their LRL indicating that significant releases from the USTs do not appear to have occurred. Petroleum hydrocarbons were reported in the soil sample (SB-4-2 collected at a depth of 2 feet bgs) and in the groundwater sample (SB-4-W) from boring SB-4 located near the paint storage shed west of the building (ERA, 2015). Gasoline was reported in the groundwater sample from boring SB-3 located in the Equipment Repair Shop. During ERA's limited Phase II ESA (ERA, 2015), various VOCs, including TCE, cis-1,2-DCE, trans-1,2-DCE, and vinyl chloride, were reported in the soil gas sample collected from each location. VOCs were not reported in soil samples				

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		except cis-1,2-DCE which was reported at a concentration of 0.088 mg/kg in the soil sample collected at the 2.5-foot depth from boring SB-3. Various VOCs, including TCE, cis-1,2-DCE, trans-1,2-DCE, vinyl chloride, and/or trichloro-fluoromethane (TCFM) were reported in the groundwater samples from borings SB-1, SB-3, and SB-4. ECM's report prepared for the former East Bay Oil facility included a figure from a Henshaw Associates, Inc. report (ECM, 2012). This figure presented data from a previous investigation conducted at HI Park and shows that one boring (designated B-24/HP-7) was advanced on the Site just west of the building (near ERA's boring SB-4). Analysis of a grab groundwater sample collected from this boring revealed TCE at a concentration of 180 µg/L and cis-1,2-DCE at a concentration of 36 µg/L (ECM, 2012). Analysis of a grab groundwater sample from ERA's boring SB-4 revealed cis-1,2-DCE at a concentration of 1 µg/L.			Figure showing boring B-24/ HP-7 from ECM *Technical Report on Site Cleanup Status* (ECM, 2012).	
	Site COCs	The COCs at the Site are VOCs and petroleum hydrocarbons, based on known or suspected hazardous substances stored and used by the former and current site occupants.	The potential for COCs from potential on-site and off-site releases has not been adequately assessed.	Borings are planned across the Site to collect soil gas, soil, and groundwater samples. See Items 1 through 4 in Table 3.	Figures and tables from ERA *Limited Phase II Environmental Site Assessment Report (ERA, 2015)*. Figure 3 and Table 5 (sample	ERA. 2015. *Limited Phase II Environmental Site Assessment Report, DW Nicholson Property, 24747 Clawiter Road, Hayward, California 94545.* November 20. ERA. 2017. *Soil and Groundwater*

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					locations and analysis) from ERA *Soil and Groundwater Investigation Work Plan* (ERA, 2017).	*Investigation Work Plan*. May.
Residual and Dissolved Contamination	Residual Contamination	Various VOCs were reported in soil gas samples with the highest concentrations in soil gas sample SB-3a, collected within the Equipment Repair Shop. The concentrations of PCE in soil gas sample SB-3a and 1,2-Dibromo-3-Chloropropane in soil gas sample SB-2 (from the Fabrication Shop) were above their respective Tier 1 Environmental Screening Level (ESL) but below the Subslab/Soil Gas Vapor Intrusion: Human Health Risk Levels (commercial/industrial land use) (SFBRWQCB, 2016). Cis-1,2-DCE was the only VOC reported at concentrations at or above their respective LRL in the five soil samples collected for VOC analysis during ERA's limited Phase II ESA (ERA, 2015). The concentration of cis-1,2-DCE (0.088 mg/kg) for sample SB-3-2.5 is below its' Tier 1 ESL for soil (SFBRWQCB, 2016) of 0.19 mg/kg and the Direct Exposure Human Health Risk Level for commercial/ industrial land use of 96 mg/kg. Extractable petroleum hydrocarbons were detected above their respective LRL in soil sample SB-4-2 but were below their Tier 1 ESL except TPHmo. The reported	The potential for releases from on-site sources (if any) and migration of COCs into indoor air within the on-site building has not been assessed adequately.	Collecting soil gas samples from probes advanced within the building footprint for analysis will provide data to assess potential locations of on-site releases, if any, and potential for impacts to indoor air within the on-site building. Collecting soil and groundwater samples from borings advanced across the Site for analysis will provide data to assess potential locations of on-site releases, if any. See Items 1 through 4 in Table 3.	Figures and tables from ERA *Limited Phase II Environmental Site Assessment Report* (ERA, 2015). Figure 3 and Table 5 (sample locations and analysis) from ERA *Soil and Groundwater Investigation Work Plan* (ERA, 2017).	ERA. 2015. *Limited Phase II Environmental Site Assessment Report, DW Nicholson Property, 24747 Clawiter Road, Hayward, California 94545.* November 20. ERA. 2017. *Soil and Groundwater Investigation Work Plan*. May. SFBRWQCB. 2016. *Environmental Screening Levels*. February 22.

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SCM Element	SCM Sub-Element	Description	Data Gap	Task Necessary to Address Data Gap	Tables/ Graphics	References
		concentration of 230 mg/kg for TPHmo was above its' Tier 1 ESL of 100 mg/kg but was below the Direct Exposure Human Health Risk Level (commercial/ industrial land use) of 140,000 mg/kg (SFBRWQCB, 2016). TPHbo and TPHk were also reported in soil sample SB-4-2; however, ESLs have not been established for these compounds.				
	Dissolved Contamination	The VOCs cis-1,2-DCE, TCE, trans-1,2-DCE, vinyl chloride, and/or TCFM were detected in the grab groundwater samples collected from borings SB-1, SB-3, and SB-4. Analysis of groundwater sample SB-3-W revealed concentrations of cis-1,2-DCE (up to 65 µg/L), TCE (up to 24 µg/L), and vinyl chloride (at 1.6 µg/L) above their respective Tier 1 ESL (6 µg/L for cis-1,2-DCE, 5 µg/L for TCE, and 0.061 µg/L for vinyl chloride). The concentration of trans-1,2-DCE (at 1.7 µg/L) in groundwater sample SB-3-W was below its' Tier 1 ESL of 10 µg/L. The concentrations of these VOCs were below the Groundwater Vapor Intrusion Human Health Risk Levels (deep groundwater, fine to coarse scenario for commercial/ industrial land use) (SFBRWQCB, 2016). An ESL for TCFM has not been established (SFBRWQCB, 2016). No other VOCs were reported in the groundwater samples at concentrations at or above their respective LRL. The concentration of TPHg (92 µg/L) in sample SB-3-W was below its' Tier 1 ESL	The extent of COCs in groundwater from potential on-site and off-site releases has not been adequately assessed.	Borings are planned along the north (upgradient) border of the Site and southern (downgradient) corner to collect groundwater samples. See Items 1 through 4 in Table 3.	Figures and tables from ERA *Limited Phase II Environmental Site Assessment Report* (ERA, 2015). Figure 3 and Table 5 (sample locations and analysis) from ERA *Soil and Groundwater Investigation Work Plan* (ERA, 2017).	ERA. 2015. *Limited Phase II Environmental Site Assessment Report, DW Nicholson Property, 24747 Clawiter Road, Hayward, California 94545.* November 20. ERA. 2017. *Soil and Groundwater Investigation Work Plan*. May. SFBRWQCB. 2016. Environmental Screening Levels. February 22.

Table 2: Initial Site Conceptual Model
DW Nicholson Property
24747 Clawiter Road
Hayward, California 94545

SCM Element	SCM Sub-Element	Description	Data Gap	Task Necessary to Address Data Gap	Tables/ Graphics	References
		(100 µg/L) and the concentration of TPHmo (2,600 µg/L) in sample SB-4-W was below its' Tier 1 ESL (50,000 µg/L) based on Gross Contamination. The SFBRWQCB notes that TPHmo is not soluble and that TPHmo reported in groundwater is most likely petroleum degradates or less likely non-aqueous phase liquids and that TPHmo concentrations reported as petroleum degradates are to be added to TPHd concentrations and the results compared to TPHd screening levels. The sum of TPHmo (2,600 µg/L) and TPHd (260 µg/L) is 2,860 µg/L and is above the Tier 1 ESL for TPHd of 100 µg/L (SFBRWQCB, 2016). The concentration of TPHd (260 µg/L) in sample SB-4-W was above its' Tier 1 ESL (100 µg/L). The Tier 1 ESL for TPHd is based on nuisance/odor for a drinking water source. The nuisance/odor level for a non-drinking water source, such as the aquifer beneath the site vicinity, is 5,000 µg/L which is significantly above the concentration of TPHd reported at the Site and is also above the sum of TPHd and TPHmo. Evidence (staining, odors, etc.) of petroleum hydrocarbon impacts was not noted in the soil samples collected from the borings.				
Preferential Pathways	Groundwater Pumping/ Water Supply Wells (Ingestion)	A water-supply well is not located on site as the Site is served by public utilities. No significant groundwater extraction is reported in the site vicinity by public	None	Not Applicable	Map of water well locations from Norfleet Consultants. 1998.	SWRCB GeoTracker GAMA website Norfleet Consultants. 1998. *Location of Water*

Table 2: Initial Site Conceptual Model
DW Nicholson Property
24747 Clawiter Road
Hayward, California 94545

SCM Element	SCM Sub-Element	Description	Data Gap	Task Necessary to Address Data Gap	Tables/ Graphics	References
		utilities. Domestic water is provided to properties in the site vicinity by the City of Hayward which obtains drinking water from the Hetch Hetchy Regional Water System managed by the San Francisco Public Utilities Commission. As noted above, the SWRCB's GAMA website, Norfleet's data, and Aquifer Science's information were reviewed for water wells in the area. The closest water-supply well is located on the north adjoining property at 24701 Clawiter Road. This well was reportedly drilled to a depth of 557 feet bgs in 1941. The nearest reported domestic water-supply well is located 360 feet south of the Site at the intersection of Clawiter Road and Depot Road. The total depth and date of installation for this well are not available. Both of these wells are located crossgradient of the Site and the current status of these wells is unknown. No water-supply wells have been identified to the southwest (downgradient direction) of the Site. The extent of groundwater impacts beneath the Site is not known; however, no wells are located within 1,000 feet southwest (downgradient) of the Site. This data suggests that no known water-supply well is likely to be impacted by a groundwater plume originating from the Site. Therefore, this exposure pathway is incomplete.			Table 4 and Figure 4 (wells identified within 1,000-foot radius) from ERA *Soil and Groundwater Investigation Work Plan* (ERA, 2017). Tables and figures from Aquifer Sciences, Inc. 2016.	*Wells in 1910, East Bay Plain Beneficial Use Study.* June 15. ERA. 2017. *Soil and Groundwater Investigation Work Plan*. May. Aquifer Sciences. 2016. *Request for Case Closure, 3643 Depot Road, Hayward, California*. January 28.
	Utility Trenches (Inhalation and	Typically, only gravity drained utilities (sewer and storm drain) are installed at depths of more than 5 feet bgs.	None	Not Applicable		

Table 2: Initial Site Conceptual Model
DW Nicholson Property
24747 Clawiter Road
Hayward, California 94545

SCM Element	SCM Sub-Element	Description	Data Gap	Task Necessary to Address Data Gap	Tables/ Graphics	References
	dermal exposure pathways)	According to information obtained by ECM for the Gold Shield Distributors facility, storm drain lines are typically located at depths above the water table in the site vicinity and sanitary sewer lines, potentially located at depths of approximately 6 to 10 feet bgs, may be just above the water table during the rainy season (ECM, 2012). Information on the depth of Pacific Gas and Electric Company (PG&E) utilities (natural gas and electric) was not available; however, these utilities are typically placed at shallow depths (less than 5 feet bgs). Therefore, these utilities are unlikely to extend below the water table in the site vicinity. Based on the depth to groundwater in the site vicinity of approximately 13 to 16 feet bgs or more, the utility trenches in the site vicinity are not expected to act as preferential pathways for groundwater movement at the Site.				
	Surface Water (Inhalation, dermal, and ingestion exposure pathways)	No surface water bodies were identified within 1,000 feet of the Site. The nearest surface water body is Ward Creek located approximately 1,200 feet north of the Site (crossgradient). Ward Creek flows through a concrete channel in the site vicinity and discharges into San Francisco Bay located approximately 4,500 feet west (downgradient) of the Site.	None	Not Applicable	Figure 1 (site location map) 2015 USGS Hayward and San Lenadro, CA Quadrangle Topographic Map from ERA *Soil and Groundwater Investigation*	USGS Topographic Maps of the 2015 Hayward and San Leandro, CA Quadrangles ERA. 2017. *Soil and Groundwater Investigation Work Plan*. May.

Table 2: Initial Site Conceptual Model
DW Nicholson Property
24747 Clawiter Road
Hayward, California 94545

SCM Element	SCM Sub-Element	Description	Data Gap	Task Necessary to Address Data Gap	Tables/ Graphics	References
		Based on the distances of these surface water bodies, this exposure pathway is considered incomplete.			*Work Plan* (ERA, 2017).	
	Vapor (Inhalation exposure pathway)	Potential impact to indoor air was evaluated at the Site during ERA's Limited Phase II ESA in 2015. ERA's assessment included collecting and analyzing four soil gas samples (two from outside the building and two from inside the building). VOC concentrations were below their respective Tier 1 ESL except for PCE and 1,2-Dibromo-3-Chloropropane. PCE was reported in the sample from SB-3a at a concentration of 1,200 micrograms per cubic meter (µg/m^3) and 1,2-Dibromo-3-Chloropropane was reported in the sample from SB-2 at 0.24 µg/m^3. The concentrations of PCE and 1,2-Dibromo-3-Chloropropane were above their respective Tier 1 ESL of 240 µg/m^3 and 0.23 µg/m^3 but below the Subslab/Soil Gas Vapor Intrusion: Human Health Risk Levels (commercial/industrial land use) of 2,100 µg/m^3 and 2 µg/m^3, respectively (SFBRWQCB, 2016). ESLs have not been established for each detected VOC. Because detected VOCs concentrations in soil gas were lower that their respective Tier 1 ESL and/or Subslab/Soil Gas Vapor Intrusion: Human Health Risk Level (commercial/industrial land use) (SFBRWQCB, 2016), the presence of VOCs in soil gas beneath the concrete floor slab of the on-site building does not appear to present a human health risk to the on-site workers from vapor intrusion into the indoor air of the building.	The potential for vapor intrusion from residual subsurface sources, if any, has not been adequately assessed.	Collection and analysis of soil gas samples from the Site is proposed to further assess the potential for vapor intrusion. See Item 1 in Table 3.	Figures and tables from ERA *Limited Phase II Environmental Site Assessment Report* (ERA, 2015). Figure 3 and Table 5 (sample locations and analysis) from ERA *Soil and Groundwater Investigation Work Plan* (ERA, 2017).	ERA. 2015. *Limited Phase II Environmental Site Assessment Report, DW Nicholson Property, 24747 Clawiter Road, Hayward, California 94545.* November 20. ERA. 2017. *Soil and Groundwater Investigation Work Plan*. May. SFBRWQCB. 2016. Environmental Screening Levels. February 22.

Table 2: Initial Site Conceptual Model
DW Nicholson Property
24747 Clawiter Road
Hayward, California 94545

SCM Element	SCM Sub-Element	Description	Data Gap	Task Necessary to Address Data Gap	Tables/ Graphics	References
		Silty clay and clayey silt extend from beneath the asphalt pavement and concrete floor slab to the maximum depth explored of 20 feet bgs (ERA, 2015). Fine-grained sand was present in boring SB-2 at the approximately 14 to 14.5 feet bgs depth. This thick layer of silty clay and clayey silt provides significant impediment to vertical migration of vapors. Groundwater was encountered at depths of approximately 13 to 16 feet bgs beneath the Site during ERA's limited Phase II ESA in 2015 (ERA, 2015).				
	Direct Contact (Dermal exposure pathway)	Cis-1,2-DCE was the only VOC reported in soil; this compound was reported at a concentration of 0.088 mg/kg in the soil sample collected at the 2.5-foot depth from boring SB-3. This concentration is below the Tier 1 ESL of 0.19 mg/kg and Direct Exposure Human Health Risk Level (commercial/industrial land use) of 96 mg/kg. Based on available data, cis-1,2-DCE concentrations in site soil at similar concentrations would not be of concern. However, only one soil sample from each boring was analyzed during ERA's limited Phase II investigation which was conducted as a preliminary assessment.	Sufficient soil data from the 0 to 5-foot and 5- to 10-foot depth intervals bgs has not collected from the Site to adequately assess the direct contact exposure pathway.	Borings are planned to collect additional soil samples from the Site. See Items 2, 3, and 4 in Table 3.	Figures and tables from ERA *Limited Phase II Environmental Site Assessment Report* (ERA, 2015). Figure 3 and Table 5 (sample locations and analysis) from ERA *Soil and Groundwater Investigation Work Plan* (ERA, 2017).	ERA. 2015. *Limited Phase II Environmental Site Assessment Report, DW Nicholson Property, 24747 Clawiter Road, Hayward, California 94545.* November 20. ERA. 2017. *Soil and Groundwater Investigation Work Plan*. May. SFBRWQCB. 2016. Environmental Screening Levels. February 22.
Sensitive Receptors		The Site is in a predominantly industrial area of Hayward. A sensitive receptor survey was conducted by ERA using GIS data from the City of Hayward. One sensitive receptor, East Bay Upright MRI,	None	Not Applicable	GAMA map and spreadsheet Map of water well locations	SWRCB GeoTracker GAMA website http://geotracker.waterboards.ca.gov/gama/gamamap/public

Table 2: Initial Site Conceptual Model
DW Nicholson Property
24747 Clawiter Road
Hayward, California 94545

SCM Element	SCM Sub-Element	Description	Data Gap	Task Necessary to Address Data Gap	Tables/ Graphics	References
		was identified within a 1,000-foot radius of the Site. East Bay Upright MRI, a hospital, is located approximately 500 feet southeast of the Site at 25001 Industrial Boulevard. This hospital is located in a crossgradient to downgradient direction from the Site and is therefore unlikely to be impacted by a release emanating from the Site. No K-12 schools, day care centers, churches, senior housing units, or residential developments were identified within a 1,000-foot radius of the Site. Domestic water to the Site is provided by the City of Hayward from the Hetch Hetchy Regional Water System managed by the San Francisco Public Utilities Commission. Therefore, this exposure pathway is considered incomplete. No known active water-supply wells have been identified within 1,000 feet west (downgradient) of the Site. This data suggests that no known water-supply well is likely to be impacted by a groundwater plume originating from the Site.			from Norfleet Consultants. 1998. *Location of Water Wells in 1910.* Table 4 and Figure 4 (wells identified within 1,000-foot radius) from ERA *Soil and Groundwater Investigation Work Plan* (ERA, 2017). Table 4 and Figure 11 from Aquifer Sciences *Request for Case Closure Report* (Aquifer Sciences, 2016).	Norfleet Consultants. 1998. *Location of Water Wells in 1910, East Bay Plain Beneficial Use Study.* June 15. Aquifer Sciences, Inc. 2016. *Request for Case Closure, 3643 Depot Road, Hayward, California*. January 28. http://webmap.hayward-ca.gov/

Table 3: Data Gaps and Proposed Investigation
DW Nicholson Property
24747 Clawiter Road
Hayward, California 94545

Item	Data Gap	Proposed Investigation	Rationale	Analysis
1	Evaluate the potential for impacts to the subsurface from past site activities and migration of compounds of concern (COCs) from the subsurface into indoor air.	Advance four probes within the building footprint to depths of approximately 0.5 and 5 feet below the floor slab to collect soil gas samples and advance borings across the Site to collect soil and groundwater samples.	Volatile compounds have been used and stored on the Site, primarily in the Equipment Repair Shop. No releases have been reported on site (Basics Environmental, 2014). Sub-slab soil gas samples were collected in 2015 from four locations (two within and two outside the building footprint) to evaluate potential subsurface impacts by past site activities (ERA, 2015). The highest concentrations of volatile organic compounds (VOCs) reported in soil gas samples were reported in sample SB-3a. The concentrations of tetrachloroethene (PCE) in sample SB-3a (within the Equipment Repair Shop) and 1,2-Dibromo-3-Chloropropane in sample SB-2 (from the Fabrication Shop) were above their respective Tier 1 Environmental Screening Level (ESL) established by the California Environmental Protection Agency, San Francisco Bay Regional Water Quality Control Board (SFBRWQCB, 2016) but below their Subslab/Soil Gas Vapor Intrusion: Human Health Risk Level (commercial/industrial land use). Analysis of soil samples collected by ERA in 2015 (ERA, 2015) revealed cis-1,2-DCE as the only VOC reported at a concentration at or above the LRL. The concentration of cis-1,2-DCE was below the Tier 1 ESLs (SFBRWQCB, 2016). Extractable petroleum hydrocarbons were reported in soil sample SB-4-2 at concentrations below their Tier 1 ESL except TPHmo. The reported concentration of TPHmo was above its' Tier 1 ESL but below its' Direct Exposure Human Health Risk Level (commercial/industrial land use) (SFBRWQCB, 2016). Select VOCs were reported in the grab groundwater sample collected from boring SB-3 at concentrations above their respective Tier 1 ESL. The VOCs concentrations were below their Groundwater Vapor Intrusion Human Health Risk Levels (deep groundwater, fine to coarse scenario for commercial/ industrial land use) (SFBRWQCB, 2016). The concentration of Total Petroleum Hydrocarbons (TPH) quantified as gasoline (TPHg) in sample SB-3-W was	Eight soil gas samples at depths of approximately 0.5 and 5 feet below the floor slab from four sampling locations to be analyzed for VOCs by a mobile laboratory using U.S. EPA Method 8260. Eight soil samples will be analyzed for VOCs using U.S. EPA Method 8260B; TPHg using U.S. EPA Method SW8015 (purgeable petroleum hydrocarbons); and TPHd, TPHmo, and TPHbo using U.S. EPA Method SW8015B (extractable petroleum hydrocarbons).

Table 3: Data Gaps and Proposed Investigation
DW Nicholson Property
24747 Clawiter Road
Hayward, California 94545

Item	Data Gap	Proposed Investigation	Rationale	Analysis
			below its' Tier 1 ESL and the concentration of TPH quantified as motor oil (TPHmo) in sample SB-4-W was below its' Tier 1 ESL based on Gross Contamination. The concentration of TPH quantified as diesel (TPHd) in sample SB-4-W was above its' Tier 1 ESL. Additional soil gas sampling is proposed within the footprint of the on-site building to help evaluate areas of potential releases and to help evaluate the potential for vapor intrusion into the on-site building. Collecting additional soil and groundwater samples from borings across the Site are planned to help evaluate areas of potential on-site and off-site releases. The areas to be investigated are described below. Eight soil gas samples will be collected from four locations at depths of 0.5 and 5 feet below the concrete floor slab within the building as follows: **SG-1 and SG-2**: in the eastern portion of the Mechanical Warehouse near the offices **SG-3:** in the Equipment Repair Shop **SG-4:** in the Fabrication Shop Soil and groundwater samples are planned as follows: **SB-5 and SB-6:** in the southeastern portion of the Site **SB-7 and SB-8:** along the Site's northern border	
2	Evaluate soil and groundwater quality downgradient (southwest) of boring SB-4.	Advance one boring on site to a depth of approximately 20 feet below ground surface (bgs) to collect soil and grab groundwater samples.	Analysis of a soil sample collected at a depth of 1.5 to 2 feet bgs from boring SB-4 during the 2015 investigation (ERA, 2015) revealed the presence of extractable petroleum hydrocarbons (TPHd, TPHmo, TPH quantified as bunker oil [TPHbo], and TPH quantified as kerosene [TPHk]). The concentrations of petroleum hydrocarbons in sample SB-4-2 were below their Tier 1 ESLs except TPHmo (SFBRWQCB, 2016). The reported concentration of TPHmo was above its' Tier 1 ESL but was below its' Direct Exposure Human Health Risk Level for commercial/ industrial land use (SFBRWQCB, 2016).	Two soil samples and one grab groundwater sample to be analyzed for VOCs by U.S. EPA Method 8260B, and TPHg, TPHd, TPHmo, and TPHbo using U.S. EPA Method SW8015B.

Table 3: Data Gaps and Proposed Investigation
DW Nicholson Property
24747 Clawiter Road
Hayward, California 94545

Item	Data Gap	Proposed Investigation	Rationale	Analysis
			TPHg was reported at a concentration below its' Tier 1 ESL in sample SB-3-W. The concentration of TPHd in sample SB-4-W was above its' Tier 1 ESL. The VOCs cis-1,2-DCE and TCE were reported in one boring (designated B-24/HP-7) advanced on the Site just west of the building (near ERA's boring SB-4) during a previous investigation at concentrations above their respective Tier 1 ESL but below their Groundwater Vapor Intrusion Human Health Risk Levels (deep groundwater, fine to coarse scenario for commercial/ industrial land use) (SFBRWQCB, 2016). To evaluate soil quality and the extent of VOCs and petroleum hydrocarbons in groundwater downgradient (southwest) of boring SB-4, soil and grab groundwater samples will be collected from boring SB-5 to be advanced to a maximum depth of 20 feet bgs in the area downgradient (southwest) of boring SB-4. Boring SB-5 will also provide data on potential impacts from the reported releases on the west adjoining property (former I-Chem facility).	
3	Evaluate soil and groundwater quality in the area downgradient of the Fabrication Shop.	Advance one boring near the Site's southwestern corner to a depth of approximately 20 feet bgs to collect soil and grab groundwater samples.	To evaluate soil and groundwater quality downgradient of the Fabrication Shop, soil and grab groundwater samples will be collected from boring SB-6 to be advanced to a maximum depth of 20 feet bgs near the Site's southwestern corner. Boring SB-6 will also provide data on potential impacts from the reported releases on the west adjoining property (former I-Chem facility).	Two soil samples and one grab groundwater sample to be analyzed for VOCs by U.S. EPA Method 8260B, and TPHg, TPHd, TPHmo, and TPHbo using U.S. EPA Method SW8015B.
4	Evaluate potential impacts from off-site releases.	Advance two borings along the Site's northern border in areas upgradient of the Mechanical Warehouse and the Equipment Repair and Fabrication Shops to a depth of approximately 20 feet bgs to collect soil and grab groundwater samples.	To evaluate soil and groundwater quality upgradient of the Mechanical Warehouse and the Equipment Repair and Fabrication Shops, soil and grab groundwater samples will be collected from borings SB-7 and SB-8 to be advanced to a maximum depth of 20 feet bgs along the Site's northern border.	Four soil and two grab groundwater samples to be analyzed for VOCs by U.S. EPA Method 8260B, and TPHg, TPHd, TPHmo, and TPHbo using U.S. EPA Method SW8015B.

Table 4: Identified Wells Within 1,000 feet of Site
DW Nicholson Property
24747 Clawiter Road
Hayward, California 94545

Identification Number on Figure 4	Owner Identification Number	Well Location	Reported Owner	Well Type	Distance from Site (feet)	Direction from Site
1	Not Available	24701 Clawiter Road	National Auto Fibers	Not Available (ERA assumes water supply as reportedly drilled to a depth of 557 feet in 1941)	Adjoining	North (upgradient to crossgradient)
2	Not Available	Near Clawiter Road and Depot Road	Fred Plowright	Water Supply	360	South (crossgradient)
3	Not Available	24216 Clawiter Road	George Eden	Irrigation Supply (drilled to a depth of 406 feet in 1929)	690	North (crossgradient)
4	0103039-001	Industrial Blvd.	Mohrland Mutual Water System	Water Supply	700	East (upgradient)
5	0103039-002	Industrial Blvd.	Mohrland Mutual Water System	Water Supply	700	East (upgradient)
6	0103039-003	Industrial Blvd.	Mohrland Mutual Water System	Water Supply	700	East (upgradient)
7	0103039-004	Industrial Blvd.	Mohrland Mutual Water System	Water Supply	700	East (upgradient)
8	0110006-006	Industrial Blvd.	City of Hayward	Water Supply	700	East (upgradient)
9	Not Available	25140 Clawiter Road	Golden State Dairies	Industrial Supply (drilled to a depth of 180 feet in 1956)	800	South (crossgradient)

Note: Information on identified wells obtained from the following: 1) California State Water Resources Control Board GeoTracker GAMA website http://geotracker.waterboards.ca.gov/gama/gamamap/public; 2) Golder. 2017. *Groundwater Monitoring Summary Report, Former White Cap Facility, 24493 Clawiter Road, Hayward, California*. February.; and 3) Aquifer Sciences, Inc. 2016. *Request for Case Closure, 3643 Depot Road, Hayward, California*. January 28.

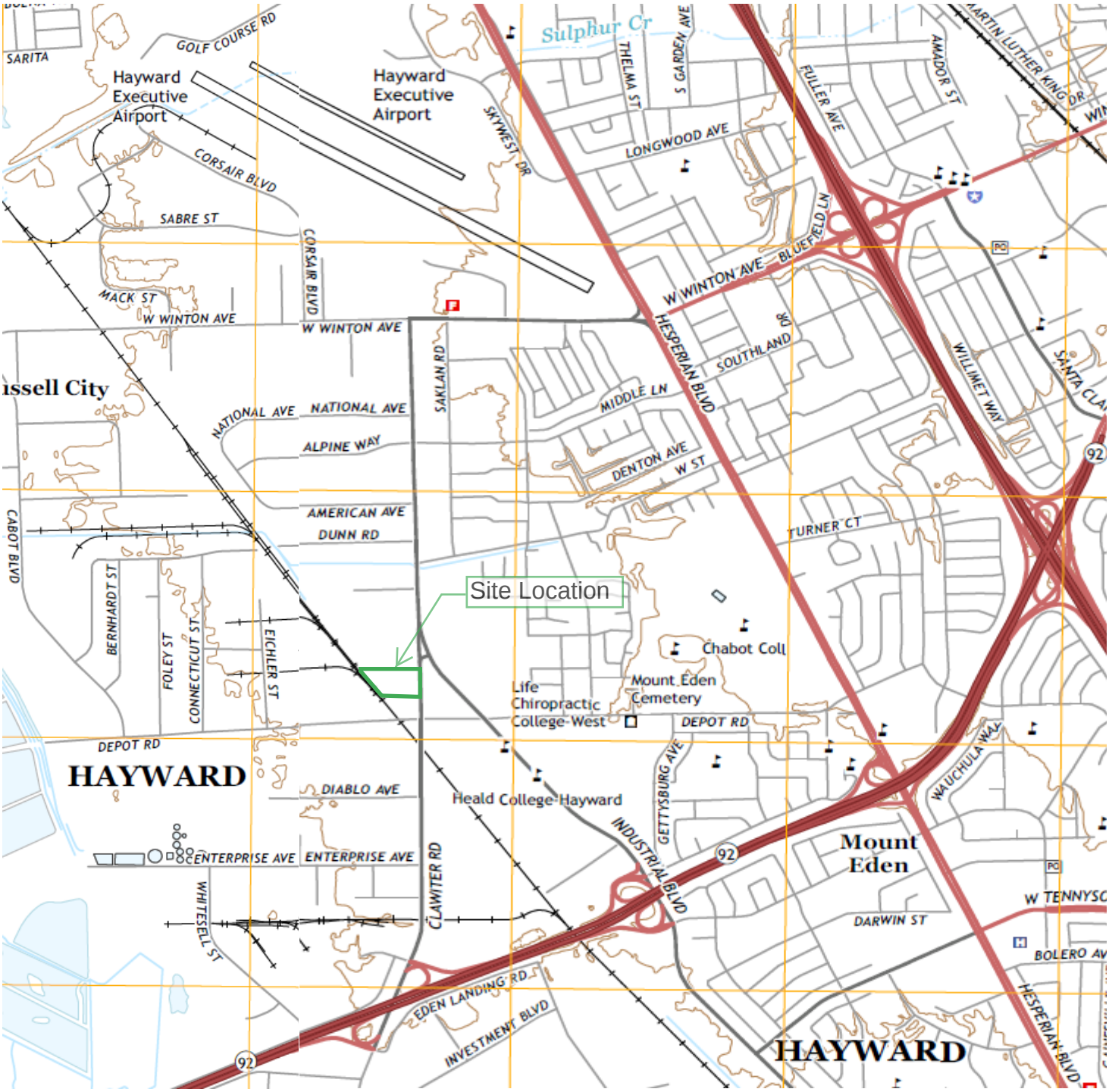
Table 5. Sampling and Analysis Summary
DW Nicholson Property
24747 Clawiter Road
Hayward, California 94545

Boring ID Number	Total Depth (feet bgs)	Location	Number of Soil Gas Samples/ Depth Interval [1]	Number of Soil Samples/ Depth Interval[2]	Number of Ground-water Samples[3]	Analysis
SG-1	5.5	Eastern portion of the Mechanical Warehouse near the offices	2 0.5, 5.5	-	-	VOCs
SG-2	5.5	Eastern portion of the Mechanical Warehouse near the offices	2 0.5, 5.5	-	-	VOCs
SG-3	5.5	Equipment Repair Shop	2 0.5, 5.5	-	-	VOCs
SG-4	5.5	Fabrication Shop	2 0.5, 5.5	-	-	VOCs
SB-5	20	Southwest (downgradient) of boring SB-4 advanced in 2015	-	2 0-5, 5-10	1	VOCs, TPHg, TPHd, TPHmo, TPHbo
SB-6	20	Near Site's southwestern corner	-	2 0-5, 5-10	1	VOCs, TPHg, TPHd, TPHmo, TPHbo
SB-7	20	Site's northern border	-	2 0-5, 5-10	1	VOCs, TPHg, TPHd, TPHmo, TPHbo
SB-8	8	Site's northern border	-	2 0-5, 5-8	1	VOCs, TPHg, TPHd, TPHmo, TPHbo
		Total Number of Samples:	**8**	**8**	**4**	

Notes:

1. Soil gas samples to be analyzed for volatile organic compounds (VOCs) by a mobile laboratory using U.S. Environmental Protection Agency (U.S. EPA) Method 8260B.
2. Soil samples will be collected from each boring from those intervals with elevated photoionization detector (PID) readings and/or evidence of chemical staining, if noted, and at depths of approximately 2 feet, 5 feet, 8 or 10 feet, and 15 feet below ground surface. At least one soil sample collected within the 0 to 5-foot depth interval and at least one soil sample collected within the 5-foot to 10-foot depth interval from each boring and samples with elevated PID readings and/or evidence of chemical staining will be submitted for the following analysis: VOCs by U.S. EPA Method 8260B, Total Petroleum Hydrocarbons (TPH) quantified as gasoline (TPHg) by U.S. EPA Method 8015B (purgeable) and TPH quantified as diesel (TPHd), TPH quantified as motor oil (TPHmo), and TPH quantified as bunker oil (TPHbo) by U.S. EPA Method 8015B (extractable).
3. Groundwater samples to be analyzed for VOCs by U.S. EPA Method 8260B, TPHg by U.S. EPA Method 8015B (purgeable) and TPHd, TPHmo, and TPHbo by U.S. EPA Method 8015B (extractable).

FIGURES



USGS Hayward and San Leandro, California Quadrangle Topographic Maps, 2015

Legend

Site (boundaries approximate)

0 1,000

Scale (feet, approximate)

North

Site Location Map	PN: 01-2015-1200-001 Date: May 15, 2017
SOIL AND GROUNDWATER INVESTIGATION WORK PLAN	EP: Lita Freeman
24747 Clawiter Road, Hayward, California	**Figure 1**

24701 Clawiter Road

Union Pacific Railroad Tracks

Inferred Groundwater Flow Direction
Source: Golder, 2017

Parking Lot

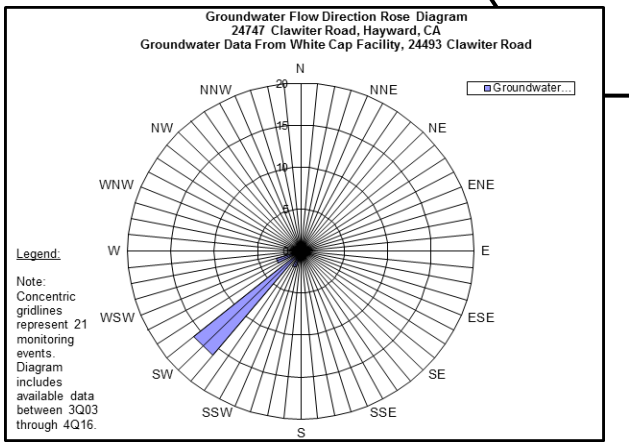
Equipment Repair Shop

Fabrication Shop

Mechanical Warehouse

Offices

CLAWITER ROAD



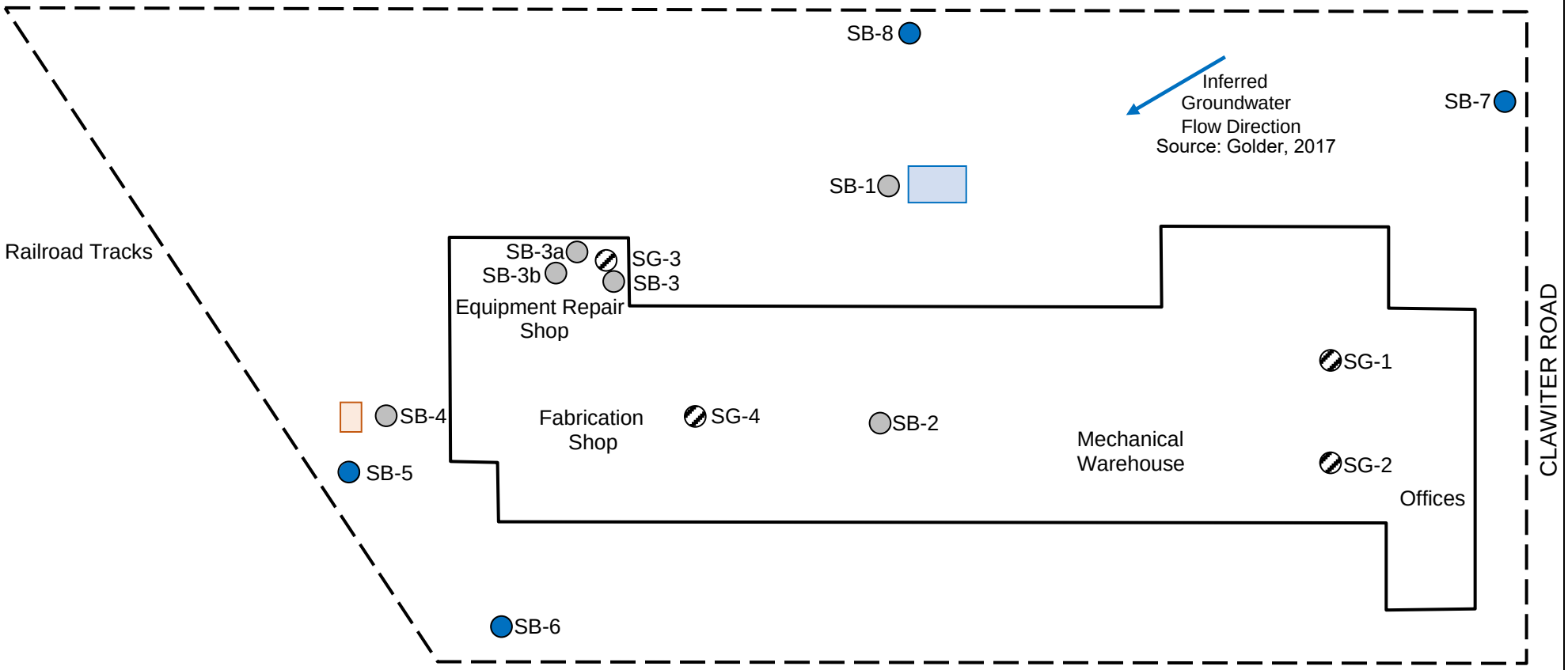
24785 Clawiter Road

Approximate Property Boundary
Building Footprint
Fuel UST
Paint Storage Shed

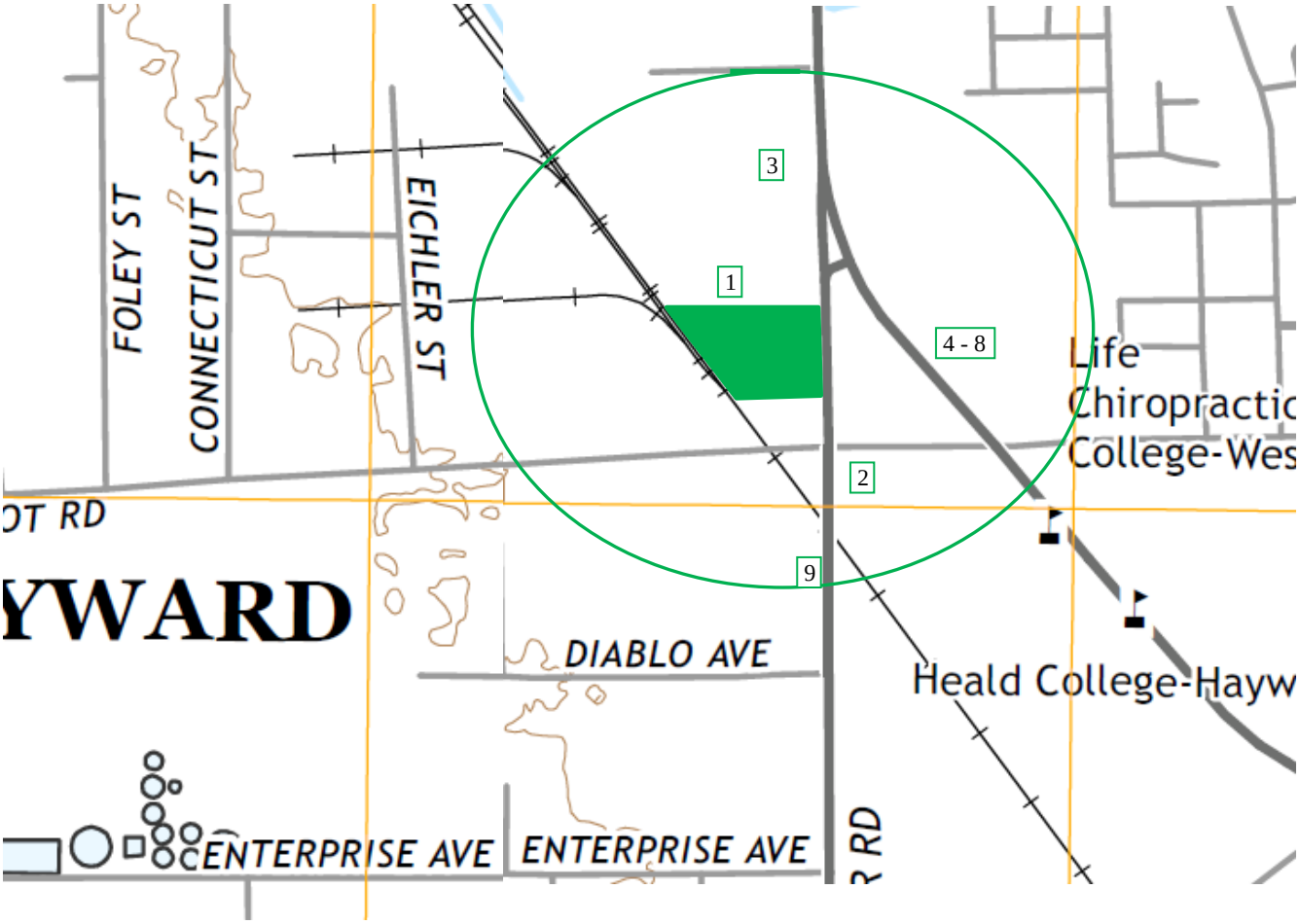
North

0 100
Scale (feet, approximate)

Site Plan with Rose Diagram	PN: 01-2015-1200-001
	Date: May 15, 2017
SOIL AND GROUNDWATER INVESTIGATION WORK PLAN	EP: Lita Freeman
24747 Clawiter Road, Hayward, California	**Figure 2**



Site Plan with Proposed Sampling Locations	PN: 01-2015-1200-001
	Date: May 15, 2017
SOIL AND GROUNDWATER INVESTIGATION WORK PLAN	EP: Lita Freeman
24747 Clawiter Road, Hayward, California	**Figure 3**



Source: USGS Hayward and San Leandro, CA Quadrangle Topographic Maps, 2015

Approximate Property Boundary

1,000-foot Radius

Well Locations (see Table 4)

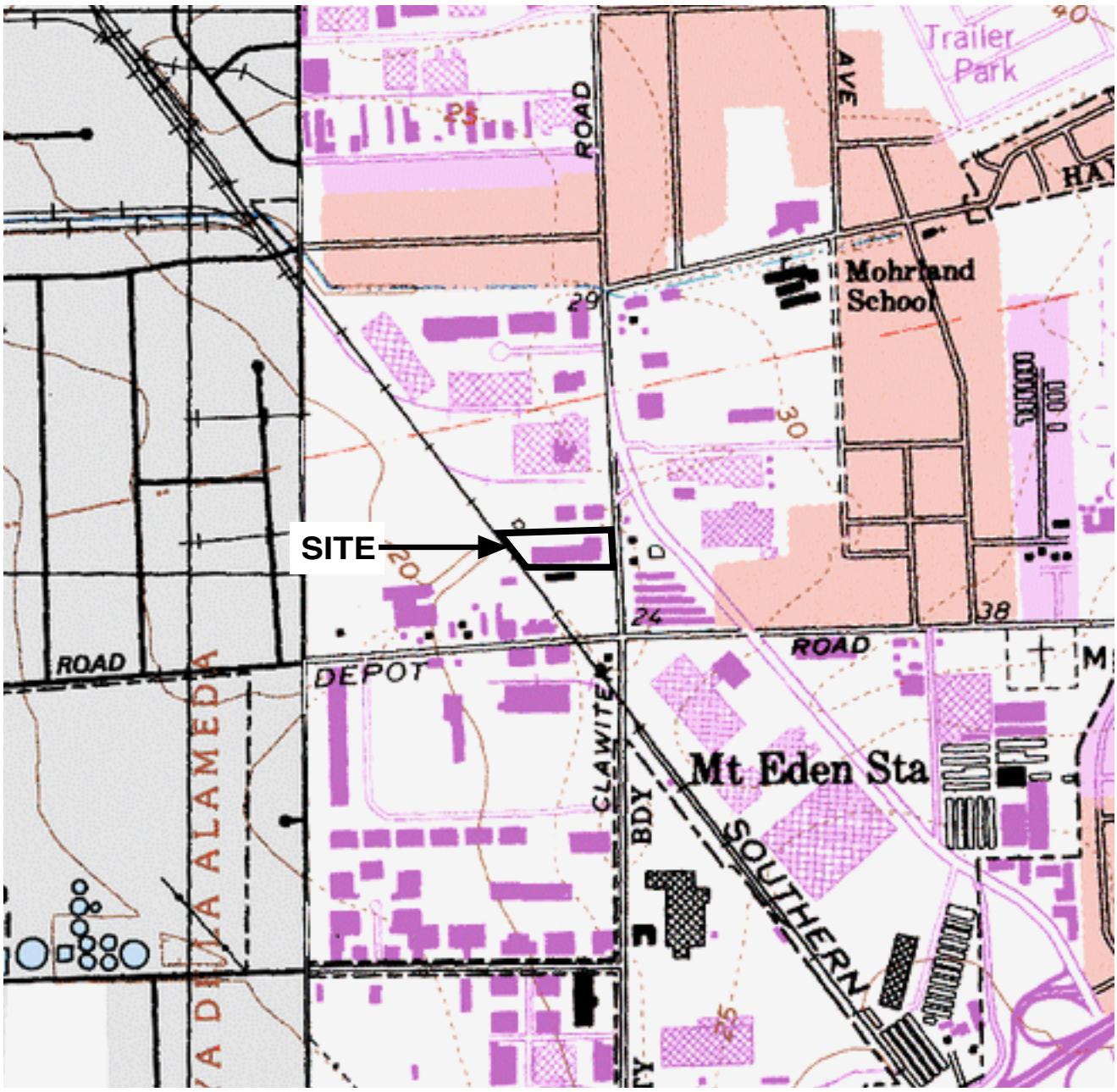
1. 24701 Clawiter Road
2. Near Clawiter Road and Depot Road
3. 24216 Clawiter Road
4. Industrial Blvd.
5. Industrial Blvd.
6. Industrial Blvd.
7. Industrial Blvd.
8. Industrial Blvd.
9. 25140 Clawiter Road

0 500 1,000

Scale (feet, approximate)

ERA soil-water-vapor	**Identified Wells Within 1,000 Feet of Site**	PN: 01-2015-1200-001
		Date: May 15, 2017
	SOIL AND GROUNDWATER INVESTIGATION WORK PLAN	EP: Lita Freeman
	24747 Clawiter Road, Hayward, California 94545	**Figure 4**

APPENDIX A
Background Documentation



0 1800

APPROXIMATE SCALE IN FEET

Topographic Map Source:U.S. Geological Survey, 1993 San Leandro & 1980 Hayward Quadrangles, California

N

Site Location

basics ENVIRONMENTAL

Phase I Environmental Site Assessment
24747 Clawiter Road
Hayward, California

PROJECT NO.
14-ENV3905

DRAWING NO.
1

0 200 400

APPROXIMATE SCALE IN FEET AS DETERMINED FROM GOOGLE MAPS

N

SITE ☐ Aerial Photo Source:U.S. Geological Survey & Google Maps

Aerial Photograph (2012)

basics ENVIRONMENTAL

Phase I Environmental Site Assessment
24747 Clawiter Road
Hayward, California

PROJECT NO.
14-ENV3905

DRAWING NO.
2

Site Plan

basics ENVIRONMENTAL

Phase I Environmental Site Assessment
24747 Clawiter Road
Hayward, California

PROJECT NO.
14-ENV3905

DRAWING NO.
3

Photo 1: Subject Site (Facing Southwest)
Partial Two-Story Commercial Office/Warehouse Building

Photo 2: Subject Site (Facing Northeast)
Partial Two-Story Commercial Office/Warehouse Building

Site Photographs

Photo 3: Subject Site (Facing South)
Partial Two-Story Commercial Office/Warehouse Building

Photo 4: Subject Site (Facing Southeast)
Partial Two-Story Commercial Office/Warehouse Building

Site Photographs

Photo 5: Subject Site (Facing East)
Example Office

Photo 6: Subject Site (Facing Northwest)
Second Story Office Area Hallway

Site Photographs

Photo 7: Subject Site (Facing Northeast)
Tool Crib Area

Photo 8: Subject Site (Facing Southeast)
Tool Crib Area

Site Photographs

Photo 9: Subject Site (Facing Northeast)
Electrical Warehouse

Photo 10: Subject Site (Facing Southeast)
Mechanical Warehouse

Site Photographs

Photo 11: Subject Site (Facing North)
Mechanical Warehouse - Compressed Gas Storage

Photo 12: Subject Site (Facing Southeast)
Fabrication Shop

Site Photographs

Photo 13: Subject Site (Facing South)
Fabrication Shop - Spray Booth

Photo 14: Subject Site (Facing Southwest)
Equipment Repair Area

Site Photographs

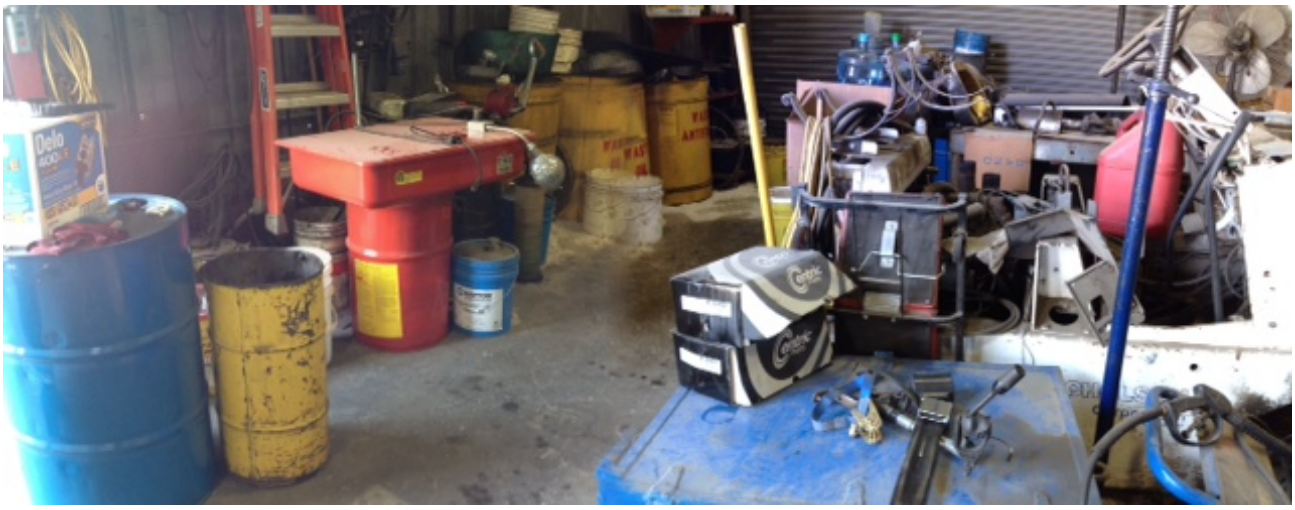


Photo 15: Subject Site (Facing East)
Equipment Repair Area - Hazardous Materials Storage

Photo 16: Subject Site (Facing South)
Equipment Repair Area - Hazardous Materials Storage

Site Photographs

Photo 17: Subject Site (Facing Southeast)
Empty 55-Gallon Drums

Photo 18: Subject Site (Facing West)
Equipment Repair Area - Sandblast Booth

Site Photographs

Photo 19: Subject Site (Facing Southeast)
Associated Paved Area

Photo 20: Subject Site (Facing Northwest)
Associated Paved Parking Area

Site Photographs

Photo 21: Subject Site (Facing North)
Equipment Storage Area

Photo 22: Subject Site (Facing Southwest)
Fuel Dispensers and Underground Storage Tanks

Site Photographs

Photo 23: Subject Site (Facing Southeast)
Propane Above Ground Storage Tank

Photo 24: Subject Site (Facing North)
Paint Storage

Site Photographs

APPENDIX B
Environmental Risk Assessor's
Limited Phase II ESA Report

TABLES

Table 2
Soil Gas Samples Analytical Summary
DW Nicholson Property
24747 Clawiter Road
Hayward California 94545

Analyte (units: µg/m3 = micrograms per cubic meter)	Commercial/ Industrial ESL	Sample ID			
		SB-1	SB-2	SB-3a	SB-4
Acetone	140,000,000	<60	<60	<60	130
Benzene	420	37	8.2	32	12
Bromodichloromethane	330	<3.5	<3.5	4	7.3
Bromomethane	22,000	3.4	3.7	2.7	<2
1,3-Butadiene	NE	<1.1	<1.1	2.5	<1.1
MEK	NE	79	<75	<75	<75
Carbon Disulfide	NE	39	2	<1.6	<1.6
Chloroethane	130,000,000	2.3	<1.3	<1.3	<1.3
Chloroform	2,300	34	12	46	56
Chloromethane	390,000	1.8	<1	<1	<1
Cyclohexane	NE	43	<18	26	<18
1,2-Dibromo-3-Chloropropane	6.1	<0.12	0.24	<0.12	<0.12
Dichlorodifluoromethane	NE	<2.5	3.3	4.9	<2.5
1,1-Dichloroethene (1,1-DCE)	880,000	2.9	4.4	4.7	<2
cis-1,2-Dichloroethene (cis-1,2-DCE)	31,000	330	<2	1,800	<2
trans-1,2-Dichloroethene (trans-1,2-DCE)	260,000	6.1	<2	26	<2
Ethylbenzene	4,900	18	6.1	45	31
4-Ethyltoluene	NE	7.3	3.8	17	20
Freon 113	NE	<3.9	98	<3.9	<3.9
Heptane	NE	67	<21	52	<21
Hexane	NE	54	<18	23	<18
2-Hexanone	NE	7	<2.1	<2.1	<2.1
MIBK	NE	26	19	9	9.5
Methylene Chloride	26,000	<8.8	11	<8.8	18
Styrene	3,900,000	<2.2	<2.2	3	<2.2
Tetrachloroethene (PCE)	2,100	<3.4	6	1,200	<3.4
Tetrahydrofuran	NE	<3	<3	<3	5.7
Toluene	1,300,000	110	31	210	97
Trichloroethene (TCE)	3,000	37	55	160	<2.8
1,2,4-Trimethylbenzene	NE	9.5	6	43	51
1,3,5-Trimethylbenzene	NE	4.2	<2.5	15	22
1,1,1-Trichloroethene (1,1,1-TCA)	22,000,000	<2.8	350	14	11
Trichlorofluoromethane	NE	<2.8	340	<2.8	7.1
Vinyl Chloride	160	3.4	<1.3	5.4	<1.3
Xylenes	440,000	88	28	220	160

Volatile Organic Compound (VOCs): soil gas samples were analyzed using U.S. EPA Method TO-15
NE = Not Established

ESL = Environmental Screening Levels for soil gas and commercial/industrial land use as established by the California Environmental Protection Agency, San Francisco Bay Regional Water Quality Control Board (SFBRWQCB, Soil Gas Screening Levels for Evaluation of Potential Vapor Intrusion (volatile chemicals only), Table E-2, December 2013).

Bold = Compound detected

Sample ID	Canister Serial Number	Vacuum Gauge Serial Number	Start Time (hours)	End Time (hours)	Beginning Vacuum Reading (in. Hg)	Final Vacuum Reading (in. Hg)
SB-1	7509-857	316-680	1015	1025	-30	-4.5
SB-2	6170-756	316-1324	955	1002	-29	-4.5
SB-3a	6407-794	316-828	1047	1053	-30	-4.5
SB-4	7520-868	316-1330	928	935	-28	-4.5

Table 3
Soil and Groundwater Samples Organics Analytical Summary
DW Nicholson Property
24747 Clawiter Road
Hayward, California 94545

On-Site Location/ Comments	Sample ID	Sample Depth (feet bgs)[1]	Matrix	Petroleum Hydrocarbons (Soil: mg/kg, GW:µg/L)						VOCs[2] (soil: mg/kg, GW: µg/L)					
Analytes				TPHg[3]	TPHd[3]	TPHmo[3]	TPHbo[3]	TPHk[3]	TPHss[3]	Acetone	cis-1,2-DCE	trans-1,2-DCE	TCE	Vinyl Chloride	TCFM
ESL for Shallow Soil				500	110	500	NE	110	500	0.5	0.19	0.67	0.46	0.085	NE
Underground Storage Tanks	SB-1-10	9.5 - 10	Soil	<0.25	<1	<5	<5	<1	<1	<0.10	<0.005	<0.005	<0.005	<0.005	<0.005
Shop Interior	SB-2-2	1.5 - 2.0	Soil	<0.25	<1	<5	<5	<1	<1	<0.10	<0.005	<0.005	<0.005	<0.005	<0.005
Equipment Repair Shop	SB-3-2.5	2.0 - 2.5	Soil	<0.25	<1	<5	<5	<1	<1	<0.10	**0.088**	<0.005	<0.005	<0.005	<0.005
Equipment Repair Shop	SB-3b-5	4.5 - 5.0	Soil	NA	<1	<5	NA	NA	NA	NA	<0.005	<0.005	<0.005	<0.005	<0.005
Paint Storage	SB-4-2.0	1.5 - 2.0	Soil	<0.25	**54**	**230**	**150**	**44**	<1	<0.10	<0.005	<0.005	<0.005	<0.005	<0.005
ESL for Groundwater				100	100	NE	100	100	1,500	6	10	5	0.5	NE	
Underground Storage Tanks	SB-1-W	NA	Ground-water	<50	<50	<250	<100	<50	<50	<10	**4.1**	<0.5	**4**	<0.5	**0.63**
Shop Interior	SB-2-W	NA	Ground-water	<50	<50	<250	<100	<50	<50	<10	<0.5	<0.5	<0.5	<0.5	**1.1**
Equipment Repair Shop	SB-3-W	NA	Ground-water	**92**	<50	<250	<100	<50	<50	<25	**65**	**1.7**	**24**	**1.6**	<1.2
Paint Storage	SB-4-W	NA	Ground-water	<50	**260**	**2,600**	**2,800**	<250	<50	29	**1**	<0.5	<0.5	<0.5	**0.68**

Notes:

1. bgs = below ground surface

2. Volatile Organic Compound (VOCs) were analyzed using U.S. EPA Method 8260B.

3. TPHg, TPHd, TPHmo, TPHbo, TPHk, TPHss = Total petroleum hydrocarbons (TPH) quantified as gasoline analyzed by U.S. EPA Method 8260; TPH quantified as diesel, TPH quantified as motor oil, TPH quantified as bunker oil, TPH quantified as kerosene, and TPH quantified as Stoddard Solvent were analyzed using U.S. EPA Method 8015B/C.

4. California Assessment Manual 17 (CAM 17) metals were analyzed using U.S. EPA Method 6010B.

ESL for Shallow Soil = Environmental Screening Levels for shallow soil as established by the California Environmental Protection Agency, San Francisco Bay Regional Water Quality Control Board (SFBRWQCB, Shallow Soil Screening Levels (<3 m bgs) Commercial/Industrial Land Use (groundwater is a current or potential drinking water resource), Table A-2, December 2013).

ESL for Groundwater = Environmental Screening Levels for groundwater as established by the California Environmental Protection Agency, San Francisco Bay Regional Water Quality Control Board (SFBRWQCB, Groundwater Screening Levels (groundwater is a current or potential drinking water resource), Table F-1a, December 2013).

Units: mg/kg = milligrams per kilogram, µg/kg = micrograms per kilogram, mg/L = milligrams per liter, µg/L = micrograms per liter

ND = Not detected
<10 = Not detected at stated concentration
Bold = Compound detected
Bold = Compound detected above ESL

Table 4
Soil Samples Inorganics Analytical Summary
DW Nicholson Property
24747 Clawiter Road
Hayward, California 94545

On-Site Location/ Comments	Sample ID	Sample Depth (feet bgs)[1]	Matrix	Metals (soil: mg/kg, GW: µg/L)																
Analytes				Antimony	Arsenic	Barium	Beryllium	Cadmium	Chromium	Cobalt	Copper	Lead	Mercury	Molybdenum	Nickel	Selenium	Silver	Thallium	Vanadium	Zinc
ESL for Shallow Soil				40	1.6	1,500	8	12	2,500	80	230	320	10	40	150	10	40	10	200	600
Underground Storage Tanks	SB-1-10	9.5 - 10	Soil	<0.5	**4.4**	**120**	<0.5	<0.25	**34**	**6.3**	**14**	**4.4**	<0.05	<0.5	**38**	<0.5	<0.5	<0.5	**30**	**36**
Shop Interior	SB-2-2	1.5 - 2.0	Soil	<0.5	**8**	**190**	**0.68**	**0.27**	**59**	**17**	**29**	**9.6**	**<0.05**	**0.77**	**86**	<0.5	<0.5	<0.5	**52**	**64**
Equipment Repair Shop	SB-3-2.5	2.0 - 2.5	Soil	**0.58**	**9.5**	**190**	**0.64**	<0.25	**58**	**10**	**34**	**12**	<0.05	<0.5	**61**	<0.5	<0.5	<0.5	**52**	**64**
Paint Storage	SB-4-2.0	1.5 - 2.0	Soil	<0.5	**4.9**	**200**	**0.66**	**0.3**	**57**	**11**	**33**	**21**	**<0.05**	**<0.5**	**62**	<0.5	<0.5	<0.5	**46**	**80**

Notes:

1. bgs = below ground surface

ESL for Shallow Soil = Environmental Screening Levels for shallow soil as established by the California Environmental Protection Agency, San Francisco Bay Regional Water Quality Control Board (SFBRWQCB, Shallow Soil Screening Levels (<3 m bgs) Commercial/Industrial Land Use (groundwater is a current or potential drinking water resource), Table A-2, December 2013).

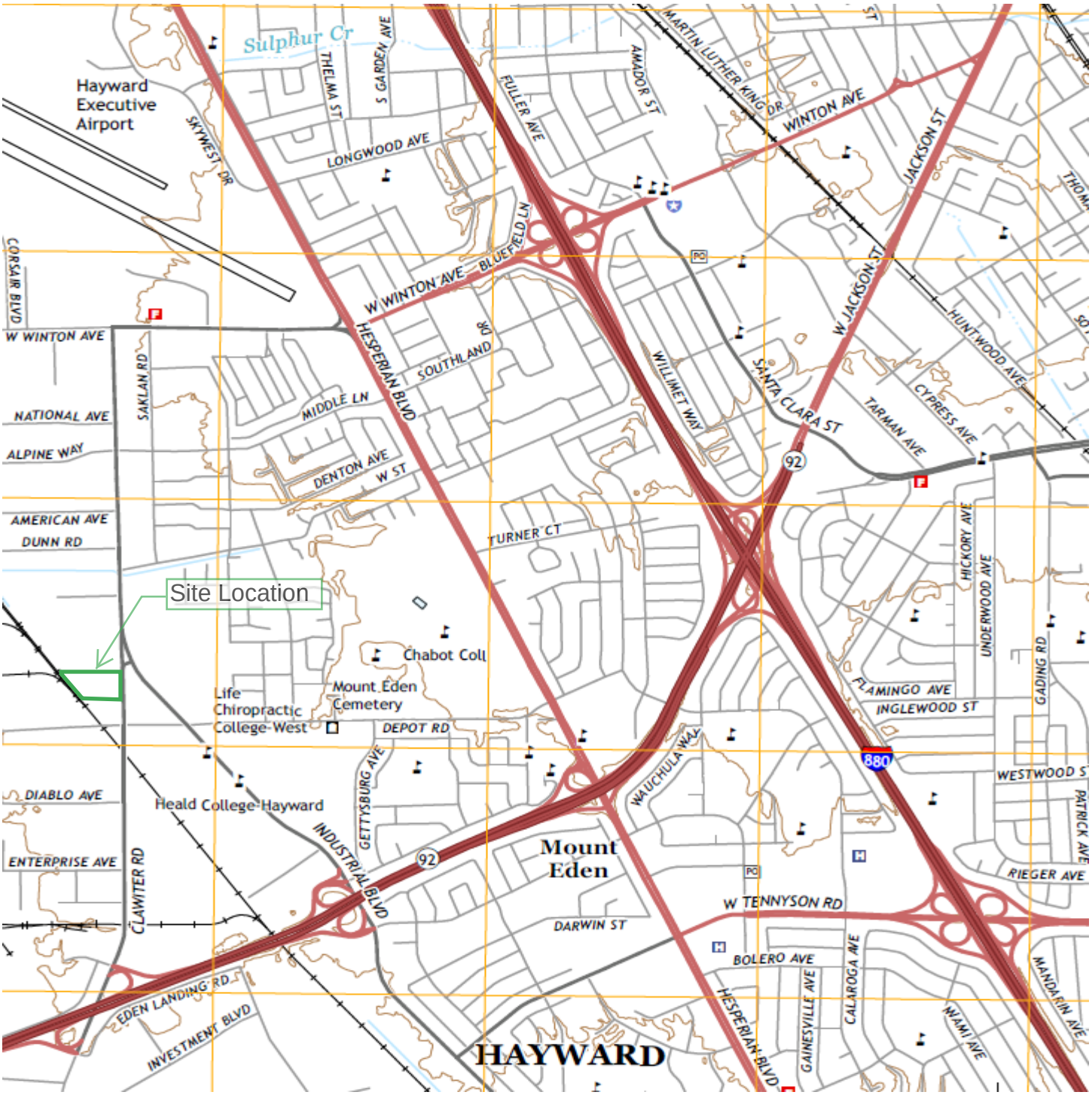
Units: mg/kg = milligrams per kilogram

ND = Not detected
<10 = Not detected at stated concentration

Bold = Compound detected

Bold = Compound detected above ESL

FIGURES



USGS Hayward, California Quadrangle Topographic Map, 2015

Legend

Site (boundaries approximate)

North

ERA soil-water-vapor	**Site Location Map**	PN: 01-2015-500-005
		Date: November 20, 2015
	LIMITED PHASE II ENVIRONMENTAL SITE ASSESSMENT	EP: Lita Freeman
	24747 Clawiter Road, Hayward, California	**Figure 1**

Approximate Property Boundary
Sampling Location
Fuel UST
Paint Storage Shed

North

0 200

Scale (feet, approximate)

ERA soil-water-vapor	**Site Plan**	PN: 01-2015-500-005
		Date: November 8, 2015
	LIMITED PHASE II ENVIRONMENTAL SITE ASSESSMENT	EP: Lita Freeman
	24747 Clawiter Road, Hayward, California	**Figure 2**

APPENDIX C
Initial Site Conceptual Model
Supporting Documentations

Boring Logs from Environmental Risk Assessors, Limited Phase II Environmental Site Assessment, 2015.

PROJECT: 24747 Clawiter Road, Hayward, California

Log of Boring SB-1

Boring location: See Figure 2

Logged by: Lita Freeman

Date started: 10/29/15 Date finished: 10/29/15

Drilling method: Direct Push

Hammer weight/drop: NA Hammer type: NA

Sampler: Fernando-Cascade/Lita Freeman-ERA

LABORATORY TEST DATA

DEPTH (feet)	SAMPLES: PID (ppmv)	SAMPLES: Sample	SAMPLES: Blows/ 6"	SAMPLES: SPT N-Value[1]	LITHOLOGY	MATERIAL DESCRIPTION	Type of Strength Test	Confining Pressure Lbs/Sq Ft	Shear Strength Lbs/Sq Ft	Fines %	Natural Moisture Content, %	Dry Density Lbs/Cu Ft
						Ground Surface Elevation: --__ feet[2]						
1						Asphalt and Baserock - surface to 1 foot Sandy						
2	180					Silty Clay (CH), Black (N 2.5), high plasticity, stiff, dry						
5	60.2					Clayey Silt (ML), Brown (7.5 YR 4/6), low plasticity, stiff, dry						
10	375											
15	276					- groundwater at 16 feet						
20	270					Bottom of Boring = 20 feet						

Boring terminated at a depth of 20 feet below ground surface.

Boring backfilled with cement grout.

Groundwater encountered at a depth of 16 feet during drilling.

Environmental Risk Assessors

Project No.: 01-2015-500-005

Figure: C-1

PROJECT: 24747 Clawiter Road, Hayward, California

Log of Boring SB-2

Boring location: See Figure 2

Logged by: Lita Freeman

Date started: 10/29/15 Date finished: 10/29/15

Drilling method: Direct Push

Hammer weight/drop: NA Hammer type: NA

Sampler: Fernando-Cascade/Lita Freeman-ERA

LABORATORY TEST DATA

DEPTH (feet)	SAMPLES: PID (ppmv)	SAMPLES: Sample	SAMPLES: Blows/ 6"	SAMPLES: SPT N-Value[1]	LITHOLOGY	MATERIAL DESCRIPTION	Type of Strength Test	Confining Pressure Lbs/Sq Ft	Shear Strength Lbs/Sq Ft	Fines %	Natural Moisture Content, %	Dry Density Lbs/Cu Ft
						Ground Surface Elevation: -- feet[2]						
1						Concrete - surface to 1.5 foot						
2	325					Silty Clay (CH), Black (N 2.5), high plasticity, stiff, dry						
3												
4												
5	274											
6												
7						Clayey Silt (ML), Brown (7.5 YR 4/6), low plasticity, stiff, dry						
8												
9												
10	194											
11												
12						- moist at 12 feet						
13						- groundwater at 13 to 14 feet						
14						- some fine-grained sand between 14 and 14.5 feet						
15	208											
16												
17												
18												
19												
20						Bottom of Boring = 20 feet						
21												
22												
23												
24												
25												
26												
27												
28												
29												
30												

Boring terminated at a depth of 20 feet below ground surface.

Boring backfilled with cement grout.

Groundwater encountered at a depth of 13 feet during drilling.

Environmental Risk Assessors

Project No.: 01-2015-500-005

Figure: C-2

PROJECT: 24747 Clawiter Road, Hayward, California

Log of Boring SB-3

Boring location: See Figure 2

Logged by: Lita Freeman

Date started: 10/29/15 Date finished: 10/29/15

Drilling method: Direct Push

Hammer weight/drop: NA Hammer type: NA

Sampler: Fernando-Cascade/Lita Freeman-ERA

DEPTH (feet)	SAMPLES: PID (ppmv)	SAMPLES: Sample	SAMPLES: Blows/ 6"	SAMPLES: SPT N-Value[1]	LITHOLOGY	MATERIAL DESCRIPTION	LABORATORY TEST DATA: Type of Strength Test	Confining Pressure Lbs/Sq Ft	Shear Strength Lbs/Sq Ft	Fines %	Natural Moisture Content, %	Dry Density Lbs/Cu Ft
						Ground Surface Elevation: --__ feet[2]						
1						Concrete - surface to 0.5 foot Baserock - 0.5 to 1.5 feet						
2	332					Silty Clay (CH), Black (N 2.5), high plasticity, stiff, dry						
3												
4												
5	382											
6												
7												
8												
9						Clayey Silt (ML), Brown (7.5 YR 4/6), low plasticity, stiff, dry						
10	434											
11												
12						- moist at 12.5 feet						
13						- groundwater at 13 feet						
14												
15	430											
16						Bottom of Boring = 16 feet						
17												
18												
19												
20												
21												
22												
23												
24												
25												
26												
27												
28												
29												
30												

Boring terminated at a depth of 16 feet below ground surface.

Boring backfilled with cement grout.

Groundwater encountered at a depth of 13 feet during drilling.

Environmental Risk Assessors

Project No.: 01-2015-500-005

Figure: C-3

PROJECT: 24747 Clawiter Road, Hayward, California

Log of Boring SB-3b

Boring location: See Figure 2

Logged by: Lita Freeman

Date started: 10/29/15 Date finished: 10/29/15

Drilling method: Direct Push

Hammer weight/drop: NA Hammer type: NA

Sampler: Fernando-Cascade/Lita Freeman-ERA

LABORATORY TEST DATA

DEPTH (feet)	SAMPLES: PID (ppmv)	SAMPLES: Sample	SAMPLES: Blows/ 6"	SAMPLES: SPT N-Value[1]	LITHOLOGY	MATERIAL DESCRIPTION	Type of Strength Test	Confining Pressure Lbs/Sq Ft	Shear Strength Lbs/Sq Ft	Fines %	Natural Moisture Content, %	Dry Density Lbs/Cu Ft
						Ground Surface Elevation: --__ feet[2]						
1						Concrete - surface to 0.5 foot Baserock - 0.5 to 1.5 feet						
2												
3						Silty Clay (CH), Black (N 2.5), high plasticity, stiff, dry						
4												
5												
6												
7												
8	237					Bottom of Boring = 8 feet						
9												
10												
11												
12												
13												
14												
15												
16												
17												
18												
19												
20												
21												
22												
23												
24												
25												
26												
27												
28												
29												
30												

Boring terminated at a depth of 8 feet below ground surface. Boring backfilled with cement grout.

Groundwater encountered at a depth of NA feet during drilling.

Environmental Risk Assessors

Project No.: 01-2015-500-005

Figure: C-3b

PROJECT: 24747 Clawiter Road, Hayward, California

Log of Boring SB-4

Boring location: See Figure 2

Logged by: Lita Freeman

Date started: 10/29/15 Date finished: 10/29/15

Drilling method: Direct Push

Hammer weight/drop: NA Hammer type: NA

Sampler: Fernando-Cascade/Lita Freeman-ERA

DEPTH (feet)	SAMPLES: PID (ppmv)	SAMPLES: Sample	SAMPLES: Blows/ 6"	SAMPLES: SPT N-Value[1]	LITHOLOGY	MATERIAL DESCRIPTION	LABORATORY TEST DATA: Type of Strength Test	Confining Pressure Lbs/Sq Ft	Shear Strength Lbs/Sq Ft	Fines %	Natural Moisture Content, %	Dry Density Lbs/Cu Ft
						Ground Surface Elevation: --__ feet[2]						
1						Asphalt - surface to 3 inches, Baserock - 3 inches to 1 foot						
2	107					Silty Clay (CH), Black (N 2.5), high plasticity, stiff, dry						
3												
4												
5	308											
6												
7												
8												
9						Clayey Silt (ML), Brown (7.5 YR 4/6), low plasticity, stiff, dry						
10	268											
11												
12						- groundwater at 16 feet						
13												
14												
15	105											
16												
17												
18												
19	149											
20						Bottom of Boring = 20 feet						
21												
22												
23												
24												
25												
26												
27												
28												
29												
30												

LABORATORY TEST DATA

Boring terminated at a depth of 20 feet below ground surface.
Boring backfilled with cement grout.
Groundwater encountered at a depth of 16 feet during drilling.

Environmental Risk Assessors

Project No.: 01-2015-500-005

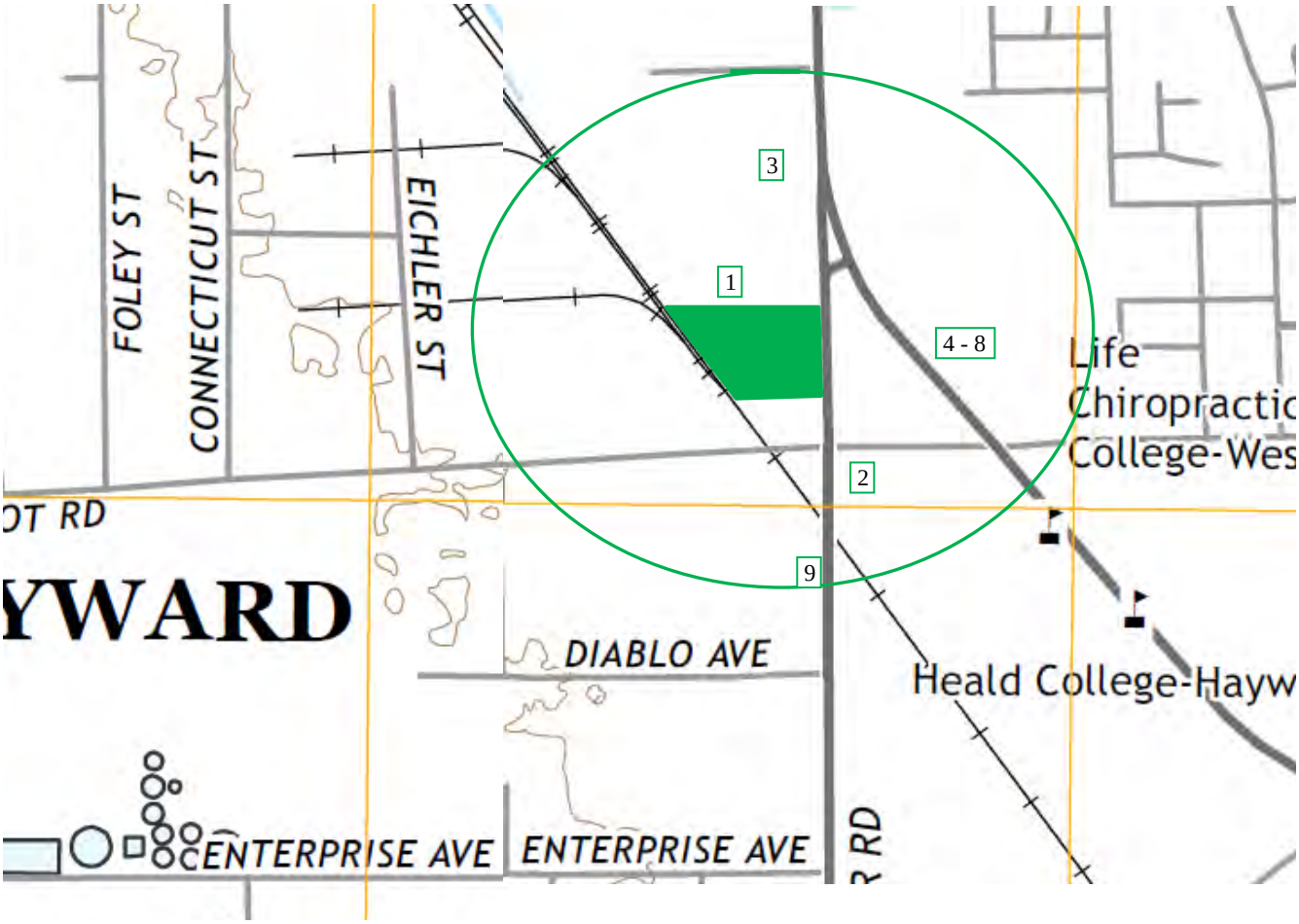
Figure: C-4

Tables and Figures from Environmental Risk Assessors, *Soil and Groundwater Investigation Work Plan*, 2017.

Table 4: Identified Wells Within 1,000 feet of Site
DW Nicholson Property
24747 Clawiter Road
Hayward, California 94545

Identification Number on Figure 4	Owner Identification Number	Well Location	Reported Owner	Well Type	Distance from Site (feet)	Direction from Site
1	Not Available	24701 Clawiter Road	National Auto Fibers	Not Available (ERA assumes water supply as reportedly drilled to a depth of 557 feet in 1941)	Adjoining	North (upgradient to crossgradient)
2	Not Available	Near Clawiter Road and Depot Road	Fred Plowright	Water Supply	360	South (crossgradient)
3	Not Available	24216 Clawiter Road	George Eden	Irrigation Supply (drilled to a depth of 406 feet in 1929)	690	North (crossgradient)
4	0103039-001	Industrial Blvd.	Mohrland Mutual Water System	Water Supply	700	East (upgradient)
5	0103039-002	Industrial Blvd.	Mohrland Mutual Water System	Water Supply	700	East (upgradient)
6	0103039-003	Industrial Blvd.	Mohrland Mutual Water System	Water Supply	700	East (upgradient)
7	0103039-004	Industrial Blvd.	Mohrland Mutual Water System	Water Supply	700	East (upgradient)
8	0110006-006	Industrial Blvd.	City of Hayward	Water Supply	700	East (upgradient)
9	Not Available	25140 Clawiter Road	Golden State Dairies	Industrial Supply (drilled to a depth of 180 feet in 1956)	800	South (crossgradient)

Note: Information on identified wells obtained from the following: 1) California State Water Resources Control Board GeoTracker GAMA website http://geotracker.waterboards.ca.gov/gama/gamamap/public; 2) Golder. 2017. *Groundwater Monitoring Summary Report, Former White Cap Facility, 24493 Clawiter Road, Hayward, California*. February.; and 3) Aquifer Sciences, Inc. 2016. *Request for Case Closure, 3643 Depot Road, Hayward, California*. January 28.



Source: USGS Hayward and San Leandro, CA Quadrangle Topographic Maps, 2015

Approximate Property Boundary

1,000-foot Radius

Well Locations (see Table 4)

1. 24701 Clawiter Road
2. Near Clawiter Road and Depot Road
3. 24216 Clawiter Road
4. Industrial Blvd.
5. Industrial Blvd.
6. Industrial Blvd.
7. Industrial Blvd.
8. Industrial Blvd.
9. 25140 Clawiter Road

0 500 1,000

Scale (feet, approximate)

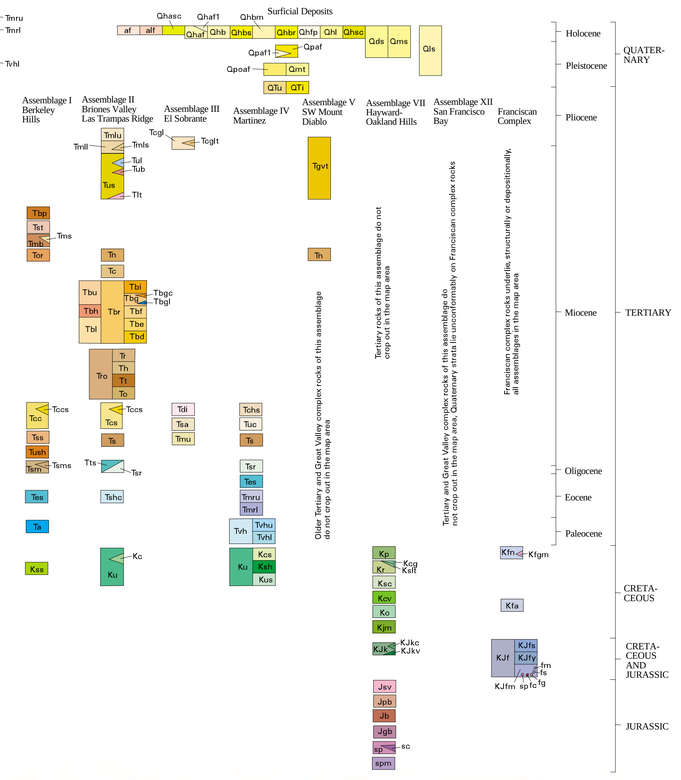
ERA soil-water-vapor	**Identified Wells Within 1,000 Feet of Site**	PN: 01-2015-1200-001
		Date: May 15, 2017
	SOIL AND GROUNDWATER INVESTIGATION WORK PLAN	EP: Lita Freeman
	24747 Clawiter Road, Hayward, California 94545	**Figure 4**

Figures from R.W. Graymer, USGS. *Geologic Map and Map Database of the Oakland Metropolitan Area, Alameda, Contra Costa, and San Francisco Counties, California,* 2000.

U.S. DEPARTMENT OF THE INTERIOR
U.S. GEOLOGICAL SURVEY

MISCELLANEOUS FIELD STUDIES
MF- 2342, Version 1.0
Pamphlet accompanies map

CORRELATION OF MAP UNITS



LIST OF MAP UNITS

Surficial Deposits

- af — Artificial fill (Historic)
- alf — Artificial levee fill (Historic)
- Qhasc — Artificial stream channels (Historic)
- Qhaf1 — Younger alluvial fan deposits (Holocene)
- Qhaf — Alluvial fan and fluvial deposits (Holocene)
- Qhb — Basin deposits (Holocene)
- Qhbs — Basin deposits, salt affected (Holocene)
- Qhbm — Bay mud (Holocene)
- Qhbr — Beach ridge deposits (Holocene)
- Qhfp — Floodplain deposits (Holocene)
- Qhl — Natural levee deposits (Holocene)
- Qhsc — Stream channel deposits (Holocene)
- Qds — Dune sand (Holocene and Pleistocene)
- Qms — Merrit sand (Holocene and Pleistocene)
- Qls — Landslide deposits (Holocene and/or Pleistocene)
- Qpaf — Alluvial fan and fluvial deposits (Pleistocene)
- Qpaf1 — Alluvial terrace deposits (Pleistocene)
- Qmt — Marine terrace deposits (Pleistocene)
- Qpoaf — Older alluvial fan deposits (Pleistocene)
- QTi — Irvington Gravels of Savage (1951) (Pleistocene and Pliocene (?))
- QTu — Undifferentiated continental gravels (Pleistocene and/or Pliocene)

Assemblage I

- Tbp — Bald Peak Basalt (late Miocene)
- Tst — Siesta Formation (late Miocene)
- Tmb — Moraga Formation (late Miocene)
- Tms — Interflow sedimentary rocks
- Tor — Orinda Formation (late Miocene)
- Tcc — Claremont chert (late to middle Miocene)
- Tccs — Interbedded sandstone
- Tss — Unamed sandstone (Miocene (?))
- Tush — Unnamed gray mudstone (early Miocene)
- Tsm — Unnamed glauconitic mudstone (Miocene and Oligocene (?)) Interbedded sandstone
- Tes — Unnamed mudstone (Eocene)
- Ta — Unnamed glauconitic sandstone (Paleocene)

Great Valley Complex

- Kss — Unnamed lithic sandstone (Cretaceous)

Assemblage II

- Tmlu — Mullholland Formation of Ham (1952) (Pliocene and late Miocene) Upper member
- Tmll — Lower member
- Tmls — Sandstone marker beds
- Tus — Unnamed sedimentary and volcanic rocks (late Miocene)
- Tub — Interbedded basalt
- Tul — Interbedded limestone
- Tlt — Lafayette Tuff (late Miocene)
- Tn — Neroly Sandstone (late Miocene)
- Tc — Cierbo Sandstone (late Miocene)
- Tbr — Briones Formation (late and middle Miocene)

In southern part of the assemblage, locally divided into:

- Tbi — I member of Wagner (1978)
- Tbg — G member of Wagner (1978)
- Tbgc — Conglomerate
- Tbgl — Limestone
- Tbf — F member of Wagner (1978)
- Tbe — E member of Wagner (1978)
- Tbd — D member of Wagner (1978)

In northern part of the assemblage, locally divided into:

- Tbu — Upper sandstone and shale member
- Tbh — Hercules shale member
- Tbl — Lower sandstone and siltstone member
- Tro — Rodeo Shale, Hambre Sandstone, Tice Shale, and Oursan Sandstone, undivided (middle Miocene) Rodeo Shale (middle Miocene)
- Tr — Hambre Sandstone (middle Miocene)
- Tt — Tice Shale (middle Miocene)
- To — Oursan Sandstone (middle Miocene)
- Tcs — Claremont Shale (middle Miocene) Sandstone interbeds
- Tccs
- Ts — Sobrante Sandstone (middle Miocene)
- Tts — Tuffaceous sandstone (Miocene and/or Oligocene)
- Tsr — San Ramon Sandstone (Miocene and/or Oligocene)
- Tshc — Shale and claystone (Eocene)

Great Valley Complex

- Ku — Unnamed sedimentary rocks (Late Cretaceous, Turonian and Cenomanian) Conglomerate
- Kc

Assemblage III

- Tcgl — Conglomerate, sandstone, and siltstone (Pliocene and Miocene) Rhyolitic tuff and tuff breccia
- Tdi — Diatomite (Miocene)
- Tsa — Sandstone (Miocene)
- Tmu — Mudstone, shale, siltstone (Miocene)

Assemblage IV

- Tchs — Unnamed shale (Miocene)
- Tuc — Unnamed conglomerate (Miocene)
- Ts — Sobrante Sandstone (Miocene)
- Tsr — San Ramon Sandstone (Miocene and/or Oligocene)
- Tes — Escobar Sandstone of Weaver (1953) (Eocene) Muir Sandstone of Weaver (1953), (Eocene)
- Tmru — Upper member
- Tmrl — Lower member
- Tvh — Vine Hill Sandstone of Weaver (1953) (Paleocene)
- Tvhu — Upper member
- Tvhl — Lower member

Great Valley Complex

- Ku — Undivided Great Valley complex rocks (Cretaceous)
- Kcs — Gray massive quartz arenite
- Ksh — Siltstone and shale
- Kus — Sandstone, siltstone, and shale

Assemblage V

- Tgvt — Green Valley and Tassajara Formations of Condutt (1938), undivided (Pliocene and Miocene)
- Tn — Neroly Sandstone (Miocene)

Assemblage VII

Great Valley Complex

- Kp — Pinehurst Shale (Late Cretaceous, Campanian)
- Kr — Redwood Canyon Formation (Late Cretaceous, Campanian)
- Ksc — Shephard Creek Formation (Late Cretaceous, Campanian)
- Kcv — Unnamed sandstone, conglomerate, and shale of the Castro Valley area (Late Cretaceous, Turonian and younger (?))
- Ko — Oakland Conglomerate (Late Cretaceous, Turonian and/or Cenomanian) Conglomerate
- Kcg
- Kslt — Siltstone
- Kjm — Joaquin Miller Formation (Late Cretaceous, Cenomanian)
- KJk — Knoxville Formation (Early Cretaceous and Late Jurassic) Conglomerate
- KJkc
- KJkv — Volcanoclastic breccia
- Jsv — Keratophyre and quartz keratophyre (Late Jurassic)

Coast Range ophiolite (Jurassic)

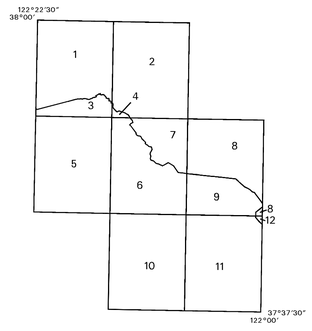
- Jpb — Pillow basalt, basalt breccia, and minor diabase
- Jb — Massive basalt and diabase
- Jgb — Gabbro
- sp — Serpentinite
- sc — Silica-carbonate rock
- spm — Serpentinite matrix mélange

Franciscan Complex

- KJf — Undivided Franciscan complex rocks (Cretaceous and Jurassic)
- Kfn — Sandstone of the Novato Quarry terrane of Blake and others (1984) (Late Cretaceous)
- Kfgm — Fine-grained quartz diorite (Late Cretaceous (?))
- Kfa — Sandstone of the Alcatraz terrane of Blake and others (1984)(Cretaceous)
- KJfy — Metasandstone of the Yolla Bolly terrane of Blake and others (1984) (Cretaceous(?) and Late Jurassic)
- KJfs — Franciscan complex sandstone, undivided (Late Cretaceous to Late Jurassic)
- KJfm — Franciscan complex, mélange (Cretaceous Late Jurassic), includes mapped locally: Graywacke and meta-graywacke blocks
- fs
- fc — Serpentinite blocks
- sp — Chert blocks
- fg — Greenstone blocks
- fm — Schist blocks

- Contact– Depositional or intrusive contact, dashed where approximately located, dotted where concealed
- Fault– Dashed where approximately located, small dashes where inferred, dotted where concealed, queried where location is uncertain.
- Reverse or thrust fault– Dashed where approximately located, dotted where concealed
- Normal fault– Dashed where approximately located, dotted where concealed
- Anticline– Shows fold axis, dashed where approximately located, dotted where concealed
- Syncline
- Strike and dip of bedding
- Strike and dip of bedding, top indicator observed
- Strike and dip of bedding, approximate
- Overturned bedding
- Overturned bedding, top indicator observed
- Horizontal bedding
- Vertical bedding
- Vertical bedding, top indicator observed
- Strike and dip of foliation
- Vertical foliation
- Strike and dip of joints

INDEX MAP SHOWING SOURCES OF DATA



EXPLANATION

Quaternary surficial deposits modified from Helley and Graymer (1997a,b)

1. Extensive new mapping by author, modifying Graymer and others (1994), Wagner (1978), Dibblee (1980d), and Sheehan (1956). Some data from Blake and others (1974).

2. New mapping by author, modifying Graymer and others (1994), Wagner (1978), Pease (1954), and Dibblee (1980a). See also Doumani (1957).

3. New mapping by author, modifying Graymer and others (1996), Dibblee (1980d), and Blake and others (1974).

4. New mapping by author, modifying Graymer and others (1996), Wagner (1978), Dibblee (1980a), and Pease (1954).

5. New mapping by author in the small area of bedrock exposure, Yerba Buena Island from Blake and others, 1999. See also Radbruch (1957).

6. Some new mapping by author modifying Graymer and others (1996), Radbruch (1969), and Radbruch and Case (1967).

7. New mapping by author modifying Graymer and others (1994), Radbruch (1969), Wagner (1978), and Radbruch and Case (1967).

8. New mapping by author modifying Graymer and others (1994), Wagner (1978), Ham (1952), Dibblee (1980c), Aarons (1958), and Sonneman and Switzer (unpublished maps, 1961-62).

9. Some new mapping by author modifying Graymer and others (1996), Wagner (1978), Ham (1952), Dibblee (1980c), Aarons (1958), and Sonneman and Switzer (unpublished maps, 1961-62).

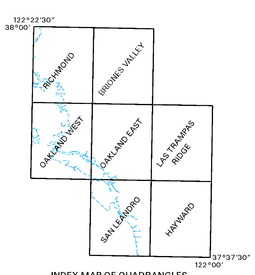
10. New mapping by author modifying Graymer and others (1996).

11. New mapping by author modifying Graymer and others (1996), Dibblee (1980b), Robinson (1956), and Wagner (1978).

12. Modified from Graymer and others (1994) and Wagner (1978).

See the pamphlet (oakmf.pdf, oakmf.ps, oakgeo.txt, oakgeo.pdf, or oakgeo.ps) for complete references.

INDEX MAP OF QUADRANGLES



Base derived from U.S. Geological Survey Digital Raster Graphic (DRG) files of Richmond (1980), Briones Valley (1968), Oakland West (1980), Oakland East (1980), Las Trampas Ridge (1980), San Leandro (1980), and Hayward (1980) 7.5 minute topographic quadrangles. DRG files available on the USGS Mapping Division San Francisco Bay area web-site: http://bard.wr.usgs.gov

Stateplane projection, California coordinate system, zone 3

MAP LOCATION

SCALE 1:50000

1 0 1 2 3 4 5 MILE
1 0 1 2 3 4 5 KILOMETER
0 1 2 3 4 5 6 7 8 9 10 11 THOUSAND FEET

CONTOUR INTERVAL 50 METERS

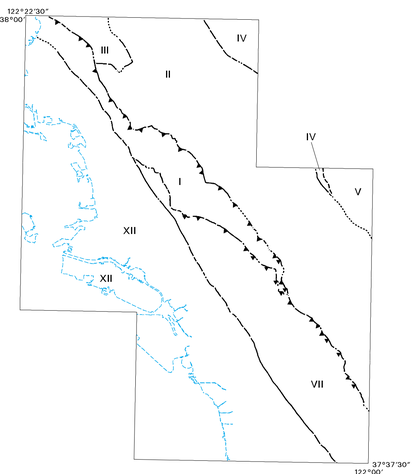
16.6° TRUE NORTH MAGNETIC NORTH
APPROXIMATE MEAN DECLINATION, 1980

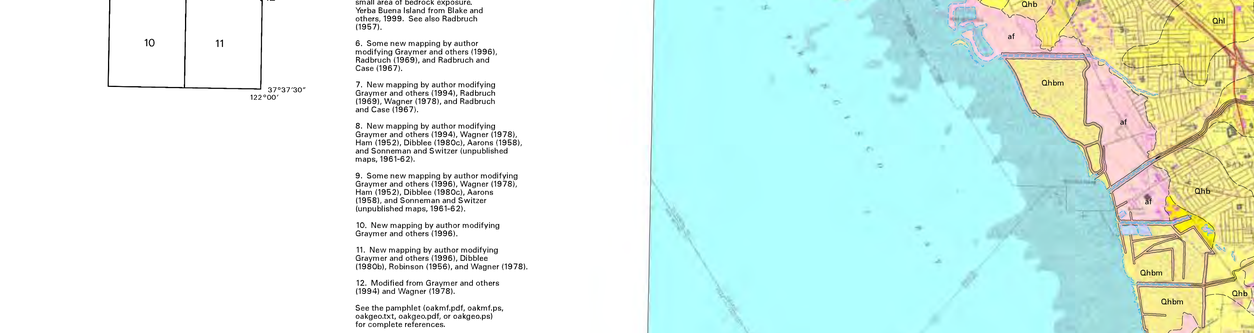
Digital Cartography by R.W. Graymer and R.E. Stamski, 1999-2000

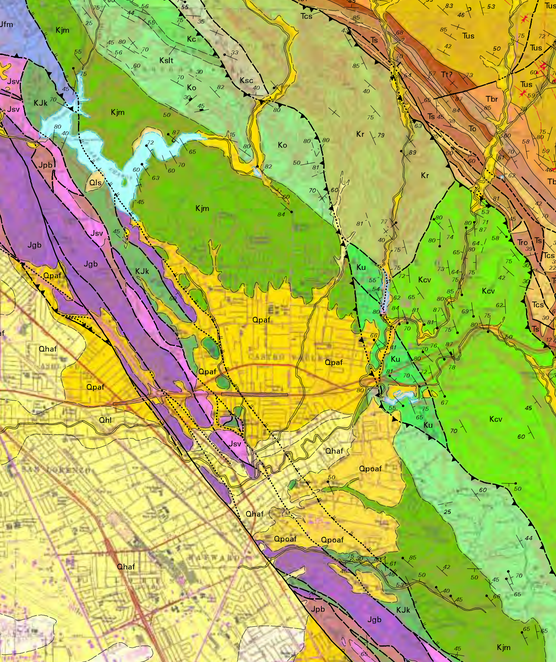
Edited by Jan Zigler

Manuscript approved for publication, June 21, 2000

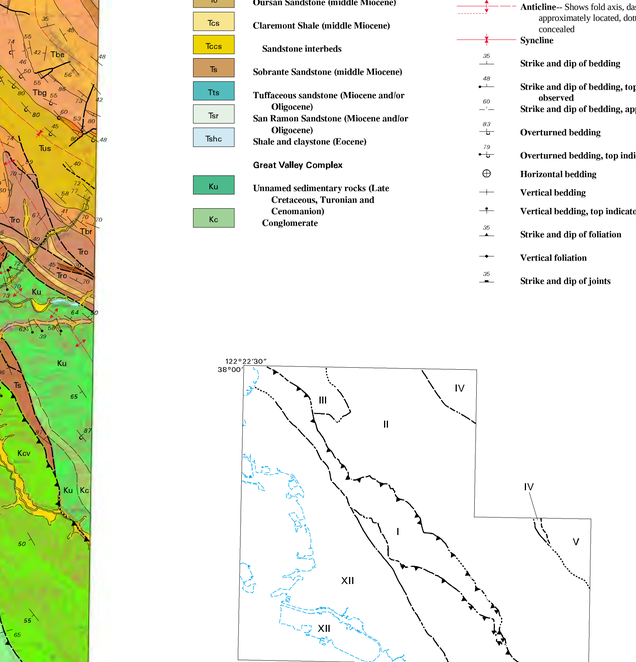
INDEX MAP OF ASSEMBLAGES
(Assemblages are defined and discussed in the accompanying pamphlet)







INDEX MAP OF FAULTS AND FAULT NAMES



INDEX MAP OF MESOZOIC TERRANES IN AND AROUND THE STUDY AREA
(Terranes are defined and discussed in the accompanying pamphlet. Also see Blake and others, 1999)

GEOLOGIC MAP AND MAP DATABASE OF THE OAKLAND METROPOLITAN AREA, ALAMEDA, CONTRA COSTA, AND SAN FRANCISCO COUNTIES, CALIFORNIA

By

R.W. Graymer

2000

Digital data and cartography prepared using Arc/Info 7.1.2 running under Solaris 2.6 on a UNIX workstation.

This map was printed on an electronic plotter directly from digital files. Dimensional calibration may vary between electronic plotters and between X and Y directions on the same plotter, and paper may change size due to atmospheric conditions; therefore, scale and proportions may not be true on plots of this map.

For sale by U.S. Geological Survey, Map Distribution, Box 25286, Federal Center, Denver, CO 80225, 1-888-ASK-USGS

This publication also includes a digital geologic map (GIS) database. The data files, as well as digital versions of the map sheet and pamphlet, are available on the World Wide Web at: http://geopubs.wr.usgs.gov/map-mf/mf2342

Tables and Figures from Golder Associates, Inc., *Groundwater Monitoring Summary Report, Former White Cap Facility, 24493 Clawiter Road, Hayward, California,* February, 2017.

TABLES

Table 1
Monitoring Well Details and Groundwater Elevations
Groundwater Monitoring Summary Report
24493 Clawiter Road, Harward, CA

Well ID	Ground Elevation (feet)	Top of Casing Elevation (feet)	Depth to Screen Interval (feet, TOC)	Depth to Groundwater (feet, TOC)	Groundwater Elevation (feet)	Depth to Groundwater (feet, TOC)	Groundwater Elevation (feet)	Depth to Groundwater (feet, TOC)	Groundwater Elevation (feet)	Depth to Groundwater (feet, TOC)	Groundwater Elevation (feet)	Depth to Groundwater (feet, TOC)	Groundwater Elevation (feet)	Depth to Groundwater (feet, TOC)	Groundwater Elevation (feet)	Depth to Groundwater (feet, TOC)	Groundwater Elevation (feet)	Depth to Groundwater (feet, TOC)	Groundwater Elevation (feet)
				October 5, 2009		March 22, 2010		September 20, 2010[1]		April 6, 2011		October 27, 2011		April 24-26, 2012		November 29-30, 2012		April 29, 2013	
MW9(R)*	999.68	999.28	6-16	10.41	988.87	9.30	989.98	10.02	989.26	9.06	990.22	9.97	989.31	9.32	989.96	10.41	988.87	10.00	989.28
MW10	1000.42	1003.05	7-18	13.62	989.43	NM	NM	NM	NM	12.22	990.83	NM	NM	12.53	990.52	13.68	989.37	NM	NM
MW11	999.49	999.16	4-16	9.97	989.19	8.82	990.34	9.56	989.60	NM	NM	9.49	989.67	8.87	990.29	9.93	989.23	9.57	989.59
W14	1000.13	1000.27	4-20	NM	NM	11.65	988.62	NM	NM	11.46	988.81	12.31	987.96	11.68	988.59	12.67	987.60	12.29	987.98
W15	1000.00	999.77	4-20	NM	NM	NM	NM	NM	NM	10.60	989.17	11.56	988.21	10.86	988.91	11.90	987.87	11.52	988.25
W16	1001.16	1000.76	4-20	NM	NM	10.82	989.94	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM
W17	1001.19	1000.98	4-20	NM	NM	10.56	990.42	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM
W18	999.89	999.69	7-18	NM	NM	8.81	990.88	9.60	990.09	8.49	991.20	9.5	990.19	8.79	990.90	9.95	989.74	9.52	990.17
W20	1000.45	1000.15	7-18	NM	NM	NM	NM	NM	NM	9.08	991.07	10.08	990.07	9.40	990.75	10.49	989.66	10.00	990.15
W22	1000.53	1003.72	7-18	NM	NM	NM	NM	NM	NM	13.07	990.65	14.06	989.66	13.39	990.33	14.51	989.21	14.10	989.62
W23	999.58	999.38	4-20	NM	NM	NM	NM	NM	NM	9.58	989.80	10.42	988.96	9.80	989.58	10.85	988.53	10.49	988.89
W24	1000.28	1000.14	4-20	11.95	988.19	10.84	989.30	11.55	988.59	10.55	989.59	11.48	988.66	10.80	989.34	11.90	988.24	11.50	988.64
W26	1001.07	1000.82	4-20	NM	NM	11.76	989.06	12.56	988.26	11.51	989.31	12.46	988.36	11.71	989.11	12.82	988.00	12.46	988.36
W30	995.94	996.70	4-20	NM	NM	8.45	988.25	9.10	987.60	NM	NM	NM	NM	7.66	989.04	NM	NM	NM	NM
W31	997.69	997.39	4-20	NM	NM	8.26	989.13	9.90	987.49	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM
W32	998.59	998.67	4-20	11.41	987.26	10.40	988.27	11.13	987.54	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM
VE4	999.62	998.56	7-18	7.71	990.85	7.69	990.87	8.38	990.18	7.30	991.26	8.33	990.23	7.66	990.90	8.80	989.76	8.34	990.22
VE5	999.58	998.51	7-18	8.59	989.92	7.62	990.89	11.56	986.95	7.79	990.72	8.74	989.77	8.87	989.64	9.20	989.31	8.74	989.77

Well ID	Ground Elevation (feet)	Top of Casing Elevation (feet)	Depth to Screen Interval (feet, TOC)	Depth to Groundwater (feet, TOC)	Groundwater Elevation (feet)	Depth to Groundwater (feet, TOC)	Groundwater Elevation (feet)	Depth to Groundwater (feet, TOC)	Groundwater Elevation (feet)	Depth to Groundwater (feet, TOC)	Groundwater Elevation (feet)	Depth to Groundwater (feet, TOC)	Groundwater Elevation (feet)	Depth to Groundwater (feet, TOC)	Groundwater Elevation (feet)	Depth to Groundwater (feet, TOC)	Groundwater Elevation (feet)
				November 18-19, 2013		April 28, 2014		November 5, 2014		May 4, 2015		October 1, 2015		April 19, 2016		October 4, 2016	
MW9(R)*	999.68	999.28	6-16	10.83	988.45	9.99	989.29	dry	dry	10.78	988.50	11.85	987.43	10.21	989.07	11.42	987.86
MW10	1000.42	1003.05	7-18	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM
MW11	999.49	999.16	4-16	10.37	988.79	9.65	989.51	10.79	988.37	9.62	989.54	10.76	988.40	9.16	990.00	NM	NM
W14	1000.13	1000.27	4-20	13.31	986.96	12.26	988.01	13.35	986.92	12.38	987.89	13.35	986.92	11.90	988.37	13.02	987.25
W15	1000.00	999.77	4-20	12.32	987.45	11.43	988.34	11.85	987.92	11.55	988.22	12.55	987.22	NM	NM	NM	NM
W16	1001.16	1000.76	4-20	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM
W17	1001.19	1000.98	4-20	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM
W18	999.89	999.69	7-18	10.39	989.30	9.67	990.02	NM	NM	9.63	990.06	10.76	NM	8.83	990.86	NM	NM
W20	1000.45	1000.15	7-18	10.87	989.28	9.94	990.21	11.36	988.79	10.21	989.94	11.29	988.86	9.62	990.53	10.84	989.31
W22	1000.53	1003.72	7-18	14.96	988.76	14.15	989.57	15.00	988.72	14.12	989.60	15.24	988.48	13.58	990.14	14.85	988.87
W23	999.58	999.38	4-20	11.28	988.10	10.50	988.88	11.65	987.73	10.56	988.82	11.60	987.78	10.01	989.37	11.21	988.17
W24	1000.28	1000.14	4-20	12.34	987.80	11.50	988.64	12.62	987.52	11.62	988.52	12.58	987.56	11.02	989.12	12.22	987.92
W26	1001.07	1000.82	4-20	13.26	987.56	12.33	988.49	13.42	987.40	12.44	988.38	13.45	987.37	11.85	988.97	13.04	987.78
W30	995.94	996.70	4-20	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM
W31	997.69	997.39	4-20	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM
W32	998.59	998.67	4-20	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM
VE4	999.62	998.56	7-18	9.59	988.97	8.51	990.05	9.67	988.89	8.47	990.09	9.58	988.98	7.90	990.66	9.14	989.42
VE5	999.58	998.51	7-18	9.26	989.25	8.93	989.58	10.09	988.42	8.91	989.60	10.03	988.48	8.30	990.21	9.57	988.94

Notes:

Measurements are referenced to a site-specific datum (Streamborn)

TOC - top of casing (water level is measured in feet below TOC)

Measurements in red signify water levels that may have been influenced by remedial activities

Elevation data, including depth-to-water measurements prior to 2011, obtained from Streamborn

1 = corrected date from 9/20/2011 to 9/20/2010

well W15 was measured on 12/1/14 due to access issues

* MW9 replaced with MW9R in 2015 (correction factor for TOC difference applied)

Golder Associates

FIGURES

REFERENCES

Spatial Reference:
NAD 1983 StatePlane California III FIPS 0403 Feet
Background image: Data Type: ArcGIS Image Service
Service name: Bing Maps Aerial
http://www.esri.com/software/arcgis/arcgisonline/bing-maps.html

0 500 1,000
Feet

Golder Associates
Sunnyvale, CA

SCALE	AS SHOWN
DATE	10/6/2011
DESIGN	DLM
GIS	DLM
CHECK	GW
REVIEW	WLF
FILE No.	
PROJECT No.	REV. 0

FORMER WHITE CAP FACILITY
24493 CLAWITER ROAD
HAYWARD, CALIFORNIA

SITE LOCATION MAP

FIGURE 1

Path: G:\GIS\Sites\Amcor_Hayward\mxd\SiteLoc.mxd

Map Document: G:\GIS\Sites\Amor_Hayward\Maps\VOCs_2016.mxd / Modified 2/20/2017 11:54:12 AM by MRahimi / Exported 2/20/2017 11:54:18 AM by MRahimi

LEGEND

- Well With Analytical Results (µg/L)
  - Well Name
  - Total Xylene (Spring 2016) Ethylbenzene (Spring 2016)
  - Total Xylene (Fall 2016) Ethylbenzene (Fall 2016)
- Existing monitor well
- Destroyed well
- Former Process Areas
- Infiltration trench
- Property Boundary
- Approximate area that exceeds clean-up goal

NOTES

REFERENCES

1) Aerial Imagery Source: Esri, DigitalGlobe, GeoEye, Earthstar Geographics, CNES/Airbus DS, USDA, USGS, AeroGRID, IGN, and the GIS User Community
2) Coordinate System: NAD 1983 StatePlane California III FIPS 0403 Feet

100 0 100
Feet

PROJECT
FORMER WHITE CAP FACILITY
24493 CLAWITER ROAD
HAYWARD, CALIFORNIA

TITLE
SITE PLAN DEPICTING TOTAL XYLENES AND ETHYLBENZENE IN GROUNDWATER

Golder Associates

PROJECT No.		113-97305	FILE No.		VOCs_2016.mxd
DESIGN	MM	9/12/2012	SCALE:	AS SHOWN	REV. 0
GIS	MR	2/20/2017			
CHECK	GW	2/20/2017			
REVIEW	WF	2/20/2017			

FIGURE 2

LEGEND

- Existing monitor well
- Destroyed well
- Monitor well with groundwater elevation (ft)
- Groundwater elevation contour (ft)
- Infiltration trench
- Inferred groundwater flow direction
- Property boundary

NOTES

1) Groundwater elevations measured April 19, 2016
2) MW9R not used in contouring

REFERENCES

1) Aerial Imagery Source: Esri, DigitalGlobe, GeoEye, Earthstar Geographics, CNES/Airbus DS, USDA, USGS, AeroGRID, IGN, and the GIS User Community
2) Coordinate System: NAD 1983 StatePlane California III FIPS 0403 Feet

100 0 100
Feet

PROJECT
FORMER WHITE CAP FACILITY
24493 CLAWITER ROAD
HAYWARD, CALIFORNIA

TITLE
GROUNDWATER ELEVATIONS APRIL 2016

Golder Associates

PROJECT No.		113-97305	FILE No.	GWE_201604.mxd
DESIGN	MM	9/12/2012	SCALE: AS SHOWN	REV. 0
GIS	MR	2/9/2017		
CHECK	GW	2/9/2017		
REVIEW	WF	2/9/2017		

FIGURE 3

Map Document: G:\GIS\SitesAmcor_HaywardMaps\GWE_201604.mxd / Modified 2/9/2017 12:47:20 PM by MRahimi / Exported 2/9/2017 12:47:49 PM by MRahimi

LEGEND

- Existing monitor well
- Destroyed well
- Monitor well with groundwater elevation (ft)
- Groundwater elevation contour (ft)
- Infiltration trench
- Inferred groundwater flow direction
- Property boundary

NOTES

1) Groundwater elevations measured October 4, 2016
2) MW9R not used in contouring

REFERENCES

1) Aerial Imagery Source: Esri, DigitalGlobe, GeoEye, Earthstar Geographics, CNES/Airbus DS, USDA, USGS, AeroGRID, IGN, and the GIS User Community
2) Coordinate System: NAD 1983 StatePlane California III FIPS 0403 Feet

100 0 100
Feet

PROJECT
FORMER WHITE CAP FACILITY
24493 CLAWITER ROAD
HAYWARD, CALIFORNIA

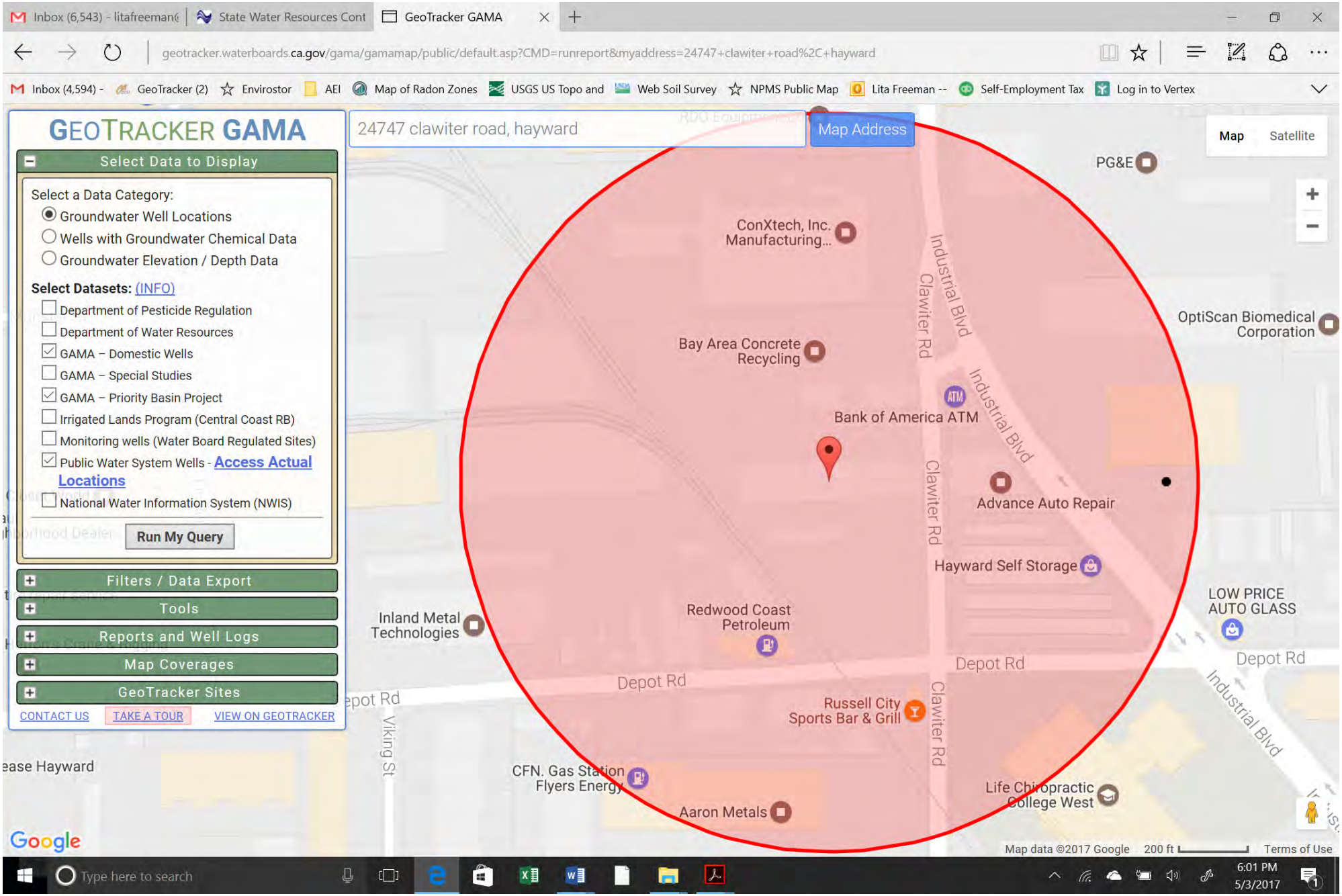
TITLE
GROUNDWATER ELEVATIONS OCTOBER 2016

Golder Associates

PROJECT No.		113-97305	FILE No.	GWE_201610.mxd
DESIGN	MM	9/12/2012	SCALE: AS SHOWN	REV. 0
GIS	MR	2/9/2017		
CHECK	GW	2/9/2017		
REVIEW	WF	2/9/2017		

FIGURE 4

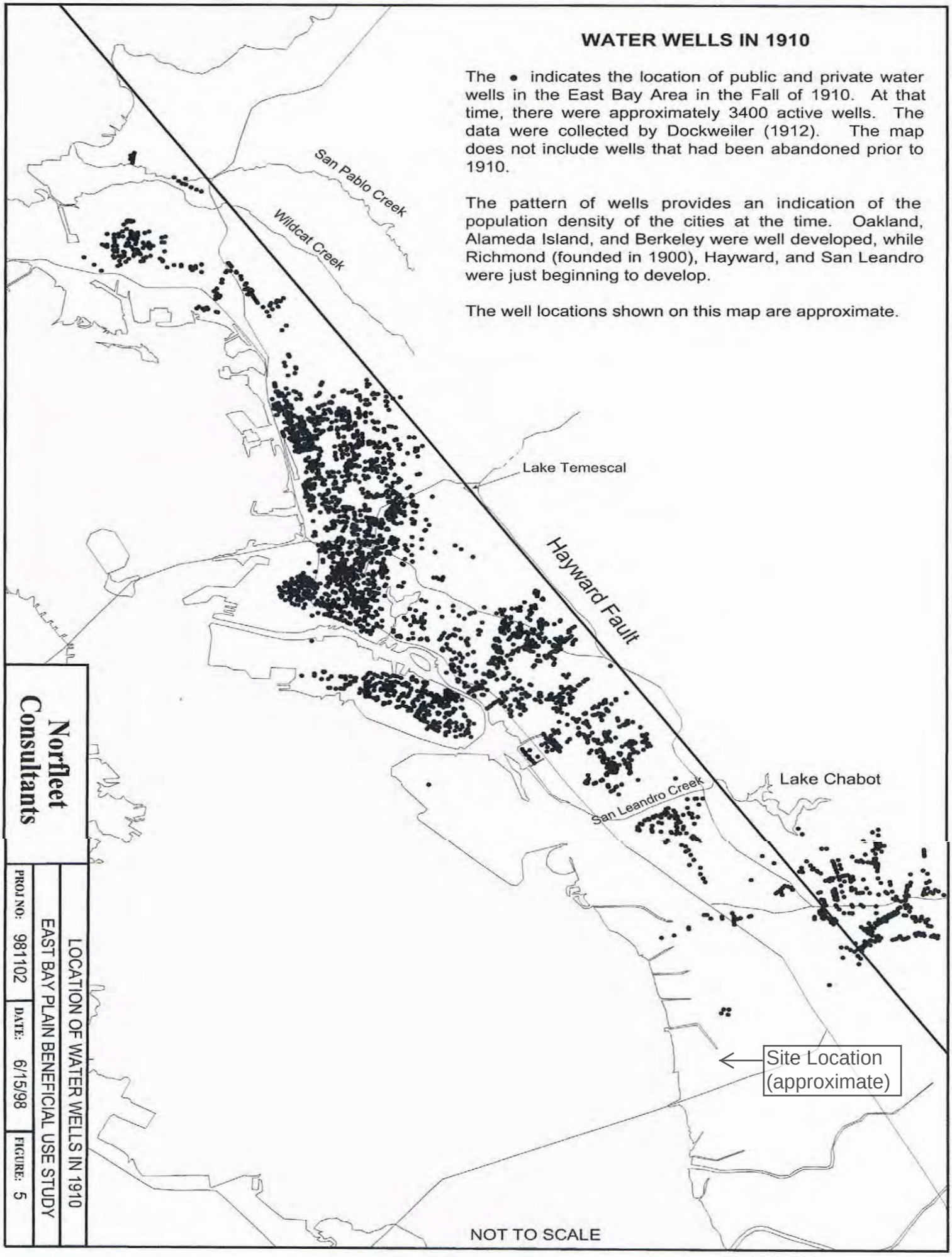
State Water Resources Control Board GAMA Website Data


Inbox (6,543) - litafreeman(
State Water Resources Cont
GeoTracker GAMA
geotracker.waterboards.ca.gov/gama/gamamap/public/default.asp?CMD=runreport&myaddress=24747+clawiter+road%2C+hayward
Inbox (4,594) -
GeoTracker (2)
Envirostor
AEI
Map of Radon Zones
USGS US Topo and
Web Soil Survey
NPMS Public Map
Lita Freeman --
Self-Employment Tax
Log in to Vertex
GEOTRACKER GAMA
Select Data to Display
Select a Data Category:
Groundwater Well Locations
Wells with Groundwater Chemical Data
Groundwater Elevation / Depth Data
Select Datasets: (INFO)
Department of Pesticide Regulation
Department of Water Resources
GAMA – Domestic Wells
GAMA – Special Studies
GAMA – Priority Basin Project
Irrigated Lands Program (Central Coast RB)
Monitoring wells (Water Board Regulated Sites)
Public Water System Wells - Access Actual Locations
National Water Information System (NWIS)
Run My Query
Filters / Data Export
Tools
Reports and Well Logs
Map Coverages
GeoTracker Sites
CONTACT US
TAKE A TOUR
VIEW ON GEOTRACKER
24747 clawiter road, hayward
Map Address
Map
Satellite
PG&E
ConXtech, Inc. Manufacturing...
Industrial Blvd
Clawiter Rd
OptiScan Biomedical Corporation
Bay Area Concrete Recycling
Bank of America ATM
Advance Auto Repair
Hayward Self Storage
LOW PRICE AUTO GLASS
Inland Metal Technologies
Redwood Coast Petroleum
Depot Rd
Russell City Sports Bar & Grill
Viking St
CFN. Gas Station Flyers Energy
Aaron Metals
Life Chiropractic College West
Google
Map data ©2017 Google
200 ft
Terms of Use
Type here to search
6:01 PM
5/3/2017

5 WELLS IN THIS CLUSTER - EXPORT TO EXCEL

		WELL NAME	PWS NAME	DATASET CATEGORY	DATASET	COUNTY	REGIONAL BOARD	GW BASIN NAME
[VIEW GRAPH]	[VIEW ALL NATIVE DATA]	0103039-001	MOHRLAND MUTUAL WATER SYSTEM	WATER SUPPLY (WELLS)	DHS	ALAMEDA	2	SANTA CLARA VALLEY - EAST BAY PLAIN (
[VIEW GRAPH]	[VIEW ALL NATIVE DATA]	0103039-002	MOHRLAND MUTUAL WATER SYSTEM	WATER SUPPLY (WELLS)	DHS	ALAMEDA	2	SANTA CLARA VALLEY - EAST BAY PLAIN (
[VIEW GRAPH]	[VIEW ALL NATIVE DATA]	0103039-003	MOHRLAND MUTUAL WATER SYSTEM	WATER SUPPLY (WELLS)	DHS	ALAMEDA	2	SANTA CLARA VALLEY - EAST BAY PLAIN (
[VIEW GRAPH]	[VIEW ALL NATIVE DATA]	0103039-004	MOHRLAND MUTUAL WATER SYSTEM	WATER SUPPLY (WELLS)	DHS	ALAMEDA	2	SANTA CLARA VALLEY - EAST BAY PLAIN (
[VIEW GRAPH]	[VIEW ALL NATIVE DATA]	0110006-006	CITY OF HAYWARD	WATER SUPPLY (WELLS)	DHS	ALAMEDA	2	SANTA CLARA VALLEY - EAST BAY PLAIN (

Figure from Norfleet Consultants, *Location of Water Wells in 1910, East Bay Plain Beneficial Use Study,* June 15, 1998.


WATER WELLS IN 1910
The • indicates the location of public and private water wells in the East Bay Area in the Fall of 1910. At that time, there were approximately 3400 active wells. The data were collected by Dockweiler (1912). The map does not include wells that had been abandoned prior to 1910.
The pattern of wells provides an indication of the population density of the cities at the time. Oakland, Alameda Island, and Berkeley were well developed, while Richmond (founded in 1900), Hayward, and San Leandro were just beginning to develop.
The well locations shown on this map are approximate.
San Pablo Creek
Wildcat Creek
Lake Temescal
Hayward Fault
San Leandro Creek
Lake Chabot
Site Location (approximate)
NOT TO SCALE
Norfleet Consultants
LOCATION OF WATER WELLS IN 1910
EAST BAY PLAIN BENEFICIAL USE STUDY
PROJ NO: 981102
DATE: 6/15/98
FIGURE: 5

Tables and Figures from Aquifer Sciences, Inc., *Request for Case Closure, 3643 Depot Road, Hayward, California*, dated January 28, 2016.

TABLES

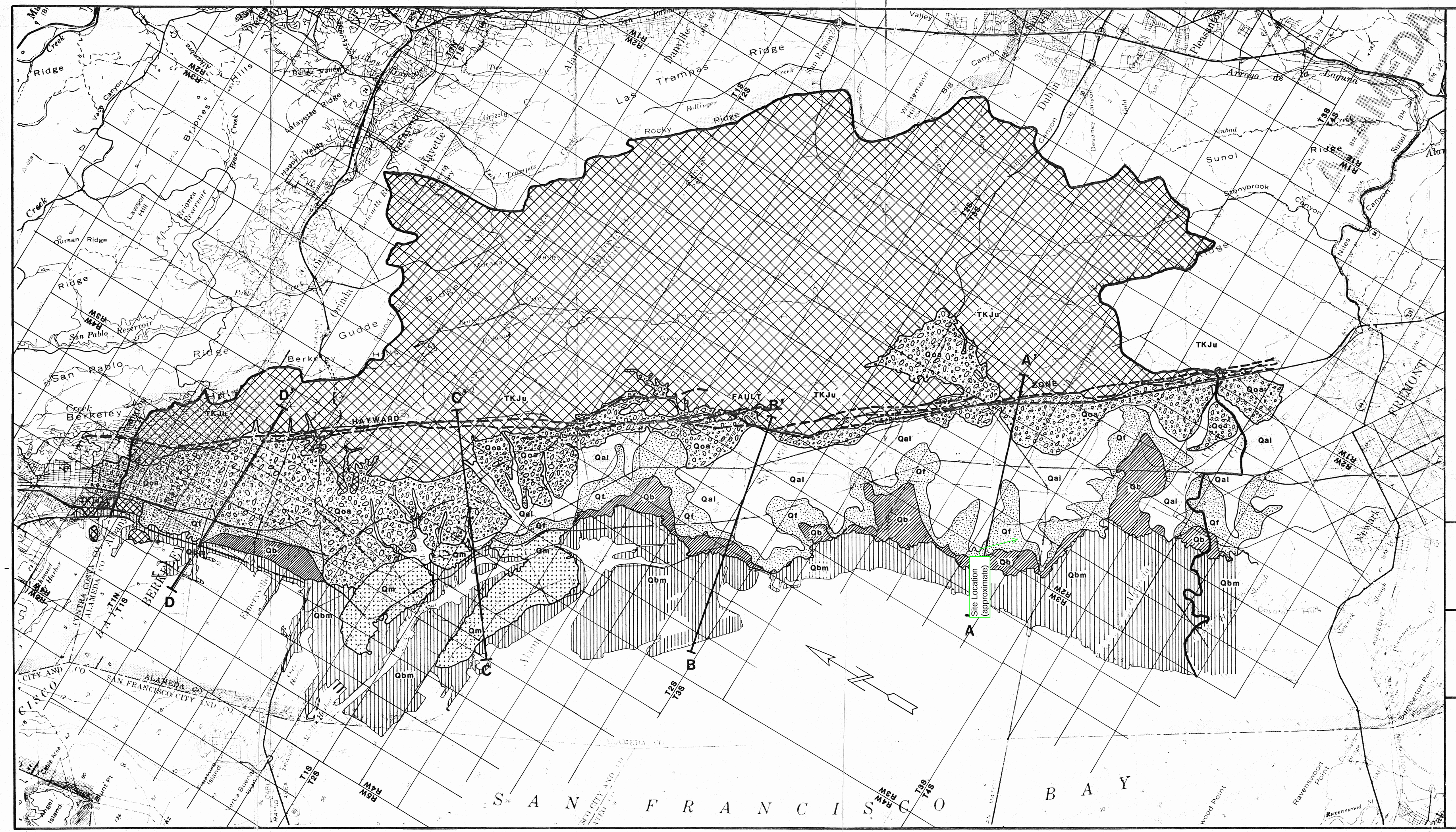
Table 4. WELL SURVEY LOCATIONS
3643 Depot Road, Hayward, California

Map Location Number	Well Location	Owner	Well Use	Casing Diameter (inches)	Total Depth (feet)	Approximate Distance from Site (mile)	Direction from Site	Date Completed
1	23384 Foley Street	Pan Ocean Aquarium Inc.	irrigation	10	360	0.27	north	9/1994
2	Foley Street	Aquarium	industrial	not listed	not listed	0.27	north	6/2005
3	24701 Clawiter Road	National Auto Fibers		10	557	0.40	east	12/1941
4	2460 Dunn Road	Ken McRae	not listed	6	70	0.41	northeast	9/1994
5	2474 Dunn Road	Electrolyte Supply Co	industrial	8	136	0.42	northeast	5/1975
6	Depot Road and Clawiter Road	Fred Plowright	domestic	8	not listed	0.43	east	not listed
7	2493 Dunn Road	Alice Silva	domestic (replacement)	not listed	575	0.45	northeast	8/2003
8	24216 Clawiter Road	George Eden	irrigation	10	406	0.46	east	12/1929
9	25140 Clawiter Road	Golden State Dairies	industrial	8	180	0.46	east	3/1956
10	2347 Dunn Road	MJB Pipeline-J Defreitas	domestic	6	80	0.49	northeast	8/1984
11	2283 Dunn Road	Jim Inerbickler	irrigation	6	60	0.51	northeast	4/1982
		Due to poor or inadequate address information, the folowing sites were not mapped.						
---	5881 Depot Road	Lorin Eden	domestic	not listed	not listed	---	---	not listed
---	7255 Depot Road	Chris Minnitte	domestic	10	65	---	---	not listed
---	7475 Depot Road	Jack Ogawa	domestic	6	not listed	---	---	1957
---	7504 Depot Road	D.W. Sprague	domestic	6	30	---	---	not listed
---	7608 Depot Road	Virgil Bohannan	domestic	not listed	not listed	---	---	not listed
---	7676 Depot Road	Milton Adams	domestic	8	84	---	---	1940
---	8130 Depot Road	W. Lustchan	industrial	10	105	---	---	1956
---	8148 Depot Road	P.A. Read	domestic	8	75	---	---	not listed
---	8496 Depot Road	American Salt Co.	stock irrigation	not listed	not listed	---	---	not listed
---	7996 Dunn Road	W. Housden	domestic	6	0	---	---	not listed
---	7960 Dunn Road	Richards	domestic	6	40	---	---	not listed
---	7898 Dunn Road	?	domestic	6	0	---	---	not listed
---	1800 E. 21 ST	Wachsmann	irrigation	8	45	---	---	1952
---	7609 Dunn Road	Abrahamson	irrigation	4	35	---	---	not listed
---	7401 Dunn Road	L. Greeley	domestic	6	50	---	---	1950
---	7852 Dunn Road	R. Davis	irrigation	8	34	---	---	1950
---	7852 Dunn Road	R. Davis	domestic	8	34	---	---	not listed
---	7386 Dunn Road	Linn Ong	domestic	0	0	---	---	not listed
---	7395 Dunn Road	Al Irving	domestic	6	0	---	---	not listed
---	7386 Dunn Road	Bolton	domestic	6	0	---	---	not listed
---	7358 Dunn Road	M. Lebars	domestic	6	65	---	---	not listed
---	7346 Dunn Road	Gusman	domestic	12	75	---	---	not listed
---	7343 Dunn Road	Clinton	domestic	0	0	---	---	not listed
---	7363 Dunn Road	G. Staples	domestic	6	25	---	---	not listed
---	7270 Dunn Road	E. Wright	domestic	6	0	---	---	not listed
---	7255 Dunn Road	G. Harvey	domestic	0	0	---	---	not listed
---	7253 Dunn Road	Vigneault	domestic	6	0	---	---	not listed
---	7240 Dunn Road	H. Abrahamson	domestic	0	60	---	---	not listed
---	7209 Dunn Road	E. Boardman	domestic	8	0	---	---	not listed
---	7170 Dunn Road	Diego Aguilar	domestic	6	50	---	---	7/1958
---	7150 Dunn Road	J. Batchelor	domestic	10	87	---	---	not listed
---	7108 Dunn Road	John Andrade	domestic	48	85	---	---	1948
---	7140 Dunn Road	not listed	domestic	6	0	---	---	not listed
---	7130 Dunn Road	K. Kisler	domestic	6	0	---	---	1952
---	7108 Dunn Road	J. Andrade	domestic	6	85	---	---	not listed
---	7107 Dunn Road	E. Butler	domestic	8	0	---	---	not listed
---	7061 Dunn Road	Clyde Baker	domestic	0	32	---	---	1949
---	7108 Dunn Road	J. Andrade	domestic	6	75	---	---	not listed
---	6990 Dunn Road	W. Sichak	domestic	0	30	---	---	not listed
---	6914 Dunn Road	Doyle	domestic	0	0	---	---	not listed

FIGURE

Figure 11. WELL SURVEY RADIUS
3643 Depot Road, Hayward, California

Figure from California Regional Water Quality Control Board - San Francisco Bay Region (SFBRWQCB) and Alameda County Flood Control and Water Conservative District (ACFC-WCD), *Geohydrology and Groundwater-Quality Overview of the East Bay Plain Area, Alameda County, California, 205 (j) Report. Figure 8, Generalized Geologic Map East Bay Plain Area,* June, 1988.



CORRELATION OF MAP UNITS

Qal, Qf, Qb, Qbm	Holocene	QUATERNARY
Qm	Pleistocene	QUATERNARY
Qoa	Pleistocene and Older	QUATERNARY
TKJu	Pliocene and Older	TERTIARY, CRETACEOUS AND JURASSIC

DESCRIPTION OF MAP UNITS

Qal	YOUNGER ALLUVIUM
Qf	FLUVIAL DEPOSITS
Qb	INTERFLUVIAL BASIN DEPOSITS
Qbm	BAY MUD
Qm	MERRITT SAND
Qoa	OLDER ALLUVIUM
TKJu	UNDIVIDED BEDROCK UNITS

CONTACT-Approximately located

HAYWARD FAULT ZONE-Approximately located

STUDY AREA DRAINAGE BOUNDARY

A——A' LINE OF GEOLOGIC SECTIONS

Geology by Helley, Lajoie, and Burke (1972) and Helley and Lajoie (1979), with minor modifications by K. S. Muir, 1986.

CALIFORNIA REGIONAL WATER QUALITY CONTROL BOARD
SAN FRANCISCO BAY REGION
AND
ALAMEDA COUNTY FLOOD CONTROL
AND
WATER CONSERVATION DISTRICT

GEOHYDROLOGY AND GROUNDWATER-QUALITY OVERVIEW
OF THE
EAST BAY PLAIN AREA, ALAMEDA COUNTY, CALIFORNIA
205 (j) REPORT
JUNE 1988

GENERALIZED GEOLOGIC MAP
EAST BAY PLAIN AREA

0 1 2 MILE

SCALE

FIGURE 8

Figures from ECM Group. 2012. Technical Report on Site Cleanup Status, Former East Bay Oil Facility, 3111 Depot Road, Hayward, California. February 29.

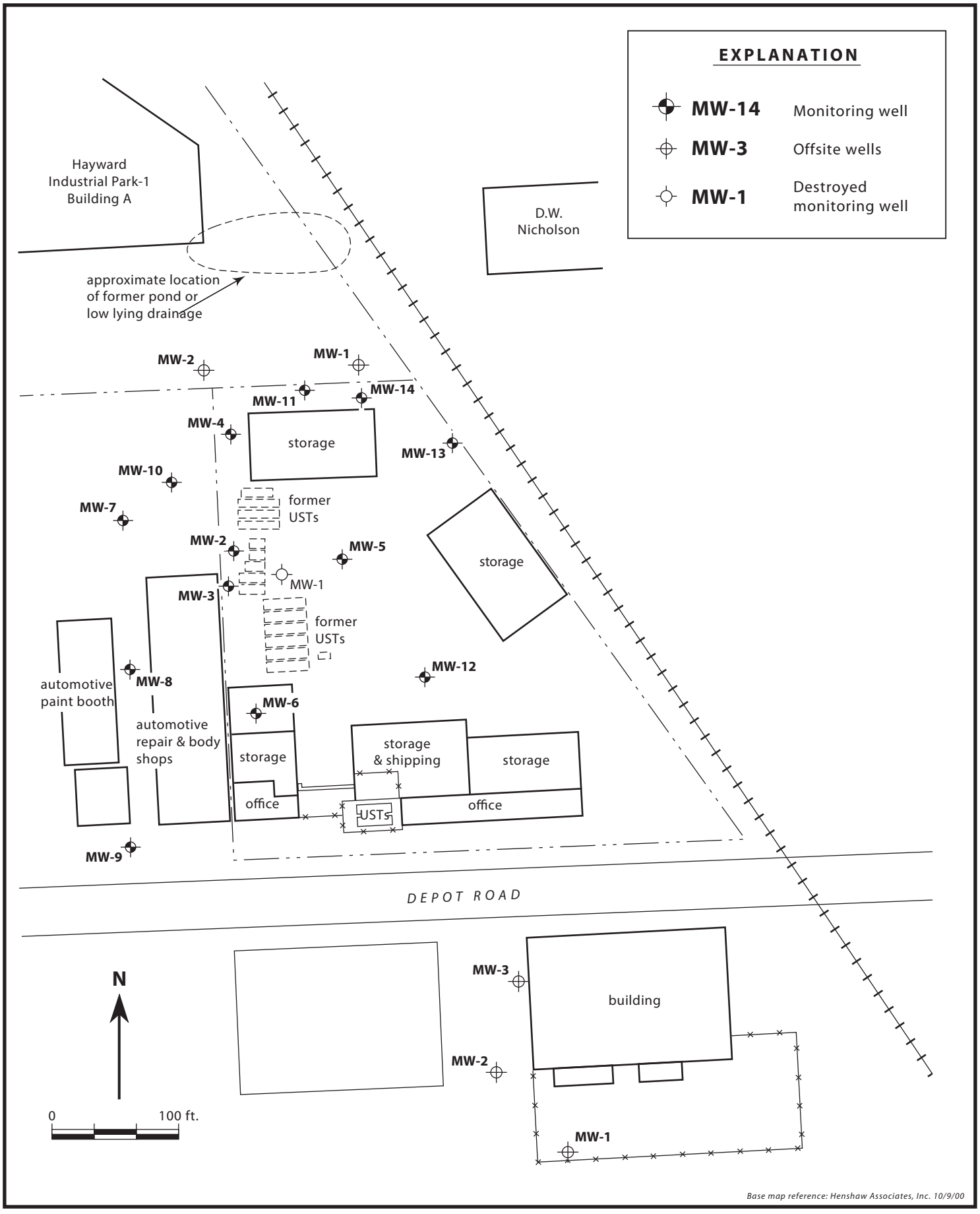
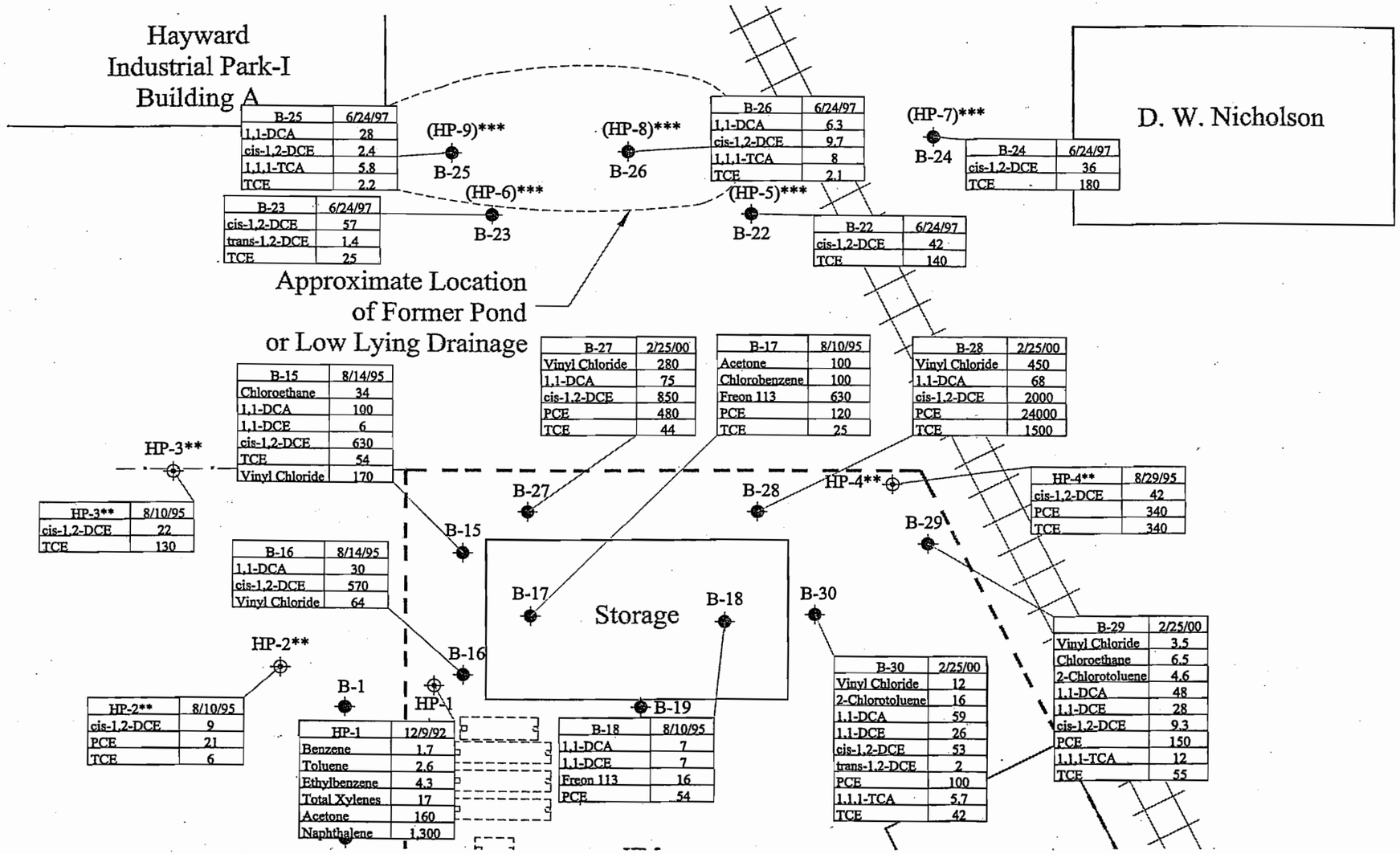


Figure 2. Site Plan - East Bay Oil - 3111 Depot Road, Hayward, California

02-300-00 [site base] 12/22/15



Legend

- B-14 ⊕ Exploratory boring
- HP-2 ⊕ Hydropunch boring
- Underground storage tanks (UST)
- Former UST
- Property boundary
- —×— Fence

* Boring drilled in June 1997; Boring erroneously given same ID as boring drilled in August 1995

** Hydropunch boring drilled in August 1995; Boring erroneously given same ID as boring drilled in December 1992

*** Hydropunch boring drilled in June 1997; Boring erroneously given same ID as boring drilled in December 1992

HP-2	12/9/92
Benzene	1.4
Toluene	1.8

Date

Concentration in µg/L

Analyte

ND	Not Detected at or above laboratory method reporting limit (MRL)
DCA	Dichloroethane
DCE	Dichloroethene
PCE	Tetrachloroethene
TCA	Trichloroethane
TCE	Trichloroethene
Freon 113	Trichlorofluoroethane

Note: Analytes not specified were either ND or not analyzed for all sampling rounds

N

0 20 40 80

Scale in Feet

No.	Date	Revision	Approved

Henshaw Associates, Inc.
Environmental Engineering Services
11875 Dublin Blvd., Suite A-200 • Dublin, California 94568

Date:	03/27/00
Designed:	OS
Drawn:	OS
Checked:	CI
DWG file:	7855-00

VOC CONCENTRATIONS IN GROUNDWATER - SOIL BORINGS
Gold Shield Distributors
3111 Depot Road
Hayward, California

Figure 6
Project 202.B.04