The Goodyear Tire & Rubber Company

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March 10, 2015

Ms. Karel Detterman
Alameda County Health Care Services Agency
Environmental Health Services
1131 Harbor Parkway, Suite 250
Alameda, CA 94502-6577

Dear Ms. Detterman:

Attached for your review is the *Revised Site Conceptual Model* for the Goodyear DEX #9578, 3430 Castro Valley Boulevard, Castro Valley. This report was prepared for The Goodyear Tire & Rubber Company by Stantec Consulting Services, Inc.

I declare, under penalty of perjury, that the information and/or recommendations contained in the attached document or report is true and correct, to the best of my knowledge.

If you have any questions, please don't hesitate to contact me or Stantec Project Manager Gary Messerotes at 408-827-3533.

Very Truly Yours,

Dennis E. McGavis
Director, Global EHS Sustainability
The Goodyear Tire & Rubber Company

Attachment

cc: Ms. Karen Burlingame (via electronic mail)

Revised Site Conceptual Model

Former Goodyear DEX #9578
3430 Castro Valley Boulevard
Castro Valley, California

Prepared for:
The Goodyear Tire & Rubber Company
200 Innovation Way
Akron, Ohio 44316

Prepared by:
Stantec Consulting Services Inc.
15575 Los Gatos Boulevard, Building C
Los Gatos, California

March 10, 2015

LIMITATIONS AND CERTIFICATIONS FOR

NON-PHASE I REPORTS

This report was prepared in accordance with the scope of work outlined in Stantec's contract and with generally accepted professional engineering and environmental consulting practices existing at the time this report was prepared and applicable to the location of the Site. It was prepared for the exclusive use of The Goodyear Tire & Rubber Company for the express purpose stated above. Any re-use of this report for a different purpose or by others not identified above shall be at the user's sole risk without liability to Stantec. To the extent that this report is based on information provided to Stantec by third parties, Stantec may have made efforts to verify this third party information, but Stantec cannot guarantee the completeness or accuracy of this information. The opinions expressed and data collected are based on the conditions of the Site existing at the time of the field investigation. No other warranties, expressed or implied are made by Stantec.

Prepared by:

Gary P. Messerotes
Project Manager

Reviewed by:

Jack Hardin
Managing Principal

All information, conclusions, and recommendations provided by Stantec in this document regarding the Site have been prepared under the supervision of and reviewed by the Licensed Professional whose signature appears below:

Licensed Approver:

Name: Gary P. Messerotes, P.G. **Signature:**

Date: March 10, 2015

Stamp:

PROFESSIONAL GEOLOGIST
GARY P. MESSEROTES
No. 5650
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STATE OF CALIFORNIA

Stantec

Table of Contents

LIST OF FIGURES

LIST OF TABLES

LIST OF APPENDICES

1.0 Introduction

Stantec Consulting Services Inc. (Stantec) was retained by The Goodyear Tire & Rubber Company (Goodyear) to prepare a Revised Site Conceptual Model (Revised SCM) for the former Goodyear DEX # 9578, located at 3430 Castro Valley Boulevard, Castro Valley, California (Site). The original SCM was submitted to the Alameda County Environmental Health (ACEH) on March 21, 2014. After receiving ACEH comments dated April 30, 2014, Stantec submitted a reply to the ACEH comments on July 16, 2014 (Appendix A). Following the reply submittal, Stantec, Goodyear, and the ACEH held a teleconference call on November 21, 2014 to discuss the Site status. A result of that discussion was an email dated November 25, 2014 from the ACEH (Appendix B) indicating that the ACEH had evaluated the data and recommendations presented in the original SCM in conjunction with the case files, and the State Water Resources Control Board's (SWRCBs) Low Threat Underground Storage Tank Case Closure Policy (LTCP) adopted in 2012. It was apparent to ACEH that sufficient Site data was available to eliminate the data gaps identified in the SCM, however, other data gaps were identified. Based on ACEH staff review, the ACEH determined that the Site fails to meet the LTCP Media-Specific Criteria for Groundwater and the Media-Specific Criteria for Vapor Intrusion to Indoor Air. Therefore, the ACEH requested that additional technical comments be addressed in a revised SCM accompanied by a Request for Closure. Revised text is highlighted as ***bold italic*** font to easily discern the responding entries.

In order to review the Site for closure under the San Francisco Regional Quality Control Board's (Water Board) *Low-Threat Case Closure Policy*, the ACEH requires that general and media-specific criteria be presented in a technical report that is prepared, signed, and stamped by a California Professional Geologist or Engineer. The following SCM is one of the general criteria required for that evaluation for site closure.

Information presented herein is based on data collected by Stantec and other environmental consultants, as noted, and is organized as follows:

Section 1	Introduction
Section 2	Summary of Previous Work
Section 3	Sensitive Receptor Survey and Preferential Pathway Study
Section 4	Evaluation of the Extent (Lateral and Vertical) of the Plume and Stability of Contamination
Section 5	Assessment of Impact of Residual Contamination on Public Health and the Environment
Section 6	***LTCP Media Specific Criteria***

Section 7 ***Site Closure Request***

1.1 SITE AND SURROUNDING AREA DESCRIPTION

The Site (Assessor's Parcel Number is 84A-80-19-3) is located at 3430 Castro Valley Boulevard, approximately 500 feet south of the intersection of Castro Valley Boulevard and Redwood Road (**Figure 1**). The City of Castro Valley is an unincorporated area of the County of Alameda. The Site is along Castro Valley Boulevard with an area of 0.72 acres and was developed in 1974 with one single-story building with an approximate floor area of 8,400 square feet (**Figure 2**).

The Site is zoned by Alameda County as Castro Valley Business District, Subarea 7 (Intensive Retail Core, Castro Valley Central Business District Specific Plan), which allows for commercial uses.

Stantec reviewed the Hayward, California, United States Geological Survey (USGS) 7.5-minute Topographic Map, dated 1993, and determined that topography in the vicinity of the Site slopes in a south-southwesterly direction and the Site is located approximately 179 feet above mean sea level (MSL).

1.1.1 Existing/Former/Surrounding Land Use

The Site is leased and operated by Certified Tire & Service Centers, and consists of a service area with eight bays, a tire sales/showroom, office, rest rooms, parts and tire storage. A ninth bay is located on the northernmost section of the building and is used as a storage area for hazardous materials and equipment. There are seven underground hydraulic lifts and one alignment rack in the service bay area. The showroom construction includes cement walls, tiled floor, and drop ceiling with acoustic tiles.

Stantec previously reviewed documents from the County of Alameda Building and Planning Departments (CABD and CAPD, respectively), Goodyear, and data provided by Environmental Data Resources, Inc. (EDR) regarding historical use of the Site. Aerial photographs from 1939 indicate the Site was vacant land. A structure appears on Site in the 1946 aerial photograph. In the 1965 aerial photograph, two structures appear on Site. One of the structures appears similar to the current Site building. The Site was developed for Goodyear in 1973 and was subleased to Merritt Tire and Brake (Merritt) from 1977 to 1993. Rynck Tire / Certified Tire & Service Centers have leased the Site since 1993. Goodyear operated a tire sales and service center from 1974 thru 1977.

The adjoining properties are as follows:

- North – Castro Valley Bowl;

- South – Castro Valley Boulevard beyond which lies Albertson's Supermarket and Washington Mutual Bank;
- East – Safeway Supermarket; and
- West – Nail Trap and Edward Jones Investments (a property management firm).

No obvious signs of recognized environmental conditions (RECs) were observed on the adjoining and surrounding properties during the Site reconnaissance. Observations were restricted to those areas readily observable from the public right-of-way. A Site Plan is included as **Figure 2**.

1.1.2 Former/Existing Contaminant Storage/Dispensing Facilities and Use/Release History

The following information regarding current and former contaminant storage and use was presented in SECOR's (now Stantec) *Phase I Environmental Site Assessment (Phase I ESA),* dated December 1, 2004:

- Mr. Sammy Sanjay, store manager, reported to SECOR that a 550-gallon used oil underground storage tank (UST) was formerly located at the north section of the Site, west of Bays 7 and 8. He further explained that he has no information regarding the installation, removal, or abandonment of the UST. SECOR observed a newer concrete patch on the concrete apron west of Bays 7 and 8.
- Four above ground storage tanks (ASTs) were observed during the Site reconnaissance: one 240-gallon metal double-walled AST containing new oil; one 110-gallon metal double-walled AST containing used oil; and two approximately 110-gallon ASTs containing used/new antifreeze. None of the ASTs are registered with the County of Alameda Fire Department (CAFD). The County only requires permits for tanks with a capacity greater than 660 gallons or if the total capacity for the facility is greater than 1,320 gallons. Heavy staining was observed adjacent to the new and the used oil ASTs. There was no visible cracking observed within the concrete at either location.
- A battery storage area was observed beneath the flight of stairs across from the air compressors. New batteries were previously stored on the west wall near the entrance door to Bay 1. SECOR observed moderate staining on the floor at the battery storage location. The used batteries are collected by Exide every two to three weeks.
- Two air compressor units were observed at the southern end of the tire storage area. SECOR observed heavy staining on the concrete floor near the air compressor locations. Cracks were observed on the concrete surface under and adjacent to the air compressors.

- A parts washer unit consisting of a 55-gallon drum was located on the east wall of Bay 8. Heavy staining was observed on the intact concrete floor beneath the parts washer unit. Solvent disposal is performed by Romic Environmental once a month.

- A new automatic transmission fluid (ATF) storage unit, consisting of four 16-gallon metal drums, was located in the store room. No additional new ATF storage units were observed. No staining was observed on the floor at the ATF location.

- A Pacific Gas and Electric transformer with identification numbers T-7300, SW-3067, and SW-3086, was observed adjacent and east of the Site. SECOR observed heavy stains on the concrete pad where the transformer was installed.

- Used tires were observed in the northern exterior storage area. According to facility personnel, the used tires are collected and recycled by Lakin Tire of California, Inc.

- SECOR observed 13 floor drains during the Site reconnaissance. Drains are located in the rest rooms; between the two air compressors; and in each service bay adjacent to the hydraulic lifts and alignment rack.

- Seven underground hydraulic lifts and one alignment rack were observed in the service bay area. Mr. Sanjay informed SECOR that Walker Hydraulics of Concord, CA maintains the hydraulic lifts on Site. Based on the circa 1973 installation date of the hydraulic lifts, there is a potential that the hydraulic lift fluids contain PCBs. According to Ms. Karen Menard, a former store manager for the Site, repairs have been made to the hydraulic lifts. However, she does not have details on what kind of repairs were made.

- An oil/water separator (OWS) is located adjacent to the sales room along the western exterior. According to conceptual drawings provided by Goodyear, the OWS is 385-gallons.

1.2 GEOLOGIC SETTING

Soils beneath the Site consist of clay and silty clay to approximately 10 to 14 feet below ground surface (bgs), underlain by sand, silty sand and gravelly sand to approximately 20 feet bgs. During installation of monitoring wells MW-1 and MW-3 in 1994, MW-4 in 1996, and MW-5 in 2012, groundwater was encountered in these relatively coarse-grained sediments present between 10 and 20 feet bgs. At MW-2, the water-bearing zone occurred at a shallower depth, where saturated sediments (silty clay with minor sand) were encountered at approximately 10 feet bgs. During installation of wells MW-1, MW-2, and MW-3, and in borings SB-1, SB-4, SB-5, and SB-8, the field geologists observed a stiff, dry silty clay underlying the saturated zone, at approximately 20 feet bgs.

A geologic cross section (A-A') presents the Site lithology, as well as historical soil and groundwater analytical results. The geologic cross section location is shown on **Figure 2;** with cross section A-A' on **Figure 3**.

1.3 HYDROGEOLOGIC CONDITIONS

San Lorenzo Creek is located approximately 4,500 feet west of the Site. A tributary to San Lorenzo Creek is located approximately 1,000 feet east of the Site. Other water bodies near the Site include the South Reservoir located beyond another tributary to the San Lorenzo Creek approximately 3,500 feet west of the Site and Don Castro Reservoir approximately 6,000 feet east of the Site beyond the San Lorenzo Creek. San Lorenzo Creek flows from the western slope of the Coast Ranges westward across the East Bay Plain and into the San Francisco and San Pablo bays.

According to the California's Groundwater Bulletin 118, the Site belongs to the East Bay Plain Subbasin, which consists of unconsolidated sediments of Quaternary age. The cumulative thickness of the unconsolidated sediments is about 1,000 feet. According to the U.S Department of Agriculture's (USDA) Soil Conservation Service (SCS) soil map, the Site belongs to a Class D hydrologic group, which is defined by very slow infiltration rates due to clayey soils, have a high water table, or are shallow to an impervious layer.

Since the groundwater monitoring wells were first installed in 1994, the depth to groundwater has ranged between 3.03 ft bgs (MW-2, March 2005) to 11.25 ft bgs (MW-3, August 2002). Based on information collected by Stantec during the last and most recent groundwater sampling event on August 21, 2013, groundwater flow direction was to the south with a gradient of 0.015 feet per feet (**Figure 4**). Flow direction and gradient has been consistent since monitoring was initiated ***as presented in the groundwater direction Rose Diagram*** (**Figure 5**).

2.0 Summary of Previous Work

Confirmation soil samples, soil borings, and monitoring well locations at the Site are shown on **Figure 2**; historical soil analytical results from previous investigations are summarized in **Table 1**; historical grab groundwater analytical results from previous investigations are summarized in **Table 2;** monitoring well construction details and historical groundwater well elevations are summarized in **Table 3**; and historical groundwater monitoring well analytical results are summarized in **Table 4**.

2.1 INITIAL SUBSURFACE INVESTIGATION WASTE OIL UST, NOVEMBER 1, 1994

Touchstone Developments Environmental Management (Touchstone) prepared *an Initial Subsurface Investigation Waste Oil UST* report for the Site, dated November 1, 1994. According to Touchstone, prior to 1993, a 550-gallon used oil UST was removed from the Site. Touchstone reviewed Alameda County files which indicated the removal of the UST was conducted without a permit and details regarding the UST removal, including a date, condition of the UST, or disposal of the UST was unavailable. It was suspected that the former tenant, Merritt Tire & Brake, had the UST removed without any knowledge of Goodyear.

In September 1993, SEMCO advanced two soil borings (No.1-South and No.2-North) via hand auger to 8 feet bgs in proximity to the former UST. Soil samples from each borehole were submitted to Superior Analytical Laboratory (Superior Analytical) in Martinez, California for laboratory analysis of total petroleum hydrocarbons (TPH) as gasoline range organics (GRO); TPH as diesel range organics (DRO); TPH as oil & grease (O&G); and benzene, toluene, ethylbenzene, and xylenes (BTEX). Based on the results of the initial sampling, ACDEH requested a preliminary investigation be conducted to determine the extent of potential contamination.

In September 1994, Touchstone installed three groundwater monitoring wells (MW-1, MW-2, and MW-3) to approximately 20 feet bgs to further assess subsurface soil and groundwater conditions. No visible indications or odors of petroleum hydrocarbons were present in soils collected from the boreholes for MW-1 and MW-2; however, petroleum hydrocarbon odors were noted in soils collected from soil boring MW-3. Two soil samples were collected from each borehole at 6 and 10 feet bgs and submitted to Superior Analytical for analysis of TPH-GRO/DRO; O&G; BTEX; halogenated volatile organic compounds (HVOCs); semi-volatile organic compounds (SVOCs); and selected metals (cadmium, chromium, lead, zinc, and nickel).

TPH-GRO, TPH-DRO, O&G, BTEX, HVOCs, and SVOCs were not detected (ND) in the soil samples submitted from the MW-1 and MW-2 boreholes; all 5 metals analyzed were detected at various concentrations in only the 6 foot bgs soil sample from MW-1, all other soil samples were ND.

Soil samples from the MW-3 borehole (6 and 10 feet bgs) contained TPH-GRO, TPH-DRO, O&G, BTEX, HVOCs, and SVOCs at various concentrations.

No TPH-GRO, TPH-DRO, O&G, BTEX, HVOCs, or SVOCs were detected in the groundwater samples collected from groundwater monitoring wells MW-1 and MW-2, with the exception of bis (2-ethylhexyl) phthalate (DEHP) detected in the sample from MW-1. The groundwater sample from MW-3 contained concentrations of TPH-GRO, TPH-DRO, BTEX, HVOCs, SVOCs, and metals.

Touchstone concluded that based on the analytical results of the investigation, a release had occurred from the UST and the adjacent soils and shallow saturated zone was impacted and recommended additional investigation and remedial action for the Site.

Historical soil analytical results are presented in **Table 1**; monitoring well construction details and historical groundwater well elevations are summarized in **Table 3**; historical groundwater analytical results are included in **Table 4**.

2.2 EXPANDED ASSESSMENT AND RISK-BASED CORRECTIVE ACTION EVALUATION, MARCH 4, 1997

EMCON prepared an *Expanded Assessment and Risk-Based Corrective Action Evaluation* report for the Site, dated March 4, 1997. In December 1996, four soil borings (PB-1 through PB-4) were advanced to approximately 10 to 16 feet bgs; and PB-4 was subsequently converted to monitoring well MW-4. Field screening showed no indications of chemical impact in soil from borings PB-2, PB-3, and PB-4. For this reason, soil samples from PB-2 and PB-3 were not submitted for chemical analysis; however, the soil sample from PB-4 was submitted for chemical analysis to confirm the limits of on-Site impact. Soil samples collected from PB-1 and PB-4 at approximately 3 feet bgs were submitted to Columbia Analytical Services of San Jose, California for analysis of TPH-GRO; BTEX; total recoverable petroleum hydrocarbons (TRPH); and total organic carbon (TOC).

Analytical results from the soil sample collected from PB-1 contained TRPH (also reported as O&G), TPH-GRO, BTEX, and TOC. There were no detectable concentrations of TPH-GRO, BTEX, or TRPH in the soil sample collected from PB-4. Analytical results for these soil samples are presented in **Table 1**.

There were no detectable concentrations of TPH-GRO, TPH-DRO, TRPH, BTEX, SVOCs, or HVOCs in the groundwater sample collected from the newly installed groundwater monitoring well MW-4.

EMCON performed a Tier 1 evaluation to evaluate the potential risk posed by a release at the Site and to determine if corrective action was necessary. The evaluation was conducted using the 1995 guidelines contained in the *Standard Guide for Risk-Based Corrective Action Applied at Petroleum Release Sites* (American Society of Testing Materials [ASTM] E-1739-95, November 1995). The ASTM risk-based corrective action (RBCA) evaluation showed that concentrations of chemicals detected in soil and groundwater at the Site do not exceed levels that correspond to an acceptable level of risk. EMCON stated the evaluation was considered conservative due to the conservative nature of the modeling assumptions and the models used, and because the portion of the Site selected to represent the entire property was a relatively small portion of the

Site. Therefore, even though floating product was present at the Site, the results indicate that no additional remedial measures or additional evaluation are necessary to protect the health of the current or future on-Site receptors.

Based on the results of the evaluation, and the occasional presence of limited amounts of floating product, EMCON recommended limited groundwater monitoring to verify that impacted groundwater continues to pose no significant risk and that a "no further action letter" be issued for the Site following the next groundwater monitoring event.

2.3 PHASE I ESA AND LIMITED SUBSURFACE INVESTIGATION, DECEMBER 1, 2004

SECOR prepared a Phase I/II Environmental Site Assessment Report dated December 1, 2004. The following RECs were identified during the performance of the Phase I ESA:

- Based on the circa 1973 installation date of the hydraulic lifts, there is a potential that the hydraulic lift fluids contain polychlorinated biphenyls (PCBs). Additionally, Ms. Karen Menard of Rynck Tire and Auto Center reported that the hydraulic lifts had repairs in the past, but she was unable to provide SECOR with additional information. Because the hydraulic lifts and alignment rack were more than 20 years old and had evidence of subsurface repair, and in accordance with Goodyear's *Combined Phase I and Phase II Environmental Site Assessment Specification*, dated September 28, 2001, the hydraulic lifts and alignment rack were considered a REC.

- According to the conceptual drawings provided by Goodyear to SECOR, and records reviewed at the ACDEH office, a 385-gallon sand and grease interceptor was installed beneath the concrete apron west of Bays 1 and 2. During Site reconnaissance, asphalt trench patches were observed in the vicinity of the suspected location of the sand and grease interceptor. Given that the sand and grease interceptor was more than 10 years old, and in accordance with Goodyear's *Combined Phase I and Phase II Environmental Site Assessment Specification*, the sand and grease interceptor was considered a REC.

- No records were located referencing the abandonment/destruction of a 550-gallon used oil UST or a 385-gallon sand and grease interceptor located on Site.

- The Site is currently an open case with the Water Board and the ACDEH.

- An area of heavy staining was observed at the air compressor location, and the affected concrete floor area was cracked.

- The Unocal property located at 20405 Redwood Road is located hydrologically up-gradient and within a 1/4 mile of the Site, is listed on several databases (State LUST, LUST Region 2, LUST Alameda County, FID, Cortese, HAZNET and UST HIST), is currently a Water Board Region 2 open case and a Local Oversight Program (LOP) open case, and

groundwater samples collected from the property revealed that methyl tert-butyl ether (MTBE) was detected at 1,400 parts per billion (ppb).

Given that the hydraulic lifts and the OWS were greater than 20 and 10 years old, respectively, a limited Phase II subsurface investigation was performed to address the potential impacts to the environment from operation of the hydraulic lifts and OWS in accordance with Goodyear's *Combined Phase I and Phase II Environmental Site Assessment Specification*. The limited Phase II subsurface investigation also assessed the former used oil UST, the western Site property boundary, and the area of heavy staining in the air compressor area.

No analytes were detected in soil samples from SA-1, SB-1, or OWS-1 (except for carbon disulfide in OWS-1). TPH-DRO and O&G were detected in soil samples from both UST-1 and HL-1; with O&G the only analyte detected in soil samples from HL-2, HL-3, and HL-4. No analytes were detected in the groundwater sample from SB-1. Analytical results for the soil and grab groundwater samples collected during this subsurface investigation are included in **Table 1** and **Table 2**, respectively.

2.4 GROUNDWATER MONITORING, 1994 – 2013

Groundwater monitoring and sampling of wells MW-1, MW-2, and MW-3 began in 1994, with well MW-4 added in 1996 and well MW-5 added in 2012. Groundwater levels were monitored to assess groundwater flow directions and hydraulic gradients. These wells were also monitored for the presence of free-phase product (free-product). Since 1994, the depth to groundwater has generally varied from 3.03 feet to 8.51 feet below top of casing in the wells. Groundwater flow has consistently been from north to south across the Site. Monitoring well construction details and historical groundwater well elevations are summarized in **Table 3**.

Concentrations of petroleum hydrocarbons, HVOCs, and SVOCs, have generally been below laboratory reporting limits (LRLs) in groundwater samples from Site wells, with sporadic detections of TPH-GRO, TPH-DRO, O&G, BTEX, fuel oxygenates, VOCs, and metals. Analytical results for groundwater monitoring well samples are summarized in **Table 4**. Groundwater contours, flow direction, and analytical data from the last groundwater monitoring event (August 2013) are presented on **Figure 4**.

With the third quarter 2013 monitoring event, Stantec has demonstrated that non-detect or low level concentration analytical results from the prior four consecutive quarterly sampling events provides sufficient data to satisfy the water quality protection objectives of the Basin Plan.

2.5 PRE-CORRECTIVE REMEDIAL ACTION ASSESSMENT, JANUARY 2010

In an effort to determine the limits of the excavation for the approved corrective remedial action at the Site, Stantec completed four direct-push soil borings (SB-1, SB-4, SB-5, and SB-8) along a transect extending approximately 14 feet north (up-gradient) and 45 feet south (down-gradient) of the former UST excavation (**Figure 2**) on September 10, 2009. The soil borings were

advanced to approximately 20 feet bgs for collection of soil and grab groundwater samples. Soil and grab groundwater samples collected were analyzed for TPH-DRO, O&G, TPH-GRO, BTEX, and MTBE.

Soil analytical results indicate that TPH-GRO, TPH-DRO, and O&G concentrations were detected in soil samples from all nine of the borings, with ethylbenzene in SB-1 at 5 feet bgs, the only BTEX constituent detected. Groundwater analytical results indicate that TPH-DRO and O&G were detected in the grab groundwater samples collected from SB-1 and SB-4. Analytical results for the soil and groundwater samples collected during this subsurface investigation are included in **Tables 1** and **2**, respectively.

Additionally, Stantec abandoned groundwater monitoring well MW-3 via pressure grouting in accordance with State and the County well standards. Following the completion of field activities, Stantec submitted a Department of Water Resources (DWR) Well Completion Report (Form 188) for the destroyed well to the DWR.

2.6 CORRECTIVE REMEDIAL ACTION, AUGUST 2012

In August 2012, Stantec completed remedial activities described in the *Revised Work Plan for Implementation of Corrective Action Work Plan, Replacement of a Groundwater Monitoring Well, and Continuation of Semi-Annual Groundwater Monitoring*, dated July 25, 2012. As indicated on **Figure 2**, the overall excavation covered the area in front of service bay numbers 5 through 8 and the storage area. Based on the results of previous investigations, the area of the former UST to be excavated was determined to be 15-feet wide (limited by the presence of a high pressure natural gas line to the west and a water line along the Site building to the east), by 60-feet long (the extent of known petroleum impacted soils), and by approximately 8-feet deep (the depth of first-encountered groundwater).

Excavated soil was stockpiled on visqueen in a pre-designated lay down area, and covered daily. Soil proximate to the former UST was stored and characterized separately from the rest of the excavated soil, due to the presence of a strong odor and visible sheen on the soil. This investigation-derived waste was subsequently sampled by Stantec, and profiled as non-hazardous waste. It was transported by Intrinsic Trucking Company of Santa Rosa, California for disposal at the Republic Services – Vasco Road Landfill in Livermore, California. A total of 330.1 tons of non-hazardous soil was disposed of off-site.

2.6.1 Confirmation Soil Sampling

Confirmation soil samples were collected from the base of the excavation and approximately 5 to 6 feet bgs (sidewall samples) within each trench to determine whether residual source material was removed by the excavation activities or if it remains at the Site. One soil confirmation sample was collected for approximately every 10 linear feet of excavation; a total of 20 confirmation soil samples (EX-1 through EX-20) were collected. Confirmation soil samples were transported to Test America Laboratories, Inc. in Pleasanton, California (Test America), a

state certified laboratory, for analysis under chain-of-custody protocol. Samples were analyzed for TPH-GRO by 8260B; TPH-DRO by 8015B; O&G by 9071B; BTEX by 8260B; MTBE by 8260B; SVOCs by 8270C; lead (Pb) by 6010B; and lead scavengers (ethylene dichloride [EDC] and ethylene dibromide [EDB]) by 8260B.

Soil sample results indicate TPH-DRO, benzene, xylenes, and 2-methylnaphthalene were detected in various confirmation samples. However, as agreed to with the ACDEH, excavation would be limited by the underground utilities to the west, the facility building to the east, and not go deeper than the capillary fringe as to not encounter significant groundwater.

2.6.2 Application of Oxygen Releasing Compound (ORC) Amendment

Stantec applied approximately 40 pounds of ORC to each trench excavation (i.e., the portion in communication with the first encountered water-bearing zone) prior to placement of backfill. Addition of the ORC was designed to stimulate and enhance bioremediation of petroleum hydrocarbons present in groundwater. The ORC selected for use was a Regenesis product, which is a combination of calcium and oxyhydroxide [CaO(OH)2] and calcium hydroxide [Ca(OH)2]. Approximately 400 pounds of ORC was applied to the overall excavation.

2.6.3 Backfilling, Compaction, and Site Restoration

Once the soil was excavated, confirmation samples collected, and ORC placed, each of the 10 trenches were filled with a sand-and-cement slurry and compacted. Trenches were excavated in leap-frog fashion to allow time for the slurry to establish its full bearing strength before the plate was removed. After the last trench was completed, the concrete apron over all trenches was replaced to match the surrounding surface.

2.6.4 Groundwater Monitoring Well Installation

On August 14, 2012, Stantec installed monitoring well MW-5 (shown on **Figure 2**) down-gradient of the excavation, to monitor post-remediation groundwater conditions. The two-inch diameter well was installed to a total depth of 20-feet bgs, with a screened interval of 7 to 20 feet bgs, slotted at 0.02-inches. Groundwater was first encountered at 14 feet bgs, but stabilized at 7 feet bgs.

3.0 Sensitive Receptor Survey and Preferential Pathway Study

3.1 SENSITIVE RECEPTOR SURVEY

Stantec conducted a sensitive receptor survey consisting of an evaluation of well completion reports for wells located within a 2,000-foot radius of the Site that were available from the DWR and the Alameda County Public Works Agency (ACPWA). Stantec also reviewed available groundwater monitoring reports on the Water Board's Geotracker database for additional wells within the 2,000-foot radius of the Site.

Stantec reviewed available well data to identify all active, inactive, standby, decommissioned (sealed with concrete), and abandoned (improperly decommissioned or lost) wells including irrigation, water supply, industrial, livestock, dewatering, and cathodic protection wells within a ¼-mile radius of the Site. Additionally, Stantec has identified beneficial resources and other sensitive receptors including, but not limited to, groundwater classification, wetlands, surface water bodies, natural resources, schools, hospitals, day care centers, elder care facilities, etc. The Rose Diagram (Figure 5) indicates that the prevalent groundwater flow direction is to the south-southeast. A well and sensitive receptor map showing the locations of the wells and sensitive receptors within a ¼-mile radius are presented on Figure 6, with the numbered wells tabulated in Appendix C.

The reports reviewed did not identify any municipal or water supply wells within a ¼-mile radius of the Site and only one irrigation well (identified as #13 on Figure 6) at a depth of 28 feet below ground surface (bgs) approximately 1,325 feet east northeast (up- and cross-gradient) of the Site.

According to Geotracker, two properties within a ¼-mile radius of the Site have open cases on Geotracker with related petroleum releases: a Shell Service Station (identified as #3 on Figure 6) and a BP Service Station (identified as #7 on Figure 6), both of which are located southeast (cross- and slightly down-gradient) of the Site approximately 510 and 745 feet away, respectively.

The nearest sensitive receptor (various schools and medical offices) is located approximately 680 feet northeast (up- and cross-gradient) of the Site, with the other medical office located approximately 850 feet cross- and down-gradient of the site. Two schools are located within ¼-mile radius of the Site, but are upgradient approximately 1,000 to 1,300 feet to the north and northwest.

The only surface water receptor within a ¼-mile of the Site is Kelly Canyon Creek, which is east of the Site approximately 1,050 feet at its closest point. Kelly Canyon Creek feeds into San Lorenzo Creek approximately 1 mile southwest of the Site.

Based on the distance of the closest sensitive receptors and the mixed-use neighborhood of the Site, there is a low likelihood of a material threat or release to sensitive receptors within a ¼-mile radius of the Site.

3.2 PREFERENTIAL PATHWAY STUDY

Stantec conducted a preferential pathway study of the Site vicinity to assess the potential for subsurface utility trenches to act as potential conduits for groundwater and petroleum hydrocarbon migration. To identify utilities in the Site vicinity, Stantec contacted the following agencies:

- Pacific Gas & Electric Company (PG&E);
- East Bay Municipal Utility District (EBMUD);
- Castro Valley Sanitation District;
- AT&T North Bay/Pacific Bell; and
- The County of Alameda Building Department.

Additionally, Stantec contacted Underground Services Alert (USA) for identification of other utilities in the Site vicinity.

The City of Castro Valley is an unincorporated area of Alameda County; therefore the County of Alameda maintains records of significance for the Site. On January 6, 2009, Stantec visited the County of Alameda Building Department to review building permits and conceptual drawings for the Site. Files available were on microfiche only and consisted of copies of permits for sign installation and did not include conceptual drawings or information regarding utilities.

Water, sanitary sewer, and underground gas and electric utilities were identified south and east of the Site, as well as within the Site boundaries. Technical aspects of the underground utilities, including flow direction and pipe diameter are shown on **Figure 7**. Locations and depths of the utilities were based on the following:

- Maps and permits provided by Castro Valley Sanitation District dated 1944, 1959, and 1974;
- Maps provided by EBMUD dated 1931 and 1960; and
- Goodyear conceptual design drawings dated 1973.

Summaries of the findings are presented in the following sections.

3.2.1.1 Water Lines

An 8-inch diameter water line, traversing east to west and sloping to the west, is located within a utility trench beneath Castro Valley Boulevard at 3 feet bgs. A 4-inch diameter water line, set approximately 3 feet bgs, enters the Site from the south and supplies water to the Site.

3.2.1.2 Sanitary Sewer Lines

A 6-inch diameter vitrified clay pipe (VCP) sewer line, set at a minimum 2% slope, is located within a utility trench beneath Castro Valley Boulevard and lies approximately 5.5 to 6 feet bgs. Floor drains in the Site service bays and tire wash area are connected to a 4-inch diameter VCP sanitary sewer line set at a minimum 2% slope that slopes southward discharging into an OWS on the Site. Historically, floor wash water (consisting of either tap water or tap water and commercial soap) was discharged into the floor drains. According to the current store manager, the floor drains adjacent to the hydraulic lifts are sealed and only the tire wash drain currently discharges into the OWS. The OWS collects sediments and oil and discharges the water into the sanitary sewer.

Floor drains located within the restrooms flow south and connect with the discharged water from the OWS and discharge into the sanitary sewer line beneath Castro Valley Boulevard.

3.2.1.3 Storm Drains

A 21-inch diameter storm sewer drain line is located along the north side of Castro Valley Boulevard. The depth of the utility trench containing the storm drain line is approximately 6 feet bgs.

3.2.1.4 Gas and Electric Lines

Two to 4-inch diameter gas and electric lines lay in utility trenches located north, south, and west of the Site building. Typically, PG&E trenches are approximately 1 to 2 feet wide and 2 to 4 feet bgs. Two underground transformers are located on the northwest corner of the asphalt driveway and the southeast corner of the front parking area.

3.2.1.5 Communication Lines

AT&T telephone and cable lines are located in the Site vicinity; however, at the time of this report preparation, no information regarding pipe diameter, location, or depth was available.

3.2.1.6 Abandoned Sewer Line

According to records reviewed at the Castro Valley Sanitation District, an abandoned 6-inch VCP sewer line traverses the Site from north to south. The line previously serviced the Castro Valley Bowl located immediately north of the Site, and connected to the main sewer line on the north side of Castro Valley Boulevard at a depth of approximately 6 feet bgs. Historical records

did not contain information regarding trench specifications such as depth of placement. Assuming a minimum slope of 2% to the main sewer line located at approximately 6 feet bgs, the approximate depth of the abandoned sewer line between the former UST and the OWS would be approximately 2 to 4 feet bgs.

Historical groundwater monitoring indicates the presence of free-phase petroleum hydrocarbons within well MW-3, located approximately 25 feet down-gradient of the former used oil UST, from August 2002 until the well was decommissioned in September 2009. Groundwater in well MW-4, located approximately 70 feet further down-gradient, has historically been 'non-detect' for constituents of concern, indicating that the boundary of free product and dissolved-phase hydrocarbons in groundwater was between wells MW-3 and MW-4. Groundwater in well MW-2 historically, had no free product present, and until the last sampling event in August 2013, had no detected concentrations of petroleum hydrocarbon constituents since September 2004. Therefore, the area of interest relating to the potential interception of free product or impacted groundwater by utility trenches is the area bounded by the former UST to the north, MW-4 to the south, the existing building to the east, and MW-2 to the west. Utility lines identified in this area are the gas and electrical service lines (approximately 2 to 4 feet bgs), the abandoned sewer lateral from Castro Valley Bowl (approximately 2 to 4 feet bgs in the area of interest), and the floor drain line (sanitary sewer line) beneath the building (maximum depth of approximately 4 feet bgs at the OWS).

Based on the depth of identified utilities in the area of interest (up to approximately 4 feet bgs) and the depth to first-encountered groundwater (averaging between 5 and 8 feet bgs), Stantec concludes that utility lines at the Site have a low potential to intercept free-phase product or impacted groundwater associated with the former used oil UST.

4.0 Evaluation of the Extent (Lateral and Vertical) of the Plume and Stability of Contamination

4.1 NON-AQUEOUS PHASE LIQUID (NAPL)

Since groundwater monitoring was initiated at the Site in 1994, NAPL was detected in one groundwater monitoring well MW-3, irregularly between August 2002 and March 2005 and from June 2007 until the well was decommissioned in 2009. NAPL was not present during the corrective action excavation activities, nor was ever detected in the downgradient replacement well MW-5.

The ACEH requested literature-based research to document free-product concentration ranges for oil and grease in groundwater. However, after extensively searching the Internet and discussing with Stantec in-house chemists, toxicologists, and project managers working exclusively with petroleum companies, no published information could be located. Concentrations of individual petroleum hydrocarbon components near their respective effective solubilites are generally indicative of NAPL. The solubility of a given compound is the maximum concentration that can be dissolved in water under specific temperature and pressure conditions. Since petroleum hydrocarbon products typically consist of hundreds of constituents, the equilibrium dissolved phase concentration of a given compound will be significantly lower than its solubility. The equilibrium concentration may be estimated based on Raoult's Law, which states the concentration in the water phase is equal to the solubility of the compound multiplied by the mole fraction of the compound in the NAPL. The mole fraction is the percentage of the compound in terms of moles within the NAPL and is approximately equal to the mass fraction of the compound in the NAPL. Without a sample of the NAPL from the Site, it is extremely difficult to determine the mass fraction of individual compounds of the type of NAPL. The other factor in attempting to estimate free-product concentration ranges for oil and grease is the fact that the oil and grease concentrations detected in 2013 were qualified by the analytical laboratory with a "J" flag, indicating that the results were less than the reporting limit, but greater than or equal to the method detection limit and the concentration is an approximate value.

4.2 UNSATURATED ZONE SOIL

Based on boring logs and excavations at the Site, the unsaturated zone soil appears to be approximately 6 feet deep. When monitoring wells MW-1 through MW-4 were first installed in the 1990's, first encountered groundwater was approximately 10 feet bgs. However, when MW-5 was installed in 2012, first encountered groundwater was approximately 14 feet bgs. After stabilization and over the past couple of years, water levels were measured to be approximately 6 to 8 feet bgs. Therefore, the discussion of unsaturated zone soil focuses on soil results from the surface to approximately 6 feet bgs.

Concentrations of TPH-GRO, TPH-DRO, O&G, BTEX, and sporadic HVOCs, SVOCs, and metals are present in the unsaturated soil zone across the Site, with the elevated concentrations primarily localized in the vicinity of the corrective remedial excavation for the former UST and in front of the service bays. Historical soil analytical results are presented in **Table 1** with unsaturated soil zone results on **Figure 8**.

4.3 SMEAR AND SATURATED ZONE SOIL

The smear zone is interpreted to be the vertical zone between the highest and lowest water table elevations for the time period during which the apparent subsurface impacts occurred, and horizontally to encompass the area containing or having contained measureable amounts of NAPL. NAPL was present at only one location (MW-3) down-gradient from the former used oil UST. Based on Site information, the smear zone is interpreted to be the zone between first encountered water and static water in borings or groundwater monitoring wells and is located approximately 6 to 8 feet bgs.

Similarly to the unsaturated zone soils, concentrations of TPH-GRO, TPH-DRO, O&G, BTEX, and HVOCs, SVOCs, and metals are present in the smear and saturated soil zone across the Site, with the elevated concentrations primarily localized in the vicinity of the corrective remedial excavation for the former UST and the service bays. Analytical results from the 2004 Site investigation indicate that, in general, all chemicals of concern (COCs) in soil are below the laboratory detection limits, or below the Water Board 2013 Environmental Screening Levels (ESLs), except for soil samples from UST-1 and HL-1; the 2009 Site investigation identified ESL exceedances for soil samples from SB-1, SB-4, and SB-8, with each of these locations being excavated during the remedial corrective action; and samples collected during the remedial corrective action in 2012 indicating ESL exceedances in soil samples from EX-5 through EX-12, EX-15, EX-18, and EX-20.

Historical soil analytical results are presented in **Table 1** with smear and saturated soil zone results on **Figure 9**.

4.4 GROUNDWATER

When initially installed in 1994, groundwater samples from MW-1 and MW-2 had no detections of petroleum hydrocarbon constituents, VOCs, or metals, with the exception of bis (2-ethylhexyl) phthalate (DEHP) and zinc in MW-1 and chloroform in MW-2. However, MW-3 installed less than 20 feet down-gradient of the former used oil UST, had detections of numerous COCs.

Initial sampling at the Site in 1994 and 1995 reported TPH-GRO at concentrations up to 290 micrograms per liter (µg/L), TPH-DRO at concentrations up to 960 µg/L, and BTEX concentrations (benzene and total xylenes) up to 29 µg/L. Benzene was detected in well MW-3 at a concentration of 95 µg/L in 1996, along with total xylenes of up to 53 µg/L. The following HVOCs

were detected in MW-3: 8.3 µg/L of vinyl chloride; 1.6 µg/L of 1,1-dichloroethene; 17 µg/L of 1,1-dichloroethane; 8.4 µg/L of cis-1,2-dichloroethene; 12 µg/L of 1,1,1-trichloroethane; 1.9 µg/L of trichloroethene (TCE); and, 12 µg/L of tetrachloroethene (PCE). Chromium, nickel, zinc, and especially total lead, have been sporadically detected in all Site wells, with lead at concentrations ranging from 5.6 to 28 µg/L. The presence of lead at similar concentrations in all Site wells is likely indicative of a background condition unrelated to the historical release of petroleum hydrocarbons from the former used oil UST.

Passive free product removal, using adsorbent socks, was implemented between August 2002 and December 2007. During this time, MW-3 was sampled only once, in March 2005, at which time TPH-GRO, TPH-DRO, benzene, and MTBE were detected above ESLs. Free product removal was discontinued in 2007 at the direction of ACEH, who requested evaluation of more aggressive remediation techniques.

On August 14, 2012, Stantec installed monitoring well MW-5 (**Figure 2**) down-gradient of the remedial corrective excavation, to monitor post-remediation groundwater conditions. Analytical results from four consecutive sampling events of the four remaining Site wells since installing MW-5, indicated O&G [identified by hexane extractable materials (HEM) in the analytical reports] was detected in all four monitoring wells, with concentrations ranging from 910 µg/L in MW-1 to 1,800 µg/L in MW-4. All detections of O&G were "J" qualified, meaning the results are an approximate value less than the reporting limit but greater than or equal to the method detection limit. MTBE was detected in only MW-5, with a concentration of 0.091 µg/L, with the result being "J" qualified. Analytical results indicate no other detections of contaminants, or contaminants above ESLs for commercial property uses where groundwater is a potential drinking water source, in any of the wells except for lead. Lead was detected in one groundwater sample collected from MW-5 at 4.3 µg/L, with the result being "J" qualified, which is above the ESL of 2.5 µg/L. ***Analysis of additional groundwater sampling of MW-4 and MW-5 conducted in May of 2014 did not detect any VOCs or SVOCs above their respective method detection limits (MDLs).*** Historical groundwater analytical results are presented on **Figure 3**.

With this data, Stantec has demonstrated that non-detect or low level concentration analytical results from the last four consecutive quarterly sampling events provides sufficient data to satisfy the water quality protection objectives of the Basin Plan.

5.0 Assessment of Impact of Residual Contamination on Public Health and the Environment

As a first step in assessing the impact of residual contamination on public health and the environment, Stantec has compared results of previous investigations to the ESLs for chemicals commonly found in soil and groundwater at sites where releases of hazardous chemicals have occurred. The ESLs are used to evaluate the laboratory analytical data for soil and groundwater samples and were developed to address environmental protection goals for different pathways. ESLs are conservative concentrations developed for use in screening analytical data. The criteria are based upon one in a million excess lifetime cancer risk and a hazard quotient of 1.0 for non-cancer health effects. An exceedance of an ESL may indicate that additional investigation, or evaluation is warranted; however, an exceedance of an ESL does not necessarily represent a long-term (chronic) threat to human health or the environment, or indicate that remediation of a site is necessary. The Tier 1 (lowest, most conservative) commercial or industrial land use screening criteria (with groundwater considered a drinking water resource) was used for soil and groundwater data collected at the Site. Screening criteria values are included in **Tables 1, 2, and 4**.

As previously indicated, a significant portion of the impacted soil exceeding commercial and industrial ESLs has been excavated and removed from the Site as part of the remedial corrective action. The areas of remaining residual soil impact that exceed ESLs are:

1) Along the eastern and western sidewalls of the remedial excavation. However, due to utilities to the west and the facility structure to the east, no further excavation is possible in these directions;
2) Along the bottom of the excavation, ORC was applied to stimulate and enhance bioremediation of petroleum hydrocarbons in the soil and groundwater; and
3) In the vicinity of boring HL-1 in the service bay inside the building.

Since the entire surface of the Site is either asphalt or concrete-paved, and the fact that TPH-DRO and O&G are of low volatility, the receptor exposure pathway is incomplete and a significant risk to human health or the environment is unlikely.

6.0 LTCP Media Specific Criteria

Releases from USTs can impact human health and the environment through contact with any or all of the following contaminated media: groundwater, surface water, soil, and soil vapor. Although this contact can occur through ingestion, dermal contact, or inhalation of the various media, the most common drivers of health risk are ingestion of groundwater from drinking water wells, inhalation of vapors accumulated in buildings, contact with near surface contaminated soil, and inhalation of vapors in the outdoor environment. To simplify implementation, these media and pathways have been evaluated and the most common exposure scenarios have been combined into three media-specific criteria:

1. ***Groundwater***
2. ***Vapor intrusion to indoor air***
3. ***Direct contact and outdoor air exposure***

6.1 GROUNDWATER

6.1.1 Proximal End of Plume

Monitoring well MW-5 is screened similarly to and is located directly downgradient of the former MW-3 (Figure 2), which was located in the source area and frequently, was the only well that contained free-product. Because MW-3 was screened at a similar depth and lithology as MW-5 (Figure 3), it is recognized that MW-5 is a valid downgradient monitoring well for the former source area.

The analytical results from the May 2014 sampling of MW-4 and MW-5 (Table 4) indicated that no VOCs or SVOCs were detected above their respective detection limits or free product. Therefore, the proximal end of the plume for these constituents had been defined to within the Site boundaries.

6.1.2 Distal End of Plume

The SWRCB LTCP references Technical Justification for Groundwater Media Specific Criteria (2012), which is used to supplement and provide technical justification. According to this document, researchers recognized three constituents as key indicators of plume stability based on the facts that: 1) benzene has the greatest toxicity of the soluble petroleum constituents, 2) MTBE typically has the greatest plume lengths, and 3) TPHg represents the additional dissolved hydrocarbons that may be present resulting from typical petroleum release. Figures 10, 11, and 12 present the LTCPs Table 1: Plume Characteristics for benzene, MTBE, and TPHg, respectively. Using MW-3 from the Site as the petroleum hydrocarbon source, it is apparent that none of the theoretical distal plume lengths would come into contact with any potential sensitive receptors.

Therefore, groundwater-specific criteria is met by the facts that:

a) The contaminant plume has no water quality exceedances for TPH-GRO, TPH-DRO, benzene, ethylbenzene, MTBE, or naphthalene as presented in the May 2014 groundwater sample results from MW-4 and MW-5 (Table and Certified Analytical Reports attached);

b) There is no free product; and

c) The nearest existing water supply well or surface water body is greater than 1,000 feet from the defined plume boundary.

6.2 VAPOR INTRUSION TO INDOOR AIR

The LTCP describes conditions, including bioattenuation (unsaturated) zones, which if met, will assure that exposure to petroleum vapors in indoor air will not pose unacceptable health risks to human occupants of existing or future Site buildings, and adjacent parcels. Appendices 1 through 4 of the LTCP criteria illustrate four potential exposure scenarios and describe characteristics and criteria associated with each scenario.

Site specific conditions meet the Media-Specific Criteria for Vapor Intrusion to Indoor Air, Scenario 3 (Appendix 3) – Dissolved Phase Benzene Concentrations in Groundwater, whereby:

1) the bioattenuation (unsaturated) zone at the site, as seen on Site boring logs and geologic cross section (Figure 3), appears to be approximately 8 feet bgs;

2) a source removal action occurred in 2012, with the removal of 330 tons of non-hazardous soil from an excavation measuring 60 feet by 15 feet by 8 feet bgs; and

3) groundwater sampling results did not indicate the presence of VOCs or SVOCs above their respective detection limits, or free product.

6.3 DIRECT CONTACT AND OUTDOOR AIR EXPOSURE

For direct contact with contaminated soil, the exposure route for incidental ingestion, dermal contact, and dust inhalation for a residential and commercial/industrial worker are considered incomplete. These exposure routes for the construction worker are considered a potentially complete pathway, depending on the nature of the work and duration at the Site. For volatilization from soil to outdoor air, vapor inhalation is the potential exposure pathway. Given dilution effects that take place outdoors, this exposure pathway is considered incomplete for all three potential receptors. For indoor air, this exposure pathway is considered potentially complete for all three potential receptors.

REVISED SITE CONCEPTUAL MODEL
FORMER GOODYEAR DEX #9578
CASTRO VALLEY, CALIFORNIA

March 10, 2015

For leaching of contaminants from soil to groundwater, the ingestion and dermal pathways for groundwater are considered incomplete, except for the construction worker, as shallow groundwater is not utilized as a drinking water source at the Site. For the construction worker, incidental ingestion and dermal contact is a potentially complete pathway. For volatilization from groundwater to outdoor air, the exposure pathway is considered insignificant due to dilution effects that take place outdoors. For indoor air, volatilization from groundwater to indoor air is not considered a potentially pathway as VOCs and SVOCs are not present in groundwater.

Table 4-1 presents the Site Conceptual Model summery table.

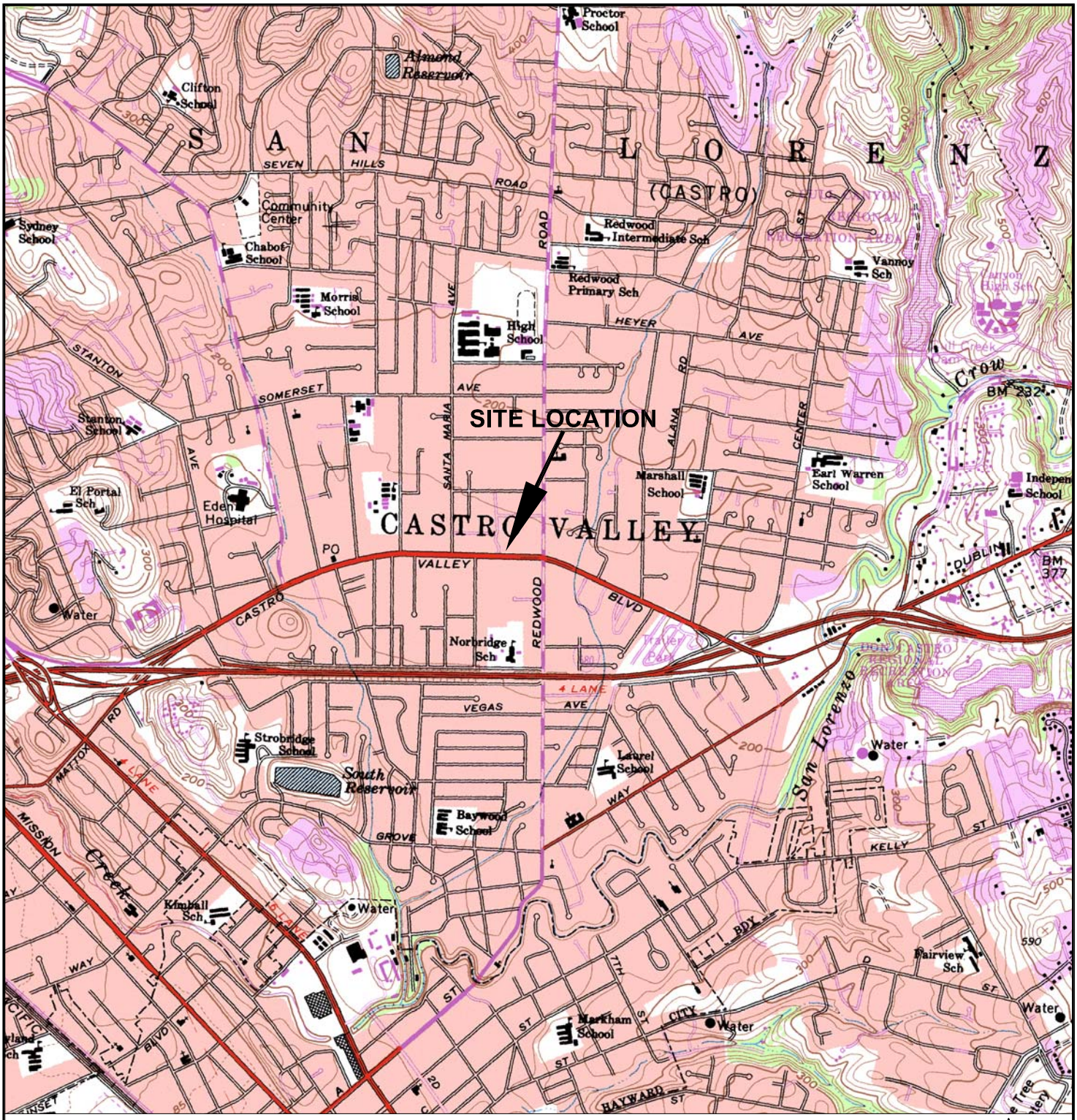
7.0 Site Closure Request

As presented in the previous sections, Stantec believes that the Site is eligible for closure through the LTCP as:

1) ***Soil and groundwater impacts have either been locally remediated through over excavation or through the addition of ORC to stimulate and enhance bioremediation of petroleum hydrocarbons and are of such low to non-detectable concentrations that they pose no significant risk to human health or the environment;***
2) ***Free phase petroleum hydrocarbons are not present at the Site;***
3) ***Potential plume lengths (as defined by the LTCP Technical Justification) would not encounter any sensitive receptors or surface water;***
4) ***Site conditions satisfy the LTCP Scenario 3 for media-specific criteria for petroleum vapor intrusion to indoor air and are considered low-threat for the vapor-intrusion-to-indoor-air pathway.***

Therefore, Stantec concludes that no additional investigation or remedial action is warranted at the Site and requests concurrence for regulatory closure.

FIGURES



SOURCE:
USGS 7.5 MINUTE
TOPOGRAPHIC MAP–
HAYWARD, CALIFORNIA
QUADRANGLE

QUADRANGLE LOCATION

0 2000 4000

APPROXIMATE SCALE (FEET)

N

Stantec
15575 LOS GATOS BLVD, BUILDING C
LOS GATOS, CALIFORNIA 95032
PHONE:(408) 356-6124 FAX:(408) 356-6138

FOR:		SITE LOCATION MAP GOODYEAR DEX #9578 3430 CASTRO VALLEY BOULEVARD CASTRO VALLEY, CALIFORNIA		FIGURE:
THE GOODYEAR TIRE AND RUBBER CO.				1
JOB NUMBER:	DRAWN BY:	CHECKED BY:	APPROVED BY:	DATE:
185702561	KM	AJ	GM	10/09/13

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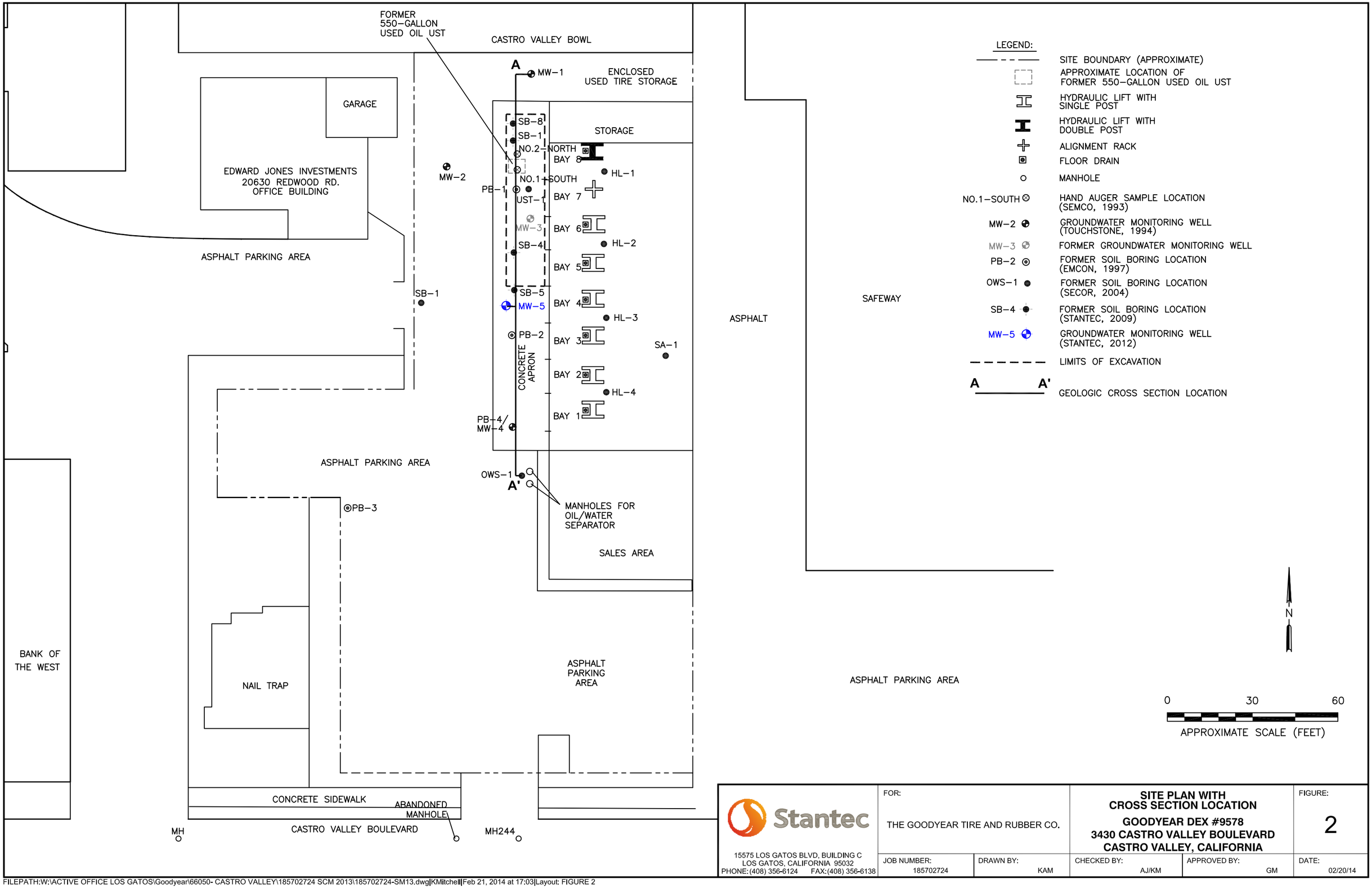

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FOR:	SITE PLAN WITH CROSS SECTION LOCATION	FIGURE:
THE GOODYEAR TIRE AND RUBBER CO.	GOODYEAR DEX #9578 3430 CASTRO VALLEY BOULEVARD CASTRO VALLEY, CALIFORNIA	2

JOB NUMBER:	DRAWN BY:	CHECKED BY:	APPROVED BY:	DATE:
185702724	KAM	AJ/KM	GM	02/20/14

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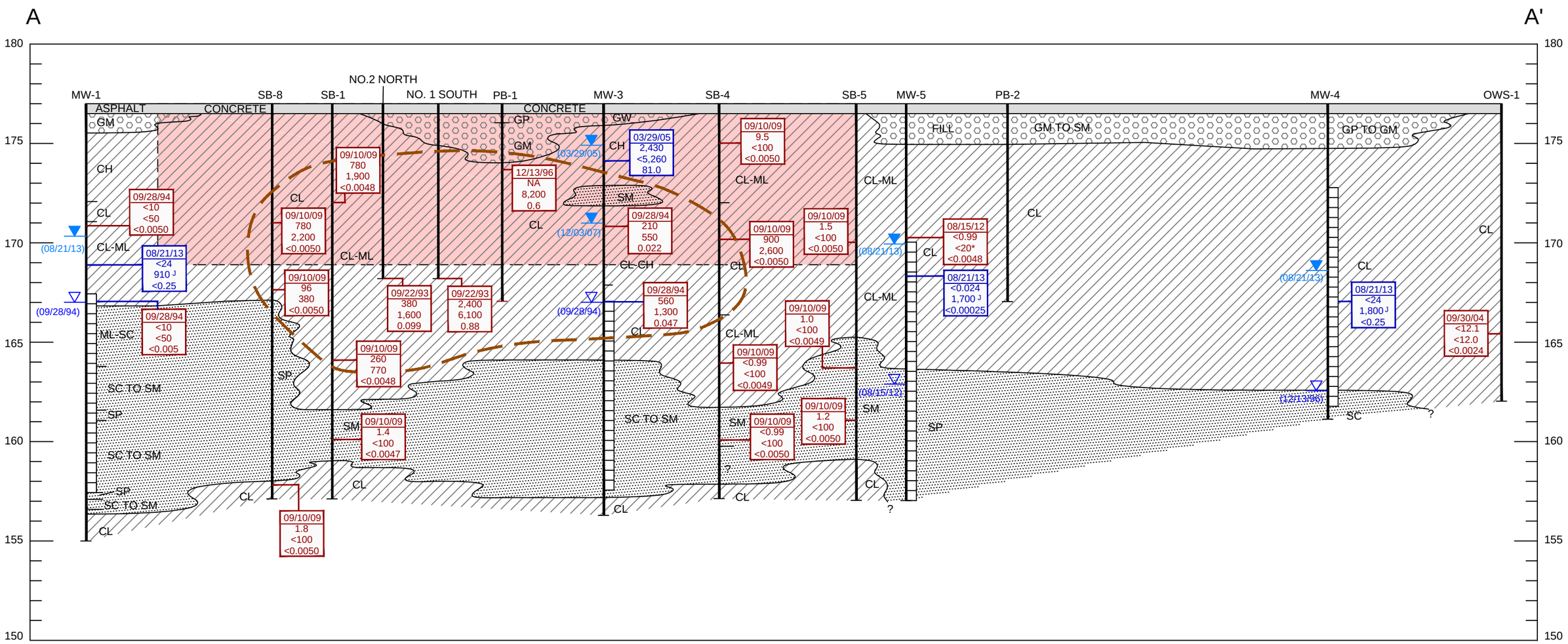

LEGEND:

- GP/GM/GW - GRAVEL/BASE ROCK/FILL
- CH/CL/CL-ML - CLAY/SILTY CLAY
- SC/SM/SP - SAND/SILTY SAND/GRAVELLY SAND
- APPROXIMATE LIMITS OF EXCAVATION (AUGUST 2012)
- SCREENED INTERVAL

(12/03/07) STATIC GROUNDWATER WITH DATE MEASURED

(09/28/04) INITIAL GROUNDWATER WITH DATE MEASURED

GROUNDWATER ANALYTICAL RESULTS

09/28/94 — SAMPLE DATE
560 — TPH-DRO
1,300 — O & G
<0.047 — BENZENE

GROUNDWATER RESULTS IN ug/L (MICROGRAMS PER LITER)

SOIL ANALYTICAL RESULTS

09/10/09 — SAMPLE DATE
1.4 — TPH-DRO
<100 — O & G
<0.0047 — BENZENE

SOIL RESULTS IN mg/kg (MILLIGRAMS PER KILOGRAM)

TPH-DRO= TOTAL PETROLEUM HYDROCARBONS AS DIESEL RANGE ORGANICS

O&G= OIL AND GREASE

TPH-GRO > 100mg/kg OR
TPH-DRO > 50 mg/kg

J RESULT IS LESS THAN THE REPORTING LIMIT, BUT GREATER THAN OR EQUAL TO THE METHOD DETECTION LIMIT AND THE CONCENTRATION IS AN APPROXIMATE VALUE

* LCS OR LCSD EXCEEDS THE CONTROL LIMITS
LCS= LABORATORY CONTROL SPIKE
LCSD= LABORATORY CONTROL SPIKE DUPLICATE

VERTICAL SCALE (1"=5')

HORIZONTAL SCALE (1"=10')

APPROXIMATE SCALE (FEET)

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FOR: THE GOODYEAR TIRE AND RUBBER CO.

GEOLOGIC CROSS SECTION A-A'

GOODYEAR DEX #9578
3430 CASTRO VALLEY BOULEVARD
CASTRO VALLEY, CALIFORNIA

FIGURE: 3

JOB NUMBER:	DRAWN BY:	CHECKED BY:	APPROVED BY:	DATE:
185702724	KAM	AJ/KM	GM	06/25/14

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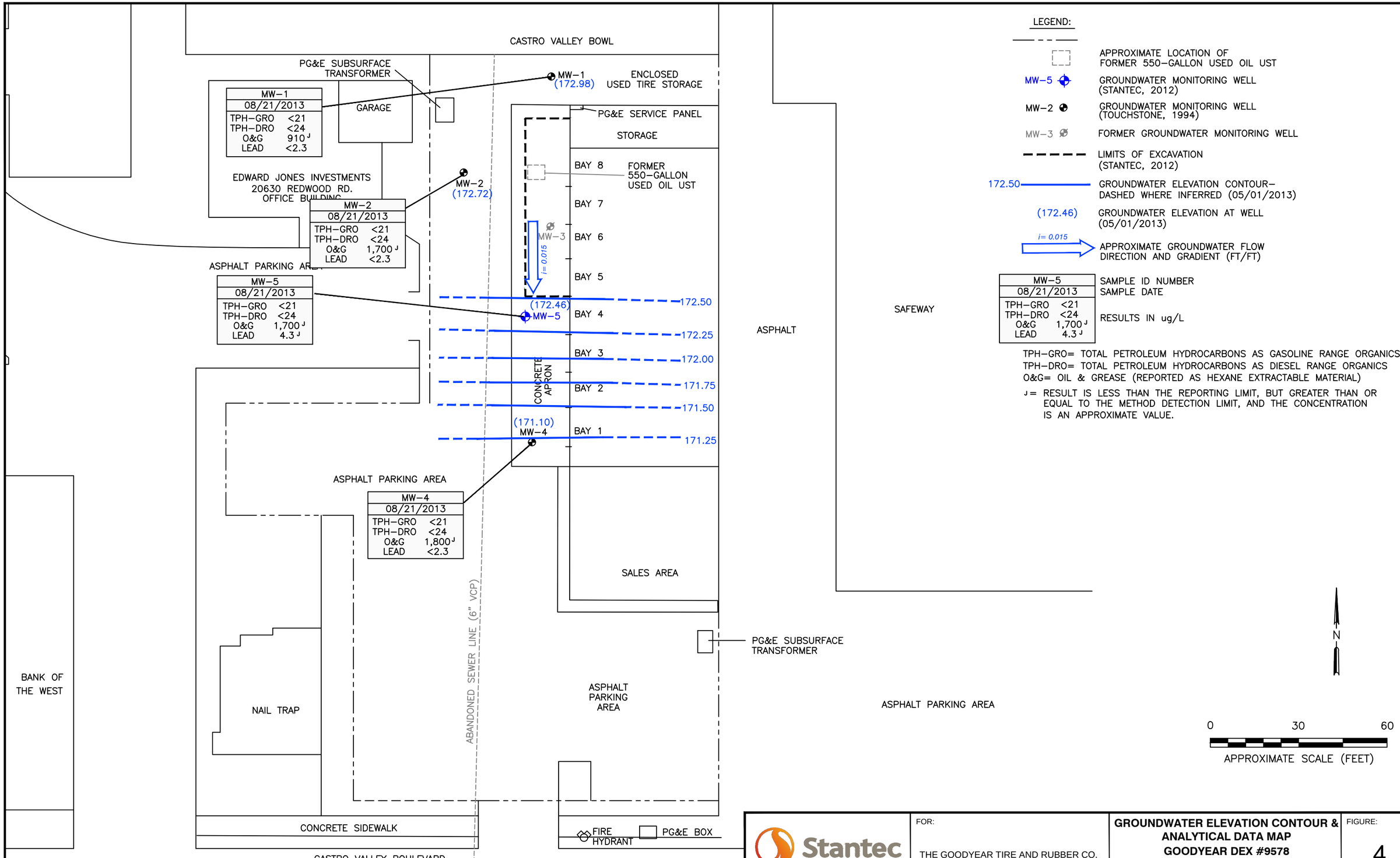

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FOR:	GROUNDWATER ELEVATION CONTOUR & ANALYTICAL DATA MAP	FIGURE:
THE GOODYEAR TIRE AND RUBBER CO.	GOODYEAR DEX #9578 3430 CASTRO VALLEY BOULEVARD CASTRO VALLEY, CALIFORNIA	4

JOB NUMBER:	DRAWN BY:	CHECKED BY:	APPROVED BY:	DATE:
185702561	KM	AJ	GM	10/11/13

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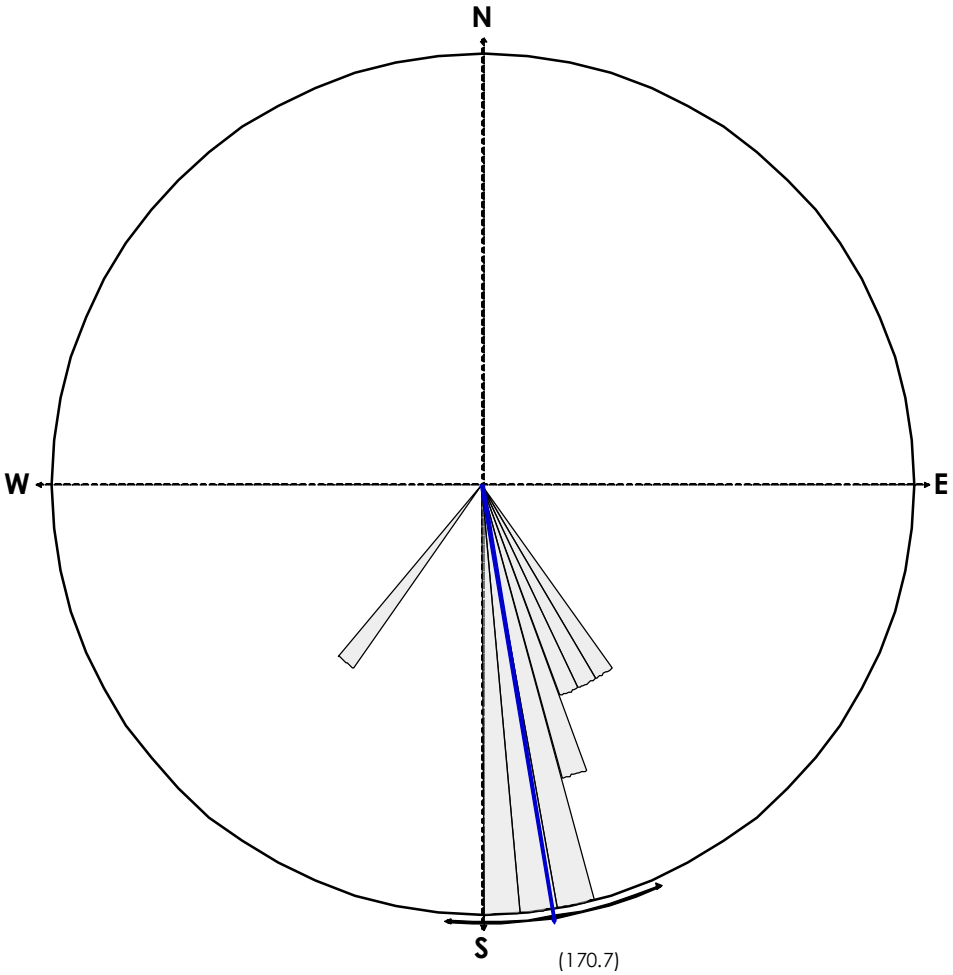

EQUAL AREA PLOT

Number of Points	18
Class Size	5
Vector Mean	170.73
Vector Magnitude	17.44
Consistency Ratio	0.97

NOTE: ROSE DIAGRAM IS BASED ON THE DIRECTION OF GROUNDWATER FLOW BEGINNING THIRD QUARTER 1994.

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Los Gatos, CA 95032
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FOR:	ROSE DIAGRAM	FIGURE:
THE GOODYEAR TIRE AND RUBBER COMPANY	FORMER MERRITT TIRE SALES/ GOODYEAR DEX #9578 3430 CASTRO VALLEY BOULEVARD CASTRO VALLEY, CALIFORNIA	5

JOB NUMBER:	DRAWN BY:	CHECKED BY:	APPROVED BY:	DATE:
185702561	NMB	JRO	AJ	06/17/14

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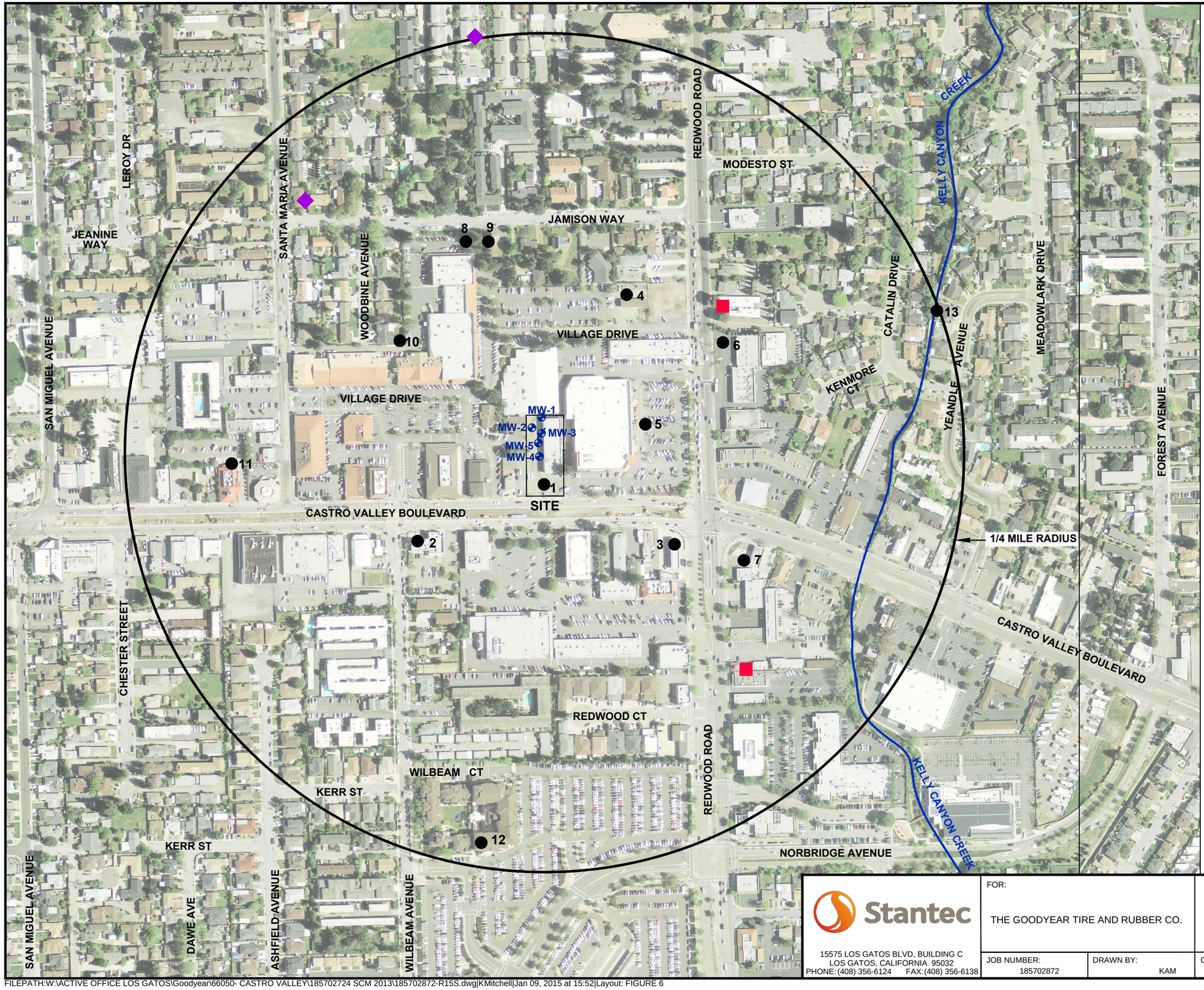

LEGEND:

- PROPERTIES WITH WELLS WITHIN 1/4-MILE OF SITE
- MEDICAL OFFICES WITHIN 1/4-MILE OF SITE
- SCHOOLS WITHIN 1/4-MILE OF SITE
- ACTIVE GROUNDWATER MONITORING WELL LOCATION
- DESTROYED GROUNDWATER MONITORING WELL LOCATION

N

0 300 600

APPROXIMATE SCALE (FEET)

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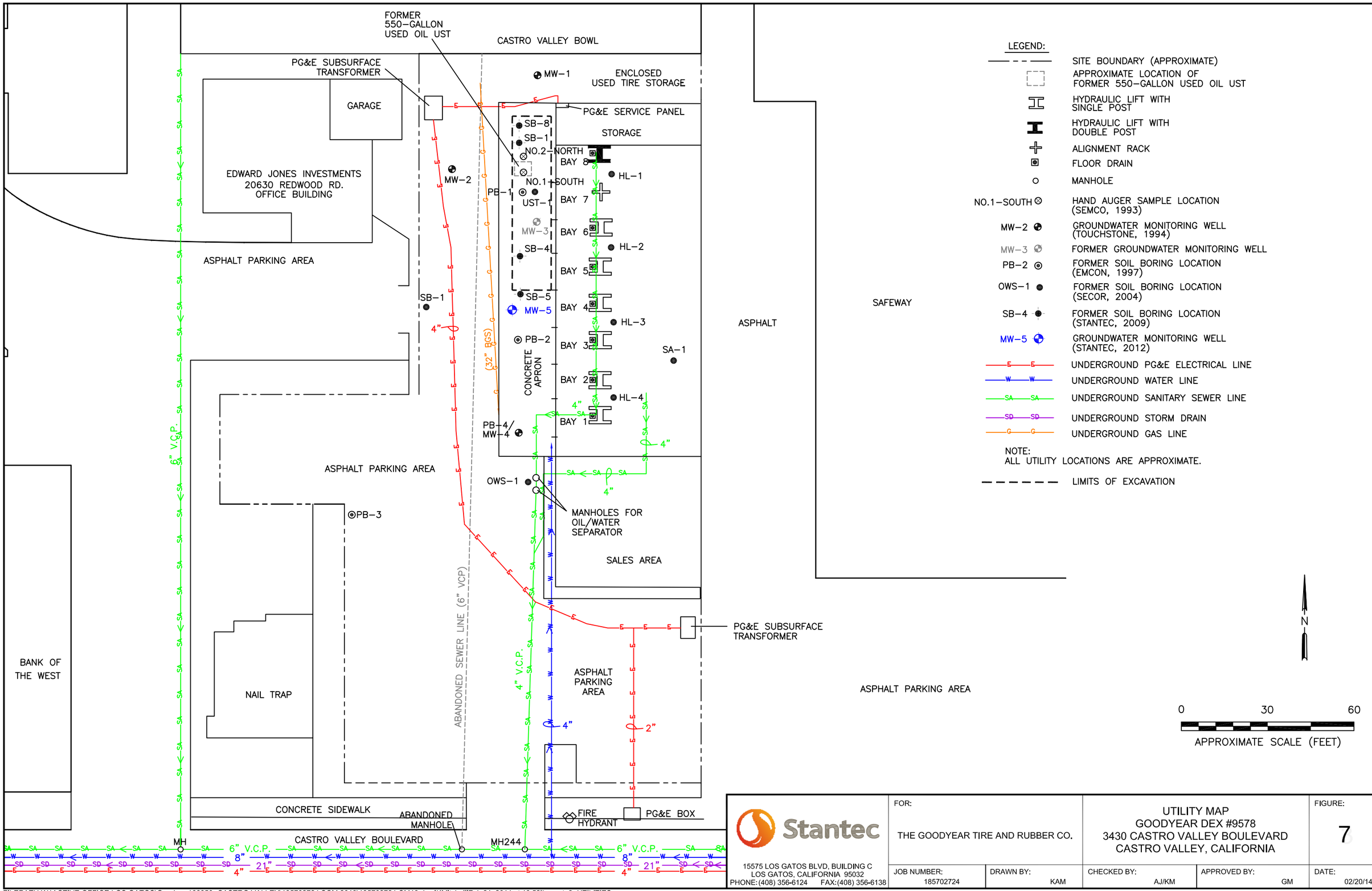
FOR: THE GOODYEAR TIRE AND RUBBER CO.

WELL & SENSITIVE RECEPTOR SURVEY
GOODYEAR DEX #9578
3430 CASTRO VALLEY BOULEVARD
CASTRO VALLEY, CALIFORNIA

FIGURE: 6

JOB NUMBER:	DRAWN BY:	CHECKED BY:	APPROVED BY:	DATE:
185702872	KAM	KM	GM	01/08/15

FILEPATH:W:\ACTIVE OFFICE LOS GATOS\Goodyear\66050- CASTRO VALLEY\185702724 SCM 2013\185702872-R15S.dwg|KMitchell|Jan 09, 2015 at 15:52|Layout: FIGURE 6



LEGEND:

- SITE BOUNDARY (APPROXIMATE)
- APPROXIMATE LOCATION OF FORMER 550–GALLON USED OIL UST
- HYDRAULIC LIFT WITH SINGLE POST
- HYDRAULIC LIFT WITH DOUBLE POST
- ALIGNMENT RACK
- FLOOR DRAIN
- MANHOLE
- NO.1–SOUTH — HAND AUGER SAMPLE LOCATION (SEMCO, 1993)
- MW–2 — GROUNDWATER MONITORING WELL (TOUCHSTONE, 1994)
- MW–3 — FORMER GROUNDWATER MONITORING WELL
- PB–2 — FORMER SOIL BORING LOCATION (EMCON, 1997)
- OWS–1 — FORMER SOIL BORING LOCATION (SECOR, 2004)
- SB–4 — FORMER SOIL BORING LOCATION (STANTEC, 2009)
- MW–5 — GROUNDWATER MONITORING WELL (STANTEC, 2012)
- E E — UNDERGROUND PG&E ELECTRICAL LINE
- W W — UNDERGROUND WATER LINE
- SA SA — UNDERGROUND SANITARY SEWER LINE
- SD SD — UNDERGROUND STORM DRAIN
- G G — UNDERGROUND GAS LINE

NOTE:
ALL UTILITY LOCATIONS ARE APPROXIMATE.

- – – – – – LIMITS OF EXCAVATION

N

0 30 60

APPROXIMATE SCALE (FEET)

Stantec
15575 LOS GATOS BLVD, BUILDING C
LOS GATOS, CALIFORNIA 95032
PHONE: (408) 356-6124 FAX:(408) 356-6138

FOR: THE GOODYEAR TIRE AND RUBBER CO.

UTILITY MAP
GOODYEAR DEX #9578
3430 CASTRO VALLEY BOULEVARD
CASTRO VALLEY, CALIFORNIA

FIGURE: 7

JOB NUMBER:	DRAWN BY:	CHECKED BY:	APPROVED BY:	DATE:
185702724	KAM	AJ/KM	GM	02/20/14

FILEPATH:W:\ACTIVE OFFICE LOS GATOS\Goodyear\66050- CASTRO VALLEY\185702724 SCM 2013\185702724-SM13.dwg|KMitchell|Feb 21, 2014 at 13:52|Layout: 3- UTILITIES

SB-8				
DEPTH	TPH-GRO	TPH-DRO	O&G	B
6'	1.4	780	2,200	<0.0050

MW-1				
DEPTH	TPH-GRO	TPH-DRO	O&G	B
6'	<1	<10	<50	<0.005

SB-1				
DEPTH	TPH-GRO	TPH-DRO	O&G	B
5'	1.4	780	1,900	<0.0048

EX-13				
DEPTH	TPH-GRO	TPH-DRO	O&G	B
5'-6'	<0.250	6.8	<170	<0.0049

EX-7				
DEPTH	TPH-GRO	TPH-DRO	O&G	B
~5'	4.9	1,200	600	0.048

MW-2				
DEPTH	TPH-GRO	TPH-DRO	O&G	B
6'	<1	<10	<50	<0.005

PB-1				
DEPTH	TPH-GRO	TPH-DRO	O&G	B
3'-3.5'	120	NA	8,200[1]	0.6

EX-10				
DEPTH	TPH-GRO	TPH-DRO	O&G	B
5'-6'	25	2,300	630	0.085

EX-16				
DEPTH	TPH-GRO	TPH-DRO	O&G	B
6'	0.57	5.5	<170	<0.0050

EX-19				
DEPTH	TPH-GRO	TPH-DRO	O&G	B
6'	<0.250	<1.0	<170	<0.0049

EX-4				
DEPTH	TPH-GRO	TPH-DRO	O&G	B
~5'	<0.240	<1.0	<170	<0.0047

PB-4				
DEPTH	TPH-GRO	TPH-DRO	O&G	B
3'-3.5'	<1	NA	<10	<0.005

EX-11				
DEPTH	TPH-GRO	TPH-DRO	O&G	B
5'-6'	2.4	670	240	<0.0050

EX-5				
DEPTH	TPH-GRO	TPH-DRO	O&G	B
~5'	7.1	980	370	0.014

EX-8				
DEPTH	TPH-GRO	TPH-DRO	O&G	B
~5'	31	2,000	<170	0.12

MW-3				
DEPTH	TPH-GRO	TPH-DRO	O&G	B
6'	4	210	550	0.022

EX-14				
DEPTH	TPH-GRO	TPH-DRO	O&G	B
6'	<0.250	83	<170	<0.005

EX-17				
DEPTH	TPH-GRO	TPH-DRO	O&G	B
6'	<0.24	40	<170	<0.0048

SB-4				
DEPTH	TPH-GRO	TPH-DRO	O&G	B
2'	<0.05	9.5	<100	<0.0050

EX-2				
DEPTH	TPH-GRO	TPH-DRO	O&G	B
~5'	<0.250	<1.0	<170	<0.0049

EX-1				
DEPTH	TPH-GRO	TPH-DRO	O&G	B
~5'	<0.230	<0.99	<170	<0.0045

HL-4				
DEPTH	TPH-GRO	TPH-DRO	O&G	B
5'	NA	<10.2	11.1	NA

CASTRO VALLEY BOWL

ENCLOSED USED TIRE STORAGE

GARAGE

STORAGE

EDWARD JONES INVESTMENTS
20630 REDWOOD RD.

ASPHALT PARKING AREA

BAY 8

BAY 7

BAY 6

BAY 5

BAY 4

BAY 3

BAY 2

BAY 1

CONCRETE APRON

ASPHALT

SALES AREA

FORMER 550-GALLON USED OIL UST

MANHOLES FOR OIL/WATER SEPARATOR

LEGEND:

- NO.1-SOUTH ⊗ HAND AUGER SAMPLE LOCATION (SEMCO, 1993)
- MW-2 GROUNDWATER MONITORING WELL (TOUCHSTONE, 1994)
- MW-3 FORMER GROUNDWATER MONITORING WELL
- PB-2 FORMER SOIL BORING LOCATION (EMCON, 1997)
- OWS-1 FORMER SOIL BORING LOCATION (SECOR, 2004)
- SB-4 FORMER SOIL BORING LOCATION (STANTEC, 2009)
- MW-5 GROUNDWATER MONITORING WELL (STANTEC, 2012)
- EX-1 SOIL SAMPLE LOCATION (STANTEC, 2012)

SB-4 SAMPLE LOCATION REMOVED DURING SUBSEQUENT REMEDIAL CORRECTIVE ACTION

TPH-GRO >100mg/kg OR TPH-DRO >50mg/kg

TPH-GRO= TOTAL PETROLEUM HYDROCARBONS AS GASOLINE RANGE ORGANICS
TPH-DRO= TOTAL PETROLEUM HYDROCARBONS AS DIESEL RANGE ORGANICS
O&G= OIL AND GREASE
B= BENZENE
NA= NOT ANALYZED
SOIL ANALYTICAL RESULTS IN MILLIGRAMS PER KILOGRAM (mg/kg)

1 HISTORICAL GROUNDWATER DATA AS REFERENCED IN SECOR GROUNDWATER MONITORING REPORT DATED 4/26/05.

N

0 15 30

APPROXIMATE SCALE (FEET)

Stantec
15575 LOS GATOS BLVD, BUILDING C
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FOR: THE GOODYEAR TIRE AND RUBBER CO.

LATERAL EXTENT OF CONTAMINATES IN UNSATURATED ZONE SOIL
GOODYEAR DEX #9578
3430 CASTRO VALLEY BOULEVARD
CASTRO VALLEY, CALIFORNIA

FIGURE: 8

JOB NUMBER:	DRAWN BY:	CHECKED BY:	APPROVED BY:	DATE:
182602724	KAM	KM	GM	06/25/14

FILEPATH:W:\ACTIVE OFFICE LOS GATOS\Goodyear\66050- CASTRO VALLEY\185702724 SCM 2013\185702724-SM13D.dwg|KMitchell|Jun 25, 2014 at 17:43|Layout: 7- SOIL-UNSAT

SB-8				
DEPTH	TPH-GRO	TPH-DRO	O&G	B
9'	0.42	96	380	<0.0050
19'	<0.05	1.8	<100	<0.0050

MW-1				
DEPTH	TPH-GRO	TPH-DRO	O&G	B
10'	<1	<10	<50	<0.005

EX-20				
DEPTH	TPH-GRO	TPH-DRO	O&G	B
6.5'	11	2,600	2,600	0.013

SB-1				
DEPTH	TPH-GRO	TPH-DRO	O&G	B
13'	1.5	260	770	<0.0048
17'	<0.047	1.4	<100	<0.0047

NO. 2 - NORTH				
DEPTH	TPH-GRO	TPH-DRO	O&G	B
8'	22	380	1,600	0.099

MW-2				
DEPTH	TPH-GRO	TPH-DRO	O&G	B
10'	<1	<10	<50	<0.005

NO. 1 - SOUTH				
DEPTH	TPH-GRO	TPH-DRO	O&G	B
8'	230	2,400	6,100	0.88

SB-4				
	TPH-GRO	TPH-DRO	O&G	B
7'	<0.05	900	2,600	<0.0050
13'	<0.049	<0.99	<100	<0.0049
17'	<0.05	<0.99	<100	<0.0050

SB-1				
DEPTH	TPH-GRO	TPH-DRO	O&G	B
6.5'	<6.10	<12.1	<12.1	NA

EX-3				
DEPTH	TPH-GRO	TPH-DRO	O&G	B
8'	<0.230	<0.99	<170	<0.0047

SB-5				
DEPTH	TPH-GRO	TPH-DRO	O&G	B
7'	<0.05	1.5	<100	<0.0050
14'	<0.049	1.0	<100	<0.0049
16'	<0.05	1.2	<100	<0.0050

OWS-1				
DEPTH	TPH-GRO	TPH-DRO	O&G	B
11.5'	NA	<12.1	<12.0	<0.0024

EX-12				
DEPTH	TPH-GRO	TPH-DRO	O&G	B
7.75'	1.0	740	<170	<0.0049

EX-6				
DEPTH	TPH-GRO	TPH-DRO	O&G	B
7.75'	5.4	750	510	0.051

HL-1				
DEPTH	TPH-GRO	TPH-DRO	O&G	B
8'	NA	818	899	NA

UST-1				
DEPTH	TPH-GRO	TPH-DRO	O&G	B
7.5'	NA	1,050	2,490	NA

EX-9				
DEPTH	TPH-GRO	TPH-DRO	O&G	B
7.75'	6.3	930	420	0.03

MW-3				
DEPTH	TPH-GRO	TPH-DRO	O&G	B
10'	14	560	1,300	0.047

HL-2				
DEPTH	TPH-GRO	TPH-DRO	O&G	B
12'	NA	<10.1	10.6	NA

EX-15				
DEPTH	TPH-GRO	TPH-DRO	O&G	B
7.75'	2.0	530	<170	<0.0048

EX-18				
DEPTH	TPH-GRO	TPH-DRO	O&G	B
7.75'	1.0	250	<170	<0.0050

HL-3				
DEPTH	TPH-GRO	TPH-DRO	O&G	B
12'	NA	<9.96	10.9	NA

SA-1				
DEPTH	TPH-GRO	TPH-DRO	O&G	B
6.5'	NA	<10.2	NA	NA

CASTRO VALLEY BOWL

ENCLOSED USED TIRE STORAGE

STORAGE

BAY 8

BAY 7

BAY 6

BAY 5

BAY 4

BAY 3

BAY 2

BAY 1

CONCRETE APRON

ASPHALT

ASPHALT PARKING AREA

ASPHALT PARKING AREA

SALES AREA

EDWARD JONES INVESTMENTS
20630 REDWOOD RD.

FORMER 550-GALLON USED OIL UST

MANHOLES FOR OIL/WATER SEPARATOR

LEGEND:

- NO.1–SOUTH ⊗ HAND AUGER SAMPLE LOCATION (SEMCO, 1993)
- MW–2 GROUNDWATER MONITORING WELL (TOUCHSTONE, 1994)
- MW–3 FORMER GROUNDWATER MONITORING WELL
- PB–2 FORMER SOIL BORING LOCATION (EMCON, 1997)
- OWS–1 FORMER SOIL BORING LOCATION (SECOR, 2004)
- SB–4 FORMER SOIL BORING LOCATION (STANTEC, 2009)
- MW–5 GROUNDWATER MONITORING WELL (STANTEC, 2012)
- EX–1 SOIL SAMPLE LOCATION (STANTEC, 2012)

TPH–GRO >100mg/kg OR TPH–DRO >50mg/kg

TPH–GRO= TOTAL PETROLEUM HYDROCARBONS AS GASOLINE RANGE ORGANICS
TPH–DRO= TOTAL PETROLEUM HYDROCARBONS AS DIESEL RANGE ORGANICS
O&G= OIL AND GREASE
B= BENZENE
NA= NOT ANALYZED
SOIL ANALYTICAL RESULTS IN MILLIGRAMS PER KILOGRAM (mg/kg)

N

0 15 30
APPROXIMATE SCALE (FEET)

Stantec
15575 LOS GATOS BLVD, BUILDING C
LOS GATOS, CALIFORNIA 95032
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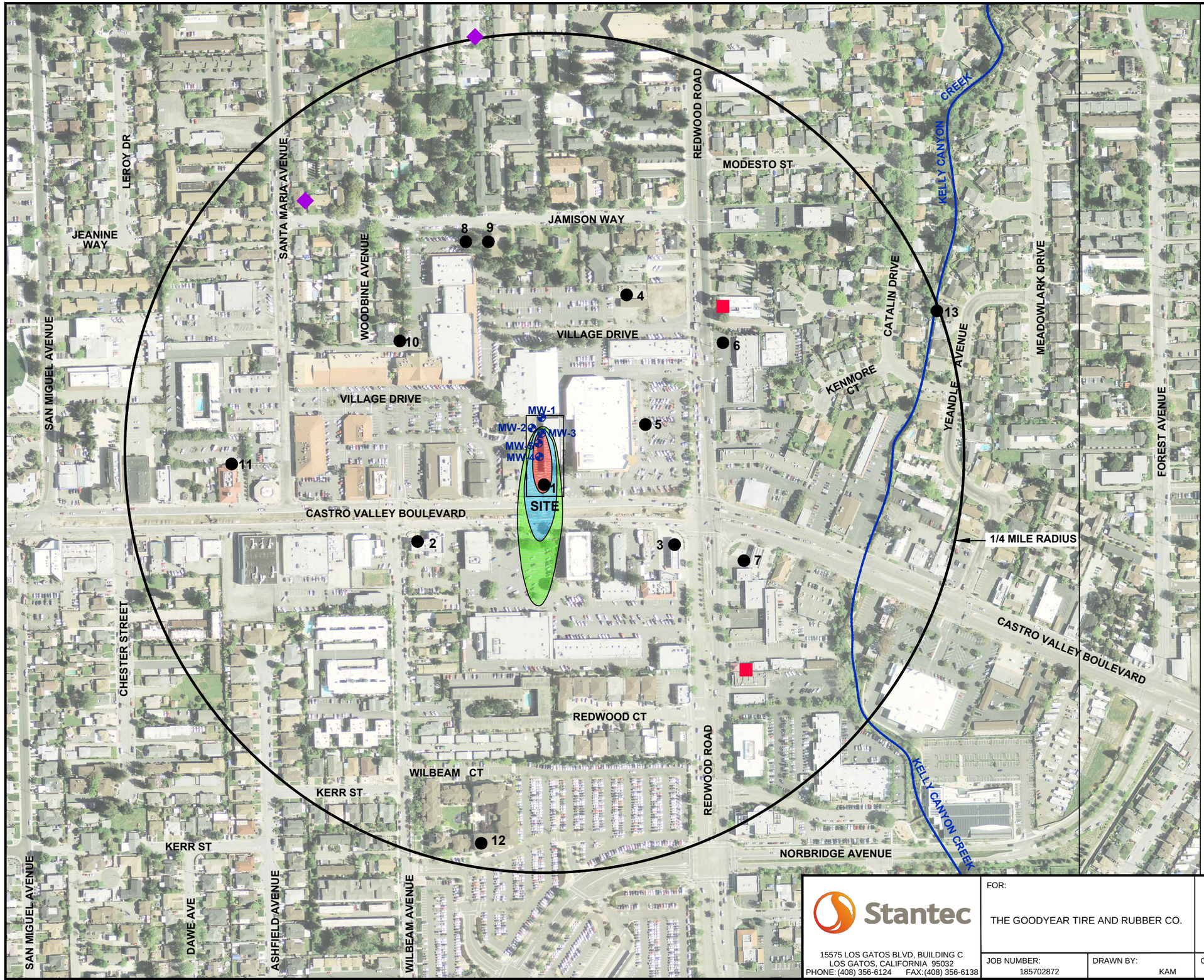
FOR: THE GOODYEAR TIRE AND RUBBER CO.

LATERAL EXTENT OF CONTAMINATES IN SMEAR AND SATURATED SOIL ZONE
GOODYEAR DEX #9578
3430 CASTRO VALLEY BOULEVARD
CASTRO VALLEY, CALIFORNIA

FIGURE: 9

JOB NUMBER:	DRAWN BY:	CHECKED BY:	APPROVED BY:	DATE:
185702724	KAM	AJ/KM	GM	06/25/14

FILEPATH:W:\ACTIVE OFFICE LOS GATOS\Goodyear\66050- CASTRO VALLEY\185702724 SCM 2013\185702724-SM13D.dwg|KMitchell|Jun 25, 2014 at 17:49|Layout: 8- SOIL-SAT



LEGEND:

- PROPERTIES WITH WELLS WITHIN 1/4-MILE OF SITE
- MEDICAL OFFICES WITHIN 1/4-MILE OF SITE
- SCHOOLS WITHIN 1/4-MILE OF SITE
- ACTIVE GROUNDWATER MONITORING WELL LOCATION
- DESTROYED GROUNDWATER MONITORING WELL LOCATION
- AVERAGE PLUME LENGTH (5 ug/L)
- 90TH PERCENTILE PLUME LENGTH (5 ug/L)
- MAXIMUM PLUME LENGTH (5 ug/L)

N

0 300 600

APPROXIMATE SCALE (FEET)

Stantec
15575 LOS GATOS BLVD, BUILDING C
LOS GATOS, CALIFORNIA 95032
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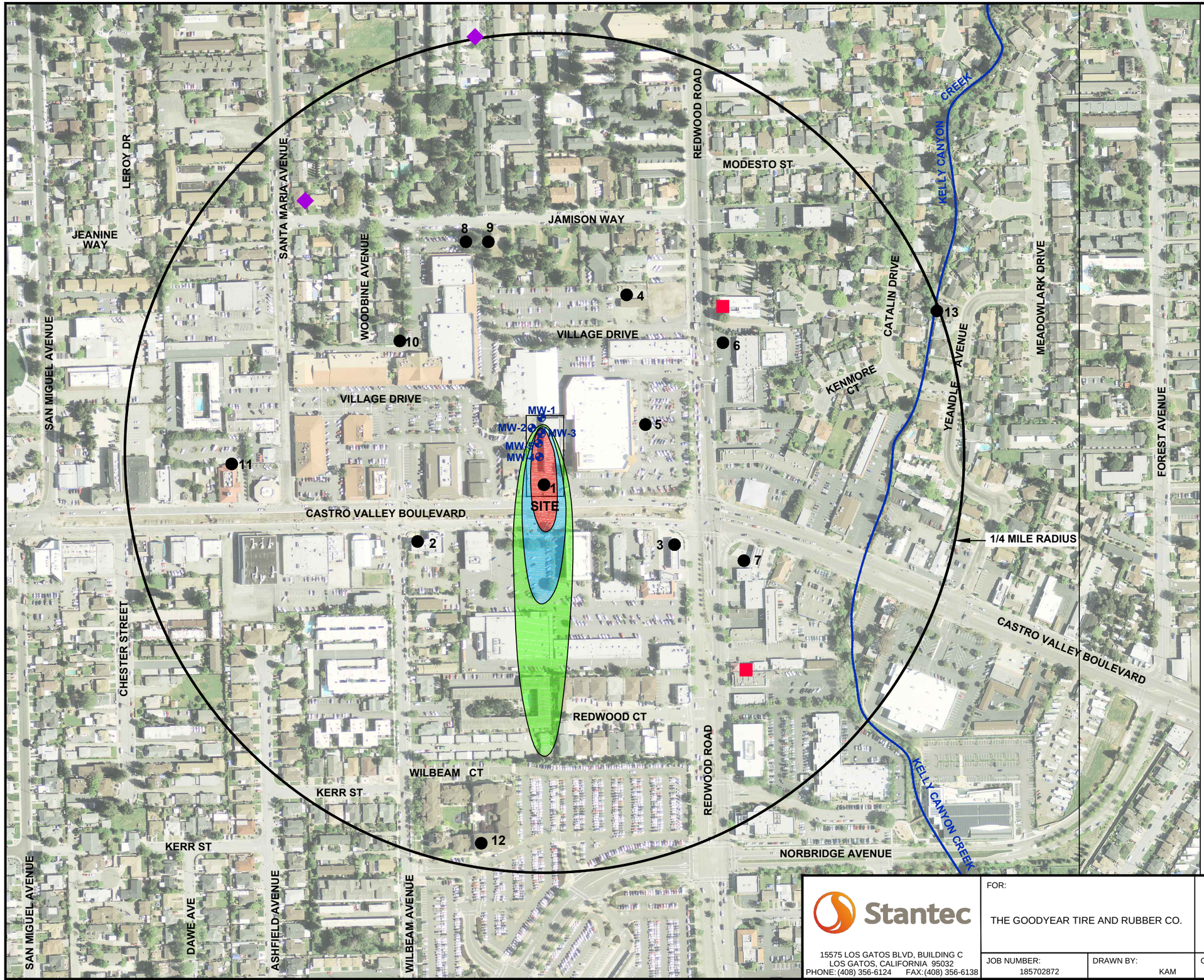
FOR: THE GOODYEAR TIRE AND RUBBER CO.

POTENTIAL BENZENE PLUME LENGTHS BASED ON LTCP TECHNICAL JUSTIFICATION GOODYEAR DEX #9578 3430 CASTRO VALLEY BOULEVARD CASTRO VALLEY, CALIFORNIA

FIGURE: 10

JOB NUMBER:	DRAWN BY:	CHECKED BY:	APPROVED BY:	DATE:
185702872	KAM	KM	GM	01/08/15

FILEPATH:W:\ACTIVE OFFICE LOS GATOS\Goodyear\66050- CASTRO VALLEY\185702724 SCM 2013\185702872-R15S.dwg|KMitchell|Jan 09, 2015 at 15:38|Layout: FIGURE 10- BENZENE



LEGEND:

- PROPERTIES WITH WELLS WITHIN 1/4-MILE OF SITE
- MEDICAL OFFICES WITHIN 1/4-MILE OF SITE
- SCHOOLS WITHIN 1/4-MILE OF SITE
- ACTIVE GROUNDWATER MONITORING WELL LOCATION
- DESTROYED GROUNDWATER MONITORING WELL LOCATION
- AVERAGE PLUME LENGTH (5 ug/L)
- 90TH PERCENTILE PLUME LENGTH (5 ug/L)
- MAXIMUM PLUME LENGTH (5 ug/L)

N

0 300 600

APPROXIMATE SCALE (FEET)

Stantec
15575 LOS GATOS BLVD, BUILDING C
LOS GATOS, CALIFORNIA 95032
PHONE: (408) 356-6124 FAX: (408) 356-6138

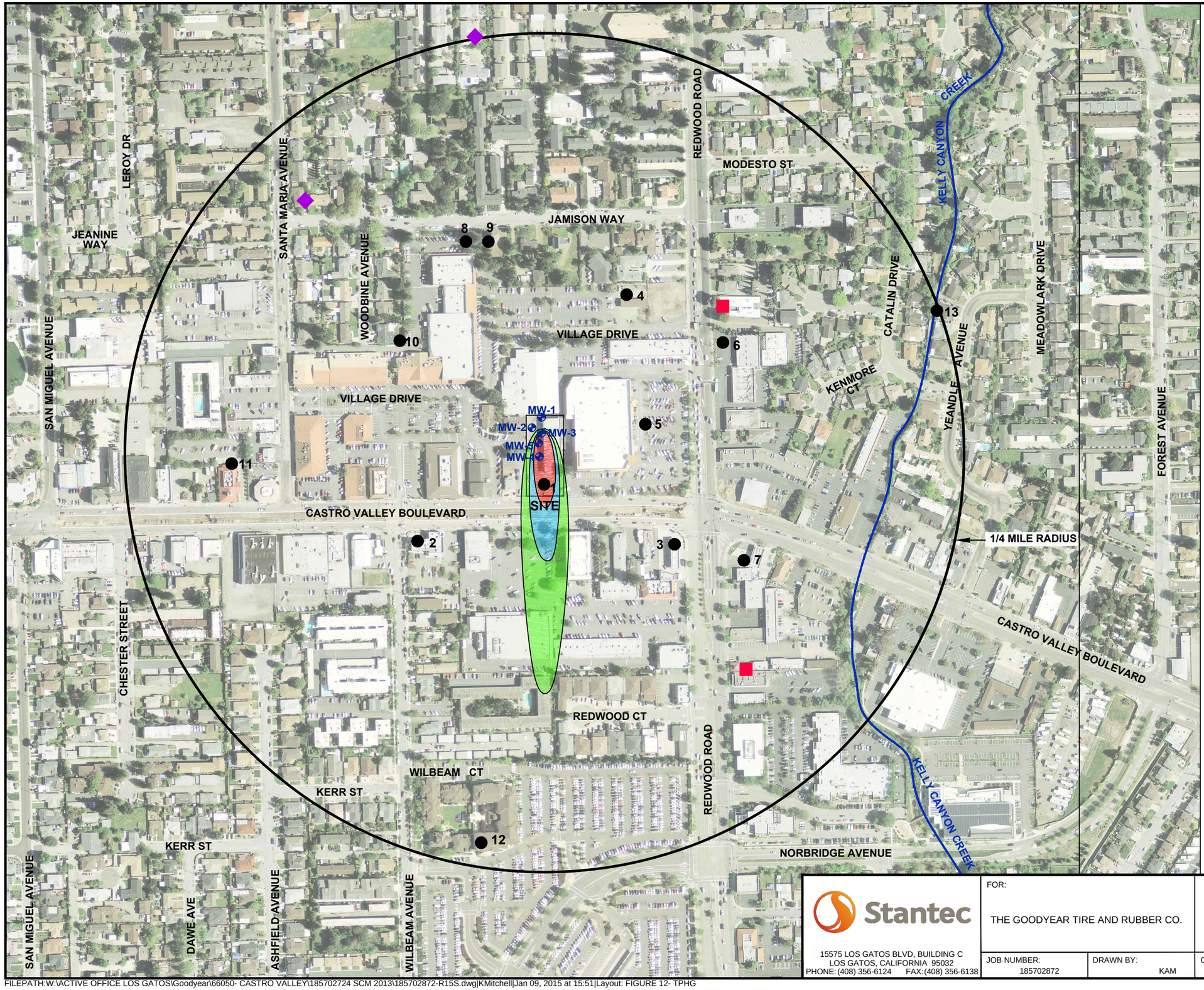
FOR: THE GOODYEAR TIRE AND RUBBER CO.

POTENTIAL MTBE PLUME LENGTHS BASED ON LTCP TECHNICAL JUSTIFICATION GOODYEAR DEX #9578 3430 CASTRO VALLEY BOULEVARD CASTRO VALLEY, CALIFORNIA

FIGURE: 11

JOB NUMBER:	DRAWN BY:	CHECKED BY:	APPROVED BY:	DATE:
185702872	KAM	KM	GM	01/08/15

FILEPATH:W:\ACTIVE OFFICE LOS GATOS\Goodyear\66050- CASTRO VALLEY\185702724 SCM 2013\185702872-R15S.dwg|KMitchell|Jan 09, 2015 at 15:44|Layout: FIGURE 11- MTBE



LEGEND:

- PROPERTIES WITH WELLS WITHIN 1/4-MILE OF SITE
- MEDICAL OFFICES WITHIN 1/4-MILE OF SITE
- SCHOOLS WITHIN 1/4-MILE OF SITE
- ACTIVE GROUNDWATER MONITORING WELL LOCATION
- DESTROYED GROUNDWATER MONITORING WELL LOCATION
- AVERAGE PLUME LENGTH (100 ug/L)
- 90TH PERCENTILE PLUME LENGTH (100 ug/L)
- MAXIMUM PLUME LENGTH (100 ug/L)

N

0 300 600

APPROXIMATE SCALE (FEET)

Stantec
15575 LOS GATOS BLVD, BUILDING C
LOS GATOS, CALIFORNIA 95032
PHONE: (408) 356-6124 FAX: (408) 356-6138

FOR: THE GOODYEAR TIRE AND RUBBER CO.

POTENTIAL TPHg PLUME LENGTHS BASED ON LTCP TECHNICAL JUSTIFICATION GOODYEAR DEX #9578 3430 CASTRO VALLEY BOULEVARD CASTRO VALLEY, CALIFORNIA

FIGURE: 12

JOB NUMBER:	DRAWN BY:	CHECKED BY:	APPROVED BY:	DATE:
185702872	KAM	KM	GM	01/08/15

FILEPATH:W:\ACTIVE OFFICE LOS GATOS\Goodyear\66050- CASTRO VALLEY\185702724 SCM 2013\185702872-R15S.dwg|KMitchell|Jan 09, 2015 at 15:51|Layout: FIGURE 12- TPHG

TABLES

TABLE 1
Historical Soil Analytical Results
Former Merritt Tire Sales / Goodyear DEX #9578
3430 Castro Valley Boulevard
Castro Valley, California

Confirmation Sample ID	Sample Depth (feet)	Sample Date	TPH-GRO	TPH-DRO	O & G	Benzene	Toluene	Ethylbenzene	Xylenes	MTBE	EDC	EDB	PCE	Carbon disulfide	Fluoranthene	2-Methylnaphthalene	Naphthalene	Phenanthrene	Pyrene	Cadmium	Chromium	Lead	Nickle	Zinc
SWRCB LTCP Closure Criteria for Soils 0-5 feet bgs			<100	<100	NE	8.2	NE	89	NE	NE	NE	NE	NE	NE	0.68	NE	45	0.68	0.68	NE	NE	NE	NE	NE
SWRCB LTCP Closure Criteria for Soils 5-10 feet bgs			<100	<100	NE	12	NE	134	NE	NE	NE	NE	NE	NE	NE	NE	45	NE	NE	NE	NE	NE	NE	NE
No. 1-South	8	09/21/93	**230**	**2,400**	**6,100**	**0.88**	**7.6**	**3.6**	**24**	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	<0.5	**31**	Illegible	**32**	**140**
No. 2-North	8	09/21/93	**22**	**380**	**1,600**	**0.099**	**0.88**	**0.34**	**2.4**	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	<0.5	**45**	**14**	**33**	**44**
MW 1-1-3	6	09/28/94	<1	<10	<50	<0.005	<0.005	<0.005	<0.005	NA	<0.005	NA	<0.005	NA	<0.3	<0.3	<0.3	NA	<0.3	**0.3**	**28**	**7**	**26**	**30**
MW 1-2-2	10	09/28/94	<1	<10	<50	<0.005	<0.005	<0.005	<0.005	NA	<0.005	NA	<0.005	NA	<0.3	<0.3	<0.3	NA	<0.3	NA	NA	NA	NA	NA
MW 2-1-1	6	09/28/94	<1	<10	<50	<0.005	<0.005	<0.005	<0.005	NA	<0.005	NA	<0.005	NA	<0.3	<0.3	<0.3	NA	<0.3	NA	NA	NA	NA	NA
MW 2-2-1	10	09/28/94	<1	<10	<50	<0.005	<0.005	<0.005	<0.005	NA	<0.005	NA	<0.005	NA	<0.3	<0.3	<0.3	NA	<0.3	NA	NA	NA	NA	NA
MW 3-1-1	6	09/28/94	**4**	**210**	**550**	**0.022**	**0.072**	**0.067**	**0.28**	NA	<0.005	NA	<0.005	NA	<0.3	<0.3	<0.3	NA	<0.3	NA	NA	NA	NA	NA
MW 3-2-2	10	09/28/94	**14**	**560**	**1,300**	**0.047**	**0.016**	**0.068**	**0.58**	NA	<0.005	NA	**0.031**	NA	<0.3	**0.7**	**0.6**	NA	<0.3	NA	NA	NA	NA	NA
PB-1	3-3.5	12/13/96	**120**	NA	**8200** [1]	**0.6**	**3.8**	**1.6**	**10**	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
PB-4	3-3.5	12/13/96	<1	NA	<10	<0.005	<0.005	<0.005	<0.005	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
OWS-1	11.5	09/30/04	NA	<12.1	<12.0	<0.0024	<0.0024	<0.0024	<0.0024	<0.0024	<0.0024	NA	NA	**0.00731**	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
UST-1	7.5	09/30/04	NA	**1,050**	**2,490**	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
HL-1	8	09/30/04	NA	**818**	**899**	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
HL-2	12	09/30/04	NA	<10.1	**10.6**	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
HL-3	12	09/30/04	NA	<9.96	**10.9**	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
HL-4	5	09/30/04	NA	<10.2	**11.1**	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
SA-1	6.5	09/30/04	NA	<10.2	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
SB-1	6.5	09/30/04	<6.10	<12.1	<12.1	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
SB-1-5'	5	09/10/09	**1.4**	**780**	**1,900**	<0.0048	<0.0048	**0.027**	<0.0097	<0.0048	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
SB-1-13'	13	09/10/09	**1.5**	**260**	**770**	<0.0048	<0.0048	<0.0048	<0.0096	<0.0048	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
SB-1-17'	17	09/10/09	<0.047	**1.4**	<100	<0.0047	<0.0047	<0.0047	<0.0094	<0.0047	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
SB-4-2'	2	09/10/09	<0.05	**9.5**	<100	<0.0050	<0.0050	<0.0050	<0.01	<0.0050	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
SB-4-7'	7	09/10/09	<0.05	**900**	**2,600**	<0.0050	<0.0050	<0.0050	<0.01	<0.0050	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
SB-4-13'	13	09/10/09	<0.049	<0.99	<100	<0.0049	<0.0049	<0.0049	<0.0098	<0.0049	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
SB-4-17'	17	09/10/09	<0.05	<0.99	<100	<0.0050	<0.0050	<0.0050	<0.0099	<0.0050	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
SB-5-7'	7	09/10/09	<0.05	**1.5**	<100	<0.0050	<0.0050	<0.0050	<0.01	<0.0050	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
SB-5-14'	14	09/10/09	<0.049	**1.0**	<100	<0.0049	<0.0049	<0.0049	<0.0098	<0.0049	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
SB-5-16'	16	09/10/09	<0.05	**1.2**	<100	<0.0050	<0.0050	<0.0050	<0.0099	<0.0050	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
SB-8-6'	6	09/10/09	**1.4**	**780**	**2,200**	<0.0050	<0.0050	<0.0050	<0.0099	<0.0050	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
SB-8-9'	9	09/10/09	**0.42**	**96**	**380**	<0.0050	<0.0050	<0.0050	<0.01	<0.0050	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
SB-8-19'	19	09/10/09	<0.05	**1.8**	<100	<0.0050	<0.0050	<0.0050	<0.01	<0.0050	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
EX-1	~5	08/13/12	<0.230	<0.99	<170	<0.0045	<0.0048	<0.0045	<0.0091	<0.0045	<0.0045	<0.0045	NA	NA	<0.066	<0.066	<0.066	<0.066	<0.066	NA	NA	**8.8**	NA	NA
EX-2	~5	08/13/12	<0.250	<1.0	<170	<0.0049	<0.0049	<0.0049	<0.0098	<0.0049	<0.0049	<0.0049	NA	NA	<0.066	<0.066	<0.066	<0.066	<0.066	NA	NA	**12**	NA	NA
EX-3	8	08/13/12	<0.230	<0.99	<170	<0.0047	<0.0047	<0.0047	<0.0094	<0.0047	<0.0047	<0.0047	NA	NA	<0.067	<0.067	<0.067	<0.067	<0.067	NA	NA	**10**	NA	NA
EX-4	~5	08/13/12	<0.240	<1.0	<170	<0.0047	<0.0047	<0.0047	<0.0095	<0.0047	<0.0047	<0.0047	NA	NA	<0.067	<0.067	<0.067	<0.067	<0.067	NA	NA	**7.6**	NA	NA
EX-5	~5	08/14/12	**7.1**	**980**	**370**	**0.014**	**0.022**	**0.046**	**0.3**	<0.0047	<0.0047	<0.0047	NA	NA	<3.3	<3.3	<3.3	<3.3	<3.3	NA	NA	**16**	NA	NA
EX-6	7.75	08/14/12	**5.4**	**750**	**510**	**0.051**	**0.092**	**0.19**	**0.71**	<0.0047	<0.0047	<0.0047	NA	NA	<1.3	<1.3	<1.3	<1.3	<1.3	NA	NA	**13**	NA	NA
EX-7	~5	08/14/12	**4.9**	**1,200**	**600**	**0.048**	**0.0063**	**0.16**	**0.037**	<0.0049	<0.0049	<0.0049	NA	NA	<0.67	**1.7**	**1.1**	<0.67	<0.67	NA	NA	**11**	NA	NA
MW-5@6.5-7	6.5-7	08/15/12		<0.99	<20 *	<0.0048	<0.0048	<0.0048		<0.0048	<0.0048	<0.0048	NA	NA	<0.066	<0.066	<0.066	<0.066	<0.066	NA	NA	**8.0**	NA	NA
EX-8	~5	08/16/12	**31**	**2,000**	<170	**0.12**	**0.11**	**0.27**	**3.9**	**0.0057**	<0.0048	<0.0048	NA	NA	<0.33	**2.4**	**1.6**	**0.37**	**0.38**	NA	NA	**26**	NA	NA
EX-9	7.75	08/16/12	**6.3**	**930**	**420**	**0.03**	**0.053**	**0.14**	**0.075**	<0.0047	<0.0047	<0.0047	NA	NA	<0.33	**0.89**	**0.71**	<0.33	<0.33	NA	NA	**15**	NA	NA
EX-10	5-6	08/16/12	**25**	**2,300**	**630**	**0.085**	**0.41**	**0.32**	**3.3**	<0.0049	<0.0049	<0.0049	NA	NA	**0.35**	**3.5**	**2.3**	**0.47**	**0.56**	NA	NA	**0.31**	NA	NA
EX-11	5-6	08/17/12	**2.4**	**670**	**240**	<0.0050	<0.0050	<0.0050	<0.0099	<0.0050	<0.0050	<0.0050	NA	NA	<0.33	<0.33	<0.33	<0.33	<0.33	NA	NA	**17**	NA	NA
EX-12	7.75	08/17/12	**1.0**	**740**	<170	<0.0049	<0.0049	**0.019**	<0.0099	<0.0049	<0.0049	<0.0049	NA	NA	<0.33	<0.33	<0.33	<0.33	<0.33	NA	NA	**9.3**	NA	NA
EX-13	5-6	08/17/12	<0.25	**6.8**	<170	<0.0049	<0.0049	<0.0049	<0.0099	<0.0049	<0.0049	<0.0049	NA	NA	<0.33	<0.33	<0.33	<0.33	<0.33	NA	NA	**12**	NA	NA
EX-14	6	08/17/12	<0.25	**83**	<170	<0.0050	<0.0050	<0.0050	<0.0099	<0.0050	<0.0050	<0.0050	NA	NA	<0.067	<0.067	<0.067	<0.067	<0.067	NA	NA	**13**	NA	NA
EX-15	7.75	08/17/12	**2.0**	**530**	<170	<0.0048	<0.0048	**0.024**	**0.014**	<0.0048	<0.0048	<0.0048	NA	NA	<0.33	<0.33	<0.33	<0.33	<0.33	NA	NA	**11**	NA	NA
EX-16	6	08/17/12	**0.57**	**5.5**	<170	<0.0050	<0.0050	<0.0050	**0.055**	<0.0050	<0.0050	<0.0050	NA	NA	<0.066	<0.066	<0.066	<0.066	<0.066	NA	NA	**9.1**	NA	NA
EX-17	6	08/18/12	<0.24	**40**	<170	<0.0048	<0.0048	<0.0048	<0.0096	<0.0048	<0.0048	<0.0048	NA	NA	<0.066	<0.066	<0.066	<0.066	<0.066	NA	NA	**9.5**	NA	NA
EX-18	7.75	08/18/12	**1.0**	**250**	<170	<0.0050	<0.0050	<0.0050	<0.0099	<0.0050	<0.0050	<0.0050	NA	NA	<0.33	<0.33	<0.33	<0.33	<0.33	NA	NA	**9.6**	NA	NA
EX-19	6	08/18/12	<0.25	<1.0	<170	<0.0049	<0.0049	<0.0049	<0.0099	<0.0049	<0.0049	<0.0049	NA	NA	<0.067	<0.067	<0.067	<0.067	<0.067	NA	NA	**8.5**	NA	NA
EX-20	6.5	08/20/12	**11**	**2,600**	**2,600**	**0.013**	**0.013**	**0.069**	**0.048**	<0.0047	<0.0047	<0.0047	NA	NA	<0.067	<0.067	<0.067	<0.067	<0.067	NA	NA	**7.5**[B]	NA	NA

TABLE 1
Historical Soil Analytical Results
Former Merritt Tire Sales / Goodyear DEX #9578
3430 Castro Valley Boulevard
Castro Valley, California

Notes:

All soil concentrations measured in milligrams per kilogram (mg/kg)

TPH-GRO = Total petroleum hydrocarbons as gasoline range organics; historically analyzed by EPA Method 8015B; beginning December 3, 2007 TPHg analyzed by LUFT GC/MS 8260B

TPH-DRO = Total petroleum hydrocarbons as diesel range organics; analyzed by EPA Method 8015B/3510; beginning August 21, 2012 analyzed by 8015B with silica gel cleanup

HEM = Hexane extractable materials

O & G = Oil and Grease - [1] Reported as Total Recoverable Petroleum Hydrocarbons (TRPH) by EPA Method 418.1 and also reported as HEM with silica gel cleanup (SGT-HEM) analyzed by EPA 1664A.

BTEX = Benzene, Toulene, Ethyl-benzene, and Total Xylenes; historically analyzed by EPA Method 8021B; beginning September 30, 2003 VOCs analyzed by EPA Method 8260B

MTBE = Methyl tert-butyl ether; historically analyzed by EPA Method 8021B; beginning September 30, 2003 volatile organic compounds analyzed by EPA Method 8260B

EDC and EDB = 1,2-Dicholorethane and Ethylene Dibromide respectively, analyzed by EPA Method 8260B

PCE = Tetrachloroethene

SWRCB LTCP Closure Criteria = State Water Resources Control Board's (SWRCB) Low-Threat Underground Storage Tank Case Closure Policy (LTCP), Media-Specific Closure Criteria for sites with commercial/industrial use.

NE = No established SWRCB LTCP Closure Criteria

NA = Not analyzed

< = concentration is below laboratory reporting limit (RL) (see analytical reports for details)

Bold numbers denote concentration levels at or above laboratory reporting limits.

* = LCS or LCSD exceeds the control limits

Denote concentration at or above SWRCB LTCP Closure Criteria

TABLE 2
Historical Grab Groundwater Analytical Results
Former Merritt Tire Sales/Goodyear DEX #9578
3430 Castro Valley Boulevard
Castro Valley, California

Groundwater Monitoring Well ID	Sample Date	TPH-GRO	TPH-DRO	Oil & Grease / HEM	Benzene	Toluene	Ethyl-benzene	Total Xylenes	MTBE	Lead	1,2-Dichloroethane (EDC)	Ethylene Dibromide (EDB)
SWRCB LTCP Closure Criteria		**NE**	**NE**	**NE**	**1,000**	**NE**	**NE**	**NE**	**1,000**	**NE**	**NE**	**NE**
SB-1W	09/30/04	<50	<50	<100	NA	NA	NA	NA	NA	NA	NA	NA
SB-1-GW	09/10/09	<50	**125**	**4,400**	<0.50	<0.50	<0.50	<0.50	<0.50	NA	NA	NA
SB-4-GW	09/10/09	<50	**106**	<16,000	<0.50	<0.50	<0.50	<0.50	<0.50	NA	NA	NA
SB-5-GW	09/10/09	<50	NA	NA	<0.50	<0.50	<0.50	<0.50	<0.50	NA	NA	NA

Notes:

All groundwater concentrations measured in micrograms per liter (µg/L)

TPH-GRO = Total petroleum hydrocarbons as gasoline range organics; historically analyzed by EPA Method 8015B; beginning December 3, 2007 TPHg analyzed by LUFT GC/MS 8260B

TPH-DRO = Total petroleum hydrocarbons as diesel range organics; analyzed by EPA Method 8015B/3510; beginning August 21, 2012 analyzed by 8015B with silica gel cleanup

HEM = Hexane extractable materials

Oil & Grease = Also reported as HEM with silica gel cleanup (SGT-HEM) analyzed by EPA 1664A.

BTEX = Benzene, Toulene, Ethyl-benzene, and Total Xylenes; historically analyzed by EPA Method 8021B; beginning September 30, 2003 VOCs analyzed by EPA Method 8260B

MTBE = Methyl tert-butyl ether; historically analyzed by EPA Method 8021B; beginning September 30, 2003 volatile organic compounds analyzed by EPA Method 8260B

EDC and EDB = analyzed by EPA Method 8260B

SWRCB LTCP Closure Criteria = State Water Resources Control Board's (SWRCB) Low-Threat Underground Storage Tank Case Closure Policy (LTCP), Media-Specific Closure Criteria for sites with commercial/industrial use.

NE = No established SWRCB LTCP Closure Criteria

NA = Not Analyzed

< = concentration is below method detection limit (MDL) or laboratory reporting limit (RL) when MDL is not presented

Bold numbers denote concentration levels at or above laboratory reporting limits.

Denotes concentration at or above SWRCB LTCP Closure Criteria

TABLE 3
Groundwater Monitoring Well Construction Details and Historical Groundwater Elevation Data
Former Merritt Tire Sales/Goodyear DEX #9578
3430 Castro Valley Boulevard
Castro Valley, CA

Well ID	Screen Interval (feet, bgs)	Date	TOC Elevation (feet, msl)	DTW (feet)	DTP (feet)	Groundwater Elevation (feet, msl)
MW-1	10-20	09/30/94	177.17	4.43		172.74
		04/24/95		4.43		172.74
		08/28/02		6.04		171.13
		09/30/03		5.76*		171.41
		09/30/04		6.23		170.94
		03/29/05		3.44		173.73
		05/30/06		4.93		172.24
		06/15/06		5.05		172.12
		12/14/06		4.55		172.62
		06/27/07		5.59		171.58
		12/03/07		5.82		171.35
		06/30/08		5.68		171.49
		12/04/08		6.02		171.15
		06/05/09		5.72		171.45
		08/21/12	179.80	6.26		173.54
		01/29/13	179.80	5.75		174.05
		05/01/13	179.80	6.20		173.60
		08/21/13	179.80	6.82		172.98
		05/21/14	179.80	--		--
MW-2	9-19.5	09/30/94	176.55	4.38		172.17
		04/24/95		4.38		172.17
		08/28/02		5.66		170.89
		09/30/03		5.40*		171.15
		09/30/04		5.86		170.69
		03/29/05		3.03		173.52
		05/30/06		4.59		171.96
		06/15/06		4.71		171.84
		12/14/06		4.20		172.35
		06/27/07		5.19		171.36
		12/03/07		5.46		171.09
		06/30/08		5.33		171.22
		12/04/08		5.65		170.90
		06/05/09		5.35		171.20
		08/21/12	179.19	5.88		173.31
		01/29/13	179.19	5.41		173.78
		05/01/13	179.19	5.84		173.35
		08/21/13	179.19	6.47		172.72
		05/21/14	179.19	--		--
MW-3*	10.5-19.5	09/30/94	176.97	--	--	--
		04/24/95		4.91		172.06
		02/09/96		--	--	--
		12/31/96		--	--	--
		08/28/02		11.25	5.56	165.72
		09/30/03		6.19	5.92	170.78
		09/30/04		6.35	6.30	170.62

TABLE 3
Groundwater Monitoring Well Construction Details and Historical Groundwater Elevation Data
Former Merritt Tire Sales/Goodyear DEX #9578
3430 Castro Valley Boulevard
Castro Valley, CA

Well ID	Screen Interval (feet, bgs)	Date	TOC Elevation (feet, msl)	DTW (feet)	DTP (feet)	Groundwater Elevation (feet, msl)
MW-3* Continued		03/29/05		3.77	3.77	173.20
		05/30/06		--	--	--
		12/14/06		4.75	--	172.22
		06/27/07		6.89	5.10	170.08
		12/03/07		5.97	4.15	171.00
		06/30/08		--	5.80	--
		12/04/08		--	5.75	--
		06/05/09		--	5.75	--
MW-4	5-14.5	12/31/96	176.98	--		--
		08/28/02		7.40		169.58
		09/30/03		7.21*		169.77
		09/30/04		7.56		169.42
		03/29/05		5.23		171.75
		05/30/06		6.67		170.31
		12/14/06		6.15		170.83
		06/27/07		7.16		169.82
		12/03/07		7.32		169.66
		06/30/08		7.31		169.67
		12/04/08		7.45		169.53
		06/05/09		7.30		169.68
		08/21/12	179.61	7.67		171.94
		01/29/13	179.61	7.65		171.96
		05/01/13	179.61	7.98		171.63
		08/21/13	179.61	8.51		171.10
		05/21/14	179.61	7.92		171.69
MW-5	7-20	08/21/12	179.42	6.35		173.07
		01/29/13	179.42	5.95		173.47
		05/01/13	179.42	6.35		173.07
		08/21/13	179.42	6.96		172.46
		05/21/14	179.42	6.15		173.27

Notes:
TOC = top of casing
DTW = depth to groundwater
DTP = depth to product
msl = mean sea level
bgs = below ground surface
-- = not measured / not calculated
* = MW-3 was decommissioned on September 10, 2009.

TABLE 4
Historical Groundwater Analytical Results
Former Merritt Tire Sales/Goodyear DEX #9578
3430 Castro Valley Boulevard
Castro Valley, California

Groundwater Monitoring Well ID	Sample Date	TPH-GRO	TPH-DRO	O & G / HEM	Benzene	Toluene	Ethyl-benzene	Total Xylenes	MTBE	EDC	EDB	DEHP	Vinyl Chloride	1,1 -DCE	1,1 -DCA	cis 1,2-DCE	Chloroform	1,1,1 -TCE	TCE	PCE	Napthalene	n-Butylbenzene	Chloroethane	Isopropylbenzene	n-Propylbenzene	1,2,4-TMBZ	Chromium	Lead	Nickel	Zinc
MW-1	09/30/94	<50	<50	<5,000	<0.5	<0.5	<0.5	<0.5	NA	<0.5	NA	**10**	<0.5	<0.5	<0.5	<0.5	**1.0**	<0.5	<0.5	<0.5	<10	NA	NA	NA	NA	NA	<10	<50	<20	**30**
	04/24/95	<50	<50	<5,000	<0.5	<0.5	<0.5	<0.5	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	**52** [1]	**5.6**	**60** [1]	**130** [1]
	08/28/02	<50.0 [1]	<50	**207**	<0.5	<0.5	<0.5	<0.5	<0.5	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	**92.0** [1]	**20.0** [1]	**98.0** [1]	**135** [1]
	09/30/03	<50.0	<50	<5,000	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	NA	NA	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<2.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	NA	<5.0	NA
	09/30/04	<100	**87**	<5,000	<1.0	<1.0	<1.0	<1.0	<1.0	<1.00	NA	NA	<1.00	<1.00	<1.00	<1.00	<1.00	<1.00	<1.00	<1.00	<5.00	<1.00	<1.00	<1.00	<1.00	<1.0	NA	<5.0	NA	NA
	03/29/05	<100	<100	<5,210	<1.0	<1.0	<1.0	<1.0	<1.0	<1.00	NA	NA	<1.00	<1.00	<1.00	<1.00	<1.00	<1.00	<1.00	<1.00	<5.00	<1.00	<1.00	<1.00	<1.00	<1.0	NA	<5.0	NA	NA
	05/30/06	<50	<50	<2,500	<0.50*	<0.50*	<0.50*	<0.50*	NA	<0.50	<0.50	NA	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<5.0	<0.50	<1.0	<0.50	<0.50	<0.50	NA	<100	NA	NA
	06/15/06	NA	NA	NA	<0.50	<0.50	<0.50	<0.50	NA	<0.50	<0.50	NA	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<5.0	<0.50	<1.0	<0.50	<0.50	<0.50	NA	NA	NA	NA
	12/14/06	<50	<70	<2,600	<0.50	<0.50	<0.50	<0.50	NA	<0.50	<0.50	NA	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<5.0	<0.50	<1.0	<0.50	<0.50	<0.50	NA	<100	NA	NA
	06/27/07	<50	<490	<4,700	<2.0	<2.0	<2.0	<4.0	<5.0	NA	<2.0	NA	<5.0	<5.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<5.0	<5.0	<5.0	<2.0	<2.0	<2.0	NA	**25**	NA	NA
	12/03/07	<100	<50	<5,000	<0.28	<0.36	<0.25	<0.60	<0.32	NA	<0.40	NA	<0.30	<0.42	<0.27	<0.32	<0.33	<0.30	<0.26	<0.32	<0.41	<0.37	<0.40	<0.25	<0.27	<0.23	NA	**6.2**	NA	NA
	06/30/08	<50.0	<49.0	<5,260	<0.500	<0.500	<0.500	<0.500	<0.500	NA	<0.500	NA	<0.500	<0.500	<0.500	<0.500	<0.500	<0.500	<0.500	<0.500	<5.00	<0.500	<0.500 L	<1.00	<0.500	<0.500	NA	<5.00	NA	NA
	12/04/08	<50	<50	<2,500	<0.50	<0.50	<0.50	<1.0	<0.50	<0.50	<0.50	<11	NA	NA	NA	NA	NA	NA	NA	NA	<2.1	NA	NA	NA	NA	NA	NA	<5.0	NA	NA
	06/05/09	<50	<50	<5,000	**0.52**	<0.50	<0.50	<1.0	<5.0	<0.50	<0.50	<10	<0.50	<0.50	<0.50	<0.50	NA	<0.50	<0.50	<0.50	<2.1	NA	NA	NA	NA	NA	NA	<6.0	NA	NA
	08/21/12	<21	<24	<1,400	<0.25	<0.17	<0.070	<0.49	<0.069	<0.077	<0.075	<1.5	NA	NA	NA	NA	NA	NA	NA	NA	<0.24	NA	NA	NA	NA	NA	NA	<2.3	NA	NA
	01/29/13	<21	<24	<1,400	<0.25	<0.17	<0.13	<0.49	<0.069	<0.077	<0.075	<1.5	NA	NA	NA	NA	NA	NA	NA	NA	<0.24	NA	NA	NA	NA	NA	NA	**4.7** [J]	NA	NA
	05/01/13	<50	<51	<1,500	<0.50	<0.50	<0.50	<1.0	<0.50	<0.50	<0.50	<10	NA	NA	NA	NA	NA	NA	NA	NA	<2.0	NA	NA	NA	NA	NA	NA	<5.0	NA	NA
	08/21/13	<21	<24	**910** [J]	<0.25	<0.17	<0.13	<0.49	<0.069	<0.077	<0.075	<1.5	NA	NA	NA	NA	NA	NA	NA	NA	<1.0	NA	NA	NA	NA	NA	NA	<2.3	NA	NA
	05/21/14	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
MW-2	09/30/94	<50	<50	<5,000	<0.5	<0.5	<0.5	<0.5	NA	<0.5	NA	<10	<0.5	<0.5	<0.5	<0.5	**1.7**	<0.5	<0.5	<0.5	<10	NA	NA	NA	NA	NA	<10	<50	<20	<20
	04/24/95	<50	<50	<5,000	<0.5	<0.5	<0.5	<0.5	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	**54** [1]	**7.5**	**67** [1]	**120** [1]
	08/28/02	<50	<50	**162**	<0.5	<0.5	<0.5	<0.5	<0.5	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	**43.0** [1]	**10.0** [1]	**52.0** [1]	**59.0** [1]
	09/30/03	<50.0	<50	<5,000	<0.5	<0.50	<0.50	<0.50	<0.50	<0.50	NA	NA	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<2.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	NA	<5.0	NA
	09/30/04	<100	**78**	<5,000	<1.0	<1.0	<1.0	<1.0	<1.0	<1.00	NA	NA	<1.00	<1.00	<1.00	<1.00	<1.00	<1.00	<1.00	<1.00	<5.00	<1.00	<1.00	<1.00	<1.00	<1.0	NA	<5.0	NA	NA
	03/29/05	<100	<100	<5,490	<1.0	<1.0	<1.0	<1.0	<1.0	<1.00	NA	NA	<1.00	<1.00	<1.00	<1.00	<1.00	<1.00	<1.00	<1.00	<5.00	<1.00	<1.00	<1.00	<1.00	<1.0	NA	<5.0	NA	NA
	05/30/06	<50	<50	<2,400	<0.50*	<0.50*	<0.50*	<0.50*	NA	<0.50	<0.50	NA	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<5.0	<0.50	<1.0	<0.50	<0.50	<0.50	NA	<100	NA	NA
	06/15/06	NA	NA	NA	<0.50	<0.50	<0.50	<0.50	NA	<0.50	<0.50	NA	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<5.0	<0.50	<1.0	<0.50	<0.50	<0.50	NA	NA	NA	NA
	12/14/06	<50	<70	<2,700	<0.50	<0.50	<0.50	<0.50	NA	<0.50	<0.50	NA	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<5.0	<0.50	<1.0	<0.50	<0.50	<0.50	NA	<100	NA	NA
	06/27/07	<50	<480	<4,700	<2.0	<2.0	<2.0	<4.0	<5.0	NA	<2.0	NA	<5.0	<5.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<5.0	<5.0	<5.0	<2.0	<2.0	<2.0	NA	**17**	NA	NA
	12/03/07	<100	<50	<5,000	<0.28	<0.36	<0.25	<0.60	<0.32	NA	<0.40	NA	<0.30	<0.42	<0.27	<0.32	<0.33	<0.30	<0.26	<0.32	<0.41	<0.37	<0.40	<0.25	<0.27	<0.23	NA	<5.0	NA	NA
	06/30/08	<50.0	<47.6	<5,210	<0.500	<0.500	<0.500	<0.500	<0.500	NA	<0.500	NA	<0.500	<0.500	<0.500	<0.500	<0.500	<0.500	<0.500	<0.500	<5.00	<0.500	<0.500 L	<1.00	<0.500	<0.500	NA	<5.00	NA	NA
	12/04/08	<50	<50	<2,500	<0.50	<0.50	<0.50	<1.0	<0.50	<0.50	<0.50	<10	NA	NA	NA	NA	NA	NA	NA	NA	<2.1	NA	NA	NA	NA	NA	NA	<5.0	NA	NA
	06/05/09	<50	<50	<5,000	<0.50	<0.50	<0.50	<1.0	<5.0	<0.50	<0.50	<10	<0.50	<0.50	<0.50	<0.50	NA	<0.50	<0.50	<0.50	<2.1	NA	NA	NA	NA	NA	NA	<6.0	NA	NA
	08/21/12	<21	<24	<1,400	<0.25	<0.17	<0.49	<0.49	<0.069	<0.077	<0.075	<1.5	NA	NA	NA	NA	NA	NA	NA	NA	<0.24	NA	NA	NA	NA	NA	NA	<2.3	NA	NA
	01/29/13	<21	<24	<1,400	<0.25	<0.17	<0.13	<0.49	<0.069	<0.077	<0.075	<1.5	NA	NA	NA	NA	NA	NA	NA	NA	<0.25	NA	NA	NA	NA	NA	NA	**4.1** [J]	NA	NA
	05/01/13	<50	<51	<1,400	<0.50	<0.50	<0.50	<1.0	<0.50	<0.50	<0.50	<11	NA	NA	NA	NA	NA	NA	NA	NA	<2.1	NA	NA	NA	NA	NA	NA	<5.0	NA	NA
	08/21/13	<21	<24	**1,700** [J]	<0.25	<0.17	<0.13	<0.49	<0.069	<0.077	<0.075	<1.5	NA	NA	NA	NA	NA	NA	NA	NA	<1.0	NA	NA	NA	NA	NA	NA	<2.3	NA	NA
	05/21/14	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
MW-3**	09/30/94	**290**	**72**	<5,000	**29**	**3.2**	**3.3**	**29**	NA	**1.2**	NA	<10	**8.3**	**1.6**	**17**	**8.4**	<0.5	**12**	**1.9**	**12**	<10	NA	NA	NA	NA	NA	**10**	<50	**20**	<20
	04/24/95	**53**	**960**	<5,000	**12**	**0.84**	**0.69**	**2.4**	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	**29** [1]	**7.1**	**75** [1]	**84** [1]
	02/09/96	NA	NA	NA	**9.6**	**1.4**	**1.2**	**2**	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
	12/31/96	NA	NA	NA	**95**	**7**	**19**	**53**	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
	08/28/02	FP	FP	FP	FP	FP	FP	FP	FP	FP	FP	FP	FP	FP	FP	FP	FP	FP	FP	FP	FP	FP	FP	FP	FP	FP	FP	FP	FP	FP
	09/30/03	FP	FP	FP	FP	FP	FP	FP	FP	FP	FP	FP	FP	FP	FP	FP	FP	FP	FP	FP	FP	FP	FP	FP	FP	FP	FP	FP	FP	FP
	09/30/04	FP	FP	FP	FP	FP	FP	FP	FP	FP	FP	FP	FP	FP	FP	FP	FP	FP	FP	FP	FP	FP	FP	FP	FP	FP	FP	FP	FP	FP
	03/29/05	**274**	**2,430**	<5,260	**81.0**	**7.8**	**8.0**	**11.5**	**23.6**	<1.00	NA	NA	**73.0**	<1.00	**21.2**	<1.00	<1.00	<1.00	<1.00	<1.00	**9.50**	**1.40**	**12.6**	**1.50**	**2.90**	**5.2**	NA	<5.0	NA	NA
	05/30/06	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
	12/14/06	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
	06/27/07	FP	FP	FP	FP	FP	FP	FP	FP	FP	FP	FP	FP	FP	FP	FP	FP	FP	FP	FP	FP	FP	FP	FP	FP	FP	FP	FP	FP	FP
	12/03/07	FP	FP	FP	FP	FP	FP	FP	FP	FP	FP	FP	FP	FP	FP	FP	FP	FP	FP	FP	FP	FP	FP	FP	FP	FP	FP	FP	FP	FP
	06/30/08	FP	FP	FP	FP	FP	FP	FP	FP	FP	FP	FP	FP	FP	FP	FP	FP	FP	FP	FP	FP	FP	FP	FP	FP	FP	FP	FP	FP	FP
	12/04/08	FP	FP	FP	FP	FP	FP	FP	FP	FP	FP	FP	FP	FP	FP	FP	FP	FP	FP	FP	FP	FP	FP	FP	FP	FP	FP	FP	FP	FP
	06/05/09	FP	FP	FP	FP	FP	FP	FP	FP	FP	FP	FP	FP	FP	FP	FP	FP	FP	FP	FP	FP	FP	FP	FP	FP	FP	FP	FP	FP	FP
MW-4	12/31/96	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	NA	NA	NA	NA
	08/28/02	<50	<50	<100	<0.5	<0.5	<0.5	<0.5	<0.5	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	**24.0** [1]	**11.0** [1]	**77.0** [1]	**78.0** [1]
	09/30/03	<50.0	<50	<5,000	<0.50	<0.50	<0.50	<0.50	<0.50	NA	NA	NA	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<2.50	<0.50	<0.50	<0.50	<0.50	<0.50		<5.0	NA	NA
	09/30/04	<50	**103**	<5,000	<1.0	<1.0	<1.0	<1.0	<1.0	<1.00	NA	NA	<1.00	<1.00	<1.00	<1.00	<1.00	<1.00	<1.00	<1.00	<5.00	<1.00	<1.00	<1.00	<1.00	<1.0	NA	**11.0**	NA	NA
	03/29/05	<100	<100	<5,320	<1.0	<1.0	<1.0	<1.0	<1.0	<1.00	NA	NA	<1.00	<1.00	<1.00	<1.00	<1.00	<1.00	<1.00	<1.00	<5.00	<1.00	<1.00	<1.00	<1.00	<1.0	NA	<5.0	NA	NA
	05/30/06	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
	12/14/06	<50	**87**	<3,500	<0.50	<0.50	<0.50	<0.50	NA	<0.50	<0.50	NA	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<5.0	<0.50	<1.0	<0.50	<0.50	<0.50	NA	<400	NA	NA
	06/27/07	<50	<470	<4,800	<2.0	<2.0	<2.0	<4.0	<5.0	NA	<2.0	NA	<5.0	<5.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<5.0	<5.0	<5.0	<2.0	<2.0	<2.0	NA	**28**	NA	NA
	12/03/07	<100	<50	<4,700	<0.28	<0.36	<0.25	<0.60	<0.32	NA	<0.40	NA	<0.30	<0.42	<0.27	<0.32	<0.33	<0.30	<0.26	<0.32	<0.41	<0.37	<0.40	<0.25	<0.27	<0.23	NA	<5.0	NA	NA
	06/30/08	<50	<58.8	<5,210	<0.500	<0.500	<0.500	<0.500	<0.500	NA	<0.500	NA	<0.500	<0.500	<0.500	<0.500	<0.500	<0.500	<0.500	<0.500	<5.00	<0.500	<0.500 L	<1.00	<0.500	<0.500	NA	**15.8**	NA	NA
	12/04/08	<50	<50	<2,500	<0.50	<0.50	<0.50	<1.0	<0.50	<0.50	<0.50	<11	NA	NA	NA	NA	NA	NA	NA	NA	<2.1	NA	NA	NA	NA	NA	NA	<5.0	NA	NA
	06/05/09	<50	<50	<5,000	<0.50	<0.50	<0.50	<1.0	<5.0	<0.50	<0.50	<10	<0.50	<0.50	<0.50	<0.50	NA	<0.50	<0.50	<0.50	<2.1	NA	NA	NA	NA	NA	NA	<6.0	NA	NA
	08/21/12	<21	<24	<1,400	<0.25	<0.17	<0.070	<0.49	<0.069	<0.077	<0.075	<1.5	NA	NA	NA	NA	NA	NA	NA	NA	<0.24	NA	NA	NA	NA	NA	NA	<2.3	NA	NA
	01/29/13	<21	<24	<1,400	<0.25	<0.17	<0.13	<0.49	<0.069	<0.077	<0.075	<1.5	NA	NA	NA	NA	NA	NA	NA	NA	<0.24	NA	NA	NA	NA	NA	NA	**6.9**	NA	NA
	05/01/13	<50	<53	**1,900** [J]	<0.50	<0.50	<0.50	<1.0	<0.50	<0.50	<0.50	<11	NA	NA	NA	NA	NA	NA	NA	NA	<2.2	NA	NA	NA	NA	NA	NA	**6.3**	NA	NA
	08/21/13	<21	<24	**1,800** [J]	<0.25	<0.17	<0.13	<0.49	<0.069	<0.077	<0.075	<1.5	NA	NA	NA	NA	NA	NA	NA	NA	<1.0	NA	NA	NA	NA	NA	NA	<2.3	NA	NA
	05/21/14	NA	NA	NA	<0.50	<0.50	<0.50	<1.0	<0.50	<0.50	<0.50	<9.5	<0.50	<0.50	<0.50	<0.50	<1.0	<0.50	<0.50	<0.50	<1.0	<1.0	<1.0	<1.0	<1.0	<0.50	NA	NA	NA	NA

TABLE 4
Historical Groundwater Analytical Results
Former Merritt Tire Sales/Goodyear DEX #9578
3430 Castro Valley Boulevard
Castro Valley, California

Groundwater Monitoring Well ID	Sample Date	TPH-GRO	TPH-DRO	O & G / HEM	Benzene	Toluene	Ethyl-benzene	Total Xylenes	MTBE	EDC	EDB	DEHP	Vinyl Chloride	1,1 -DCE	1,1 -DCA	cis 1,2-DCE	Chloroform	1,1,1 - TCE	TCE	PCE	Napthalene	n-Butylbenzene	Chloroethane	Isopropylbenzene	n-Propylbenzene	1,2,4-TMBZ	Chromium	Lead	Nickel	Zinc
MW-5	08/21/12	<21	<24	**1,700**[J]	<0.25	<0.17	<0.070	<0.49	**0.17**[J]	<0.077	<0.075	<1.5	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	**8.1**	NA	NA
	01/29/13	<21	<24	**1,800**[J]	<0.25	<0.17	<0.13	<0.49	**0.44**[J]	<0.077	<0.075	<1.5	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	**5.6**	NA	NA
	05/01/13	<50	<53	<1,500	<0.50	<0.50	<0.50	<1.0	<0.50	<0.50	<0.50	<10	NA	NA	NA	NA	NA	NA	NA	NA	<2.1	NA	NA	NA	NA	NA	NA	<5.0	NA	NA
	08/21/13	<21	<24	**1,700**[J]	<0.25	<0.17	<0.13	<0.49	**0.091**[J]	<0.077	<0.075	<1.5	NA	NA	NA	NA	NA	NA	NA	NA	<1.0	NA	NA	NA	NA	NA	NA	**4.3**[J]	NA	NA
	05/21/14	NA	NA	NA	<0.50	<0.50	<0.50	<1.0	<0.50	<0.50	<0.50	<9.6	<0.50	<0.50	<0.50	<0.50	<1.0	<0.50	<0.50	<0.50	<1.0	<1.0	<1.0	<1.0	<1.0	<0.50	NA	NA	NA	NA

Notes:

All groundwater concentrations measured in micrograms per liter (µg/L)

TPH-GRO = Total petroleum hydrocarbons as gasoline range organics; historically analyzed by EPA Method 8015B; beginning December 3, 2007 TPHg analyzed by LUFT GC/MS 8260B

TPH-DRO = Total petroleum hydrocarbons as diesel range organics; analyzed by EPA Method 8015B/3510; beginning August 21, 2012 analyzed by 8015B with silica gel cleanup

HEM = Hexane extractable materials

Oil & Grease = also reported as HEM with silica gel cleanup (SGT-HEM) analyzed by EPA 1664A.

BTEX = benzene, toulene, ethyl-benzene, and total xylenes; historically analyzed by EPA Method 8021B; beginning September 30, 2003 VOCs analyzed by EPA Method 8260B

MTBE = Methyl tert-butyl ether; historically analyzed by EPA Method 8021B; beginning September 30, 2003 volatile organic compounds analyzed by EPA Method 8260B

DEHP = Bis (2-ethylhexyl) phthalate

EDC = 1,2-Dichloroethane analyzed by EPA Method 8260B

EDB = Ethylene Dibromide analyzed by EPA Method 8260B

1,1-DCE = 1,1-Dichloroethene

1,1-DCA = 1,1 Dicholorethane

cis 1,2-DCE = cis 1, 2-Dichloroethene

TCE = Trichloroethene

PCE = Tetrachloroethene

1,1,1 - TCE = 1,1,1 - Trichloroethane

1,2,4 - TMBZ = 1,2,4 - Trimethylbenzene

Bold numbers denote concentration levels at or above laboratory reporting limits.

(1) = Historical groundwater data as referenced in Secor groundwater monitoring report dated 4/26/05.

NA = Not Analyzed

NS = Not Sampled

ND = Not Detected - as reported in EMCON's *Expanded Assessment, and Risk-Based Corrective Action Evaluation r* eport, dated March 4, 1997

FP = Free product, well not sampled

L = Laboratory Control Sample and/or Laboratory Control Sample Duplicate recovery was above the acceptable limits. Analyte not detected, data not impacted.

* = Due to the laboratory exceeding the hold time for 8260B analysis, MW-1 and MW-2 were resampled on 6/15/06.

** = Groundwater Monitoring Well MW-3 was destroyed September 10, 2009.

J = Result is less than the reporting limit but greater than or equal to the method detection limit and the concentration is an approximate value.

< = Concentration is below method detection limit (MDL) or laboratory reporting limit (RL) when MDL is not presented (see analytical reports for details).

Table 4-1
Site Conceptual Model

CSM Element	CSM Sub-Element	Description	Data Gap Item #	Resolution
Geology and Hydrogeology	Regional	As described by Stantec's Site Conceptual Model (2014), the lithology encountered in the subsurface beneath the Site during drilling activities consisted predominantly of a yellowish brown to black clay and silty clay underlain by a dark yellowish brown sand, silty sand and gravelly sand. The primary stratigraphic units at the Site are listed below, with the approximate ranges of depth (bgs) each unit was encountered across the Site: • 0 to 14 feet bgs: surface soil typically consists of black to yellowish brown clay to silty clay. • 14 to 20 feet bgs: dark yellowish brown, fine-grained sand with some silt, and brown sand with some gravels. • Below 20 feet bgs: stiff, dry silty clay During the drilling of the borings for monitoring wells MW-1 through MW-4 in the 1990's, first encountered groundwater was at approximately 10 feet bgs. However, when MW-5 was installed in 2012, first encountered groundwater was approximately 14 feet bgs. In all cases after well construction, groundwater stabilized at a shallower depth than first encountered, with historical highs reaching 3.77 feet bgs in MW-3 in March 2005. The fact that static groundwater rises above first encountered groundwater, indicates that groundwater at the Site is under confined or semi-confined conditions.	NA	NA

Table 4-1
Site Conceptual Model (Continued)

CSM Element	CSM Sub-Element	Description	Data Gap Item #	Resolution
Geology and Hydrogeology	Site	According to the California's Groundwater Bulletin 118, the Site belongs to the East Bay Plain Subbasin, which consists of unconsolidated sediments of Quaternary age. The cumulative thickness of the unconsolidated sediments is about 1,000 feet. According to the U.S Department of Agriculture's (USDA) Soil Conservation Service (SCS) soil map, the Site belongs to a Class D hydrologic group, which is defined by very slow infiltration rates due to clayey soils, have a high water table, or are shallow with an impervious layer. Since the groundwater monitoring wells were first installed in 1994, the depth to groundwater has ranged between 3.03 ft bgs (MW-2, March 2005) to 11.25 ft bgs (MW-3, August 2002). Based on information collected by Stantec during the last and most recent groundwater sampling event on August 21, 2013, groundwater flow direction was to the south with a gradient of 0.015 feet per feet. Flow direction and gradient has been fairly consistent since groundwater monitoring was initiated in 1994. A Rose diagram has been prepared (and included as an attachment) for 18 sampling events that have occurred since monitoring wells were installed. Seventeen of the 18 events were within an 18 degree range of each other, with the Vector Mean at approximately 171 degrees (180 degrees is due South).	NA	NA
Surface Water Bodies		San Lorenzo Creek is located approximately 4,500 feet west of the Site. A tributary to San Lorenzo Creek is located approximately 1,000 feet east of the Site. Other water bodies near the Site include the South Reservoir located beyond another tributary to San Lorenzo Creek approximately 3,500 feet west of the Site and Don Castro Reservoir approximately 6,000 feet east of the Site beyond San Lorenzo Creek. San Lorenzo Creek flows from the western slope of the Coast Ranges westward across the East Bay	NA	NA

Table 4-1
Site Conceptual Model (Continued)

CSM Element	CSM Sub-Element	Description	Data Gap Item #	Resolution
		Plain and into the San Francisco and San Pablo bays. Therefore, there is a very low likelihood of a material threat or release to a surface water body within a ¼-mile radius of the Site.		
Nearby Wells		Stantec conducted a sensitive receptor survey consisting of an evaluation of well completion reports for wells located within a 2,000-foot radius of the Site that were available from the DWR and the Alameda County Public Works Agency (ACPWA). Stantec also reviewed available groundwater monitoring reports on the Water Board's Geotracker database for additional wells within the 2,000-foot radius of the Site. The reports reviewed from the DWR did not identify any municipal or water supply wells within a ¼-mile radius of the Site. According to Geotracker, three properties within a ¼-mile radius of the Site have open cases on Geotracker with related petroleum releases. The nearest sensitive receptor (various medical offices) is located approximately 680 feet northeast of the Site. Based on the distance of the closest sensitive receptor (various medical offices) and the mixed-use neighborhood of the Site, there is a low likelihood of a material threat or release to sensitive receptors within a ¼-mile radius of the Site.	NA	NA
Potential Release Source and Volume		A 550-gallon used oil underground storage tank (UST) was removed from the Site prior to 1993, however, a review of available documents indicates that the UST removal were conducted without a permit and details regarding the removal, including date, condition of the UST, or disposal of the UST was unavailable. It was suspected that the former tenant, Merritt Tire & Brake, had the UST removed without Goodyear's knowledge. Based on a 1994 investigation, it was concluded that a release had occurred from the UST and the adjacent soils and the shallow saturated zone was impacted. However, the volume of the release is unknown.	NA	NA

Table 4-1
Site Conceptual Model (Continued)

CSM Element	CSM Sub-Element	Description	Data Gap Item #	Resolution
		A 385-gallon sand and grease interceptor (now identified as an oil/water separator [OWS]) is also on Site, south of the concrete apron and the service bays. There are eight hydraulic lifts in the Service Area, used tire and battery storage areas, two air compressors, a parts washer, floor drains, and various small quantity (55- and 110-gallon) used and new oil aboveground storage tanks (ASTs). These features of the Site have been identified on the attached figures.		
LNAPL		Since groundwater monitoring was initiated at the Site in 1994, light non-aqueous phase liquid (LNAPL) was only detected infrequently in groundwater monitoring well MW-3, which was immediately downgradient of the UST, between August 2002 and March 2005 and from June 2007 until the well was decommissioned in 2009. LNAPL was not present during the corrective action excavation activities conducted in 2012 nor in any groundwater monitoring wells (other than MW-3) since they were installed through the most recent sampling of all wells in August 2013 and in the recent sampling of MW-4 and MW-5 in May 2014.	NA	NA
Source Removal Activities		Source removal activities consisted of soil excavation in the area of the former UST and included the exterior area in front of service bay numbers 5 through 8 and the AST storage area. Based on the results of previous investigations, the area of the former UST excavated was 15-feet wide (limited by the presence of a high pressure natural gas line to the west and a water line along the Site building to the east), by 60-feet long (the extent of known petroleum impacted soils), and by approximately 8-feet deep (the depth of first-encountered groundwater). The soil excavated was the maximum extent practicable as utilities on the western and eastern flanks limited the lateral extent of excavations in those directions.	NA	NA

Table 4-1
Site Conceptual Model (Continued)

CSM Element	CSM Sub-Element	Description	Data Gap Item #	Resolution
		Approximately 400 pounds of an oxygen releasing compound (ORC) was applied to the overall excavation (i.e., the portion in communication with the first encountered water-bearing zone) prior to placement of backfill. Addition of the ORC was designed to stimulate and enhance bioremediation of petroleum hydrocarbons present in groundwater. The ORC selected for use was a Regenesis product, which is a combination of calcium and oxyhydroxide [CaO(OH)2] and calcium hydroxide [Ca(OH)2].		
Contaminants of Concern		Based on the historical investigations conducted at the Site, TPH-GRO); TPH-DRO; O&G; BTEX; MTBE; vinyl chloride (VC); 1,1-dichloroethane (1,1-DCA); cis-1,2-dichloroethene (cis-1,2-DCE); 2-methylnaphthalene; naphthalene; and low concentrations of metals (chromium, lead, nickel, and zinc) have been detected in soil and groundwater.	NA	NA
COCs in Soil		52 soil samples have been collected and analyzed for a variety of COCs, however not consistently collected or analyzed across the Site. Petroleum constituents in soil are less than those listed in the Table of the SWRCB's Low Threat Underground Storage Tank Closure Policy (LTCP) for commercial/industrial properties. Specifically: • None of the soil samples collected from zero to 10 ft bgs contained benzene or ethylbenzene at concentrations above those listed in Table 1 of the LTCP. • Benzene and ethylbenzene concentrations were evaluated using concentrations for commercial/industrial exposure because the Site is not anticipated to be developed for residential use and is not in a residential zone area (Table 1 of SWRCB 2012a). Soil samples were not analyzed for naphthalene and other polycyclic aromatic hydrocarbons (PAHs). However, benzene exclusion criteria are considered conservative for naphthalene	NA	NA

Table 4-1
Site Conceptual Model (Continued)

CSM Element	CSM Sub-Element	Description	Data Gap Item #	Resolution
		given that naphthalene is less volatile than benzene (i.e., has a much lower solubility value and Henry's Law coefficient than benzene), is typically present in gasoline at much lower fractions (SWRCB 2012c). Using SWRCB staff precedent from recent case closure reviews, the lack of naphthalene data is not a data gap and site conditions can be assessed by using benzene concentrations (SWRCB 2013): "However, the relative concentration of naphthalene in soil can be conservatively estimated using published relative concentrations of naphthalene and benzene in gasoline." Gasoline mixtures contain approximately 3% benzene and 0.25% naphthalene (Potter, Thomas L. and Simmons, Kathleen, E. 1998). Therefore, benzene can be directly substituted for naphthalene concentrations with a safety factor of ten. Benzene concentrations are below the no significant risk values (NSRVs) (Table 1 of SWRCB 2012a); therefore, it is anticipated that the estimated naphthalene concentrations are also below the NSRVs (Table 1 of SWRCB 2012a) for commercial/ industrial direct contact and volatilization to outdoor air and utility worker direct contact.		
COCs in Groundwater		When initially installed in 1994, groundwater samples from MW-1 (upgradient) and MW-2 (cross-gradient to the UST area) had no detections of petroleum hydrocarbon constituents, VOCs, or metals, with the exception of bis (2-ethylhexyl) phthalate (DEHP) and zinc in MW-1 and chloroform in MW-2. However, MW-3 installed less than 20 feet down-gradient of the UST, had numerous COC detections. Initial sampling at the Site in 1994 and 1995 reported TPH-GRO at concentrations up to 290 micrograms per liter (µg/L), TPH-DRO at concentrations up to 960 µg/L, and BTEX concentrations (benzene and total xylenes) up to 29 µg/L. Benzene was detected in well MW-3 at a concentration of 95 µg/L in 1996, along with total xylenes of up to 53 µg/L.	NA	NA

Table 4-1
Site Conceptual Model (Continued)

CSM Element	CSM Sub-Element	Description	Data Gap Item #	Resolution
		The following VOCs were detected in MW-3: 8.3 µg/L of vinyl chloride; 1.6 µg/L of 1,1-dichloroethene; 17 µg/L of 1,1-dichloroethane; 8.4 µg/L of cis-1,2-dichloroethene; 12 µg/L of 1,1,1-trichloroethane; 1.9 µg/L of trichloroethene (TCE); and, 12 µg/L of tetrachloroethene (PCE). Chromium, nickel, zinc, and total lead, have been sporadically detected in all Site wells, with lead at concentrations ranging from 5.6 to 28 µg/L. The presence of lead at similar concentrations in all Site wells is likely indicative of a background condition unrelated to the historical release of petroleum hydrocarbons from the UST. Passive free product removal, using adsorbent socks, was implemented between August 2002 and December 2007. During this time, MW-3 was sampled only once, in March 2005, at which time TPH-GRO, TPH-DRO, benzene, and MTBE were detected above ESLs. Free product removal was discontinued in 2007, at the direction of ACEH, along with a requested evaluation of more aggressive remediation techniques. On August 14, 2012, Stantec installed monitoring well MW-5 down-gradient of the remedial corrective excavation, to monitor post-remediation groundwater conditions. Analytical results from four consecutive sampling events of the four remaining Site wells since installing MW-5, indicated O&G (identified by hexane extractable materials [HEM] in the analytical reports) was detected in all four monitoring wells, with concentrations ranging from 910 µg/L in MW-1 to 1,900 µg/L in MW-4. All detections of O&G were "J" qualified, meaning the results are an approximate value less than the reporting limit but greater than or equal to the method detection limit. MTBE was detected in only MW-5, with a concentration of 0.091 µg/L, with the result being "J" qualified.		

Table 4-1
Site Conceptual Model (Continued)

CSM Element	CSM Sub-Element	Description	Data Gap Item #	Resolution
		On May 21, 2014 at the direction of the ACEH, Stantec sampled wells MW-4 and MW-5 and analyzed groundwater for the Full Scan of VOCs by EPA Method 8260B and for SVOCs by EPA Method 8270C. Analytical results indicate that there were no detections above the method detection limits of any analytes in the samples.		
Risk Evaluation		The Site is and has been a tire changing facility since circa 1965 and is zoned by Alameda County as Castro Valley Business District, Subarea 7 (Intensive Retail Core, Castro Valley Central Business District Specific Plan), which allows for commercial uses. A Site specific risk evaluation for this Site is not necessarily applicable as the Site is being compared to the LTCP, which factors in "that many petroleum release cases pose a low threat to human health and the environment." "In the absence of unique attributes of a case or site-specific conditions that demonstrably increase the risk associated with residual petroleum constituents, cases that meet the general and media-specific criteria described in the policy pose a low threat to human health, safety or the environment and are appropriate for closure pursuant to Health and Safety Case section 25296.10". "Releases from USTs can impact human health and the environment through contact with any or all of the following contaminated media: groundwater, surface water, soil, and soil vapor. Although this contact can occur through ingestion, dermal contact, or inhalation of the various media, the most common drivers of health risk are ingestion of groundwater from drinking water wells, inhalation of vapors accumulated in buildings, contact with near surface contaminated soil, and inhalation of vapors in the outdoor environment. To simplify implementation, these media and pathways have been evaluated and the most common exposure scenarios have been combined into three media-specific criteria:	NA	NA

Table 4-1
Site Conceptual Model (Continued)

CSM Element	CSM Sub-Element	Description	Data Gap Item #	Resolution
		1. Groundwater 2. Vapor intrusion to indoor air 3. Direct contact and outdoor air exposure" 1) Groundwater-specific criteria is met by the facts that: a) The contaminant plume has no water quality exceedances for TPH-GRO, TPH-DRO, benzene, ethylbenzene, MTBE, or naphthalene as presented in the May 2014 groundwater sample results from MW-4 and MW-5 (Table and Certified Analytical Reports attached). b) There is no free product c) The nearest existing water supply well or surface water body is greater than 1000 feet from the defined plume boundary. 2) Site specific conditions meet the Media-Specific Criteria for Vapor Intrusion to Indoor Air, Scenario 3 (Appendix 3) – Dissolved Phase Benzene Concentrations in Groundwater, whereby: a) The bioattenuation (unsaturated) zone at the site, as seen on Site boring logs and geologic cross section (Figure 3), appears to be approximately 8 feet bgs; b) A source removal action occurred in 2012, with the removal of 330 tons of non-hazardous soil from an excavation measuring 60 feet by 15 feet by 8 feet bgs; and c) Groundwater sampling results did not indicate the presence of VOCs or SVOCs above their respective detection limits, or free product.		

Table 4-1
Site Conceptual Model (Continued)

CSM Element	CSM Sub-Element	Description	Data Gap Item #	Resolution
		3) For direct contact with contaminated soil, the exposure route for incidental ingestion, dermal contact, and dust inhalation for a residential and commercial/industrial worker are considered incomplete. These exposure routes for the construction worker are considered a potentially complete pathway, depending on the nature of the work and duration at the Site. For volatilization from soil to outdoor air, vapor inhalation is the potential exposure pathway. Given dilution effects that take place outdoors, this exposure pathway is considered incomplete for all three potential receptors. For leaching of contaminants from soil to groundwater, the ingestion and dermal pathways for groundwater are considered incomplete, except for the construction worker, as shallow groundwater is not utilized as a drinking water source at the Site. For the construction worker, incidental ingestion and dermal contact is a potentially complete pathway. For volatilization from groundwater to outdoor air, the exposure pathway is considered insignificant due to dilution effects that take place outdoors. For indoor air, volatilization from groundwater to indoor air is not considered a potentially pathway as VOCs and SVOCs are not present in groundwater.		

APPENDIX A

RESPONSE LETTER TO ACEH

The Goodyear Tire & Rubber Company

200 Innovation Way
Akron, Ohio 44316-0001

330-796-7377
dennis_mcgavis@goodyear.com

July 16, 2014

Ms. Karel Detterman
Alameda County Health Care Services Agency
Environmental Health Services
1131 Harbor Parkway, Suite 250
Alameda, CA 94502-6577

Dear Ms. Detterman:

Attached for your review is our response letter to the ACEH Comments dated April 30, 2014 regarding the *Site Conceptual Model* for the Goodyear DEX #9578, 3430 Castro Valley Boulevard, Castro Valley, California. This response letter was prepared for the Goodyear Tire & Rubber Company by Stantec Consulting Services, Inc.

I declare, under penalty of perjury, that the information and/or recommendations contained in the attached document or report is true and correct, to the best of my knowledge.

If you have any questions, please don't hesitate to contact me or Stantec Project Manager Gary Messerotes at 408-827-3533.

Very Truly Yours,

Dennis E. McGavis

Dennis E. McGavis
Director, Global EHS Sustainability
The Goodyear Tire & Rubber Company

Attachment

cc: Ms. Karen Burlingame (via electronic mail)

BROWNFIELD RESTORATION GROUP, LLC

Environmental Consultant On Behalf of:
The Goodyear Tire & Rubber Company

For Written Communications:

The Goodyear Tire & Rubber Company
200 Innovation Way, D/108i
Akron, Ohio 44316-0001

Phone: (330) 668-4600

July 16, 2014

Alameda County Environmental Health
1131 Harbor Bay Parkway
Alameda CA 94502
Attention: Karel Detterman, Hazardous Materials Specialist

Reference: ACEH Comments dated April 30, 2014
Former Goodyear DEX #9578
3430 Castro Valley Boulevard, Castro Valley, CA

Ms. Detterman:

The Goodyear Tire & Rubber Company (Goodyear) received the ACEH comments dated April 30, 2014 regarding the review of the case file, including the *Site Conceptual Model* for the above referenced Site. The ACEH comments (bold text) have been recreated below for reference. The italicized text following each comment, as well as the attached figures and tables, provides our response to each comment.

1. **Please use the SWRCB's Low Threat Underground Storage Tank Case Closure Policy (LTCP) as a reference to guide the case to closure.** *Noted and addressed as such in Table 4-1 of the SCM.*
2. **ACEH's biggest concern is tetrachloroethene (PCE), vinyl chloride (VC), and free product (non-aqueous phase liquids [NAPL]) in former well MW-3:**
    a. **What and where is the source of the PCE, VC, and free product.** *The PCE, VC, and petroleum hydrocarbons were observed and detected in MW-3 which was located immediately down-gradient from the former UST. The source of the impacts in MW-3 was the former UST.*
    b. **Definition of PCE needs to be accomplished.** *Additional soil and grab-groundwater samples are being proposed to further evaluate the area of the former UST for PCE, as presented in Table 5-1 of the SCM.*
    c. **Requested contours of free product shown on cross section & plan view & how free product is related to potential source areas.** *Since groundwater monitoring was initiated at the Site in 1994, light non-aqueous phase liquid (LNAPL) or "free product" was only detected intermittently in former monitoring well MW-3. LNAPL has not been observed in any of the other monitoring wells at the site. Per your request, isoconcentration contours for total petroleum hydrocarbon (TPH) have been added to the cross section and plan view maps. It appears that the soil concentrations exceeding 50 mg/Kg of TPH-DRO and 100 mg/Kg of TPH-GRO are limited to the area around the former UST as well as the HL-1 sample. The revised figures demonstrating these contours are included as Figures 3, 7 and 8.*

3. **Adequacy of monitoring well network:**
    a. **Boring log lithology points to possible confined conditions.** *It is agreed that possible confined conditions, or at least semi-confined conditions, are present as static groundwater levels rise above first encountered groundwater depths. However, as the shallow clay and silty clay interval (approximately 10-15' bgs) sometimes has been described as moist, it may not yield significant water until an adequate time passes allowing the well to recharge.*
    b. **MW-4 is not screened in same lithologic unit (SP/SC) at 15 feet below grade as MW-1, MW-2, & former MW-3 therefore MW-4 is not an adequate downgradient well to monitor for hydraulic lifts, which may be potentially associated PCE.** *It may be true that MW-4 is not screened in the same lithologic unit as MW-1, MW-2 and MW-3. However, MW-5 is screened in the same lithologic unit and is upgradient of MW-4. Both MW-4 and MW-5 were sampled in May 2014 for VOCs and SVOCs and the results for both samples indicated no analytes above the method detection limits. Monitoring wells MW-4 and MW-5 are downgradient from the former UST which is the source area for the release.*
    c. **Monitor and sample MW-5 using low-flow purging and sampling and analyze groundwater samples for VOCs EPA 8260 and SVOCs EPA 8270.** *As indicated above, sampling of MW-5 (and MW-4) was completed in May 2014 with all analytes resulting in ND concentrations. Table 4 has been modified to add this data and is attached along with the certified analytical reports. These items will also be uploaded to the ACEH's FTP site and Geotracker.*
    d. **If total depth of MW-5 matches construction depth, there shouldn't be a need to redevelop well although it hasn't been sampled since 8/2013.** *Monitoring well MW-5 did not require redevelopment and a valid groundwater sample was collected in May 2014. Field data sheets are included as an attachment.*
    e. **Please prepare and submit with the updated SCM a Rose diagram documenting direction variations in the groundwater gradient.** *A Rose-diagram has been prepared and is included as an attachment. The Rose-diagram confirms the groundwater flow direction to the south with the Vector Mean at approximately 171 degrees (180 degrees being due South).*
4. **An Oxygen-Releasing Compound (ORC) Amendment was placed in the excavations but there were no confirmation borings done to see if ORC & excavation was successful.** *The ORC was placed in the bottom of the excavation as a general polishing technique to help degrade the petroleum hydrocarbons over time and was not considered a remedial action alternative. However, three borings will be drilled to determine the effectiveness of the ORC based on a comparison of current TPH results vs previous TPH results in nearby soil samples. This is discussed further in Table 5-1 of the SCM.*
5. **Please revise Figure 8 by adding all eleven potential source areas listed in Section 1.1.2.** *Site features identified in the 2004 Phase I ESA and listed in Section 1.1.2 of the SCM have been added to Figure 2. The revised figure is attached.*
6. **Please submit the laboratory analytical report for the soil excavated during the August 2012 remedial action event which are referenced in Stantec's 10/19/2012 *Remediation Summary Report and First Semi-Annual Groundwater Monitoring Report*, page 5: "Soil proximate to the former UST was stored and characterized separately from the rest of the excavated soil, due to the presence of a *strong***

odor and visible sheen on the soil. **This investigation-derived waste was subsequently sampled by Stantec, and profiled as a non-hazardous waste".** *The laboratory reports are attached and will also be uploaded to the ACEH's FTP site and Geotracker.*

   a. **Additionally, please submit daily field observations from the August 2012 remedial action event to inform of the location of the *visible sheen on the soil.*** *The field data sheets are attached.*

7. **Last bullet of Section 1.1 regarding the oil/water separator and PCBs: please investigate for VOCs, SVOC including PAHs and naphthalene.** *The Phase I ESA and Limited Subsurface Investigation completed in 2004 evaluated various site features including the oil/water separator. The 2004 investigation was completed as a voluntary due diligence assessment for Goodyear's use. The scope of the assessment was not intended to comply with a regulatory program. Information from the 2004 due diligence investigation was provided as part of the SCM; however, Goodyear is not seeking agency closure for the entire Site. Based on the laboratory data from the 2004 investigation, the only areas that exceeded environmental screening levels (ESLs) were the former UST area and the area of HL-1. Additional investigation in these areas is discussed further in Table 5-1 of the SCM.*
8. **Groundwater contamination is probably not a dissolved phase in groundwater issue.** *Based on my telephone conversation on with you on June 12, it is my understanding that this comment is in regards to the possibility of the presence of secondary source as defined in the LTCP. The LTCP indicates that "petroleum release sites are required to undergo secondary source removal to the extent practicable". The secondary source in the area of the UST excavation was removed to the extent practicable in 2012. The excavation was limited by the presence of a high pressure natural gas line to the west, by a water line located along the Site building to the east, and by the presence of groundwater at approximately eight feet below ground surface. Per the LTCP, "additional removal or active remedial actions shall not be required by regulatory agencies unless (1) necessary to abate a demonstrated threat to human health or (2) the groundwater plume does not meet the definition of low threat as described in this policy." The current conditions at the Site support the conclusion that additional remedial actions are not required. This is further supported by the May 2014 groundwater sample results from the sampling of MW-4 and MW-5.*

Per your request, the tabular form of the SCM and the Data Gap Summary and Proposed Investigation form have been prepared and are attached. These forms as well as the revised figures and tables will be uploaded to the ACEH's FTP site and Geotracker. As indicated on Table 5-1, additional soil and grab-groundwater sampling is proposed in the area of the former UST and in the area of HL-1. The results of the proposed sampling will then be incorporated into the SCM in order to determine if additional data gaps are present.

Please do not hesitate to contact me if there are any questions. I can be reached at 330-668-4600 x 111 or at karen.burlingame@goodyear.com.

Respectfully,

Karen D. Burlingame
Project Manager for
The Goodyear Tire & Rubber Company

Attachments:
Table 1 Historical Soil Analytical Results (revised)
Table 4 Historical Groundwater Analytical Results (revised)
Table 4-1 Site Conceptual Model
Table 5-1 Data Gaps Summary and Proposed Investigation
Figure 2 Site Plan with Cross Section (revised)
Figure 3 Geologic Cross Section A-A' (revised)
Figure 7 Lateral Extent of Contaminants in Unsaturated Zone Soil (revised)
Figure 8 Lateral Extent of Contaminants in Smear and Saturated Zone Soil (revised)
Rose Diagram
2012 Waste Disposal Characterization Laboratory Reports
2012 Field Data Sheets

All information, conclusions, and recommendations provided by Stantec in this document regarding the Site have been prepared under the supervision of and reviewed by the Licensed Professional whose signature appears below:

Licensed Approver:

Name: Gary P. Messerotes, P.G.

Signature:

Date: July 16, 2014

Stamp:

PROFESSIONAL GEOLOGIST
GARY P. MESSEROTES
No. 5650
exp. 07/31/16
STATE OF CALIFORNIA

APPENDIX B

ACEH EMAIL NOVEMBER 25, 2014

Messerotes, Gary

From: Detterman, Karel, Env. Health <Karel.Detterman@acgov.org>
Sent: Tuesday, November 25, 2014 3:19 PM
To: 'Karen Burlingame'
Cc: Messerotes, Gary; Hardin, Jack; Roe, Dilan, Env. Health
Subject: FW: RE: Fuel Leak Case RO474 Merritt Tire Sale, Geotracker Global ID T0600101801, Goodyear DEX #9578, 3430 Castro Valley Boulevard, Castro Valley, California
Attachments: Attachment_1_and_ftpUploadInstructions_2014-05-15.pdf

Hello Karen, Gary, and Jack:

Thank you for participating in a conference call with Alameda County Environmental Health (ACEH) on Friday, November 21, 2014. The purpose of the call was to discuss the report entitled *ACEH Comments and a Tabular Site Conceptual Model and Data Gap Summary and Proposed Investigation* (SCM), dated July 16, 2014, and submitted on Goodyear's behalf by Stantec Consulting Services, Inc. (Stantec). The SCM also included the May 21, 2014 results of groundwater sampling of MW-4 and MW-5. Thank you for submitting the SCM and analytical results.

ACEH has evaluated the data and recommendations presented in the SCM in conjunction with the case files, and the State Water Resources Control Board's (SWRCBs) Low Threat Underground Storage Tank Case Closure Policy (LTCP) adopted in 2012. As a result of discussions during the conference call, it was apparent to ACEH that sufficient site data is available to eliminate the data gaps identified in the SCM. However, other data gaps, discussed below, were identified. Based on ACEH staff review, we have determined that the site fails to meet the LTCP Media-Specific Criteria for Groundwater and the Media-Specific Criteria for Vapor Intrusion to Indoor Air. Therefore, ACEH requests that you address the Technical Comments provided below in an updated Site Conceptual Model accompanied by a Request for Closure by the date provided below.

Technical Comments:

1. **LTCP Media Specific Criteria for Groundwater –** To satisfy the media-specific criteria for groundwater, the contaminant plume that exceeds water quality objectives must be stable or decreasing in areal extent, and meet all of the additional characteristics of one of the five classes of sites listed in the policy.

   Our review of the case files indicates that insufficient data and analysis has been presented to support the requisite characteristics of the plume length. According to the LTCP, a plume is considered stable or decreasing if a contaminant mass has expanded to its maximum extent. As discussed during the conference call, please revise the SCM to include the following lines of evidence:

   a. **Distal end of plume:**
      Please perform a Preferential Pathway and Sensitive Receptor Study to determine if sensitive receptors are present in the downgradient vicinity of the site. The Rose diagram provided in the SCM indicates that the prevalent groundwater flow direction is to the south. ACEH requests review of both Alameda County Public Works Agency (ACPWA) and Department of Water Resources (DWR) well data sources for a complete inventory of vicinity water supply wells. ACEH requests the identification and location on a site vicinity figure all active, inactive, standby, decommissioned (sealed with concrete), unrecorded, and abandoned (improperly decommissioned or lost) wells including irrigation, water supply, industrial, livestock, dewatering, and cathodic protection wells within a ¼-mile radius of the subject site. Additionally, please identify on the same figure beneficial resources and other sensitive receptors including, but not limited to, groundwater classification, wetlands, surface water bodies, natural resources, schools, hospitals, day care centers, elder care facilities, etc. Please plot the numbered well locations on an aerial photography-based figure and provide a table with the same numbered well locations similar to the examples provided in ACEH's 11/21/2014 e-mail attachments.

By referencing Table 1: *Plume Characteristics*, in the LTCP's *Technical Justification for Groundwater Media-Specific Criteria*, please plot on a separate figure the average, 90th percentile, and maximum plume lengths for benzene, MTBE, and TPHg using MW-3 as the source. Additionally, please reference and provide literature-based free-product concentration ranges for oil and grease in groundwater and plot that concentration and estimated plume length on the figure.

b. Proximal end of Plume:
Please utilize the results of the May 2014 sampling of MW-4 and MW-5 to document groundwater quality at the proximal end of the plume. Please note that MW-5 is screened similarly to and is located directly downgradient of former well MW-3 which was located in the source area and frequently was found to contain free-product. Because MW-3 was screened at a similar depth and lithology as MW-5, ACEH recognizes MW-5 as a valid downgradient well for the former source area. The sampling results did not indicate the presence of VOCs and SVOCs above their respective detection limits, or free product.

2. **LTCP Media Specific Criteria for Vapor Intrusion to Indoor Air –** The LTCP describes conditions, including bioattenuation (unsaturated) zones, which if met will assure that exposure to petroleum vapors in indoor air will not pose unacceptable health risks to human occupants of existing or future site buildings, and adjacent parcels. Appendices 1 through 4 of the LTCP criteria illustrate four potential exposure scenarios and describe characteristics and criteria associated with each scenario.

   Please revise the SCM to include the following lines of evidence, as discussed during the conference call, that provide justification as to why the site meets the Media-Specific Criteria for Vapor Intrusion to Indoor Air:

   a. Based on site boring logs, the bioattenuation (unsaturated) zone at the site appears to be approximately 8' thick below ground surface (bgs);
   b. In 2012, a source removal action occurred with the excavation and removal of a volume of soil measuring 60 feet by 15 feet by 8 feet bgs;
   c. The sampling results did not indicate the presence of VOCs and SVOCs above their respective detection limits, or free product.

3. **Table 4-1, SCM Revision Request**: Please revise page 8 of Table 4-1, SCM, regarding the current status of the facility: it is an active commercial tire and auto service center, but it is not an active fueling facility as there are no USTs present at the site.

TECHNICAL REPORT REQUEST

Please upload the technical report to the ACEH ftp site (Attention: Karel Detterman), and to the State Water Resources Control Board's Geotracker website, in accordance with Attachment 1 and the following specified file naming convention and schedule:

- **January 30, 2015 –** Request for Closure including the Revised Site Conceptual Model
  File to be named: RO479_RFC_SCM_R_yyyy-mm-dd

This report is being requested pursuant to California Health and Safety Code Section 25296.10. 23 CCR Sections 2652 through 2654, and 2721 through 2728 outline the responsibilities of a responsible party in response to an unauthorized release from a petroleum UST system, and require your compliance with this request.

Online case files are available for review at the following website: http://www.acgov.org/aceh/index.htm.

Thank you for your cooperation. Should you have any questions or concerns regarding this correspondence or your case, please send me an e-mail message at karel.detterman@acgov.org or call me at (510) 567-6708.

Karel Detterman, PG
Hazardous Materials Specialist
Alameda County Environmental Health
1131 Harbor Bay Parkway
Alameda, CA 94502
Direct: 510.567.6708
Fax: 510.337.9335
Email: karel.detterman@acgov.org

PDF copies of case files can be downloaded at:

http://www.acgov.org/aceh/lop/ust.htm

From: Detterman, Karel, Env. Health
Sent: Friday, November 21, 2014 12:51 PM
To: Messerotes, Gary; 'Hardin, Jack'; 'Karen Burlingame'
Cc: Roe, Dilan, Env. Health
Subject: RE: Fuel Leak Case RO474 Merritt Tire Sale, Geotracker Global ID T0600101801, Goodyear DEX #9578, 3430 Castro Valley Boulevard, Castro Valley, California

Hello Karen, Gary, and Jack:

Attached are examples of ACEH's preferred format for both the well survey based on the data bases from Alameda County Public Works Agency (ACPWA) and California Department of Water Resources (DWR) and a "Plume Length Study" based on the LTCP's *Technical Justification for Groundwater Media-Specific Criteria*. I will send you a second e-mail directive letter as we discussed in today's meeting.

Thank you,

Karel Detterman, PG
Hazardous Materials Specialist
Alameda County Environmental Health
1131 Harbor Bay Parkway
Alameda, CA 94502
Direct: 510.567.6708
Fax: 510.337.9335
Email: karel.detterman@acgov.org

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APPENDIX C

DWR AND ACPWD WELL SURVEY RESULTS TABLE

APPENDIX C
Wells Survey Results
Former Goodyear Tire Store
3430 Castro Valley Boulevard
Castro Valley, CA

	Owner/Site Name	Well Type	Drill Date	Total Depth	Address	Approximate Distance/Direction From Site
1	Merritt Tire Sale	Monitoring Wells	Sept 94, Dec 96, Aug 12	16-20	3430 Castro Valley Blvd.	0
2	CHEVRON #9-4930 / VALLEY CAR WASH	Monitoring Well	Oct-93	20	3369 Castro Valley Blvd.	460 SW
3	Ted Simas (XTRA OIL DBA SHELL STATION)	Monitoring Wells	Feb 90 & Aug 97	18-20	3495 Castro Valley Blvd.	510 SE
4	R. T. Nahas Company (UNOCAL)	Monitoring Wells	Dec 89	25-30	20405 Redwood Rd.	520 NE
5	R. T. Nahas Company	Monitoring Wells	Apr 92	29-37	20629 Redwood Rd	310 E
6	Exxon Oil	Unknown	?	?	20450 Redwood Rd.	650 NE
7	BP #11105 / SHELL 17-1445	Monitoring Well	Sept 92, July 95, Aug 09,	15-30	3519 Castro Valley Blvd.	700 SE
8	R. T. Nahas Company	Domestic/Destroyed	Dec 75	56	3559 JAMISON WAY	700 NNW
9	R. T. Nahas Company	Destroyed	?	20 & 25	3533 JAMISON WAY	725 NNW
10	Horseshoe Drilling	Destroyed	Apr 96	20	20342 Woodbine Ave	600 NW
11	Mitzi Stockel	BOR/MON	Apr-90	8-23	3234 Castro Valley Blvd	1000 W
12	BART	Monitoring Well	Feb 93	16	21000 Wilbeam Ave.	1225 SSW
13	Robert D Rousey	Irrigation	May-77	28	20283 Yeandle Ave.	1325 ENE