Hanson Aggregates West Region
3000 Busch Road
Pleasanton, CA 94566-8403

May 16, 2007

Mr. Jerry Wickham
Alameda County Health Care Services
Environmental Health Services
1131 Harbor Bay Parkway, Suite 250
Alameda, California 94502-6577

Subject: Work Plan for Additional Site Characterization at the Hanson Aggregates Radum Facility, 3000 Busch Road, Pleasanton, California

Dear Mr. Wickham:

The enclosed "Work Plan to Conduct Additional Subsurface Investigations to Characterize the Extent of Contamination in Areas of Potential or Recognized Environmental Concerns at Hanson Aggregates Radum Facility, 3000 Busch Road, Pleasanton, Alameda County, California" (the "Work Plan") was prepared by LFR Inc. ("LFR") on behalf of Hanson Aggregates Northern California ("Hanson") for the Hanson Aggregates Radum Facility, 3000 Busch Road, Pleasanton, California ("the Site"). The Work Plan was prepared in response to the Alameda County Environmental Health (ACEH) letter dated March 16, 2007, regarding the environmental conditions at the Site. The ACEH March 16, 2007 letter contained 15 technical comments based on its review of the case file and a meeting between representatives of the ACEH, LFR, and Hanson on March 2, 2007, to discuss the current site conditions. To ensure that each of the 15 ACEH technical comments was appropriately addressed, LFR prepared a cover letter to the work plan that provides a summary of each technical comment followed by a response. Also to facilitate the review of the history of environmental conditions at the Site, LFR has subdivided the approximately 1,000-acre Site into nine AOCs, as illustrated on Figure 2 of the work plan.

As requested, this Work Plan will be submitted electronically via the Alameda County Environmental Cleanup Oversight Program FTP website, and via the Regional Water Quality Control Board's GeoTracker electronic submittal system.

I declare, under penalty of perjury, that the information and/or recommendations contained in the attached document or report are true and correct to the best of my knowledge. If you have any questions or comments concerning this Work Plan, please call me at (925) 426-4170 or Katrin Schliewen of LFR at (510) 652-4500.

Sincerely,

Lee W. Cover
Environmental Manager
Hanson Aggregates Northern California

Attachment

LFR ENVIRONMENTAL MANAGEMENT & CONSULTING ENGINEERING

May 16, 2007 001-09567-01

Mr. Jerry Wickham
Alameda County Environmental Heath Services
1131 Harbor Bay Parkway, Suite 250
Alameda, California 94502-6577

Subject: Work Plan for Additional Site Characterization at the Hanson Aggregates Radum Facility, 3000 Busch Road, Pleasanton, California

Dear Mr. Wickham:

LFR Inc. (LFR) is pleased to present the enclosed work plan in response to the Alameda County Environmental Health (ACEH) letter dated March 16, 2007, regarding the environmental conditions at the Hanson Aggregates Northern California ("Hanson") Radum Facility located at 3000 Busch Road in Pleasanton, California ("the Site"; Figures 1 and 2). In its March 16, 2007, letter, the ACEH provided technical comments after its review of the Spills, Leaks, Investigations, and Cleanups (SLIC) case file for the Site (ACEH SLIC case #RO0002941), including reports prepared by LFR and Brown and Caldwell (B&C) that were prepared for Hanson and by ENV America (ENV) for Legacy Partners Commercial, LLC (Legacy). Legacy is a potential purchasing agent for the Site that has conducted the soil and groundwater investigations as part of its due diligence work prior to entering into a purchase agreement for the Site.

The March 16, 2007, letter references the following reports that were reviewed by the ACEH:

- Phase I and Phase II Environmental Site Assessment (ESA) reports prepared by ENV following site wide investigations
- Additional Phase II ESA prepared by LFR based on investigations conducted at the former asphalt plant
- a report prepared by B&C presenting results from an investigation conducted near two former underground storage tanks (USTs)

The ACEH technical comments also were based on discussions between representatives of the ACEH, LFR, and Hanson during a meeting held at the ACEH offices on March 2, 2007.

As noted by the ACEH, the work summarized in the reports listed above was conducted without oversight or review by ACEH. The March 16, 2007 letter is the first correspondence from a regulatory agency requesting specific information and/or that investigations be performed regarding the known or potential environmental conditions at the Site. However, in a 1998 letter, the ACEH granted site closure for the removal of seven USTs, as discussed further below. The

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ACEH March 16, 2007 letter contains 15 technical comments based on its review of the case file and the March 2, 2007, meeting about current site conditions. In its letter, the ACEH has requested that a work plan be submitted that includes:

- a detailed site history and current conditions of potential or recognized environmental conditions
- an improved presentation of all available data (including a graphical cross section and maps that show site features)
- a scope of work for additional characterization of specific areas of concern
- copies of additional documentation regarding previous relevant environmental site conditions such as case closure letters from regulatory agencies for former USTs

To ensure that each of the 15 ACEH technical comments is appropriately addressed, a summary of each technical comment is provided below followed by a response. The responses include, for example, a summary of the information requested with reference to attached documents as appropriate, or references to the scope of work described in the attached work plan. The work plan is submitted as a stand alone document attached to this letter. The work plan describes the scope of work for additional field activities or investigations proposed to address either specific comments from the ACEH or to conduct further characterization of subsurface conditions in specific areas of concern (AOCs).

To facilitate the review of the history of environmental conditions at the Site, LFR has subdivided the approximately 1,000-acre Site into nine AOCs, as illustrated on Figure 2 and as presented in the work plan. A list of the documents reviewed is presented in the reference section of the work plan. For reference, Table 1 summarizes the potential or recognized environmental conditions (PECs or RECs) that exist at each of the nine AOCs. Table 1 describes the current environmental conditions and work conducted to date in each area, and identifies data gaps based on our review of the existing reports and information provided by Hanson. Also included in the table are general comments of additional work that likely will be needed to fill the data gaps. The attached work plan provides a more detailed summary of the site conditions at each AOC and present the proposed scope of work to complete the characterization of affected soil and/or groundwater at each AOC. Where appropriate, preliminary discussions of remediation activities are included.

ACEH Technical Comments

The 15 technical comments from the ACEH ranged from requests for analytical data previously collected at the Site to be presented in a more comprehensive manner, to providing additional information and/or reports regarding individual areas, to proposing additional investigations to further characterize areas of known or suspected contamination. The ACEH requested that all technical comments be addressed as part of a work plan. Each comment provided by the ACEH is directly addressed below (using the ACEH's numbering) and further addressed in the enclosed work plan, as appropriate.

1. Geologic and Hydrogeologic Data

ACEH Technical Comment. This comment pertains to three issues:

- The large interval at which soil samples were collected for soil logging during drilling means that significant geologic features may have been missed; therefore, future soil borings should be logged continuously.
- There is a general lack of soil boring logs prepared and/or included in reports prepared by ENV and B&C.
- Additional characterization of site geology and hydrogeology is required in the areas of the Site where there is evidence of a release, including the former asphalt plant and spray rack, wash rack, lube shed, and in the vicinity of soil borings SS31, SS123, and EB35.

Response. As indicated in the attached work plan, all proposed subsurface characterization work that consists of drilling will include collecting continuous soil samples for the purposes of soil logging, field screening, and collecting samples for laboratory analyses. Soil boring logs will be prepared and included in the summary report.

Additional subsurface investigations are proposed for the following areas: former asphalt plant area, lube shed, storm-water retention pond, and in the vicinity of former soil borings SS31, EB31, and EB35, to better characterize the lateral and the vertical extent of affected soil and/or groundwater, as necessary. The scope of work of the proposed additional investigations consists of advancing temporary soil borings to collect depth-discrete soil and grab groundwater samples, and the installation, development, sampling, and surveying of new groundwater monitoring wells.

It is LFR's understanding that ENV has proposed to conduct additional subsurface investigations in the vicinity of former soil boring SS123. Therefore, LFR is not proposing any additional investigations in this area pending review of results from ENV's proposed investigation.

2. Presentation of Sampling Locations and Analytical Data

ACEH Technical Comment. This comment identifies the lack of maps that present analytical data and depict relevant site features at an appropriate scale for the Site.

Response. As requested by the ACEH, LFR prepared maps specific to each of the nine AOCs and constructed at an appropriate scale to show relevant site features and data (Figures 3 through 11 of the work plan). Each map includes the following information:

- previous and existing structures
- site features and potential sources of affected soil or groundwater
- previous soil and groundwater sample locations

- analytical results of soil and groundwater samples
- locations of proposed temporary soil borings and/or new groundwater monitoring wells

The data presented on each map have been interpreted to assess the need for additional investigations at the nine AOCs located across the Site.

3. Soil Cleanup in Asphalt Plant and Spray Rack Area

ACEH Technical Comment. In this comment, the ACEH notes that soil remediation will be required at the former asphalt plant and spray rack area but that the volume of soil requiring remediation is uncertain. The ACEH requests the following items:

- present plans for additional investigation or cleanup of shallow soils in this area
- present more detailed maps depicting site features, observations of affected soil, analytical results, and proposed areas/depths for soil removal
- describe proposed soil cleanup goals and plans for confirmation sampling

Response. Analytical results of soil and grab groundwater samples collected during previous investigations by ENV, LFR, and B&C from the former asphalt plant and spray rack area indicate several localized areas of petroleum hydrocarbon-affected soil and groundwater. The former hot mix asphalt plant portion of the Site has been designated as AOC #1. The excavation and off-site disposal of affected soil identified to be present in the upper 8 feet below ground surface (bgs) in specific locations of this AOC likely will take place during the demolition of the remaining site structures. The schedule and scope of this remedial work has not yet been established and likely will take place when Hanson vacates the property. Additional site characterization of soil and groundwater quality is recommended at this AOC and the scope of the proposed investigation is presented in the attached work plan. A detailed map depicting site features and analytical results of soil and groundwater samples collected from this portion of the Site are presented on Figure 3 of the attached work plan.

4. Proposed Cleanup Goals for Future Land Use

ACEH Technical Comment. This comment pertains to defining the proposed cleanup goals for the Site, and estimating the extent of cleanup that would be required to remediate the Site for residential future land use. The ACEH technical comment also requests that the feasibility of restoring the land for an unrestricted land use (i.e., residential redevelopment) be considered, and that the extent of additional soil cleanup to restore the site to unrestricted future use be estimated.

Response. LFR understands that the Site is being sold as a commercial-industrial property and that the area currently is zoned for commercial-industrial land use. As such, the proposed cleanup goals are based on the Regional Water Quality Control Board (RWQCB), San Francisco Bay Region, Environmental Screening Levels (ESLs) for soil and groundwater beneath

commercial/industrial land use areas. As noted by the ACEH, because the future land use is less restrictive than residential, an environmental restriction on the deed will be required for the property. It is our opinion that given the current zoning and planned future use of the property as commercial/industrial, Hanson is not obligated to restore this property based on a potential future (e.g., residential) land use. Therefore, estimating the extent of additional soil and/or groundwater remediation to restore the site to unrestricted future use would need to be addressed, by Hanson or others, if the land to be redeveloped for uses other than commercial/industrial.

5. Viscous Free-Phase Petroleum Product

ACEH Technical Comment. This comment pertains to the free-phase petroleum product that was observed in several temporary soil borings located in the northern portion of the former asphalt plant area. ENV reported that black viscous free product material was present between 30 and 40 feet bgs in soil borings EB-14, EB-20, EB-21, EB-23, EB-24, EB-25, EB-26, and EB-33. As noted by the ACEH, the source of this product is unknown, but the product may have been emplaced during previous mining operations or have migrated from an unknown source. The ACEH requests that additional investigation be conducted to define the source of the free product, using methods including hydrocarbon fingerprinting.

Response. The presence of the black viscous product was confirmed by LFR using soil boring B-16, advanced to approximately 36.5 feet bgs, in which the product was observed in the soil sample collected from approximately 30 to 31.5 feet bgs. Product was not observed in the soil samples collected from approximately 25 to 26.5 feet bgs, and from approximately 35 to 36.5 feet bgs. LFR's review of the ENV reports reveals that ENV's conclusion that the black product may be up to 10 feet thick is not supported by soil boring logs and that no details regarding sample interval was presented. It is not clear how ENV determined that the product is present at this depth interval. Based on the soil samples collected and the observations made and recorded by the LFR field geologist during the drilling of soil boring B-16, it appears that the vertical extent of free product likely is likely less than the 10 feet indicated by ENV. The depth and appearance of the free product indicate the possibility that the product was emplaced during former mining operations conducted in this portion of the Site.

As requested by the ACEH, LFR is proposing to further assess the nature and extent of free product identified at depth by LFR and ENV. The scope of work presented in the attached work plan includes advancing approximately three soil borings to approximately 60 feet bgs to collect soil samples for laboratory analyses. Samples collected from the free product interval also will be sent for fingerprinting analyses to help identify the potential age, carbon chain length of the hydrocarbons present in this material, and/or the potential source of the free product.

6. "Other Site Locations"

ACEH Technical Comment. This comment pertains to the 18 PECs or RECs identified by ENV at locations across the Site and as reported in its November 2006 Phase II ESA report. The ACEH

requests that additional information about these PECs and RECs be provided, including identifying the specific sources on contamination, investigations conducted to date, plans for future investigation or remediation, and a detailed map at an appropriate scale to show site features and analytical data.

Response. LFR determined that the 18 PECs and RECs identified by ENV are best grouped into nine AOCs, based on their locations at the Site. LFR has prepared site maps for each AOC showing recent site features using satellite images as the background of the maps, and identifying current site features. Each AOC map includes the various PECs and RECs, locations of previous soil and groundwater samples, and analytical results. A summary of the PECs and RECs, grouped by AOC, is provided in Table 1. In addition, each AOC and the various PECs and RECs are described in more detail in the attached work plan. Where appropriate, additional investigations to further characterize individual PECs or RECs are proposed in the work plan. Additional investigations include advancing soil borings to collect depth discrete soil and grab groundwater samples and installing groundwater monitoring wells. As mentioned in the response to Comment 3 above, the excavation and off-site disposal of affected soil identified to be present in the upper 8 feet bgs will likely take place during the demolition of the site features. The schedule and scope of this remedial work has not yet been established and it likely will take place when Hanson vacates the property.

7. Statistical Sampling

ACEH Technical Comment. This comment pertains to the analytical results of the soil and groundwater samples collected from soil borings drilled by ENV as part of the "random sampling" that took place at the Site in January 2007 (report dated February 2007). The ACEH had requested that the potential sources of affected soil and groundwater identified during the random sampling be identified along with the vertical and lateral extent of affected soil and groundwater.

Response. Based on LFR's review of the February 2007 report by ENV summarizing the results of the "random sampling," it appears that 3 of the 17 randomly selected soil boring locations resulted in petroleum hydrocarbon detections above the commercial/industrial ESLs, namely SS31, EB35, and SS123. LFR identified these three areas as AOCs with PECs and prepared detailed maps showing previous and current site features. LFR reviewed all documents supplied by Hanson and discussed potential historical activities conducted in the vicinity of these three soil boring locations. Based on LFR's review of available information, no significant historical activities were identified that could provide a specific source of the petroleum hydrocarbons detected in soil samples collected from these three temporary soil borings.

In the case of former soil boring EB35, petroleum hydrocarbons were detected at concentrations only slightly above the ESLs and only at shallow depths (approximately 2 feet bgs). The source of contamination is likely minor historical localized diesel spill(s), related to trucks used during the historical mining activities. As described in the attached work plan, additional sampling is proposed to characterize the extent of contamination. Pending the results of the additional

investigation, shallow excavation of affected soils may be recommended to remediate these two areas.

As discussed in more detail in the attached work plan, elevated petroleum hydrocarbon concentrations were detected at depths down to 40 feet bgs in former soil borings SS31 and SS123. The sources of contamination in these two areas has not been identified. However, based on the previous site use, the distribution of the petroleum hydrocarbons detected, and visual observations, the potential sources of contamination may be associated with historical mining operations and possibly asphalt or similar product emplaced in former mining pits.

ENV conducted an additional subsurface investigation during March 2007 and collected soil and groundwater samples from four soil borings drilled approximately 25 feet to the north, east, south, and west of former soil boring SS123. Depth discrete soil and grab groundwater samples from soil borings SS123(A) through (D) also contained elevated petroleum hydrocarbon concentrations. According to Hanson, ENV has proposed to advance four new temporary soil borings, stepping out approximately 100 feet from the previous step-out locations, again to the north, east, south, and west. LFR will evaluate the results from the investigation proposed by ENV to determine if additional subsurface investigation and/or the installation of new groundwater monitoring wells are warranted in this portion of the Site.

8. Kiewit Property

ACEH Technical Comment. This comment pertains to the soil excavation work that was conducted on the properly known as the Kiewit Property located west of the former asphalt plant area. The ACEH has requested copies of reports prepared for the removal action that took place at the Kiewit Property.

Response. Reports associated with this project are included in Attachment 3 of this letter.

9. Groundwater Flow Direction

ACEH Technical Comment. This comment pertains to assessing the groundwater flow direction at the Site. The ACEH requests that monitoring wells be installed to monitor water quality and estimate the local hydraulic gradient and flow direction, at a minimum within and downgradient from the former asphalt plant area.

Response. LFR proposes to install five new groundwater monitoring wells in the former asphalt plant area. Proposed well locations are shown on Figure 3 of the work plan; drilling and well installation methods and construction details are included in the work plan and are summarized in Table 1 of the work plan. After the wells are installed, they will be properly developed, surveyed for location and elevation, and sampled. The depth to water will be measured to evaluate the local groundwater flow direction and hydraulic gradient.

Depending on the results of the additional grab groundwater investigation proposed by ENV in the vicinity of former soil boring SS123, further assessment of groundwater quality and flow direction may be required. However, the installation of groundwater monitoring wells for this area is not proposed in the attached work plan.

10. Grab Groundwater Samples

ACEH Technical Comment. This comment pertains to the quality of the grab groundwater samples collected from inside hollow-stem augers by ENV during its 2006 subsurface investigations. The ACEH considers the analytical results from these samples to be "semi-quantitative."

Response. LFR agrees with the ACEH; however, the data can still be used to determine whether affected groundwater is present at a particular location. The results of the ENV and LFR investigations indicated the presence of affected groundwater at two former soil boring locations in the former asphalt plant area (B22 and EB29). As described in the attached work plan, all depth-discrete grab groundwater samples to be collected by LFR will be collected from temporary polyvinyl chloride well casings and screen placed in the temporary soil borings.

11. Extent of Groundwater Contamination

ACEH Technical Comment. This comment pertains to the fact that no groundwater samples have been collected between the former asphalt plant and soil boring B-22. The ACEH requests a plan for additional investigation to characterize the extent of affected groundwater in the former asphalt plant area.

Response. As described in the attached work plan, LFR will advance additional temporary soil borings to collect grab groundwater samples from approximately beneath the area of free product at depth to further characterize the lateral extent of affected groundwater in the former asphalt plant area. In addition, LFR will install five new groundwater monitoring wells to determine the local groundwater flow direction and gradient and to continue to assess groundwater quality in this portion of the Site. As shown on Figure 3 of the work plan, two of the new groundwater monitoring wells would be located approximately east and southeast of former soil borings B22 and EB27.

12. On-Site Water Wells

ACEH Technical Comment. This comment pertains to the ACEH requesting well construction details for all active and abandoned wells located within approximately 2,000 feet of the Site. In particular, the ACEH is interested in construction details and location information of an existing water supply well and a 100-foot-deep monitoring well reported by ENV to be located at the Site. The ACEH requests that the monitoring well be sampled prior to being abandoned. In addition, the ACEH requests confirmation that no other groundwater monitoring wells are located at the Site.

Response. LFR compiled well construction details for all active and abandoned wells located within 2,000 feet of the Site, based on records kept by the Alameda County Zone 7 Water Agency ("Zone 7"). A summary of the Zone 7 well survey details is provided in Attachment 5, including a map showing well locations and a table summarizing available well information such as the well location, owner, depth, use, and current status.

Based on the well survey information provided by Zone 7, there appear to be six wells currently on the Hanson Radum property. Three wells are designated as water supply wells, one as a test hole (to 740 feet bgs and owned by Zone 7), and two as monitoring wells (discussed further below).

The 560.9-foot-deep monitoring well located approximately near the northwestern corner of Cope Pond is owned by Zone 7 and presumably is used for groundwater monitoring in conjunction with the Zone 7 water supply wells located in the area.

In its November 2006 Phase II ESA report, ENV reported the presence of a 100-foot-deep monitoring well located at the Site. The supporting documentation provided by ENV consisted of a Zone 7 map; however, the 100-foot monitoring well was not identified on the map. According to the information provided by Zone 7, the 100-foot monitoring well reported by ENV likely is the 103-foot-deep monitoring well (3S/1E 14D1, also called TW5) located approximately at the southwestern corner of Cope Pond. Well TW5 was owned, and presumably installed, by Kaiser. According to the Zone 7 records, the well could not be located in 1984 but reportedly was found in 2003. However, during additional communications between LFR and Zone 7 on May 15, 2007, Zone 7 stated that well TW5 is lost or cannot be located. As described in the attached work plan, LFR proposes to locate well TW5. If the well is found and if it can be sampled, then LFR will collect a groundwater sample from the well before abandoning it in accordance with a Zone 7 well abandonment permit.

Based on LFR's review of available historical reports by Baseline, one approximately 33-foot-deep groundwater monitoring well (MW-KP1) was installed in the vicinity of the three former USTs, after the USTs were removed in November 1990 from the east of the idle truck maintenance shop (Baseline 1991; Figure 4 of the attached work plan). Based on the March 1998 UST closure letter from the ACEH and also signed by the RWQCB, well MW-KP1 was sampled approximately quarterly during 1991 and 1992, then annually during 1993 through 1996. Analytical results for groundwater samples collected from well MW-KP1 during the last three annual sampling events, conducted in 1994, 1995, and 1996, show that total petroleum hydrocarbons as diesel (TPHd) was not detected above the laboratory reporting limit (50 micrograms per liter). According to records obtained from Zone 7, well MW-KP1 was properly abandoned on February 27, 1998 (Zone 7 permit number 98024; Zone 7 1998).

13. 1990 UST Tank Removal

ACEH Technical Comment. This comment pertains to one 10,000-gallon and two 12,000-gallon USTs removed from the eastern side of the truck shop in November 1990. The ACEH requests

that additional information be provided regarding these former USTs, and regarding any MTBE results for soil or groundwater samples collected from the five temporary soil borings advanced by ENV in 2006. The ACEH also requests that a detailed map be presented showing site features, former sample locations, and analytical data.

Response. LFR prepared a new map at an appropriate scale for this area (AOC #2), showing site features, samples locations, and presenting analytical data from samples collected from former soil borings and from the former (or existing) groundwater monitoring well located in the vicinity of the seven former USTs (Figure 4 of the work plan).

LFR reviewed all available documents and it appears that MTBE was not analyzed in any of the soil or groundwater samples collected from the five former soil borings advanced by ENV during 2006 (EB1, EB2, EB6, EB7, and EB8) in the vicinity of the idle truck maintenance shop and of the former USTS.

14. Low Risk Criteria and Conclusions Regarding Regulatory Approach

ACEH Technical Comment. This comment pertains to the ACEH not concurring with the designation of this Site as a "low-risk hydrocarbon site," as defined by the San Francisco Bay RWQCB.

Response. LFR's assessment of this Site as being "low-risk" was based on our review of analytical data for soil and groundwater samples collected from the former hot mix asphalt plant area, the site setting in an industrial and mining area, and information provided by Hanson regarding previous activities conducted in this area as part of former mining operations. Based on LFR's review of the current site conditions, and LFR's experience with similar sites, it is our opinion that soil and groundwater conditions at the Site could meet the criteria of a "low-risk hydrocarbon site," as defined by the San Francisco Bay RWQCB, pending the results of additional characterization conducted to better evaluate the extent of contamination to groundwater. The extent of contamination in soil beneath the former asphalt plant area has been extensively, if not exhaustively, investigated. However, a few data gaps in the former asphalt plant area remain, in particular, the nature and source of the deeper black product identified by ENV and LFR and defined by ENV as being approximately between 30 and 40 feet bgs, and the nature and extent of contamination to groundwater are not sufficiently characterized.

The scope of work described in the enclosed work plan is intended to provide additional characterization of affected soil and groundwater quality at the various AOCs throughout the entire 1,000-acre Site. Additional characterization in the former asphalt plant area is also proposed. In particular, additional investigations are proposed to help determine the nature and potential source of the black product identified approximately between 30 and 40 feet bgs in the northern portion of the former asphalt plant area. New groundwater monitoring wells are proposed to help characterize the local water quality and flow direction and gradient beneath the former asphalt plant area.

Plans to remediate affected soils beneath the former asphalt plant likely will be made in conjunction with plans to demolish the remaining structures. It is anticipated that Hanson will excavate affected soil as part of the demolition activities. Confirmation soil samples will be used to confirm that affected soil has been adequately removed from approximately the upper 8 feet bgs. Pending the results of the additional investigations proposed by LFR to further characterize the nature and potential source of the black product, LFR is not recommending the excavation of the black product between approximately 30 and 40 feet bgs.

To meet the San Francisco Bay RWQCB definition of a "low-risk hydrocarbon site," the primary source(s) for the affected soil or groundwater (such as USTs or free-phase hydrocarbons) must have been or will be removed. As described above, remaining site features at the former asphalt plant, including structures that contain potentially TPH-affected water, are proposed for demolition. The overexcavation of affected soils conducted in conjunction with the demolition activities will remove remaining contamination that could affect human health in this commercial/industrial land use area.

15. Geotracker™ EDF Submittals

ACEH Technical Comment. This comment pertains to the requirements that, as part of the LUFT and/or SLIC programs, all reports, analytical data, and land survey information be transmitted electronically to the SWRCB Geotracker™ website via the Internet.

Response. LFR will upload this work plan and future analytical data and summary reports prepared by LFR on behalf of Hanson to the Geotracker™ website via the Internet. It is LFR's understanding that ENV and other consultants have and/or will upload any reports that they prepare on behalf of Hanson or Legacy Partners to the Geotracker™ website.

Summary

This letter directly addresses each technical comment provided by the ACEH in its March 17, 2007 letter. Supporting documentation requested by the ACEH and/or provided as clarification by LFR are included as Attachments 1 through 5 of this letter. Table 1, included as Attachment 1, lists the nine AOCs defined by LFR and provides a summary of PECs and RECs identified at the Site. The AOCs are described in more detail in the attached work plan. This letter, the summary table, and the work plan address the ACEH comments by considering the Site in its entirety, identifying each PEC or REC, providing a brief summary of the historical activities, current conditions, investigations conducted to date, and remaining data gaps, and proposing additional investigations as necessary to fill the data gaps. The work plan, included as Attachment 2, describes the scope of work proposed for the entire 1,000-acre Site, to further characterize the lateral and vertical extent of contamination identified during previous subsurface investigations conducted at the Site.

Following your review of the work plan, representatives of Hanson and LFR would welcome the opportunity to meet with you and/or other representatives of the ACEH to discuss the proposed scope of work. Please do not hesitate to contact either of the undersigned at (510) 652-4500 or Lee Cover of Hanson at (925) 426-4170, if you have questions or comments regarding our responses to your technical comments and the proposed scope of work outlined in the attached work plan.

Sincerely,

Katrin Schliewen, P.G. (7808)
Senior Hydrogeologist

Ron Goloubow
Senior Associate Geologist

Enclosures

Attachment 1: Figure 1: Site Location; Figure 2: Site Plan; Table Letter-1: Environmental Conditions at the Hanson Radum Facility
Attachment 2: Work Plan to Conduct Additional Subsurface Investigations to Characterize the Extent of Contamination in Areas of Potential or Recognized Environmental Concerns
Attachment 3: Kiewit Property Reports
Attachment 4: RWQCB Former UST Closure Letter and Zone 7 Well Abandonment Information
Attachment 5: Survey of Wells Located on and Within Approximately 2,000 Feet of the Hanson Aggregates Radum Facility Property

cc: Lee Cover, Hanson Aggregates Northern California

Attachment 1

Figure 1: Site Location
Figure 2: Site Plan
Table Letter-1: Environmental Conditions at the Hanson Radum Facility

Source: Google Earth

Site Vicinity Map

3000 Busch Road, Pleasanton, California

LFR

Figure 1

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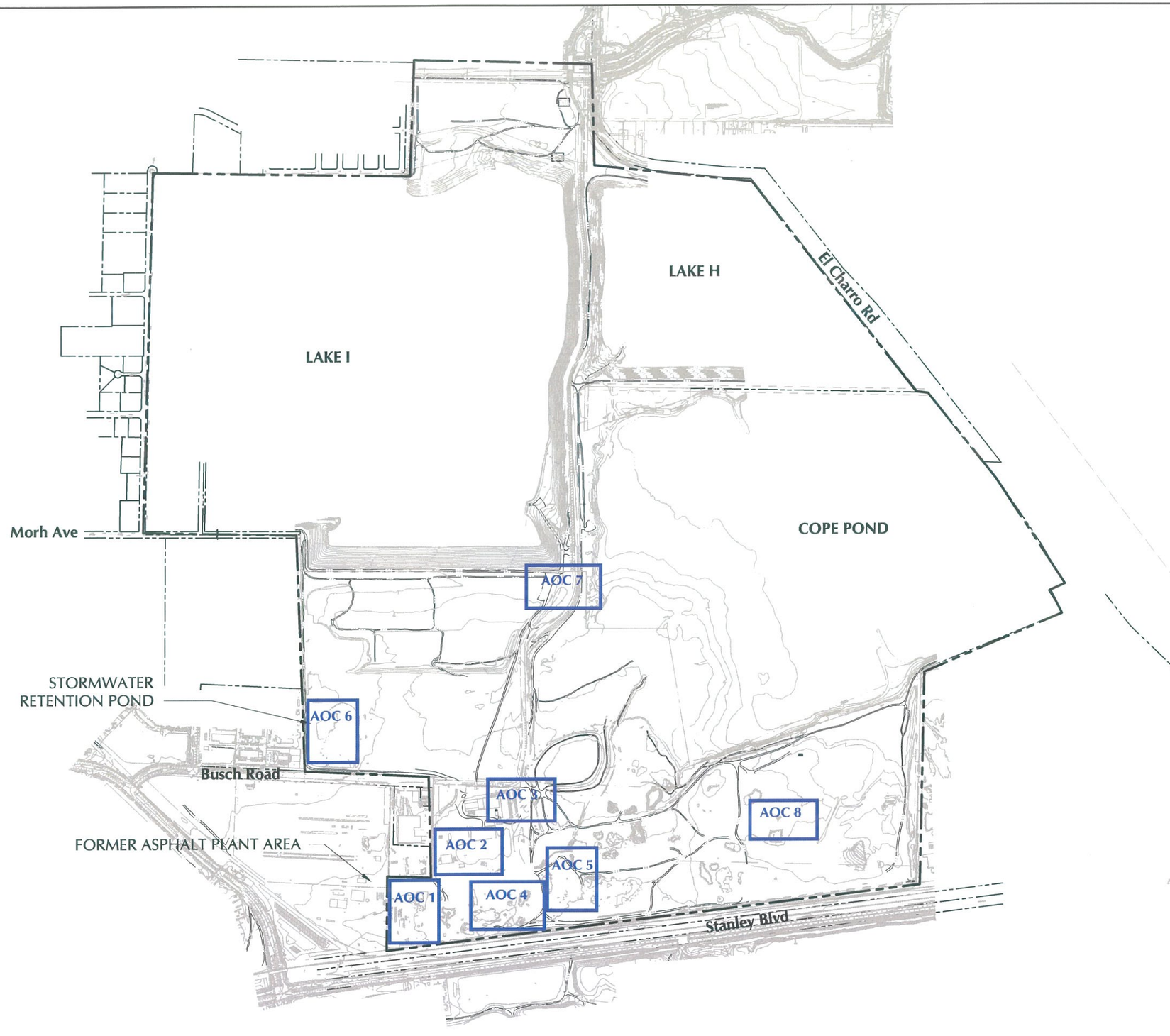

EXPLANATION:

Site Boundary

AOC 7 — Area of Concern

Area of Concern #1 – Former Asphalt Plant Area

Area of Concern #2 – Idle Truck Maintenance Area

Area of Concern #3 – Heavy Equipment Maintenance and Wash Rack Area, and PEC Identified by Temporary Soil Boring EB35

Area of Concern #4 – Former Concrete Batch Plant

Area of Concern #5 – Former Mining Operation Area

Area of Concern #6 – Storm Water Retention Pond

Area of Concern #7 – PEC Identified by Temporary Soil Boring SS31

Area of Concern #8 – PEC Identified by Temporary Soil Boring SS123

Area of Concern #9 – Vulcan Materials Company Storm Water Runoff Area

N

0 1000 FEET

Site Plan with Areas of Concern

Hanson Aggregates, Radum Facility, 3000 Busch Rd, Pleasanton, CA

LFR

Figure 2

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Table Letter-1
Environmental Conditions at the Hanson Radum Facility
3000 Busch Road, Pleasanton, California

Area of Concern [1]		PEC or REC Identified in Phase I [2]	Site Condition(s) [3]	Data Gap	Recommended Action
AOC #1	***Former Hot Mix Asphalt Plant Area***	Former asphalt plant operations area; operations included the use of paving oil, lubricants, and fuels.	Partially demolished concrete structures containing oily water remain at the Site. TPHd and TPHg were detected at concentrations above the ESLs in soil samples collected between approximately 7 and 15 feet bgs from temporary soil borings south of the former asphalt plant.	The lateral extent of TPHd and TPHg in soil at approximately 7 to 15 feet bgs to the south of the former asphalt plant has not been sufficiently characterized.	Advance one new temporary soil boring to approximately 20 feet bgs. As part of the final demolition of the remaining structures, affected soil will be removed in specific areas to depths of approximately 8 feet bgs.
		Paving oil containment structure located approximately in the center of the former asphalt plant area.	TPH was detected at concentrations above the ESLs in 2 soil samples collected from approximately 2 and 8 feet bgs.	None	As part of the final demolition of the remaining structures, affected soil will be removed in specific areas to depths of approximately 8 feet bgs.
		Contaminated soil area located in southwest portion of the asphalt plant area, as identified in the Phase II report by ENV.	Based on the ENV Phase I and II reports, LFR believes that the "contaminated soil area" refers to the contaminated soil excavated primarily from the Kiewit property located west of the Site. TPH was detected at concentrations above the ESLs in soil samples collected from depths between approximately 5 and 18 feet bgs in three locations west of the former asphalt plant.	The vertical extent of TPHd and TPHmo in soil deeper than 18 feet bgs has not been sufficiently characterized.	Advance one new temporary soil borings to approximately 25 feet bgs. Remove affected soil in specific areas to depths up to 8 feet bgs to be protective of human health, as described in the November 2006 Additional Phase II report by LFR.
		One former 10,000-gallon diesel UST was removed from near the former asphalt plant in 1995.	Reportedly, the former UST was in good condition when it was removed in 1995. Confirmation soil samples collected from the bottom of the former UST excavation resulted in TPHd and TPHmo detected in soil a low concentrations below the ESLs. A "no further action" case closure letter was received from the ACEH on March 9, 1998.	None	None
		Former diesel spray rack where diesel was spayed into truck beds to prevent asphalt from sticking.	TPHd and/or TPHmo was detected at concentrations above the ESLs in soil samples collected from approximately 5 to 7 feet bgs.	The lateral extent of TPHd and TPHmo in soil at approximately 5 feet bgs to the west of the former asphalt plant has not been sufficiently characterized.	Advance two new temporary soil borings to approximately 10 feet bgs. As part of the final demolition of the remaining structures, affected soil will be removed in specific areas to depths of approximately 8 feet bgs.
		Deep soil contamination identified between 30 and 40 feet bgs in the northern portion of this area.	A petroleum hydrocarbon product described as being thick, heavy, black, and/or viscous, was identified (primarily visually) between approximately 30 and 40 feet bgs in the northern portion of the former asphalt plant area. LFR confirmed the presence of a black product material in soil from approximately 30 to 31.5 feet bgs in one soil boring; however, the black product was not present in the soil samples from approximately 25 and 35 feet bgs. Analytical results from one soil sample collected from the black product resulted in TPHd and TPHmo concentrations up to approximately 9,000 mg/kg, exceeding the ESLs.	The lateral extent to the south and the vertical extent of the heavy black petroleum product has not been sufficiently characterized. The nature and potential source of the petroleum product has not been adequately defined.	Investigate the nature and potential source of the petroleum product, including collected samples for fingerprinting analyses. Advance three new temporary soil borings within and to the southeast of the black product to collect soil samples above, within, and below the black product interval, and to collect grab groundwater samples from beneath the black product interval.
		Groundwater contamination.	Groundwater was encountered and sampled between approximately 50 to 60 feet bgs in seven temporary soil borings. TPHd and/or TPHmo were detected at concentrations exceeded the ESLs, in the grab groundwater samples collected from two locations (EB-29 by ENV and B-22 by LFR) approximately east and southeast of the black product.	The lateral and vertical extent of TPH in groundwater has not been sufficiently characterized. The local groundwater flow direction and gradient are unknown.	Collect grab groundwater samples from three temporary soil borings advanced to further characterize the extent of the black product discussed above. Install five new groundwater monitoring wells to approximately 65 feet bgs and located west, east, and southeast of the black product, to monitor groundwater quality, determine the local groundwater flow direction and gradient, and conduct periodic groundwater monitoring and reporting.

Table Letter-1
Environmental Conditions at the Hanson Radum Facility
3000 Busch Road, Pleasanton, California

Area of Concern [1]		PEC or REC Identified in Phase I [2]	Site Condition(s) [3]	Data Gap	Recommended Action
AOC #2	***Idle Truck Maintenance Area***	Pleasanton Garbage Company use of the truck maintenance shop.	Surface soil staining was noted outside the truck bays on the south side of the building.	None	May need to assess shallow soil quality after operations have ceased at the maintenance shop.
		Three USTs (two 12,000-gallon diesel and one 10,000-gallon gasoline) removed from the east side of the of the truck maintenance shop in November 1990.	TPHd was detected in confirmation soil samples from the former UST excavation at concentrations up to 1,600 mg/kg; further excavation was deemed impractical due to the presence of the aboveground water tank and building. Analytical results for groundwater samples collected annually from well MW-KP1 installed adjacent to the former UST excavation were below laboratory reporting limits for TPHd during 1994 through 1996. Well MW-KP1 was properly abandoned in 1998. This former UST area received regulatory closure in 1998. ENV subsequently collected six soil samples from between 5.5 and 29 feet bgs and one grab groundwater sample from 29 feet bgs from soil boring EB-2. TPHd, TPHg, TPHmo, BTEX, and PCBs were below analytical reporting limits in the soil samples; the groundwater sample contained TPHd at 79 µg/l, below the ESL for TPHd.	None	None
		Two USTs (one 1,000-gallon waste oil and one 1,000-gallon new oil) removed from the west side of the of the truck maintenance shop in February 1995.	A total of four soil samples (two from beneath each UST) were collected from the base of the excavation for the former USTs, at approximately 11 feet bgs. ENV subsequently collected one soil sample from former soil boring EB-6 (20 feet bgs) and three soil samples from both EB-7 and EB-8 (2, 6, and 15 feet bgs). TPHd, TPHmo, and BTEX were not detected above analytical reporting limits. This former UST area received regulatory closure in 1998.	None	None
		Two USTs (one 12,000-gallon diesel and one 10,000 gallon gasoline) removed from an area north of the truck maintenance shop in June or July 2003.	Confirmation soil samples collected from the base of the former UST excavation contained contained low concentrations of TPHd (between 10 and 210 mg/kg). Subsequent investigations by ENV and by B&C including collecting soil and grab groundwater from up to five temporary soil borings showed that TPHd, TPHg, TPHmo, BTEX, and PCBs were not detected above analytical reporting limits and/or the ESLs. This former UST area has received verbal regulatory closure and a formal closure letter is pending.	Pending receipt of formal “case closure" letter.	None
		Water supply well.	A 640-foot-deep water supply well owned by Zone 7 is located southwest of the idle truck maintenance shop. The well was sampled by ENV in February 2007; analytical results indicated that TPHg, TPHd, TPHmo, BTEX, and metals (other than barium) were not present above analytical reporting limits.	None	None
		Soil boring EB31 area.	ENV advanced soil boring EB31 near the northeast corner of the idle truck maintenance yard because of a suspected former "waste pit" in this area, and collected soil samples from approximately 5, 10, 20, and 55 feet bgs. TPHd and TPHmo were detected at concentrations above the ESLs in the 10-foot sample.	The lateral extent of TPHd and TPHmo in soil at approximately 10 feet bgs in the vicinity of former soil boring EB31 has not been sufficiently characterized.	Advance three new temporary soil borings to approximately 20 feet bgs.

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Area of Concern [1]		PEC or REC Identified in Phase I [2]	Site Condition(s) [3]	Data Gap	Recommended Action
AOC #3	***Heavy Equipment Maintenance Shop Area***	Two existing aboveground storage tanks (ASTs) containing waste oil (200-gallon AST) and antifreeze (150-gallon AST) located near the heavy equipment maintenance shop.	The tanks are situated on a reinforced concrete pad that is part of the wash rack; the concrete is not visibly stained or cracked. A soil sample collected from 2 feet bgs from soil boring EB-5 contained TPHd at 170 mg/kg, slightly above the ESL for TPHd (100 mg/kg).	None	When the ASTs are removed, the concrete will need to be inspected for cracks and/or visible damage and shallow soil samples from beneath the concrete may need to be collected. No investigations are proposed at this time.
		The lube shed containing 55-gallon drums of lubricants piped to the heavy equipment maintenance shop.	The ground surface outside the east side of the lube shed is bare soil; the darker color of the soil suggests that spillage has occurred over time. A soil sample collected from 2 to 2.5 feet bgs from soil boring B-1 contained TPHd, TPHmo, and TRPH at concentrations that exceeded ESLs. However, soil samples from test pit LS collected from 1, 8, and 15 feet bgs did not contain any significant TPH concentrations.	The lateral extent of the TPH contamination in shallow soil in front of the lube shed.	Advance one new temporary soil boring to approximately 10 feet bgs to the north of former soil boring B-1.
		The wash rack area and sump located next to the heavy equipment maintenance shop and the lube shed, and the associated oil-water separator and water recycling system.	The concrete ground surface of the wash rack is heavily stained with oil and grease and the sump appears encrusted with oil and grease; a drum next to the oil-water separator appears to be full of heavy black oil, and the overflow discharge hose was on the ground and oil stains were visible on the concrete. None of the seven soil samples collected from three soil borings (EB-3, EB-4, and B-2) resulted in any significant concentrations of TPH or TRPH.	None	The oil-stained concrete wash rack, ground surface, and oil-containing sump and associated piping will need to be properly decommissioned.
		The storm-water drain inlet located adjacent to the wash rack sump may receive untreated water from the wash rack area and may drain to either the storm-water retention pond or to Cope Pond.	The storm drain appeared filled with sediment and grass and likely does not drain a significant volume of water from the wash rack area. The elevation of the sump appears to be lower than the storm-water drain; wash water likely will preferentially drain toward the sump.	None	Prevent wash water from entering the storm-water drain using sand bags or similar surface-water runoff controls.
		Transformer E	Transformer E, located at the northeast corner of the heavy equipment maintenance shop, appears to be in good conditions with no obvious leaks or cracks. A soil sample collected from near transformer E (TRANS-E), from approximately 0.5 foot bgs, did not contain any reportable PCB concentrations, and no or insignificant TPH concentrations.	None	None
		Soil boring EB-35	As part of an investigation where sample locations were selected randomly, ENV advanced temporary soil boring EB-35 approximately 400 feet northeast of the Hanson offices. Soil samples were collected from 2, 10, 20, 30, and 40 feet bgs, and a grab groundwater sample was collected from 68 feet bgs. Only the 2-foot soil sample contained TPHd and TPHmo at concentrations that exceeded commercial ESLs, at concentrations of approximately 400 and 3,400 mg/kg, respectively. The potential source(s) of TPHd and TPHmo is unknown; the contamination likely is local and appears limited to shallow soil.	The lateral extent of the TPHd and TPHmo in shallow soil in the vicinity of EB-35.	Advance four new temporary soil borings to the north, east, south, and west, and in the vicinity of, former boring EB35 to approximately 10 feet bgs.

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Area of Concern [1]		PEC or REC Identified in Phase I [2]	Site Condition(s) [3]	Data Gap	Recommended Action
AOC #4	***Former Concrete Batch Plant Area***	Concrete batch plant operations may be associated with elevated pH in surface-water runoff.	The presence of this material on the ground surface can potentially lead to runoff of water with elevated pH. ENV collected a soil sample at approximately 0.5 foot bgs from test pit CB in the vicinity of the former concrete batch plant in September 2006. This soil sample was analyzed for pH and exhibited a pH of 8.11. There have been no known storm-water runoff violations for this site associated with pH.	None	None
		One former 3,000-gallon diesel UST previously located adjacent to the aggregate conveyor.	This former UST was removed from the Site on February 6, 1995. Two soil samples collected from the base of the excavation for the former UST did not contain TPHd, TPHmo, or BTEX at concentrations greater than the ESLs. The ACEH provided a "case closure letter" for this UST in 1998.	None	None
		Lubricants associated with the former concrete batch plan could have affected the shallow subsurface.	Soil boring SS128 that was drilled as part of a random sampling project conducted by ENV was located within the former concrete batch plan area. Soil samples collected from approximately 10, 20, 30, and 40 feet bgs from former boring SS128 did not contain TPHg, TPHmo, or BTEX above analytical reporting limits.	None	None
		Four derelict plastic tanks suspected to have contained plasticizers.	Three soil samples were collected from a test pits excavated adjacent to the four poly tanks during September and October 2006. These samples did not contained PAHs or PCBs above analytical reporting limits.	None	Remove and properly dispose of the four poly ASTs and their contents.
		Transformer B	Soil sample Trans B (collected from 0.5 foot bgs) was analyzed for PCBs, TPHd, and TPHmo; analytical results showed that this sample did not PCBs or TPHmo above analytical reporting limits. TPHd was detected a low concentration of 1.8 mg/kg, significantly below the ESL.	None	None
AOC #5	***Former Mining Operations Area***	Transformer A	Soil sample Trans A (collected at 0.5 foot bgs) was submitted for analysis PCBs, TPHd, and TPHmo; PCBs and TPHmo were not detected above analytical reporting limits. TPHd was detected at a low concentration of 2.6 mg/kg, significantly less than the ESL.	None	None
		Former rock crusher	One soil sample was collected from approximately 8 feet bgs from test pit CR; TPHd, TPHmo, and BTEX were not detected above laboratory reporting limits.	None	None
		Former aboveground waste oil tank	One soil sample was collected from approximately 8 feet bgs from test pit WO; TPHd, TPHmo, and BTEX were not detected above analytical reporting limits.	None	None
		Former rod mill	Three soil samples were collected from approximately 2, 8, and 14 feet bgs from soil boring RM. TPHmo and PNAs were not detected above analytical reporting limits; TPHd was detected in each sample at concentrations less than 20 mg/kg, significantly below the ESLs.	None	None
		Abandoned drums	One soil sample was collected from approximately 0.5 foot bgs, labeled DR. TPHg, TPHd, TPHmo, and BTEX were not detected above analytical reporting limits.	None	Remove and properly dispose of the drums and their contents.
		Former soil boring SS105	Soil samples collected from approximately 2, 10, 20, 30, and 40 feet bgs and a grab groundwater sample did not contain TPHg, TPHd, TPHmo, or BTEX above analytical reporting limits.	None	None

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Area of Concern [1]		PEC or REC Identified in Phase I [2]	Site Condition(s) [3]	Data Gap	Recommended Action
AOC #6	***Sedimentation Pond***	Storm-Water Retention Pond	ENV collected 8 soil samples (RP-A through RP-H) from approximately 0.5 foot bgs, and one sample from approximately 3.5 feet bgs (RP-C). Except for one sample result in which TPHd was detected at a low concentration of 8.8 mg/kg. TPHd, TPHmo, and TPHg were not present above analytical reporting limits in any of the soil samples. Nickel was detected in the 0.5-foot soil sample from RP-C above the ESL; however, the 3.5-foot sample result was below the ESL. B&C collected one sediment sample from near the storm drain that discharges storm water to the retention pond; this sample contained TPHd and TPHmo at 530 and 1,500 mg/kg, respectively, above the ESLs. B&C also collected a surface-water sample that contained TPHd at 170 mg/l, exceeding the ESL for Fresh Water Habitats (100 mg/l); TPHmo, TPHg, and VOCs were not detected above laboratory reporting limits.	Confirmation of TPH detections in the sediment and surface-water samples collected by B&C.	Collect two new shallow sediment samples and one new composite surface-water sample to confirm the TPH results by B&C.
AOC #7	***Soil Boring SS-31 Area***	No PECs or RECs were identified; the area was investigated as a randomly chosen location by ENV in January 2007.	As part of an investigation where sample locations were selected randomly, ENV advanced soil boring SS-31 near the southeast corner of Lake I. Soil samples were collected from 2, 10, 20, 30, and 40 feet bgs. The 2- and the 40-foot soil samples contained TPHd and TPHmo at concentrations that exceeded commercial ESLs, at concentrations of approximately 200 and 1,500 mg/kg, respectively. Analytical results for the 10-, 20-, and 30-foot samples were below reporting limits. The potential source(s) of TPHd and TPHmo is unknown.	The lateral and vertical extent of TPHd and TPHmo contamination in the soil. Because of the TPH detected in the deepest soil sample from 40 feet bgs, groundwater may be affected.	Advance four new temporary soil borings to approximately 60 feet bgs to collect soil and grab groundwater samples from locations north, east, south, and west of former boring SS-31 for laboratory analyses.
AOC #8	***Soil Boring SS-123 Area***	No PECs or RECs were identified; the area was investigated as a randomly chosen location by ENV in January 2007.	As part of an investigation where sample locations were selected randomly, ENV advanced soil boring SS-123 in January 2007 in the middle of the open area south of Cope Pond. Soil samples were collected from 2, 10, 20, 30, and 40 feet bgs. The soil samples collected from 20, 30, and 40 feet bgs contained TPHd and TPHmo at concentrations that exceeded commercial ESLs, with the highest concentrations detected in the 40-foot sample (TPHd at 450 and TPHmo at 2,300 mg/kg). The potential source(s) of TPHd and TPHmo is unknown. In March 2007, ENV advanced four additional soil borings to the north, east, south, and west of SS-123 (SS-123(A) through SS-123(D)) and collected soil and grab groundwater samples. TPHd and/or TPHmo were detected at concentrations exceeding the ESLs in soil samples down to 40 feet bgs (the highest concentrations were detected in two of the samples from 20 feet bgs), and in the grab groundwater samples. According to Hanson, ENV has proposed to advance four new temporary soil borings stepping out from the previous step out locations to collect soil and grab groundwater samples for laboratory analyses.	The lateral and vertical extent of TPHd and TPHmo affected soil and groundwater. According to ENV, the grab groundwater samples may be representative of perched groundwater; therefore, the quality of the deeper groundwater (e.g., deeper than 40 feet bgs) has not been characterized.	No additional investigation is proposed in the vicinity of the former soil boring SS-123 pending results from the additional investigation proposed by ENV, which includes advancing four new temporary soil borings located approximately 100 feet from the previous step-out locations.
AOC #9	***Vulcan Mining Company Runoff***	Storm-water runoff from the Vulcan Materials Company (VMC) property onto the Hanson Radum property.	A berm was installed to prevent runoff from the VMC property to the Site. According to ENV, a Phase I ESA conducted previously on the VMC property indicated several PECs (e.g., staining, a faulty oil-water separator, and use of acidic chemicals for washing down trucks). Storm-water runoff from the VMC property onto the Site has occurred in the past and could contain contaminants found on the VMC property that would affect the Hanson property. ENV collected three shallow soil samples (0.5 foot bgs) from a drainage ditch where storm-water runoff has been known to occur; one of the soil samples (RO-B) contained TPHd at 130 mg/kg, slightly above the ESL. The shallow soil samples collected from either side of RO-B, namely RO-A and RO-C, did not contain TPH above the ESLs.	None	Verify that the berm installed to prevent storm-water runoff from the VMC property is functioning; repair the berm as necessary.

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Area of Concern [1]	PEC or REC Identified in Phase I [2]	Site Condition(s) [3]	Data Gap	Recommended Action

Notes:
[1] Area defined by LFR that encompasses one or more PECs or RECs.
[2] PEC or REC identified in the October 2006 Phase I Environmental Site Assessment report by ENV.
[3] Condition of the site based on observations made by ENV during its Phase I investigation and/or by LFR during the April 2, 2007 site visit, and based on results from subsurface investigations conducted by ENV, LFR, and B&C.
µg/l = micrograms per liter
B&C = Brown and Caldwell Engineers
BTEX = benzene, toluene, ethylbenzene, and total xylenes
ESL = Environmental Screening Level Established by the RWQCB
feet bgs = feet below ground surface
mg/kg = milligrams per kilogram
PEC = potential environmental condition
REC = recognized environmental condition
TPHd = Total Petroleum Hydrocarbons as diesel
TPHg = Total Petroleum Hydrocarbons as gasoline
TPHmo = Total Petroleum Hydrocarbons as motor oil
UST = underground storage tank
VOCs = volatile organic compounds

Attachment 2

Work Plan to Conduct Additional Subsurface Investigations to Characterize the Extent of Contamination in Areas of Potential or Recognized Environmental Concerns

Work Plan to Conduct Additional Subsurface Investigations to Characterize the Extent of Contamination in Areas of Potential or Recognized Environmental Concerns
Hanson Aggregates Radum Facility
3000 Busch Road
Pleasanton, Alameda County, California

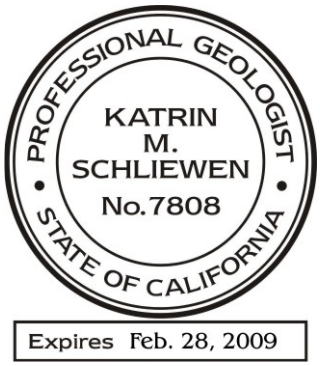
May 16, 2007
001-09567-01

Prepared for
Hanson Aggregates Northern California
3000 Busch Road
Pleasanton, California 94566
Prepared by
LFR Inc.
1900 Powell Street, 12th Floor
Emeryville, California 94608

CONTENTS

CERTIFICATIONS

LFR Inc. has prepared this work plan to Conduct Additional Subsurface Investigations at the Hanson Aggregates Radum Facility on behalf of Hanson Aggregates Northern California in a manner consistent with the level of care and skill ordinarily exercised by professional geologists and environmental scientists. This investigation work plan was prepared under the technical direction of the undersigned California Professional Geologist.



May 16, 2007

Katrin M. Schliewen, P.G. Date
Senior Hydrogeologist
California Professional Geologist No. 7808

May 16, 2007

Ron Goloubow Date
Senior Associate Geologist

1.0 INTRODUCTION

LFR Inc. (LFR) has prepared this work plan to Conduct Additional Subsurface Investigations to Characterize the Extent of Contamination in Areas of Potential or Recognized Environmental Concerns, at the Hanson Aggregates Radum Facility, Pleasanton, California ("the Site"), on behalf of Hanson Aggregates Northern California ("Hanson"). This work plan has been prepared to meet the requirements of the Alameda County Environmental Health (ACEH) letter to Hanson, entitled "SLIC Case RO0002941 and Geotracker Global ID SLT 19719376, Hanson Aggregates Radum Plant, 3000 Busch Road, Pleasanton, CA 94566," dated March 16, 2006.

In its letter, the ACEH requested that a work plan be submitted that includes the following:

- detailed site history and current conditions of potential or recognized environmental conditions (RECs)
- improved presentation of all available data (including a graphical cross section and maps that show site features)
- scope of work for additional characterization of specific areas of concern (AOCs)
- copies of additional documentation regarding previous relevant environmental site conditions such as case closure letters from regulatory agencies for former underground storage tanks (USTs)

In addition to these points, the ACEH letter included 15 technical comments that ranged from requests for analytical data collected at the Site to be presented in a more comprehensive manner, to providing additional information and/or reports regarding individual areas, to proposing additional investigations to further characterize areas of known or suspected contamination. Each of the technical comments is addressed in the cover letter to this work plan ("work plan letter").

This work plan provides a summary of site conditions, and describes the scope of work proposed to further characterize the lateral and vertical extent of petroleum hydrocarbon contamination to soil and/or groundwater at the Site. Section 2.0 provides a review of the site history and a summary of investigations conducted to date. Sections 3 through 11 include descriptions of each AOC defined by LFR, the potential or recognized environmental concerns (PECs or RECs) identified by previous investigations, data gaps remaining, and LFR's recommendations to fill the data gaps. Section 12 summarizes the objectives of the proposed scope of work that is described in Section 13. Section 14 briefly addresses the possible existence of a groundwater monitoring well at the Site that would need to be located, sampled, and abandoned. Section 15 summarizes the contents of the report that LFR will prepare at the completion of the additional investigations proposed herein and that will be submitted to the ACEH. Section 16 presents limitations that apply to this document, and Section 17 presents references cited.

2.0 SITE HISTORY OF ENVIRONMENTAL IMPACTS AND INVESTIGATIONS

The Site lies within the Amador Sub-basin of the Livermore-Amador Valley Groundwater Basin. In general, subsurface lithology in the area consists of alluvial materials, including 20 to 40 feet of surficial clays underlain by sandy gravel and sandy clayey gravels to depths of approximately 80 to 150 feet below the ground surface (bgs). Unconfined (shallow) groundwater is encountered in this lithologic zone (referred to as the "Upper Aquifer Zone") at depths of approximately 75 feet bgs. The upper permeable gravels are underlain by a relatively continuous, silty clay aquiclude up to 50 feet thick, which is underlain by the Lower Aquifer Zone (Jones and Stokes 2006).

Mining of sand and gravel in the Livermore-Amador Valley began prior to 1900 (Jones and Stokes 2006). Mining operations for aggregate resources at the Site were begun in 1938 by Kaiser Sand and Gravel. As portions of the property were mined out, the former mining pits reportedly either were backfilled with debris and mine waste, or were used for storage and/or as disposal ponds for water (from dewatering of new pits) and fine-grained sediments (silt and sand) washed out of the aggregate material.

Hanson purchased the property in 1991 and continued mining operations until 2001. Mining was discontinued at that time due to lack of available aggregate materials. The Site consists of an area approximately 500 feet by 600 feet containing remnants of the former asphalt plant operations, including portions of a former truck scale and an asphalt tank containment structure, and a concrete pad.

The facility included various operations associated with a concrete batch plan and asphalt plant. Within these operation areas, several USTs were used to store fuel products, including gasoline, diesel, or used or new motor oil. In addition, site operations (specifically the asphalt plant) have resulted in areas of fuel-affected soil and groundwater at the Site.

To facilitate the review and investigation of the Site, LFR has subdivided the approximate 1,000 acre Site into nine AOCs, as illustrated on Figure 2. The following section contains a description of the AOCs identified at the Site and of the potential PECs or RECs identified in each area. The areas initially were identified by subsurface investigations conducted by ENV America ("ENV") as part of due diligence work during the planned property transfer from Hanson to Legacy Partners ("Legacy"). In order to provide an appropriate level of detail, the Site has been divided into nine specific AOCs, as shown on Figure 2, and identified as follows:

1. Former Hot Mix Asphalt Plant Area (Figure 3)

2. Idle Truck Maintenance Area (Figure 4)

3. Heavy Equipment Maintenance and Wash Rack Area (Figure 5)

4. Former Concrete Batch Plant Area (Figure 6)

5. Former Mining Operation Area (Figure 7)

6. Sedimentation Pond (Figure 8)

7. PEC Identified by Temporary Soil Boring SS31 (Figure 9)

8. PEC Identified by Temporary Soil Boring SS123 (Figure 10)

9. Vulcan Materials Company Storm-Water Runoff Area (Figure 11)

Individual maps of each of the nine AOCs were prepared at an appropriate scale to present the locations of investigations conducted to date, present analytical results, show site features, and illustrate the proposed locations of soil and groundwater samples. The individual area maps are included as Figures 3 through 11. Site features such as the locations of former USTs and existing structures are shown in outline on the figures and labeled. The satellite image in the background of each figure shows many of the historical structures that existed as part of the former facility aggregate mining operation. With the exception of several buildings in Idle Truck Maintenance Area (AOC #2) and the Heavy Equipment Maintenance and Wash Rack Area (AOC #3), most of the structures formally associated with the mining operations have been removed.

2.1 Summary of PECs/RECs and Previous Environmental Site Investigations

Several subsurface investigations have been conducted to date at the Site by Baseline Environmental Consulting ("Baseline"), ENV, Brown & Caldwell (B&C), and LFR. The investigations conducted by Baseline were conducted for Hanson and were predominantly associated with the removal of USTs. The ENV investigations were prepared for Legacy as part of its due diligence work prior to entering into a purchase agreement for the Site. The three investigations conducted by B&C included a Phase I Environmental Site Assessment (ESA) and a subsurface investigation to assess soil and groundwater quality near two USTS that were removed from the Site in 2003. The third investigation conducted by B&C included the collection and analysis of two shallow soil samples near the former lube shed and the collection and analysis of four shallow soil samples near the former asphalt plant. The investigation conducted by LFR included the collection and analysis of soil and groundwater samples from the former asphalt plant. Details regarding the results of these investigations are presented in the appropriate sections.

3.0 FORMER HOT MIX ASPHALT PLANT AREA

The first AOC (labeled AOC #1) is the former hot mix asphalt plant area that was located in the southwestern portion of the Site (see Figures 2 and 3). The hot mix asphalt process included the use of paving oil, lubricants, and diesel fuel and the former plant area included a spray rack from which diesel was sprayed into the beds of trucks to prevent asphalt from sticking, overhead conveyors, a truck scale, and various concrete structures. Most of the former structures have been demolished; however the following site features are currently present in the former hot mix asphalt plant area: the concrete base of the truck scale, the paving oil containment structure, and smaller concrete pads. Standing water containing a sheen of oil can be observed in the paving oil containment structure.

For continuity, LFR is using similar descriptive terms to those used by ENV for the various PECs and RECs associated with the former hot mix asphalt plant area and identified by ENV in its Phase I ESA (ENV 2006a) and investigated in its Phase II ESA report (ENV 2006b). The following various specific PECs and RECs identified in the former hot mix asphalt plant area are identified (see Figure 3):

- former asphalt plant operations area
- paving oil containment structure
- contaminated soil area in the southwest corner
- former 10,000-gallon diesel UST removed in 1995
- former diesel spray rack area
- deep soil contamination
- groundwater contamination

Several subsurface investigations have been conducted to date to characterize the nature and extent of affected soil and groundwater at the former hot mix asphalt plant area. In May 2006, B&C conducted a limited subsurface investigation on behalf of Hanson that included advancing approximately four temporary soil borings to collect depth-discrete soil samples (B&C 2006). During September and October 2006, ENV conducted an extensive subsurface investigation on behalf of Legacy that included advancing approximately 34 temporary soil borings to collect soil and grab groundwater samples and collecting soil samples from almost 50 test pits or shallow or surface grab sample locations. The results of the ENV investigation were summarized in its November 2006 Phase II report (ENV 2006b). In November 2006, LFR conducted an additional subsurface investigation on behalf of Hanson (LFR 2006) that included advancing 24 temporary soil borings to depths ranging approximately from 10 to 60 feet bgs to further characterize the environmental conditions in this AOC.

A description of the current environmental conditions based on investigations conducted to date is provided below, in addition to a discussion of additional investigations recommended to sufficiently characterize the extent of contamination.

3.1 Former Asphalt Plant Operations Area

The former hot mix asphalt plant was located approximately in the southwest corner of the Site (Figure 3). The operations conducted at the former plant included the use of paving oil, lubricants, and diesel fuel. Currently, partially demolished concrete structures containing oily water remain at the Site, including the truck scale and the paving oil containment structure.

As is apparent by the sample locations shown on Figure 3, a number of soil samples have been collected from temporary soil borings and test pits, in locations throughout the former asphalt plant and to the south of the former plant. Soil samples were collected from depths ranging approximately from 2 to 20 feet bgs. Analytical results show that elevated total petroleum hydrocarbon (TPH) concentrations were detected in samples collected primarily from sample locations in the southern portion of the former asphalt plant, namely AP4, B1, B3, B4, and EB13. In these locations, total petroleum hydrocarbons as diesel (TPHd) was detected above the Environmental Screening Limit (ESL; 100 milligrams per kilogram [mg/kg]) at concentrations ranging from 320 to 7,300 mg/kg in soil samples collected approximately from 7.5 to 14 feet bgs. Total petroleum hydrocarbons as gasoline (TPHg) was detected above the ESL in only one soil sample at a concentration of 530 mg/kg.

The lateral extent of elevated TPH concentrations in soil is sufficiently characterized by several sample locations surrounding this localized area of elevated TPH, except for the lateral extent affected south of soil boring B1. The vertical extent of affected soil is sufficiently characterized by soil samples collected deeper than the 14-foot-bgs sample collected from location B3.

3.2 Paving Oil Containment Structure

The paving oil containment structure was part of the former hot mix asphalt plant process and was located approximately in the center of the former asphalt plant, as indicated on Figure 3. Soil samples have been collected from several locations surrounding the paving oil containment structure, to depths of approximately 15 feet bgs. Analytical results show that TPH concentrations exceeded the ESLs for commercial-industrial land uses in only two samples, both collected from test pit location PO1 (ENV 2006b). TPHd was detected at concentrations of 170 and 5,900 mg/kg in the soil samples collected approximately 2 and 8 feet bgs, respectively; total petroleum hydrocarbons as motor oil (TPHmo) was detected at 16,000 mg/kg in the soil sample collected approximately 8 feet bgs. The analytical results for the soil sample collected approximately 12 feet bgs contained TPHd and TPHmo at low concentrations or at concentrations below analytical reporting limits.

The lateral and vertical extent of soil contamination in the vicinity of the paving oil containment structure has been sufficiently characterized. No additional environmental characterization activities are proposed for the area near the paving oil containment structure.

3.3 Contaminated Soil Area

In its Phase I ESA report (2006a), ENV described an area of "contaminated soil along the southwest border of the Site between the Hanson property and the Kiewit [*sic*] property." According to ENV's discussion, "The contaminated soil was reported to extend over an area of 4,000 square feet. Several tons of soil were reportedly excavated and removed from the Site in a joint effort between Hanson and Kiewit *[sic]*." LFR believes that the "contaminated soil area" referred to by ENV is the contaminated soil excavated primarily from the Kiewit property (but also partly from the narrow portion of the Hanson property that extends west and immediately south of the Kiewit property). The results of the soil excavation conducted (primarily) on the Kiewit property were reported in the January 2004 report by TRC titled "Self-Directed Remediation of Diesel Contaminated Soil" (TRC 2004) and included in Attachment 3 of the work plan letter. According to the TRC report, confirmation sampling indicated that affected soil was sufficiently remediated through excavation. The RWQCB concurred and issued a "No Further Action" letter on March 31, 2004 (RWQCB 2004).

In its Phase II ESA report (2006b), ENV presents the analytical results of five sample locations (soil borings and test pits) advanced in the area it defined as the "contaminated soil area," namely test pits CS1 and CS2, and temporary soil borings EB11, EB17, and EB18. LFR subsequently advanced three additional soil borings, B5, B6, and B7. Analytical results show that soil samples collected approximately from 5 to 18 feet bgs from three of these locations contained TPHd and/or TPHmo at concentrations ranging from 1,800 to 19,000 mg/kg (above the ESLs).

Analytical results of soil samples collected from locations EB16, EB11, B7, and CS1 help characterize the lateral extent of elevated TPH concentrations in soil to the south, east, and the north of this area. Former soil boring B6 was located adjacent to the property boundary, and the soil sample collected from approximately 5 feet bgs contained TPHmo (19,000 mg/kg), above the ESL. No locations further west of B6 can be advanced on the Hanson property; therefore, no further shallow lateral characterization is proposed to the west of boring B6 (see Figure 3). The vertical extent of affected soil deeper than approximately 18 feet bgs in the vicinity of test pit CS2 has not been sufficiently characterized.

3.4 Former 10,000-Gallon Diesel UST

A former 10,000-gallon diesel UST was located approximately north of the former hot mix asphalt plant, as shown on Figure 3. This former UST was removed in 1995 and at the time the UST was reported to be in good condition. Confirmation soil samples collected from the bottom of the former UST excavation resulted in TPHd and TPHmo detected in soil at low concentrations below the ESLs. A "no further action" case closure letter was received from the ACEH on March 9, 1998; a copy of the closure letter is included in Attachment 4 to the work plan letter. No additional investigations are necessary or proposed for the former diesel UST area.

3.5 Former Diesel Spray Rack Area

The former diesel spray rack area was located approximately north of the former hot mix asphalt plant, as indicated on Figure 3. The former diesel spray rack was used to spray diesel into the beds of dump trucks to prevent asphalt from sticking to the truck beds. Several soil samples have been collected from depths ranging from approximately 1 to 40 feet bgs in the vicinity of the former diesel spray rack area. As shown on Figure 3, analytical results for samples collected from only three temporary soil boring locations (SR2, SR3, and EB30) contained TPHd and/or TPHmo at concentrations above the ESLs for commercial and industrial land uses. The soil samples collected approximately from 5 and 7 feet bgs from this area contained TPHd at concentrations ranging from 130 to 1,000 mg/kg, and TPHmo at concentrations ranging from less than the ESL to 1,700 mg/kg.

With the exception of the samples collected from soil boring EB30, the lateral extent of affected soil in the vicinity of the former diesel spray rack area has been sufficiently characterized. The lateral extent to the west of former soil boring EB30 has not been sufficiently characterized. The vertical extent has been sufficiently characterized in former sample locations SR2, SR3, and EB30 in all cases with soil samples collected from deeper depths containing TPH either at low concentrations or below laboratory reporting limits.

3.6 Deep Soil Contamination

A petroleum hydrocarbon product described alternatively as a thick, heavy, black, and/or viscous free product was identified (primarily visually) between approximately 30 and 40 feet bgs by ENV approximately in the northern half of the former asphalt plant area (ENV 2006b). Seven of the temporary soil borings advanced by ENV in the northern portion of this AOC were used to visually identify the lateral extent of the black product. As discussed in the work plan letter, LFR confirmed the presence of this material in former soil boring B16 in the soil sample collected from approximately 30 to 31.5 feet bgs; this product was not observed in the sample collected from approximately 35 to 36.5 feet bgs (LFR 2006). Based on the results of LFR's investigation and the lack of supporting documentation in ENV's Phase II report, it is likely that the thickness of the product material is less than the 10 feet inferred by ENV (ENV 2006b). Analytical results from the one soil sample collected from the black product material, from former soil boring EB14 at approximately 33.5 feet bgs, contained TPHd and TPHmo at concentrations of 7,800 and 8,700 mg/kg, respectively, exceeding the ESLs.

Based on LFR's review of available information, the lateral extent to the southeast and the vertical extent of the black product identified between approximately 30 and 40 feet bgs, has not been sufficiently characterized. In addition, as noted by the ACEH, the potential source of the petroleum product has not been identified. However, it is suspected that the black product was emplaced during the historical mining operations conducted in this area and that not current and/or relatively shallow source exists. This

viscous petroleum product may have been placed into an open mine pit and buried as a means of disposal. Visual inspection of the material by LFR during the November 2006 subsurface investigation indicated that the material was not particularly mobile and that it appeared weathered, or in place for an extended period of time.

3.7 Groundwater Contamination

Groundwater was sampled from seven temporary soil borings, four advanced by ENV (EB15, EB16, EB22, and EB29) and three advanced by LFR (B21, B22, and B23). These grab groundwater sample locations are shown on Figure 3. The grab groundwater samples were collected from depths where sufficient groundwater entered the temporary soil boring for sampling, approximately between 50 and 60 feet bgs. TPHd and/or TPHmo were detected in the grab groundwater samples collected from two soil boring locations (EB29 and B22), at concentrations that exceeded the ESLs. The grab groundwater sample collected from the boring EB29 located approximately 60 feet south of the black product contained TPHd (150 micrograms per liter [μg/l]) and TPHmo (850 μg/l). The grab groundwater sample collected from former soil boring B22 located approximately 40 feet northeast of the black product contained only TPHd (1,700 μg/l; Figure 3).

The lateral and vertical extent of TPH in groundwater has not been sufficiently characterized, in particular to the east of boring B22 and to the south of boring EB29. The source of groundwater contamination has not been identified, although it may be related to the black product identified between approximately 30 and 40 feet bgs. In addition, local groundwater flow direction and gradient beneath the former hot mix asphalt plant area are currently unknown.

3.8 Data Gaps for the Former Hot Mix Asphalt Plant Area

Based on LFR's review of all available reports and summaries provided above, the following data gaps have been identified for the former hot mix asphalt plant area.

- Affected soil identified at a depth of approximately 10 feet bgs south of the former asphalt plant operations area has not been sufficiently characterized.
- In the so-called "contaminated soil area" located approximately west of the former asphalt plant, the vertical extent of TPHd and TPHmo in soil has not been sufficiently characterized below approximately 18 feet bgs.
- In the vicinity of the former diesel spray rack, the lateral extent to the west of former soil boring EB30 has not been sufficiently characterized.
- Regarding the deep soil contamination identified approximately between 30 and 40 feet bgs in the northern portion of the Site, the lateral extent to the southeast and the vertical extent of this "black product" have not been sufficiently characterized. In addition, the potential source and/or age of the material is unknown.

- The lateral and vertical extent of TPH in groundwater beneath this portion of the Site has not been sufficiently characterized, in particular to the east of boring B22 and to the south of boring EB29. In addition, local groundwater flow direction and gradient beneath the former hot mix asphalt plant area are currently unknown.

3.9 Recommendations for Additional Investigation or Remediation at the Former Hot Mix Asphalt Plant Area

LFR understands that the remaining concrete structures at the Site will be demolished. As necessary any liquids within the existing structures would be properly removed from the property. If needed, surface soils in selected areas containing affected soil would be removed for disposal off site as part of the demolition of the existing structures. To be protective of human health to workers and visitors in a commercial/industrial land use area, affected soils to a depth of approximately 8 feet bgs would likely be removed. Confirmation soil sampling would be collected to determine whether any affected soils deeper than approximately 8 feet bgs would remain in place. In particular, affected soil in areas that have been sufficiently characterized should be removed to approximate depths as noted below, include the following:

- Affected soil located at the southern end of the former asphalt plant in the vicinity of former sample locations AP4, B1, B3, B4, and EB13 should be removed to a depth of approximately 8 feet bgs.
- Affected soil located in the vicinity of test pit PO1 located adjacent to the paving oil containment structure should be removed to a depth of approximately 8 feet bgs.
- Affected soil located in the vicinity of soil boring EB30 and west of the former diesel spray rack area should be removed to a depth of 6 to 8 feet bgs, depending on field conditions. As noted in Section 3.9.3, additional lateral characterization is recommended for the area west of soil boring EB30.

The following recommended actions are proposed to resolve the data gaps associated with the contaminated soil area south of the former asphalt plant, the area west of the former diesel spray rack area, and the deep “black product,” and for groundwater beneath this AOC.

3.9.1 Affected Soil South of the Former Asphalt Plant Operations

To further characterize the lateral extent of contamination south of former asphalt plant operations area at a depth of approximately 10 feet bgs, LFR recommends that one temporary soil boring be advanced approximately south of former boring B1, to a depth of approximately 20 feet bgs, depending on soil conditions.

3.9.2 Contaminated Soil Area Southwest of the Former Asphalt Plant

To further characterize the vertical extent of contamination in the "contaminated soil area," LFR recommends that one temporary soil boring be advanced in the vicinity of former test pit location CS2, to a depth of approximately 25 feet bgs, depending on soil conditions, to collect depth-discrete soil samples from deeper than 18 feet bgs. The proposed temporary soil boring may need to be advanced deeper if field screening results indicate the presence of petroleum hydrocarbons in the soil at 25 feet bgs.

3.9.3 Area West of the Former Diesel Spray Rack Area

To further characterize the lateral extent to the west of affected soil identified in the 5-foot sample from former boring EB30, LFR recommends that two shallow temporary soil borings be advanced to approximately 10 feet bgs. However, LFR understands that as part of the demolishing activities for the Site, affected surface soils could be removed to remediate this portion of the Site. As such, in lieu of advancing two additional soil borings west of former soil boring EB30, confirmation soil sampling after excavating affected soil could be used to show that all affected soil had been removed. As noted above, affected soil to a depth of approximately 6 to 8 feet bgs would need to be removed from the vicinity of former soil boring EB30.

3.9.4 Deep Soil Contamination

LFR recommends that additional soil samples be collected as follows from locations shown on Figure 3. To better characterize the vertical extent of the black product, LFR recommends that at least two temporary soil borings be advanced through the material previously identified between 30 and 40 feet bgs, to a depth of approximately 60 feet bgs, or groundwater. Continuous soil cores would be collected to visually identify the presence of the black material in the field and this information would be noted on the boring logs. Depth-discrete soil samples would be collected approximately from every five feet between approximately 20 and 50 feet bgs, depending on field conditions. Samples would be selected for laboratory analyses for TPHd and TPHmo. In addition, at least one soil sample would be collected from each proposed temporary soil boring for fingerprinting analyses of the black product. These samples would be collected based on field conditions from the interval with the largest amount of product as apparent from visual field inspection.

To further characterize the lateral extent of the product approximately to the southeast, LFR proposes to advance one temporary soil boring located approximately southeast of the lateral extent inferred by ENV in its Phase II report. Continuous core samples would be collected to visually identify the presence or absence of the product material. Depth-discrete soil samples would be collected from intervals selected in the field based on field observations including visual and olfactory.

Depth-discrete grab groundwater samples would be collected from the bottom of each of the three proposed soil borings for laboratory analyses of TPHd and TPHmo concentrations in groundwater.

3.9.5 Groundwater Monitoring

As noted above, LFR recommends that additional grab groundwater samples be collected from the three temporary soil borings located in and to the southeast of the deep product soil contamination. The purpose of these grab groundwater samples is to characterize the groundwater quality directly beneath the black product.

In addition, LFR recommends that five new groundwater monitoring wells be installed in this AOC. The proposed well locations are shown on Figure 3, and include two monitoring wells along the western edge of the property, and three new monitoring wells located approximately northeast, east, and southeast of the former asphalt plant area and the previously identified black product. The new groundwater monitoring wells would be used to monitor groundwater quality and to determine the direction of groundwater flow and the gradient beneath this portion of the Site where groundwater appears to be affected by petroleum hydrocarbons.

4.0 IDLE TRUCK MAINTENANCE AND WASH RACK AREA

The former idle truck maintenance area and wash rack is located in the west-central portion of the Site (see Figures 2 and 4). A variety of operations took place at the various facilities associated with the former idle truck maintenance and wash rack area until 2001 when the majority of the plant operations were shut down. Several structures still remain at the former idle truck maintenance area, including the idle truck maintenance storage yard (fenced area with bare soil), the idle truck maintenance shop, and two office trailers. A fenced equipment storage yard located northeast of the idle truck maintenance shop, where a variety of equipment is currently stored, including bucket attachments for front end loaders and other heavy equipment parts, was not identified as a PEC by ENV. Based on a site inspection conducted by LFR and Hanson representatives on April 2, 2007, no obviously soil staining or releases were observed.

ENV prepared a Phase I ESA for Legacy in October 2006 (ENV 2006a). ENV identified the following RECs or PECs associated with the former idle truck maintenance area (ENV 2006a):

- Pleasanton Garbage Company currently leases the idle truck maintenance shop and uses the facility to perform maintenance on its fleet of garbage trucks and other vehicles.
- Three USTs (two 12,000-gallon diesel USTs and one 10,000-gallon gasoline UST) were removed from the east side of the building in 1990. Although Hanson received a case closure letter for these USTs, according to ENV; this site represents a “historical environmental condition.”

- In February 1995, two USTs were removed from adjacent to the west side of the truck maintenance shop.
- In May 2003, two USTs (a 12,000-gallon diesel tank and a 10,000-gallon gasoline tank) and associated pump island were removed from north of the truck maintenance shop (ACEH Fuel Leak Case No. RO0002858).
- A water supply well is located southwest of the idle truck maintenance shop.
- An old disposal pond reportedly exists near soil boring EB31.

The ENV Phase I ESA report (2006a) states the following:

"Because of the nature of the operations performed in the idle truck maintenance area and fuels, lubricants, and solvents typically used in such operations and because of the soil staining around the facility, a potential environmental condition exists at this facility" (ENV 2006a). The following text provides more specific information regarding the environmental condition at the former idle truck maintenance area.

4.1 Idle Truck Maintenance Shop

As stated by ENV and confirmed by representatives of Hanson, the Pleasanton Garbage Company currently leases this facility and uses it to perform maintenance on its fleet of garbage trucks and other vehicles. Surface soil staining was noted outside the truck bays on the south side of the building. It is our understanding that Hanson is not aware of any environmental problems associated with the Pleasanton Garbage Company use of this shop. Based on LFR's review of the existing reports for this portion of the Site, five USTs formerly associated with the idle truck maintenance shop were removed from the Site (see Figure 4). Details regarding soil and groundwater samples collected during the removal of the USTs are provided below.

4.2 Removal of Three USTs on the East Side of the Truck Maintenance Shop in 1990

On November 2, 1990, two 12,000-gallon diesel USTs and one 10,000-gallon gasoline UST formerly located on the east side of the truck maintenance shop were removed from the Site (Figure 4; Baseline 1991a). A total of six soil samples (two soil samples from beneath each UST) were collected from the base of the excavation for the former USTs, approximately 11 feet bgs (Baseline 1991a). In addition, three soil samples were collected from the side wall of the excavation.

The two soil samples from beneath the former gasoline UST were analyzed for TPHg and BTEX and the four soil samples collected from beneath the former gasoline USTs were analyzed for TPHd, TPHmo, and BTEX. BTEX was not detected above laboratory reporting limits in any of the four samples. The two soil samples from beneath the former gasoline UST did not contain TPHg or BTEX above laboratory

reporting limits. TPHd was detected in three of the four soil samples at 10 mg/kg, 20 mg/kg, and 190 mg/kg. One of the four soil samples contained TPHmo at 60 mg/kg.

4.2.1 Additional Excavation

Based on the results of these samples and observations made during UST removal, the southwestern portion of the excavation was extended to approximately 25 feet bgs on November 29, 1990. This excavation resulted in the excavation and off-site disposal of approximately 60 cubic yards of affected-soil (Baseline 1991a). Four additional soil samples were collected from the area of additional excavation (one soil sample from the bottom of the excavation 25 feet bgs and three soil samples from the sidewalls at 8 feet bgs). Each of these samples was analyzed for TPHg, TPHd, TPHmo, and BTEX.

TPHg, TPHmo, and BTEX were not detected present above analytical reporting limits in these soil samples. TPHd was detected in one of the sidewall soil samples (180 mg/kg) and the soil sample collected from the base of the excavation contained TPHd at 1,600 mg/kg. Based on the depth of this excavation (25 feet bgs) and its close proximity to the existing truck maintenance shop and aboveground water storage tank, the excavation was stopped and backfilled with clean gravel (Baseline 1991a).

4.2.2 Additional Soil and Groundwater Investigation

Based on the results of the soil samples collected from the excavation three soil borings (KP-B1, KP-B2, and KP-B3) were advanced to approximately 32 feet bgs, 34 feet bgs, and 27.5 feet bgs, respectively on March 6 and 7, 1991 (Baseline 1991b). Soil samples collected between approximately 25 and 34 feet bgs from each soil boring did not contain TPHg, TPHd, and BTEX above analytical reporting limits.

Based on LFR's review of available historical reports by Baseline, one approximately 33-foot-deep groundwater monitoring well (MW-KP1) was installed in 1991 within the limits of the former UST excavation on the east side of the maintenance shop (Baseline 1991b; Figure 4). Two soil samples collected from approximately 25.5 and 34.0 feet bgs in the soil boring for the well did not contain TPHg, TPHd, and BTEX above analytical reporting limits. The depth to water measured in well MW-KP1 in 1991 was 27.6 feet below the top of casing (Baseline 1991b). Based on the March 1998 UST closure letter from the ACEH (also signed by the RWQCB), well MW-KP1 was sampled approximately quarterly during 1991 and 1992, then annually during 1993 through 1996 (ACEH 1998). Analytical results for groundwater samples collected from well MW-KP1 during the last three annual sampling event conducted in 1994, 1995, and 1996, show that TPHd was not detected above the laboratory reporting limit (50 μg/l). According to records obtained from Zone 7, well MW-KP1 was properly abandoned on February 27, 1998 (Zone 7 permit number 98024; Zone 7 1998).

4.2.3 UST Case Closure

Based on the analytical results of the soil and groundwater samples collected from near the excavation for the former USTs ACEH provided a "case closure letter" for these three USTs and four other USTs formerly located on the Site (ACEH letter dated, March 9, 1998).

4.3 Removal of Two USTs on the West Side of the Truck Maintenance Shop in 1995

On February 6, 1995, one 1,000-gallon waste oil UST and one 1,000-gallon new oil UST formerly located on the west side of the truck maintenance shop were removed from the Site (Figure 4; Baseline April 1995). A total of four soil samples (two soil samples from beneath each UST) were collected from the base of the excavation for the former USTs, approximately 11 feet bgs (Baseline April 1995). Reportedly, groundwater was not present in the excavation.

The two soil samples from beneath the former waste oil UST were analyzed for TPHg TPHd, TPHmo, total oil and grease (TOG), and volatile organic compounds (VOCs). The two soil samples from beneath the former new oil UST were analyzed for TPHd, TPHmo, and BTEX. Total oil and grease was detected in the soil samples collected from beneath the former waste oil USTs at 28 and 30 mg/kg. The other parameters were not present above analytical reporting limits. The analytical results of the soil samples collected from beneath the former new oil UST did contain concentrations above analytical reporting limits.

4.3.1 UST Case Closure

Based on the analytical results of the four soil samples collected from the base of the excavation for the former USTs ACEH provided a "case closure letter" for these two USTs and five other USTs formerly located on the Site (ACEH letter dated, March 9, 1998).

4.4 Removal of Two USTs North of the Truck Maintenance Shop in 2003

In early 2003 one 12,000-gallon diesel UST and one 10,000-gallon gasoline UST formerly located approximately 120 feet north of the idle truck maintenance shop were removed from the Site (Figure 4; B&C February 2007). A subsurface investigation was conducted in the vicinity of these former USTs by B&C under the direction of the ACEH for Fuel Leak Case No. RO0002858. A total of eight soil samples (four soil samples from beneath each UST) were collected from the base of the excavation for the former USTs, approximately 11 feet bgs (B&C February 2007). Reportedly, groundwater was not present in the excavation that extended to approximately 17 feet bgs. Each sample was analyzed for TPHg, TPHd, VOCs, BTEX, methyl tertiary-butyl ether (MTBE) and total lead. Two of the samples contained TPHd at concentrations

ranging from 10 to 210 mg/kg. Reportedly, the soil excavated from around the USTs was used to backfill the open excavation.

On January 5, 2007 Brown and Caldwell supervised the drilling of four cone penetrometer test (CPT) borings around the former UST excavation (Figure 4). The purpose of these CPT borings was to collect soil and grab groundwater samples to assess soil and groundwater quality near the former USTs.

The eight soil samples were collected from depths ranging from approximately 17 feet bgs to approximately 28 feet bgs at each CPT boring. Each sample was submitted for TPHg, TPHd, BTEX, and MTBE analyses. TPHg, BTEX, or MTBE were not present above analytical reporting limits. Low levels of TPHd were detected in 6 of the 8 soil samples at concentrations ranging from 1.3 to 9.5 mg/kg.

A grab groundwater sample was collected at each CPT boring. The depth to groundwater was estimated to approximately 67 to 70 feet bgs at each CPT location. Each grab groundwater sample was submitted for TPHg, TPHd, BTEX, and MTBE analyses and each sample was not present above analytical reporting limits.

4.4.1 UST Case Closure

Based on the analytical results of the soil samples collected from the base of the excavation for the former USTs and the soil and groundwater samples collected by B&C, case closure was requested for these USTs on behalf of Hanson by B&C (B&C 2007). According to B&C, a verbal confirmation from the ACEH that “no further action” was necessary in conjunction with these two former USTs has been received; Hanson is awaiting the formal “case closure letter” from the ACEH.

4.5 Water Supply Well

A 640 foot deep water supply well is located southwest of the idle truck maintenance shop (Figure 4). The well was sampled by ENV in February 2007. Analytical results of the sample collected from this well indicated that TPHg, TPHd, TPHmo, BTEX, or metals (other than barium) were not present above analytical reporting limits.

4.6 Soil Boring EB-31

ENV collected soil samples from 5, 10, 20, and 55 feet bgs from soil boring EB-31 (see Figure 4). Reportedly, ENV suspected that a former “waste pit “existed in this portion of the Site. The soil samples collected from this boring were analyzed for TPHd, TPHmo, TPHg, BTEX, and the CAM 17 metals. The analytical results of these soil samples indicated that TPHmo or BTEX were not present above analytical reporting limits (see Figure 4). The soil sample collected 10 feet bgs from soil boring EB-31 was the only sample to contain detectable concentrations of TPHd or TPHmo. The concentration of TPHd was above its respective ESL.

4.7 Data Gaps at the Former Idle Truck Maintenance Area and Wash Rack

The following lists the potential data gaps that have been identified for AOC #2:

- Surface staining reportedly present near the truck bays at the idle truck maintenance shop have not been assessed to determine if releases at the facility have affected soil and or groundwater quality.
- A formal closure letter from the ACEH associated with the removal of the two USTs from the north side of the truck maintenance shop is pending.
- The lateral extent of TPHd-affected soil identified at approximately 10 feet bgs in the vicinity of near soil boring EB31.

4.8 Recommendations for the Former Idle Truck Maintenance Area and Wash Rack

The following recommended actions are proposed to resolve the data gaps listed above:

- Collect soil and groundwater samples to assess soil quality at the idle truck maintenance shop after operations have ceased and the facility is being dismantled. The scope of this investigation will be provided in a closure plan for the facility.
- Collect soil and groundwater samples to assess soil quality beneath the east side of the idle truck maintenance shop after operations have ceased and the facility is being dismantled. The scope of this investigation will be provided in a closure plan for the facility.
- Collect soil samples in the upper 10 feet of soil from three soil borings to be drilled near soil boring EB-31 (see Figure 4).

5.0 HEAVY EQUIPMENT MAINTENANCE AREA AND SOIL BORING EB-35

The heavy equipment maintenance area and soil boring EB-35 are located in the northern central portion of the Site (see Figures 2 and 5). The area presented on Figure 5 encompasses several existing structures that are in current use including the following:

The 12,000 square foot office building located at 3000 Busch Road houses the Hanson Radum Facility administrative offices. No maintenance or equipment is stored in this building and no environmental conditions are thought to exist in or around the office building. Adjacent to the west side of the office building is the heavy equipment maintenance shop (12,150 square feet). This building was used to service and repair large equipment such as large front end loaders. Use of the building has diminished significantly now that operations have ceased. Associated with the heavy equipment

maintenance shop are two open warehouse structures (10,400 square feet combined) located at the west end of the shop. The warehouses are open on one side and contain used engines, electric motors, parts, and equipment. According to the Phase I report prepared by ENV the warehouses do not appear to be a significant source of contaminants.

A lube shed structure (900 square feet) is located to the south of the heavy equipment maintenance shop. The lube shed consists of a raised concrete platform with corrugated metal roof and walls with an open side to the east and houses drums containing lubricants used in the maintenance shop. A Wash Rack is located adjacent to the west side of the lube shed and is used to wash heavy equipment before and/or after maintenance activities. A storm drain inlet is located adjacent to the southwest corner of the wash rack concrete pad.

ENV prepared a Phase I ESA for Legacy in October 2006 (ENV 2006a). ENV identified the following RECs or PECs associated with current activities conducted in the area of the heavy equipment maintenance shop and associated structures (ENV 2006a):

- The heavy equipment maintenance shop where two existing aboveground storage tanks (ASTs) containing waste oil (200-gallon AST) and antifreeze (150-gallon AST) are located.
- The wash rack area and sump located between the heavy equipment maintenance shop and the lube shed contains visible surface staining, and the associated oil-water separator and water recycling system.
- The storm-water drain inlet located adjacent to the wash rack sump may receive untreated water from the wash rack area and may drain to either the storm-water retention pond or to Cope Pond.
- The active transformer located at the northeast corner of the heavy equipment maintenance shop.

5.1 Heavy Equipment Maintenance Shop and Lube Shed

ENV reported that various lubricants and solvents associated with parts cleaning are used in the maintenance shop building, and staining was observed in floor areas beneath the solvents part cleaning area and oil containment troughs. An area of stained soil was observed behind the shop (assumed to be on the west side of the shop) where drums and equipment are stored (ENV 2006a). ENV also reported that these items and the stained soil had been removed (ENV 2006a). Two ASTs are located along the south wall of the shop in the vicinity of the lube shed (see Figure 5). The two ASTs consisting of a 200-gallon waste oil tank and a 150-gallon antifreeze tank have not been decommissioned to date because they are still in use by Hanson. ENV cited that “until [the two ASTs] are emptied and decommissioned and the soil beneath the concrete they are sitting on can be sampled, they represent a PEC.” LFR’s site visit on April 2, 2007 confirmed that both tanks are in good condition with no staining or indication of leakage. The tanks are situated on a reinforced

concrete pad that is part of the wash rack (discussed below). It is LFR's opinion that if the concrete beneath the tank is not significantly stained or cracked, then the ASTs do not represent a PEC.

Several 55-gallon drums containing various lubricants are stored inside the lube shed. These lubricants are delivered to the maintenance shop via pipes leading from the drums, along the north wall, under the concrete slab connecting the lube shed and the shop, up the outside south wall of the shop, and through the wall into the shop. The drums of lubricants are delivered to the lube shed via the open east side. The ground surface outside the east side of the lube shed is bare soil; the darker color of the soil in this area suggests that some spillage has occurred over time.

On May 8, 2006, B&C advanced two temporary soil borings, one on the east side of the lube shed (soil boring B-1) and the other on the southwest corner of the lube shed near the wash rack sump (soil boring B-2; see Figure 5). Both soil borings were advanced using direct push technology. Soil samples were collected for laboratory analyses from approximately 2.5 feet bgs from soil boring B-1 and from approximately 6 feet bgs from soil boring B-2.

Soil samples collected from soil boring B-1 contained TPHd at 890 mg/kg, TPHmo at 680 mg/kg and TPHg at 12 mg/kg, and total recoverable petroleum hydrocarbons (TRPH) at 1,400. The TPHd concentration exceeded the ESLs for commercial-residential properties. The sample collected from soil boring B-2 next to the lube shed did not contain any significant concentrations of TPH or TRPH (see Figure 5; B&C 2006).

In addition, ENV collected three soil samples approximately 1, 8, and 15 feet bgs from a test pit identified as "LS" located east of the lube shed in September 2006 (ENV 2006b). These soil samples were analyzed for TPHd and TPHmo. TPHmo was not present above analytical reporting limits in the three soil samples. TPHd was detected at 24 mg/kg and 19 mg/kg in the samples collected 1 and 15 feet bgs.

5.2 Wash Rack Area, Sump, and Oil-Water Separator

The wash rack consists of a reinforced concrete sloped surface with a berm along the western edge. The concrete ground surface of the wash rack is heavily stained with oil and grease and the sump appears encrusted with oil and grease. Reportedly, wash water flows into a sump located in the southeast corner of the wash rack from where it is pumped to an oil/water separator and recycling system located on the north side and outside of the lube shed. A large plastic drum that appears to skim and collect oil from the system is located next to the oil-water separator. ENV reported that this drum appeared to be full of heavy black oil, that a hose was connected to an overflow port on the drum, and that the discharge end of the hose was on the ground and the concrete around it was stained with oil. LFR confirmed that surface staining is present in the wash rack area, the sump, and by the oil-water separator and water recycling system. In agreement with the ENV Phase I report, this site constitutes a recognized environmental condition.

On October 2, 2006, ENV advanced soil borings EB-3, EB-4, and EB-5 and collected soil samples from 2, 6 and 15 feet bgs from the soil borings advanced near the lube shed area (see Figure 5). The analytical results for these 9 samples were presented in ENV's Phase II report (ENV 2006) and are presented on Figure 5. Of the 9 soil samples collected from these three sample locations, the sample collected 2 feet bgs from soil boring EB-5 was the only sample to contain TPHd at a concentration that slightly exceeded the ESL for commercial-industrial sites.

5.2.1 Storm-Water Drain

ENV reported in its Phase I report that wash water from the wash rack could enter a storm drain located adjacent to the wash rack. According to ENV, the storm drain may drain to the storm-water retention pond located northwest from this area and along Busch Road, or possibly to Cope Pond located east of this area. During the April 2, 2007, site walk, LFR observed that the storm drain appeared filled with sediment and grass and likely does not drain a significant volume of water from the wash rack area. In addition, the elevation of the sump appears to be lower than the storm-water drain, as such, wash water likely will preferentially drain toward the sump.

5.3 Former Transformer E

One active pad-mounted transformer (labeled Trans-E by ENV) is located approximately at the northeast corner of the heavy maintenance shop (see Figure 5). Transformers typically contain transformer oil and PCBs; as such Transformer E was identified as a PEC by ENV. LFR observed on April 2, 2007, that Transformer E appears to be in good conditions with no obvious leaks or cracks.

ENV collected soil sample Trans-E (collected 0.5 foot bgs) from soil adjacent to the concrete pad that the transformer is located. The sample was submitted for analysis PCBs and TPHd, and TPHmo. This sample did not contain any PCBs but did contain TPHd at 16 mg/kg and TPHmo at 160 mg/kg (ENV 2006a).

5.4 Former Soil Boring EB-35

Soil boring EB-35 was drilled by ENV in January 2007 to provide groundwater quality data in this portion of the Site (see Figure 5; ENV 2007a Report). In addition soil samples were collected from the soil boring at approximately 2, 10, 20, 30, and 40 feet bgs in January 2007. Each soil sample and the groundwater sample were analyzed for TPHd, TPHmo, TPHg, and BTEX. Analytical showed that the following compounds were detected:

- TPHd was detected at 400 mg/kg and 2.6 mg/kg in soil samples collected 2 and 10 feet bgs from soil boring EB35, respectively.
- TPHmo was detected at 3,400 mg/kg in soil sample collected 2 feet bgs from soil boring EB35.

- The groundwater sample did not contain concentrations of TPHd, TPHmo, TPHg, or BTEX above analytical reporting limits.

5.5 Data Gaps at the Heavy Equipment Maintenance Area and Soil Boring EB-35

The potential data gaps for this area include the extent of the TPH contamination in shallow soil in front of the lube shed and in the surficial soil (upper 2 feet bgs) in the vicinity of soil boring EB-35. One soil sample collected approximately 2 feet bgs from soil borings B1 revealed the presence of TPHd, at concentrations above the ESL for commercial-industrial properties. The lateral extent of this affected soil has not been assessed to the north and therefore represents a REC.

Based on the analytical results of soil samples collected as part of investigations conducted to date indicate that site operations near the wash rack, sump, and oil-water separator and recycling system have not significantly affected soil or groundwater quality and therefore no additional subsurface investigations is recommended for these areas.

5.6 Recommendations at the Heavy Equipment Maintenance Area and Soil Boring EB-35

LFR recommends the collection of soil samples in the upper 10 bgs from four soil borings to be located around soil EB-35 and two soil borings to be drilled near soil boring B-1 located on the east side of the lube shed (see Figure 5). The results of these samples can be used to assess the lateral extent of the affected soil in the vicinity of former soil boring EB-35 and the east side of the lube shed.

In addition LFR recommends preventing wash water from entering the storm-water drain located near the wash rack. The wash water could be diverted using sand bags or similar surface-water runoff controls.

6.0 FORMER CONCRETE BATCH PLANT AREA

The former concrete batch plant was located in the southwest portion of the Site (see Figures 2 and 6). Concrete mixing operations were conducted until 2004 when the majority of the equipment was removed from this portion of the Site. All that remains of the former concrete batch plant are concrete slabs, large piles of broken concrete, and areas of bare earth. ENV identified the following RECs or PECs associated with the former concrete batch plant (ENV 2006a):

- Surface-water runoff from concrete batch plants can be associated with elevated pH.

- A UST was removed from the plant area in 1995.
- Lubricants used at the plant are a potential source of petroleum hydrocarbons to the subsurface.
- ENV reported the presence of two plastic aboveground storage tanks (ASTs) that likely contained plasticizers used at the former concrete batch plant.
- A former electronic transformer (labeled Transformer B by ENV) was located in the former concrete batch plant. The transformer and pad have been removed from the Site.

6.1 Concrete Batch Plant as a Potential Source of Elevated pH

ENV stated that the presence of the former concrete batch plant could be associated with elevated pH in surface-water runoff. In September 2006 as part of its Phase II ESA investigation, ENV collected a soil sample from approximately 0.5 foot bgs from a test pit in the former concrete batch plant area in September 2006. This soil sample was analyzed for pH and exhibited a pH of 8.11. Based on the result of this sample and the fact there are no storm-water runoff violations for this Site associated with pH problems, LFR does not recommend any further investigation regarding the pH of soil in this portion of the Site.

6.2 Former 3,000-Gallon Diesel UST

Reportedly, one 3,000-gallon diesel UST located adjacent to the aggregate conveyor associated with the former concrete batch plant was removed from the Site on February 6, 1995 (Figure 6; Baseline 1995). Two soil samples were collected from approximately 10 feet bgs from the base of the excavation for the former UST. Each soil sample was analyzed for TPHd, TPHmo, and BTEX. Only TPHd was detected in one of the soil samples, at a concentration of 2.2 mg/kg; the other analytes were not present above analytical reporting limits in either of the soil samples. Reportedly, groundwater was not present in the excavation. Based on the analytical results of the two soil samples collected from the base of the excavation for the former UST, the ACEH provided a “case closure letter” for this UST and six other USTs formerly located on the Site (ACEH 1998).

6.3 Lubricants Use

Lubricants previously used at this portion of the Site could have affected soil or groundwater quality; however, soil samples collected approximately 10, 20, 30, and 40 feet bgs from soil boring SS128, which was drilled as part of a random sampling project conducted by ENV, did not contain TPHg, TPHmo, or BTEX above analytical reporting limits; nor were metals detected above concentrations that are typically present in naturally occurring soils. TPHd was detected at 1.4 and 1.2 mg/kg in the

soil samples collected at approximately 10 and 40 feet bgs, respectively (ENV 2007a). In addition, ENV collected a soil sample at approximately 8 feet bgs (soil sample CB-8) from a test pit identified as "CB" in September 2006 (ENV 2006b). This soil sample was analyzed for TPHd and TPHmo and these compounds were not present above analytical reporting limits in either of the soil samples.

ENV also collected a grab groundwater sample at approximately 68 feet bgs from soil boring SS128 that did not contain TPHg, TPHd, TPHmo, or BTEX above analytical reporting limits (ENV 2007a). Based on the results of the soil and groundwater samples collected from soil boring SS128, it does not appear that lubricants previously used at this portion of the Site have affected soil or groundwater quality in the vicinity of the former concrete batch plant.

6.4 Four Poly Tanks

Four derelict poly tanks are present at the former concrete batch plant, approximately 150 feet north of the former plant (see Figure 6). Based on conversations with Hanson personnel and labels on two of the tanks, the tanks previously contained plasticizers used as part of the former concrete batch plant operations. To assess soil quality in the vicinity of these tanks, ENV collected soil samples from approximately 0.2 to 5 feet bgs from two test pits advanced during September and October 2006 (ENV 2006a).

Soil samples PT-0.5 (collected at 0.5 foot bgs) and PT-5.0 (collected at 5 feet bgs) were submitted for analysis of polynuclear aromatic hydrocarbons (PAHs). Neither of these samples contained PAHs above analytical reporting limits. Soil sample PTA-0.2 (collected at 0.2 feet bgs) was submitted for polychlorinated biphenyls (PCBs); PCBs were not present above analytical reporting limits.

Observations made during a site reconnaissance by LFR and Hanson on April 2, 2007, confirmed that the four ASTs are present in the vicinity of the former concrete batch plant. The ASTs appeared deteriorated and cracked and may have leaked a portion of their contents onto the ground surface. However, the soil sampling conducted by ENV showed that any leaks from the ASTs have not affected the shallow soil in this area.

6.5 Former Transformer B

One electronic transformer (labeled Trans B by ENV) was located in the former concrete batch plant. The transformer and pad have been removed from the Site. To assess soil quality in the vicinity of this former transformer, ENV collected one soil sample (Trans B) from a test pit excavated in September 2006.

Soil sample Trans B (collected 0.5 foot bgs) was submitted for analysis for PCBs, TPHd, and TPHmo. This sample did not PCBs or TPHmo above analytical reporting limits. Soil sample Trans B did contain TPHd at 1.8 mg/kg (ENV 2006a).

6.6 Data Gaps at the Former Concrete Plant

Based on the summary of soil and groundwater samples collected at the former concrete batch plant, LFR does not recommend any further investigation at this portion of the Site. Therefore, there are no data gaps at this AOC.

6.7 Recommendations for the Former Concrete Plant

The following recommended action is proposed to resolve the issues discussed above:

- Remove the four poly tanks present at the former concrete batch plant.

7.0 FORMER MINING OPERATIONS AREA

The former mining operations area was located in the central portion of the Site (see Figures 2 and 7). Mining operations were conducted until 2004, when the majority of the equipment was removed from this portion of the Site. All that remains of the former mining operations are concrete slabs, large piles of broken concrete, and areas of bare earth. ENV identified the following PECs or RECs associated with the former mining operations area (ENV 2006a):

- Transformer A
- former rock crusher
- former aboveground waste oil tank
- former rod mill
- abandoned drums

Soil borings SS105 and SS130 were drilled as part of the investigation ENV conducted by randomly selecting sample locations (see Figure 7; ENV 2007a). These two borings were located within the former mining operations area. Soil samples were collected from the two soil borings at approximately 2, 10, 20, 30, and 40 feet bgs and grab groundwater samples were collected from each of the soil borings in January 2007. Each soil and groundwater sample was analyzed for TPHd, TPHmo, TPHg, and BTEX, and the soil samples collected at 2, 20, and 40 feet bgs from soil borings SS105 and SS130 were also submitted for the analysis of California Assessment Manual (CAM) 17 metals.

- TPHd was detected at 1.1 and 1.2 mg/kg in soil samples collected at 2 and 40 feet bgs, respectively, from soil boring SS105.
- TPHd was detected at concentrations ranging from 2.4 to 11 mg/kg in four of the soil samples collected from soil boring SS130.

- TPHmo and TPHg were not detected in the soil samples collected from either soil boring.
- Arsenic was detected at concentrations greater than its ESL of 5.5 mg/kg in the soil sample collected at 40 feet bgs from soil boring SS105 (5.6 mg/kg) and in the soil sample collected at 20 feet bgs from soil boring SS130 (5.8 mg/kg). The other metals were not detected at concentrations above their respective ESLs for industrial/commercial sites.

7.1 Transformer A

One electronic transformer (labeled Trans-A by ENV) was located in the former mining operations area (see Figure 7). The transformer and pad have been removed from the Site. To assess soil quality in the vicinity of this former transformer, ENV collected one soil sample (Trans A) from a test pit excavated in September 2006.

Soil sample Trans-A (collected at 0.5 foot bgs) was submitted for analysis of PCBs, for TPHd, and TPHmo. This sample did not contain PCBs or TPHmo above analytical reporting limits. Soil sample Trans-A did contain TPHd at 2.6 mg/kg (ENV 2006a).

7.2 Former Rock Crusher

ENV determined that the equipment formerly associated with the rock crushing operations that took place in the former mining operations area qualified as a PEC (ENV 2006a). Therefore, one soil sample was collected approximately 8 feet bgs from the test pit labeled CR in September 2006 (see Figure 7). The test pit was reportedly located near the central area of the former rock crushing operations that took place at the Site. The sample did not contain TPHd, TPHmo, or BTEX above analytical reporting limits.

7.3 Former Aboveground Waste Oil Tank

ENV determined that an aboveground waste oil tank associated with the rock crushing operations that took place in the former mining operations area qualified as a PEC (ENV 2006a). Therefore, one soil sample was collected approximately 8 feet bgs from test pit labeled WO in September 2006 and analyzed for TPHd and TPHmo (see Figure 7). The test pit was reportedly located near the suspected location of the former aboveground waste oil tank. The sample did not contain TPHd or TPHmo above analytical reporting limits.

7.4 Former Rod Mill

ENV determined that the equipment formerly associated with the rod milling operations that took place in the former mining operations area qualified as a PEC (ENV 2006a). Therefore, three soil sample were collected approximately 2, 8, and 15 feet bgs from

one test pit labeled RM in September 2006 and analyzed for TPHd, TPHmo, and PAHs (see Figure 7). The test pit was reportedly located near the former rod milling operations.

The samples did not contain PAHs above analytical reporting limits. TPHd was detected in each of the three soil samples at concentrations ranging from 2.9 to 15 mg/kg and TPHmo was detected at 60 mg/kg in the soil sample collected at 15 feet bgs.

7.5 Abandoned Drums

ENV determined that "an area where a number of old decaying drums were located, east of the Hanson office building" qualified as a PEC (ENV 2006a). Therefore, one soil sample was collected at approximately 0.5 foot bgs in October 2006 and analyzed for TPHd, TPHmo, TPHg, and BTEX (see Figure 7).

The sample contained TPHd at 1.7 mg/kg. The other analytes were not present above analytical reporting limits

7.6 Data Gaps for the Former Mining Area

Based on the summary of soil samples collected at the former mining operations area LFR does not recommend any further investigation at this portion of the Site. Therefore, there are no data gaps at this AOC.

7.7 Recommendations for the Former Mining Area

The following recommended action is proposed to resolve the issue discussed above:

- Remove the drums that are reportedly present at the former mining operations area.

8.0 STORM-WATER RETENTION POND

The storm-water retention pond is located along the western boundary of the Site on the north side of Busch Road adjacent to the Kiewit Property (see Figures 2 and 8). ENV has reported that sediment and surface-water samples collected from this pond in 1992 contained detectable concentrations of petroleum hydrocarbons (ENV 2006a). It is our understanding that the source of the water in this pond is surface run-off water from the Kiewit Property that is diverted into the pond.

8.1 Sediment-Soil Quality

In September and October 2006, ENV collected eight sediment-soil samples (RP-A through RP-H) at 0.5 foot bgs, and one soil sample was collected at approximately 3.5

feet bgs (RP-C). Three of the eight samples (RP-A, RP-B and RP-C) were analyzed for TPHd and TPHmo. In addition, each sample was submitted for the analysis of CAM 17 metals.

TPHd and TPHmo were not present above analytical reporting limits for RP-A and PR-B. Soil sample RP-C contained TPHd at 8.8 mg/kg and TPHmo was not present above analytical reporting limits.

Arsenic, chromium, and nickel were detected in the soil sample collected at 0.5 foot bgs RP-C at concentrations greater than their respective ESLs for commercial-industrial properties. The soil sample collected 3.5 feet bgs from RP-C did not contain arsenic or nickel above their surface-water ESLs.

B&C collected one sediment sample from the storm drain that discharges water to the storm-water retention pond in May 2006. This sample contained TPHd and TPHmo at 530 and 1,500 mg/kg, respectively; both values are greater than the ESLs for commercial-industrial properties.

8.2 Surface-Water Quality

B&C also collected a water sample from the storm-water retention pond that did not contain TPHg, TPHmo, or VOCs above analytical reporting limits. TPHd was detected in this water sample at 170 μg/l; this concentration is greater than the ESL for Surface Water Screening Levels for Fresh Water Habitats of 100 μg/l. ENV did not collect a surface-water sample from this retention pond as part of its investigations.

8.3 Data Gaps for the Storm-Water Retention Pond

The lateral extent of TPH-affected sediment in the vicinity of the sediment sample collected by B&C is not sufficiently characterized. LFR recommends further investigation near the sediment sample collected by B&C.

The surface-water quality within the pond is also not well characterized. As an active storm-water retention pond, water is discharged into the pond primarily during the wet season and likely evaporates from the pond during the dry season. Water from the pond likely also recharges groundwater beneath the pond. If the surface water in the pond is affected by TPH and the pond water is recharging groundwater, then the surface water may be affecting groundwater quality in this portion of the Site.

8.4 Recommendations for the Storm-Water Retention Pond

The following recommended actions are proposed to resolve the issues discussed above:

- LFR recommends the collection of two additional sediment samples to further assess surface soil quality in the vicinity of the sediment sample collected by B&C (see Figure 8).
- LFR recommends the collection of a composite surface-water sample to further assess surface-water quality in the storm-water retention pond.

9.0 PEC IDENTIFIED BY TEMPORARY SOIL BORING SS31

Soil boring SS31 is located on the northeastern edge of the Site and was part of an investigation conducted by ENV in January and February 2007 (Figures 2 and 9). The location of soil boring SS31 was selected randomly, and the PEC was identified, as part of ENV's February 2007 investigation. As such, LFR is not aware of specific operations that took place at this portion of the Site. ENV collected soil samples from this soil boring but did not collect a grab groundwater sample at this location.

9.1 Soil Quality at Temporary Soil Boring SS31

On January 31, 2007, ENV collected soil samples at approximately 2, 10, 20, 30, and 40 feet bgs from soil boring SS31. The analytical results of soil samples collected from soil samples collected 2 and 40 feet bgs from soil boring SS31 contained concentrations of TPHd and TPHmo in excess of their commercial ESLs (see Figure 9).

9.2 Data Gaps at Temporary Soil Boring SS31

The investigation has shown that the only sampling done in the area is one borehole with five depth soil samples. The data gaps for this area include the lateral extent of the affected soil at 2 and 40 feet bgs and the groundwater quality in this portion of the Site.

9.3 Recommendations at Temporary Soil Boring SS31

The following recommended actions are proposed to resolve the issues discussed above:

- LFR recommends the collection and analysis of soil samples from four soil borings to be drilled in the vicinity of soil boring SS31 (see Figure 9).
- LFR recommends the collection and analysis of grab groundwater samples to be collected from four soil borings to be drilled in the vicinity of soil boring SS31 (see Figure 9).

10.0 PEC IDENTIFIED BY TEMPORARY SOIL BORING SS123

Soil boring SS123 is located between the Vulcan Materials Company runoff area and the mining area and was part of an investigation conducted by ENV in January and

February 2007 (Figures 2 and 10). The location of soil boring SS123 was randomly selected, and the PEC was identified, as part of ENV's February 2007 investigation. As such, LFR is not aware of specific operations that took place at this portion of the Site. ENV collected soil samples and a grab groundwater from this soil boring.

Based on the results of the soil samples and grab groundwater sample collected from soil boring SS123 in January 2007, ENV collected soil samples from four soil borings that were located approximately 25 feet north, south, east, and west of soil boring SS123 (see Figure 10). The purpose of these samples was to assess the lateral extent of affected groundwater near soil boring SS123. Based on the results of the soil and groundwater samples collected, the area near soil boring SS123 is considered a PEC.

10.1 Soil Quality at Temporary Soil Boring SS123

On January 30, 2007, ENV collected soil samples at approximately 2, 10, 20, 30, and 40 feet bgs from soil boring SS123. The analytical results of soil samples collected from soil samples collected 20, 30, and 40 feet bgs from soil boring SS123 contained concentrations of TPHd and TPHmo in excess of their commercial ESLs (Figure 10).

To further assess the concentrations of TPHd and TPHmo in the vicinity of soil boring SS123, ENV collected soil samples at approximately 2, 10, 20, 30, and 40 feet bgs from soil borings SS123A, SS123B, SS123C, and SS123D on March 8, 2007. Theses soil borings were located approximately 25 feet north, south, east, and west of soil boring SS123 (see Figure 10). Analytical results of the soil samples collected from these soil borings also contained concentrations of TPHd and TPHmo above their commercial ESLs (see Figure 10). To further assess the soil quality in this area, ENV has proposed the collection of soil samples from four soil borings to be located approximately 100 feet north, south, east, and west of soil borings SS123A, SS123B, SS123C, and SS123D (Figure 10).

10.2 Groundwater Quality at Temporary Soil Boring SS123

ENV collected grab groundwater samples from soil borings SS123A, SS123B, SS123C, and SS123D on March 8, 2007. The samples were analyzed for TPHd, TPHmo, TPHg, BTEX, and CAM 17 metals. The results of these four groundwater samples indicated that TPHd was present in each sample at concentrations ranging from 200 to 380 μg/l. TPHmo, TPHg, and BTEX were not detected above laboratory reporting limits. Of the CAM 17 metals, arsenic (four samples), barium (four samples), chromium (two samples), molybdenum (three samples), lead (one sample), vanadium (four samples), and zinc (one sample) were reported above analytical reporting limits. Of these metals lead, vanadium, and zinc were detected at concentrations greater than their respective ESLs.

10.3 Data Gaps at Temporary Soil Boring SS123

The results of the soil samples collected in this portion of the Site indicate that affected soil is present. The lateral extent of affected soil is not well characterized to the south or west of soil boring SS123 (see Figure 10). ENV has proposed the collection of soil samples from four soil borings to be located approximately 100 feet north, south, east, and west of soil borings SS123A, SS123B, SS123C, and SS123D (see Figure 10). The results of samples to be collected from these soil borings will provide data to further assess the soil and groundwater in this portion of the Site.

10.4 Recommendations at Temporary Soil Boring SS123

LFR will assess the analytical results of the soil and groundwater samples that will be collected from the new temporary soil borings proposed by ENV.

11.0 VULCAN MATERIALS COMPANY STORM-WATER RUNOFF AREA

The Vulcan Materials Company (VMC) runoff area is located on the southeastern edge of the Site (see Figure 11). Located adjacent to the Site, the VMC property extends from the northern end to the southern end of the Site property. Even though there are no reported structures, nor is LFR aware of any specific site work that took place at the VMC runoff area, previous reports have indicated that the Site has experienced runoff from the VMC site (ENV 2006b).

Reportedly, storm water from the VMC property has run off to the Site. A berm was put in between the VMC property and the Site; however, it is unknown if the same conditions exist. A Phase I ESA conducted on the VMC property identified several RECs on the property, including the presence of petroleum hydrocarbon staining, a faulty oil-water separator, and the use of acidic chemicals for washing down trucks. The previous reports have indicated that runoff from the VMC property onto the Site could contain the contaminants found on the VMC property (ENV 2006b).

Based on this information, ENV identified the following PEC or REC for the Site:

- Runoff from the VMC property onto the Site could contain contaminants from the activities that took place at the VMC property.

11.1 Soil Quality in the Vicinity of the VMC Storm-Water Runoff Area

On September 29, 2006, ENV collected soil samples at approximately 0.5 foot bgs from a drainage ditch located along the eastern boundary of the Site (RO-A, RO-B, and RO-C) where storm water has reportedly run off from the VMC property to the Site (see Figure 11). These samples were analyzed for TPHd and TPHmo. The analytical results for these three sample locations were presented in ENV's Phase II report (ENV

2006b). As reported, TPHd was detected in one of the three samples (sample RO-B) at a concentration that slightly exceeded its commercial ESL (see Figure 11).

11.2 Data Gaps for the VMC Storm-Water Runoff Area

It is unknown whether the berm between the VMC property and the Site is properly functioning.

11.3 Recommendations for the VMC Storm-Water Runoff Area

LFR recommends confirming if the berm between the VMC and the Site is working properly to prevent runoff from the VMC property. If the berm is not working properly, LFR recommends making the proper repairs or rebuilding the berm to divert the storm water from the VMC property away from the Site.

12.0 INVESTIGATION OBJECTIVES

The primary objective of the proposed investigations is to fill data gaps by further characterizing the lateral and/or vertical extent of petroleum hydrocarbons in soil and/or groundwater in several AOCs. As part of the data gap investigation, the nature and potential source of the deep black product identified in the northern portion of the former hot mix asphalt plant area will be investigated and new groundwater monitoring wells will be installed in the former asphalt plant area (AOC #1) to monitor groundwater quality over time and to evaluate the local groundwater flow direction and gradient.

As described in the sections above, data gaps that will be filled through additional subsurface investigations were identified in the following AOCs:

AOC #1 - Former hot mix asphalt plant area (Figure 3)

AOC #2 - Idle truck maintenance area (Figure 4)

AOC #3 - Heavy equipment maintenance and wash rack area, and former soil boring EB35 area (Figure 5)

AOC #6 - Storm-water retention pond (Figure 8)

AOC #7 – Former soil boring SS31 area (Figure 9)

As presented in the following section, the objectives of the additional subsurface investigations will be met through the advancement of temporary soil borings in each of the five above-mentioned AOCs, and new monitoring wells will be installed in AOC #1. All temporary soil borings will be continuously cored, and depth-discrete soil and

grab groundwater samples will be collected from selected intervals for laboratory analyses.

13.0 PROPOSED INVESTIGATION IMPLEMENTATION

13.1 Pre-Field Activities

13.1.1 Permitting

LFR will apply for the appropriate soil boring drilling permits with the Alameda County Zone 7 Water Agency. Based on the locations of the proposed soil borings, the procurement of encroachment permits with the City of Pleasanton does not appear to be required.

13.1.2 Subsurface Utility Clearance

Prior to intrusive fieldwork, subsurface utility clearance will be obtained by utilizing a private utility locator, Underground Service Alert (USA), and historical utility records. LFR will notify USA at least 72 hours before drilling begins, to identify public underground utilities located in the vicinity of the proposed soil boring locations. LFR also will subcontract a qualified private underground utility locating contractor to identify possible subsurface obstructions and utilities, using a combination of ground-penetrating radar and pipe/cable locating methods. If underground utilities are identified within approximately 5 feet of a proposed drilling location, LFR will revise the proposed location accordingly, and will repeat the underground utility clearance procedures as necessary. A copy of the applicable clearance forms will be maintained in the field during the implementation activities. As an added precaution, soil borings will be started by hand augering to approximately 5 feet bgs to bypass potentially undetected shallow underground utilities.

LFR will coordinate with facility personnel so that proposed field activities do not significantly interfere with plant operations.

13.1.3 Health and Safety Plan

The Health and Safety Plan (HSP) documents the potential hazards to worker health and safety at the Site during the proposed field activities and specifies the appropriate means to mitigate or control these hazards. The HSP addresses the potential for exposure to hazardous constituents and describes general safety procedures. An HSP previously was prepared by LFR for the subsurface investigations conducted at the former hot mix asphalt plant area conducted during November 2006. The existing HSP will be amended as necessary to apply it to the entire Site by incorporating information about the history of each area, known environmental conditions, and available soil and

groundwater analytical data. The revised site-specific HSP will address health and safety concerns specific to the field procedures proposed by LFR in this work plan.

Health and safety meetings will be conducted before fieldwork begins each day, and fieldwork will be monitored according to the HSP to ensure that appropriate health and safety procedures are followed. If applicable and required by Hanson, LFR and LFR's subcontractors also will go through the on-site health and safety training conducted by facility personnel in accordance with standard Hanson Radum facility operations.

13.2 Proposed Temporary Soil Borings for Lateral and Vertical Characterization

All proposed soil boring locations are shown on the site plans prepared for each individual AOC where temporary soil borings are proposed (Figures 3, 4, 5, 8, and 9). A summary of the proposed number and total depths of temporary soil borings and new groundwater monitoring wells is provided as Table 1. In all cases, temporary soil borings may be advanced to deeper depths than proposed depending on field observations and screening of the soil cores. Selected soil boring locations will be advanced to a sufficient depth to collect grab groundwater samples.

13.2.1 Proposed Temporary Soil Boring Locations and Target Depths

LFR proposes to advance a total of approximately 22 temporary soil borings site-wide to depths ranging approximately from 10 to 60 feet bgs, depending on location and purpose.

In the former asphalt plant area (AOC #1), LFR proposes to advance approximately 6 temporary soil borings. As shown on Figure 3, one soil boring would be located south of former boring B1 to a depth of approximately 20 feet bgs, up to two soil borings west of former boring EB30 to depths of approximately 10 feet bgs, and at least three soil borings within and southeast of the deep soil contamination indicated by the black product, to a depth of approximately 60 feet bgs. The three 60-foot-deep soil borings proposed will be advanced to a depth sufficient to characterize the vertical extent of the black product, collect depth-discrete soil samples beneath the black product, and collect grab groundwater samples. Groundwater will likely be encountered between approximately 50 and 60 feet bgs.

In the idle truck maintenance area (AOC #2), LFR proposes to advance approximately three temporary soil borings in the vicinity of, and surrounding, former soil boring EB31, as shown on Figure 4. These three soil borings will be advanced to depths of approximately 20 feet bgs.

In the heavy equipment maintenance area and soil boring EB35 (AOC #3), LFR proposes to advance five shallow temporary soil borings, as shown on Figure 5. One soil boring will be located north of former soil boring B-1 located between the lube shed and the Hanson office building, and four soil borings will be located stepping out

in four directions from former soil boring EB35. These five soil borings will be advanced to approximately 10 feet bgs to characterize and sample the upper 10 feet of soil.

In the vicinity of former soil boring SS31 (AOC #7), LFR proposes to advance four temporary soil borings, as shown of Figure 9. These borings will be located stepping out from boring SS31 in four directions and will be advanced deep enough to collect grab groundwater samples at an estimated depth of between 50 and 60 feet bgs.

13.2.2 Soil Boring Advancement and Soil and Grab Groundwater Sampling

LFR proposes to use the hollow-stem auger (HSA) drilling technology to advance the approximately 22 temporary soil borings at the Site. Continuous soil cores will be collected during drilling from each proposed boring location, for lithologic evaluation, field screening, and to collect soil samples for laboratory analyses. Soil cuttings and soil samples will be screened in the field using a photoionization detector to evaluate the presence of hydrocarbon or other VOCs, and the results will be recorded on soil boring logs. All downhole drilling and sampling equipment will be cleaned with high-pressure hot water (steam cleaned) before use at each drilling location.

Soil Sampling

LFR will select soil samples for laboratory analyses from each proposed soil boring depending on field conditions and visual field screening observations of the soil cores. Depending on location and the depth of interest, soil samples from approximately 5-foot intervals will be selected from each boring for laboratory analyses. The soil samples to be submitted to the laboratory will be labeled with the boring identification number and depth interval, the time and date of collection, the analysis requested, and the initials of the sampler. The samples will be stored in an ice-chilled cooler and submitted to the laboratory under strict chain-of-custody protocols. LFR will coordinate with the laboratory for the delivery of collected soil samples under chain-of-custody protocols for chemical analysis. The samples will be analyzed as described below. All soil samples will be analyzed for TPHd and TPHmo.

After soil and groundwater samples have been collected, each borehole will be sealed with a mixture of cement and bentonite (“grout”) to the ground surface. The grout will be poured into the borehole from the ground surface, or through a tremie pipe depending on the total depth of the soil boring and on the presence of groundwater.

Grab Groundwater Sampling

Approximately 11 of the 22 proposed temporary soil borings will be advanced to below the ground water table (between approximately 50 and 60 feet bgs), in order to collect grab groundwater samples. Polyvinyl chloride (PVC) well screen and casing will be placed into the HSA and the HSA will be raised approximately 3 feet to allow groundwater to enter the borehole. The depth to groundwater will be measured in feet

bgs at each boring. A grab groundwater sample will then be collected by lowering a clean disposable bailer into the PVC casing. Groundwater will be poured from the bailer into laboratory-supplied sample containers and labeled with the boring identification number, the time and date of collection, the analysis requested, and the initials of the sampler. The samples will be stored in an ice-chilled cooler and maintained under strict chain-of-custody protocol until they are submitted to the analytical laboratory. If insufficient groundwater enters the temporary well casing, the boring may need to be advanced deeper.

All grab groundwater samples will be analyzed by a laboratory for TPHd and TPHmo.

13.2.3 Lithologic Logging Procedures

Conventional visual lithologic soil logging will be conducted at boring locations where sonic drilling is used to achieve the target depth. An LFR field geologist will classify the soil samples using American Society for Testing and Materials (ASTM) D 2488-93, which is based on the Unified Soil Classification System. Lithologic descriptions will be recorded on field boring logs that will be reviewed, edited, and signed by a California Professional Geologist.

After field screening, soil logging, and grab groundwater samples are collected, as appropriate, soil borings will be abandoned by filling the borings from the bottom to ground surface with neat cement grout.

13.3 New Groundwater Monitoring Well Installations

LFR proposes to install five new groundwater monitoring wells located approximately surrounding the former asphalt plant, as shown on Figure 3. The proposed monitoring wells will be completed to total depths of approximately 65 feet bgs with approximately 10-foot-long well screens, depending on field conditions. Screened intervals may be adjusted based on lithologic conditions and depth to groundwater encountered in the proposed well locations at the time of drilling.

The soil borings for the wells will be drilled as described above using HSA drilling technology. The drilling subcontractor also will construct and install the new monitoring wells under the direct supervision of an LFR field geologist. Each monitoring well casing will consist of 2-inch-diameter, Schedule 40 PVC well casing and machine-slotted Schedule 40 PVC well screens with a slot size appropriate for the soil grain size and filter size selected. A filter pack (sand or pea gravel) appropriate for the soils encountered will be placed in the borehole annular space around the screen interval and extended approximately 2 feet above the top of the screen. A bentonite seal approximately 2 to 3 feet thick will be placed above the sand pack. The annular space above the bentonite seal will be sealed with cement grout extending to ground surface. Each monitoring well will be equipped with a locking well cap and completed in a flush-mounted well vault equipped with a traffic-rated access lid.

13.4 Proposed Surface Sediment and Water Samples from the Storm-Water Retention Pond

In the storm-water retention pond area (AOC #6), as shown on Figure 8, LFR proposes to collected at least one surface sediment sample from near the pond water edge in the southeastern portion of the pond near the storm-water outfall. In addition, LFR proposes to collect at least one grab water sample from the pond itself. These grab samples will be collected by hand directly into clean, laboratory-supplied sample containers, from locations near the edge of the water surface in the pond at the time of sampling. Depending on field conditions, the sediment sample may be collected using a clean stainless steel or brass liner pushed into the sediment after the top vegetation has been removed, to collect a sediment sample just below ground surface.

13.5 Equipment Decontamination Procedures

All drilling and sampling equipment that could come into contact with sample material will be properly decontaminated before each use and between each location. Downhole drilling equipment, including drill rods and bits, will be decontaminated by steam cleaning at a designated wash pad or within a portable containment unit. Soil sampling equipment and down well development equipment will be decontaminated by washing in non-phosphate detergent solution, deionized water rinse, and final deionized water rinse before each use. Grab groundwater samples will be collected using single-use disposable bailers.

13.6 Waste Characterization, Handling, and Disposal

The anticipated investigative derived waste (IDW) that will be generated during the field activities includes soil cuttings, well development and purge water, equipment decontamination fluids, and used personal protective equipment (PPE). Soil cuttings from drilling operations will be containerized in clean Department of Transportation-(DOT-) approved 55-gallon drums or similar containers. Well development/purge water and decontamination rinse water similarly will be containerized in DOT-approved 55-gallon drums or other appropriate holding tanks with covers. Samples of the soil cuttings and fluids will be collected as necessary to evaluate appropriate disposal options. Used PPE and disposable sampling equipment will be placed in double plastic bags in drums or in an industrial disposal bin. The containers storing the generated wastes will be temporarily stored at a centralized location until the waste characterization results are received and disposal is arranged. An adhesive label will be affixed to each container, noting the following information: container number, waste type, location where the IDW was generated, and date of waste generation.

13.7 Field Documentation

Field activities will be appropriately documented using the following forms as appropriate: field boring log, well development form, groundwater sampling form,

sample label, chain-of-custody form, waste management label, and hazardous waste labels. The purpose of the standardized field documentation and sampling procedures is to maintain integrity of field documentation and field samples throughout the investigative process. These forms will be kept on file at LFR and will be available upon request.

13.8 Land Survey of Proposed Soil Boring and Monitoring Well Locations

In order to more accurately identify the location of soil and grab groundwater sample locations, LFR proposes that after the additional investigations described in this work plan are completed, all temporary soil boring locations advanced by LFR will be surveyed. The new groundwater monitoring wells also will be surveyed. The results of the land survey will be tied into the existing survey information and all site maps will be updated accordingly.

14.0 EXISTING GROUNDWATER MONITORING WELL(S)

According to the Zone 7 records provided as part of the work plan letter, a 103-foot-deep well (TW5) reportedly was installed by Kaiser and is located near the southwest corner of Cope Pond. The well could not be located in 1984 but reportedly was found in 2003. It is not known who reportedly found the well in 2003 nor is its precise location known. During additional communications between LFR and Zone 7 on May 15, 2007, Zone 7 stated that well TW5 is lost or cannot be located.

LFR proposes to locate well TW5. If the well is found and if it can be sampled, LFR proposes to collect a groundwater sample for analyses of TPHd, TPHmo, TPHg, BTEX, and MTBE, prior to abandoning the well in accordance with a Zone 7 well abandonment permit.

15.0 PREPARATION OF INVESTIGATION REPORT AND CAP

As requested by the ACEH, LFR will prepare a Site Assessment Report (SAR) that will include site background and environmental setting information, field procedures, boring logs, laboratory certified analytical reports, summary tables of new well construction details, and summary tables of analytical results for all new soil and groundwater samples. The report will describe the field activities and procedures to advance the proposed temporary soil borings, collect depth-discrete soil and grab groundwater samples, install new groundwater monitoring wells, develop the new wells, and collect initial groundwater samples. All analytical results will be evaluated in the context of analytical results from previous subsurface investigations and will be presented in the summary report. The report will include supporting documentation, including revised site maps showing the locations of soil boring and new groundwater monitoring wells, an updated cross section, and laboratory analytical results. The results of the additional investigation proposed herein will be used to develop a

Corrective Action Plan (CAP) for the Site. The CAP will be presented as part of the SAR and will present a scope of work to conduct remediation in specific areas of the Site.

The report will be uploaded to the GeoTracker™ system and the ACEH file transfer protocol (FTP) site in accordance with Regional Water Quality Control Board and ACEH requirements.

16.0 LIMITATIONS

The opinions and recommendations presented in this report are based upon the scope of services, information obtained through the performance of the services, and the schedule as agreed upon by LFR and the party for whom this report was originally prepared. This report is an instrument of professional service and was prepared in accordance with the generally accepted standards and level of skill and care under similar conditions and circumstances established by the environmental consulting industry. No representation, warranty, or guarantee, express or implied, is intended or given. To the extent that LFR relied upon any information prepared by other parties not under contract to LFR, LFR makes no representation as to the accuracy or completeness of such information. This report is expressly for the sole and exclusive use of the party for whom this report was originally prepared for a particular purpose. Only the party for whom this report was originally prepared and/or other specifically named parties have the right to make use of and rely upon this report. Reuse of this report or any portion thereof for other than its intended purpose, or if modified, or if used by third parties, shall be at the user's sole risk.

Results of any investigations or testing and any findings presented in this report apply solely to conditions existing at the time when LFR's investigative work was performed. It must be recognized that any such investigative or testing activities are inherently limited and do not represent a conclusive or complete characterization. Conditions in other parts of the project site may vary from those at the locations where data were collected. LFR's ability to interpret investigation results is related to the availability of the data and the extent of the investigation activities. As such, 100% confidence in environmental investigation conclusions cannot reasonably be achieved.

LFR, therefore, does not provide any guarantees, certifications, or warranties regarding any conclusions regarding environmental contamination of any such property. Furthermore, nothing contained in this document shall relieve any other party of its responsibility to abide by contract documents and applicable laws, codes, regulations, or standards.

17.0 REFERENCES

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Table Work Plan-1: Proposed Additional Investigation Matrix
Hanson Aggregates Radum Facility
3000 Busch Road, Pleasanton, California

Area of Concern	Proposed Number of Temporary Soil Borings	Proposed Total Depth(s) of Temporary Soil Boring(s)	Proposed Number of Grab Groundwater Samples	Proposed Number of New Groundwater Monitoring Wells	Proposed Well Screen Intervals of Monitoring Wells
1. Former Hot Mix Asphalt Area	6	10 to 60 feet bgs	3	5	55 to 65 feet bgs
2. Idle Truck Maintenance Area	3	20 feet bgs	0	0	NA
3. Heavy Equipment Maintenance and Wash Rack Area	5	10 feet bgs	0	0	NA
4. Former Concrete Batch Plant Area	4	60 feet bgs	4	0	NA
5. Former Mining Operations Area	0	NA	0	0	NA
6. Storm-Water Retention Pond	0 (but at least one surface soil sample)	0.5 feet bgs	0 (but at least one surface-water sample)	0	NA
7. PEC Identified by Temporary Soil Boring SS31	4	60 feet bgs	4	0	NA
8. PEC Identified by Temporary Soil Boring SS123	0 (ENV is proposing to advance 4 soil borings)	30 feet bgs	0 (ENV is proposing to collect 4 grab groundwater samples)	0	NA
9. Vulcan Materials Company Storm-Water Runoff Area	0	NA	0	0	NA
Totals	**22**	**10 to 60 feet bgs**	**11**	**5**	**NA**

Notes:

feet bgs = feet below ground surface

ENV = ENV America, consultant for Legacy Partners. ENV is proposing to advance four temporary soil borings stepping out from previous soil boring locations to further characterize the extent of contamination identified in the vicinity of soil boring SS123.

Source: Google Earth

Site Vicinity Map

3000 Busch Road, Pleasanton, California

LFR

Figure 1

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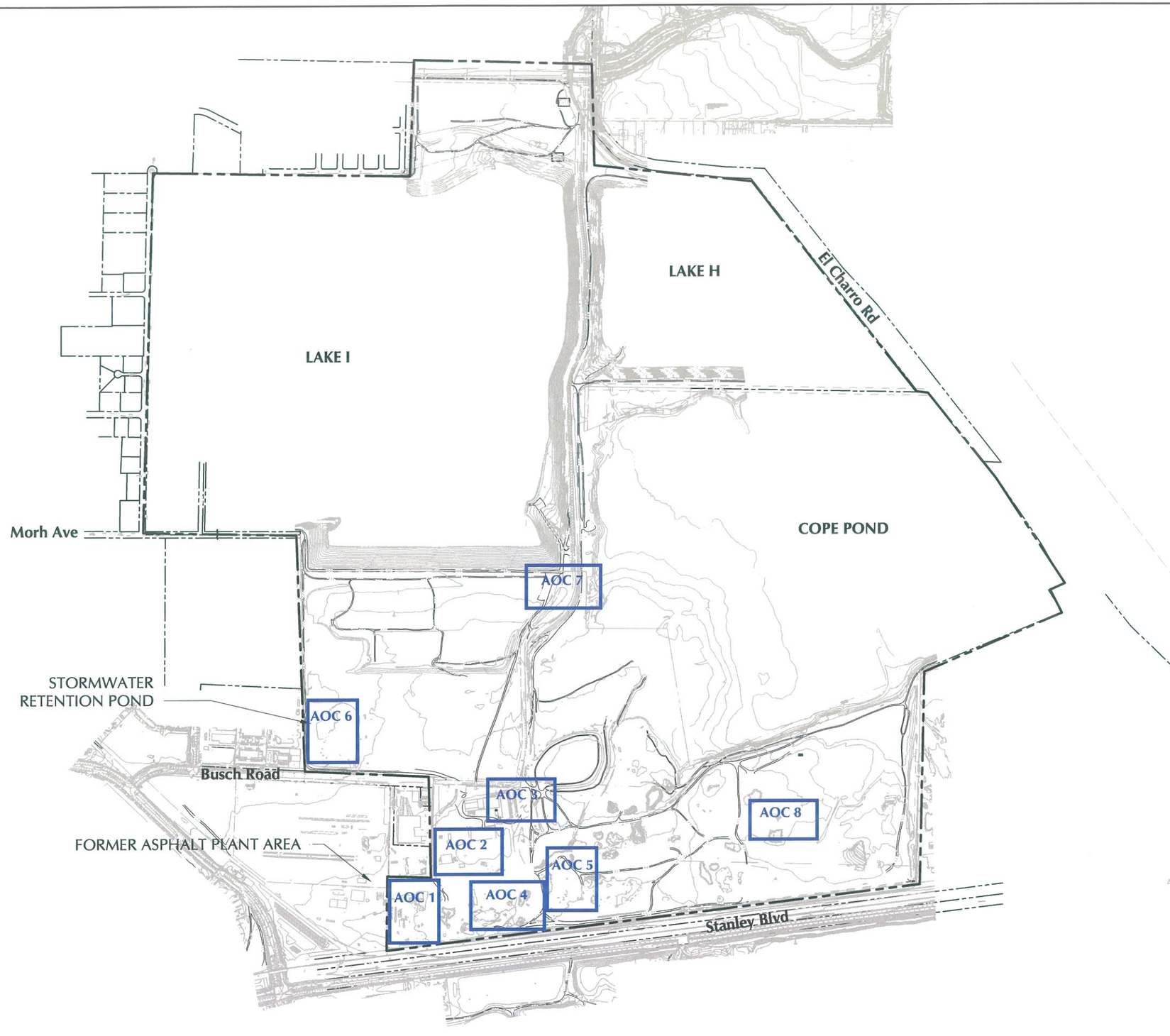

EXPLANATION:

Site Boundary

AOC 7 — Area of Concern

Area of Concern #1 – Former Asphalt Plant Area

Area of Concern #2 – Idle Truck Maintenance Area

Area of Concern #3 – Heavy Equipment Maintenance and Wash Rack Area, and PEC Identified by Temporary Soil Boring EB35

Area of Concern #4 – Former Concrete Batch Plant

Area of Concern #5 – Former Mining Operation Area

Area of Concern #6 – Storm Water Retention Pond

Area of Concern #7 – PEC Identified by Temporary Soil Boring SS31

Area of Concern #8 – PEC Identified by Temporary Soil Boring SS123

Area of Concern #9 – Vulcan Materials Company Storm Water Runoff Area

N

0 1000 FEET

Site Plan with Areas of Concern

Hanson Aggregates, Radum Facility, 3000 Busch Rd, Pleasanton, CA

LFR

Figure 2

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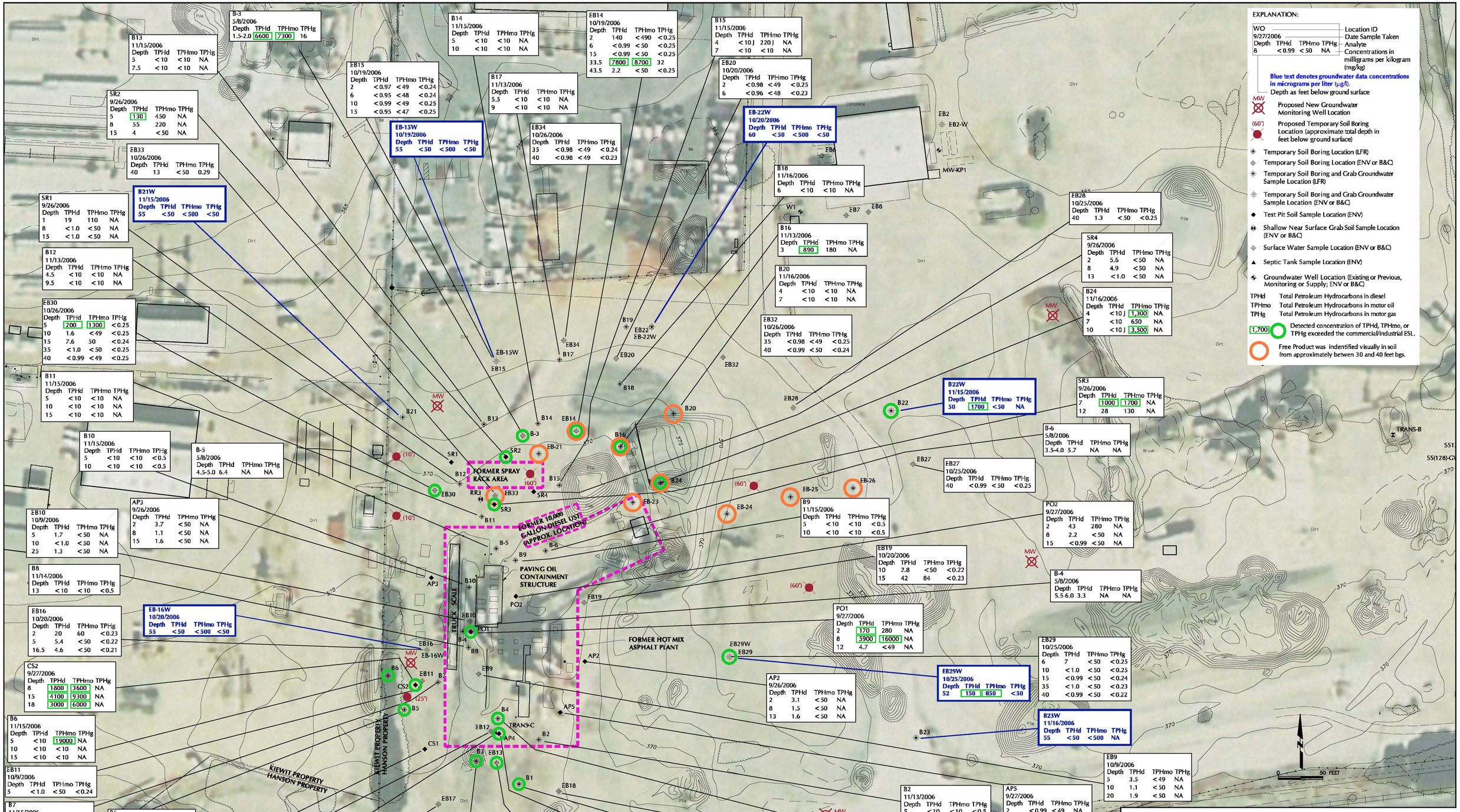
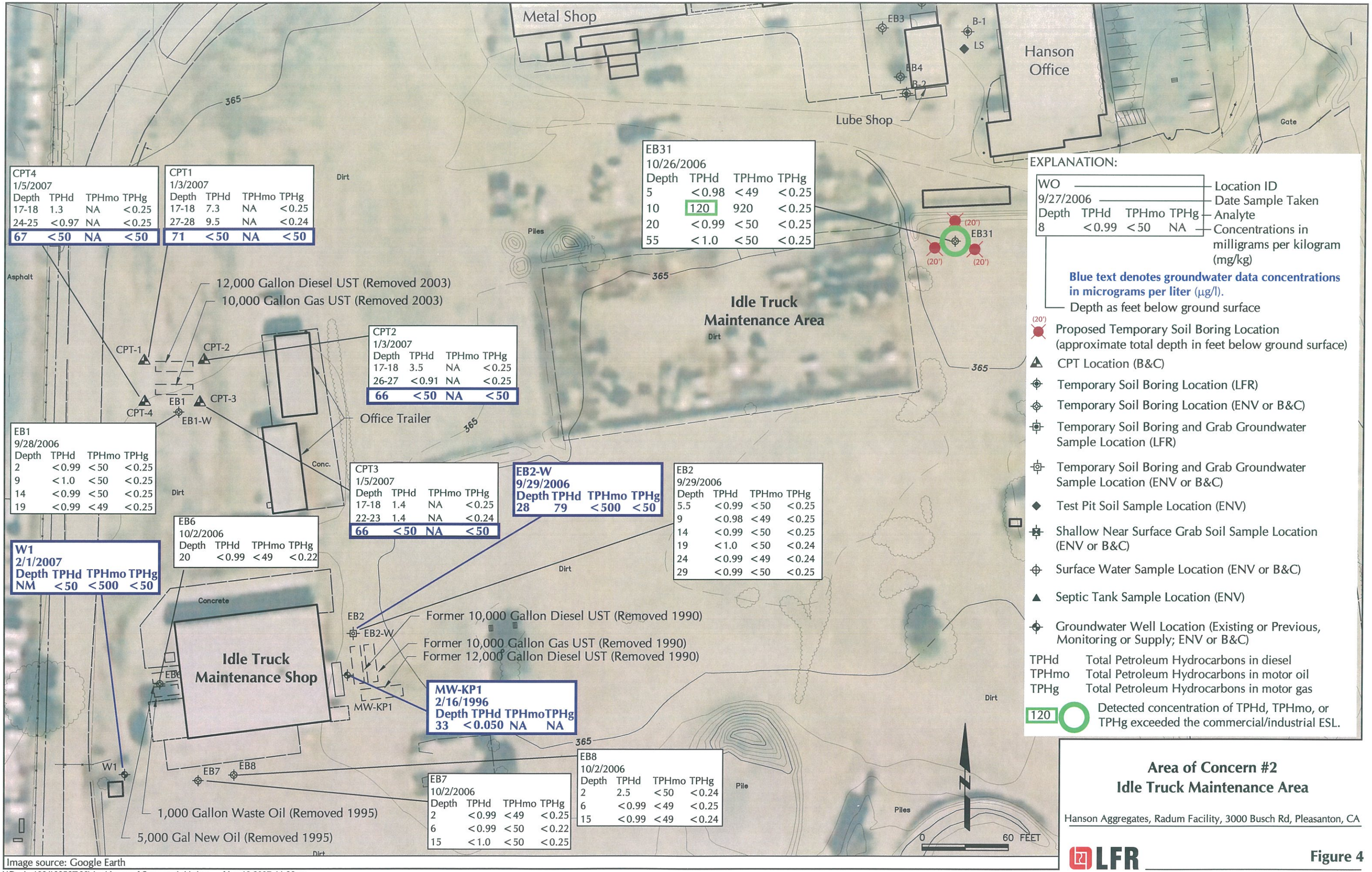


Area of Concern #1
Former Hot Mix Asphalt Plant Area

Hanson Aggregates, Radum Facility, 3000 Busch Rd, Pleasanton, CA

LFR

Figure 3



CPT4
1/5/2007

Depth	TPHd	TPHmo	TPHg
17-18	1.3	NA	<0.25
24-25	<0.97	NA	<0.25
67	**<50**	**NA**	**<50**

CPT1
1/3/2007

Depth	TPHd	TPHmo	TPHg
17-18	7.3	NA	<0.25
27-28	9.5	NA	<0.24
71	**<50**	**NA**	**<50**

EB31
10/26/2006

Depth	TPHd	TPHmo	TPHg
5	<0.98	<49	<0.25
10	120	920	<0.25
20	<0.99	<50	<0.25
55	<1.0	<50	<0.25

CPT2
1/3/2007

Depth	TPHd	TPHmo	TPHg
17-18	3.5	NA	<0.25
26-27	<0.91	NA	<0.25
66	**<50**	**NA**	**<50**

EB1
9/28/2006

Depth	TPHd	TPHmo	TPHg
2	<0.99	<50	<0.25
9	<1.0	<50	<0.25
14	<0.99	<50	<0.25
19	<0.99	<49	<0.25

CPT3
1/5/2007

Depth	TPHd	TPHmo	TPHg
17-18	1.4	NA	<0.25
22-23	1.4	NA	<0.24
66	**<50**	**NA**	**<50**

EB2-W
9/29/2006

Depth	TPHd	TPHmo	TPHg
28	**79**	**<500**	**<50**

EB2
9/29/2006

Depth	TPHd	TPHmo	TPHg
5.5	<0.99	<50	<0.25
9	<0.98	<49	<0.25
14	<0.99	<50	<0.25
19	<1.0	<50	<0.24
24	<0.99	<49	<0.24
29	<0.99	<50	<0.25

EB6
10/2/2006

Depth	TPHd	TPHmo	TPHg
20	<0.99	<49	<0.22

W1
2/1/2007

Depth	TPHd	TPHmo	TPHg
NM	**<50**	**<500**	**<50**

MW-KP1
2/16/1996

Depth	TPHd	TPHmo	TPHg
33	**<0.050**	**NA**	**NA**

EB7
10/2/2006

Depth	TPHd	TPHmo	TPHg
2	<0.99	<49	<0.25
6	<0.99	<50	<0.22
15	<1.0	<50	<0.25

EB8
10/2/2006

Depth	TPHd	TPHmo	TPHg
2	2.5	<50	<0.24
6	<0.99	<49	<0.25
15	<0.99	<49	<0.24

EXPLANATION:

WO — Location ID
9/27/2006 — Date Sample Taken

Depth	TPHd	TPHmo	TPHg — Analyte
8	<0.99	<50	NA — Concentrations in milligrams per kilogram (mg/kg)

Blue text denotes groundwater data concentrations in micrograms per liter (µg/l).

Depth as feet below ground surface

(20') Proposed Temporary Soil Boring Location (approximate total depth in feet below ground surface)

CPT Location (B&C)

Temporary Soil Boring Location (LFR)

Temporary Soil Boring Location (ENV or B&C)

Temporary Soil Boring and Grab Groundwater Sample Location (LFR)

Temporary Soil Boring and Grab Groundwater Sample Location (ENV or B&C)

Test Pit Soil Sample Location (ENV)

Shallow Near Surface Grab Soil Sample Location (ENV or B&C)

Surface Water Sample Location (ENV or B&C)

Septic Tank Sample Location (ENV)

Groundwater Well Location (Existing or Previous, Monitoring or Supply; ENV or B&C)

TPHd Total Petroleum Hydrocarbons in diesel
TPHmo Total Petroleum Hydrocarbons in motor oil
TPHg Total Petroleum Hydrocarbons in motor gas

120 Detected concentration of TPHd, TPHmo, or TPHg exceeded the commercial/industrial ESL.

Image source: Google Earth

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Area of Concern #2
Idle Truck Maintenance Area

Hanson Aggregates, Radum Facility, 3000 Busch Rd, Pleasanton, CA

LFR

Figure 4

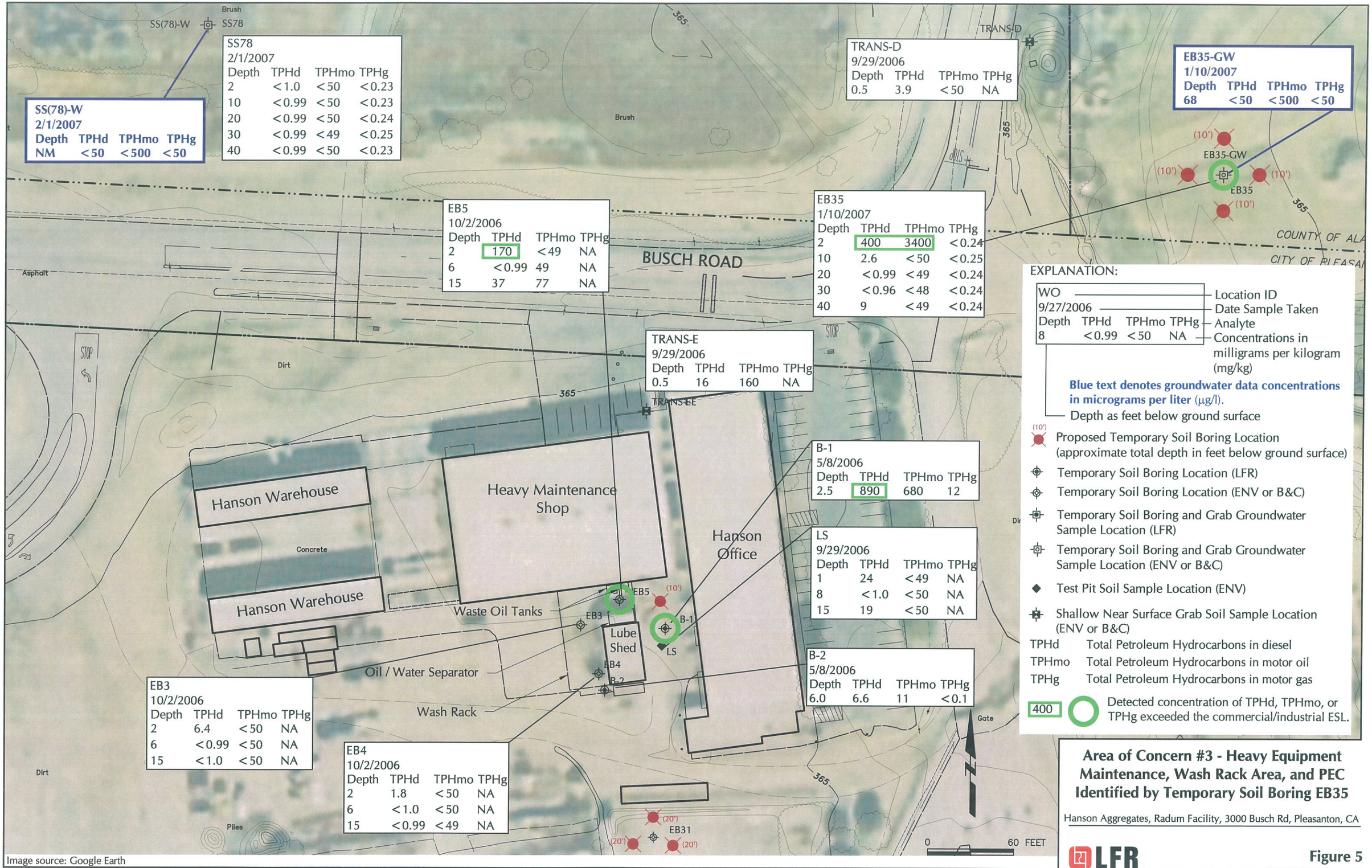

Image source: Google Earth

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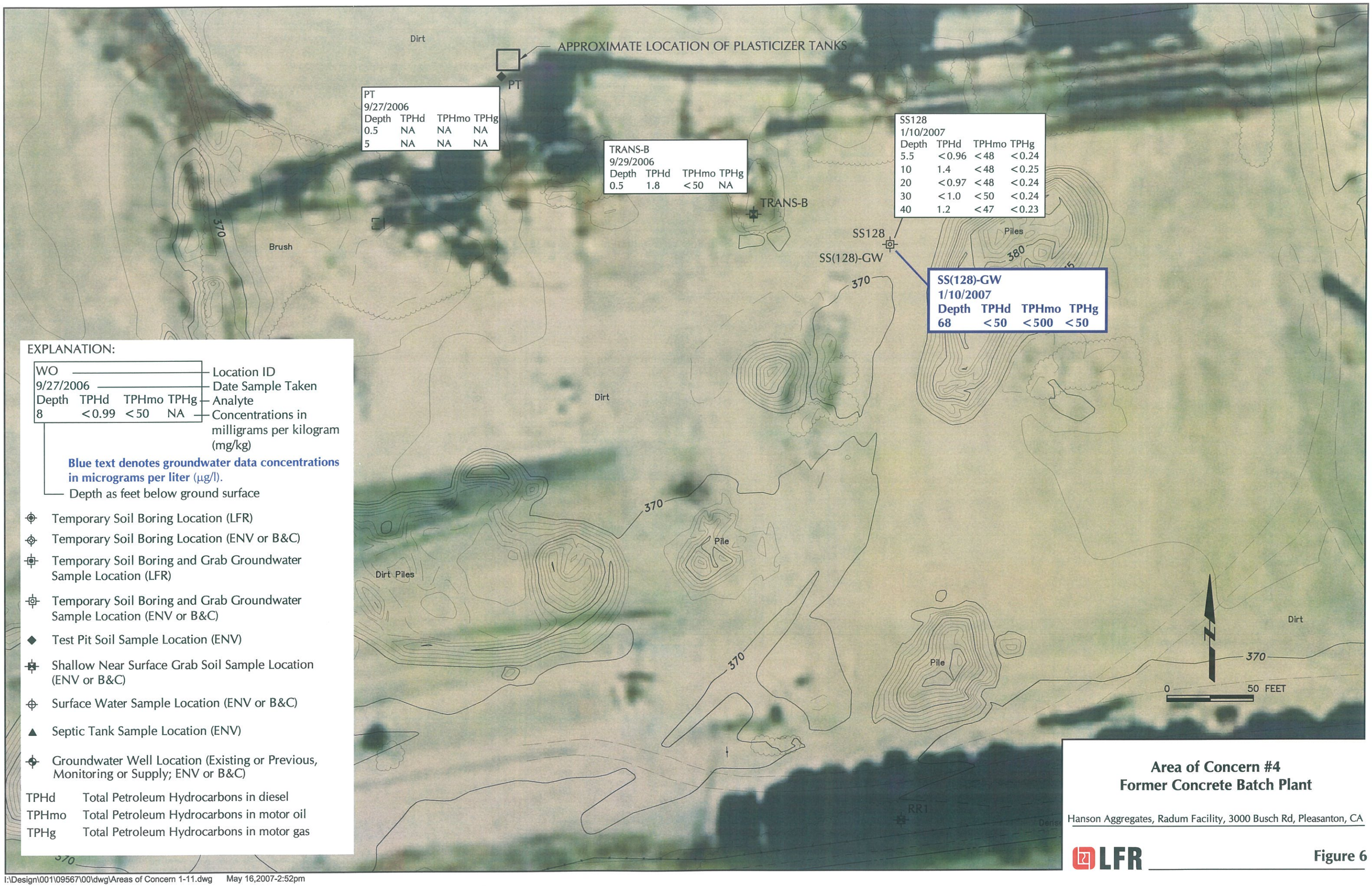
Area of Concern #3 - Heavy Equipment Maintenance, Wash Rack Area, and PEC Identified by Temporary Soil Boring EB35

Hanson Aggregates, Radum Facility, 3000 Busch Rd, Pleasanton, CA

LFR

Figure 5



EXPLANATION:

WO — Location ID
9/27/2006 — Date Sample Taken
Depth TPHd TPHmo TPHg — Analyte
8 <0.99 <50 NA — Concentrations in milligrams per kilogram (mg/kg)

Blue text denotes groundwater data concentrations in micrograms per liter (µg/l).

Depth as feet below ground surface

- Temporary Soil Boring Location (LFR)
- Temporary Soil Boring Location (ENV or B&C)
- Temporary Soil Boring and Grab Groundwater Sample Location (LFR)
- Temporary Soil Boring and Grab Groundwater Sample Location (ENV or B&C)
- Test Pit Soil Sample Location (ENV)
- Shallow Near Surface Grab Soil Sample Location (ENV or B&C)
- Surface Water Sample Location (ENV or B&C)
- Septic Tank Sample Location (ENV)
- Groundwater Well Location (Existing or Previous, Monitoring or Supply; ENV or B&C)

TPHd Total Petroleum Hydrocarbons in diesel
TPHmo Total Petroleum Hydrocarbons in motor oil
TPHg Total Petroleum Hydrocarbons in motor gas

Area of Concern #4
Former Concrete Batch Plant

Hanson Aggregates, Radum Facility, 3000 Busch Rd, Pleasanton, CA

LFR

Figure 6

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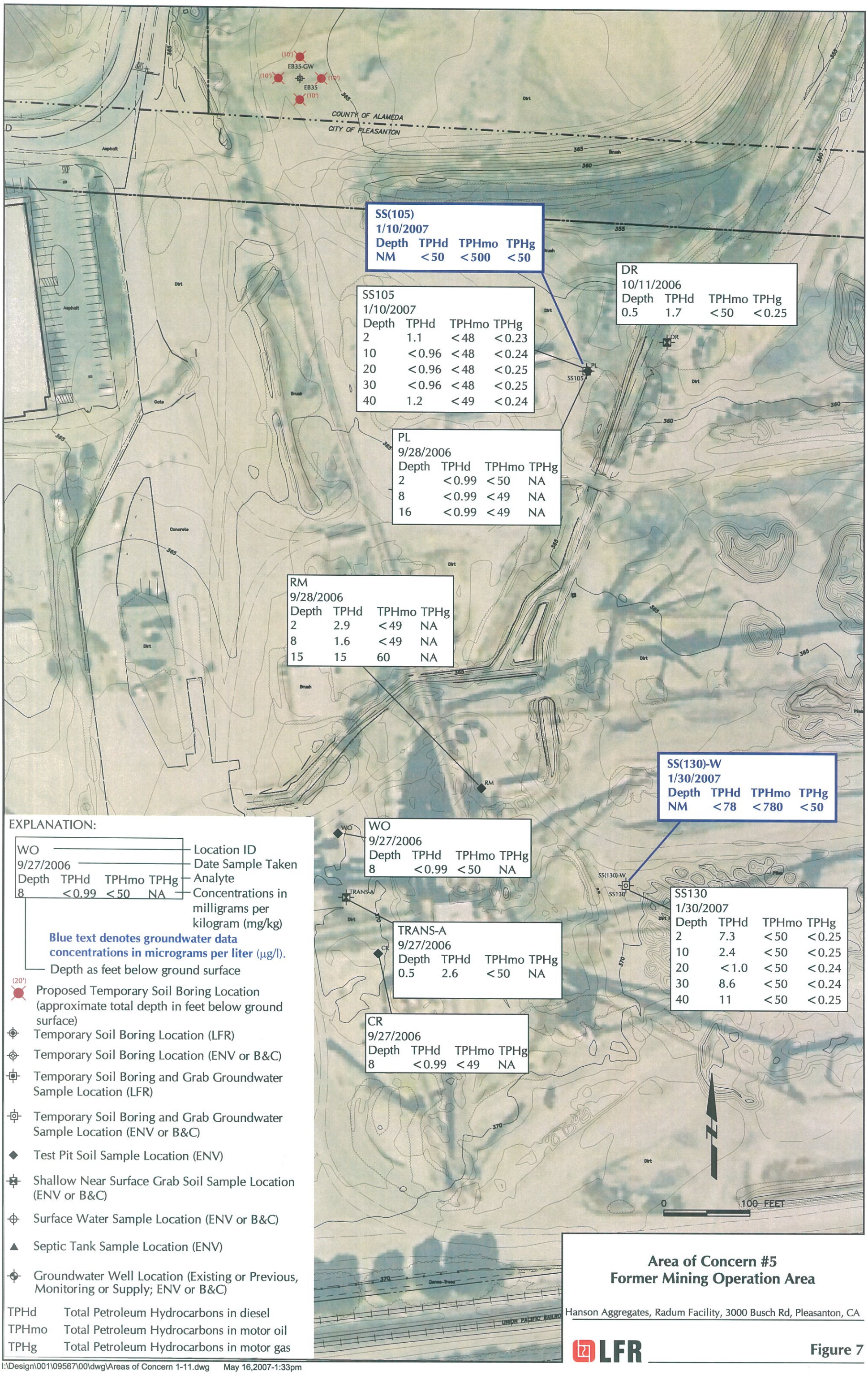
Attachment 2

Work Plan to Conduct Additional Subsurface Investigations to Characterize the Extent of Contamination in Areas of Potential or Recognized Environmental Concerns



Area of Concern #5
Former Mining Operation Area

Hanson Aggregates, Radum Facility, 3000 Busch Rd, Pleasanton, CA

LFR

Figure 7

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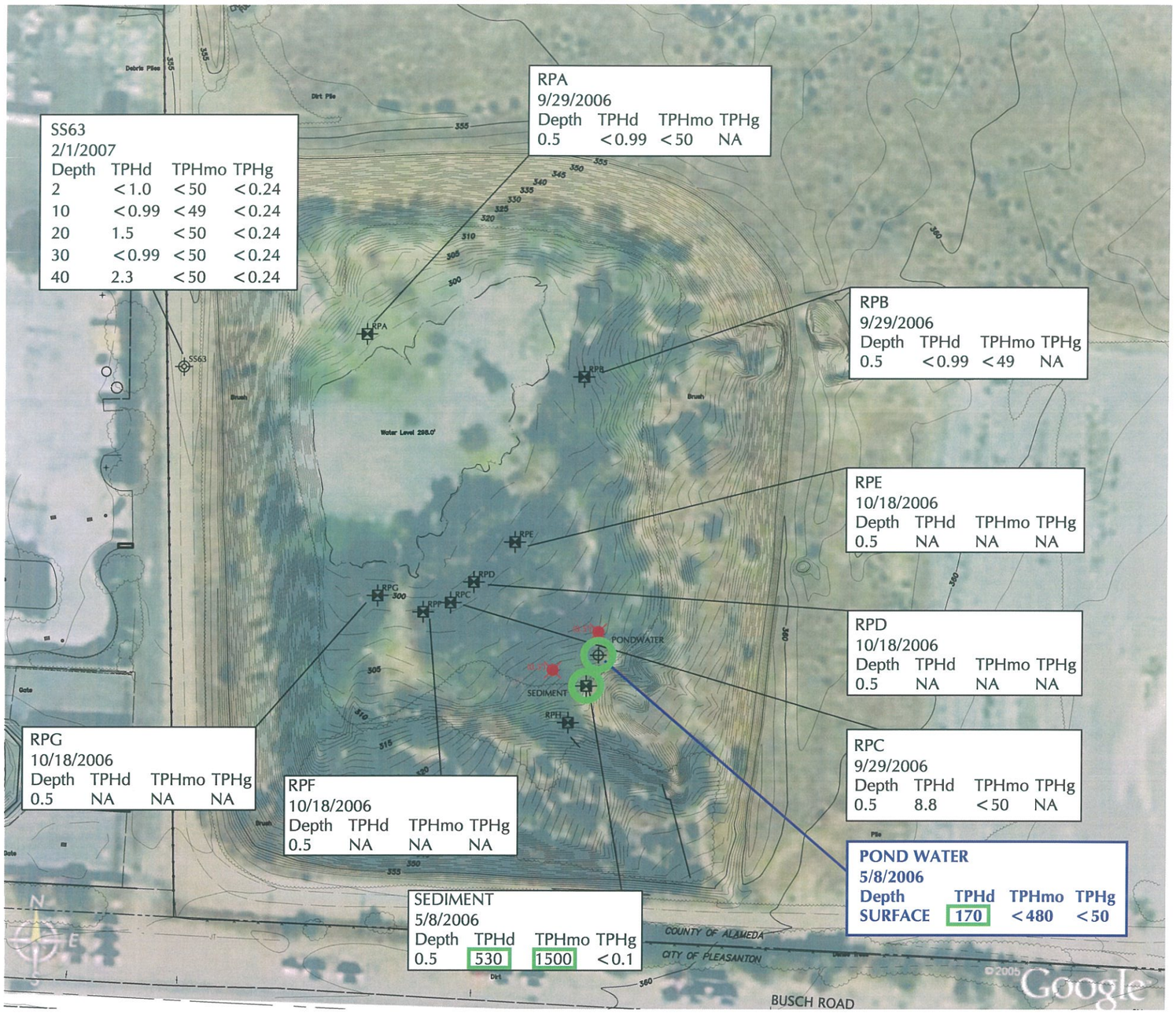


EXPLANATION:

WO — Location ID
9/27/2006 — Date Sample Taken
Depth TPHd TPHmo TPHg — Analyte
8 <0.99 <50 NA — Concentrations in milligrams per kilogram (mg/kg)

Blue text denotes groundwater data concentrations in micrograms per liter (µg/l).

Depth as feet below ground surface

(0.5') Proposed Temporary Soil Boring Location (approximate total depth in feet below ground surface)

- Temporary Soil Boring Location (LFR)
- Temporary Soil Boring Location (ENV or B&C)
- Temporary Soil Boring and Grab Groundwater Sample Location (LFR)
- Temporary Soil Boring and Grab Groundwater Sample Location (ENV or B&C)
- Test Pit Soil Sample Location (ENV)
- Shallow Near Surface Grab Soil Sample Location (ENV or B&C)
- Surface Water Sample Location (ENV or B&C)
- Septic Tank Sample Location (ENV)
- Groundwater Well Location (Existing or Previous, Monitoring or Supply; ENV or B&C)

TPHd Total Petroleum Hydrocarbons in diesel
TPHmo Total Petroleum Hydrocarbons in motor oil
TPHg Total Petroleum Hydrocarbons in motor gas

530 Detected concentration of TPHd, TPHmo, or TPHg exceeded the commercial/industrial ESL.

N

0 100 FEET

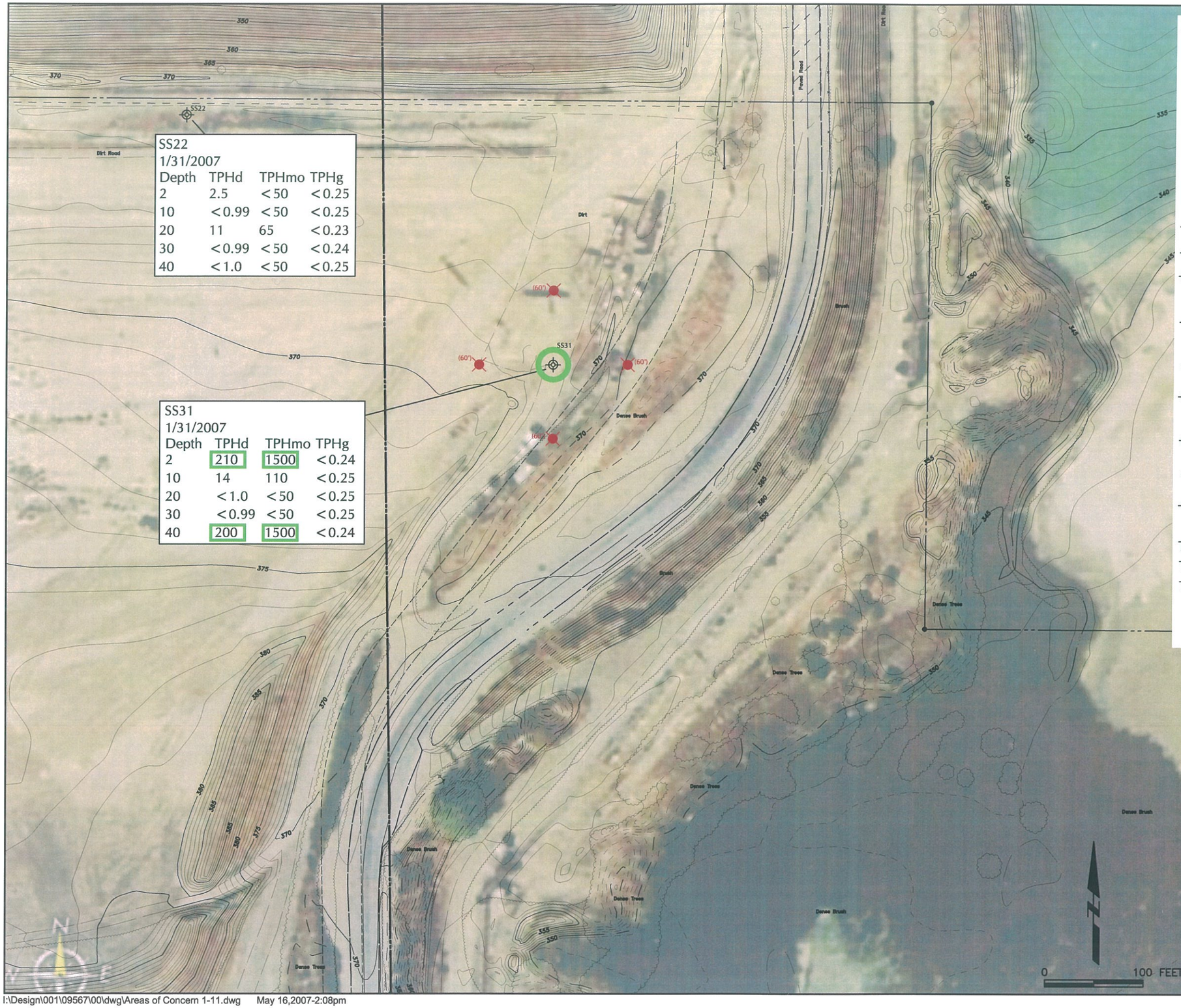
Area of Concern #6
Storm-Water Retention

Hanson Aggregates, Radum Facility, 3000 Busch Rd, Pleasanton, CA

LFR

Figure 8

I:\Design\001\09567\00\dwg\Areas of Concern 1-11.dwg May 16,2007-1:46pm



EXPLANATION:

WO — Location ID
9/27/2006 — Date Sample Taken
Depth TPHd TPHmo TPHg — Analyte
8 <0.99 <50 NA — Concentrations in milligrams per kilogram (mg/kg)

Depth as feet below ground surface

(60') Proposed Temporary Soil Boring Location (approximate total depth in feet below ground surface)

Temporary Soil Boring Location (LFR)

Temporary Soil Boring Location (ENV or B&C)

Temporary Soil Boring and Grab Groundwater Sample Location (LFR)

Temporary Soil Boring and Grab Groundwater Sample Location (ENV or B&C)

Test Pit Soil Sample Location (ENV)

Shallow Near Surface Grab Soil Sample Location (ENV or B&C)

Surface Water Sample Location (ENV or B&C)

Septic Tank Sample Location (ENV)

Groundwater Well Location (Existing or Previous, Monitoring or Supply; ENV or B&C)

TPHd Total Petroleum Hydrocarbons in diesel
TPHmo Total Petroleum Hydrocarbons in motor oil
TPHg Total Petroleum Hydrocarbons in motor gas

120 Detected concentration of TPHd, TPHmo, or TPHg exceeded the commercial/industrial ESL.

Area of Concern #7
PEC Identified by
Temporary Soil Boring SS31

Hanson Aggregates, Radum Facility, 3000 Busch Rd, Pleasanton, CA

LFR

Figure 9

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SS123(D)
3/8/2007

Depth	TPHd	TPHmo	TPHg
2	1500	5000	<0.25
10	34	110	<0.24
20	49	110	<0.22
30	150	510	<0.24
30	**<50**	**<500**	**<50**

SS123(A)
3/8/2007

Depth	TPHd	TPHmo	TPHg
2	20	70	<0.25
10	110	410	<0.24
20	14	68	<0.23
40	310	1500	<0.22
30	**<50**	**<500**	**<50**

SS123(C)
3/8/2007

Depth	TPHd	TPHmo	TPHg
2	330	1700	<0.21
10	560	1800	<0.24
20	4200	14000	<0.24
30	210	700	<0.23
30	**380**	**<500**	**<50**

SS123(B)
3/8/2007

Depth	TPHd	TPHmo	TPHg
2	31	74	<0.24
10	650	2500	<0.24
20	1800	5200	<0.24
30	740	3500	<0.24
30	**220**	**520**	**<50**

SS123
1/30/2007

Depth	TPHd	TPHmo	TPHg
2	8.1	<50	<0.25
10	44	310	<0.25
20	230	1300	<0.24
30	300	1600	<0.22
40	450	2300	<0.24

SS137
1/30/2007

Depth	TPHd	TPHmo	TPHg
2	15	300	<0.25
10	29	430	<0.24
20	42	290	<0.25
30	17	71	<0.24
40	24	270	<0.24

EXPLANATION:

WO — Location ID
9/27/2006 — Date Sample Taken
Depth TPHd TPHmo TPHg — Analyte
8 <0.99 <50 NA — Concentrations in milligrams per kilogram (mg/kg)

Blue text denotes groundwater data concentrations in micrograms per liter (µg/l).

Depth as feet below ground surface

(20') Proposed Temporary Soil Boring Location (approximate total depth in feet below ground surface)

Temporary Soil Boring Location (LFR)

Temporary Soil Boring Location (ENV or B&C)

Temporary Soil Boring and Grab Groundwater Sample Location (LFR)

Temporary Soil Boring and Grab Groundwater Sample Location (ENV or B&C)

Test Pit Soil Sample Location (ENV)

Shallow Near Surface Grab Soil Sample Location (ENV or B&C)

Surface Water Sample Location (ENV or B&C)

Septic Tank Sample Location (ENV)

Groundwater Well Location (Existing or Previous, Monitoring or Supply; ENV or B&C)

TPHd Total Petroleum Hydrocarbons in diesel
TPHmo Total Petroleum Hydrocarbons in motor oil
TPHg Total Petroleum Hydrocarbons in motor gas

1500 Detected concentration of TPHd, TPHmo, or TPHg exceeded the commercial/industrial ESL.

N

0 100 FEET

Image source: Google Earth

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Area of Concern #8
PEC Identified by Temporary Soil Boring SS123

Hanson Aggregates, Radum Facility, 3000 Busch Rd, Pleasanton, CA

LFR

Figure 10

EXPLANATION:

WO				— Location ID
9/27/2006				— Date Sample Taken
Depth	TPHd	TPHmo	TPHg	— Analyte
8	<0.99	<50	NA	— Concentrations in mg/kg

— Depth as feet below ground surface

- Temporary Soil Boring Location (LFR)
- Temporary Soil Boring Location (ENV or B&C)
- Temporary Soil Boring and Grab Groundwater Sample Location (LFR)
- Temporary Soil Boring and Grab Groundwater Sample Location (ENV or B&C)
- Test Pit Soil Sample Location (ENV)
- Shallow Near Surface Grab Soil Sample Location (ENV or B&C)
- Surface Water Sample Location (ENV or B&C)
- Septic Tank Sample Location (ENV)
- Groundwater Well Location (Existing or Previous, Monitoring or Supply; ENV or B&C)

TPHd	Total Petroleum Hydrocarbons in diesel
TPHmo	Total Petroleum Hydrocarbons in motor oil
TPHg	Total Petroleum Hydrocarbons in motor gas

130 — Detected concentration of TPHd, TPHmo, or TPHg exceeded the commercial/industrial ESL.

SS90
1/31/2007

Depth	TPHd	TPHmo	TPHg
2	30	210	<0.23
10	14	100	<0.25
20	68	350	<0.24
30	7.2	<50	<0.24
40	<0.99	<50	<0.25

ROA
9/29/2006

Depth	TPHd	TPHmo	TPHg
0.5	11	82	NA

ROB
9/29/2006

Depth	TPHd	TPHmo	TPHg
0.5	130	670	NA

ROC
9/29/2006

Depth	TPHd	TPHmo	TPHg
0.5	6.1	61	NA

MONT. WELL ZONE 7 3S-1E-14D2

0 100 FEET

Area of Concern #11
Vulcan Materials Company
Storm-Water Runoff Area

Hanson Aggregates, Radum Facility, 3000 Busch Rd, Pleasanton, CA

LFR

Figure 11

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Attachment 3

Kiewit Property Reports

TRC
Customer-Focused Solutions

SELF-DIRECTED REMEDIATION OF DIESEL CONTAMINATED SOIL

January 2004

KIEWIT CONSTRUCTION COMPANY /
HANSON AGGREGATES MID-PACIFIC INC.
3300 BUSCH ROAD
PLEASANTON, CALIFORNIA

TRC Project No. 41-0478

Prepared By:

Matthew Rosman
Senior Staff Engineer

Jonathan Scheiner, Ph.D.
Associate

TRC
5052 Commercial Circle
Concord, California 94520
(925) 688-1200

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VOLUME I

FIGURES

TABLES

APPENDICES

1.0 INTRODUCTION AND OBJECTIVES

This report summarizes activities related to the removal of diesel-impacted soils on behalf of both Kiewit Construction Company (Kiewit) and Hanson Aggregates Mid-Pacific Inc. (Hanson) at 3300 Busch Road, Pleasanton, California (Site) (Figures 1 and 2)[1]. The removal activities were initiated by a request for self-directed cleanup issued by the Regional Walter Quality Control Board - San Francisco Bay Region (RWQCB) to Kiewit in a letter dated September 21, 2001. A copy of the letter is included as Appendix A.

The work was performed in accordance with the "*Workplan, Self-Directed Soil Remediation, Kiewit Construction/Hanson Aggregates Mid-Pacific Site, 3200/3000 Busch Road, Pleasanton, California*" (Workplan). A copy of the Workplan is included as Appendix B.

The principal objectives of the soil removal activities were to remove hydrocarbon-impacted soils in the subsurface and to obtain a No Further Action (NFA) status from the RWQCB.

1.1 SITE DESCRIPTION

The subject site consists of an approximately 0.32-acre area situated in the southeastern corner of the Kiewit property located at 3300 Busch Road in Pleasanton, California (Site) (Figures 1 and 2). The area of contamination is approximately bisected by a property boundary separating Kiewit from the adjacent Hanson property. An asphalt roadway trends east-west along the Hanson portion of the subject area.

Kiewit purchased the Pleasanton property on August 1, 1969, from Kaiser Sand and Gravel Company (now known as Hanson). The subject site previously operated as a rock plant from approximately 1940 to 1968 that utilized several rail lines in its operations. Since the date of purchase, Kiewit has utilized the north side of the property for pre-cast concrete operations. The remainder of the property has been used for construction equipment storage, construction material storage, and equipment maintenance.

1.2 BACKGROUND

In September 2000, eight (8) geotechnical soil borings were advanced as part of a Phase II Environmental Site Assessment (ESA) undertaken on behalf of United American Energy in support of a plan for potential property development. Soil samples were collected as part of the Phase II ESA to evaluate the chemical characteristics of the soils at the Site. Laboratory analyses of these soil samples revealed elevated levels of total petroleum hydrocarbons as diesel (TPH-d) and TPH as gasoline (TPH-g).

Concentrations of TPH-d ranged from 71 to 9,000 milligrams per kilogram (mg/kg) with the highest levels reported for samples collected at a depth of 9.5 to 10 feet below grade (fbg).

[1] Hanson agreed to cooperate in remedial efforts as the proposed excavation area included portions of their property (See Section 5.0).

Concentrations of TPH-g ranged from below laboratory reporting limits (non-detect) to 270 mg/kg, with the highest levels reported for samples collected at a depth of 6.0 to 6.5 fbg.

In October 2000, additional borings were advanced in the identified impacted area to further delineate the extent of impacts at the Site. A total of 12 borings were advanced on the Kiewit property and an additional 5 borings were advanced on the adjacent Hanson property. A total of 53 soil samples were collected from the 17 boring locations at depths ranging from 0.5 to 28 fbg. Detectable levels of TPH-d were reported in samples collected from 15 of the 17 borings and ranged in concentration from non-detect to a maximum concentration of 22,000 mg/kg.

A summary of investigation findings was forwarded to the Livermore-Pleasanton Fire Department who in turn forwarded the report to the RWQCB[2]. The RWQCB accepted oversight responsibility and formally issued a *Request for Self Directed Remediation of Diesel Contaminated Soil and Groundwater* (Request) on September 21, 2001 (Appendix A). The Request specified a soil cleanup objective of 1,000 mg/kg TPH-d.

Due to depths of encountered residually impacted soils greater than 1,000 mg/kg TPH-d near the base of the concrete material silo, a request was made to the RWQCB to increase cleanup goals in this area. Per discussions with Mr. Jay Stender of ACG (on behalf of Kiewit) the Request was modified on November 4, 2003 during a conversation between Ms. Betty Graham of the RWQCB and Mr. Jay Stender (ACG). The Request was modified to increase cleanup levels to 5,000 mg/kg TPH-d in the local vicinity of a material silo encountered in the northern area of the site (Figure 3), where in-place soils at depths greater than 20 feet remained above the original cleanup goal of 1,000 mg/kg. This modification was specifically applicable to soils located in the local vicinity of the material silo at depths greater than 20 feet. A memo dated November 10, 2003 from ACG to the RWQCB indicating the approval of the increased cleanup goal is included as Appendix C.

In September 2003, TRC prepared an excavation workplan to address the RWQCB's request. In summary, the Workplan (Appendix B) calls for the following:

- Excavation of an initial rectangular area of approximately 60 feet by 100 feet, as designated in Figure 3, to an approximate depth of 2 fbg and segregate into stockpile designated as clean overburden soil for potential reuse.
- Collection of representative soil samples from the base of the excavation for laboratory analysis according to waste profiling requirements of applicable landfill.
- Further excavation of a central area within the initial excavation cavity (approximately 45 feet by 70) feet to a depth of approximately 14 feet below original grade (i.e., an additional 12 feet of vertical excavation) to remove subsurface diesel-contaminated soil (i.e., TPH-d greater than 1,000 mg/kg) (Phase 1 soil removal).

[2] *Evaluation of Diesel Impacted Soil – Kiewit Property, Pleasanton, California* (URS, October 30, 2000).

- Placement of excavated soil on the adjacent asphalt roadway trending east-west across the western edge of the Hanson property for subsequent loading onto trucks for transport to the designated Class II landfill (Waste Management Altamont Landfill).
- Collection of soil samples for onsite field testing using an organic vapor analyzer equipped with a flame ionization detector (FID) and immunoassay test kits pre-configured to determine TPH-d according to the project cleanup goal of 1,000 mg/kg. Field samples were to be collected from the edges and base of the central excavation cavity and screened for TPH-d.
- Continued excavation of soils laterally and vertically according to the results of the field screening analyses (i.e., "chasing" of contaminated soils to determine lateral and vertical extent of TPH-d contamination above the project cleanup goal).
- Continued excavation until TPH-d levels in residual soils were indicated to be below the project cleanup goal using field-screening methods.
- The final limits of the excavation were to be determined by the results of confirmation soil samples collected from the base and sidewalls of the excavation cavity. These confirmation samples would then be submitted to a state-certified laboratory for TPH-d analysis by EPA Method 8015M.
- The excavation cavity will remain open and surrounded by temporary fencing pending results of laboratory analyses of confirmation samples and final determination of remediation effectiveness.

2.0 PRE-FIELD ACTIVITIES

2.1. PERMITTING

Prior to commencement of soil excavation activities, TRC obtained the necessary grading permit from the City of Pleasanton. Notifications were sent to the Bay Area Air Quality Management District (BAAQMD) and the California Occupational Safety and Health Administration (Cal-OSHA) to alert the agencies to the impending soil excavation. After marking the proposed excavation area with white paint, Underground Service Alert (USA) was notified to determine locations of potential existing underground utilities, as applicable. Copies of the permit and notifications were maintained at the Site during excavation activities and are included as Appendix D.

2.2 SITE SECURITY

An existing 6-foot high permanent chain-link fence that bounds the Kiewit/Hanson property, running in a north-south manner, cordoned off the eastern boundary of the excavation area. Prior to site activities, Kiewit erected temporary fencing that bounded the northern and western boundaries of the excavation area. TRC installed a temporary 6-foot high chain-link fence along the southern boundary of the excavation, which in conjunction with the other fencing, cordoned off the excavation area (Figure 3).

3.0 SOIL EXCAVATION ACTIVITIES

3.1 SOIL EXCAVATION

3.1.1 PHASE I

On September 17, 2003, TRC commenced excavation activities at the Site, which continued through October 3, 2003. In accordance with the Workplan, TRC initially excavated an approximate area of 60 feet by 100 feet to a depth of 2 fbg (Figure 3). The material was excavated using a 101,000-pound Linkbelt excavator equipped with a 4-yard bucket and moved to the designated stockpile location using a Caterpillar 988 front-end loader equipped with a 7-yard bucket.

During the initial excavation of the surficial soil, pieces of concrete, rail of various gauge, and metal piping were encountered. The piping, which varied in size, appeared to traverse the excavation area in various directions. Concrete, pipe, and other irregular (non-soil) objects were segregated for potential future re-use or disposal. All pipes were free of liquids.

Centered within the original shallow excavation an area approximately 70 feet by 45 feet by 14 feet deep was excavated, during which additional objects such as concrete, piping, and abandoned rail lines were again encountered. Piping ranged from 1-inch to 12-inches in diameter; and some piping was encased in concrete. Soil from this excavation was moved to a designated stockpile, southeast of the excavation area on Hanson property.

After completion of the 70-foot by 45-foot by 14-foot deep excavation, it was determined through visual, olfactory observations, and immunoassay testing that additional soils in excess of 1,000 mg/kg existed beyond the proposed excavation limits. Excavation activities progressed laterally and vertically in an iterative fashion, as determined by olfactory observations and immunoassay testing (See Section 3.2, below).

3.1.2 PHASE II

On November 3 through November 5, 2003 TRC returned to the Site to address remaining areas of residual impacts based on sidewall confirmation samples that exceeded the cleanup goal of 1,000 mg/kg TPH-d. These activities were limited to two locations: (1) on the Kiewit property adjacent to the subsurface concrete material silo and (2) on the Hanson property at the southeast corner of the excavation near an 18-inch concrete pipeline (Figure 3).

The first two days of the second phase of excavation were concentrated primarily on the Kiewit property. Additional soils to the south and west of the material silo were removed. Due to the depths of the remaining impacted soil, the excavator was staged inside the excavation to remove soil and stockpile it on the excavation bottom. A track loader was used to enter the excavation and bring the material to the surface to be stockpiled. A rubber-tire loader was used in conjunction with the track loader to bring the excavated material to the designated stockpile location on the asphalt roadway of the Hanson property.

Due to the depth of excavation near the material silo, some localized impacted soils with concentrations exceeding 1,000 mg/kg TPH-d were not excavated. A request to RWQCB was made to change cleanup standards to 5,000 mg/kg TPH-d in these localized areas. Five samples were obtained from the bottom and sidewalls (area KC-V-15) south and beneath the material silo and tested for TPH-d. Three of five samples tested less than 1,000 mg/kg TPH-d; two samples tested over 1,000 mg/kg TPH-d and less than 3,000 mg/kg TPH-d. Details of the request and sample analyses are included in Appendix C.

Contents of the material silo, consisting of 2- to 4-inch ballast rock, were removed in order to determine whether free liquids were present within the structure. Approximately 1/3 of the structure's contents were removed and stockpiled on the surface. The bottom of the structure was located using the excavator and no evidence of free liquids was observed. The stockpiled ballast rock was visually determined to be clean and is expected to be placed back in the excavation prior to backfill activities.

The third and final day of the second phase of soil excavation occurred at the southwest corner of the excavation on Hanson property near sidewall confirmation sample KC-V-18 (10,000 mg/kg TPH-d). During excavation of additional soil, the 18-inch concrete pipeline on the Hanson property was also removed. The pipe was removed to the point where the pipe entered a concrete structure, at which point further eastward excavation was discontinued.

Final confirmation sampling of the sidewalls and bottom on the Hanson portion resulted in TPH-d levels that were within the original cleanup goal of 1,000 mg/kg.

3.2 SOIL SCREENING PROCEDURES

During excavation activities, olfactory and visual senses were used to roughly guide the lateral and vertical directions of additional excavation beyond the original excavation limits. When deemed appropriate, sidewall samples were collected for screening analysis using an immunoassay test kit[3] in the field. Prior to collecting the sample, the sidewall was observed for visual staining and olfactory observations in an attempt to sample the "worst-case" material.

The base of the excavation was determined to be dark brown clay that underlies an observed permeable gravel lens at an approximate depth of 8 to 12 feet below grade. The gravel lens is believed to contain a majority of the petroleum hydrocarbon impacts due to its increased permeability allowing for the transport of diesel fuel. Typically, the impacted soil was observed in this layer of sandy gravel material that was underlain by a low permeability clay layer. The material chosen for sampling typically consisted of either the sandy gravel or the underlying clay material immediately beyond the contact plane. Multiple samples were often collected to ensure impacted material had been removed.

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[3] The immunoassay field test kits used during this remedial action involved extracting potential petroleum hydrocarbons from a 5-gram soil sample using a proprietary solvent. A proprietary reagent is then added to the extract and mixed together. A resulting color change indicates the type of petroleum hydrocarbons and approximate concentration. The immunoassay test kits are sensitive to various types of petroleum hydrocarbons. The two general types of hydrocarbons encountered at the Site were diesel and No. 2 fuel oil, which can be differentiated by the slightly different visual appearances of the extract obtained during the field testing, particularly at levels of 1,000 mg/kg or higher using the immunoassay test kits.

If immunoassay field test kits determined the sidewall samples to be greater than 1,000 mg/kg, the area was further excavated approximately 10 feet laterally on either side of the sample location and 5 feet into the sidewall.

The above process was repeated until field screening indicated that collected samples contained less than 1,000 mg/kg TPH-d, at which time confirmation samples were collected for laboratory analysis. During excavation activities, over 70 immunoassay tests were performed to guide excavation efforts. Immunoassay tests were used on site, as a screening tool, and no record of results is available.

3.3 CONFIRMATION SOIL SAMPLING PROCEDURES

As indicated above, confirmation samples were collected when field screening using olfactory and visual senses and immunoassay testing indicated that residual soils in the excavation cavity were below the TPH-d cleanup goal of 1,000 mg/kg. Sidewall confirmation samples were collected at an approximate frequency of one per every 30 linear feet of sidewall. Excavation base confirmation samples were collected at an approximate frequency of one sample per 1,000 square feet of excavation bottom. Confirmation sample locations are shown on Figure 3.

Confirmation soil samples were collected in glass jars and placed in an ice-chilled cooler. The samples were submitted under standard chain-of-custody protocol to a state-certified laboratory to be analyzed for TPH-d (EPA Method 8015M).

In those instances where confirmation samples resulted in TPH-d concentrations greater than the cleanup goal of 1,000 mg/kg, excavation activities in the vicinity of the failing sample locations resumed. Excavation activities continued iteratively until a "passing" confirmation sample was obtained[4].

Confirmation sidewall and bottom sample results are summarized in Table 1 and Table 2, respectively. Copies of laboratory analytical reports in chronological order are included as Appendix E.

3.4 STOCKPILES

3.4.1 SOIL STOCKPILES

Diesel-impacted excavated material was stockpiled on the asphalt roadway located along the southern boundary of the property, east of the excavation area.

To comply with BAAQMD regulations, during the course of each day's activities, water was applied to exposed stockpiled soils to minimize potential dust generation due to winds. At the end of each day of excavation, plastic sheeting was placed over exposed stockpiles to minimize the potential for exposure of the impacted soil to the environment. The plastic sheeting was weighted down to prevent the plastic from blowing away.

---

[4] The only exceptions correspond to sample location KC-V-15B-SE and KC-V-18, which are discussed in Section 3.6 of this report.

3.4.2 NON-SOIL STOCKPILES

Asphalt generated while removing the portion of the paved road that existed along the southern portion of the excavation area was stockpiled on the Hanson property, north of the diesel-impacted stockpile.

Segregated piping, concrete, and other large "non-soil" objects were placed in discrete piles east of the excavation area, near the property fence line. Prior to demobilization from the site, metal piping was placed in a scrap metal bin for offsite recycling. The concrete stockpile remained in the same location, though additional efforts were subsequently made to further segregate soil from the concrete material.

3.5 SUBSURFACE FEATURES

3.5.1 CONCRETE MATERIAL SILO

During Phase I activities, in an effort to further "chase" impacted soil at the locations of failing confirmation samples KC-V-15 and KC-V-15A, the side of a round, concrete material silo structure was exposed (Figure 3). Approximately one-fourth of the outer surface of the structure was uncovered. The sides of the structure appeared to be round with an approximate diameter of 25 feet. The structure has an open top and walls approximately 6 inches thick made of reinforced concrete. The concrete structure rests upon a concrete foundation approximately 6 feet in vertical extent.

The top of the structure is approximately 3 fbg and is filled with 2- to 4-inch ballast-type rock. Soil and debris from above the structure was sampled and analyzed for waste profiling purposes (Sample P-8). The analytical testing resulted in a TPH-d concentration of 1,400 mg/kg and TPH-g concentration of 49 mg/kg. No BTEX compounds or elevated metal levels were reported in the sample.

During Phase II activities, the southern wall of the concrete material silo was broken during attempts to demolish the structure in place.

Profile sample results are summarized in Table 3. Copies of laboratory analytical reports are included in Appendix E.

3.5.2 CONCRETE PIPING

While excavating soil in the vicinity of Confirmation Sample KC-V-16, an 18-inch diameter concrete pipe was encountered (Figure 3). The pipe trends in a north-south fashion and is approximately 8 fbg. During the Phase I excavation of impacted soils near confirmation sample KC-V-16, a 30-foot long section of the concrete pipe was removed.

The interior of the concrete pipe appeared at some locations to be partially filled with sediment, and the top of the pipe appeared to be filled with a hydrated bentonite-type clay material.

The southern portion of the exposed section of pipe (Hanson property) was cleaned out using a vacuum truck equipped with a pressure washer. Approximately 25 to 30 linear feet of pipe was cleaned out before an abrupt change of direction in the pipe precluded the process from continuing.

During Phase II soil excavation activities, the cleaned out section of concrete pipe on Hanson property was removed to the point the pipe entered a concrete structure at the south end of the excavation.

Material removed from the pipe interior was sampled and analyzed for profiling purposes (Sample P-9-H). The analytical testing resulted in reported hydrocarbon concentrations of 1,000 mg/kg TPH-d.

Profile sample results are summarized in Table 3. Copies of laboratory analytical reports are included in Appendix E.

3.5.3 VOID STRUCTURE

During continued lateral (eastward) excavation of impacted soils in the vicinity of confirmation soil sample KC-V-16, a "void" structure in the east wall of the excavation cavity was observed (Figure 3). The void appears to have 5-foot high concrete walls with a 4-foot wide concrete base. The base has metal rails protruding from the sidewall of the excavation.

Concrete walls on either side of the void appear to be supporting the surrounding soils, and material above the void appears to have bridged the top of the void, which may be supporting the overlying material.

Looking eastward into the void cavity, a metal pipeline can be seen trending in a north-south direction. Upon closer inspection of the inside of the void, a deteriorated metal container can be seen. The void appears to extend at least 6 feet laterally into the sidewall of the excavation. There is no visible evidence of contamination.

4.0 TRANSPORTATION AND DISPOSAL PROCEDURES

4.1 SOIL PROFILING

Four-point composite samples of stockpiled soil were collected at a frequency of approximately one per 1,000 tons of impacted soil designated for landfill disposal. The samples were placed in an ice-chilled cooler and transported to a state-certified analytical laboratory under standard chain-of-custody protocol. The laboratory analyzed the soil samples for the following constituents:

- TPH-d
- TPH-g
- BTEX compounds
- Total Oil and Grease
- California Title 26 Metals (CAM 17)

Results for the profile sampling confirmed that the only contaminant of concern per landfill acceptance requirements was TPH-d, for which concentrations reportedly ranged from 1,400 mg/kg to 7,500 mg/kg. TPH-g reportedly ranged from 32 mg/kg to 360 mg/kg. Reported BTEX compounds were reported to be non-detect in the profile samples, except for 0.690 mg/kg total xylenes reported in Profile Sample P-2.

Profile sampling results are summarized in Table 3. Copies of laboratory analytical results are included in Appendix E.

4.2 SOIL TRANSPORTATION AND DISPOSAL

Based on composite profile sampling, the stockpiled soil was accepted at the Waste Management Altamont Landfill for disposal as Class II landfill (daily) cover material. From September 19, 2003 through October 3; October 13; and November 4 through November 5, 2003, stockpiled soil was loaded into end-dump trucks for transportation to the landfill.

During off-hauling activities, approximately 10,325 tons of impacted soil were transported to the Altamont Landfill in 469 truckloads.

Copies of the landfill tonnage report are included as Appendix F. Copies of non-hazardous waste manifest records are included in Appendix G.

5.0 SOIL VOLUME AND AREA ESTIMATION

5.1 SURVEY

On October 3 and November 19, 2003, Virgil Chavez Land Surveying (VCLS) surveyed the excavation cavity to determine excavation geometry and associated excavation features (e.g., residual impacted areas, concrete/piping, structures, sample locations). Coordinate and elevation data were collected to support production of an As-Built drawing of the excavation, including the following details:

- Excavation dimensions
- Excavation bottom topography
- Location and orientation of piping protruding from excavation sidewalls
- Location of concrete structures
- Confirmation sample locations

Survey coordinates were recorded in the North American Datum 1983 (NAD 1983) Zone 3. The benchmark for the survey is a USG & GS bronze disk (P929, 1958, elev. 361.91') set in the sidewalk at the southwest corner of the bridge on First Street over Arroyo Del Valle in Pleasanton. Survey elevations were recorded in the National Geodetic Vertical Datum 1929 (NGVD 1929). A survey monument in the form of a 60D nail placed in a utility pole east of the excavation area served as a survey reference point.

Survey information including a surveyor figure showing point numbers and a table providing northing, easting, and elevation data associated with each point are included in Appendix I.

5.2 VOLUME ESTIMATE

VCLS determined that the total volume of soil removed from the excavation during Phase I activities was approximately 5,119 cubic yards, including the following contributions from the Kiewit and Hanson properties:

- Kiewit (north) portion of excavation: 3,774 cubic yards
- Hanson (south) portion of excavation: 1,345 cubic yards

The respective volumes were based on approximate property line information provided by Hanson. A copy of the surveyor's volume estimation, including stamp and signature by the surveyor, are included in Appendix H.

5.3 AREA ESTIMATE

VCLS determined that the total area of the excavation to be 13,840 square feet, including the following contributions from the Kiewit and Hanson properties:

- Kiewit (north) portion of excavation: 9,161 square feet
- Hanson (south) portion of excavation: 4,679 square feet

6.0 CONCLUSIONS AND RECOMMENDATIONS

6.1 CONCLUSIONS

In accordance with the "Request for Self-Directed Remediation of Diesel Contaminated Soil and Groundwater" (RWQCB, 9/21/2001), more than 5,100 cubic yards of diesel-impacted soil were removed from the Site and transported to the Altamont Landfill for disposal. The excavated soil totaled approximately 10,325 tons, transported using 469 truckloads.

For profiling purposes, the excavated soil was sampled and analyzed for the following constituents:

- TPH-d
- TPH-g
- BTEX compounds
- Total Oil and Grease
- California Title 26 Metals (CAM 17)

The profile sampling results confirm that the only constituent of concern at the Site is TPH-d.

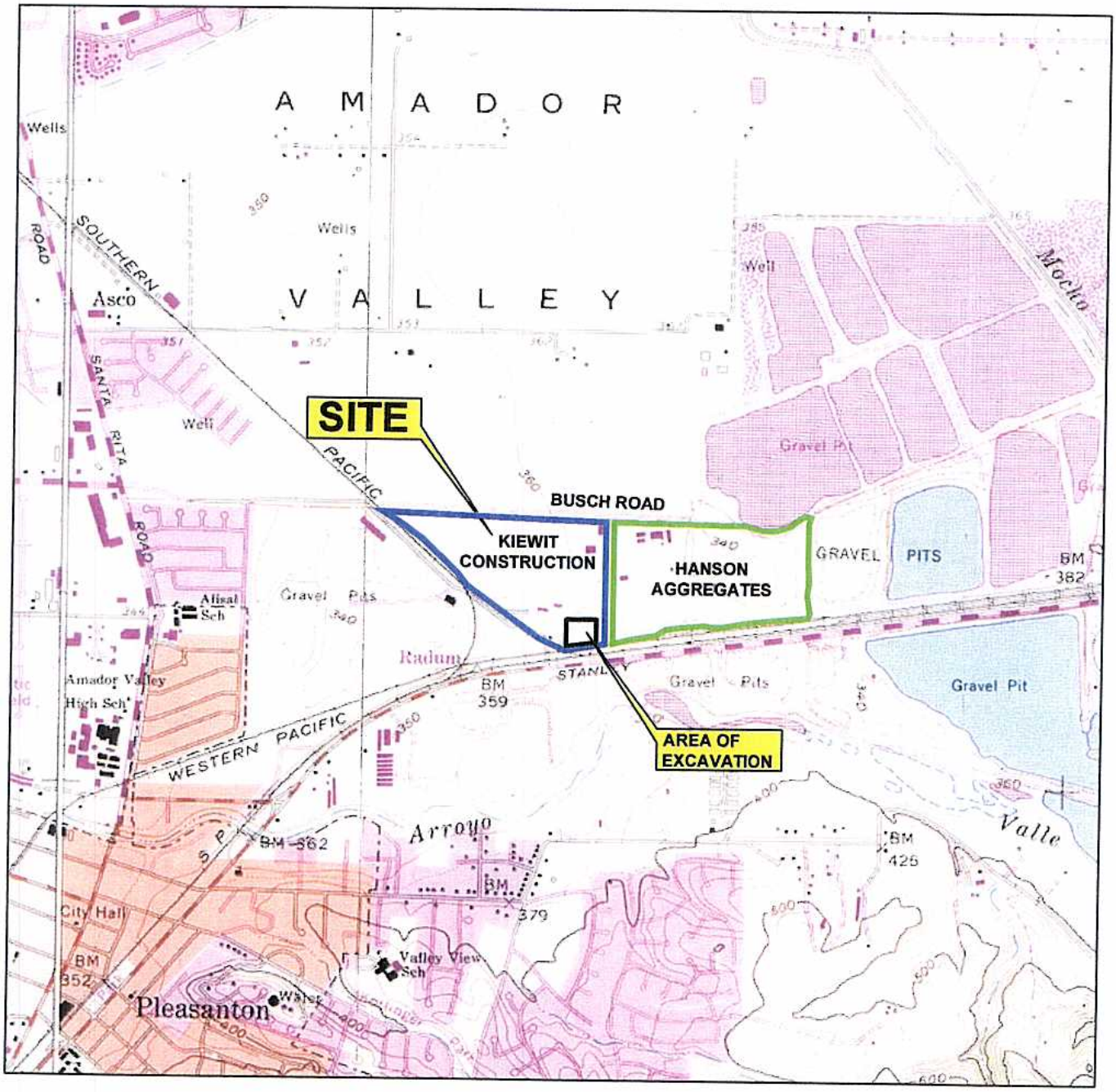
Confirmation soil sampling and laboratory analyses of residual soils in the excavation (i.e., sidewall and excavation bottom) indicate that TPH-d levels are below the established cleanup goal. Soils with TPH-d levels greater than the cleanup goal of 1,000 mg/kg have been removed, except for soils greater than 15 fbg in the local vicinity of the concrete material silo, where residual soils contain TPH-d at levels below the modified cleanup goal of 5,000 mg/kg.

Depth to groundwater in the Pleasanton area is reported to be approximately 117 fbg (*Evaluation of Diesel Impacted Soil – Kiewit Property, Pleasanton, California*, URS, October 30, 2000). Given the significant depth to groundwater, and the relatively stable nature of the TPH-d impacts in the shallow soil, it is unlikely that a significant threat to underlying groundwater resources was posed by the presence of observed hydrocarbons. The removal of approximately 5,100 yards of diesel-impacted soil (i.e., TPH-d < 1,000 mg/kg) from the subject site has further reduced the likelihood of potential future impacts to groundwater.

6.2 RECOMMENDATIONS

A No Further Action (NFA) status is recommended for the subject site.

FIGURES



SOURCE:

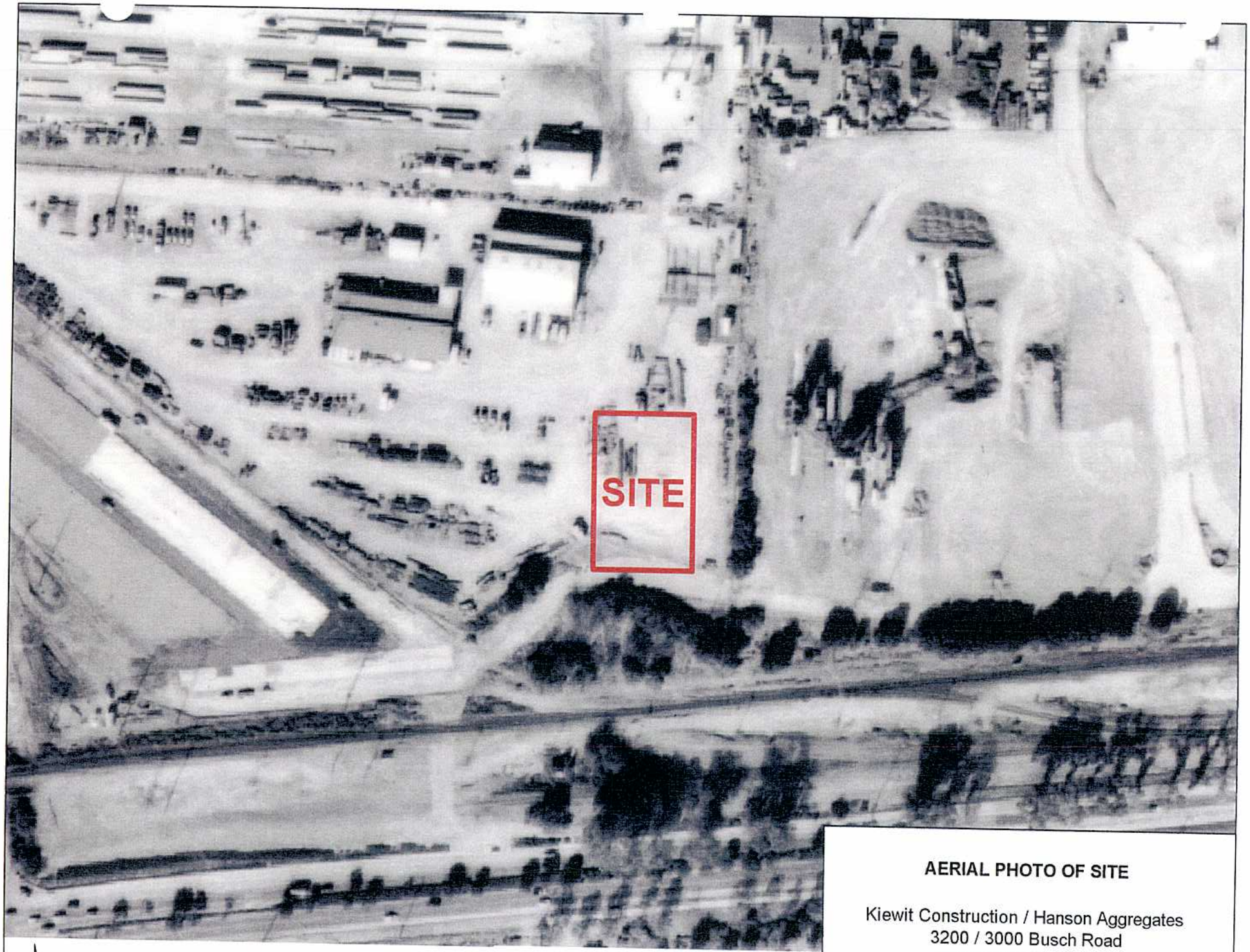
United States Geological Survey
7.5 Minute Topographic Maps:
Livermore Quadrangle, California

VICINITY MAP

Kiewit Construction / Hanson Aggregates
3300 Busch Road
Pleasanton, California

TRC

FIGURE 1

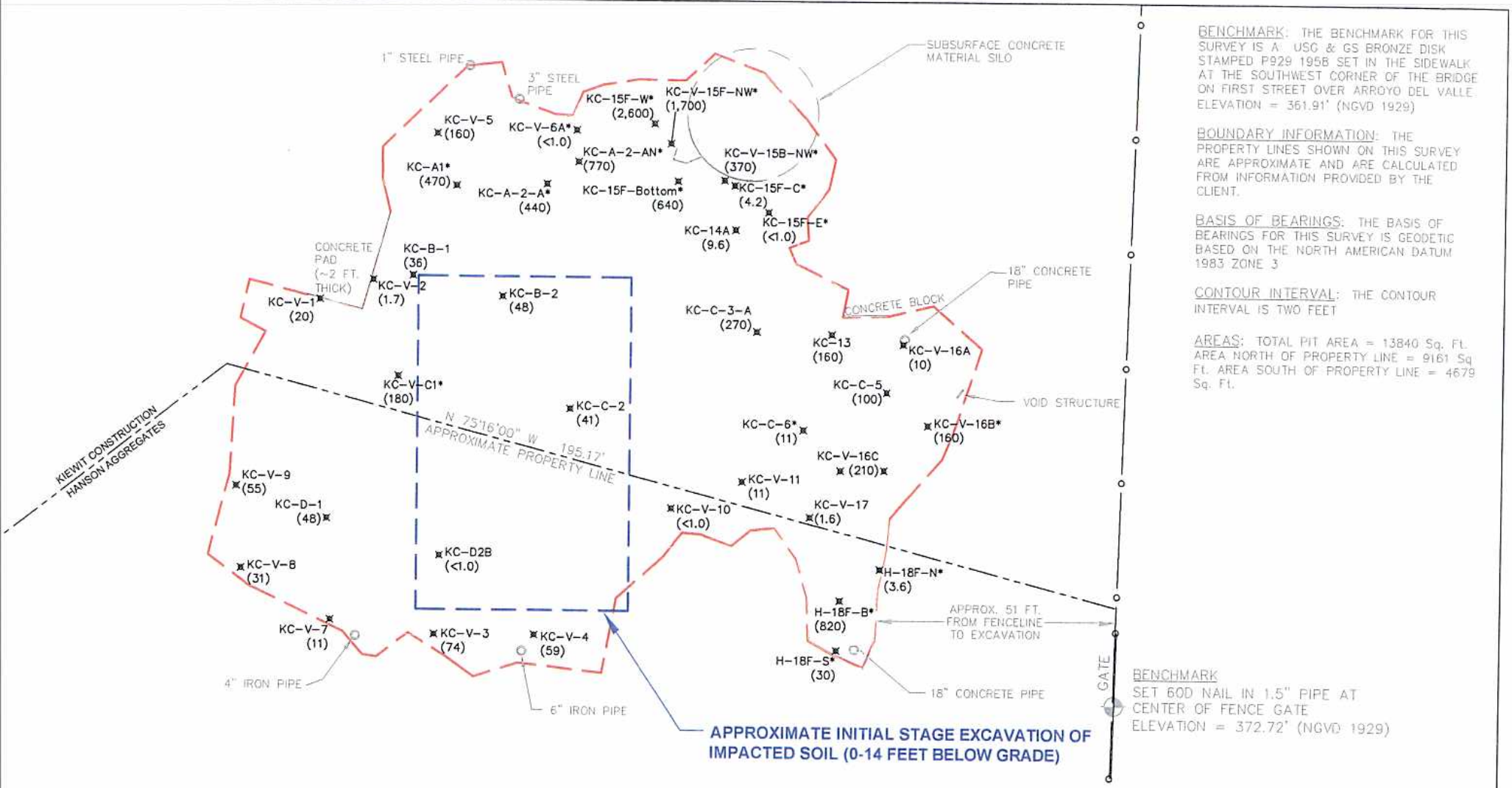


AERIAL PHOTO OF SITE

Kiewit Construction / Hanson Aggregates
3200 / 3000 Busch Road
Pleasanton, California

TRC

FIGURE 2



BENCHMARK: THE BENCHMARK FOR THIS SURVEY IS A USC & GS BRONZE DISK STAMPED P929 1956 SET IN THE SIDEWALK AT THE SOUTHWEST CORNER OF THE BRIDGE ON FIRST STREET OVER ARROYO DEL VALLE ELEVATION = 361.91' (NGVD 1929)

BOUNDARY INFORMATION: THE PROPERTY LINES SHOWN ON THIS SURVEY ARE APPROXIMATE AND ARE CALCULATED FROM INFORMATION PROVIDED BY THE CLIENT.

BASIS OF BEARINGS: THE BASIS OF BEARINGS FOR THIS SURVEY IS GEODETIC BASED ON THE NORTH AMERICAN DATUM 1983 ZONE 3

CONTOUR INTERVAL: THE CONTOUR INTERVAL IS TWO FEET

AREAS: TOTAL PIT AREA = 13840 Sq. Ft. AREA NORTH OF PROPERTY LINE = 9161 Sq Ft. AREA SOUTH OF PROPERTY LINE = 4679 Sq. Ft.

BENCHMARK
SET 60D NAIL IN 1.5" PIPE AT CENTER OF FENCE GATE
ELEVATION = 372.72' (NGVD 1929)

LEGEND

- Chainlink fence
- Property line
- Proposed excavation
- Actual excavation
- KC-V-1 (20) — Confirmation sampling location with analytical result for TPH-d in soil (mg/kg)

NOTE:
* = Approximate sampling location; (not surveyed)

SOURCE: Topographic Survey by Virgil Chavez Land Surveying, October 2003, revised December 1, 2003.

N

0 20 40 FEET
APPROXIMATE SCALE

SITE PLAN

Kiewit Construction / Hanson Aggregates
3300 Busch Road
Pleasanton, California

TRC

FIGURE 3

TABLES

Table 1

Confirmation Soil Sampling Results
Excavation Sidewalls
3300 Busch Road
Pleasanton, California

Sample ID	Date Collected	TPH-Diesel Concentration (mg/kg)	Final ConfirmationTPH-Diesel Concentration (mg/kg)
KC-V-1	Sept. 18, 2003		2.0
KC-V-2	Sept. 18, 2003		1.7
KC-V-3	Sept. 19, 2003		74
KC-V-4	Sept. 19, 2003		59
KC-V-5	Sept. 19, 2003		160
KC-V-6	Sept. 19, 2003	**1,100**	
KC-V-6A*	Sept. 25, 2003	ND (1.0)	ND (1.0)
KC-V-7	Sept. 22, 2003		11
KC-V-8	Sept. 22, 2003		31
KC-V-9	Sept. 22, 2003		55
KC-V-10	Sept. 22, 2003		ND (1.0)
KC-V-11	Sept. 22, 2003		11
KC-V-12	Sept. 23, 2003		180
KC-V-13	Sept. 23, 2003		160
KC-V-14	Sept. 23, 2003	**1,700**	
KC-V-14A*	Sept. 25, 2003		9.6
KC-V-15	Sept. 23, 2003	**1,400**	
KC-V-15A	Sept. 25, 2003	**1,900**	
KC-V-15B-NW*	Sept. 29, 2003		370
KC-V-15B-SE*	Sept. 29, 2003	**2,400**	
KC-V-15B	Oct. 13, 2003	**5,600**	
KC-15F-NW	Nov. 4, 2003		1,700
KC-15F-W	Nov. 4, 2003		2,600
KC-15F-E	Nov. 4, 2003		ND (1.0)
KC-15F-Bottom	Nov. 4, 2003		640
KC-15F-C	Nov. 4, 2003		4.2
KC-15-N Wall	Oct. 13, 2003		6.3
KC-15-6'	Oct. 13, 2003		3.5
KC-V –16	Sept. 24, 2003	**2,300**	
KC-V-16A*	Oct. 1, 2003		10
KC-V-16B*	Oct. 1, 2003		160
KC-V-16C*	Oct. 1, 2003		210

Table 1

Confirmation Soil Sampling Results
Excavation Sidewalls
3300 Busch Road
Pleasanton, California

Sample ID	Date Collected	TPH-Diesel Concentration (mg/kg)	Final ConfirmationTPH-Diesel Concentration (mg/kg)
KC-V-17	Oct. 1, 2003		1.6
KC-V-18	Oct. 1, 2003	**10,000**	
KC-V-18A	Oct. 13, 2003		4.2
KC-V-18B	Oct. 13, 2003		14
H-18F-S	Nov. 5, 2003		30
H-18F-N	Nov. 5, 2003		3.6
H-18F-B	Nov. 5, 2003		820

Notes:

Sample nomenclature based on Verification samples for Kiewit Construction; followup samples of those exceeding 1,000 mg/kg cleanup goal (represented in **Bold-face type**) were collected from nearby areas following additional excavation and include asterisks and letters denoting sequence or location (e.g., "NW" [northwest]). Sample locations are depicted in Figure 3.

ND = Not Detected (at indicated laboratory reporting limit)

mg/kg = milligrams per kilogram

Table 2

Confirmation Soil Sampling Results
Excavation Bottom
3300 Busch Road
Pleasanton, California

Sample ID	Date Collected	TPH-Diesel Concentration (mg/kg)	Final ConfirmationTPH-Diesel Concentration (mg/kg)
KC-V-B1	September 18, 2003		36
KC-V-B2	September 18, 2003		48
KC-V-C1	September 18, 2003		180
KC-V-C2	September 18, 2003		41
KC-D-1	September 23, 2003		48
KC-D-2	September 23, 2003	**4,500**	
KC-D-2A*	September 29, 2003	**1,500**	
KC-D-2B*	October 1, 2003		ND (1.0)
KC-C-3	September 24, 2003	**2,600**	
KC-C-3A*	September 29, 2003		270
KC-V-C4	September 25, 2003		570
KC-C5	October 1, 2003		100
KC-C-6	October 13, 2003		11
KC-A1	October 13, 2003		470
KC-A2	October 13, 2003	**4,700**	
KC-A-2-A*	November 4, 2003		440
KC-A-2-AN	November 4, 2003		770

Notes:

Sample nomenclature based on Verification samples for Kiewit Construction; followup samples of those exceeding 1,000 mg/kg cleanup goal (represented in **Bold-face type**) were collected from nearby areas following additional excavation and include asterisks. Sample locations are depicted in Figure 3.

ND = Not Detected (at indicated laboratory reporting limit)

mg/kg = milligrams per kilogram

Table 3

Profile Soil Sampling Results
3300 Busch Road
Pleasanton, California

Constituent	P-1	P-2	P-3	P-4	P-5
Date Collected	**Sept. 17, 2003**	**Sept. 17, 2003**	**Sept. 18, 2003**	**Sept. 18, 2003**	**Sept. 19, 2003**
TPH-Gas	270	130	170	190	32
TPH-Diesel	4,700	5,200	7,500	4,800	3,000
Benzene	ND (0.62)	ND (0.5)	ND (0.62)	ND (0.62)	ND (0.62)
Toluene	ND (0.62)	ND (0.5)	ND (0.62)	ND (0.62)	ND (0.62)
Ethylbenzene	ND (0.62)	ND (0.5)	ND (0.62)	ND (0.62)	ND (0.62)
Xylenes	ND (0.62)	0.690	ND (0.62)	ND (0.62)	ND (0.62)
Total Oil and Grease	2,200	3,600	1,800	1,800	940
Antimony	2.3	3.2	3.2	3.0	4.0
Arsenic	ND (1.0)	ND (1.0)	ND (1.0)	ND (1.0)	ND (1.0)
Barium	65	130	110	100	130
Beryllium	ND (0.5)	ND (0.5)	ND (0.5)	ND (0.5)	ND (0.5)
Cadmium	ND (0.5)	ND (0.5)	ND (0.5)	ND (0.5)	ND (0.5)
Chromium	37	50	45	43	48
Cobalt	5.4	8.8	8.8	7.4	9.5
Copper	19	26	24	23	28
Lead	2.9	5.8	8.6	5.8	10
Molybdenum	ND (1.0)	ND (1.0)	ND (1.0)	ND (1.0)	ND (1.0)
Nickel	48	71	67	63	72
Selenium	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)
Silver	ND (1.0)	ND (1.0)	ND (1.0)	ND (1.0)	ND (1.0)
Thallium	3.9	5.4	5.7	5.5	3.9
Vanadium	21	24	22	21	27
Zinc	34	45	43	40	46
Mercury	ND (0.050)	ND (0.050)	ND (0.050)	ND (0.050)	ND (0.050)

Notes:

1. All results are in milligrams per kilogram

ND (1.0) Not Detected at indicated laboratory reporting limit

Table 3

Profile Soil Sampling Results
3300 Busch Road
Pleasanton, California

Constituent	P-6	P-7	P-8	P-9H
Date Collected	**Sept. 26, 2003**	**Sept. 29, 2003**	**Sept. 29, 2003**	**Oct. 1, 2003**
TPH-Gas	82	360	49	ND (1.0)
TPH-Diesel	1,900	4,200	1,400	1,000
Benzene	ND (0.62)	ND (3.1)	ND (0.62)	ND (0.005)
Toluene	ND (0.62)	ND (3.1)	ND (0.62)	ND (0.005)
Ethylbenzene	ND (0.62)	ND (3.1)	ND (0.62)	ND (0.005)
Xylenes	ND (0.62)	ND (3.1)	ND (0.62)	ND (0.005)
Total Oil and Grease	1,200	2,000	1,200	390
Antimony	2.8	2.4	2.9	ND (2.0)
Arsenic	ND (1.0)	ND (1.0)	ND (1.0)	ND (1.0)
Barium	120	23	100	43
Beryllium	ND (0.5)	ND (0.50)	ND (0.50)	ND (0.50)
Cadmium	0.76	ND (0.50)	0.75	ND (0.50)
Chromium	50	80	48	25
Cobalt	8.3	ND (1.0)	7.9	5.1
Copper	32	1400	31	15
Lead	9.8	76	12	3.8
Molybdenum	ND (1.0)	1.5	ND (1.0)	ND (1.0)
Nickel	67	40	63	53
Selenium	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)
Silver	ND (1.0)	ND (1.0)	ND (1.0)	ND (1.0)
Thallium	5.2	3.8	4.6	ND (1.0)
Vanadium	23	1.0	22	18
Zinc	44	94	51	26
Mercury	ND (0.050)	ND (0.050)	ND (0.050)	ND (0.050)

Notes:

1. All results are in milligrams per kilogram

ND (1.0) Not Detected at indicated laboratory reporting limit

Attachment 3

Kiewit Property Reports

APPENDIX A

RWQCB Letter (9/21/03)

California Regional Water Quality Control Board
San Francisco Bay Region

Winston H. Hickox
Secretary for Environmental Protection

Internet Address: http://www.swrcb.ca.gov
1515 Clay Street, Suite 1400, Oakland, California 94612
Phone (510) 622-2300 FAX (510) 622-2460

Gray Davis
Governor

September 21, 2001
File No: 01S0566 (BG)

Kiewit Pacific
Attn.: Mr. John Manes
3300 Busch Road
Pleasanton, CA 94566

SUBJECT: Property at 3300 Busch Road, Pleasanton, Alameda County - Request for Self Directed Remediation of Diesel Contaminated Soil and Groundwater

Dear Mr. Manes:

By letter dated May 22, 2001, the Livermore-Pleasanton Fire Department transmitted a report titled "Evaluation of Diesel Impacted Soil – Kiewit Property, Pleasanton, California" to this office and requested that this agency accept oversight responsibility for investigation and remediation of contamination detected at the subject property. The letter report was prepared by URS on behalf of a prospective purchaser for a portion of the subject property and submitted to the Fire Department.

As discussed with you by phone on August 8, 2001, this agency has accepted oversight responsibility and formally requests that you complete investigation and implement remedial action on a self directed basis. This agency concurs with the recommendations of the report, in particular, the proposed cleanup objective of 1,000 mg/kg for diesel fuel in soil.

This letter also requests that you respond in writing to acknowledge your willingness to complete remediation on a self directed basis. Following completion of remediation, a technical report should be transmitted to this office to document completion and to certify that cleanup objectives have been met. The technical report will allow Board staff to demonstrate that investigation and remediation of the subject property occurred in accordance with applicable regulatory requirements.

If you have any questions, please contact Betty Graham of my staff at (510) 622-2358 e-mail bg@rb2.swrcb.ca.gov].

Sincerely,

Stephen A. Hill
Toxics Cleanup Division Chief

For Loretta K. Barsamian
Executive Officer

APPENDIX B

TRC Excavation Workplan

TRC

TRC

Customer-Focused Solutions

WORKPLAN
SELF-DIRECTED SOIL REMEDIATION

Pleasanton Site
Kiewit Construction / Hanson Aggregates Mid-Pacific
3200/3000 Busch Road
Pleasanton, California

Prepared for:

Mr. Jay Stender
ACG, Inc.

Prepared by:

TRC
Concord, California

September 2003

TRC

Customer-Focused Solutions

Workplan

Self-Directed Soil Remediation

September 15, 2003

Pleasanton Site
Kiewit Construction / Hanson Aggregates Mid-Pacific
3200/3000 Busch Road
Pleasanton, California

Project No. 41-0478-02

Prepared For:

Mr. Jay Stender
ACG, Inc.

By:

Jonathan Scheiner, Ph.D.
Associate

TRC
5052 Commercial Circle
Concord, California 94520
(925) 688-1200

Table of Contents

TRC

1.0 INTRODUCTION

1.1 SITE DESCRIPTION

The subject site consists of an approximately 1-acre area situated in the southeastern corner of the Kiewit Construction Company (Kiewit) property located at 3200 Busch Road in Pleasanton, California (Site) (Figure 1). The area of contamination is approximately bisected by a property boundary separating Kiewit from the adjacent Hanson Aggregates Mid-Pacific (Hanson) property located at 3000 Busch Road in Pleasanton, California (Figure 2). An asphalt roadway trends east-west along the Hanson portion of the subject area.

Kiewit purchased the Pleasanton property on August 1, 1969, from Kaiser Sand and Gravel Company (now known as Hanson). Since the date of purchase, Kiewit has utilized the north side of the property for pre-cast concrete operations. The remainder of the property has been used for construction equipment storage, construction material storage, and equipment maintenance.

1.2 BACKGROUND

In September 2000, eight (8) geotechnical soil borings were advanced as part of a Phase II Environmental Site Assessment (ESA) undertaken on behalf of United American Energy in support of a plan for potential property development. Soil samples were collected as part of the Phase II ESA to evaluate the chemical characteristics of the soils at the Site. Laboratory analyses of these soil samples revealed elevated levels of total petroleum hydrocarbons as diesel (TPH-d) and TPH as gasoline (TPH-g).

Concentrations of TPH-d ranged from 71 to 9,000 milligrams per kilogram (mg/kg) with the highest levels reported for samples collected at a depth of 9.5 to 10 feet below grade (fbg). Concentrations of TPH-g ranged from below applicable detection limits (non-detect) to 270 mg/kg, with the highest levels reported for samples collected at a depth of 6.0 to 6.5 fbg.

In October 2000, additional borings were advanced in the identified impacted area to further delineate the extent of impacts at the Site. A total of 12 borings were advanced on the Kiewit property and an additional 5 borings were advanced on the adjacent Hanson property. A total of 53 soil samples were collected from the 17 boring locations at depths ranging from 0.5 to 28 fbg.

Detectable levels of TPH-d were reported in samples collected from 15 of the 17 borings and ranged in concentration from non-detect to a maximum concentration of 22,000 mg/kg.

A summary of investigation findings was forwarded to the Livermore-Pleasanton Fire Department who in turn forwarded the report to the Regional Water Quality Control Board – San Francisco Bay Region (RWQCB)[1]. The RWQCB accepted oversight responsibility and formally

[1] *Evaluation of Diesel Impacted Soil – Kiewit Property, Pleasanton, California* (URS, October 30, 2000).

issued a *Request for Self Directed Remediation of Diesel Contaminated Soil and Groundwater* (Request) on September 21, 2001. The Request specified a soil cleanup objective of 1,000 mg/kg TPH-d.

2.0 PROJECT SCOPE OF WORK

The Scope of Work is detailed in Section 3.0 and includes the following elements:

- Excavate an initial rectangular area of approximately 60 feet by 100 feet, as designated in Figure 2, to an approximate depth of 2 fbg and segregate into stockpile designated as clean overburden soil for potential reuse.
- Collect representative soil samples from the base of the excavation for laboratory analysis according to waste profiling requirements of applicable landfill.
- Within the approximate central portion of the initial excavation, excavate an area approximately 45 feet by 70 feet to a depth of approximately 14 feet below original grade (i.e., an additional 12 feet of vertical excavation) to remove subsurface diesel-contaminated soil (i.e., TPH-d greater than 1,000 mg/kg) (Phase 1 soil removal).
- Place excavated soil on the adjacent asphalt roadway trending east-west across the western edge of the Hanson property. These stockpiled soils will be loaded onto trucks for transport to the designated Class II landfill (Waste Management Altamont Landfill).
- Collect soil samples for onsite field testing using an organic vapor analyzer equipped with a flame ionization detector (FID) and immunoassay test kits preconfigured to determine TPH-d according to the project cleanup goal of 1,000 mg/kg. Field samples will be collected from the edges and base of the central excavation cavity and screened for TPH-d.
- Continue excavation of soils laterally and vertically according to the results of the field screening analyses (i.e., "chasing" contaminated soils to determine lateral and vertical extent of TPH-d contamination above the project cleanup goal).
- Continue excavation until field screening tests indicate TPH-d levels in residual soils are below the project cleanup goal.

- The final limits of the excavation will be determined by the results of confirmation soil samples collected from the base and sidewalls of the excavation cavity. These confirmation samples will be submitted to a state-certified laboratory for TPH-d analysis by EPA Method 8015M.
- The excavation cavity will remain open and surrounded by temporary fencing pending results of laboratory analyses of confirmation samples.
- Upon confirmation that residual soils in the excavation contain less than 1,000 mg/kg of TPH-d, the cavity will be backfilled, as follows: The excavation will be backfilled to a depth of approximately 2 fbg with self-compacting backfill (e.g., pea gravel) and the remainder to grade using the onsite overburden material[2].
- Backfill with self-compacting material (e.g., pea gravel) to within two feet of grade, then Class II baserock or equivalent material to grade. The final 2 feet of backfill will be compacted in 8-inch lifts

3.0 SOIL EXCAVATION ACTIVITIES

3.1 PRE-FIELD ACTIVITIES

3.1.1 HEALTH AND SAFETY PLAN

A project-specific Health and Safety Plan (HSP) has been developed for the implementation of this Workplan (Appendix A). The HSP identifies potential hazards associated with soil excavation and backfilling operations and provides health and safety guidance for project activities. The HSP is based on applicable regulatory requirements as outlined in the following guidance documents:

- *Occupational Safety and Health Guidance Manual for Hazardous Waste Site Activities*, National Institute for Occupational Safety and Health (NIOSH), Occupational Safety and Health Administration (OSHA), United States Coast Guard, EPA Publication, Number 85-115, October 1985.
- *Standard Operation Safety Guidelines*, EPA, July 1988.
- *Title 29, Code of Federal Regulations (CFR), Parts 1910 and 1926*
- *Title 8, Section 5192, California Code of Regulations (CCR)*
- *Site Safety Plan*, "Guidance Document for Site Assessment and Site Mitigation Projects", California Department of Health Services, 1988

[2] Backfilling operations will proceed upon evaluation by Kiewit and Hanson, as appropriate.

3.1.2 PERMITTING

Prior to commencement of soil excavation activities, required permits will be secured from the City of Pleasanton and applicable State of California regulatory agencies. These permits may include (but are not limited to) a notification permit (BAAQMD), an excavation permit (California Occupational Safety and Health Administration [Cal-OSHA] and a Grading Permit (City of Pleasanton). Underground Service Alert (USA) will be notified approximately three days prior to soil excavation activities to mark underground utilities. Copies of permits will maintained at the Site during excavation activities.

3.2 SOIL EXCAVATION ACTIVITIES

3.2.1 SITE SECURITY

A 6-foot high chain-link temporary fence will be erected around the perimeter of the excavation area(s). The fence will be offset a minimum distance of 3-feet from the limits of the excavation and will be bordered by caution tape for additional visibility.

3.2.2 CONSTRUCTION EQUIPMENT

A Caterpillar 235 excavator (or equivalent) and a 988 Caterpillar 7-cubic yard front-end loader (or equivalent) will be used during soil excavation activities. The excavator will be used to remove impacted subsurface soils and place them outside the limits of the excavation. The loader will then move excavated soils to the designated stockpile location on the asphalt roadway. The loader will also be utilized to load trucks for offsite transport of waste soils to an offsite landfill facility.

3.2.3 CONSTRUCTION MONITORING

During excavation activities, a Site remediation supervisor will be onsite daily during the project to ensure compliance with Workplan specifications; additional duties to be completed by the supervisor include the following:

- Coordinate site safety tailgate meetings and assure compliance with HSP.
- Verify that work is completed in compliance with technical specifications (Workplan).
- Assure that dust generation is minimized and that dust control measures are appropriately implemented (e.g., water truck application).
- Confirm and document contractor soil quantities (e.g., estimate quantities of contaminated soil stockpiled and removed from the Site).
- Collect and map field screening soil samples and conduct screening using FID and immunoassay testing equipment.

- Evaluate sampling results and direct further excavation per field screening, as applicable.
- Evaluate analytical results of confirmation soil sampling.
- Document field observations and complete Daily Reports summarizing daily project activities.
- Submit, approve and implement field changes, as applicable.
- Ensure that temporary fencing is placed around the excavation perimeter at the end of each day and that soil stockpiles are covered, as required, by plastic sheeting.

3.2.4 DUST CONTROL AND AIR MONITORING

The Bay Area Air Quality Management District (BAAQMD) regulation requires application of water to excavation and loading areas to control visible emissions (large particulates). Dust suppression using water spray will be required whenever visible dust is observed. Dust mitigating procedures will be conducted so that offsite migration of dust is controlled during excavation operations. Additional dust control information is presented in the HSP.

3.2.5 SOIL EXCAVATION PROCEDURES

An initial 2 foot deep excavation over an area 60 feet by 100 feet will be performed to remove clean overburden material that may be reused during final backfill activities. Within the initial excavation, soil removal will proceed in phases to remove contaminated soils, as outlined below.

As summarized in Section 1.3, field screening of residual soils (i.e., base and sidewalls of excavation) using both an FID and immunoassay soil test kits will be performed to determine whether remaining soils contain TPH-d in excess of the project cleanup goal (1,000 mg/kg TPH-d). Results of field screening will direct subsequent excavation activities in an iterative manner until project objectives have been achieved.

Final excavation limits will be determined based on laboratory results of confirmation samples collected from the excavation base and sidewalls transmitted to a state-certified laboratory for analysis of TPH-d by EPA Method 8015M. Locations of confirmation samples reporting greater than 1,000 mg/kg will be further excavated and re-sampled, as applicable, on an iterative basis until levels indicate cleanup to be complete.

3.2.6 SOIL SCREENING PROCEDURES

After the initial excavation of soil in known contamination areas (i.e., per previous investigations [URS, 2000]), residual soils in the excavation cavity will be field screened using visual and olfactory observations, FID measurements and immunoassay testing. If screening results indicate that additional lateral excavation of the cavity is warranted, soil will be incrementally removed from an area spanning approximately 10 feet on either side of the observed impacted soil and 5-feet laterally (i.e., into the sidewall). If screening results indicate that additional vertical excavation is warranted, the cavity will be extended approximately 2 feet in depth along an approximately 200 square foot base area.

3.2.7 SOIL STOCKPILES

As indicated in Section 1.3, excavated clean overburden material is believed to be "clean" relative to project cleanup objectives and will therefore be segregated and stockpiled separately from the underlying diesel-impacted soils. These surficial soils can then be reused, as appropriate, for onsite soil needs (e.g., backfilling of excavation cavity).

Impacted soil will be stockpiled on the adjacent asphalt roadway which trends across the Hanson property near the excavation area. The stockpiled soil will be loaded directly from the asphalt roadway area onto trucks for transportation to the project-designated landfill facility (Altamont Landfill in Livermore, California).

A water truck will apply water to the excavation area and soil stockpiles, as appropriate, to control dust generation and maintain a safe work environment.

At the end of each day of excavation, and until the soil is removed from the Site, the stockpile will be covered with plastic sheeting (e.g., Visqueen) to minimize the potential for exposure of the impacted soil to the environment. The plastic sheeting will be weighted down with clean soil and/or sandbags to prevent the plastic from blowing away.

Both the "clean" and contaminated stockpiles will be maintained a sufficient distance away from the edge of the excavation to allow expansion of the excavation limits and to minimize the potential for sidewall failure.

3.2.8 CONFIRMATION SOIL SAMPLING PROCEDURES

When field screening indicates that residual soils in the excavation cavity are below the TPH-d cleanup goal (i.e., sidewalls and base), confirmation samples will be collected at an approximate spatial frequency of 500 square feet. To meet this sampling frequency, soil samples will be collected approximately one per every 30 linear feet along the sidewalls and according to a rectangular grid pattern for the base, as appropriate (See Figure 2). Samples will be collected in brass sampling tubes or other appropriate container, as specified by the laboratory for analysis of TPH-d by EPA Method 8015M. Samples will be appropriately packaged, preserved and transmitted - under standard Chain-of-Custody protocol – to the designated certified laboratory. As applicable, continued excavation activities may proceed until confirmation sampling indicates cleanup objectives have been met.

Upon completion of soil excavation activities, the excavation area will be surveyed by a licensed surveyor to determine the relative contribution to the total excavated soil quantity from each side of the property boundary separating Kiewit from Hanson.

3.2.9 EXCAVATION BACKFILL

After confirmation sampling results indicate that diesel-impacted soil with levels exceeding 1,000-mg/kg have been removed, the excavation will be backfilled in two stages. The first stage involves backfilling the excavation to a depth of approximately 2 fbg with clean self-compacting backfill material (e.g., pea gravel). The self-compacting backfill material will be of a virgin source and will be analyzed as follows prior to placement:

- TPH-g (EPA Method 8015M)
- TPH-d (EPA Method 8015M)
- Volatile organic compounds (VOCs) (EPA Method 8260)
- Polychlorinated biphenyls (PCBs) (EPA Method 8080)
- Total CAM 17 metals (Total) (EPA Method 6000/7000 series).

Once the excavation is backfilled to a depth of 2 fbg with self-compacting backfill, clean overburden soil may be used to backfill the remainder of the excavation to grade. Soil will be placed in 1-foot lifts and compacted to a minimum 90% relative compaction based on dry density. A bulk sample of onsite material will be submitted to a laboratory to determine the material's maximum dry density and optimum moisture content according to ASTM Method 1557. The compaction of each lift will be verified in the field by a qualified engineer using a nuclear density gauge. A vibratory pad drum or sheepsfoot will be used to compact each lift.

3.3 TRANSPORTATION AND DISPOSAL PROCEDURES

3.3.1 SOIL SAMPLING

Four-point composite samples will be collected from the diesel-impacted soil stockpile(s) to profile the soil and confirm the appropriate landfill designation. The composite samples are to be collected at a frequency of approximately one composite sample for every 1,500-cubic yards of excavated soil. The samples will be placed in an ice-chilled cooler and transported to a state-certified analytical laboratory under proper chain-of-custody protocol. The laboratory will analyze the soil samples for constituents as required by the selected landfill disposal facility (e.g., TPH-d, TPH-g, Oil & Grease, benzene, toluene, ethylbenzene, xylenes [BTEX]).

3.3.2 SOIL TRANSPORTATION AND DISPOSAL

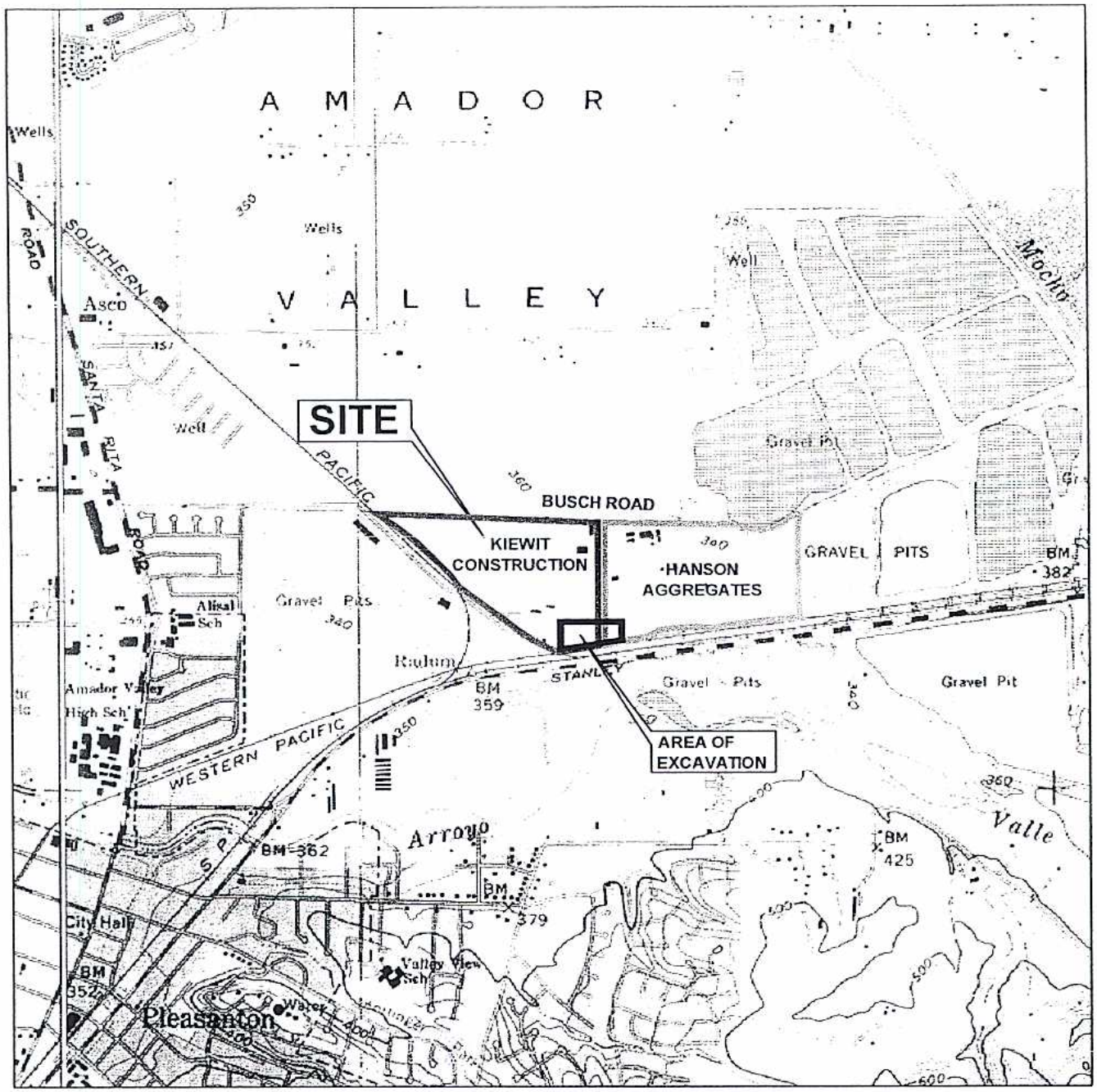
Upon characterization of the contaminated soil, the waste soil will be transferred to an appropriate landfill disposal facility by 18-wheel end-dump trucks. A loader or excavator will be used to transfer soil from the stockpile location into the 18-wheel end-dump trucks. The trucks will be covered with a tarp before leaving the site and wire-brushed to minimize the potential for offsite impacts from trucks.

4.0 REPORTING

In accordance with RWQCB requirements (See September 21, 2001 directive), a summary report will be prepared to document the excavation of impacted soils as described in the Workplan. The summary report will include the following elements:

- Summary of soil excavation activities
- Procedures, locations, and results of field screening and confirmation soil sampling activities
- Documentation of offsite transportation and disposal of excavated soil
- Documentation of excavation backfill material and procedures
- Daily field reports
- The report will be certified by a registered professional civil engineer or registered engineering geologist.

FIGURES



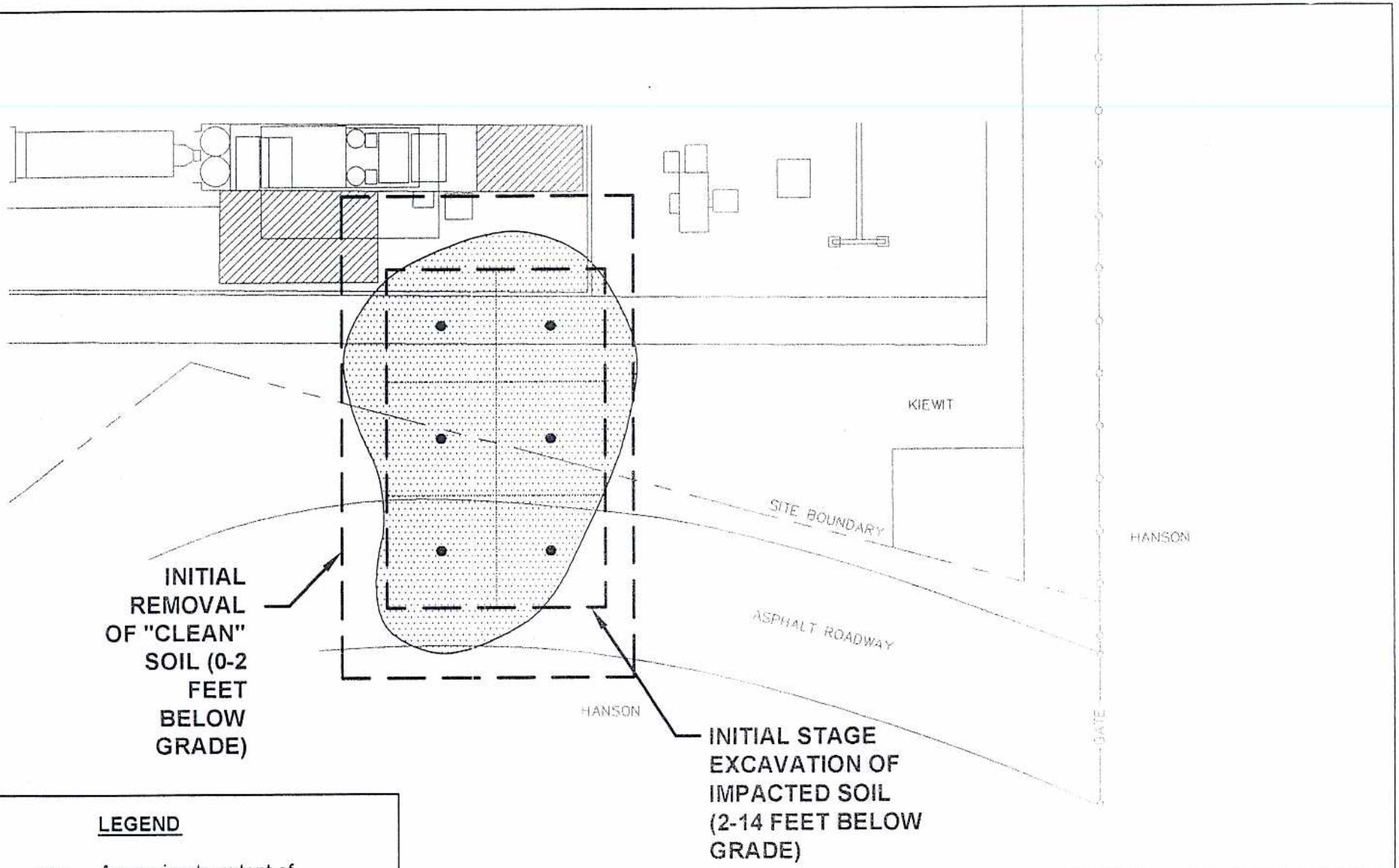
SOURCE:
National Geographic
USGS Topographic Maps on CD-ROM
Livermore Quadrangle

VICINITY MAP

Kiewit Construction / Hanson Aggregates
3200 / 3000 Busch Road
Pleasanton, California

TRC

FIGURE 1



SOURCE: Site plan by URS, October 2000.

SITE PLAN

Kiewit Construction / Hanson Aggregates
3200 / 3000 Busch Road
Pleasanton, California

TRC

FIGURE 2

APPENDIX A
HEALTH AND SAFETY PLAN

TRC

HEALTH AND SAFETY PLAN

Self-Directed Soil Remediation
3200/3000 Busch Road
Pleasanton, California

1.0 PLAN SUMMARY

This Health and Safety Plan (HSP) establishes responsibilities, requirements, and procedures for the protection of personnel while performing activities at the above-referenced site. This project-specific plan conforms with the TRC Corporate Health and Safety Plan, Hazard Communication Program, and Injury and Illness Prevention Program (IIPP).

During site work, the use of proper health and safety procedures, in accordance with applicable Cal/OSHA regulations shall be required. Site-specific conditions may necessitate modification of the HSP; however, except in emergency situations no deviations from the plan may be implemented without the prior notification and approval of the Site Safety Officer (SSO).

2.0 SITE INFORMATION

This HSP considers the physical, chemical, and environmental hazards that may be encountered during work activities at the site. Operations associated with this HSP will be conducted in accordance with an approved workplan. Any changes required or made to the planned activities will be immediately communicated to site personnel by the SSO. Summary information for this project is provided in the following table.

Workplan dated:	September 2003
Principal activities:	Soil excavation and loading
Site description (see Attachment A for site map):	Equipment storage area for Kiewit Construction Company
Approximate depth to groundwater:	117 fbg (URS, 2000)
Contaminants of concern (see Attachment B):	Petroleum products (Total petroleum hydrocarbons as diesel)

3.0 SITE SAFETY AUTHORITY

Contact information and names of authorized personnel are listed below. A description of responsibilities follows.

Role	Name	Company	Telephone
Site Safety Officer	Matt Rosman	TRC	(925) 688-2483 (925) 260-5371 cell
Project Manager	Jonathan Scheiner	TRC	(925) 688-2473 (925) 260-4809 cell
Supervisor/Offsite Coordinator	Mohammad Bazargani	TRC	(925) 688-2461 (925) 260-3567 cell
Local IIPP Coordinator	Kristen Meade	TRC	(925) 688-2481 (925) 260-7638 cell

Site Safety Officer: The SSO is responsible for briefing site personnel on potential physical and chemical hazards prior to work start-up, during operations, and whenever other health and safety matters need to be addressed. The SSO will be in charge of conducting the daily Tailgate Safety Meetings. The SSO will see that this HSP is available onsite and is understood and signed by personnel entering the site. The SSO is also responsible for implementing emergency response procedures when necessary. In the event the SSO is unable to perform these duties, the Alternate SSO will be responsible.

Project Manager: The Project Manager (PM), in coordination with the SSO, is responsible for implementing health and safety requirements, including seeing that the HSP is prepared and available onsite. The PM is the central point of contact for the SSO, Client, and Field Personnel, and has overall responsibility for site operations.

Field Personnel: Field Personnel are responsible for understanding and complying with this HSP. Field Personnel include both TRC employees and Subcontractors hired by TRC. Field Personnel are required to participate in briefings prior to commencement of site work; attend daily Tailgate Safety Meetings; and acknowledge receipt and understanding of the HSP by signing the Compliance Log at the end of this plan.

Supervisor/Offsite Coordinator: The Supervisor/Offsite Coordinator, typically the TRC branch manager, should be contacted when mobilization of support from a TRC office is needed, and in case of an emergency requiring offsite assistance.

4.0 SITE CONTROL

Site control requires the establishment of a regulated area with designated work zones, evacuation protocol, location of medical assistance, site security, and communication guidelines that include a "Buddy System."

4.1 Regulated Area(s)

Each site will have an established Exclusion Zone with controlled access, and a Support Zone. Supervision and strict control of access to regulated areas is necessary to protect site personnel as well as the public.

Exclusion Zone: (*a.k.a. "Hot Zone"*) This is the area where personnel may be subject to chemical or physical hazards. It is the zone of known or suspected contamination, where equipment operation and/or environmental sampling will take place. The Exclusion Zone is to be clearly identified and isolated with cones, barricades, or high visibility caution tape. Personnel working in the Exclusion Zone will at a minimum use Level D personal protective equipment as described in **Section 7.0.**

The outer boundary of the Exclusion Zone *("Hot Line")* will be established by the SSO, so that sufficient area is available to conduct operations while providing a protective buffer for persons and property outside the zone.

Support Zone: *(a.k.a. "Safe Zone")* This is the area outside the Exclusion Zone where administrative and other support functions are located. Adverse exposure to contaminants and physical hazards are unlikely in the Support Zone.

4.2 Evacuation Protocol

Evacuation protocol and routes from the site will be established by the SSO, and communicated to Field Personnel during the Tailgate Safety Meeting(s) prior to initiating work. Evacuation protocol will be implemented as needed in emergency situations. In the event of an evacuation, personnel will meet at a pre-established location and the SSO will do a "head count" to see that everyone has left the hazard area.

Emergency Response procedures are outlined in **Section 12.0.** Directions to the nearest medical facilities are provided in **ATTACHMENT C.**

4.3 Site Security

Appropriate security measures will be established in coordination with the site owner/operator and communicated to site personnel. The objective of these measures is to (1) protect the public from potential exposure to physical/chemical hazards; (2) avoid public interference with personnel and safe work practices; and (3) prevent theft or vandalism of equipment at the site.

4.4 Communication

Communication is an important aspect of the site control program as well as the entire HSP. Personnel should keep in mind that hazard assessment is a continuous process, and any potentially unsafe condition must be reported immediately to the SSO.

Onsite personnel will use the "Buddy System" and maintain communication or visual contact between team members during site operations. The Buddy System is used to provide assistance, monitor for chemical exposure and heat stress, and obtain emergency assistance for coworkers when necessary. Site personnel will be familiar with the following emergency hand signals:

Hand gripping throat:	Can't breathe. Respirator problems.
Grip team member's wrist or both hands on team member's waist:	Leave site immediately, no debate!
Thumbs up:	Yes. I'm alright. I understand.
Thumbs down:	No. Negative.

5.0 HAZARD ASSESSMENT

Hazard assessment is essential for establishing hazard reduction measures. Hazard assessment will consist primarily of site inspections and monitoring. Known operational hazards (heavy equipment, overhead lines, etc.) and site characterization data (contaminant location, concentration, etc.) are also considered in the assessment. The following is a list of potential hazards associated with the activities planned for this site:

Physical Hazards	Heavy equipment Tripping, slipping, and falling Head, foot, eye, and back injuries Sharp objects
Chemical Hazards	Petroleum products
Environmental Hazards	Noise exposure Weather - heat, cold, rain, fog Biological - plants, animals/insects, pathogens

Walk-though safety inspections will be conducted by the SSO daily and as conditions change. Inspection results will be communicated to the work crews during the morning Tailgate Safety Meetings and as needed.

6.0 HAZARD REDUCTION

Personnel are required to exercise reasonable caution at all times during work activities. Failure to follow safety protocols and/or continued negligence of health and safety policies will result in expulsion of a crewmember from the site and may result in termination of employment. In general, the potential for hazardous situations will be reduced by the following activities:

Implementing engineering controls

Using personal protective equipment

Performing air monitoring

Engineering Controls, corresponding to the hazard assessment for work at this site, are outlined below in **Sections 6.1 through 6.4**. Personal protective equipment (PPE) and air monitoring guidelines are outlined in **Sections 7.0 and 8.0**, respectively.

6.1 Physical Hazards and Controls

Heavy Equipment

The operation and use of heavy equipment presents the greatest potential for injury to personnel due to spinning parts, moving equipment, and the use of very heavy tools, casing, and drill rod. Heavy equipment will be equipped with audible alarms when backing and use spotters when available.

Those crew members directly involved in spotting for the operator will be the only personnel allowed within the operating radius of the heavy equipment. Other personnel will remain at a safe distance from these operations. If personnel need to approach heavy equipment during operation, they will observe the following protocols: make eye contact with the operator, and then approach the equipment to inform operator of intentions.

Only equipment that is in safe working order will be used. Only qualified personnel will be allowed to operate drilling and heavy equipment. Subcontractors will supply proof of qualifications to operate the equipment. Those crewmembers directly involved in work for the operator will be the only personnel allowed within the operating radius of the drilling and heavy equipment. Other personnel will remain at a safe distance from these operations.

Overhead Lines and Underground Utilities

When operating heavy equipment near overhead power lines, care will be taken to ensure that elevated portions of the equipment maintain a distance of ***at least 10 feet*** from high voltage lines of 50,000 volts or less. See article 86, Title 8, High Voltage Electrical Safety Orders for minimum clearance of high voltage lines in excess of 50,000 volts.

Underground Services Alert (USA) will be notified at least two working days prior to the start of any digging or excavation work. The first 5 feet of any subsurface operation shall be excavated using an air-knife or hand auger to ensure clearance of underground utility lines.

Explosion and Fire

Liquid petroleum products readily vaporize from standing pools or saturated soil. Ignition sources pose an explosion and fire hazard (e.g., engines, impact sparking, and heat or arc from inappropriate equipment or instrumentation). A direct-reading combustible gas indicator (CGI) will be used to evaluate the possible formation of flammable atmospheres in and around the work area. **See Section 8.0: Air Monitoring.**

Emergency services (911) are to be called immediately in case of a fire or explosion. A portable fire extinguisher will be kept onsite for use on small fires only. Only personnel trained in the proper use of fire extinguishers are authorized to use the onsite fire extinguisher.

Tripping, Slipping, and Falling

Personnel will be reminded daily to maintain sure footing on all surfaces. Use of safety harnesses is required for personnel working ***6 feet or more*** above any surface that does not have handrails (includes riding on manlifts). Work surfaces of unknown or suspect integrity will be strengthened or overlaid with a work platform capable of supporting personnel and equipment working in the area.

To minimize tripping hazards caused by construction and other debris, material will be removed daily from the work areas and stockpiled in appropriate designated storage areas. This "housekeeping" effort will be enforced by the SSO at the end of each day.

Head, Foot, Eye, and Back Injuries

Hard hats, steel toe boots, and safety glasses will be worn during site operations. To avoid back injuries, personnel will be trained in and required to use proper equipment and lifting techniques for manual material handling.

Sharp Objects

Nails, wires, saws, and cutting equipment pose potential hazards such as cuts and punctures during site work. *Only appropriate work tools are to be used.* Personnel are required to exercise caution, and should wear leather work gloves when handling or operating cutting tools, saws, and other sharp objects. A consistent housekeeping effort at the site will also help to reduce hazards from sharp objects.

Illumination

It is not anticipated that work will commence during non-daylight hours and/or when additional lighting is needed. However, in the event that additional lighting is necessary, adequate lighting shall be provided during work activities as outlined in Table H-1, 8 CCR 5192(m).

6.2 Chemical Hazards and Controls

Chemical Characteristics

Hazardous chemicals that may be encountered at this site include gasoline and diesel,. These chemicals may be volatile, flammable, moderately to extremely toxic, or carcinogenic when inhaled, ingested, or absorbed above certain concentrations. See **ATTACHMENT B** for specific exposure limits and basic toxicology information.

Personnel will use engineering controls and PPE (based on hazard assessment) to prevent chemical exposure.

Sample Collection

Workers who must come in direct contact with known or suspected contaminated soil or groundwater to collect samples are required to wear protective gloves and other PPE, as needed, to reduce the potential for exposure. Safety glasses will be worn to avoid potential splashing of chemicals into the eyes.

Soil Cuttings, Decontamination Water, and Dust

As with sample collection, precautions are to be followed for handling materials such as soil cuttings and cleaning/decontamination water. Exposure and potential inhalation of dust (nuisance, silica) will be minimized by wearing dust masks or other appropriate PPE/respiratory protection.

Disposition of Materials

Excavated soil will be stockpiled and covered, or stored in closed drums or roll-off bins. Purged water will be stored in closed drums or tanks. Drums, tanks, and/or roll-off bins containing soil or water will be labeled in accordance with the hazard communication standard and removed from the site in accordance with client-approved protocol.

Hygiene

Eating, smoking, and drinking is NOT ALLOWED in the work area. Site personnel will wash their hands, arms, and faces thoroughly prior to eating or drinking, and at the end of their shift. Food should never be stored where it may come into contact with, or be contaminated by, petroleum products, pesticides, or other toxic materials.

Sanitation

Sanitation facilities will be provided for site personnel. It is anticipated that no more than 4 workers will be onsite at any given time.

Ionizing Radiation

Historical site and surrounding site investigations show no indication of ionizing radiation as a hazard. Records and file reviews reveal no indication of the use of ionizing radiation materials onsite or on neighboring properties. Ionizing radiation hazards are not a concern at this Site.

6.3 Environmental Hazards and Controls

Noise Exposure

Hearing protection (earplugs or earmuffs) will be worn when project personnel enter high-noise areas. The SSO should see that extra earplugs are available onsite.

Heat Stress

Heat stress may be caused by the combination of ambient factors such as high air temperature, high relative humidity, and low air movement. This condition can result in heat rash, heat cramps, heat exhaustion, and/or heat stroke. It can impair worker coordination and judgement and directly impact health and safety. Heat stress is more likely when PPE is worn. Personnel are to drink plenty of water and take breaks (in shaded rest areas) as needed to help prevent heat stress. As part of the Buddy System, personnel should watch for signs and symptoms of heat stress in coworkers as well as themselves.

Cold Exposure

To guard against cold injury (frostbite and hypothermia), which is a danger when the temperature and wind-chill factor are low, employees will wear appropriate clothing, have warm shelter readily available, and maintain carefully scheduled work and rest periods.

Biological Hazards

Personnel will assess their surroundings for potential biological hazards, which may be posed by poisonous plants, insects, animals, and indigenous pathogens. Protective clothing and respiratory equipment can help reduce the chances of exposure. Thorough washing of any exposed body parts and equipment will help protect against infection from biological hazards. ***"Universal Precautions"*** (e.g., wearing latex gloves) must be taken any time there is potential for exposure to human blood, such as when an employee renders first aid to a coworker.

7.0 PERSONAL PROTECTIVE EQUIPMENT

7.1 Level of Protection

Personnel are required to wear PPE appropriate for the task and anticipated exposure to known contaminants. Selection of PPE will be based on hazard assessment, task performance, and air monitoring. Based on the history of this site, the initial level of protection will be Level D. At a minimum, Level D PPE will consist of the following:

- Hardhat
  at all times in work area

- Boots: chemical-resistant, steel toe and shank
  at all times in work area

- Safety glasses, splash goggles, or hardhat with face shield
  when there is risk of hazardous substances (sampling) or flying particles (drilling, excavation, etc.) getting into eyes

- Ear plugs / hearing protection
  when high-noise equipment is in operation

- Gloves: chemical-resistant
  when handling soil cuttings or soil/water samples

- Traffic safety vest

Site personnel also are required to *be prepared* with the following items:

- Respirators: half-face, air-purifying with appropriate cartridges
- Dust masks
- Tyvek coveralls and other suitable protective clothing
- Leather work gloves and back brace/lifting belt

Air monitoring information will dictate when and if a site will be upgraded to Modified Level D (Level D plus respirator).

7.2 Respirator Selection

It is not anticipated that air-purifying gas/vapor respirators will be required at the site. However, chemicals present in the subsurface have the potential to result in hazardous atmospheres. For operations that require the use of a respirator, the SSO must verify that Field Personnel are medically approved to use respiratory equipment, fit tested, and trained in the proper use of air-purifying respirators. Site personnel are required have their respirator available and ready to use onsite. Only respirators that are NIOSH/MSHA approved are to be used.

Air monitoring will be performed to assess airborne contaminant levels onsite, and to evaluate suitable respiratory protection. Workers will be required to wear half-face, air-purifying respirators with organic vapor cartridges under the following circumstances, as indicated by onsite air monitoring:

- If volatile organic compound (VOC) vapors in the work area continuously exceed the threshold limit value - time-weighted average (TLV-TWA) for PCE (25 parts per million [ppm]) and TCE (50 ppm).

- If, at any time, VOC vapors in the work area exceed the threshold limit value - short-term exposure limit (TLV-STEL) for PCE and TCE (100 ppm).

Action levels are based on photo ionization readings, as outlined in Section 8.1.

TLV values for gasoline are derived from American Conference of Governmental Industrial Hygienists (ACGIH) standards. Similar precautions will be taken with regard to other toxic chemicals, such as BTEX components. See **ATTACHMENT B** for additional information and regulatory exposure limits.

In the event that air-purifying respirators for protection against gases and vapors are deemed necessary, either the disposable 3M 5000 air-purifying respirator or a half-face air purifying respirator with applicable cartridges will be used. Upon review of site data and consideration of gas/vapor exposure potentials during drilling activities, TRC is confident exposures to gas/vapor will not exceed established PELs. In the unlikely event workers are required to don gas/vapor respirators, these rdisposable respirators and/or cartridges will be changed out daily to avoid the possibility of contaminant breakthrough.

7.3 Reassessment of PPE

The levels of protection listed above will be upgraded (or downgraded) based on changes in activities, changes in site conditions, measurements of direct-reading instruments (compared to action levels for contaminants), or other findings. Changes in the level of protection require the approval of the SSO.

8.0 AIR MONITORING

Monitoring will be conducted as needed to characterize airborne contaminant levels. The potential hazards associated with the presence of hydrocarbons include (1) personnel exposure to chemicals, and (2) possible formation of flammable atmospheres in and around the work area. Air sampling will be conducted in accordance with NIOSH, OSHA, or EPA methods. The SSO will check to see that air monitoring equipment brought onsite is properly calibrated prior to operation and recalibrated during the course of the day, as necessary.

8.1 Photo Ionization Detector

A photo ionization detector (PID) will be used for the monitoring of VOCs in the work area in accordance with the requirements outlined in Title 8 CCR 5192. Air monitoring will be conducted in the breathing zone of workers, and the data collected will be used to evaluate suitable respiratory protection against chemicals encountered. Refer to the Respirator Selection guidelines in **Section 7.2** for personal protection measures. Measurements will also be obtained periodically at the top of boreholes or excavation cavities, and during any construction activities in which hydrocarbon-affected soil is encountered; however, only breathing zone measurements will be used to determine whether PPE should be used or discontinued.

8.2 Combustible Gas Indicator

A direct-reading, portable CGI that measures VOC concentrations in ppm, or as a percentage of the lower explosive limit (LEL), will be used to monitor airborne concentrations of VOCs and evaluate the possible formation of flammable atmospheres in and around the work area. Data will be used to monitor and evaluate vapor concentrations within or emanating from well bores, excavations, and contaminated soil that is stockpiled, moved, or loaded on or about the site. Measurements will be obtained periodically at the top of boreholes or excavation cavities throughout excavation operations, and during any construction activities in which hydrocarbon-affected soil is encountered. Periodic measurements also will be taken in areas that may contain an accumulation of combustible vapors.

In the event that CGI readings on the site exceed 10 percent of the LEL, work will be suspended, monitoring will be continued as needed to isolate the area of concern, and the following applicable environmental controls will be implemented:

1. Vapors from pooled petroleum product will be suppressed (if necessary) by spraying with foam, appropriate chemical suppressant, or carbon dioxide in gas form or dry ice.

2. Air movers will be used to ventilate the areas of concentration to below 10 percent LEL.

3. Contaminated soil will be covered with clean soil and/or sprayed with water or deodorizing chemicals in order to reduce vaporization of VOCs.

8.3 Dust Monitoring

Remedial Investigation activities are relatively non-invasive operations and chemical exposure via inhalation of dust is not expected to pose a significant hazard. However, field operations shall be conducted so that nuisance dust is minimized during drilling and potential dust generating activities. Total dust levels shall be mitigated during activities, as necessary, using a combination of engineering controls (dust suppression with water mist), safe work practices, and PPE (HEPA-rated particulate (PM100) air filters). Although not anticipated, operations shall be terminated to prevent offsite dust migration, if necessary.

Dust abatement using water spray shall be utilized on soil stockpile areas. If visual dust continues to be present, dust levels will be monitored using real-time monitoring devices (i.e., PDM-3 Miniran aerosol monitor) and personnel will be required to wear half-face air purifying respirators (see Section 7.2, Respirator Selection) until monitoring results indicate dust levels below 6 mg/m^3.

9.0 DECONTAMINATION

Due to the expected low levels and types of contaminants at the site, it is anticipated that personnel will not perform routine decontamination procedures when leaving the Exclusion Zone. Project activities will be initially conducted in Level D PPE. When decontamination is necessary, it will consist of the following:

- Removal of contaminated garments in an "inside out" manner at a designated decontamination station located at the step-off location where personnel routinely enter/exit the Exclusion Zone.

- Placement of contaminated garments in designated plastic bags or drums prior to disposal or transfer offsite. Labels in compliance with the hazard communication standard will be affixed to containers of contaminated debris and clothing.

Instruments and equipment used during all phases of work will be decontaminated prior to and between locations to prevent cross-contamination, as necessary. A triple-rinse procedure will be used consisting of:

(1) Water and Liquinox soap wash.
(2) Potable water rinse.
(3) Deionized water final rinse.

For equipment too large for a triple rinse decontamination process (e.g., drill rods, casing, rig), a pressure washer will be used to clean the equipment. A decontamination area will be set up to containerize the fluids and soils washed off equipment during the decontamination process.

Contaminated materials and liquids will be sampled and profiled for disposal at certified waste treatment/ disposal facilities. Following profile acceptance, the materials and liquids will be transported and disposed of in accordance with state guidelines

10.0 PERSONNEL TRAINING

Personnel who will perform field activities shall meet the training requirements specified in the OSHA Hazardous Waste Operations and Emergency Response (HAZWOPER) Standard [29 CFR 1910.120 (e)]. Prior to commencement of work, the SSO will discuss the potential physical and chemical hazards associated with site operations, and review safe work practices with personnel. Personnel are required to acknowledge their understanding and willingness to comply with this HSP before admission to the site by signing the Compliance Log at the end of the HSP.

Other job-specific training required to perform tasks within this operation will be verified by the SSO. This training may include, but is not be limited to respirator fit testing, safe lifting techniques, confined spaces, hearing conservation, and proper fire fighting procedures.

11.0 MEDICAL PROGRAM

The site medical program has two main components: a baseline medical surveillance program, and emergency medical assistance procedures.

11.1 Baseline Medical Surveillance

TRC has established a medical surveillance program to assess, monitor, and help protect the health of employees, in particular, employees who may be exposed to potentially hazardous substances during site work. Personnel will undergo medical examinations as follows:

Initial: Pre-employment / prior to any assignment involving work in a hazardous or potentially hazardous environment. The initial examination is used to establish a baseline picture of health against which future changes can be measured, and to identify any underlying illnesses or conditions that might be aggravated by chemical exposures or job activities.

Periodic: At least once every 12 months to measure changes in health status.

Upon notification: As soon as possible upon notification by an employee that they have developed signs or symptoms indicating possible overexposure to hazardous substances, or in response to an injury or exposure during an emergency situation.

Exit: At termination of employment.

11.2 Emergency Medial Assistance

An emergency medical assistance network will be established prior to work start-up. The nearest fire department, police, ambulance service, and hospital with an *emergency room* will be identified. **See ATTACHMENT C** for Emergency Services contact information. A vehicle shall be available onsite during work activities to transport injured personnel to the identified emergency medical facilities, if necessary. Company vehicles are to be equipped with a fire extinguisher and first aid kit.

12.0 EMERGENCY RESPONSE PLAN

The SSO will have controlling authority during an emergency. In the SSO's absence, the Alternate SSO will be in charge. See ATTACHMENT C for the name, location, and telephone number of emergency response organizations in the vicinity of the project site, and a map to the nearest hospital(s).

12.1 Emergency Procedures

In the event of an accident, injury, or other emergency, remember to:

Stop work and REMAIN CALM.

Move personnel to a safe location (evacuation plan).

Call 911 or notify other emergency facilities.

Address medical emergencies and apply first aid, if necessary.

Contain physical hazards. (NOTE: Act only if hazard is minimal and you are trained to deal with the situation. Otherwise evacuate and wait for emergency services to arrive.)

Notify offsite supervisor and client, and initiate accident reporting procedures.

12.2 Accident Reporting

In case of an accident, the SSO (or Alternate) will immediately notify the Supervisor/Offsite Coordinator at the nearest TRC office and later provide a report to the PM describing the following:

1. A description of the event (including date and time) that required notification of offsite personnel (i.e., medical facilities, fire department, police department) and the basis for that decision.

2. Date, time, and names of persons/agencies notified, and their response.

3. Details regarding personal injury and property damage, if any.

4. Resolution of incident and the corrective action involved.

All incidents and near misses are to be investigated in accordance with TRC's IIPP. The Supervisor's Report of Accident is to be completed and submitted to the Human Resources department within 24 hours following any accident or injury.

HEALTH AND SAFETY PLAN
COMPLIANCE LOG

I have reviewed this Site Health and Safety Plan and understand the contents of the plan. I hereby agree to comply with all safety requirements outlined herein.

Signature: _____ Date: _____
Site Safety Officer, TRC

Signature: _____ Date: _____
Print Name: _____
Company: _____

Signature: _____ Date: _____
Print Name: _____
Company: _____

Signature: _____ Date: _____
Print Name: _____
Company: _____

Signature: _____ Date: _____
Print Name: _____
Company: _____

Signature: _____ Date: _____
Print Name: _____
Company: _____

Signature: _____ Date: _____
Print Name: _____
Company: _____

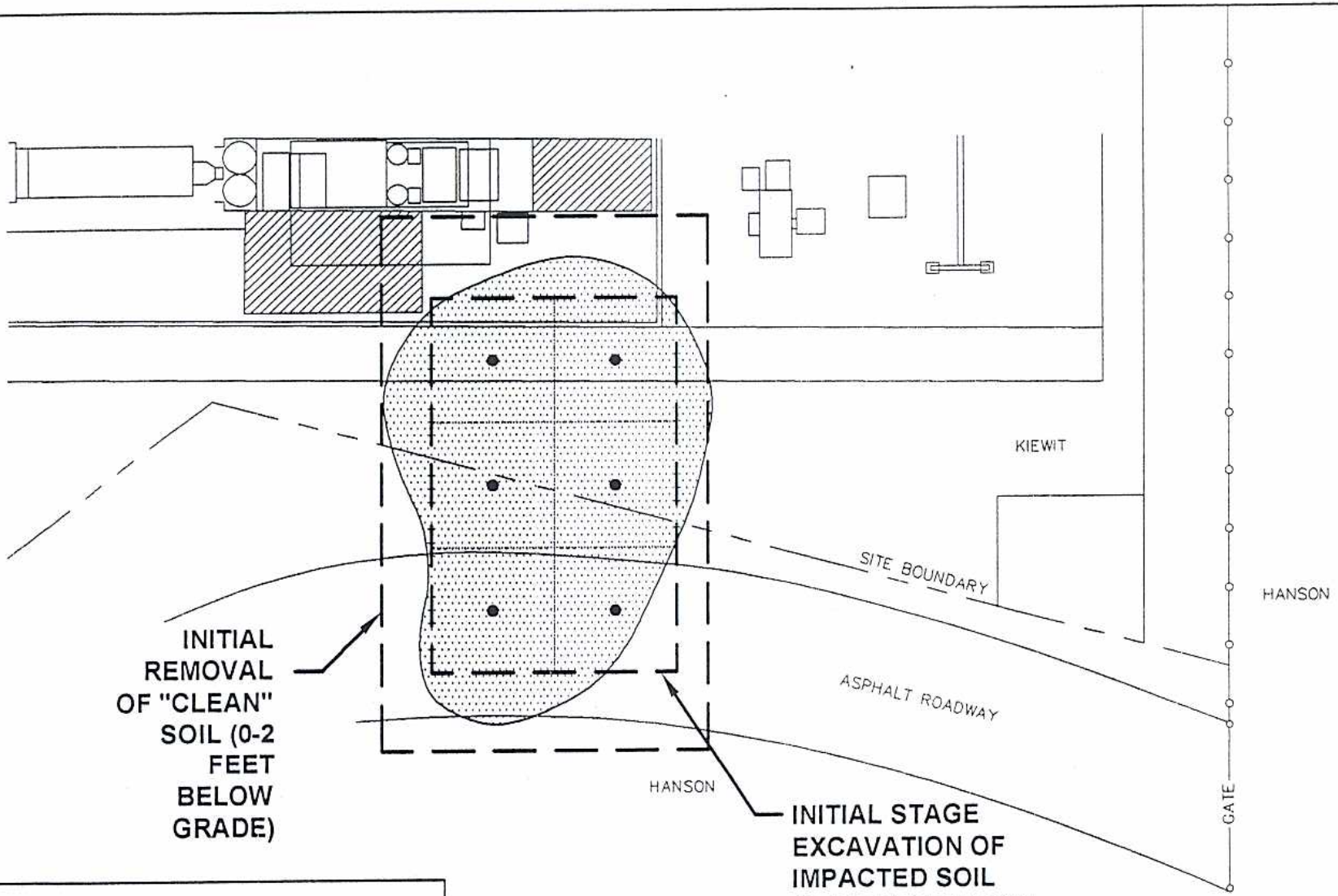
Signature: _____ Date: _____
Print Name: _____
Company: _____

Signature: _____ Date: _____
Print Name: _____
Company: _____

Signature: _____ Date: _____
Print Name: _____
Company: _____

ATTACHMENT A

SITE PLAN



LEGEND

- Approximate extent of TPH-impacted soil
- Proposed excavation boundary
- Proposed soil sample location

APPROXIMATE SCALE (FEET)

0 30 60

SOURCE: Site plan by URS, October 2000.

SITE PLAN

Kiewit Construction / Hanson Aggregates
3200 / 3000 Busch Road
Pleasanton, California

TRC

FIGURE 2

ATTACHMENT B

OCCUPATIONAL HEALTH GUIDELINES AND TOXICOLOGICAL INFORMATION

Attachment B

OCCUPATIONAL HEALTH GUIDELINES AND TOXICOLOGICAL INFORMATION

Priority Pollutant Chemicals

Contaminant	ACGIH TLV-TWA (ppm)	NIOSH REL (ppm)	OSHA PEL (ppm)	STEL (ppm)	IDLH (ppm)	Routes of Exposure	Known or Suspected Carcinogen	Symptoms
Gasoline	300	n/a	500	n/a	n/a	Inhalation, Absorption, Ingestion, Contact	Yes	Irritation to eyes, skin, mucous membrane; dermatitis, headache, fatigue, blurred vision, dizziness, slurred speech, confusion, convulsions, aspiration
Diesel (as Stoddard solvent)	14.4	Approx. 60-98	250 - 500 NIOSH ceiling	500	Approx . 3000 - 5600	Inhalation, Ingestion, Contact	No	Irritation to eyes, skin, mucous membrane; dermatitis headache, fatigue, blurred vision, dizziness, slurred speech, confusion, convulsions, aspiration, weakness, restlessness, incoordination
Benzene	10	0.1	1	1	500	Inhalation, absorption, Ingestion, Contact	Yes	Irritation to eyes, skin, nose, resp. system, giddiness, headache, nausea, staggered gait, fatigue, anorexia, weakness/exhaustion, dermatitis
Toluene	50	100	150	200	500	Inhalation, absorption, Ingestion, Contact	No	Irritation to eyes, nose; fatigue, weakness, confusion, euphoria, dizziness, headache, dilated pupils, tears, nervousness, muscle fatigue, insomnia, dermatitis
Ethylbenzene	100	100	125	100	800	Inhalation, Ingestion, Contact	No	Irritation to eyes, skin, mucous membrane; headache, dermatitis, narcosis, coma
Xylenes (o,m,p)	100	100	150	100	900	Inhalation, Absorption, Ingestion, Contact	No	Irritation to eyes, skin, nose, throat; dizziness, excitement, drowsiness, incoordination, staggering, gait, nausea, vomiting, abdominal pain, dermatitis

Action levels are based on photo ionization detector readings taken in the field.

DEFINITIONS

ACGIH TLV-TWA	American Conference of Governmental Industrial Hygienists, Threshold Limit Value-Time Weighted Average
NIOSH REL	National Institute of Occupational Safety & Health, Recommended Exposure Limit
STEL	Short Term Exposure Limit (Gasoline STEL is by ACGIH; BTEX STELs are by NIOSH)
OSHA PEL	Occupational Safety and Health Administration, Permissible Exposure Limit
IDLH	Immediately Dangerous to Life and Health
ppm	parts per million
CNS	Central Nervous System
n/a	not available (i.e., no value has been established)

Threshold Limit Value: Threshold limit values (TLVs) refer to airborne concentrations of substances and represent conditions under which it is believed nearly all workers may be repeatedly exposed, day after day, without adverse health effects.

Threshold Limit Value - Time Weighted Average: The time weighted average (TWA) is a concentration for a normal 8-hour workday and a 40-hour workweek, to which nearly all workers may be repeatedly exposed, day after day, without adverse effect. TLV-TWAs are established by the ACGIH.

Recommended Exposure Limit: Unless otherwise noted, the recommended exposure limit (REL) is a TWA concentration for up to a 10-hour workday during a 40-hour workweek. RELs are established by NIOSH to reduce or eliminate adverse occupational health effects.

Short Term Exposure Limit: A short term exposure limit (STEL) is defined as a 15-minute TWA exposure that should not be exceeded at any time during a workday. When compared to the REL (or TLV-TWA for ACGIH standards), the STEL allows the worker to be exposed to a higher concentration, BUT for a shorter period of time. Exposures above the REL up to the STEL should not be longer than 15 minutes and should not occur more than four times per day.

Permissible Exposure Limit: Permissible exposure limits (PELs) are TWA concentrations that must not be exceeded during any 8-hour work shift of a 40-hour workweek. PELs are established by OSHA (29 CFR 1910.1000).

Immediately Dangerous to Life and Health: Immediately dangerous to life and health (IDLH) values are established as concentrations from which a worker can escape within 30 minutes without suffering loss of life, irreversible health effects, or other deleterious effects that could prevent him/her from escaping the hazardous environment. The purpose of establishing an IDLH exposure concentration is to ensure that workers can escape from a given contaminated environment in the event of failure of respiratory protection equipment.

ATTACHMENT C

EMERGENCY SERVICES
PHONE NUMBERS, DIRECTIONS, AND LOCAL AREA MAP

EMERGENCY SERVICES

FACILITY / LOCATION	TELEPHONE
Emergency Situation	**911**

Medical Facility *(with Emergency Room)*

Emergency Services
Valley Urgent Care Center
1111 E. Stanley Boulevard
Livermore, California

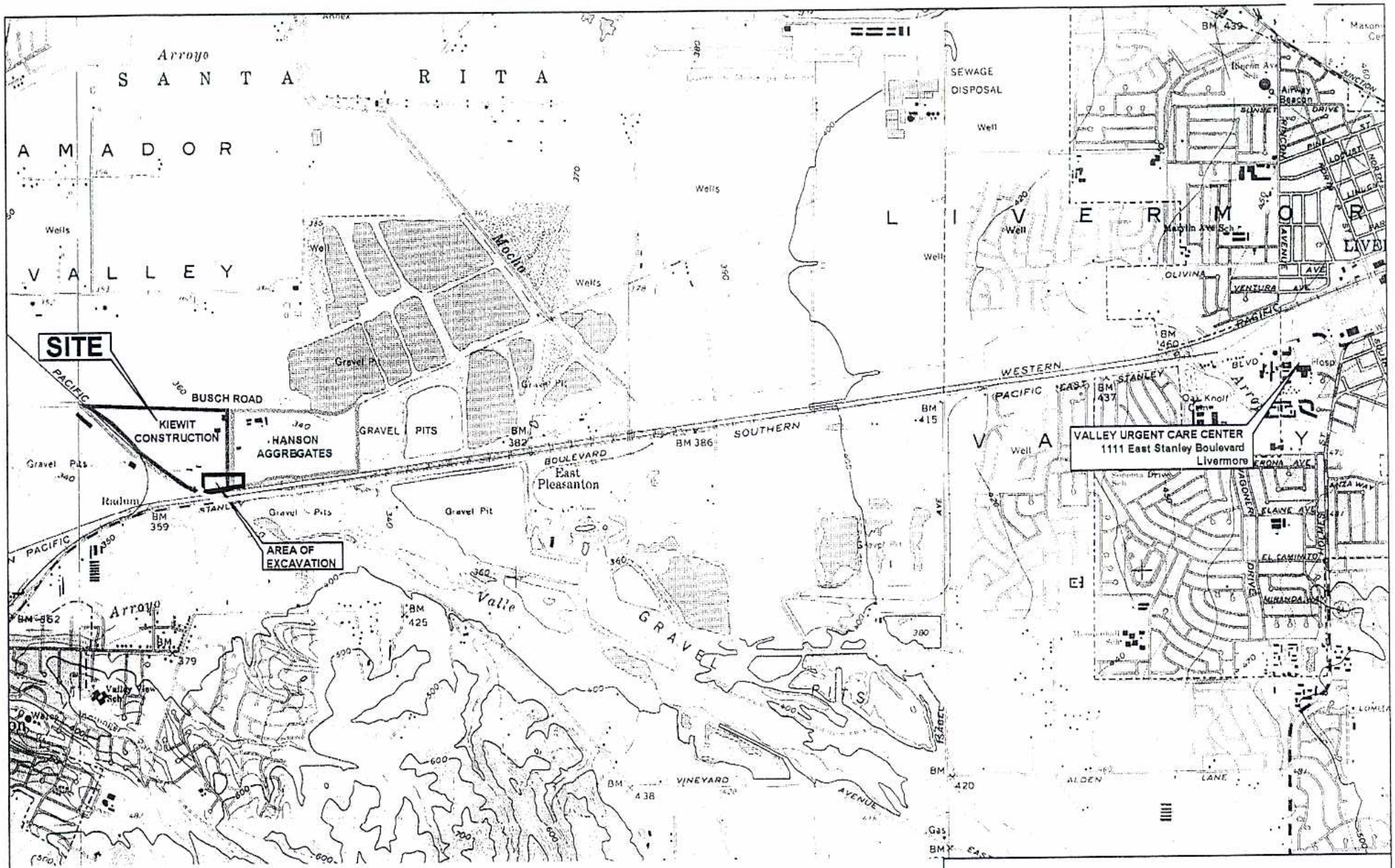
(925) 373-4018

Directions: From the site:

- Proceed on Busch Road (0.5 miles)
- Turn left on Valley Avenue (0.5 miles)
- Turn left on Stanley Boulevard (2.8 miles)
- Continue on East Stanley Boulevard (1.4 miles)

Fire Department:	
Livermore Fire Department	(925) 454-2361
Police Department:	
Pleasanton Police Department	(925) 931-5100
Poison Control Center:	
Poison Center - Regional (24-hour)	(800) 523-2222
Office of Emergency Services:	(800) 852-7550
USA North:	(800) 227-2600

LOCAL AREA MAP
with route to hospital



HOSPITAL ROUTE MAP

Kiewit Construction / Hanson Aggregates
3200 / 3000 Busch Road
Pleasanton, California

TRC | FIGURE

TAILGATE SAFETY MEETING CHECKLIST

Topics Covered
(Check off as discussed)

____ **Personnel training/qualifications:** Check cards for OSHA HAZWOPER 40-hour certification/8-hour-refresher training (other if appropriate).

____ **Supplies:** Indicate location of first aid kit, fire extinguisher, clean water supply (drinking, eye wash), and Health and Safety Plan (HSP).

____ **Emergency services:** Discuss location of nearest telephone and directions to hospital. Map, directions, phone numbers provided at end of HSP (Attachment C).

____ **Site background:** Discuss types, locations, and concentrations of chemicals found onsite, presence of free product, depth to groundwater, etc.

____ **Work activities:** Discuss scope of work for the day and activities to be performed.

____ **Potential hazards:** Discuss physical hazards (lifting, pinch points, traffic, working around machinery, etc.); chemical hazards (exposure limits, symptoms, air monitoring); and environmental hazards (heat stress, etc.).

____ **Air monitoring:** Necessary equipment is onsite and calibrated. Circle: CGI PID

____ **Personal protective equipment (PPE):** Discuss required level of protection. See that workers have appropriate PPE onsite; includes, but is not limited to, hardhat, steel-toe boots, safety glasses, ear plugs / hearing protection, respirator (with cartridges), gloves, traffic safety vest (other _____).

____ **Utilities:** Utilities have been cleared/marked by appropriate divisions.

____ **Traffic control** (vehicular and pedestrian): Work area is properly delineated and cordoned off from traffic.

____ **Compliance log:** HSP has been reviewed and signed by site personnel.

APPENDIX C

ACG Memo to RWQCB

ACG Jay Stender

From: "ACG Jay Stender" <aspect@fiberpipe.net>
To: "Betty Graham" <BG@rb2.swrcb.ca.gov>
Cc: "Mike.Schrad" <MIKE.SCHRAD@kiewit.com>
Sent: Thursday, November 13, 2003 10:23 AM
Attach: KC15FBG.pdf
Subject: Re: #01S0566-Busch Road

Good morning Betty:
Attached is a PDF file related to the region of diesel contaminated soil at Pleasanton.
this is preliminary, although the laboratory results are final. We are incorporating this into the overall report.
related to text for this issue and description of area, I would like to chat with you to understand what will be adequate and complete for your agency.
thankyou
jay

----- Original Message -----
From: "Betty Graham" <BG@rb2.swrcb.ca.gov>
To: <aspect@fiberpipe.net>
Sent: Wednesday, November 12, 2003 12:17 PM
Subject: Re: #01S0566-Busch Roadl

> Thank you for the report. Good news that this project is progressing so
> well.
>
>

Submittal

To: Mike Schrad
Xc: Matt Rossman (TRC)

Re: Cistern/Structure samples
Dt: November 10, 2003

On November 4, Jay Stender, obtained samples at five (5) locations near the bottom and on the sides of the excavation associated with KC-V- 15 sampling. The purpose of the sampling was to determine concentration of diesel contamination in soils beneath and along side of a concrete structure.

A teleconference with Betty Graham, of the Regional Water Quality Board, indicated that due to depth from surface the allowable clean up level would be 5000 mg/kg Diesel Range Organics as TPH rather than the overall clean up level of 1000 mg/kg. The depth of the isolated "hot" area is ~372 ground surface – 344 sample elevation = 28ft bgs. The sample locations are further described in the TRC Excavation Report on Figure 3.

Listed below are the laboratory values for the samples and there descriptions. In addition, I have provided a labeled photographs, that further identifies the locations.

Sample Site	Description	Value
KC 15F – NW	West of structure, north wall	1700 mg/kg
KC 15F – W	West wall, parallel to concrete footer	2600 mg/kg
KC 15F – E	East wall, parallel to concrete footer	N/D
KC 15F – Bottom	Bottom of Excavation, directly south of center	640 mg/kg
KC 15F – C	2 ft below center of concrete footer	4.2 mg/kg

Photo 1. provides an indication of proximity of contaminated material on the west side of the excavation.

Photo 2 provides an indication of the 15F-C, note that the bottom sample is located at the bottom of the trench, approximately 3' deeper than 15F-C. 15F-C, was taken at the north wall directly below the concrete structure approximately 2 feet, north of the face, into the wall.

Jay O. Stender
November 10, 2003

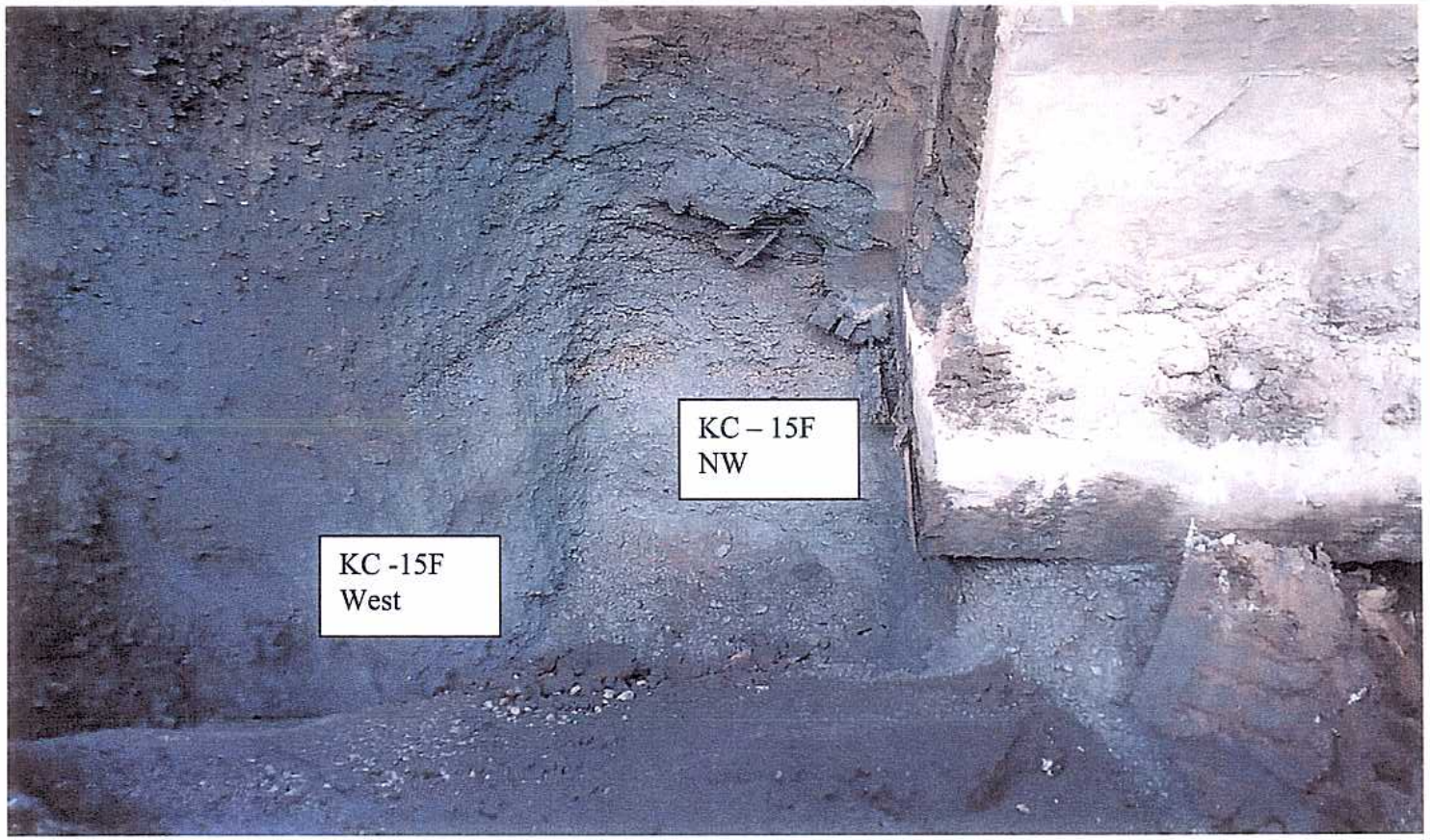


Photo 1, view directly at structure, note western edge of excavation
Photo taken November 4, 2003

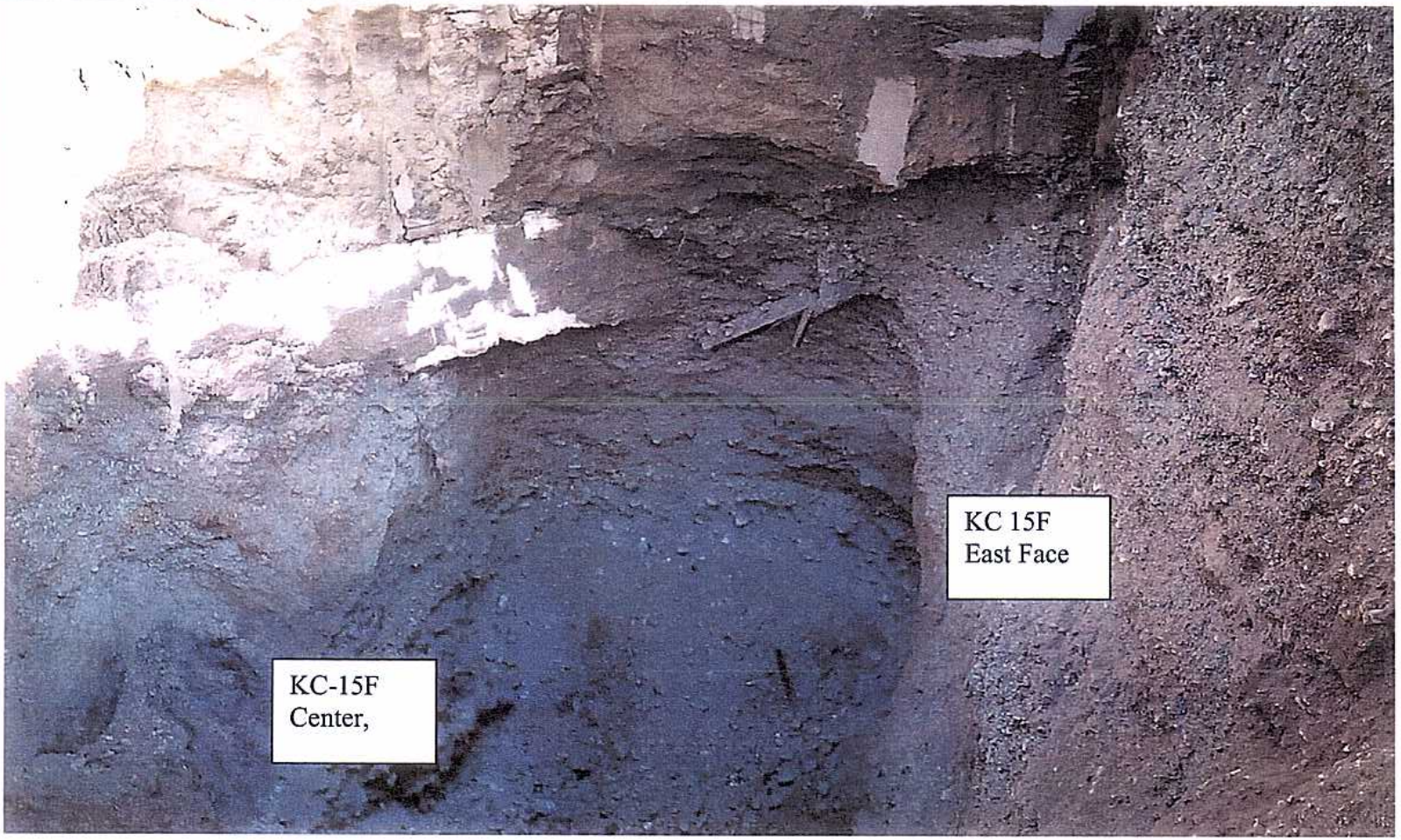
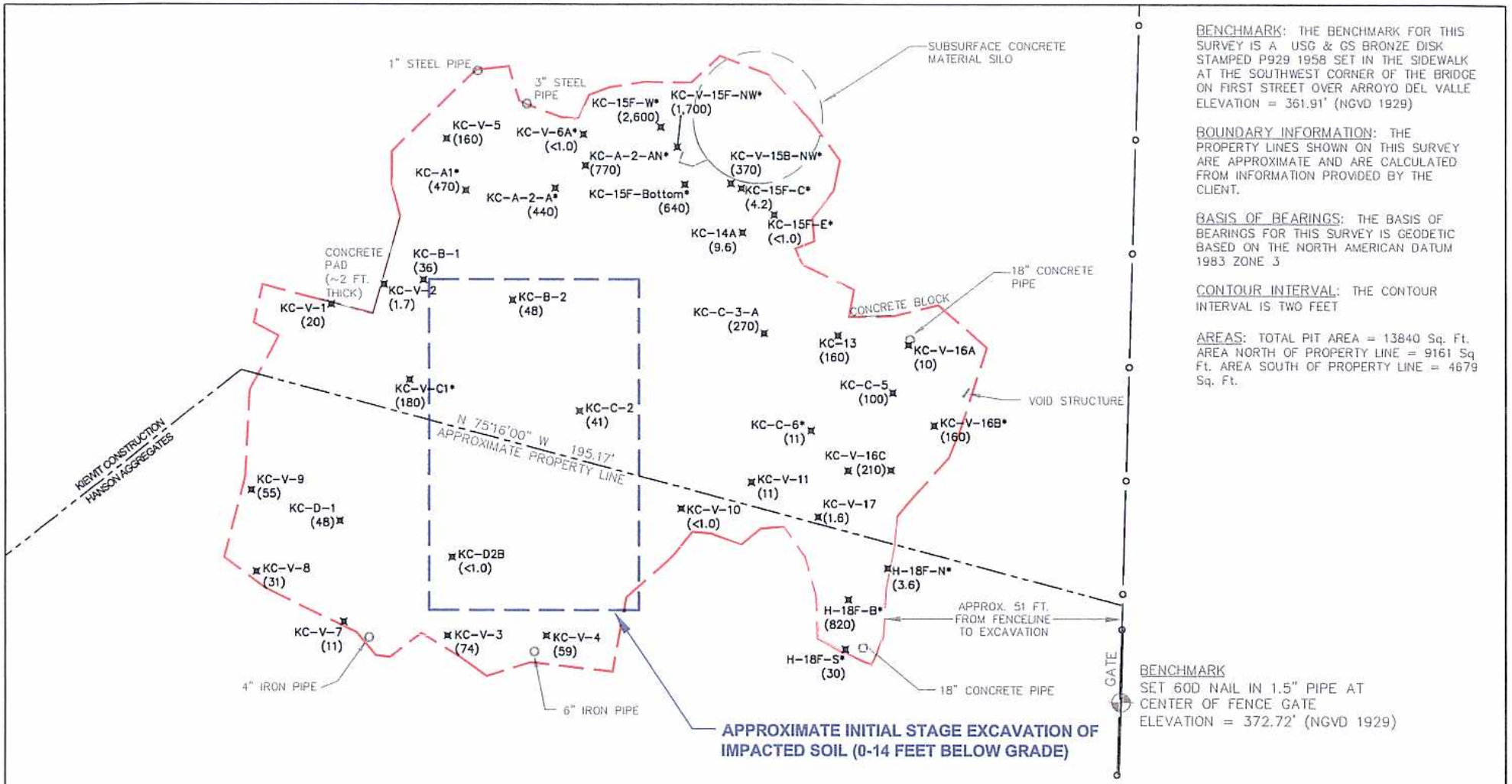


Photo 2, Looking at the center and east face of the excavation.
Photo taken November 4, 2003



BENCHMARK: THE BENCHMARK FOR THIS SURVEY IS A USG & GS BRONZE DISK STAMPED P929 1958 SET IN THE SIDEWALK AT THE SOUTHWEST CORNER OF THE BRIDGE ON FIRST STREET OVER ARROYO DEL VALLE ELEVATION = 361.91' (NGVD 1929)

BOUNDARY INFORMATION: THE PROPERTY LINES SHOWN ON THIS SURVEY ARE APPROXIMATE AND ARE CALCULATED FROM INFORMATION PROVIDED BY THE CLIENT.

BASIS OF BEARINGS: THE BASIS OF BEARINGS FOR THIS SURVEY IS GEODETIC BASED ON THE NORTH AMERICAN DATUM 1983 ZONE 3

CONTOUR INTERVAL: THE CONTOUR INTERVAL IS TWO FEET

AREAS: TOTAL PIT AREA = 13840 Sq. Ft. AREA NORTH OF PROPERTY LINE = 9161 Sq Ft. AREA SOUTH OF PROPERTY LINE = 4679 Sq. Ft.

BENCHMARK
SET 60D NAIL IN 1.5" PIPE AT CENTER OF FENCE GATE
ELEVATION = 372.72' (NGVD 1929)

LEGEND

- Chainlink fence
- Property line
- Proposed excavation
- Actual excavation
- KC-V-1 (20) — Confirmation sampling location with analytical result for TPH-d in soil (mg/kg)

NOTE:
* = Approximate sampling location; (not surveyed)

SOURCE: Topographic Survey by Virgil Chavez Land Surveying, October 2003, revised December 1, 2003.

N

0 20 40 FEET
APPROXIMATE SCALE

SITE PLAN

Kiewit Construction / Hanson Aggregates
3300 Busch Road
Pleasanton, California

TRC | NFA DOCUMENT II

APPENDIX D

Excavation Related Permits

TRC

THE CITY OF PLEASANTON

COM GRADING ONLY PERMIT
PERMIT

APPROVED PLAN AND PERMIT MUST BE AVAILABLE AT JOB SITE
-This permit expires 180 days from date of issue or 180 days from last signed inspection-

Project Address 3000 BUSCH RD	**APN#**	**Permit #:** CGRD 200033
Subdivision:	**Tract #:** **Lot:**	**Applicant** TRC ENVIRONMENTAL SOLU

Project: 03-0008515 -

Owner	**Contractor**
,	TRC ENVIRONMENTAL SOLUTIONS 21 TECHNOLOGY DRIVE IRVINE, CA 92618
Phone:	GENERAL ENGINEERING 692072 949 727-9336

Scope of Work GR GRADING ONLY PERMIT

REMOVE DIESEL IMPACTED SOIL FROM "KIEWIT CONSTRUCTION & HANSON AGGREGATES"

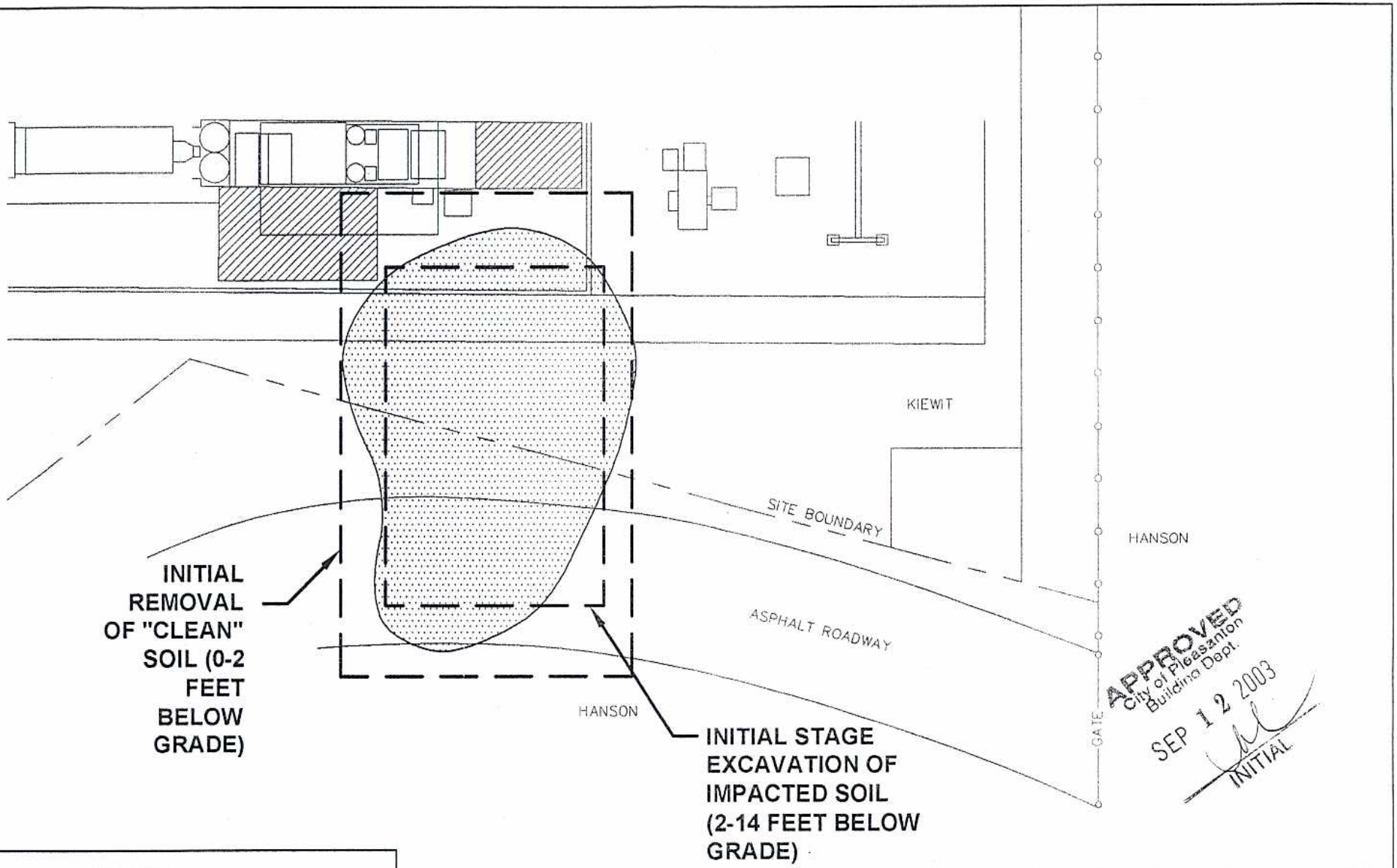
Comments

Quantity	Description	Amount	Quantity	Description	Amount
1500	GRADING PLAN CHECKJ, CU	32.01			
1500	GRADING PERMIT, PER CU)	209.00			
	MISCELLANEOUS FILING FEI	15.00			

Total Fees: $256.01
Payment: $256.01

Issued By: _____ **Date of Issue:** 12-SEP-2003

Building Department / Inspections: (925) 931-5300



LEGEND

Approximate extent of TPH-impacted soil

Proposed excavation boundary

SOURCE: Site plan by URS, October 2000.

APPROXIMATE SCALE (FEET)

0 30 60

SITE PLAN

Kiewit Construction / Hanson Aggregates
3200 / 3000 Busch Road
Pleasanton, California

TRC

FIGURE 2

3000 Busch Rd
ERD 200033

BAY AREA AIR QUALITY MANAGEMENT DISTRICT

COMPLIANCE & ENFORCEMENT DIVISION

Notification Form
Regulation 8 Rule 40

REMOVAL OF UNDERGROUND STORAGE TANKS *OR* TREATMENT OF CONTAMINATED SOIL

SITE OF ACTIVITY

Site Address: 3300 Busch Road	City & Zip: Pleasanton, 94566	Site#:

Specific Location of Project within Address:

Owner/Operator: Kiewit Pacific

Check any that apply (400 numbers refer to regulation section requiring reporting) :

- ☐ Tank Removal or Replacement *(401)*
- ☒ Contaminated Soil Excavation and Removal *(402)*
- ☐ Aeration of Soil < 50 ppmw organic content, but does not meet Section 118 Exemption *(403)*
- ☐ Section 114 Exempt; Date Pipeline Leak ***Started:*** _____ Vol. Of Soil: _____ *(403)*
- ☐ Section 115 Exempt; Date Contamination Unrelated to UST Activities ***Discovered:*** _____ *(405)*

If only Tank Removal is selected, attach results showing soil is not contaminated

CONTRACTOR INFORMATION

Name: TRC	Site Contact: Jonathan Scheiner	Phone: (925) 688-1200

Address: 5052 Commercial Circle, Concord, CA 94520

TANK REMOVAL *(Section 401)*

Scheduled Start Date:	Number and Size of Tank (s):

Explain Methods of:

Piping drainage or flushing *(310.1)* _____

Liquid and sludge removal *(310.2)* _____

Vapor removal *(310.3)* [Check One] ☐ Water Displacement ☐ Vapor Freeing* ☐ Ventilation*

* Emission controls required for vapor freeing or ventilation if tank size greater than 250 gallons.

COMPLETE INFORMATION BELOW OR ATTACH SAMPLE RESULTS SHOWING SOIL IS UNCONTAMINATED (310.4)

CONTAMINATED SOIL EXCAVATION AND REMOVAL *(Section 402)*

Scheduled Start Date: September 15, 2003	Scheduled Completion Date: September 30, 2003

Purpose of Excavation: Remove Diesel Impacted Soil

Quantity of Soil: 6,000 tons **Organic Content & Type:** >1,000 ppm Diesel

Methods used to quantify and analyze soil: Sampling and lab analysis

Method of Stockpile Control *(304-306)*

☐ Water Spray ☒ Covered ☐ Vapor Suppressant (List Material Used): _____

Method of Site Closure *(306)*

☐ Backfilled ☒ Contaminated Soil Removed

☐ Onsite Treatment (Describe): _____ A/C or P/O #: _____

Loaded Trucks Covered? *(306.2)* ☒ Yes ☐ No

AERATION OF SOIL < 50 PPMW ORGANIC CONTENT *(Section 403)*

You must submit a Permit Application and Risk Screening Analysis *(Forms will be sent to you)*

FOR BAAQMD USE ONLY

Fax/PM Date:	By:	Disp to I#:	Area:	Date:	By:
Inv Req Date:	By:	Fwd to Supv.		Date:	By:

See Page Two to Complete This Form

State of California
Department of Industrial Relations
Division of Occupational Safety & Health

ACTIVITY NOTIFICATION FORM FOR HOLDERS OF ANNUAL PERMITS

Scaffolding Falsework Trenches/Excavations

8 CCR 341.1(f) REQUIRES HOLDERS OF ANNUAL PERMITS TO PROVIDE NOTIFICATION TO THE DOSH OFFICE NEAREST THE PROJECT PRIOR TO COMMENCEMENT OF ANY WORK. THIS FORM IS PROVIDED FOR YOUR CONVENIENCE TO USE FOR SUCH NOTIFICATION.

THIS FORM MAY BE FAXED TO THE NEAREST DOSH OFFICE TO COMPLY WITH THE ABOVE. PLEASE DO NOT MAIL DUPLICATE NOTIFICATION TO FOLLOW-UP FAX NOTIFICATION.

FAX DATA: FAXED TO OAKLAND DOSH DISTRICT OFFICE ON 9/12/03

DOSH FAX NO. (510) 622-2908 BY Matthew Rosman

Company Name: TRC Field Phone: 925-260-5371

Annual Permit Number: 2003-901315 Office Phone: 925-688-1200

Issuing Region: 3 Issuing District: 1

Specific Activity Location: 3000 BUSCH ROAD Number of Employees: 4

Nearest Major Cross Street: VALLEY AVENUE Starting Date: 9/17/03

City: PLEASANTON Anticipated Completion Date: 9/31/03

County: ALAMEDA High Voltage Lines in Proximity? No X Yes

INSTRUCTIONS: The appropriate item(s) must be completed and signed by a person knowledgeable about the project for each activity covered by a permit. Please fill in or check off the blanks where appropriate.

Scaffolding: Height _____ Metal _____ Wood _____ Wood over 60 Feet _____ Metal over 125 Feet _____

Metal>125 Feet or Wood>60 Feet requires design by California Registered Civil Engineer & Plans at Site.(See 8 CCR 1644(c)(7))

Description: _____

Falsework/Vertical Shoring: Maximum Height _____ Maximum Span _____ Material _____

Description: _____

(See 8 CCR 1717)

Trenches/Excavations: Depth Range(Min/Max) 10-20' Width Range(Min/Max) 30-60' Total Length 100'

Ground Protection Method: Shoring _____ Sloping X Trench Shield _____ Professional Engineer _____

Underground Services Alert(USA) Number 333384 (NORTH 1-800-642-2444/SOUTH 1-800-422-4133)

Soil Analysis to be done? Yes _____ No X If No, You Must Slope 1.5 to 1.

Competent Person: The holder of an Annual Permit who is notifying the District of the commencement of a Trench and/or Excavation project shall designate a **competent person** in accordance with the requirements of 8 CCR Section 1504, 1541, and 1541.1.

Description: Excavation of diesel-impacted soil.

Ground protection methods for excavations deeper than 20 feet must be designed by a Registered Professional Engineer. See 8 CCR 1541.1, Appendix F.

I hereby certify that to the best of my knowledge the above information and assertions are true and correct and that I/the applicant have knowledge of and will comply with the foregoing.

Signature: MRe

Title: Staff Engineer Date: 9/12/2003

CAL/OSHA 41-3 (09/01/94)

STATE [illegible] TRC IRVINE 949 753 0101 NO. 0171 P. 1

DEPARTMENT OF INDUSTRIAL RELATIONS
DIVISION OF OCCUPATIONAL SAFETY AND HEALTH

No: **2003-901315**

PERMIT

Permit Issued To
(Insert Employer's Name, Address and Telephone No.)

TRC Companies
21 Technology Dr
Irvine CA 92618-2366

(949) 753-0101

No.
Date 12/18/2002
Region 3
District 1
Tel. (714) 939-0145

Type of Permit T1-ANNUAL TRENCH/EXCAVATION

Pursuant to Labor Code Sections 6500 and 6502, this Permit is issued to the above-named employer for the projects described below.

State Contractor's License Number	692072	Permit Valid through	December 31, 2003	
Description of Project	Location Address	City and County	Anticipated Dates	
			Starting	Completion
Various	Statewide		1/1/2003 or issue date whichever is later.	12/31/2003

This Permit is issued upon the following conditions:

1. That the work is performed by the same employer. If this is an annual permit the appropriate District Office shall be notified, in writing, of dates and location of job site prior to commencement.

2. The employer will comply with all occupational safety and health standards or orders applicable to the above projects, and any other lawful orders of the Division.

3. That if any unforeseen condition causes deviation from the plans or statements contained in the Permit Application Form the employer will notify the Division immediately.

4. Any variation from the specification and assertions of the Permit Application Form or violation of safety orders may be cause to revoke the permit.

5. This permit shall be posted at or near each place of employment as provided in 8 CCR 341.4

Received From	Received By	
[illegible]rant Ratkovic	Permit Unit	
☐ Cash	Amount	Date
☒ Check 12299	$100.00	12/18/02

Investigated by _____ Safety Engineer Date

Approved by Robert E Law 1/6/2003
District Manager/Permit Unit Date

THE CITY OF PLEASANTON

COM GRADING ONLY PERMIT
PERMIT

APPROVED PLAN AND PERMIT MUST BE AVAILABLE AT JOB SITE
-This permit expires 180 days from date of issue or 180 days from last signed inspection-

Project Address 3000 BUSCH RD	**APN#**	**Permit #:** CGRD 200033
Subdivision:	**Tract #:** **Lot:**	**Applicant** TRC ENVIRONMENTAL SOLU

Project: 03-0008515 -

Owner **Phone:**	**Contractor** TRC ENVIRONMENTAL SOLUTIONS 21 TECHNOLOGY DRIVE IRVINE, CA 92618 GENERAL ENGINEERING 692072 949 727-9336

Scope of Work GR GRADING ONLY PERMIT

REMOVE DIESEL IMPACTED SOIL FROM "KIEWIT CONSTRUCTION & HANSON AGGREGATES"

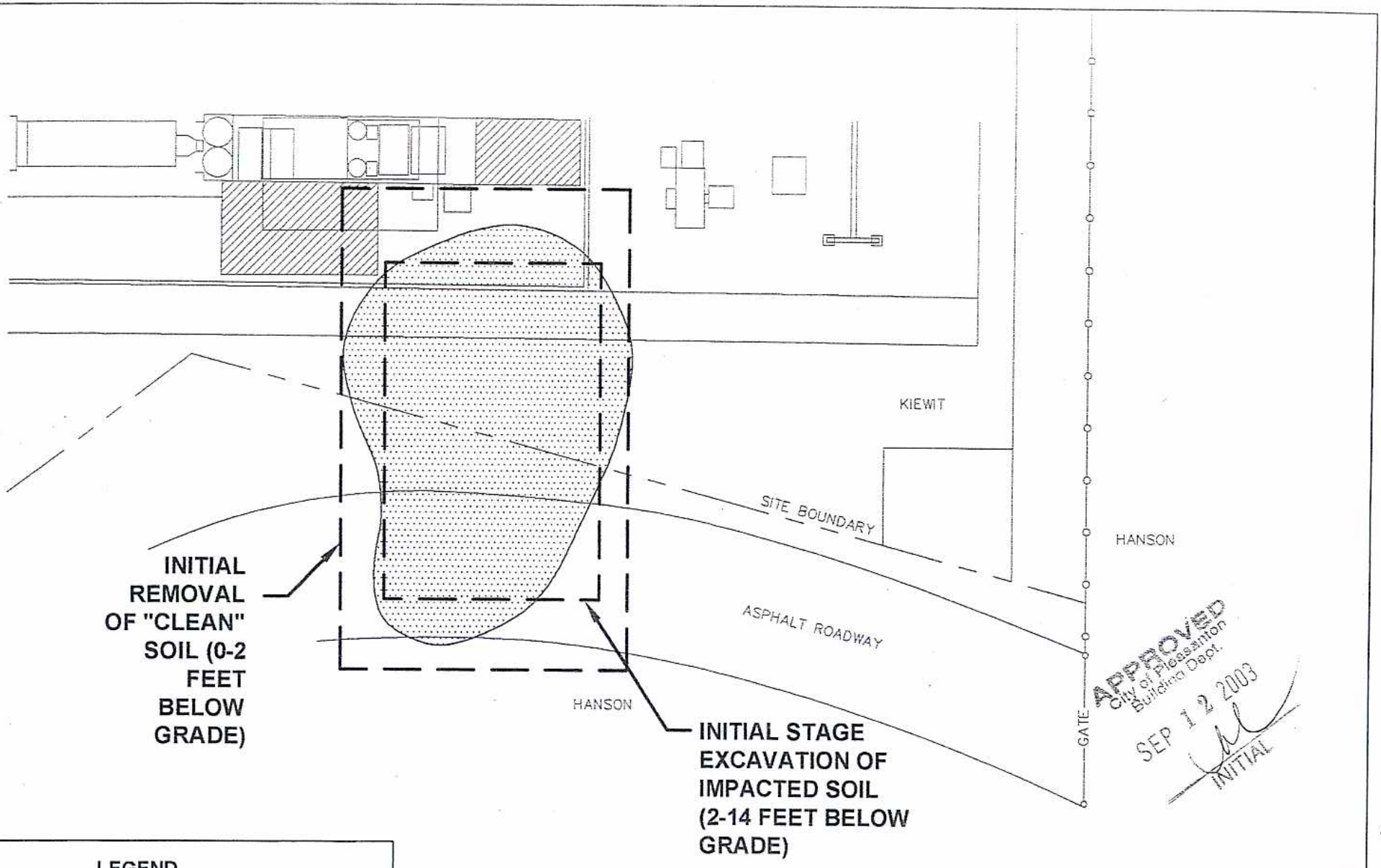
Comments

Quantity	Description	Amount	Quantity	Description	Amount
1500	GRADING PLAN CHECKJ, CU	32.01			
1500	GRADING PERMIT, PER CU)	209.00			
	MISCELLANEOUS FILING FEI	15.00			

Total Fees: $256.01
Payment: $256.01

Issued By: _____ **Date of Issue:** 12-SEP-2003

Building Department / Inspections: (925) 931-5300



LEGEND

Approximate extent of TPH-impacted soil

Proposed excavation boundary

SOURCE: Site plan by URS, October 2000.

APPROXIMATE SCALE (FEET)

0 30 60

SITE PLAN

Kiewit Construction / Hanson Aggregates
3200 / 3000 Busch Road
Pleasanton, California

TRC

FIGUP[illegible] 2

CERA 200033 3000 Busch RA

Attachment 3

Kiewit Property Reports

KIEWIT CONSTRUCTION COMPANY

One Thousand Kiewit Plaza
Omaha, Nebraska 68131

(402) 342-2052
FAX (402) 271-2830

3 February, 2004

Ms. Betty Graham P.E.
Senior Environmental Engineer
California Regional Water Quality Board
San Francisco Bay Region
1515 Clay Street
Suite 1400
Oakland, California 94612

RE: 01S0566 – Self Directed Cleanup
3300 Busch Road, Pleasanton, California 94566

Dear Ms. Graham:

This documents the "self-directed cleanup" of diesel contaminated soil located on property owned by Kiewit Construction Company and Hanson Aggregates Mid-Pacific Inc. at 3300 Busch Road in Pleasanton, California 94566. We request a "**No Further Action**" (NFA) letter from the Regional Water Quality Board to Kiewit Construction Company (KCC) and Hanson Aggregates Mid Pacific Inc., related to our self-directed cleanup of diesel contaminated soils. The excavation report is in attached (Volume I).

The Kiewit and Hanson area is described as approximately 13,840 sq. ft. located on the common boundary of the Kiewit and Hanson properties and lying approximately 51 feet west of the Hanson property line. The area is more accurately described in attached Volume V - Site Survey.

Attached with this NFA request are three supporting documents. Volume I is the overall excavation report and supporting appendices that describes the excavation and provides maps and analytical data around the margin and on the floor of the excavation. As reported, the area was excavated and the resulting sidewall and bottom margins sampled and analyzed. The overall excavation sample sites documented concentrations below the 1000 mg/kg concentration for Diesel Range Organics (DRO) as measured by USEPA M 8015b.

As approved by you in a phone conversation with Jay Stender on November 4, 2003, one small isolated area was not excavated. This area is located on the northeast corner of the excavation at a depth of greater than 20 feet below ground surface. This isolated area was not excavated due to the following:

- depth from surface (28 ft bgs),
- relatively small area as supported by analytical testing from samples located in the adjacent area and below,
- Three samples did meet the 1000 mg/kg standard; two of five related samples analyzed did not exceed 3000 mg/kg; and,
- The location is greater than 50 ft from groundwater.

The initial excavation removed 5,119 yards of material from the site. This material was transported to the Altamont Landfill and used for cover material. Kiewit and Hanson removed an additional 350 yards of material associated with isolated hot spots in November. This material was also transported to the Altamont Landfill.

Backfill material will come from outside the property.

Volume V contains a is a site map (generated by survey) which illustrates the footprint of the excavation and its relative position to landownership. Kiewit acquired the land in 1969 from Hanson's predecessor Kaiser Industries Corporation. The property is further described as Parcel A on Parcel Map 389, said map being filed on August 26, 1969, Map Book 61 Page 50 of the Alameda County, California records. By separate deed issued in 1977, Kiewit conveyed approximately one acre of land back to Kaiser Industries Corporation. It is the common boundary between these two conveyances that has been subject to the self directed cleanup and therefore, both Kiewit and Hanson are requesting the NFA.

Figure I, Volume I contains a relative site map related to the overall location of the site in Pleasanton. This is for general reference to the Regional Water Quality Board.

As explained above, due to the common boundary of the area of self-directed cleanup, Bill Berger, the representative of Hanson, has joined in the request for the NFA. Thus, we request a parallel notification of "No Further Action" to Mr. Berger.

We appreciate your consideration of this matter and the review of the documents. We will contact you in approximately ten days to answer any questions you may have and to review your timetable on the NFA letter.

Should you have any questions, in the mean time please feel free to contact one of us.

Mike Schrad
Environmental Control Director
Kiewit Construction Company
1000 Kiewit Plaza
Omaha, Nebraska 68131

Bill Berger
Vice President of Operational Services
Hanson Aggregates Mid Pacific Inc.
2680 Bishop Drive
Suite 225
San Ramon, California 94583

Attachments

3199

California Regional Water Quality Control Board
San Francisco Bay Region

Terry Tamminen
Secretary for
Environmental
Protection

1515 Clay Street, Suite 1400, Oakland, California 94612
(510) 622-2300 • Fax (510) 622-2460
http://www.swrcb.ca.gov/rwqcb2

Arnold Schwarzenegger
Governor

APR 19 2004

March 31, 2004
File No. 01S0566 (BG)

Kiewit Construction Company
Attn.: Mr. Mike Schrad
1000 Kiewit Plaza
Omaha, Nebraska 68131

Hanson Aggregates Mid Pacific Inc.
Attn.: Mr Bill Berger
2680 Bishop Drive, Suite 225
San Ramon, California 94583

SUBJECT: No Further Action, 3300 Busch Road, Pleasanton, Alameda County

Dear Mr. Schrad and Mr. Berger:

We have reviewed the report titled, *Self-Directed Remediation of Diesel Contaminated Soil,* Kiewit Construction Company and Hanson Aggregates Mid-Pacific Inc, January 2004 (Completion Report). We find that remediation of the subject property has been completed in accordance with applicable regulatory requirements. This letter confirms the completion of site investigation and remedial action for the pollutant releases at the subject site.

As reported in a September 2000 Phase II Environmental Site Assessment (ESA), soils within a 13,840 square foot area (0.32 acre) were impacted with diesel and gasoline range petroleum hydrocarbons. Groundwater was not impacted. The ESA recommended a soil cleanup standard of 1000 mg/kg total petroleum hydrocarbons as diesel (TPHd), and excavation of impacted soils for off-site disposal. By letter dated September 21, 2001, the Board concurred with the recommendations of the ESA and requested that Kiewit and Hanson complete remediation on a self directed basis.

As described in the Completion Report, impacted soils were removed during fall 2003. The excavated soil totaled approximately 10,325 tons. Excavated soil was transported in 469 truckloads for disposal at the Altamont Landfill. Post excavation bottom and sidewall samples confirmed removal of all impacted soils and attainment of site cleanup standards.

Based upon the available information, including the current land use, and with the provision that the information provided to this agency was accurate and representative of site conditions, no further action related to the pollutant releases at the subject site is required.

If you have any questions, please contact Betty Graham of my staff at (510) 622-2358 [e-mail bg@rb2.swrcb.ca.gov].

Sincerely,

Bruce H. Wolfe
Executive Officer

Attachment

cc w/attachment:

Danielle Stefani
Livermore Pleasanton Fire Department
3560 Nevada Street
Pleasanton, CA 94566

Matt Katen
Zone 7 Water Agency
5997 Parkside Drive
Pleasanton, CA 94588

4/19/04
c: Paul White
Bryce Scofield

CASE CLOSURE SUMMARY

Date: March 31, 2004

I. AGENCY INFORMATION

Agency Name: SF Bay Regional Water Quality Control Board	Address: 1515 Clay Street, Suite 1400
City/State/Zip: Oakland, CA 94612	Phone: 510-622-2300
Responsible Staff Person: Betty Graham	Title: Water Resources Control Engineer

II. SITE INFORMATION

Site Facility Name:		
Site Facility Address: 3300 Busch Road, Pleasanton, CA 94566		
RB Case No.: 01S0566	Local Case No.: NA	Priority: Low
Responsible Parties (include addresses and phone numbers)		
Kiewit Construction Company, Attn: Mr. Mike Schrad, 1000 Kiewit Plaza, Omaha, Nebraska 68131, 402 342-2052		
Hanson Aggregates Mid Pacific Inc., Attn: Mr. Bill Berger, 2680 Bishop Drive Suite 225, San Ramon, CA 94583		

Tank No.	Size in Gallons	Contents	Closed In—Place/Removed?	Date
None				

III. RELEASE AND SITE CHARACTERIZATION INFORMATION

Cause and Type of Release: Soil contaminated with diesel fuel, cause and type of release are unknown		
Site characterization complete? Yes	Date Approved by Oversight Agency: March 31, 2004	
Monitoring wells installed? NA	Number:	Proper screened interval?
Highest GW Depth Below Ground Surface: 117'	Lowest Depth:	Flow Direction: NW
Most Sensitive Current Use: Construction storage		
Most Sensitive Potential Use and Probability of Use Construction storage		
Are drinking water wells affected? No	Aquifer Name: Livermore – Amador Groundwater Basin	

Is surface water affected? No	Nearest surface water name: Arroyo del Valle
Off-Site Beneficial Use Impacts (Addresses/Locations): None	
Report(s) on file? Yes	Where is report(s) filed? SF Bay Regional Water Quality Control Board

TREATMENT AND DISPOSAL OF AFFECTED MATERIAL

Material	Amount (Include Units)	Action (Treatment or Disposal w/Destination)	Date
Tanks	None		
Piping	None		
Free Product	None		
Soil	10,325 tons	Excavation and Disposal at Altamont Landfill	
Groundwater	NA		
Barrels	NA		

MAXIMUM DOCUMENTED POLLUTANT CONCENTRATIONS—BEFORE AND AFTER CLEANUP

POLLUTANT	Soil (ppm)		Water (ppb)		POLLUTANT	Soil (ppm)		Water (ppb)	
	Before	After	Before	After		Before	After	Before	After
TPH diesel	9,000	<1,000							

Comments (Depth of Remediation, etc.):

For this self-directed cleanup of diesel contaminated soils, Kiewit excavated soils from a 13,840 square foot area. Following excavation, Kiewit collected bottom and sidewall samples to confirm that site cleanup objective of 1,000 mg/kg TPHd had been met. Excavated soils were disposed at the Altamont Landfill. Groundwater was not impacted.

IV. CLOSURE

Does completed corrective action protect existing beneficial uses per the Regional Board Basin Plan? Yes
Does completed corrective action protect potential beneficial uses per the Regional Board Basin Plan? Yes

Does corrective action protect public health for current land use? Yes		
Site Management Requirements: None		
Monitoring Wells Decommissioned: NA	Number Decommissioned:	Number Retained:
List Enforcement Actions Taken: NA (self directed cleanup)		
List Enforcement Actions Rescinded: NA		

V. TECHNICAL REPORTS, CORRESPONDENCE, ETC., THAT THIS CLOSURE RECOMMENDATION WAS BASED UPON

Self-Directed Remediation of Diesel Contaminated Sol, January 2004, TRC	
September 2000 Phase II Environmental Site Assessment	

VI. ADDITIONAL COMMENTS, DATA, ETC.

This document and the related CASE CLOSURE LETTER shall be retained by the lead agency as part of the official site file.

Attachment 4

RWQCB Former UST Closure Letter and Zone 7 Well Abandonment Information

ALAMEDA COUNTY
HEALTH CARE SERVICES
AGENCY
DAVID J. KEARS, Agency Director

March 9, 1998

ENVIRONMENTAL HEALTH SERVICES
ENVIRONMENTAL PROTECTION (LOP)
1131 Harbor Bay Parkway, Suite 250
Alameda, CA 94502-6577
(510) 567-6700
FAX (510) 337-9335

STID 5829

Mr. Lawrence Appleton
Kaiser Sand & Gravel Company
P.O. Box 580
Pleasanton, CA 94566

RE: KAISER SAND & GRAVEL COMPANY, 3000 BUSCH ROAD, PLEASANTON

Dear Mr. Appleton:

This letter transmits the enclosed underground storage tank (UST) case closure letter in accordance with Chapter 6.75 (Article 4, Section 25299.37[h]) of the California Health and Safety Code. The State Water Resources Control Board (SWRCB) has required since March 1, 1997 that this agency use this case closure letter for all UST leak sites. We are also transmitting to you the enclosed case closure summary. These documents confirm the completion of the investigation and cleanup of the reported release at this site.

SITE INVESTIGATION AND CLEANUP SUMMARY

Please be advised that the following conditions exist at the site:

- Up to 1,600 parts per million Total Petroleum Hydrocarbons as Diesel remain in native soil beneath a former UST at a depth of 25 feet below current grade.

If you have any questions, please contact the undersigned at (510) 567-6783.

Sincerely,

Scott O. Seery, CHMM
Hazardous Materials Specialist

Enclosures:
1. Case Closure Letter
2. Case Closure Summary

cc: Dick Pantages, Chief, Environmental Protection

ALAMEDA COUNTY
HEALTH CARE SERVICES
AGENCY
DAVID J. KEARS, Agency Director

March 9, 1998

STID 5829

ENVIRONMENTAL HEALTH SERVICES
ENVIRONMENTAL PROTECTION (LOP)
1131 Harbor Bay Parkway, Suite 250
Alameda, CA 94502-6577
(510) 567-6700
FAX (510) 337-9335

REMEDIAL ACTION COMPLETION CERTIFICATION

Kaiser Sand & Gravel Company
P.O. Box 580
Pleasanton, CA 94566
Attn: Lawrence Appleton

RE: KAISER SAND & GRAVEL, 3000 BUSCH ROAD, PLEASANTON

Dear Mr. Appleton:

This letter confirms the completion of a site investigation and remedial action for the underground storage tanks formerly located at the above-described location. Thank you for your cooperation throughout this investigation. Your willingness and promptness in responding to our inquiries concerning the former underground storage tanks are greatly appreciated.

Based on information in the above-referenced file and with the provision that the information provided to this agency was accurate and representative of site conditions, no further action related to the underground tank release is required.

This notice is issued pursuant to a regulation contained in Section 2721(e) of Title 23 of the California Code of Regulations.

Please contact our office if you have any questions regarding this matter.

Sincerely,

Mee Ling Tung
Director, Environmental Health Services

c: Dick Pantages, Chief, Env. Protection Division
Stephen Hill, RWQCB
Dave Deaner, SWRCB (w/attachment)
Chris Boykin, Livermore-Pleasanton Fire Dept. (w/attachment)
SOS/files

- SIGNED COPY -

RB Site # 01-0544

CASE CLOSURE SUMMARY
Leaking Underground Fuel Storage Tank Program

I. AGENCY INFORMATION

Date: 12/24/97

Agency name: **Alameda County-EPD** Address: **1131 Harbor Bay Pkwy #250**
City/State/Zip: **Alameda, CA 94502** Phone: **(510) 567-6700**
Responsible staff person: **Scott Seery** Title: **Haz. Materials Spec.**

II. CASE INFORMATION

Site facility name: **Kaiser Sand and Gravel**
Site facility address: **3000 Busch Road, Pleasanton 94566**
RB LUSTIS Case No: **N/A** Local Case No./LOP Case No.: **5829**
URF filing date: UNK SWEEPS No: **N/A**

Responsible Parties:	Addresses:	Phone Numbers:
Kaiser Sand & Gravel Co. Attn: Lawrence Appleton	P.O. Box 580 Pleasanton, CA 94566	

Tank No:	Size in gal.:	Contents:	Closed in-place or removed?:	Date:
1	10K gal	diesel	removed	02/06/95
2	3000 "	"	"	"
3	1000 "	waste oil	"	"
4	5000* "	new oil	"	"
5	12K "	diesel	"	11/02/90
6	12K "	"	"	"
7	10K "	gasoline	"	"

* This UST described in various documents as both of 3000 and 5000 gallon capacity.

III. RELEASE AND SITE CHARACTERIZATION INFORMATION

Cause and type of release: UNK

Site characterization complete? YES

Date approved by oversight agency:

Monitoring Wells installed? YES Number: 1

Proper screened interval? YES (25 - 33' BG)

Highest GW depth below ground surface: 26.54' Lowest depth: 27.89'

Flow direction: reportedly towards the west

Most sensitive current use: gravel mining

Are drinking water wells affected? NO Aquifer name: Amador Subbasin, Livermore Valley

Leaking Underground Fuel Storage Tank Program

III. RELEASE AND SITE CHARACTERIZATION INFORMATION (Continued)

Is surface water affected? NO Nearest affected SW name: NA

Off-site beneficial use impacts (addresses/locations): NONE

Report(s) on file? **YES** Where is report filed? **Alameda County**
1131 Harbor Bay Pkwy
Alameda CA 94502

Treatment and Disposal of Affected Material:

Material	Amount (include units)	Action (Treatment or Disposal w/destination)	Date
Tank	(2x12K; 1x10K gals)	Disposal - H&H Ship Svc San Francisco, CA	11/02/90
	(1x10K; 1x5K; 1x3K; 1x1K)	Disposal - Erickson, Inc. Richmond, CA	02/06/90
Piping	UNK		
Product/sludge	270 gals	Disposal - Erickson, Inc. Richmond, CA	02/90
Soil	~832 tons	Disposal - Forward L.F. Stockton, CA	May 1997

Maximum Documented Contaminant Concentrations - - Before and After Cleanup

Contaminant	Soil[1] (ppm) Before	Soil[1] (ppm) After	Water (ppb) Before	Water (ppb) After
TPH (Gas)	ND	ND	ND	ND
TPH (Diesel)	190	1600	1600	"
TPH (mtr oil)	59	NA	NA	NA
Benzene	ND	ND	ND	ND
Toluene	"	"	"	"
Xylene	"	"	"	"
Ethylbenzene	"	"	"	"
Oil & Grease	60	"	NA	NA
Heavy metals	[geogenic conc.]		"	"
Other **SVOC, HVOC**	ND	NA	"	"

Note: 1) "Before" soil results from samples collected from UST excavations during 1990 and 1995 closures as follows: TPH-G, TPH-D, BTEX, and O&G result from *Area 4* tank cluster; TPH-mo from *Area 2* tank; metals, SVOC and HVOC from *Area 1* tank. "After" soil results from sample collected after overexcavation of *Area 4* tank pit.

Comments (Depth of Remediation, etc.):

During November 1990, one 10,000 gallon gasoline and two 12,000 gallon diesel USTs were removed from a shared excavation located adjacent to the vehicle service shop, identified as *"Area 4."* During February 1995, one 3,000 gallon diesel, one 10,000 gallon diesel, and one 1,000 gallon waste

Leaking Underground Fuel Storage Tank Program

III. RELEASE AND SITE CHARACTERIZATION INFORMATION (Continued)

oil and one 5,000 gallon new oil USTs were removed from *"Area 3," "Area 2," and "Area 1,"* respectively. Only those samples collected during the 1990 tank closures in *"Area 4"* revealed noteworthy levels of hydrocarbon compounds consistent with an unauthorized release. Consequently, only the *"Area 4"* tank closures and subsequent activities will be presented in the remainder of this report.

Historically, the subject UST area was reportedly a former gravel mining pit in the 1940s and 1950s. Mining continued vertically until reaching clay encountered at a reported depth of 30 to 40' BG. The pit was partially restored using pea gravel, and then converted to a "settling pond" where silts and clays were accumulated. The tank complex and shop structure of *"Area 4"* were built upon this former settling pond.

Initial samples collected from the base of the *"Area 4"* excavation identified up to 190 ppm TPH-D in sample KP-E4, collected in the southwest corner of the tank pit at an approximate depth of 11' BG. TPH-G and BTEX were not present above method detection limits. This area of the excavation was deepened to 25' BG at which point one bottom (KP-BOTTOM 1) and three (3) sidewall samples were collected. Up to 1600 ppm TPH-D was identified in the noted bottom sample, and 180 ppm TPH-D was identified in one of the sidewall samples collected at 8' BG.

A total of approximately 480 yds^3 was reportedly excavated from the *"Area 4"* pit during initial and subsequent excavation activities. The excavation was restored to grade using clean gravel derived from elsewhere at this site. Excavated soil from *"Area 4"* and the remaining UST sites totalling some 832 tons was transported to Forward landfill (Stockton, CA) during May 1997 for disposal.

IV. CLOSURE

Does completed corrective action protect existing beneficial uses per the Regional Board Basin Plan? _____

Does completed corrective action protect potential beneficial uses per the Regional Board Basin Plan? _____

Does corrective action protect public health for current land use? YES
Site management requirements: NA

Should corrective action be reviewed if land use changes? YES

Monitoring wells Decommisioned: NO

Number Decommisioned: 0 Number Retained: 1 (pending case closure)

Leaking Underground Fuel Storage Tank Program

IV. CLOSURE (Continued)

List enforcement actions taken: None

List enforcement actions rescinded: None

V. LOCAL AGENCY REPRESENTATIVE DATA

Name: Scott Seery Title: Haz Mat Specialist
Signature: Date: 1/6/98

Reviewed by
Name: Tom Peacock Title: Supervising Haz Mat Specialist
Signature: Date: 1-5-98

Name: Eva Chu Title: Haz Mat Specialist
Signature: Date: 1/5/98

VI. RWQCB NOTIFICATION

Date Submitted to RB: 1/6/98 RB Response: Concur
RWQCB Staff Name: ~~Kevin Graves~~ Stephen Hill Title: ~~San. Eng. Assoc.~~ ES IV Sup Date: 1/5/98

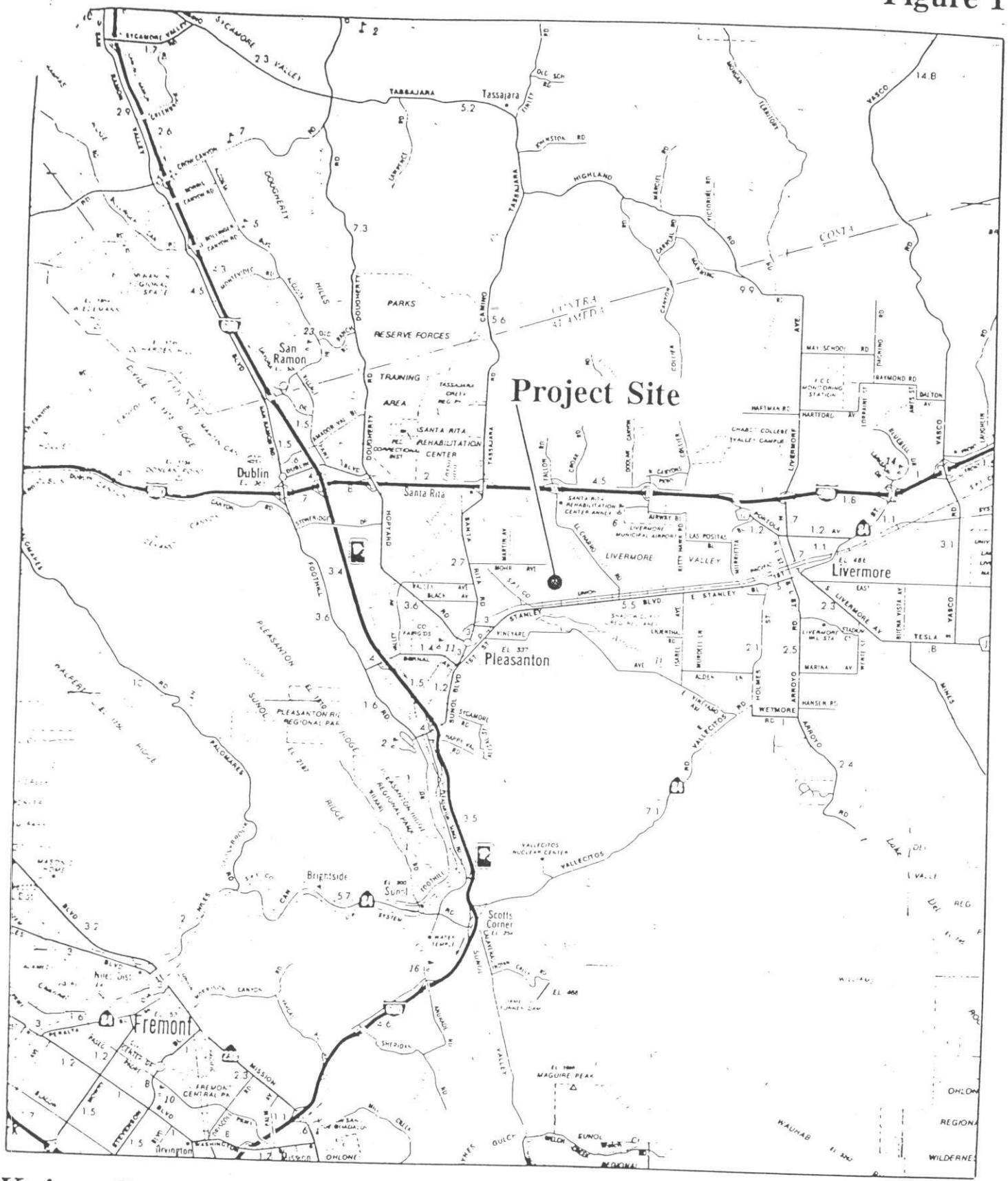
VII. ADDITIONAL COMMENTS, DATA, ETC.

During March 1991, four soil borings were advanced through the former "Area 4" UST pit to depths ranging from 28 to 35.5' BG. A single monitoring well (MW-KP1) was installed within one of the borings. No detectable HC compounds were identified in soil samples collected from any of the borings to the depth explored (27.5 - 34' BG).

Well MW-KP1 was sampled quarterly through February 1993 and then yearly through February 1996. No detectable target compounds were identified in the final 3 annual sampling events. BTEX were never identified in any of the water samples at any time during this ground water investigation.

ONAL LOCATION

Figure 1

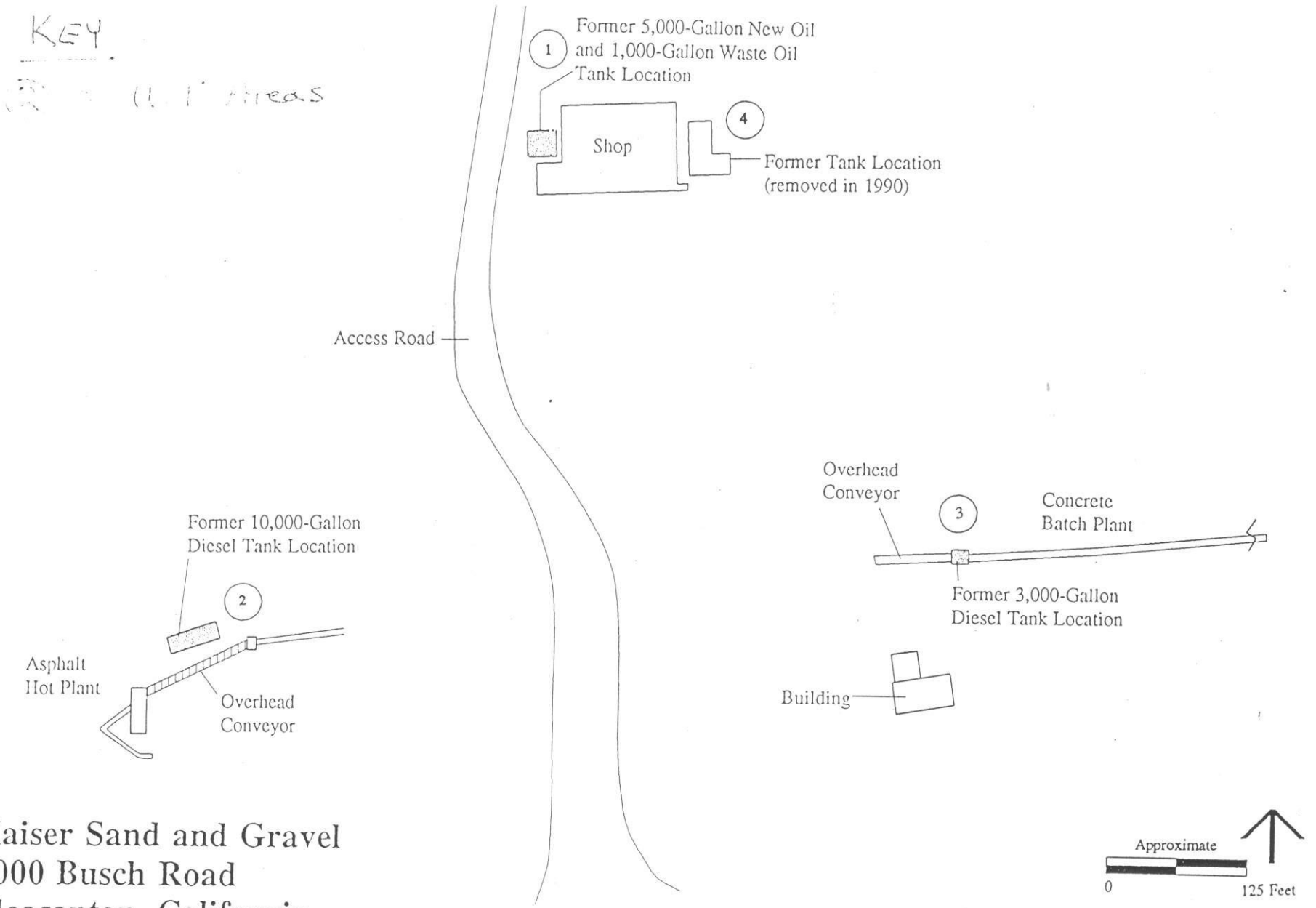


Kaiser Sand and Gravel
3000 Busch Road
Pleasanton, Calfornia

BASELINE

SITE PLAN

Figure 2



Kaiser Sand and Gravel
3000 Busch Road
Pleasanton, California

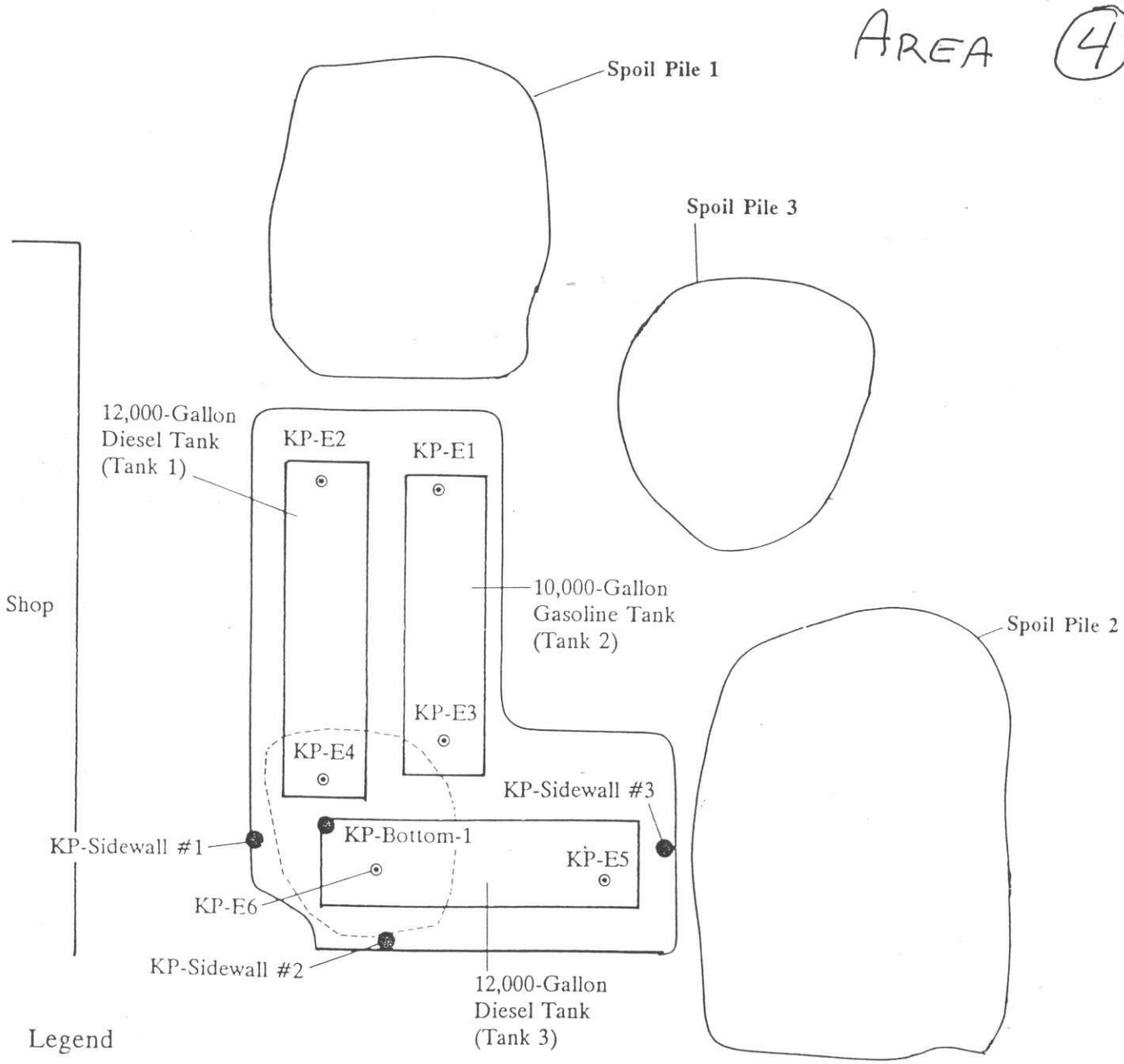
BASELINE

95088-00 2/14/95

,ERGROUND TANK EXCAVATION ,D SOIL SAMPLING LOCATIONS

Figure 3

AREA (4)



Legend

KP-E2 ⊙ Sample Collected 11/2/90

KP-1 ● Sample Collected 11/29/90

---------- Limit of Additonal Investigation

Kaiser Sand and Gravel
3000 Busch Road
Pleasanton, California

0 15 Feet

BASELINE

UT10-115 12/28/90

TABLE 1

SUMMARY OF ANALYTICAL RESULTS
Kaiser Sand and Gravel
3000 Busch Road, Pleasanton, California

AREA (4)

Location	Date	Depth (feet)	Gasoline	Diesel	Motor Oil	Benzene	Toluene	Xylenes	Ethyl-benzene	Lead
SOIL (mg/kg):										
Tank Excavation										
KP-E1	11/2/90	11.0	<0.2	--	--	<0.001	<0.001	<0.003	<0.001	<0.5
KP-E2	11/2/90	11.0	--	<10	<20	<0.001	<0.001	<0.001	<0.001	--
KP-E3	11/2/90	11.0	<1.0	20	60	<0.001	<0.001	<0.001	<0.001	<0.5
KP-E4	11/2/90	11.0	--	190	<20	<0.001	<0.001	<0.001	<0.001	--
KP-E5	11/2/90	11.0	--	10	<20	<0.001	<0.001	<0.001	<0.001	--
KP-E6	11/2/90	11.0	--	<10	<20	<0.005	<0.005	<0.020	<0.005	--
Spoil Piles 1 and 2										
KP-1	11/20/90	2.0	11	880	--	--	--	--	--	--
KP-2	11/20/90	2.0	<1.0	86	--	--	--	--	--	--
KP-3	11/20/90	3.0	9.2	490	--	--	--	--	--	--
KP-4	11/20/90	2.5	<1.0	34	--	--	--	--	--	--
KP-5	11/20/90	2.5	<1.0	1.2	--	--	--	--	--	--
KP-6	11/20/90	1.5	9.8	650	--	--	--	--	--	--
KP-7	11/20/90	2.5	12	79	--	--	--	--	--	--
KP-8	11/20/90	2.0	26	1,000	--	--	--	--	--	--
KP-9	11/20/90	2.0	38	1,500	--	--	--	--	--	--
KP-10	11/20/90	3.0	1.6	6.4	--	--	--	--	--	--
KP-11	11/20/90	2.5	74	6,100	--	--	--	--	--	--
KP-12	11/20/90	1.0	6.7	43	--	--	--	--	--	<0.5

(continued)

Table 1 - *continued*

AREA (4)

Location	Date	Depth (feet)	Gasoline	Diesel	Motor Oil	Benzene	Toluene	Xylenes	Ethyl-benzene	Lead
SOIL - continued										
KP-13	11/20/90	1.5	27	810	--	--	--	--	--	--
KP-14	11/20/90	1.0	<1.0	180	--	--	--	--	--	--
KP-15	11/20/90	1.0	<1.0	7.1	--	--	--	--	--	--
KP-16	11/20/90	1.0	3.8	280	--	--	--	--	--	--
KP-17	11/20/90	2.0	5.0	300	--	--	--	--	--	--
KP-18	11/20/90	2.5	<1.0	4.7	--	--	--	--	--	--
KP-19	11/20/90	2.0	2.3	1,500	--	--	--	--	--	--
KP-20	11/20/90	1.0	4.3	810	--	--	--	--	--	--
KP-21	11/20/90	2.5	3.6	360	--	--	--	--	--	--
Additional Excavation										
In-Place Samples										
KP-SIDEWALL 1	11/29/90	8.0	<30	180	<20	<0.050	<0.050	<0.200	<0.050	<0.050
KP-SIDEWALL 2	11/29/90	8.0	<0.2	<10	<20	<0.001	<0.001	<0.003	<0.001	<0.001
KP-SIDEWALL 3	11/29/90	8.0	<0.2	<10	<20	<0.001	<0.001	<0.003	<0.001	<0.001
KP-BOTTOM 1	11/29/90	25.0	<100	1,600	<20	<0.050	<0.050	<0.200	<0.050	<0.050
Spoil Pile 3										
KP-AE-SP1	11/29/90	1.0	<30	80	<20	--	--	--	--	--
KP-AE-SP2	11/29/90	1.0	<30	50	<20	--	--	--	--	--
KP-AE-SP3	11/29/90	1.0	<30	400	<20	--	--	--	--	--
Soil Borings										
KP-B1	3/6/91	31.0	<1.0	<1.0	--	<0.005	<0.005	<0.005	<0.005	--
KP-B1	3/6/91	32.0	<1.0	<1.0	--	<0.005	<0.005	<0.005	<0.005	--
KP-B2	3/6/91	34.0	<1.0	<1.0	--	<0.005	<0.005	<0.005	<0.005	--

(continued)

Table 1 - *continued*

AREA (4)

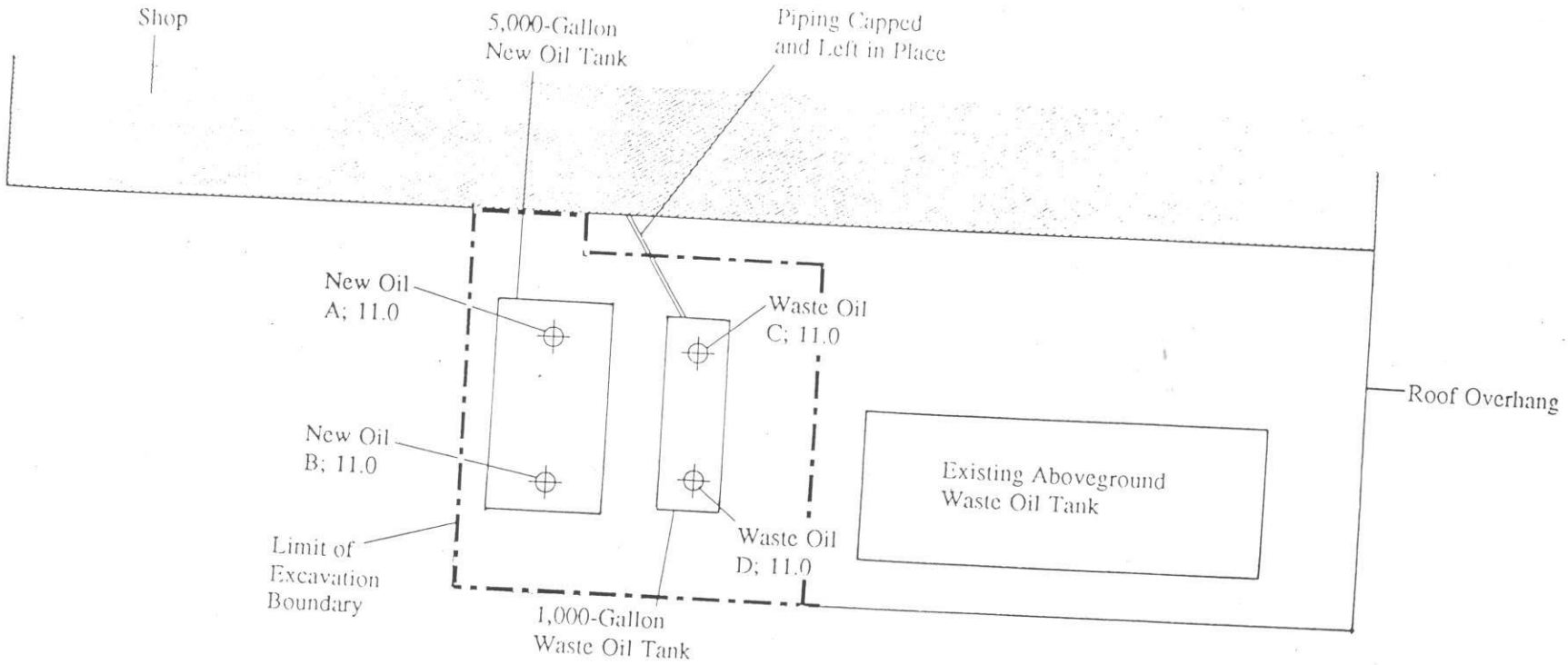
Location	Date	Depth (feet)	Gasoline	Diesel	Motor Oil	Benzene	Toluene	Xylenes	Ethyl-benzene	Lead
SOIL - continued										
KP-B3	3/7/91	25.5	<1.0	<1.0	--	<0.005	<0.005	<0.005	<0.005	--
KP-B3	3/7/91	27.5	<1.0	<1.0	--	<0.005	<0.005	<0.005	<0.005	--
MW-KP1	3/6/91	25.5	<1.0	<1.0	--	<0.005	<0.005	<0.005	<0.005	--
MW-KP1	3/6/91	34.0	<1.0	<1.0	--	<0.005	<0.005	<0.005	<0.005	--
GROUNDWATER (mg/L):										
Monitoring Well										
MW-KP1	3/11/91	N/A	<0.050	**1.6**	--	<0.0005	<0.0005	<0.0005	<0.0005	--

Notes: <xx.xx = Less than laboratory detection level.
-- = Not analyzed.
xx = Compounds identified above detection levels.
N/A = Not applicable.
Sampling locations are shown in Figure 3.
Laboratory reports for the March 1991 samples are included in Appendix C.

UNDERGROUND TANK EXCAVATION - SHOP

Area (1)

Figure 7



Legend

New Oil A; 11.0 ⊕ Sample Collected 2/6/95

Kaiser Sand and Gravel
3000 Busch Road
Pleasanton, California

0 10 Feet

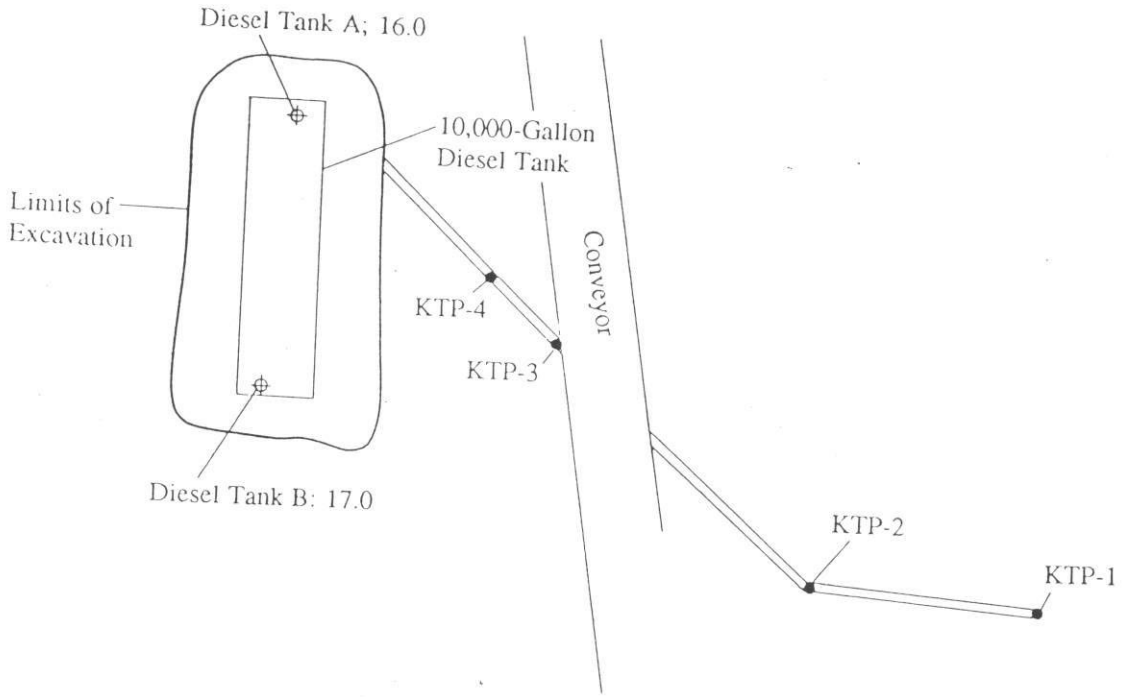
95508-00 4/7/95

BASELINE

UNDERGROUND TANK EXCAVATION - HOT PLANT

Figure 6

Area (2)



Legend

Diesel Tank A; 16.0	⊕	Sample Collected 2/6/95
KTP-1	•	Sample Collected 3/27/95

Kaiser Sand and Gravel
3000 Busch Road
Pleasanton, California

0 20 Feet

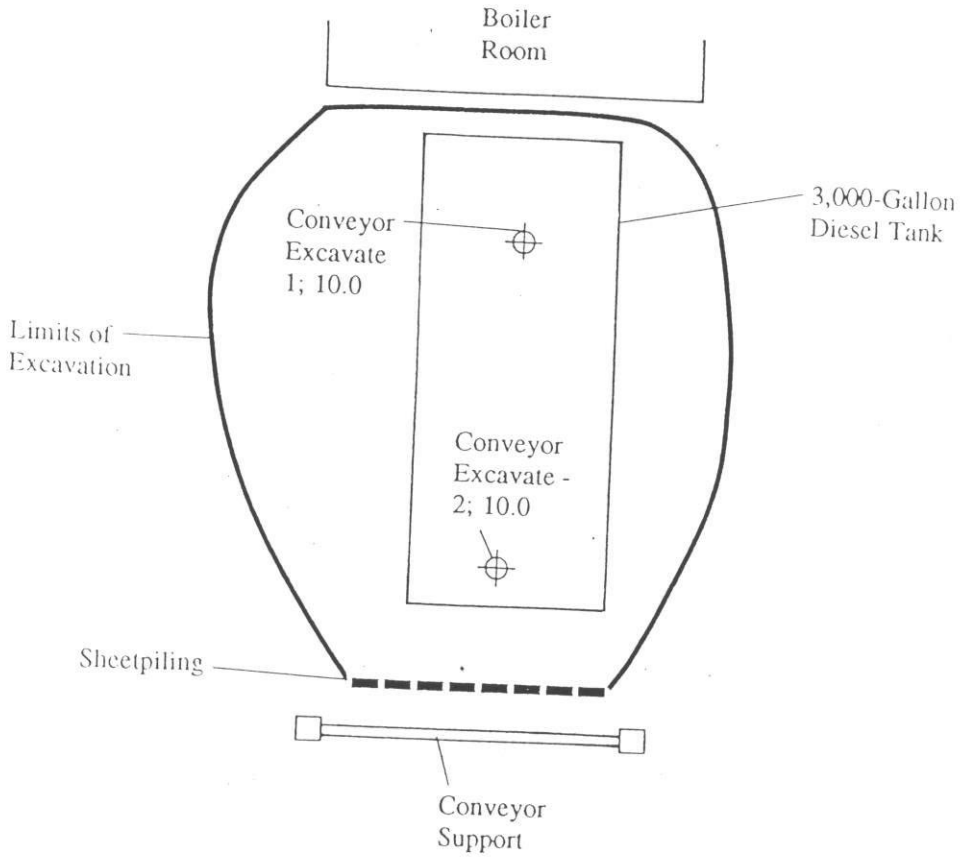
95508-00 4/14/95

BASELINE

UNDERGROUND TANK EXCAVATION - BATCH PLANT

Figure 5

Area (3)



Legend

Conveyor Excavate 1; 10.0 ⊕ Sample Collected 2/6/95

Kaiser Sand and Gravel
3000 Busch Road
Pleasanton, California

0 5 Feet

95508-00 4/7/95

BASELINE

TABLE 2

SUMMARY OF PETROLEUM HYDROCARBON AND VOLATILE ORGANIC COMPOUNDS ANALYSIS, SOIL

Kaiser Sand & Gravel, Pleasanton, California

(mg/kg)

Areas (1), (2), (3)

Sample Location/ Identification	Sample Depth (ft, bgs)	TPH as Gasoline[1]	TPH as Diesel[2]	TPH as Motor Oil[2]	Nonpolar Oil & Grease[3]	Benzene[4]	Toluene[4]	Ethyl-benzene[4]	Xylene[4]	VOCs[5]
BATCH PLANT - Excavation Area (3)										
Conveyor Excavate-1	10.0	--	2.2[6]	<25	--	<0.005	<0.005	<0.005	<0.005	--
Conveyor Excavate-2	10.0	--	<1.0	<25	--	<0.005	<0.005	<0.005	<0.005	--
BATCH PLANT - Stockpile										
Comp Conv. S. Pile (A-D)	0.5-1.0	--	11[6]	56	--	<0.005	<0.005	<0.005	<0.005	--
HOT PLANT - Excavation Area (2)										
Diesel Tank A	16.0	--	19[6]	59	--	<0.005	<0.005	<0.005	<0.005	--
Diesel Tank B	17.0	--	75	41	--	<0.005	<0.005	<0.005	<0.005	--
KTP-1		--	<1.0	--	--	<0.005	<0.005	<0.005	<0.005	--
KTP-2		--	<1.0	--	--	<0.005	<0.005	<0.005	<0.005	--
KTP-3		--	<1.0	--	--	<0.005	<0.005	<0.005	<0.005	--
KTP-4		--	<1.0	--	--	<0.005	<0.005	<0.005	<0.005	--
HOT PLANT - Stockpile										
Comp Hot Plant A-D	0.5-1.0	--	42[6]	<250	--	<0.005	<0.005	<0.005	<0.005	--
SHOP - Excavation Area (1)										
New Oil A	11.0	--	<1.0	<25	--	<0.005	<0.005	<0.005	<0.005	--
New Oil B	11.0	--	<1.0	<25	--	<0.005	<0.005	<0.005	<0.005	--
Waste Oil C[7]	11.0	<1	<1.0	<25	28	--	--	--	--	<0.005 to <0.05
Waste Oil D[7]	11.0	<1	<1.0	<25	20	--	--	--	--	<0.005 to <0.05
SHOP - Stockpile										
Comp WO S. Pile[7] (A-D)	0.5-1.0	--	310[6]	5,000	370	--	--	--	--	<0.005 to <0.05

Notes: TPH = Total petroleum hydrocarbons
bgs = below ground surface
-- = Not analyzed
<x.x = Compound not identified above laboratory reporting limit of x.x
VOCs= volatile organic compounds
Sampling locations are shown in Figures 5 through 7.
Laboratory reports are included in Appendix C.
Chromatograms are included in Appendix C.

1 California LUFT 8015M/5030
2 California LUFT 8015M
3 Method SMWW 17:5520EF
4 EPA Method 8020
5 EPA Method 8240
6 Sample chromatogram does not resemble hydrocarbon standard.
7 Sample also analyzed for semi-VOCs using EPA Method 8270/3550. None of the compounds were identified above the laboratory reporting limits.

TABLE 3

SUMMARY OF METALS ANALYSIS, SOIL
Kaiser Sand & Gravel, Pleasanton, California
(mg/kg)

Sample Location/ Identification	Sample Depth (ft, bgs)	Sb[1]	As[2]	Ba[1]	Be[1]	Cd[1]	Cr[1] (total)	Co[1]	Cu[1]	Pb[3]	Hg[4]	Mo[1]	Ni[1]	Se[5]	Ag[1]	Tl[6]	V[1]	Zn[1]
SHOP - Excavation																		
Waste Oil C	11.0	--	--	--	--	<0.25	39	--	--	<5.0	--	--	59	--	--	--	--	32
Waste Oil D	11.0	--	--	--	--	<0.25	39	--	--	<5.0	--	--	57	--	--	--	--	32
SHOP - Stockpile																		
Comp WO S. Pile (A-D)	0.5-1.0	7.5	<2.5	180	0.17	<0.25	47	9.5	20	5.9	<0.095	1.0	70	<2.5	<0.50	<2.5	28	46
TTLC		500	500	10,000	75	100	2,500	8,000	2,500	1,000	20	3,500	2,000	100	500	700	2,400	5,000
STLC		15	5	100	0.75	1	560	80	25	5	0.2	350	20	1	5	7	24	250

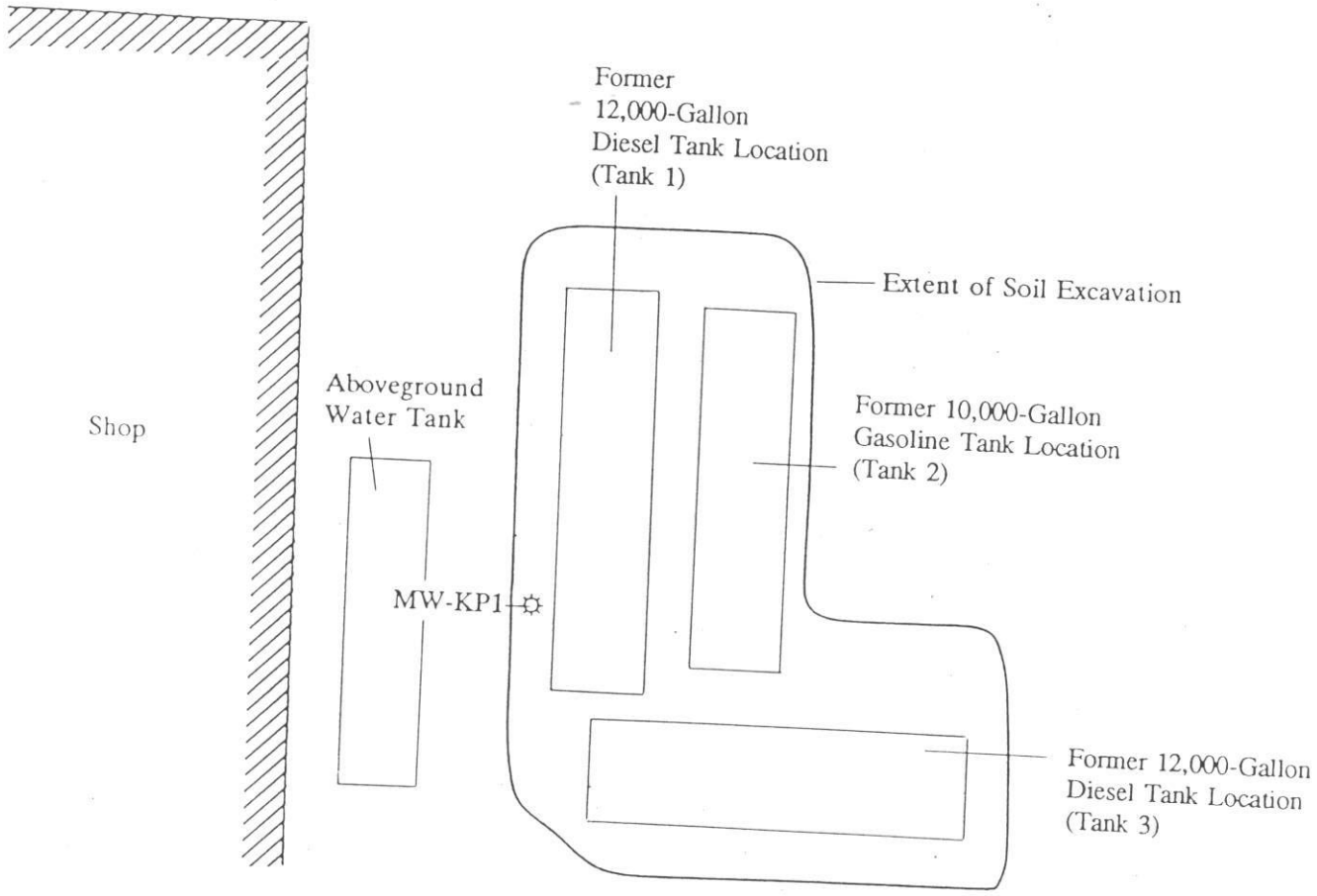
Note: -- = Not analyzed.
<x.x = metal not identified above laboratory reporting limit of x.x.
Sampling locations are shown in Figures 5 through 7.
Laboratory reports are included in Appendix C.

1 EPA Method 6010A.
2 EPA Method 7060.
3 EPA Method 7420/7421.
4 EPA Method 7471.
5 EPA Method 7740.
6 EPA Method 7841.

UNDERGROUND TANK LOCATIONS

Figure 3

WELL LOCATION Area (4)



Legend

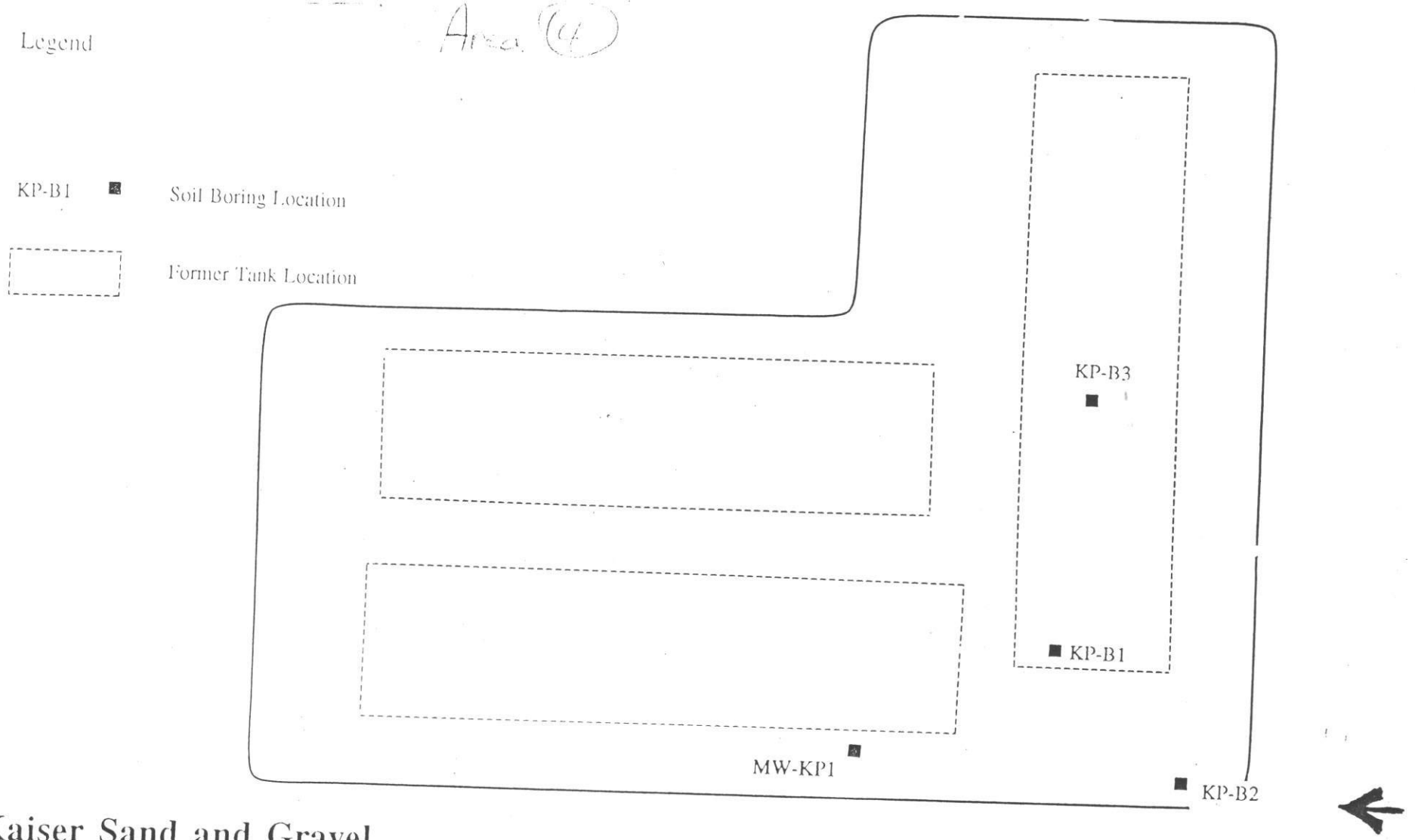
MW-KP1 ☼ Monitoring Well

0 15 Feet

Kaiser Sand and Gravel
3000 Busch Road
Pleasanton, California

SOIL SAMPLE LOCATIONS

Figure 4



Kaiser Sand and Gravel
3000 Busch Road
Plesanton, California

UT10-115.00 3/15/96

BASELINE

Area (4)

TABLE 2

SUMMARY OF ANALYTICAL RESULTS, GROUNDWATER
Kaiser Sand and Gravel
3000 Busch Road, Pleasanton, California

(mg/L)

Location	Date	Gasoline[1]	Diesel[1]	Benzene[2]	Toluene[2]	Xylenes[2]	Ethyl-benzene[2]
MW-KP1	03/11/91	<0.050	**1.6**	<0.0005	<0.0005	<0.0005	<0.0005
	06/27/91	<0.050	<0.050	<0.0005	<0.0005	<0.0005	<0.0005
	10/29/91	<0.050	**0.66**	<0.0005	<0.0005	<0.0005	<0.0005
	02/05/92	<0.050	<0.050	<0.0005	<0.0005	<0.0005	<0.0005
	05/11/92	<0.050	**0.18**[3]	<0.0005	<0.0005	<0.0005	<0.0005
	08/12/92	<0.050	<0.050	<0.0005	<0.0005	<0.0005	<0.0005
	11/23/92	--	**0.33**	--	--	--	--
	02/25/93	--	**0.13**	--	--	--	--
	02/15/94	--	<0.050	--	--	--	--
	02/07/95	--	<0.050	--	--	--	--
	02/16/96	--	<0.050	--	--	--	--
Travel Blank	05/11/92	<0.050	--	<0.0005	<0.0005	<0.0005	<0.0005

Notes: mg/L = Milligrams per liter.
x.xx = Compounds identified above detection limit at the indicated concentration.
<xx.xx = Compound not detected at stated reporting limit.
-- = Not analyzed.
Monitoring well location is shown on Figures 3 and 4.
Groundwater sampling form and laboratory report for the 02/16/96 sampling event are included in Attachments A and B.

1 Test Method = California DOHS Method/LUFT Manual, October 1989.
2 Test Method = EPA Method 5030/8020.
3 Laboratory report indicates that compounds in the kerosene range were present in the sample; all hydrocarbons were quantified as if they were within the diesel range.

TABLE 3

WATER LEVEL MEASUREMENTS
Kaiser Sand and Gravel
3000 Busch Road, Pleasanton, California

Well Identification	Date	Depth to Water (feet below TOC)
MW-KP1	03/08/91	27.61
	03/11/91	27.62
	03/18/91	27.59
	06/27/91	27.70
	10/29/91	27.81
	02/05/92	27.77
	05/11/92	27.69
	08/12/92	27.79
	11/23/92	27.83
	02/25/93	26.54
	02/15/94	27.89
	02/07/95	27.61
	02/16/96	27.85

Notes: TOC = Top of casing.
Monitoring well location is shown on Figures 3 and 4.
Total depth of monitoring well is 32.1 feet below TOC.

DRILLING LOG

BASELINE
5900 Hollis Street, Suite D
Emeryville, CA 94608
(415) 420-8686

Location Kaiser Sand and Gravel, Pleasanton
Driller Aqua Science Engineers
Method Hollow-stem cont. flight
Logger WKS Datum NA Bore size 8-inch

Boring No. MW-KP1
Project No. UT10115-00
Date 3/6/91
Casing size N/A

Depth	Graphic	Lithology	Notes
0	GW	Yellowish brown, sandy GRAVEL, moist (backfill). Subangular to subrounded clasts, 1/2-1/4" diameter.	≈20% sand
1			
2			
3			
4			
5			
6			
7		Decrease in sand content.	
8			
9			
10			

Scale: 1 inch = 1.5 feet

Signature

(3/20/91)

DRILLING LOG

BASELINE
5900 Hollis Street, Suite D
Emeryville, CA 94608
(415) 420-8686

Location Kaiser Sand and Gravel, Pleasanton
Driller Aqua Science Engineers
Method Hollow-stem cont. flight
Logger WKS Datum NA Bore size 8-inch

Boring No. MW-KP1
Project No. UT10115-00
Date 3/6/91
Casing size N/A

Depth	Graphic	Lithology	Notes
10	GW		
11			
12			
13			
14			
15			
16			
17			
18			
19			
20			

Scale: 1 inch = 1.5 feet

Signature _____ (3/20/91)

DRILLING LOG

BASELINE
5900 Hollis Street, Suite D
Emeryville, CA 94608
(415) 420-8686

Location	Kaiser Sand and Gravel, Pleasanton	Boring No.	MW-KP1
Driller	Aqua Science Engineers	Project No.	UT10115-00
Method	Hollow-stem cont. flight	Date	3/6/91
Logger	WKS Datum NA Bore size 8-inch	Casing size	N/A

Depth	Graphic	Lithology	Notes
20	GW		Used 5-foot continuous sampler, auger driven no recovery to 25 feet.
21	GW		Used California modified sampler (2.0 feet), no recovery for one foot.
22			
23			
24			
25		Brown to pale yellowish brown, silty, sandy GRAVEL, fine- to medium-grained sand, moist to becoming wet at 28.5 feet.	7-7-10-8 (blow count) ≈5% silt ≈10% sand
26		Subangular to subrounded clasts, 1/4-1/2" diameter.	
27			5-4-6
28 ▼			Some areas becoming wet at shoe end.
29			4-6-8-
30			

Scale: 1 inch = 1.5 feet

Signature _____

(3/20/91)

DRILLING LOG

BASELINE
5900 Hollis Street, Suite D
Emeryville, CA 94608
(415) 420-8686

Location Kaiser Sand and Gravel, Pleasanton
Driller Aqua Science Engineers
Method Hollow-stem cont. flight
Logger WKS Datum NA Bore size 8-inch

Boring No. MW-KP1
Project No. UT10115-00
Date 3/6/91
Casing size N/A

Depth	Graphic	Lithology	Notes
30	GW		-5 (blow count) Used 1.5-foot sampler.
31			6-9-5 Slough material first foot; used 2-foot sampler.
32	SP	Yellowish brown SAND, fine- to medium-grained, wet.	
	GW	Brown, silty, sandy GRAVEL, fine- to medium-grained sand, wet.	3-4-6-10 No recovery except for 1/2-foot.
33		Subangular-subrounded clasts, 1/4-1/2" diameter.	
	GC	Yellowish brown, clayey GRAVEL, medium to low plasticity, wet.	
34		Subrounded clasts, 1/4" diameter.	
	CL		5-12-18-23
		Very dark gray, silty, sandy CLAY, low plasticity, rootlets, wet.	≈10% silt ≈35% sand
35		Total depth = 35.5 feet	
36			
37			
38			
39			
40			

Scale: 1 inch = 1.5 feet

Signature _____

(3/20/91)

ALAMEDA COUNTY FLOOD CONTROL AND WATER CONSERVATION DISTRICT

5997 PARKSIDE DRIVE • PLEASANTON, CALIFORNIA 94566 • ~~(415)~~ 510 484-2600

GROUNDWATER PROTECTION ORDINANCE PERMIT APPLICATION

FOR APPLICANT TO COMPLETE

LOCATION OF PROJECT KAISER SAND + GRAVEL
3000 BUSCH ROAD, PLEASANTON, CA

CLIENT
Name KAISER SAND + GRAVEL
Address P.O. BOX 580 Phone
City Pleasanton CA Zip 94566

APPLICANT
Name BASELINE ENVIRONMENTAL
FAX: (510) 420-1707
Address 5900 Hollis ST. "D" Phone 510 420 8686
City Emeryville CA Zip 94608

TYPE OF PROJECT

Well Construction		Geotechnical Investigation	
Cathodic Protection	___	General	___
Water Supply	___	Contamination	___
Monitoring	___	Well Destruction	✓

PROPOSED WATER SUPPLY WELL USE
Domestic ___ Industrial ___ Other ___
Municipal ___ Irrigation ___

DRILLING METHOD:
Mud Rotary ___ Air Rotary ___ Auger ✓
Cable ___ Other ___

DRILLER'S LICENSE NO. West HAZMAT 554979

WELL PROJECTS
Drill Hole Diameter ___ in. Maximum
Casing Diameter ___ in. Depth 35 ft.
Surface Seal Depth ___ ft. Number ___

GEOTECHNICAL PROJECTS
Number of Borings ___ Maximum
Hole Diameter ___ in. Depth ___ ft.

ESTIMATED STARTING DATE 2-27-98
ESTIMATED COMPLETION DATE 2-27-98

I hereby agree to comply with all requirements of this permit and Alameda County Ordinance No. 73-68.

APPLICANT'S SIGNATURE William K Scott Date 2-20-98

FOR OFFICE USE

PERMIT NUMBER 98024
LOCATION NUMBER 3S/1E 15F4

PERMIT CONDITIONS

Circled Permit Requirements Apply

(A.) GENERAL
1. A permit application should be submitted so as to arrive at the Zone 7 office five days prior to proposed starting date.
2. Submit to Zone 7 within 60 days after completion of permitted work the original Department of Water Resources Water Well Drillers Report or equivalent for well projects, or drilling logs and location sketch for geotechnical projects.
3. Permit is void if project not begun within 90 days of approval date.

B. WATER WELLS, INCLUDING PIEZOMETERS
1. Minimum surface seal thickness is two inches of cement grout placed by tremie.
2. Minimum seal depth is 50 feet for municipal and industrial wells or 20 feet for domestic and irrigation wells unless a lesser depth is specially approved. Minimum seal depth for monitoring wells is the maximum depth practicable or 20 feet.

C. GEOTECHNICAL. Backfill bore hole with compacted cuttings or heavy bentonite and upper two feet with compacted material. In areas of known or suspected contamination, tremied cement grout shall be used in place of compacted cuttings.

D. CATHODIC. Fill hole above anode zone with concrete placed by tremie.

(E.) WELL DESTRUCTION. See attached.

Approved Wyman Hong Date 24 Feb 98
Wyman Hong

121989

February 26, 1998

Zone 7
Water Resources Engineering
Drilling Protection Ordinance

Kaiser Sand & Gravel
3000 Busch Road
Pleasanton
Well 3S/1E 15F4
Permit 98024

Destruction Requirements:

1. Drill out the well so that the casing, seal, and gravel pack are removed to the bottom of the well.

2. Sound the well as deeply as practicable and record for your report.

3. Using a tremie pipe, fill the hole to two feet below the lower of finished grade or original ground with neat cement.

4. After the seal has set, backfill the remaining hole with compacted material.

These destruction requirements as proposed by Mark Arniola of Terratech meet or exceed Zone 7 minimum requirements.

ALAMEDA COUNTY
HEALTH CARE SERVICES
AGENCY
DAVID J. KEARS, Agency Director

ENVIRONMENTAL HEALTH SERVICES
ENVIRONMENTAL PROTECTION
1131 Harbor Bay Parkway, Suite 250
Alameda, CA 94502-6577
(510) 567-6700
FAX (510) 337-9335

STID 5829

January 21, 1998

Lawrence Appleton
Kaiser Sand & Gravel Company
P.O. Box 580
Pleasanton, CA 94566

RE: 3000 BUSCH ROAD, PLEASANTON

Dear Mr. Appleton:

The Alameda County Environmental Health Department, Environmental Protection Division, has received concurrence from the Regional Water Quality Control Board, San Francisco Bay Region (RWQCB), for final closure of the underground storage tank investigation at the referenced site.

Prior to the issuance of a "Remedial Action Completion Certificate" by this office, however, the monitoring well at the site must be properly destroyed should it be of no further use. Well destruction is performed under permit issued by Alameda County Flood Control and Water Conservation District (Zone 7). Please contact Wyman Hong of Zone 7 at (510) 484-2600 to secure your well destruction permit.

Please advise me if the well will be destroyed, and when destruction has been completed, as appropriate. I may be reached at (510) 567-6783.

Sincerely,

Scott O. Seery, CHMM
Hazardous Materials Specialist

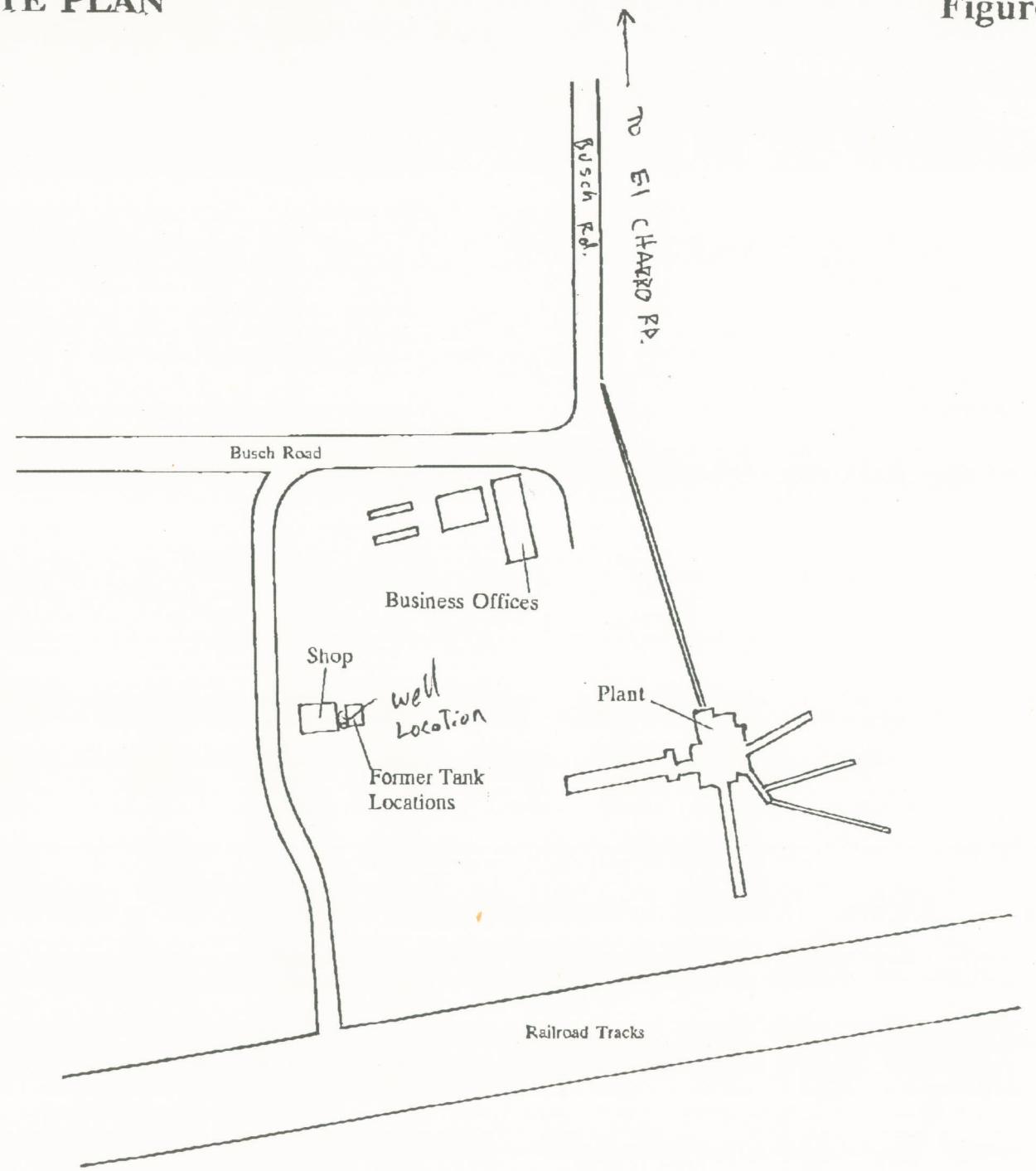
Post-it® Fax Note 7671	Date 1/26/98	# of pages ▶
To Julie Pattyjohn	From Larry	
Co./Dept.	Co.	
Phone #	Phone #	
Fax # 420-1707	Fax #	

cc: Mee Ling Tung, Director
Stephen Hill, RWQCB
Wyman Hong, Zone 7
Chris Boykin, Livermore-Pleasanton Fire Department

RECEIVED
JAN 26 1997
KS&G-ENG.

SITE PLAN

Figure 2



Kaiser Sand and Gravel
3000 Busch Road
Pleasanton, California

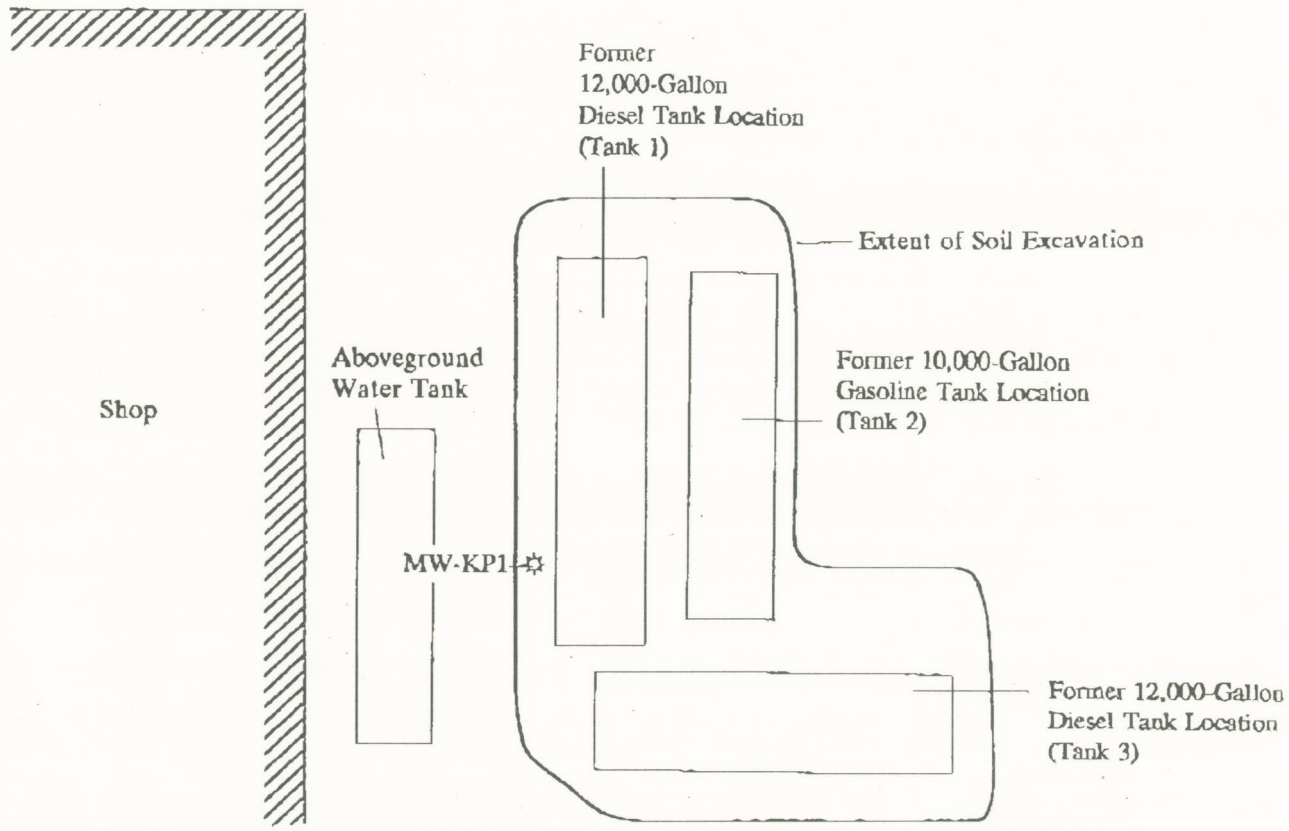
0 400 Feet

BASELINE

UT10-115P 3/15/96

UNDERGROUND TANK LOCATIONS

Figure 3



Legend

MW-KP1 ☼ Monitoring Well

0 15 Feet

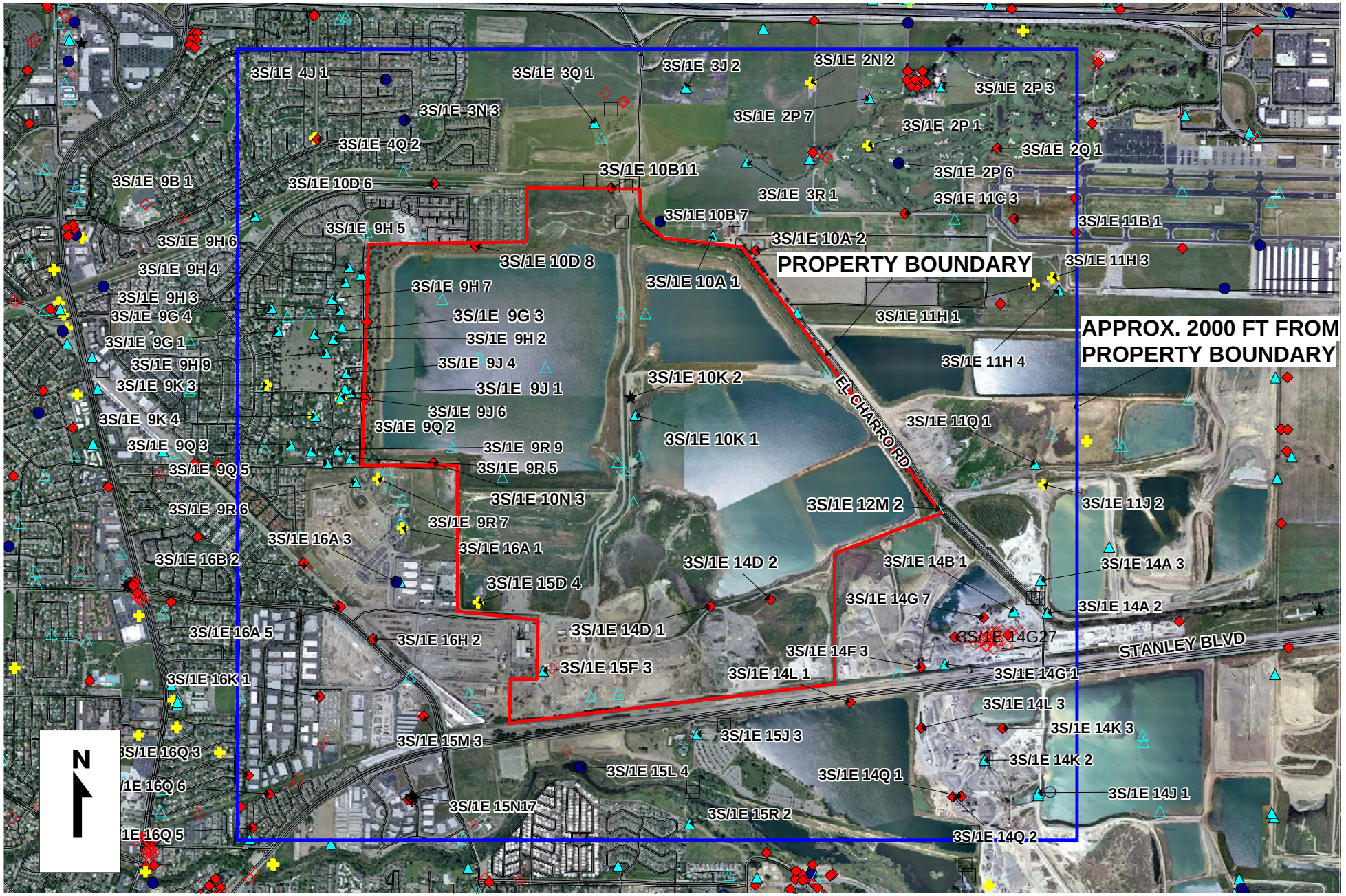
Kaiser Sand and Gravel
3000 Busch Road
Pleasanton, California

BASELINE

UT10115-00 3/15/96

Attachment 5

Survey of Wells Located on and Within Approximately 2,000 Feet of the Hanson Aggregates Radum Facility Property



	ZONE 7 WATER AGENCY **100 NORTH CANYONS PARKWAY** **LIVERMORE, CA 94551**	**WELL LOCATION MAP**	**SCALE: 1"= 2000 ft** **DATE: 5/15/07** **LAKE I & EL CHARRO**

Table Well Survey-1
Survey of Wells Located Within Approximately 2,000 Feet of the Hanson Aggregates Radum Facility Property
3000 Busch Road, Pleasanton, California

State Well Number	Common Well Name	Well Use	Date of Well Install.	Date of Well Destruct.	Could not be Located	Status	Well Diam. (inch)	Well Depth (feet TOC)	Well Screen Interval Top (feet TOC)	Well Screen Interval Bottom (feet TOC)	Total Depth Drilled (feet bgs)	Well Owner	Well Location: Address	CITY	Permit Number	Well Driller	Remarks
ON-SITE WELLS																	
On-Site Monitoring Wells																	
3S/1E 9H10		mon	11/22/2004	na	na		2.0	145.0	120.0	140.0	230.0	ZONE 7	MARTIN AVE & TRENERY DR	PLEASANTON	24130	WDC EXPLORATION	
3S/1E 9H11		mon	11/22/2004	na	na		2.0	190.0	165.0	185.0	230.0	ZONE 7	MARTIN AVE & TRENERY DR	PLEASANTON	24130	WDC EXPLORATION	
3S/1E 9J 7		mon	11/23/2004	na	na		2.0	145.0	120.0	140.0	800.0	ZONE 7	MARTIN AVE & CAMERON AVE	PLEASANTON	24130	WDC EXPLORATION	
3S/1E 9J 8		mon	11/23/2004	na	na		2.0	354.8	280.0	300.0	800.0	ZONE 7	MARTIN AVE & CAMERON AVE	PLEASANTON	24130	WDC EXPLORATION	
3S/1E 9J 9		mon	11/23/2004	na	na		2.0	505.0	480.0	500.0	800.0	ZONE 7	MARTIN AVE & CAMERON AVE	PLEASANTON	24130	WDC EXPLORATION	
3S/1E 10B 8	MW-D	mon	6/18/1997	na	na		2.0	200.0	100.0	190.0	830.0	DSRSD	EL CHARRO RD & ARROYO MOCHO	LIVERMORE	97376	BRADLEY & SONS	1 OF 4 NESTED WELLS
3S/1E 10B 9	MW-C	mon	6/18/1997	na	na		2.0	294.0	244.0	284.0	830.0	DSRSD	EL CHARRO RD & ARROYO MOCHO	LIVERMORE	97376	BRADLEY & SONS	1 OF 4 NESTED WELLS
3S/1E 10B10	MW-B	mon	6/18/1997	na	na		2.0	600.0	400.0	590.0	830.0	DSRSD	EL CHARRO RD & ARROYO MOCHO	LIVERMORE	97376	BRADLEY & SONS	1 OF 4 NESTED WELLS
3S/1E 10B11	MW-A	mon	6/18/1997	na	na		2.0	810.0	660.0	800.0	830.0	DSRSD	EL CHARRO RD & ARROYO MOCHO	LIVERMORE	97376	BRADLEY & SONS	1 OF 4 NESTED WELLS
3S/1E 10D 7		mon	12/10/2004	na	na		2.0	143.0	118.0	138.0	240.0	ZONE 7	PERSIMMON WY & TREVOR PKWY	PLEASANTON	24130	WDC EXPLORATION	
3S/1E 10D 8		mon	12/10/2004	na	na		2.0	215.0	190.0	210.0	240.0	ZONE 7	PERSIMMON WY & TREVOR PKWY	PLEASANTON	24130	WDC EXPLORATION	
3S/1E 10K 2		mon	na	na	na		4.0	590.6	0.0	0.0	0.0	ZONE 7	EL CHARRO RD & COPE LAKE	PLEASANTON	27002	WDC EXPLORATION	
3S/1E 10N 2		mon	12/2/2004	na	na		2.0	150.0	125.0	145.0	260.0	ZONE 7	MOHR AVE & MARTIN AVE	PLEASANTON	24130	WDC EXPLORATION	
3S/1E 10N 3		mon	12/2/2004	na	na		2.0	195.0	170.0	190.0	260.0	ZONE 7	MOHR AVE & MARTIN AVE	PLEASANTON	24130	WDC EXPLORATION	
3S/1E 14D 1	TW5	mon	na	na	2/15/1984	found	2.0	103.0	0.0	0.0	0.0	KAISER	PLEASANTON	PLEASANTON	0	EMCON	Found in 2003
3S/1E 15F 4	MW-KP 1	mon	3/7/1991	2/27/1998	na	des #98024	2.0	33.0	25.0	33.0	36.0	KAISER	3000 BUSCH RD	PLEASANTON	91108	BASELINE	DTW-27.9', 03/07/91
On-Site Water Supply Wells																	
3S/1E 10E 1		sup	na	na	na	des	6.0	195.0	0.0	0.0	0.0	KAISER			88488		
3S/1E 10E 2		sup	na	na	na	des	9.0	133.0	0.0	0.0	0.0	KAISER			0		
3S/1E 10G 1		sup	na	na	na	des	8.0	132.0	0.0	0.0	0.0	KAISER			0		
3S/1E 10G 2		sup	na	na	na	des	12.0	207.0	0.0	0.0	0.0	KAISER			0		
3S/1E 10K 1		sup	1/21/1941	na	na		14.0	175.0	80.0	175.0	0.0	BOB COPE			0		
3S/1E 10L 1		sup	5/20/1950	6/8/1993	na	des	14.0	268.0	85.0	265.0	0.0	KAMP	KAISER PROPERTY		0	WESTERN WELL	MULTIPLE PERF
3S/1E 10N 1		sup	na	na	na	des	10.0	185.0	43.0	185.0	0.0	KAISER			0		
3S/1E 10P 5	330 MOHR	sup	na	na	na	des #79151	8.0	150.0	0.0	0.0	0.0	KAISER	3030 MOHR AVE	PLEASANTON	0		
3S/1E 10Q 1	31E-82	sup	na	na	7/19/1978	des	12.0	255.0	0.0	0.0	0.0	Cecil M. Cope	El Charro Road		0		MAY BE Q2 DWL??
3S/1E 10Q 2	COPE E180	sup	na	2/1/1983	na	des	12.0	187.0	0.0	0.0	0.0	KAISER	El Charro Road		0		MAY BE Q1 103WX
3S/1E 10Q 4		sup	na	1/1/1983	na	des	0.0	40.0	0.0	0.0	40.0	MOHR	EL CHARRO ROAD		0		HAVE GQ DATA 21 NOV
3S/1E 10Q 5		sup	8/1/1962	6/23/1982	na	des	10.0	300.0	243.0	295.0	300.0	KAISER	EL CHARRO ROAD		0	WESTERN WELL	WANTED TO SAVE THIS
3S/1E 11M 1		sup	1/1/1940	na	na	des	14.0	271.0	0.0	0.0	0.0	JAMIESON	EAST OF ELCHARRO ROAD BY WOODEN BRIDGE		0	PAC COAST DRILL	DESTROYED ~85
3S/1E 11P 5		sup	4/10/1999	3/17/2000	na	des	5.0	338.0	276.0	338.0	375.0	PLEASANTON GRAVEL CO.	502 EL CHARRO RD	PLEASANTON	99057	ASE DRILLING	100GPM,4HR,58'
3s/1e 12m 2		pot	3/10/2000	na	na		5.0	400.0	240.0	380.0	415.0	DOUG JAMIESON	502 EL CHARRO RD	PLEASANTON	20012	MAGGIORA BROS.	
3S/1E 15D 4	SMITH #54	sup	na	na	na	unlocatable	0.0	0.0	0.0	0.0	0.0	SFWD	BUSCH RD & VALLEY AVE	PLEASANTON	0		
3S/1E 15F 2	Kaiser ina	sup	na	na	na	des	14.0	540.0	198.0	521.0	0.0	KAISER	EAST END OF BUSCH ROAD		90329		
3S/1E 15F 3	KAISER #6	sup	7/20/1965	na	na	JD	14.0	640.0	195.0	615.0	640.0	KAISER	EAST END OF BUSCH ROAD	PLEASANTON	0	WESTERN WELL	MEASURE ON WEEKENDS
3S/1E 10B12	TH-M3	testhole	6/26/1997	na	na		0.0	830.0	0.0	0.0	830.0	DSRSD	EL CHARRO RD & I-580	PLEASANTON	97376	BRADLEY & SONS	TESTHOLE
3S/1E 14D 2		testhole	9/14/2006	na	na		10.0	740.0	170.0	740.0	765.0	ZONE 7	STANLEY BL & EL CHARRO RD	PLEASANTON	26127	WDC EXPLORATION	
3S/1E 15K 1	KAISER #2	indust	5/15/1975	5/15/1975	na	des	14.0	835.0	0.0	0.0	835.0	KAISER	STANLEY BLVD & VALLEY AVE	PLEASANTON	0		

Table Well Survey-1
Survey of Wells Located Within Approximately 2,000 Feet of the Hanson Aggregates Radum Facility Property
3000 Busch Road, Pleasanton, California

State Well Number	Common Well Name	Well Use	Date of Well Install.	Date of Well Destruct.	Could not be Located	Status	Well Diam. (inch)	Well Depth (feet TOC)	Well Screen Interval Top (feet TOC)	Well Screen Interval Bottom (feet TOC)	Total Depth Drilled (feet bgs)	Well Owner	Well Location: Address	CITY	Permit Number	Well Driller	Remarks
OFF-SITE WELLS																	
Off-Site Monitoring Wells																	
3S/1E 2N 4	MW-1	mon	11/14/1989	2/27/1992	na	des	2.0	50.0	30.0	50.0	50.0	CITY OF LIVERMORE	1800 FRIESMAN RD		92023	BSK	MSTR. LOCK #7,P605
3S/1E 2N 5	MW- 4	mon	4/23/1991	8/28/1996	na	des #96607	2.0	50.0	0.0	0.0	50.0	CITY OF LIVERMORE	1800 FRIESMANN RD.	LIVERMORE	0	BSK & ASSOC.	
3S/1E 3Q 3	MW-1	mon	12/20/1994	3/14/1996	na	des (#96186)	4.0	60.0	40.0	60.0	60.0		EL CHARRO RD & I-580	PLEASANTON	94795	ESE	DTW-46
3S/1E 3Q 4	MW-2	mon	12/12/1994	3/14/1996	na	des (#96186)	4.0	60.0	40.0	60.0	60.0		EL CHARRO RD & I-580	PLEASANTON	94795	ESE	DTW-49
3S/1E 3Q 5	MW-3	mon	12/12/1994	3/14/1996	na	des (#96186)	4.0	60.0	40.0	60.0	60.0		EL CHARRO RD & I-580	PLEASANTON	94795	ESE	DTW-49
3S/1E 3Q 6	MW-4	mon	12/21/1994	3/14/1996	na	des (#96186)	4.0	65.0	40.0	65.0	65.0		EL CHARRO RD & I-580	PLEASANTON	94795	ESE	DTW-46
3S/1E 4Q 1		mon	10/25/1976	na	4/5/1979	unlocatable	2.5	72.9	62.9	67.9	0.0	Z7-MON			0	USGS HEW	BURIED UNDER SIDEWLK
3S/1E 4Q 2		mon	na	na	na	JD	2.5	90.0	80.0	85.0	0.0	Z7-MON	FC CHANNEL @ GULFSTREAM		0	USGS HEW	
3S/1E 10A 2		mon	na	na	na		4.0	88.0	70.0	80.0	0.0	ZONE 7	RANCHO EL CHARRO		0		
3S/1E 11B 1	LWRP G3	mon	na	na	na		2.5	43.0	33.0	38.0	0.0	ZONE 7	AT THE 6TH TEE		0	USGS HEW	
3S/1E 11D 1		mon	na	na	na	des	12.0	308.0	0.0	0.0	0.0	CONRAD MOLT			89332		
3S/1E 11D 4	MW-2	mon	11/14/1989	8/28/1996	na	des #96607	2.0	51.0	30.0	50.0	51.0	CITY OF LIVERMORE	1800 FRIESMAN RD		89654	BSK AND ASSOC.	
3S/1E 11D 5	MW-3	mon	4/25/1990	4/28/1992	na	des	2.0	50.0	0.0	0.0	50.0	CITY OF LIVERMORE	1800 FRIESMAN RD		92023	BSK AND ASSOC.	DES. BY KERN
3S/1E 14F 3		mon	na	na	na		0.0	535.0	0.0	0.0	0.0				0		
3S/1E 14G 2	MW- 1	mon	na	3/21/2000	na	des #20016	2.0	88.0	0.0	0.0	0.0	Industrial Asphalt	1645 Stanley Blvd. Pleasanton	PLEASANTON	0	KLEINFELDER	HAVE GM DATA 22 NOV
3S/1E 14G 3	MW- 2	mon	na	3/20/2000	na	des #20016	4.0	90.0	0.0	0.0	0.0	Industrial Asphalt	1645 Stanley Blvd. Pleasanton	PLEASANTON	0	KLEINFELDER	HAVE GM DATA 22 NOV
3S/1E 14G 4	MW- 3	mon	na	3/24/2000	na	des #20016	4.0	90.0	0.0	0.0	0.0	Industrial Asphalt	1645 Stanley Blvd. Pleasanton	PLEASANTON	0	KLEINFELDER	HAVE GM DATA 22 NOV
3S/1E 14G 5	MW- 6	mon	6/14/1988	3/23/2000	na	des #20016	4.0	109.0	69.0	109.0	109.0	Industrial Asphalt	1645 Stanley Blvd. Pleasanton	PLEASANTON	0	KLEINFELDER	WELL IN ROAD ON SE
3S/1E 14G 6	MW- 7	mon	6/14/1988	3/23/2000	na	des #20016	4.0	109.0	69.0	109.0	109.0	Industrial Asphalt	1645 Stanley Blvd. Pleasanton	PLEASANTON	0	KLEINFELDER	WELL IN ROAD ON SE
3S/1E 14G 7	MW- 8	mon	6/14/1988	na	na		4.0	109.0	69.0	109.0	109.0	Industrial Asphalt	1645 Stanley Blvd. Pleasanton	PLEASANTON	0	KLEINFELDER	WELL BETWEEN OFFICE
3S/1E 14G 8	MW- 9	mon	7/13/1989	na	na		4.0	108.0	0.0	0.0	109.0	Industrial Asphalt	1645 Stanley Blvd. Pleasanton	PLEASANTON	0	KLEINFELDER	930'N of Stanley,
3S/1E 14G 9	MW-10	mon	7/13/1989	3/21/2000	na	des #20016	4.0	111.0	0.0	0.0	114.0	Industrial Asphalt	1645 Stanley Blvd. Pleasanton	PLEASANTON	0	KLEINFELDER	Good monitoring well
3S/1E 14G10	MW-11	mon	7/13/1989	8/8/2090	na	des	4.0	76.0	0.0	0.0	76.0	Industrial Asphalt	1645 Stanley Blvd. Pleasanton	PLEASANTON	0	KLEINFELDER	West of Scales
3S/1E 14G11	MW- 4	mon	na	3/20/2000	na	des #20016	4.0	95.0	0.0	0.0	0.0	Industrial Asphalt	1645 Stanley Blvd. Pleasanton	PLEASANTON	0	KLEINFELDER	NOT REAL NUMBER
3S/1E 14G12	MW- 5	mon	na	3/23/2000	na	des #20016	4.0	110.0	0.0	0.0	0.0	Industrial Asphalt	1645 Stanley Blvd. Pleasanton	PLEASANTON	0	KLEINFELDER	NOT REAL NUMBER
3S/1E 14G13	MW-14	mon	6/26/1990	3/21/2000	na	des #20016	4.0	114.0	0.0	0.0	114.0	Industrial Asphalt	1645 Stanley Blvd. Pleasanton	PLEASANTON	0	KLIENFELDER	RP FROM QUAD
3S/1E 14G14	MW-15	mon	6/26/1990	3/23/2000	na	des #20016	4.0	117.0	0.0	0.0	117.0	Industrial Asphalt	1645 Stanley Blvd. Pleasanton	PLEASANTON	0	KLIENFELDER	
3S/1E 14G15	MW-16	mon	6/26/1990	3/23/2000	na	des #20016	4.0	110.0	0.0	0.0	110.0	Industrial Asphalt	1645 Stanley Blvd. Pleasanton	PLEASANTON	0	KLIENFELDER	
3S/1E 14G16	MW-13	mon	8/8/1990	3/21/2000	na	des #20016	6.0	116.0	0.0	0.0	116.0	Industrial Asphalt	1645 Stanley Blvd. Pleasanton	PLEASANTON	0	KLEINFELDER	
3S/1E 14G17	EW-1	mon	6/3/1992	3/20/2000	na	des #20016	6.0	121.0	0.0	0.0	122.0	JAMIESON CO.	52 EL CHARRO RD, PLEASANTON	PLEASANTON	92198	KLEINFELDER	
3S/1E 14G18	EW-2	mon	6/3/1992	3/20/2000	na	des #20016	6.0	121.0	0.0	0.0	122.0	JAMIESON CO.	52 EL CHARRO RD, PLEASANTON	PLEASANTON	92198	KLEINFELDER	
3S/1E 14G19	EW-3	mon	6/3/1992	3/22/2000	na	des #20016	6.0	121.0	0.0	0.0	122.0	JAMIESON CO.	52 EL CHARRO RD, PLEASANTON	PLEASANTON	92198	KLEINFELDER	
3S/1E 14G20	EW-4	mon	6/3/1992	3/22/2000	na	des #20016	6.0	121.0	0.0	0.0	122.0	JAMIESON CO.	52 EL CHARRO RD, PLEASANTON	PLEASANTON	92198	KLEINFELDER	
3S/1E 14G21	EW-5	mon	6/3/1992	3/22/2000	na	des #20016	6.0	117.0	0.0	0.0	122.0	JAMIESON CO.	52 EL CHARRO RD, PLEASANTON	PLEASANTON	92198	KLEINFELDER	
3S/1E 14G22	EW-6	mon	6/3/1992	3/24/2000	na	des #20016	6.0	121.0	0.0	0.0	122.0	JAMIESON CO.	52 EL CHARRO RD, PLEASANTON	PLEASANTON	92198	KLEINFELDER	
3S/1E 14G23	EW-7	mon	6/3/1992	3/20/2000	na	des #20016	6.0	121.0	0.0	0.0	122.0	JAMIESON CO.	52 EL CHARRO RD, PLEASANTON	PLEASANTON	92198	KLEINFELDER	
3S/1E 14G24	EW-8	mon	6/3/1992	3/24/2000	na	des #20016	6.0	121.0	0.0	0.0	122.0	JAMIESON CO.	52 EL CHARRO RD, PLEASANTON	PLEASANTON	92198	KLEINFELDER	
3S/1E 14G25	EW-9	mon	6/3/1992	3/24/2000	na	des #20016	6.0	121.0	0.0	0.0	122.0	JAMIESON CO.	52 EL CHARRO RD, PLEASANTON	PLEASANTON	92198	KLEINFELDER	
3S/1E 14G26	EW-10	mon	6/3/1992	3/23/2000	na	des #20016	6.0	121.0	0.0	0.0	122.0	JAMIESON CO.	52 EL CHARRO RD, PLEASANTON	PLEASANTON	92198	KLEINFELDER	
3S/1E 14G27	CJMW-1	mon	3/25/1993	na	na		4.0	79.0	59.5	79.5	81.0	CAL MAT	501 EL CHARRO ROAD	PLEASANTON	93093	KLEINFELDER	DTW 67 EC 700 UMHO
3S/1E 14K 3		mon	na	na	na		0.0	0.0	0.0	0.0	0.0				0		
3S/1E 14L 1		mon	na	na	na		0.0	40.0	0.0	0.0	0.0				0		
3S/1E 14L 3		mon	na	na	na		0.0	0.0	0.0	0.0	0.0				0		

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3000 Busch Road, Pleasanton, California

State Well Number	Common Well Name	Well Use	Date of Well Install.	Date of Well Destruct.	Could not be Located	Status	Well Diam. (inch)	Well Depth (feet TOC)	Well Screen Interval Top (feet TOC)	Well Screen Interval Bottom (feet TOC)	Total Depth Drilled (feet bgs)	Well Owner	Well Location: Address	CITY	Permit Number	Well Driller	Remarks
3S/1E 14Q 1		mon	4/1/1990	na	na	JD	4.0	96.0	76.0	95.0	0.0	LONESTAR	STANLEY BLVD & EL CHARRO	PLEASANTON	90127	LEVINE-FRICKE	OK PER LONESTAR
3S/1E 14Q 2		mon	na	na	na		4.0	57.0	0.0	0.0	0.0	LONESTAR	STANLEY BLVD & EL CHARRO	PLEASANTON	90127	LEVINE-FRICKE	
3S/1E 15L 3		mon	7/21/1975	6/23/1978	na	des	6.0	97.0	82.0	92.0	158.0	KAISER	STANLEY BLVD	PLEASANTON	0	JUDD DRILLING	
3S/1E 16A 1		mon	na	na	na	abandoned	9.0	55.0	0.0	0.0	0.0	GERRY MCCONKIE	3450 Mohr Ave.	PLEASANTON	0		
3S/1E 16H 2		mon	5/18/1979	na	na	JD	4.0	116.0	82.0	92.0	116.0	Z7-MON	VALLEY AVE. NR STANLEY BLVD	PLEASANTON	0	LOUIS WOOD	
3S/1E 16J 1	MW-1	mon	5/15/1990	6/6/1998	na	des #98049	2.0	95.0	85.0	95.0	95.0	IRISH ASSOC.	1075 SERPENTINE LN.	PLEASANTON	0	BERLOGAR	GOOD WELL LOCKED
3S/1E 16J 2	MW-2	mon	5/16/1990	6/5/1998	na	des #98050	2.0	105.0	95.0	0.0	105.0	IRISH ASSOC.	1117 QUARRY LN.	PLEASANTON	0	BERLOGAR	GOOD WELL LOCKED
3S/1E 16K 1	MW-1	mon	3/31/1989	na	na		2.0	68.0	0.0	0.0	72.0	SENTE ASSOCIATES	BOULDER ST AND QUARRY LN, PLEASANTON	PLEASANTON	0	HEW DRILLING	CHRISTY BOX MONITOR
3S/1E 16Q 2	B-15	mon	4/13/1988	na	na	des	0.7	26.5	0.0	0.0	26.5	CITY OF PLEASANTON	UP RR TRACKS NR STANELY BL.	PLEASANTON	0	BERLOGAR GEO	
3S/1E 16Q 3	MW-1	mon	4/3/1989	na	na		2.0	63.0	48.0	63.0	66.5	SENTE ASSOCIATES	SERPENTINE LN. PLEASANTON	PLEASANTON	89182	HEW DRILLING	STOVEPIPE 3'>GROUND
3S/1E 16Q 4	B-1	mon	4/19/1990	5/13/1993	na	des	2.0	100.0	88.0	98.0	100.0	CALLAHAN PROPERTIES	STANLEY BLVD & FIRST ST	PLEASANTON	0	BERLOGAR	
3S/1E 16Q 5	B-2	mon	4/20/1990	5/13/1993	na	des	2.0	85.0	71.0	80.0	85.0	CALLAHAN PROPERTIES	STANLEY BLVD & FIRST ST	PLEASANTON	0	BERLOGAR	
3S/1E 16Q 6	B-3	mon	4/23/1990	5/13/1993	na	des	2.0	105.0	92.0	102.0	0.0	CALLAHAN PROPERTIES	STANLEY BLVD & FIRST ST	PLEASANTON	0	BERLOGAR	
3S/1E 11G 2	MW-3	mon	10/13/1997	na	na		2.0	350.0	230.0	340.0	801.0	DSRSD	W. JACK LONDON BLVD	LIVERMORE	97467	BRADLEY & SONS	1 OF 4 NESTED WELLS
3S/1E 11G 3	MW-2	mon	10/13/1997	na	na		2.0	590.0	380.0	580.0	801.0	DSRSD	W. JACK LONDON BLVD	LIVERMORE	97467	BRADLEY & SONS	1 OF 4 NESTED WELLS
3S/1E 11G 4	MW-1	mon	10/13/1997	na	na		2.0	790.0	620.0	780.0	801.0	DSRSD	W. JACK LONDON BLVD	LIVERMORE	97467	BRADLEY & SONS	1 OF 4 NESTED WELLS
3S/1E 11G 5	M4	mon	10/13/1997	na	na	borehole	12.0	801.0	0.0	0.0	801.0	DSRSD	W. JACK LONDON BLVD	LIVERMORE	97467	BRADLEY & SONS	BOREHOLE
3S/1E 10D 2		mon	9/11/1998	na	na		2.0	212.0	182.0	212.0	815.0	DSRSD	STONERIDGE DR NR. VERMONT PL	PLEASANTON	98143	BRADLEY & SONS	1 OF 4 NESTED WELLS
3S/1E 10D 3		mon	9/11/1998	na	na		2.0	322.0	262.0	312.0	815.0	DSRSD	STONERIDGE DR NR. VERMONT PL	PLEASANTON	98143	BRADLEY & SONS	1 OF 4 NESTED WELLS
3S/1E 10D 4		mon	9/11/1998	na	na		2.0	616.0	366.0	606.0	815.0	DSRSD	STONERIDGE DR NR. VERMONT PL	PLEASANTON	98143	BRADLEY & SONS	1 OF 4 NESTED WELLS
3S/1E 10D 5		mon	9/11/1998	na	na		2.0	790.0	710.0	780.0	815.0	DSRSD	STONERIDGE DR NR. VERMONT PL	PLEASANTON	98143	BRADLEY & SONS	1 OF 4 NESTED WELLS
3S/1E 10D 6		mon	9/11/1998	na	na	borehole	12.0	815.0	0.0	0.0	815.0	DSRSD	STONERIDGE DR NR. VERMONT PL	PLEASANTON	98143	BRADLEY & SONS	BOREHOLE: NESTED WEL
3S/1E 16A 4	TH9A	mon	12/3/1998	na	na	obs well	2.0	600.0	280.0	580.0	600.0	ZONE 7	VALLEY AV & BUSCH RD	PLEASANTON	98169	FUGRO WEST	
3S/1E 15M 3	TH11A	mon	12/15/1998	na	na	obs well	2.0	600.0	280.0	590.0	600.0	ZONE 7	VALLEY AVE & BOULDER ST	PLEASANTON	98170	FUGRO WEST	
3S/1E 16B 1	TH8A	mon	9/17/1998	na	na		2.0	800.0	605.0	800.0	805.0	ZONE 7	BUSCH RD & VALLEY AVE	PLEASANTON	98168	BRADLEY & SONS	
3S/1E 2L 9	KMW-7	mon	12/23/1998	na	na		4.0	25.0	10.0	25.0	25.0	CHILDREN'S HOSPITAL	1600 FRIESMAN RD	LIVERMORE	98208	KLEINFELDER	DTW-13.4'(12/23/98)
3S/1E 2L10	KMW-8	mon	12/23/1998	na	na		4.0	25.0	10.0	25.0	25.0	CHILDREN'S HOSPITAL	1600 FRIESMAN RD	LIVERMORE	98208	KLEINFELDER	DTW-13.4' (12/23/98)
3S/1E 2L12	KMW-2	mon	9/4/1997	na	na		4.0	24.0	9.0	24.0	24.0	CHILDRENS HOSPITAL FOUN	1600 FRIESMAN RD	LIVERMORE	97448	SPECTRUM EXPLOR	
3S/1E 2L13	KMW-3	mon	9/4/1997	na	na		4.0	24.0	9.0	24.0	24.0	CHILDRENS HOSPITAL FOUN	1600 FRIESMAN RD	LIVERMORE	97448	SPECTRUM EXPLOR	
3S/1E 2L14	KMW-4	mon	9/4/1997	na	na		4.0	24.0	9.0	24.0	24.0	CHILDRENS HOSPITAL FOUN	1600 FRIESMAN RD	LIVERMORE	97448	SPECTRUM EXPLOR	
3S/1E 2L15	KMW-5	mon	9/4/1997	na	na		4.0	24.0	9.0	24.0	24.0	CHILDRENS HOSPITAL FOUN	1600 FRIESMAN RD	LIVERMORE	97448	SPECTRUM EXPLOR	
3S/1E 2L16	KMW-6	mon	9/4/1997	na	na		4.0	24.0	9.0	24.0	24.0	CHILDRENS HOSPITAL FOUN	1600 FRIESMAN RD	LIVERMORE	97448	SPECTRUM EXPLOR	
3S/1E 2L11	KMW-1	mon	9/4/1997	na	na		4.0	24.0	9.0	24.0	24.0	CHILDRENS HOSPITAL FOU	1600 FRIESMAN RD	LIVERMORE	97448	SPECTRUM EXPLOR	
3S/1E 11G 1	MW-4	mon	10/13/1997	na	na		2.0	120.0	100.0	110.0	801.0	DSRSD	W. JACK LONDON BLVD	LIVERMORE	97467	BRADLEY & SONS	1 0F 4 NESTED WELLS
3S/1E 15M 4	SITE 11B	mon	3/25/1998	10/27/2000	na	des #20190	6.0	608.0	260.0	600.0	608.0	ZONE 7	VALLEY AVE & STANLEY BLVD	PLEASANTON	98184	DE LA GRANGE &	
3S/1E 16A 5	SITE 9B	mon	4/13/1999	na	na	test well	6.0	600.0	260.0	440.0	600.0	ZONE 7	VALLEY AVE & BUSCH RD	PLEASANTON	98183	DE LA GRANGE &	
3S/1E 16B 2	SITE 8B	mon	9/25/1999	10/27/2000	na	des #20191	6.0	740.0	605.0	740.0	740.0	ZONE 7	BUSCH RD & VALLEY AVE	PLEASANTON	98182	FUGRO WEST	
3S/1E 2N 6	SMP MW-1	mon	11/13/2000	na	na		2.0	55.0	40.0	55.0	55.0	ZONE 7	1760 FRIESMAN RD	LIVERMORE	20210	WOODWARD DRILLING	SMP WELL
3S/1E 15N 3	PP-1	mon	2/27/2002	8/13/2003	na	des 23099	0.8	19.5	10.0	19.5	20.0	P G & E	BERNAL AV & DEL VALLE PKWY	PLEASANTON	22039	P G & E	PIEZOMETER
3S/1E 2Q 1		mon	7/16/2003	na	na		2.0	45.0	35.0	45.0	45.0	ZONE 7	917 CLUB HOUSE DR	LIVERMORE	23086	WOODWARD DRILLING	SMP WELL
3S/1E 11C 3		mon	12/22/2003	na	na		2.0	55.0	35.0	55.0	55.0	ZONE 7	EL CHARRO RD	LIVERMORE	23173	WOODWARD DRILLING	SMP WELL
3S/1E 15N 2	MW-1	mon	1/21/2000	na	na		2.0	32.0	12.0	32.0	32.0	CAN-AM PLUMBING	151 WYOMING ST	PLEASANTON	20002	GETTLER-RYAN	
3S/1E 15N 4	MW-2	mon	1/21/2000	na	na		2.0	32.0	12.0	32.0	32.0	CAN-AM PLUMBING	151 WYOMING ST	PLEASANTON	20002	GETTLER-RYAN	
3S/1E 15N 5	MW-3	mon	11/1/2002	na	na		2.0	25.0	15.0	25.0	42.0	CAN-AM PLUMBING	151 WYOMING ST	PLEASANTON	22125	GETTLER-RYAN	
3S/1E 15N 6	MW-1A	mon	5/9/2006	na	na		2.0	50.0	40.0	50.0	50.0	CAN-AM PLUMBING	151 WYOMING ST	PLEASANTON	26079	GETTLER-RYAN INC.	
3S/1E 15N 7	MW-2A	mon	5/9/2006	na	na		2.0	50.0	41.0	50.0	50.0	CAN-AM PLUMBING	151 WYOMING ST	PLEASANTON	26079	GETTLER-RYAN INC.	

Table Well Survey-1
Survey of Wells Located Within Approximately 2,000 Feet of the Hanson Aggregates Radum Facility Property
3000 Busch Road, Pleasanton, California

State Well Number	Common Well Name	Well Use	Date of Well Install.	Date of Well Destruct.	Could not be Located	Status	Well Diam. (inch)	Well Depth (feet TOC)	Well Screen Interval Top (feet TOC)	Well Screen Interval Bottom (feet TOC)	Total Depth Drilled (feet bgs)	Well Owner	Well Location: Address	CITY	Permit Number	Well Driller	Remarks
3S/1E 15N 8	MW-3A	mon	5/8/2006	na	na		0.0	0.0	40.0	50.0	50.0	CAN-AM PLUMBING	151 WYOMING ST	PLEASANTON	26079	GETTLER-RYAN, INC.	
3S/1E 15N 9	PZ-1	mon	5/8/2006	na	na		2.0	10.0	5.0	10.0	10.0	CAN-AM PLUMBING	151 WYOMING ST	PLEASANTON	26079	GETTLER-RYAN, INC.	
3S/1E 15N10	PZ-2	mon	5/8/2006	na	na		2.0	10.0	5.0	10.0	10.0	CAN-AM PLUMBING	151 WYOMING ST	PLEASANTON	26079	GETTLER-RYAN, INC.	
3S/1E 15N11	PZ-3	mon	5/8/2006	na	na		2.0	10.0	5.0	10.0	10.0	CAN-AM PLUMBING	151 WYOMING ST	PLEASANTON	26079	GETTLER-RYAN, INC.	
3S/1E 15N12	PZ-4	mon	5/8/2006	na	na		2.0	10.0	5.0	10.0	10.0	CAN-AM PLUMBING	151 WYOMING ST	PLEASANTON	26079	GETTLER-RYAN, INC.	
3S/1E 15N13	PZ-5	mon	5/10/2006	na	na		2.0	10.0	5.0	10.0	10.0	CAN-AM PLUMBING	151 WYOMING ST	PLEASANTON	26079	GETTLER-RYAN, INC.	
3S/1E 15N14	PZ-6	mon	5/10/2006	na	na		2.0	10.0	5.0	10.0	10.0	CAN-AM PLUMBING	151 WYOMING ST	PLEASANTON	26079	GETTLER-RYAN, INC.	
3S/1E 15N15	PZ-7	mon	5/10/2006	na	na		2.0	10.0	5.0	10.0	10.0	CAN-AM PLUMBING	151 WYOMING ST	PLEASANTON	26079	GETTLER-RYAN, INC.	
3S/1E 14N 1	MW-17A	mon	11/1/2006	na	na		2.0	48.5	28.0	48.0	49.0	PLEASANTON GARBAGE	2500 STANLEY BLVD	PLEASANTON	26193	EBA ENGINEERING	
3S/1E 10K 2		mon	na	na	na		4.0	590.6	0.0	0.0	0.0	ZONE 7	EL CHARRO RD & COPE LAKE	PLEASANTON	27002	WDC EXPLORATION	
3S/1E 15N16		mon	na	na	na		0.0	0.0	0.0	0.0	0.0	CAN-AM PLUMBING	151 WYOMING ST	PLEASANTON	27060	GETTLER-RYAN	
3S/1E 15N17		mon	na	na	na		0.0	0.0	0.0	0.0	0.0	CAN-AM PLUMBING	151 WYOMING ST	PLEASANTON	27060	GETTLER-RYAN	
Off-Site Water Supply Wells																	
3S/1E 2N 2		sup	1/1/1930	na	na	abandoned	6.0	80.0	0.0	0.0	0.0	MR. FRIESMANN	1760 FRIESMAN DR.	LIVERMORE	0		
3S/1E 2N 3		sup	na	na	na		10.0	316.0	157.0	311.0	0.0	CONRAD MOLT	1760 FRIESMAN DR.		0		
3S/1E 2P 2	31E-95	sup	na	8/10/1989	na	des	10.0	180.0	0.0	0.0	0.0	Friesman	FRIESMAN RD	LIVERMORE	89442		
3S/1E 9A 1		sup	na	5/4/1995	na	des #95268	8.0	145.0	0.0	145.0	0.0	STANDARD PACIFIC	2485 MARTIN AV	PLEASANTON	0		
3S/1E 9F 7	3820 TRENE	sup	na	4/16/1991	na	des	8.0	0.0	0.0	0.0	0.0		3820 TRENERY	PLEASANTON	91018		
3S/1E 9G 1		sup	na	na	na	JD	9.0	160.0	77.0	149.0	0.0	MRS. KAMP	3775 Trenery (Kamp)		0		
3S/1E 9G 2		sup	10/25/1960	7/5/1995	na	des #95392	10.0	240.0	99.0	227.0	240.0	ROBERT MOLINARO	3760 TRENERY DR	PLEASANTON	0	SILVA BRO	
3S/1E 9G 3		sup	11/1/1977	na	na		8.0	220.0	0.0	0.0	0.0	ALBERT WIEMKEN	3737 TRENERY DR.	PLEASANTON	0	LEITE BROS.	
3S/1E 9G 4		sup	7/12/1978	na	na		8.0	230.0	0.0	0.0	0.0	JOHN MONTGOMERY	3800 TRENERY	PLEASANDTON	0	HENNINGS BROS.	
3S/1E 9G 5		sup	8/3/1979	7/5/1995	na	des (#95393)	10.0	236.0	199.0	232.0	236.0	SUMITHRA RAMIREDDY	3752 TRENERY DR	PLEASANTON	0	DELUCCHI	DTW 100.75'
3S/1E 9H 1	3711 TRENN	sup	na	na	na		10.0	160.0	0.0	0.0	0.0	COOPER	3711 TRENERY		0		
3S/1E 9H 2	3711 TRENN	sup	10/22/1957	na	na		8.0	172.0	0.0	0.0	172.0	COOPER	3711 TRENERY DR	PLEASANTON	0	ACME DRILLING	
3S/1E 9H 3	3710 TRENN	sup	11/2/1960	na	na		10.0	240.0	205.0	230.0	240.0	PRESTON	3710 TRENERY	PLEASANTON	0		
3S/1E 9H 4	2215 MARTI	sup	2/1/1976	na	na		8.0	168.0	0.0	0.0	0.0	GONSALVES, DAVID	2215 MARTIN	PLEASANTON	0	LEITE PUMP SALE	
3S/1E 9H 5		sup	na	na	na		8.0	153.0	0.0	0.0	0.0	HERBERT SINGLETON	2207 MARTIN		0		
3S/1E 9H 6		sup	na	na	na		8.0	153.0	0.0	0.0	0.0		2201 MARTIN		0		
3S/1E 9H 9		sup	na	na	na		0.0	0.0	0.0	0.0	0.0				0		
3S/1E 9J 1	31E-84	sup	8/22/1957	na	na	welded cap 1987	12.0	212.0	150.0	200.0	213.0	LOGAN	3757 TRENERY LANE	PLEASANTON	0	WESTERN,SHADLEY	
3S/1E 9J 4		sup	1/24/1981	na	na		6.0	230.0	210.0	230.0	265.0	SELWAY	2313 MARTIN	PLEASANTON	81005	HENNINGS BROS.	
3S/1E 9J 5		sup	9/29/1981	na	na	collapsed at 120	8.0	237.0	197.0	237.0	240.0	KENNETH ZOTTI	3710 CAMERON AVE	PLEASANTON	81106	BITNER DRILLING	WILL REDRILL
3S/1E 9J 6		sup	na	na	na		8.0	192.0	0.0	0.0	0.0	ZOTTE	3926 CAMERON AVE. PLEAS	PLEASANTON	0		
3S/1E 9K 3		sup	na	na	na	unlocatable	8.0	82.0	0.0	0.0	0.0	KAMP			0		
3S/1E 9Q 1		sup	7/9/1975	4/12/1988	na	des	12.0	232.0	140.0	211.0	0.0	De Vour Nursery	3500 Mohr Ave (Devour)		0		
3S/1E 9Q 3	3727 MOHR	sup	5/4/1978	na	na		8.0	207.0	104.0	204.0	207.0	JERALD JENNARO	3727 MOHR	PLEASANTON	7848	WATER MAN DRILL	SOUNDED 205
3S/1E 9Q 4		sup	na	7/1/1988	na	des	0.0	0.0	0.0	0.0	0.0	De Vour Nursery	3500 Mohr Ave.	PLEASANTON	88333	delucchi	HAVE GM DATA 22 NOV
3S/1E 10A 1		sup	6/18/2051	na	na		10.0	253.0	98.0	240.0	253.0	JAMIESON	RANCHO EL CHARRO	PLEASANTON	0	SILVA BROS.	
3S/1E 10A 3		sup	na	na	na		0.0	0.0	0.0	0.0	0.0				0		
3S/1E 10D 1		sup	na	5/4/1995	na	des #95269	14.0	217.0	0.0	0.0	0.0	STANDARD PACIFIC	MARTIN AV & TRENERY DR	PLEASANTON	0		
3S/1E 11C 1		sup	na	na	na	des	12.0	228.0	129.0	223.0	0.0	FREISMANN	1760 FREISMANN	LIVERMORE	89383		
3S/1E 11D 2		sup	na	na	12/4/1989	des	8.0	135.0	0.0	0.0	0.0	CONRAD MOLT	1956 US50 WEST PLEASANTON	PLEASANTON	89386		
3S/1E 11D 3		sup	na	10/26/1989	na	des	0.0	0.0	0.0	0.0	0.0	CONRAD MOLT	1956 US50 WEST PLEASANTON	PLEASANTON	89334		
3S/1E 11E 1	JAIMESON 1	sup	8/15/1955	na	na	letter of intent	16.0	500.0	150.0	500.0	500.0	JAMIESON	WEST SIDE OF EL CHARRO ROAD		0	WALKER DRILLING	GRAVEL PACK

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3000 Busch Road, Pleasanton, California

State Well Number	Common Well Name	Well Use	Date of Well Install.	Date of Well Destruct.	Could not be Located	Status	Well Diam. (inch)	Well Depth (feet TOC)	Well Screen Interval Top (feet TOC)	Well Screen Interval Bottom (feet TOC)	Total Depth Drilled (feet bgs)	Well Owner	Well Location: Address	CITY	Permit Number	Well Driller	Remarks
3S/1E 11H 1	HAGEMANN 7	sup	8/1/1949	na	na	aban 1396 LOCK,N(	14.0	303.0	223.0	295.0	303.0	HAGEMANN	W. JACK LONDON BLVD	LIVERMORE	0	SILVA	LOCKED STEEL PLATE
3S/1E 11H 3		sup	na	na	na	unlocatable	0.0	0.0	0.0	0.0	0.0				0		
3S/1E 11J 1	HAGEMANN 2	sup	1/1/1949	1/16/1985	na	des	14.0	207.0	104.0	198.0	207.0	HAGEMANN			0	SILVA BROS.	
3S/1E 11Q 2		sup	na	na	na	des	0.0	260.0	0.0	0.0	0.0	JAMIESON			0		
3S/1E 14A 2		sup	6/5/1977	na	na	JD	12.0	220.0	135.0	205.0	220.0	R & J DOMESTIC	EL CHARRO RD. AT ARROYO MOCHO	PLEASANTON	0	GLENN MARTELL & SON	DHS0104012
3S/1E 14A 3		sup	3/19/1999	na	na	replacement	6.0	400.0	280.0	380.0	420.0	PLEASANTON GRAVEL CO.	502 EL CHARRO RD	PLEASANTON	99054	MAGGIORA BROS.	HAVE GM DATA 22 NOV
3S/1E 14F 1		sup	na	1/1/1985	na	des	12.0	269.0	0.0	0.0	269.0	JAMIESON			0	PAC. COAST DRIL	
3S/1E 14K 2		sup	na	na	na	JD	16.0	508.0	120.0	480.0	0.0	LONE STAR IND.	STANELY BL. NR SHADOW CLIFF		0		
3S/1E 15F 1		sup	na	na	na	des	10.0	512.0	0.0	0.0	512.0	KAISER	KAISER	PLEASANTON	0		
3S/1E 15J 3		sup	1/8/1981	na	na		8.0	196.0	154.0	184.0	196.0	EAST BAY REGIONAL PARKS	@ SHADOW CLIFF	PLEASANTON	0	DELUCCHI	
3S/1E 15L 1		sup	na	na	na	des	12.0	304.0	74.0	298.0	304.0	KAISER SAND AND GRAVEL	STANLEY BLVD & EL CHARRO	PLEASANTON	0	WESTERN	
3S/1E 15M 2		sup	1/1/1910	1/1/1950	1/1/1975	des	0.0	151.0	0.0	0.0	151.0	DESTROYED	VALLEY AVE & STANLEY BLVD	PLEASANTON	0		HAVE GQ DATA 21 NOV
3S/1E 16H 1	KAISER #3	sup	na	na	na	des	18.0	305.0	75.0	295.0	305.0	KAISER	STANLEY BLVD & VALLEY AVE	PLEASANTON	0	ADOLPH HOMMEL	
3S/1E 16L11		sup	na	na	na	unlocatable	0.0	0.0	0.0	0.0	0.0				0		
3S/1E 16R 1	STANLEY BE	sup	6/29/1948	na	na	JD	10.0	239.0	70.0	226.0	0.0	R.L. IRBY	3780 STANELY BL.	PLEASANTON	0	GIBSON DRILLING	
3S/1E 9R 7		sup	9/13/1983	na	na	abandoned	6.0	255.0	160.0	255.0	255.0	Jerry McConkoll	3450 MOHR AVE	PLEASANTON	83063	Leite Bros.	
3S/1E 11J 2		sup	na	na	na	no data	7.0	53.0	0.0	0.0	0.0	ED HAGEMAN	EL CHARRO RD & STANLEY BLVD	PLEASANTON	0		ENT'D FR WELL LIST
3S/1E 16Q 1		sup	na	na	na	des	84.0	0.0	0.0	0.0	0.0	CALLAHAN PROPERTIES	3963 STANLEY BLVD	PLEASANTON	0		
DHS0104012		sup	na	na	na		0.0	0.0	0.0	0.0	0.0	CALMAT COMPANY	CONTACT BOX 636	CONTACT PLEASA	0		
3S/1E 15N 1		sup	na	2/8/2001	na	des #21034	10.0	66.0	0.0	0.0	0.0	CITY OF PLEASANTON	DEL VALLE PKWY & BERNAL AVE	PLEASANTON	0		
3S/1E 16A 6		sup	na	8/25/2003	na	des #23107	0.0	0.0	0.0	0.0	0.0	PONDEROSA HOMES	4350 MOHR AVE	PLEASANTON	0		
3S/1E 10B 7	L-4	cathodic	2/9/1979	na	na		0.0	328.0	0.0	0.0	328.0	LAVWMA	EL CHARRO RD	PLEASANTON	7921	PITCHER DRILLING	
3S/1E 9H 7	2221 MARTI	dom	3/28/1963	na	na		8.0	241.0	78.5	241.0	241.0	Eugene Lauer	2221 MARTIN		0	Acme Drilling	
3S/1E 9J 3		dom	11/6/1978	na	na		6.0	225.0	205.0	225.0	250.0	KENNETH WATERS	3623 CAMERON AVE	PLEASANTON	78108	HENNINGS BROS.	
3S/1E 9K 1		dom	na	5/20/1985	na	unlocatable	8.0	155.0	0.0	0.0	0.0	KAMP			0		
3S/1E 9K 4		dom	5/16/1978	na	na		8.0	217.0	97.0	217.0	217.0	ROBERT BOUCHIER	3750 CAMERON AVE	PLEASANTON	0	WATER MAN DRILLING	
3S/1E 9Q 2		dom	4/30/1978	na	na		8.0	207.0	120.0	207.0	207.0	ROBERT STREICH	3715 MOHR AVE	PLEASANTON	0	WATER MAN DRILL	SOUNDED AT 207'
3S/1E 9R 5	2373 MARTI	dom	na	na	na		8.0	200.0	50.0	190.0	0.0	BLACK	2373 MARTIN	PLEASANTON	0		
3S/1E 9R 6		dom	9/13/1983	na	na		6.0	235.0	160.0	235.0	235.0	Gene Dana	3380 MOHR AVE	PLEASANTON	83063	Leite Bros.	
3S/1E 11H 4		dom	12/8/2004	na	na		5.0	308.0	180.0	300.0	315.0	AIRDANCE FARMS	W. JACK LONDON BLVD	LIVERMORE	23152	MAGGIORA BROS.	70 GPM, 4HRS
3S/1E 14G 1	WELL #1	ind	9/17/1956	na	na		20.0	500.0	150.0	500.0	500.0	RHODES JAIMESON	STANLEY BLVD & EL CHARRO	PLEASANTON	0	WALKER DRILLING CO.	
3S/1E 14J 1		ind	8/25/1951	na	na		16.0	0.0	200.0	644.0	654.0	PACIFIC COAST AGGREGATE	STANLEY BLVD & EL CHARRO RD	PLEASANTON	0	WESTERN WELL DR	
3S/1E 14J 2		ind	9/24/1965	7/15/1976	na	des; pit excavat	16.0	675.0	186.0	665.0	675.0	PACIFIC COAST AGGREGATE	STANLEY BLVD & EL CHARRO RD	PLEASANTON	0	WESTERN WELL DR	975 GPM, 100' DRAWDO
3S/1E 14J 3		ind	7/16/1999	na	na	ind	16.0	630.0	310.0	630.0	640.0	RMC LONESTAR	1544 STANLEY BLVD	PLEASANTON	99119	NORCAL PUMP & W	690 GPM
3S/1E 14B 1	30042-1	ind	2/12/2003	na	na		8.0	420.0	200.0	410.0	435.0	VULCAN MATERIALS	501 EL CHARRO RD	PLEASANTON	22151	MAGGIORA BROS.	200GPM, 5HR, 40'
3S/1E 2P 1	31E-92	irr	1/1/1948	na	na	aban inactive	12.0	400.0	0.0	0.0	400.0	CITY OF LIVERMORE	FRIESMAN RD	LIVERMORE	0	WESTERN	
3S/1E 3L 1	County Far	irr	na	8/23/2001	na	des (#21147)	7.0	49.0	0.0	50.0	0.0	ALAMEDA COUNTY	100 (STAPLES RANCH) EL CHARRO RD	PLEASANTON	0		
3S/1E 3Q 2	31E-2D	irr	na	8/23/2001	na	des (#21146)	6.0	150.0	0.0	0.0	0.0	SANTA RITA REHAB.	100 (SHERRIFS RANCH) EL CHARRO RD	PLEASANTON	0		NOT SAMPLEABLE
3S/1E 3R 1		irr	1/20/1959	na	na		12.0	352.0	321.0	342.0	352.0	CITY OF LIVERMORE	SOUTH OF POSITAS		0	BASSETT	CO. SURVEY
3S/1E 4R 1		irr	na	6/17/1984	na	des #84037	14.0	222.0	190.0	208.0	0.0	ROB WING	ARROYO MOCHO & ARROYO LAS POSITAS	PLEASANTON	0		
3S/1E 9K 2		irr	na	5/27/1985	na	des	16.0	200.0	0.0	0.0	0.0	SHEFIELD			0		
3S/1E 9Q 5		irr	4/3/1992	na	na		6.0	120.0	100.0	120.0	140.0	JOHN MOORE	1537 CORTNEY AVE, PLEASANTON	PLEASANTON	92128	DEJESUS PUMP	
3S/1E 9R 1	31E-78	irr	7/29/1951	8/25/2003	na	des #23106	12.0	173.0	60.0	171.0	173.0	Jerry Makonkie	3450 Mohr Ave	PLEASANTON	0	Nunes	Replaces 10N1
3S/1E 9R 2	BUSCH	irr	5/19/1961	8/25/2003	na	des #23105	12.0	367.0	271.0	357.0	367.0	JERRY MCCONKOIE	3450 MOHR AVE	PLEASANTON	0	WESTERN	
3S/1E 9R 3	NO.38	irr	na	9/5/2003	na	des #23115	6.0	44.0	0.0	0.0	44.0	Jerry McConkoie	3450 MOHR AVE	PLEASANTON	0		
3S/1E 11C 2		irr	na	na	na	des	0.0	292.0	60.0	286.0	0.0	FREISMANN	EL CHARRO RD & ARROYO LAS POSITAS	LIVERMORE	89384		HAVE GQ DATA 21 NOV

Table Well Survey-1
Survey of Wells Located Within Approximately 2,000 Feet of the Hanson Aggregates Radum Facility Property
3000 Busch Road, Pleasanton, California

State Well Number	Common Well Name	Well Use	Date of Well Install.	Date of Well Destruct.	Could not be Located	Status	Well Diam. (inch)	Well Depth (feet TOC)	Well Screen Interval Top (feet TOC)	Well Screen Interval Bottom (feet TOC)	Total Depth Drilled (feet bgs)	Well Owner	Well Location: Address	CITY	Permit Number	Well Driller	Remarks
3S/1E 11Q 1	Well No. 1	irr	11/30/1938	na	na	Ag well	12.0	192.0	103.0	185.0	192.0	ED HAGEMANN	EL CHARRO & STANLEY BLVD	LIVERMORE	0	NUNES OF CENTERVILLE	
3S/1E 15R 2		irr	8/6/1952	na	na	des	12.0	400.0	125.0	391.0	400.0	BAIRD C. PORTER	2775 VINEYARD AVE	PLEASANTON	0	SILVA BROS.	
3S/1E 16L 3	31E-47	irr	8/28/1931	na	na	des	12.0	54.0	0.0	0.0	0.0	M. GROTH	NEVIS ST & KOLLN ST	PLEASANTON	0	SILVA BROS.	
3S/1E 3J 2		irr	2/6/1997	na	na		5.0	155.0	115.0	155.0	160.0	ADEL SAADEH	EL CHARRO RD SOUTH OF FRIESMAN	PLEASANTON	97004	PACIFIC COAST	DTW-87', elog
3S/1E 9R 9		irr	2/28/1997	na	na		5.0	160.0	90.0	160.0	160.0	DAN MARKS	1781 CORTNEY AVE	PLEASANTON	97102	PACIFIC COAST	45GPM,
3S/1E 9B 1	STONERIDGE	muni	4/7/1992	na	na	production well	20.0	820.0	250.0	800.0	1003.0	Z7-MUNI	4000' US OF SANTA RITA ON ARROYO MOCHO	PLEASANTON	91592	LANE WESTERN	FORMERLY 9A 2
3S/1E 16A 2	PLEAS 8	muni	3/27/1992	na	na		20.0	510.0	200.0	495.0	0.0	CITY OF PLEASANTON	3333 BUSCH ROAD	PLEASANTON	92100	BEYLIK DRILLING	PUMP@295',D.DIA.=16"
3S/1E 16A 3	TH-PLEAS 8	oth	12/20/1991	na	na	test hole	0.0	600.0	0.0	0.0	600.0	CITY OF PLEASANTON	3333 BUSCH ROAD	PLEASANTON	91691		FILLED IN
3S/1E 2P 3		pot	00000000	na	na		10.0	380.0	340.0	372.0	0.0	MR. FREISMANN	1760 FRIESMAN DR.		0		USE 1/2 "HOLE E SIDE
3S/1E 2P 7		pot	10/8/1991	na	na		8.0	410.0	270.0	410.0	425.0	SYUFY ENTERPRISES	FREISMAN RD	LIVERMORE	0	GLENN MARTELL & SON	RP FROM OFFICE
3S/1E 3Q 1		pot	4/15/1926	na	na		14.0	350.0	148.0	344.0	350.0	ALAMEDA COUNTY	STAPLES RANCH - EL CHARRO RD	PLEASANTON	0	WESTERN WELL WO	CH PERFS.SJE 4/18/94
Off-Site Unknown																	
3S/1E 2P 6		unk	na	na	na		0.0	100.0	0.0	0.0	0.0				0		
3S/1E 4J 1		unk	na	na	na		0.0	80.0	0.0	0.0	0.0				0		
3S/1E 15L 4		unk	na	na	na		0.0	52.0	0.0	0.0	0.0		STANLEY BLVD	PLEASANTON	0		
3S/1E 3N 3		unk	na	na	na	no data	0.0	0.0	0.0	0.0	0.0				0		ENT'D FR WELL LIST

Notes:
Well use = use or function of the well, for example: sup = water supply well; mon = monitoring well; indust = industrial water supply well, or cathodic protection well
Total depth drilled = total depth drilled by driller prior to well installation
Well driller = well drilling or consulting geologist company
feet TOC = feet below the top of casing
feet bgs = feet below ground surface
feet bgs = feet below ground na = not available