Applied GeoSystems, Inc.
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Working To Restore Nature

92 NOV -9 PM 2:34

3315 Almaden Expressway, Suite 34
San Jose, CA 95118
Phone: (408) 264-7723
Fax: (408) 264-2435

TRANSMITTAL

TO: Ms. Susan Hugo
Alameda County Health Care Services
Department of Environmental Health
80 Swan Way, Room 200
Oakland, California 94612

DATE: November 4, 1992
PROJECT NUMBER:
SUBJECT: Minutes for Meeting held on September 30, 1992.

FROM: Joel Coffman
TITLE: Project Geologist

WE ARE SENDING YOU:

COPIES	DATED	NO.	DESCRIPTION
1	11/4/92		Minutes to meeting held at ACHCSA on September 30, 1992.

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REMARKS: cc: Mr. Michael Whelan, ARCO Products Company
Mr. Chris Winsor, ARCO Products Company
Mr. John Meck, ARCO Legal Department
Mr. John Jang, RWQCB, San Francisco Bay Region
Mr. Richard Hiett, RWQCB, San Francisco Bay Region
Mr. John Vargas, GeoStrategies

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November 4, 1992
1104shgo

Ms. Susan Hugo
Alameda County Health Care Services Agency
Department of Environmental Health
80 Swan Way, Room 200
Oakland, California 94612

Subject: Minutes to Meeting held at Alameda County Health Care Services Agency (ACHCSA) on September 30, 1992.

Dear Ms. Hugo:

On behalf of ARCO Products Company (ARCO), RESNA Industries, Inc. (RESNA has prepared these minutes for the meeting held at your offices on September 30, 1992. This meeting was held for discussion of ARCO sites located in Alameda County and under direction of Mr. Richard Hiett and Mr. John Jang of the Regional Water Quality Control Board (RWQCB). As circumstances dictated, these RWQCB personnel were not able to attend the meeting, however, they will receive a copy of these minutes. Attending the whole meeting were Ms. Susan Hugo of the ACHCSA, Mr. Michael Whelan of ARCO, and Mr. Joel Coffman of RESNA. People attending parts of the meeting while particular sites were discussed included Mr. Barney Chan and Mr. Scott Seery of the ACHCSA, Ms. Valli Voruganti of RESNA, and Mr. John Vargas and Ms. Diane Lundquist of GeoStrategies, Inc. An agenda for the meeting, including a listing of sites for discussion, was sent to the offices of the ACHCSA and the RWQCB prior to the meeting.

Items discussed include the following: ongoing assessment at the sites, offsite access problems, sites near ARCO Stations reported on leak lists, schedules and changes in schedules for remediation, and other issues concerning the sites. Specific topics discussed for each site are included in the following minutes to the meeting.

Attending the meeting during discussion of ARCO Stations 276, 2035, 2107, 2185, and 4494 were Mr. Barney Chan and Ms. Susan Hugo of ACHCSA, Mr. Michael Whelan of ARCO, and Mr. Joel Coffman and Ms. Valli Voruganti of RESNA. Site specific topics discussed are included in the following portion of these minutes.

ARCO Station 2035, 1001 San Pablo Ave., Albany, California

Discussion of this site included mention that product previously found in recovery well RW-1 was collected in a passive floating product skimmer and had been hand bailed on a bi-weekly basis. Floating product in RW-1 has been reduced to a sheen. Ms. Hugo asked for product information concerning the skimmers, this information has been sent. Other discussion included the fact that the onsite vapor extraction wells had been installed and a vapor extraction test performed at the site in August, 1992. Offsite monitoring wells will be installed upon gaining Cal-Trans permits for the wells. During discussion concerning additional onsite monitoring wells, Mr. Chan suggested moving one of our proposed monitoring well locations (located on the southwest corner of the site) to the north a few feet so it would be situated more downgradient from the former waste oil and former gasoline storage tanks.

The ACHCSA agreed that the report for installation of the onsite vapor extraction wells and the results of the vapor extraction test would be initiated now and delivered in final form to ACHCSA by **December 1, 1992.** Due to the delays associated with gaining permits from Cal Trans for offsite monitoring well installation (still not received at date of this letter), the report with results of the installation offsite monitoring wells will be combined with results of installation of the additional onsite monitoring wells. ACHCSA wishes to be informed of prolonged offsite access problems, including permitting delays and obtaining offsite owner permission for installation of offsite wells.

In regards to the remediation schedule for this site, it was mentioned that the installation of vapor extraction wells and performance of a vapor extraction test and the need for additional onsite monitoring wells were not included in the original schedules. The ACHCSA agreed to a revised remediation schedule which includes these phases of work. A remedial action plan is due to the ACHCSA on **March 1, 1993**, and the anticipated date for start-up of an interim remediation system is **July, 1993.**

ARCO Station 2107, 3310 Park Blvd., Oakland, California.

In discussions concerning this site, Ms. Hugo asked about the TPHd detected previously at the site. Mr. Whelan explained that ARCO was requesting all laboratory chromatograms from previously ran analyses for study. As ARCO has never stored diesel at this site, it is suspected that the TPHd is actually weathered gasoline, which can fall within the same detectable range as diesel in laboratory analyses.

It was explained that offsite monitoring wells had been installed at the site and that the groundwater recovery well, RW-1, would be installed in conjunction with construction of the

interim remediation system, which began October 19, 1992. This recovery well, RW-1, has now been installed. As the monitoring well MW-7, located immediately offsite and downgradient from the ARCO site has contained minor amounts of Benzene, it was agreed that no further assessment is needed at this time. The report including results of the installation of offsite monitoring wells and the recovery well is due to the ACHCSA on **January 1, 1993.**

ARCO Station 2185, 9800 E. 14th St., Oakland, California.

It was mentioned that the report documenting the underground storage tank removal and replacement had been issued by Roux Associates. ARCO mentioned that field work included in the recently completed subsurface investigation had been delayed until late June to early July, 1992, due to the delays related to the tank replacement activities at the site. The report for the subsurface investigation was issued in final form in September by RESNA. A work plan for additional work at the site will be prepared and submitted to the ACHCSA and RWQCB by **December 1, 1992.** Work to be proposed in the work plan will include installation of a groundwater recovery well, performance of an aquifer pumping and recovery test, installation of offsite groundwater monitoring wells, conducting an environmental records search, and performing a well survey to locate wells in the vicinity of the site.

In discussing the schedule for remediation at the site, it was also agreed that a Remedial Action Plan (RAP) will be prepared and submitted to the ACHCSA by **June 1, 1993** and that design of an interim remediation system would be completed by **August 1, 1993.** Equipment needed for the system will be ordered and received by **November 1, 1993,** with the anticipated date for system start-up to be **January 1, 1994.**

ARCO Station 4494, 566 Hegenberger Rd., Oakland, California

ARCO mentioned that after almost a year of negotiations, offsite access had been granted by the adjacent property owner in July, 1992, for installation of offsite monitoring wells. These wells were drilled and installed in July 1992 and the report detailing the findings from this monitoring well installation was delivered to the ACHCSA on October 29, 1992.

Concerning tank replacement at the site, Mr. Whelan stated that ARCO is attempting to gain approval for a station rebuild in conjunction with tank replacement at the site. Delays associated with gaining the permits and approval for the rebuild have pushed the anticipated start date for these activities to approximately the first quarter 1993. Ms. Hugo asked if ARCO was planning to excavate the area around monitoring well MW-2, the only hydrocarbon impacted part of the site, during tank replacement activities. Mr. Whelan

explained ARCO would not be able to excavate very far due to limitations posed by structures and the offsite properties adjacent to the site. It was generally agreed that over-excavation may be the only feasible alternative for this site.

ARCO Station 276, 10600 MacArthur Blvd., Oakland, California.

ARCO mentioned that the offsite monitoring wells, MW-6 and MW-7, had been installed in the Foothill Square Shopping Center parking lot. One well, MW-7, was screened in the shallow water bearing zone and the other well, MW-6, in the deeper water-bearing zone. It was brought to the attention of Mr. Chan and Ms. Hugo that, as suspected, the groundwater samples collected from the upgradient, offsite, deeper water-bearing zone (from MW-6) contained the highest concentrations of Tetrachloroethene (PCE) of any wells on or near the site. This information supports previous suspicions that the PCE and other VOCs found in the deeper water-bearing zone originate from an offsite source. Mr. Coffman pointed out that while the Foothill Square Site is listed in the Report on Releases of Hazardous Substances from Underground Storage Tanks (page 31, January 1992, Report No. 92-2CWP), it is listed only as a gasoline leak with no reference made to the VOCs. ARCO also mentioned that the ARCO site is listed in the same leak report, but is erroneously listed as a waste oil leak. This is an erroneous listing based on analytical results of soil samples collected during removal of the tank in 1988 (Pacific, February 6, 1989). The samples collected and analyzed for waste-oil compounds from the waste-oil tank pit and immediately surrounding area contained non-detectable concentrations for waste oil and volatile organic compounds. Therefore, there is no evidence of a waste oil leak at the site. Laboratory analysis data from installation of the offsite borings/wells had previously been sent to Mr. Chan along with the monthly site status letters prepared for each site in Alameda County. This data will be included in a report documenting recent onsite and offsite work at the site to be delivered to ACHCSA by **February 1, 1993.**

Onsite work recently completed at the site includes installation of 7 vapor extraction wells and an additional groundwater monitoring well. The new onsite wells were piped together into the existing offsite vapor extraction system. In late August, a vapor extraction performance test was conducted at the site to compare the performance of the existing offsite system, which uses soil vapor probes, with use of the system using the new onsite vapor extraction wells. Performance data collected during the test will be used to facilitate design and provide information concerning the number of offsite vapor extraction wells which will be needed to enhance operation of the offsite portion of the vapor extraction system. Results of the vapor extraction test will be included in the report to be issued by February 1, 1993.

ARCO discussed plans to add additional offsite vapor extraction wells to the existing offsite vapor extraction system. ARCO is now working to obtain access for future offsite well installations. It was agreed that the Remedial Action Plan previously submitted to the ACHCSA by ARCO concerning interim groundwater remediation (RESNA, March 18, 1992) would not be implemented by ARCO as the Deeper aquifer at the site is impacted by VOCs from an offsite source. It was also agreed that since the shallow perched aquifer at the site which is impacted by gasoline hydrocarbons will not sustain pumping, the perched water bearing zone will be remediated by the vapor extraction system. Based on the remediation schedules submitted for this site in February 1992, ARCO is either on schedule or ahead of schedule for work to be performed at this site.

Upon conclusion of discussion concerning Station 276, Mr. Barney Chan departed the meeting.

ARCO Station 374, 6407 Telegraph Ave., Oakland, California.

Discussion concerning this site centered around the fact the City of Oakland had recently re-zoned the area and that previously submitted engineering designs would now have to pass through a zoning department review process. This will slow down the installation and start-up of the interim remediation system by a minimum of 60 days. Ms. Hugo asked for names of personnel she might contact at the city concerning this matter and Ms. Voruganti provided her with a listing. The names included Mr. Chris Buckley of the zoning department and Ms. Diane Bradshaw of the planning department. With these new permitting delays, the date for initiating construction of the system at the site will be moved back to at least **January, 1993.** This will allow for a system start-up date of not before **March, 1993.**

In reference to other site-related items, Mr. Whelan and Mr. Coffman pointed out that a former Mobil Oil Service Station site, which is a potential secondary source of hydrocarbons in groundwater, is a located diagonally across Telegraph Avenue, approximate 120 feet southeast and upgradient/crossgradient of ARCO 374. The street address for this site is 6398 Telegraph Avenue.

This potential secondary source is currently a vacant lot owned by Givens Investment Company (Givens). The site is known to have had an underground-storage tank (UST) leak, as evidenced by placement of the site on the Report on Releases of Hazardous Substances from Underground Storage Tanks, State Water Resources Control Board, California Environmental Protection Agency, January 1992, Report No. 92-2CWP. The service station was present at this location from at least 1957 until at least 1985. According to the Report on Releases of Hazardous Substances from Underground Storage Tanks, the

leak was reported in April 1986 and was last reviewed in June 1990 and no action has been taken by the responsible party since the initial report of the leak. Actions recommended in the report regarding the former Mobile Station included removal of free product and excavation and treatment of contaminated soil.

Mr. Coffman made reference to an AquaScience Engineers report related to tank removal at the former Mobil site, which, Ms. Hugo requested a copy be forwarded to her and one has been sent. In the AquaScience Engineers report, dated May 27, 1986, it is stated that soils in the tank pit from removed tanks had a motor fuel smell and each tank pit contained water with floating product. The tank pits were excavated to a depth of twelve feet and groundwater was encountered at approximately twelve feet. The report states that the waste oil tank and one 5,000 gallon gasoline tank had holes in them when removed and inspected. Although water was pumped from the tank pits and disposed of, there is no record that any further investigation to evaluate and delineate the impact the leaking waste oil and gasoline tanks to groundwater at the former Mobil Station. Since the tanks were leaking directly into the tank pit which was in direct communication with the aquifer, it is probable there has been impact to the groundwater from these tanks. This may be a source of the gasoline hydrocarbons detected in groundwater samples from well MW-2 at the ARCO site, which is closest to the former Mobil site and upgradient from any possible ARCO source of gasoline hydrocarbons.

Ms. Hugo asked whether ARCO intended to install offsite groundwater recovery wells to be used in the groundwater remediation system. ARCO replied that once the system was operational and data had been studied, ARCO would evaluate the need for and feasibility of additional recovery wells. ARCO stated that permitting and gaining access for installation of offsite recovery wells which would then need to be piped into the groundwater remediation system could prove to be very difficult and take several months to accomplish.

Upon conclusion of discussion concerning Station 374, Ms. Valli Voruganti departed the meeting. The following three ARCO sites, 2112, 2169, and 4931 were discussed by Ms. Susan Hugo, Mr. Michael Whelan, and Mr. John Vargas and Ms. Diane Lundquist.

ARCO Station 2112, 1260 Park St., Alameda, California.

An Interim Remedial Action Plan was issued on August 27, 1992. This document discusses the remediation approach chose for this site. The System will include vapor extraction and groundwater pump and treat technologies. Previous vapor extraction and aquifer test data were to identify the number of required wells. All permits have been received at this time and construction is scheduled for October 19, 1992. The Remedial System is scheduled for start-up in February 1993.

An additional recovery well and down-gradient well were installed. Petroleum hydrocarbons in the down-gradient well were not observed.

Ms. Hugo asked if ARCO had a contingency plan to address potential breakdown of the system. GeoStrageties Inc., has prepared an Operation and Maintenance Plan. This Plan provides that any pumps or system equipment will be repaired. Telemetry will also be added to the system so that GeoStrageties Inc., will be notified as soon as there are system problems. Groundwater piping and the system enclosure slab have been designed for secondary containment.

Ms. Hugo asked how long the system will be operating. Soil clean-up should be relatively short and the anticipated groundwater clean-up duration as outlined in the schedule for this site is for five years. After an initial start-up and operation period, a better estimate may be possible.

Ms. Hugo asked about the number of carbon beds and their replacement schedule. The groundwater system will include two 180 pound carbon vessels. Calculations for the minimum replacement periods are included in the Interim Remedial Action Plan. The Operation and Maintenance Plan provides for monitoring the influent and effluent air and water systems on a routine schedule. Carbon will be replaced once breakthrough has been detected in the first carbon beds.

ARCO Station 2169, 899 W. Grand Ave., Oakland, California.

The Remediation Implementation schedule will be revised to accommodate delays in completing the onsite assessment. The original schedule assumed this assessment would be performed concurrently with the tank removal project. However, due to space limitations at the site caused by the large quantity of stockpiled soils during tank replacement, ARCO anticipates a 4-month delay in completing the assessment. This delay pushes back the estimated system start-up date to September 1, 1993.

The onsite assessment is to be completed at this time, Vapor extraction and aquifer tests have been completed. These remedial technologies appear to be feasible. The report documents these activities in a draft. Diesel was reported for previous groundwater samples at this site. Laboratory results for other ARCO stations have erroneously reported diesel. ARCO plans to do additional analysis to confirm whether diesel has impacted the soil and groundwater. A draft report has been submitted to ARCO. The report of onsite work and a Work Plan for offsite assessment will be issued in late October to early November, 1992.

ARCO Station 4931, 731 W. MacArthur Blvd., Oakland, California.

Mr. Vargas and Ms. Lundquist discussed the progress at his site. The Remedial System underground and enclosure has been completed. Equipment installation and start-up will be performed once all equipment is received from the manufacturers. GeoStrageties Inc., anticipated start-up by the first part of November.

A passive product skimmer has been installed in Well W-8. A products pump will be installed in this well when the system is operational. Recovery Well are AR-1 was installed adjacent to Well A-4 to address product in the well. A report documenting the installation of additional recovery wells is in draft. This report is scheduled for completion by the end of October early November.

Ms. Hugo wanted TOG and lead analyzed for four-quarters to verify that groundwater has not been impacted. ARCO agreed to analyze Well A-2 for these constituents.

Following this discussion, the meeting adjourned for lunch at 12:15 p.m.
After the lunch break, at approximately 1:15 p.m., the meeting resumed with Mr. Michael Whelan, Ms. Susan Hugo, and Mr. Joel Coffman present.

ARCO Station 6148, 5131 Shattuck Ave., Oakland, California.

Discussion began with Ms. Hugo granting approval for work proposed in work plan (RESNA, September, 1992) for installation of additional onsite monitoring wells. The report containing the results to the additional well installations is due to the ACHCSA on **February 1, 1993**. There was a question concerning the recently submitted 2nd quarter monitoring report for the site in which floating product was reported at 0.5 feet in one of the monitoring wells. Mr. Coffman said he would check into the matter as this was probably a mistake. A follow-up letter with corrected tables showing the correct product thickness of 0.05 feet was sent to Ms. Hugo.

Ms. Hugo requested that one of the wells (MW-1 through MW-3) be tested for all waste oil constituents, including TOG, TPHd, metals, VOCs, and 8270 for a minimum of 4 consecutive quarters. If no waste oil constituents are found, analysis for those constituents will be discontinued.

Ms. Hugo agreed it would be reasonable to decommission two of the three closely spaced monitoring wells, MW-1 through MW-3, located near the former waste-oil tank at the southwestern corner of the site. The wells to be decommissioned will be determined upon installation of the proposed additional monitoring wells and using data from 1 quarter of

monthly monitoring to establish the gradient at the site. The well to remain will be the well determined to be downgradient from the former waste-oil tank.

A work plan with proposed location of a groundwater recovery well, possible vapor extractions wells (if applicable), an aquifer test, and a vapor extraction test (if applicable) will be prepared and submitted to ACHCSA by **March 1, 1993.** The report documenting work in this work plan will be submitted to ACHCSA by **August 1, 1993.** A Remedial Action Plan (RAP) will begin to be prepared for the site as soon as results from the aquifer test and/or vapor extraction test are evaluated. The RAP is due to ACHCSA by **September 1, 1993.** The design and permitting of an interim remediation system at the site will begin in July, 1993, and is due to be completed by **October 1, 1993.** This schedule will allow for construction bids to be evaluated by **November 1, 1993,** which will provide a **February 15, 1994** construction date for the interim remediation system. This schedule will place start-up of the system at **April 1, 1994.**

Following discussion of this site, Mr. Scott Seery of the ACHCSA joined Ms. Susan Hugo, Mr. Michael Whelan, and Mr. Joel Coffman for the remainder of the site discussions.

ARCO Station 6041, 7249 Village Pkwy, Dublin, California.

Discussion concerning this site began with Mr. Seery providing some groundwater monitoring data from sites on different corners of the same intersection as the ARCO 6041 site. These sites included Unocal, BP, and Oil Changers (former Shell Oil Station) sites. The information provided by Mr. Seery showed monitoring wells on the northern perimeter (closest to ARCO site) that had or continue to have much higher levels of gasoline hydrocarbons in groundwater than wells on the ARCO site. As ARCO had presented the ACHCSA a work plan in which part of the proposed work was installation of offsite groundwater monitoring wells, it was agreed the offsite portion of the work would not proceed until some of the other responsible parties were contacted by the ACHCSA. ARCO would proceed with the onsite portion of work proposed in the work plan, which included a records search to identify potential offsite sources of hydrocarbons, installation of additional onsite monitoring wells, installation of onsite vapor extraction wells, and performing a vapor extraction test. The report for this portion of the work is due to ACHCSA on **February 1, 1993.**

Following three months monitoring of the new and pre-existing monitoring wells at the site to determine optimal positioning of a groundwater recovery well (RW-1), RW-1 will be installed and an aquifer test will be performed at the site. The report with results of the installation of the recovery well and aquifer test is due to ACHCSA on **August 1, 1993.** A Remedial Action Plan is due to the ACHCSA on **September 1, 1993,** and design of an

interim remediation system for the site is to be completed by **November 1, 1993.** With this schedule, construction bids should be secured by **December 1, 1993,** which will allow for construction of the interim remediation system to begin on **February 1, 1994.** This schedule provides for start-up of the system by **April 1, 1994.**

The offsite investigation was not placed on any definite schedule during the meeting due to information provided by Mr. Seery which showed the properties across the streets from the ARCO site (Unocal, BP, and former Shell sites) with groundwater impacted by greater concentrations of gasoline constituents than the ARCO site. This information concerning these properties across the street also indicated some of these sites with monitoring wells which are located near property boundaries (closest to the ARCO site) which contain groundwater with relatively high concentrations of gasoline constituents. Based on this information, it was agreed that any offsite investigation by ARCO will be delayed as other parties appear more likely to be responsible for offsite groundwater which may be impacted by gasoline constituents.

ARCO Station 2152, 22141 Center St., Castro Valley, California.

Discussion concerning this site was centered upon starting dates for construction of the soil vapor extraction system at the site. Mr. Whelan explained that the actual date for beginning construction at the site could vary anywhere **from mid-November 1992 to mid-January 1993,** due to internal ARCO factors associated with closing the station. Due to the amount of trenching to be performed for installation of remediation system piping, the site may have to be completely closed. In any event, the latest date given by ARCO for start-up of the system is **March 15, 1993.**

Groundwater has continued to contain non-detectable concentrations of gasoline hydrocarbons over the last few quarterly monitoring episodes and offsite investigation is not warranted. The extent of soils impacted by gasoline hydrocarbons has been delineated onsite.

ARCO Station 601, 712 Lewelling Blvd., San Leandro, California.

Mr. Seery said the contract between the City of San Leandro and ACHCSA was being worked out and was almost finished. He said this site was still considered to be in the deposit/refund section of oversight within the ACHCSA and would be transferred to the local oversight program (LOP) as soon as ACHCSA was granted the contract by the City. He requested a check from ARCO for $601.00 for time he has spent reviewing the project at his $71.00/hour rate.

The response letter to Mr. Seery's letter of July 30, 1992 was discussed next. Mr. Seery wanted to have additional soil borings near the former waste-oil tank drilled and sampled for waste-oil constituents. He cited the high (287.1 ppm) lead content in samples previously collected from Boring B-6/MW-1 as rationale for this request. Mr. Whelan suggested we are proposing to stop any offsite migration of these compounds in groundwater with the proposed groundwater recovery system to be installed at the site and that ARCO would sample the perimeter well (MW-8) in the downgradient direction from the former waste-oil tank to ascertain that these compounds had not migrated to the site perimeter. It was pointed out that the soils at the site are very impermeable and migration of compounds from the former waste-oil tank would be very unlikely as evidenced by results from the ARCO vapor extraction test and the Aquifer test performed across the street from the site at the former Shell Station.

Mr. Seery would not agree with this proposal and asked that well MW-1, located near the former waste-oil tank be sampled and analyzed for waste-oil constituents. As this well has historically contained floating product, we explained that matrix interference would probably result. Discussion followed about laboratories as Mr. Seery stated that someone at Pace Laboratories had told him we could run analyses for halocarbons, metals, the 8270, and TOG without interference by the product in the well. It was agreed that this issue would be further explored. Mr. Seery stated that on some occasions, there was no product in well MW-1 but this had not coincided with our scheduled sampling dates. He suggested, and ARCO agreed to be ready to sample MW-1 on any occasion in which there is no product present.

ARCO suggested that we collect soil samples in proposed soil boring B-17, to be located in the southeast corner of the site, crossgradient from B-6/MW-1, and analyze them for lead content to establish background levels for lead at the site. This was suggested in response to Mr. Seery pointing out that B-6 contained lead at up to 130 ppm in samples collected below first-encountered groundwater at the site. As lead doesn't readily migrate downward through clays and silts, Mr. Whelan suggested this may be indicative of a regional problem with lead in soils.

Concerning Mr. Seery's assertion that ARCO may be required to investigate the deeper water-bearing zone for possible hydrocarbon impact, he stated this may be required in the future. He stated that boring logs from the site showed bioturbation and roots at depths up to 16-1/2 feet. Mr. Coffman pointed out that soil samples collected from the clay aquitard beneath the site contained nondetectable amounts of gasoline hydrocarbons and that according to the GeoStrategies report concerning the former Shell site across the street from the ARCO site, no deeper aquifer was encountered at depths up to 25 feet below ground surface.

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Minutes to September 30, 1992 Meeting at ACHCSA — November 4, 1992

It was discussed that we would have the report of additional on and offsite investigation to Mr. Seery approximately 16 weeks from the date agreement was reached on scope of work to be performed and that this schedule may be altered due to city and other offsite encroachment concerns.

Discussion concerning the remediation schedule for this site included ARCO informing Mr. Seery of the fact that City Planning and Engineering Departments were requiring plans and specifications for the trench remediation system to be signed and stamped by a Professional Civil Engineer. ARCO also informed Mr. Seery that permitting delays can be expected due to the complex nature of the interim remediation system to be installed. These delays will move the anticipated start-up date for the system to the third quarter of 1993 and possibly into the fourth quarter 1993.

Discussion concluded with agreement that ARCO and Mr. Seery would speak again the week of October 5, 1992 concerning this site. The meeting was concluded at approximately 5:15 p.m.

Mr. Joel Coffman and Mr. Seery spoke on October 9, 1992 regarding ARCO's decision to proceed with drilling and sampling three soil borings in the vicinity of the former waste-oil tank, as Mr. Seery requested. These borings were drilled and sampled by RESNA on October 12, 1992 and samples from these borings will be analyzed for the waste-oil constituents as outlined in Table 2 of the Regional Water Quality Control Board's August 10, 1990 recommendations.

If you have any questions or comments concerning these minutes to the meeting, please call us at (408) 264-7723.

Sincerely,
RESNA Industries Inc.

Joel Coffman

Joel Coffman
Project Geologist

cc: Michael Whelan, ARCO Products Company
Chris Winsor, ARCO Products Company
John Meck, ARCO Legal Dept.
John Jang, RWQCB
Richard Hiett, RWQCB
John Vargas, GeoStrategies

9:00 AM

9/30/92 Meeting w/ Arco { Michael Wheland / Jeff Coffman

* will submit revised Time schedule

Updates:

2035 - 1001 San Pablo Albany - ✓
July-1992. to site wells (6 wells

MW4 } City of Albany
MW5 } waiting encroachment permit
Let us Know (30 days) on Caltrans person to expedite permitting process (Cal Trans)
Bi weekly - bailing FP
Approval - for 2 MWs on 2 corners - approved
RW = Lad skimmer

Soil Vapor Report - finished by NOV.

Treatment System - scheduled July 1993
Semi-confined area (both soil & groundwater treatment
Bi week bailing
Vapor Extraction Test Report
Verbal approval of 2 on site
Design completed March 1992
System operating - July 1992
Off site wells - 3Q/92

9/30/92

3310 Park Blvd. Oakland 846 ✓

November 1, 1992 - Start up

On Schedule

Soil / Groundwater Treatment System

Install RW-1 Oct 19, 1992.

↳ Jan 1, 1992 - report in

~ or ~

10:00 AM - 10:30 AM

9800 E. 14th Street ✓ off site sources

→ across the street for off site wells

City of Oakland Encroachment permit

→ proposal WP → Nov. 15, 1992

① Install RW - screened deeper

→ ② Aquifer Test not done performed

③ Permit search

2 months - delayed → due to contractor's problem

Still closed up to 6/92 due to tank replacement

RAP = 6/1/93

Design - 8/1/93

Equipment procurement 11.1.93

Start up - 1/94

2 months delay →

RAP - 5/1/93

9/30/92

10:30 – 10:45

566 Hegenberger Rd ✓ Oakland

2 off site wells installed

November

Tank replacement by November →
no later than

10:45 –

10600 MacArthur Blvd. ✓

PCE's Soil

Touched Shallow water bearing 3000 TPH

deeper - 44 ft - 55 ft – VOC's contamination

Offsite wells to be installed

Probes (½ in)

10700 MacArthur Blvd – suspect off site

Soil Vapor Extraction - being done

Time lines → on Time (Off site wells to be installed

RAP. submitted but will not be done due to

PCE's in deeper zone

→ June 1993 - due to access

VET

Aquifer Test } before ~~Oct 1993~~ Jan 1, 1993

Off site

9/30/92 5131 Shattuck Ave Oakland 94609

Weathered gasoline

Approved 4 MW's Waste oil constituents
Addendum to Q

3 MW's on site monitoring

Vapor Extraction to be added

Recovery well →
Aquifer Test
Vapor Test

12 Weeks

Feb 1, 1993 — report on site periods
+ 3 months monitoring
March 1, 1993 - RAP workplan
Aquifer Test -
(optional) addition Vapor Test 2 16 weeks
April 1 →
August 1, 1993 — full on site characterization
start (design → ~~August~~ July 1, 1993 → complete ~~October~~ by October
~~Groundwater~~ RAP → (9/1/93)
(Product Skimmers → to submit)
11/1/93 → bid back (contract)

1- month to bid
2- months before construction

2/94- construction
11.94- Start-up

Jerry Svien → (RWQCB) Access

9/30/92 2:25 PM

STID 7249

7249 Village Pkwy, Dublin 94568 ✓

Map of 3 corners

Additional · Workplan - further Site Characterization
3 Wells, Vapor Extraction Test
Monitor for 3 months →
Data - Oil Changes

Advance borings - 1 ft screened into #20

All contamination - at capillary fringe]

WP approved delay till records search completed. from site installation
Verbal approval → by SS for installation of MW's

Time limits →

Aquifer Testing → Smearing / Stuff counts

Report by February 1, 1993
Complete report August 1, 1993 (aquifer test, Recovery well) off site wells)
RAP → 1 month after Report (September 1, 1993
design - takes place as the RAP (November 1, 1992)

- Bid (1 month) to get back
2/1/94 - Construction
(60 days)
4/1/94 - Start-up

3:00-3:30 STID 3943

9/30/92 22141 Center Street, Castro Valley ✓

Systems ready to begin construction
Trenching → November 1992
Compound → December - January

Air permit delay - problems
↳ by 2 months
I.C. to run start up phase
↳ separate permit since exceed 5 days

Worst case scenario → start March 15, 1993

submittal { cut sheets / as builts } things may change

Arco - had to give 30 days notice to operators before the ~~station~~ system can be installed.?

D/R 3:30PM - 7/2 Lewelling Blvd. San Leandro 9/5/79

San Leandro : to transfer to LOP

San Leandro letter July 30, 1992 by SS

Workplan - verbal address by SS -> submitted

Groundwater problems ->
Waste oil contamination in soil not defined
-> need more soil borings especially PB
2 or 3 borings

AW-1

Semi-annually test at MW-1 for waste oil constituents

Free Product : to test
Can not test (624 or TPH analysis) but can test for 601 (Halocarbons) to prevent matrix interference
Best test for O&G, halo carbons can be done

① MW-1 boiling
-> sampling attempt to test for waste oil constituents
can be drop.

- Borings around the tank ->
- Background total lead

9-12 (3 hrs) } 6.8 hrs
1:15-5 (3.75 hrs)

9/30/92

Waste oil tank →
5520 D&E

Need more time due to permits requirements
- deeper aquifer - Oct 1991 Report
  MW-5
  Vertically ~
- potential migration into deeper aquifer
- French system + ~~shoring~~ shoring - Building dept. OSHA.
  (map (12 feet to clay) → needed a lot of permits)
- as built systems

16 wks borings - out from approval by SS
~~and fall~~
- March 1993 - report come out (
- Feasibility for soil (left in close soil)
  Vent test - contaminate
  Aquifer test in Shell - didn't work →
200 Gallons/day → beneficial use of groundwater