

91 JUN 31 AM 10:28

TRANSMITTAL

3315 Almaden Expressway, Suite 34
 San Jose, California 95118
 (408) 264-7723 FAX (408) 264-2435

TO: MR. LARRY SETO DATE: 6/28/91
ALAMEDA COUNTY HEALTH CARE SERVICES PROJECT NUMBER: 69036.03
HAZARDOUS MATERIALS DIVISION SUBJECT: REMEDIAL ACTION PLAN
80 SWAN WAY, ROOM 200
OAKLAND, CA 94621

FROM: JOEL COFFMAN
 TITLE: ASST. PROJECT GEOLOGIST

WE ARE SENDING YOU Attached Under separate cover via _____ the following items:
 Shop drawings Prints Reports Specifications
 Letters Change Orders _____

COPIES	DATED	NO.	DESCRIPTION
1	6/28/91	69036.03	REMEDIAL ACTION PLAN FOR GASOLINE HYDROCARBON-IMPACTED SOIL ENCOUNTERED DURING PLANNED TANK REPLACEMENT ACTIVITIES AT ARGO STATION 2035, 1001 SAN PABLO AVENUE, ALBANY, CA.

THESE ARE TRANSMITTED as checked below:

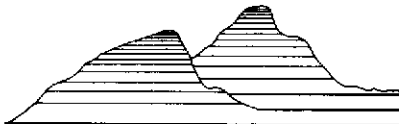
- For review and comment Approved as submitted Resubmit ___ copies for approval
 As requested Approved as noted Submit ___ copies for distribution
 For approval Return for corrections Return ___ corrected prints
 For your files _____

REMARKS: _____

Copies: 1 to AGS project file no. 69036.03
 cc: **MR. G. CARMEL (ARCO)**

SAN JOSE READER'S FILE

*Revision Date: 10/15/90
 *File Name: TRANSMT.PRJ



Applied GeoSystems

3315 Alameda Expressway, Suite 34, San Jose, CA 95118 (408) 264-7723

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June 28, 1991
AGS 69036.03
0628seto

Mr. Larry Seto
Alameda County Health Care Services Agency
Hazardous Materials Division
80 Swan Way, Room 200
Oakland, California 94621

Subject: Remedial Action Plan for gasoline hydrocarbon-impacted soil encountered during planned tank replacement activities at ARCO Station 2035, 1001 San Pablo Avenue, Albany, California.

Dear Mr. Seto:

As you requested in our telephone conversation on June 28, 1991, and at the request of ARCO Products Company (ARCO), RESNA/Applied GeoSystems (AGS) has prepared this letter report outlining the remedial action plan for hydrocarbon-impacted soil encountered during the tank replacement activities at the subject site, and includes laboratory analytical results of soil samples collected from two exploratory soil borings (B-6 and B-7) in the area of the proposed new underground gasoline-storage tank locations. As previously discussed with you, the tank replacement is scheduled to begin at the site on July 1, 1991. The location of the subject site is shown on the Site Vicinity Map, Plate 1.

New Tank Pit Soil Borings

Drilling

On June 25, 1991, AGS drilled and collected samples from two exploratory soil borings (B-6 and B-7) in the area of the new tank pit location at the site as shown on Plate 2, Generalized Site Plan, after permits were acquired from Zone 7 of Alameda County Flood Control and Water Conservation District. The purpose of the borings was to determine if soils in the new tank pit area have been impacted by gasoline hydrocarbons and to determine depth to first encountered ground water. Soil samples were collected at 5-foot intervals or less from the borings. Field procedures used during the drilling is included in the attached Field Protocol, Appendix A. The samples were delivered to Sequoia Analytical

Laboratories in Redwood City, California, a state certified laboratory, following chain of custody protocol.

Soils encountered in the borings consisted primarily of sandy clay to clayey sand with gravel. Ground water was encountered in boring B-6, located on the east end of the new tank pit location, at a depth of 17.9 feet below ground level. Ground water was encountered in boring B-7, located on the west end of the new tank pit location, at a depth of 19.3 feet below ground level.

Laboratory Analytical Results

A total of four soil samples from boring B-6 and five soil samples from boring B-7 were analyzed for total petroleum hydrocarbons as gasoline (TPHg) and gasoline constituents benzene, toluene, ethylbenzene, and total xylenes (BTEX) using Environmental Protection Agency (EPA) method 5030/8015/8020. All samples were below laboratory detection limits of 1 part per million (ppm) TPHg and 0.005 ppm BTEX. Copies of laboratory analytical reports are included in Appendix B.

Remedial Action Plan

Backfill of Old Tank Pit

During underground storage tank and product-line removal and replacement at the site, ARCO will use the soil excavated in the area of the new tank pit as backfill material to place back into the old tank pit. Soil excavated for installation of the new tanks appears acceptable as backfill material since laboratory analytical results of soil samples from the borings B-6 and B-7 indicated that this soil has not been impacted by gasoline hydrocarbons.

Remediation Plan for Gasoline-Impacted Soil

If field observation of soil samples collected from the old underground storage tank pit, product-line trenches, or other areas onsite indicate the presence of gasoline hydrocarbons in soil ARCO will install crisy boxes in the immediate areas. These crisy boxes will facilitate future installation of ground-water monitoring and soil vapor extraction wells for definition of lateral and vertical extents of gasoline hydrocarbons in soil and ground water, and remediation of gasoline hydrocarbons. In addition, piping to facilitate connection of soil vapor extraction wells to a soil vapor remediation system will be installed in conjunction

Remedial Action Plan
ARCO Station 2035, Albany, California

June 28, 1991
AGS 69036.03

with installation of new product delivery lines (as necessary). Soil excavation and removal will be minimal at the site as existing roads and structures severely limit over excavation.

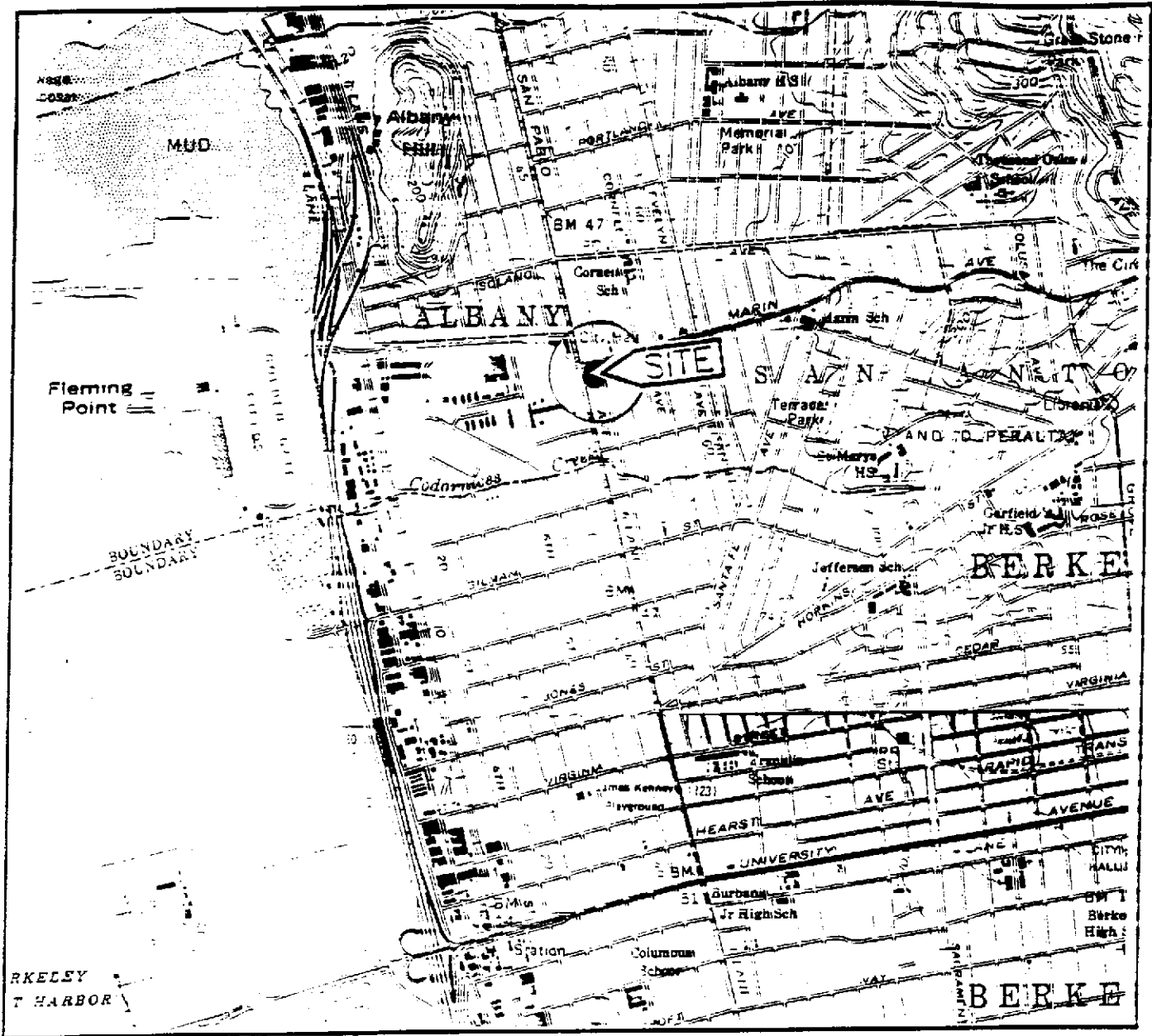
If you have any questions or comments about this letter report, please contact us at (408) 264-7723. As you agreed during our telephone conversation on June 28, 1991, we will implement the above plan at this site during the upcoming tank replacement at this site. Thank you.

Sincerely,
RESNA/Applied GeoSystems

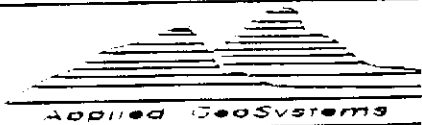
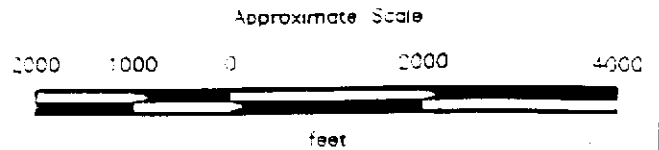
Joel Coffman
Assistant Project Geologist

Enclosures: Plate 1, Site Vicinity Map
 Plate 2, Generalized Site Plan
 Appendix A, Field Protocol
 Appendix B, Laboratory Analytical Report

cc: Mr. Chuck Carmel, ARCO Products Company



Source: U.S. Geological Survey
 7.5-Minute Quadrangles
 Richmond/Oakland West
 California,
 Photorevised 1980

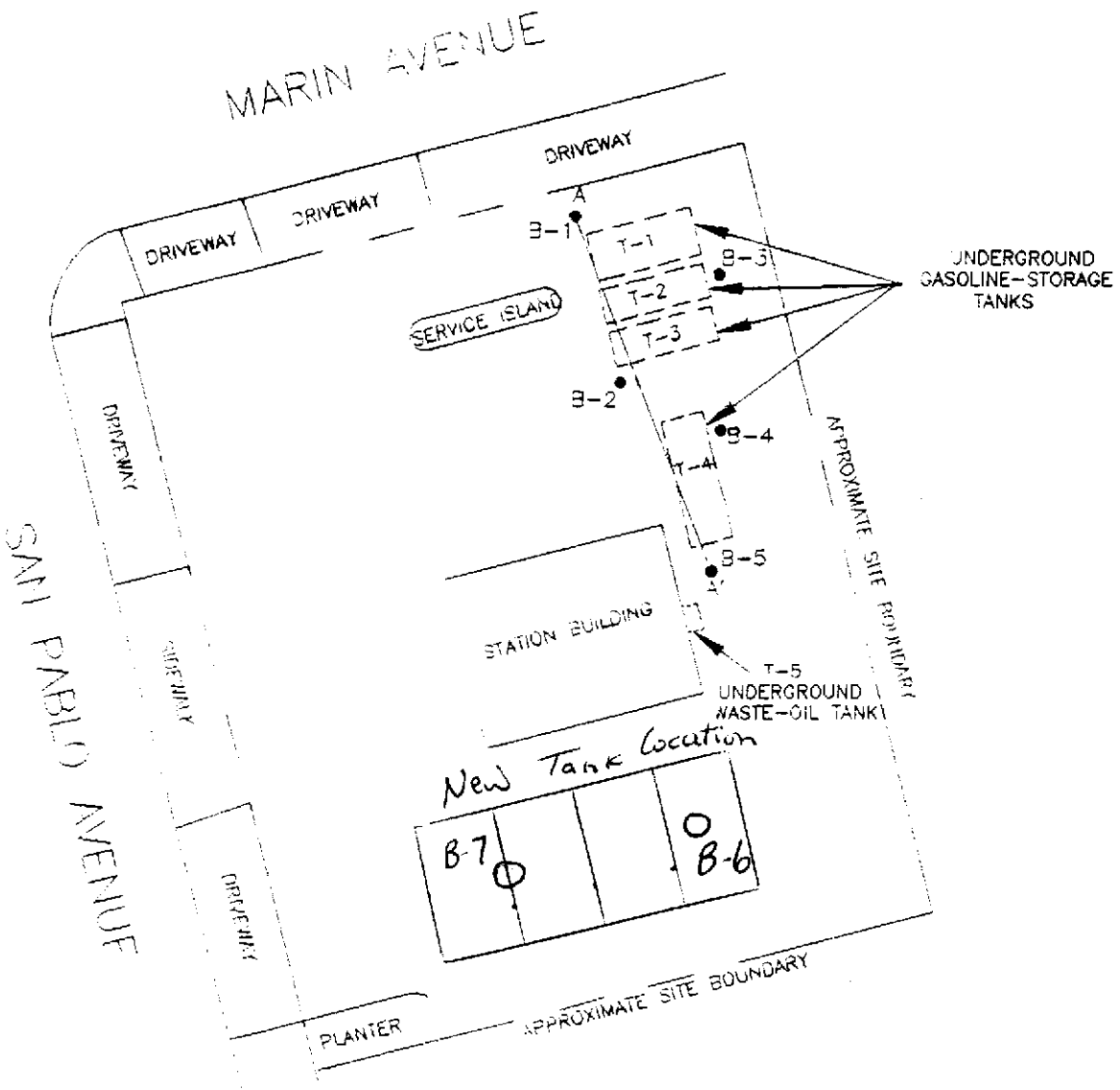


PROJECT 69036-2

SITE VICINITY MAP
ARCO Station 2035
1001 San Pablo Avenue
Albany, California

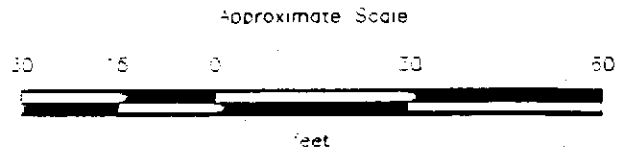
PLATE

1



EXPLANATION

- B-5 ● = Soil core
(Applied GeoSystems, August 9, 1989)
- A = Geologic cross section
- B-6 ○ = Soil boring (AGS, June 25, 1971)



Source: Modified from plan supplied by ARCO.



GENERALIZED SITE PLAN
 ARCO Station 2035
 2001 San Pablo Avenue
 Albany, California

PLATE
 1

APPENDIX A
FIELD PROTOCOL

FIELD PROTOCOL

The following presents Applied GeoSystems' protocol for a typical site investigation involving gasoline hydrocarbon-impacted soil and/or ground water.

Site Safety Plan

The Site Safety Plan describes the safety requirements for the evaluation of gasoline hydrocarbons in soil, ground-water, and the vadose-zone at the site. The site Safety Plan is applicable to personnel of Applied GeoSystems and its subcontractors. Applied GeoSystems personnel and subcontractors of Applied GeoSystems scheduled to perform the work at the site are to be briefed on the contents of the Site Safety Plan before work begins. A copy of the Site Safety Plan is available for reference by appropriate parties during the work. A site Safety Officer is assigned to the project.

Soil Excavation

Permits are acquired prior to the commencement of work at the site. Excavated soil is evaluated using a field calibrated (using isobutylene) Thermo-Environmental Instruments Model 580 Organic Vapor Meter (OVM). This evaluation is done upon arrival of the soil at the ground surface in the excavator bucket by removing the top portion of soil from the bucket, and then placing the intake probe of the OVM against the surface of the soil in the bucket. Field instruments such as the OVM are useful for measuring relative concentrations of vapor content, but cannot be used to measure levels of hydrocarbons with the accuracy of laboratory analysis. Samples are taken from the soil in the bucket by driving laboratory-cleaned brass sleeves into the soil. The samples are sealed in the sleeves using aluminum foil, plastic caps, and aluminized duct tape; labeled; and promptly placed in iced storage. If field subjective analyses suggest the presence of hydrocarbons in the soil, additional excavation and soil sampling is performed, using similar methods. If ground water is encountered in the excavation, ground water samples are collected from the excavation using a clean Teflon® bailer. The ground water samples are collected as described below under "Ground-Water Sampling". Stockpiled soil is placed on plastic and covered with plastic, and remains the responsibility of the client. The excavation is backfilled or fenced prior to departure from the site.

Sampling of Stockpiled Soil

One composite soil sample is collected for each 50 cubic yards of stockpiled soil, and for each individual stockpile composed of less than 50 cubic yards. Composite soil samples are

obtained by first evaluating relatively high, average, and low areas of hydrocarbon concentration by digging approximately one to two feet into the stockpile and placing the intake probe of a field calibrated OVM against the surface of the soil; and then collecting one sample from the "high" reading area, and three samples from the "average" areas. Samples are collected by removing the top one to two feet of soil, then driving laboratory-cleaned brass sleeves into the soil. The samples are sealed in the sleeves using aluminum foil, plastic caps, and aluminized duct tape; labeled; and promptly placed in iced storage for transport to the laboratory, where compositing will be performed.

Soil Borings

Prior to the drilling of borings and construction of monitoring wells, permits are acquired from the appropriate regulatory agency. In addition to the above-mentioned permits, encroachment permits from the City or State are acquired if drilling of borings offsite in the City or State streets is necessary. Copies of the permits are included in the appendix of the project report. Prior to drilling, Underground Services Alert is notified of our intent to drill, and known underground utility lines and structures are approximately marked.

The borings are drilled by a truck-mounted drill rig equipped with 8- or 10-inch-diameter, hollow-stem augers. The augers are steam-cleaned prior to drilling each boring to minimize the possibility of cross-contamination. After drilling the borings, monitoring wells are constructed in the borings, or neat-cement grout with bentonite is used to backfill the borings to the ground surface.

Borings for ground-water monitoring wells are drilled to a depth of no more than 20 feet below the depth at which a saturated zone is first encountered, or a short distance into a stratum beneath the saturated zone which is of sufficient moisture and consistency to be judged as a perching layer by the field geologist, whichever is shallower. Drilling into a deeper aquifer below the shallowest aquifer can begin only after a conductor casing is properly installed and allowed to set, to seal the shallow aquifer.

Drill Cuttings

Drill cuttings subjectively evaluated as having hydrocarbon contamination at levels greater than 100 parts per million (ppm) are separated from those subjectively evaluated as having hydrocarbon contamination levels less than 100 ppm. Evaluation is based either on subjective evidence of soil discoloration, or on measurements made using a field calibrated OVM. Readings are taken by placing a soil sample into a ziplock type plastic bag and allowing volatilization to occur. The intake probe of the OVM is then inserted into the headspace created in the plastic bag immediately after opening it. The drill cuttings from

the borings are placed in labeled 55-gallon drums approved by the Department of Transportation; or on plastic at the site, and covered with plastic. The cuttings remain the responsibility of the client.

Soil Sampling in Borings

Soil samples are collected at no greater than 5-foot intervals from the ground surface to the total depth of the borings. The soil samples are collected by advancing the boring to a point immediately above the sampling depth, and then driving a California-modified, split-spoon sampler containing brass sleeves through the hollow center of the auger into the soil. The sampler and brass sleeves are laboratory-cleaned, steam-cleaned, or washed thoroughly with Alconox® and water, prior to each use. The sampler is driven with a standard 140-pound hammer repeatedly dropped 30 inches. The number of blows to drive the sampler each successive six inches are counted and recorded to evaluate the relative consistency of the soil.

The samples selected for laboratory analysis are removed from the sampler and quickly sealed in their brass sleeves with aluminum soil, plastic caps, and aluminized duct tape. The samples are then be labeled, promptly placed in iced storage, and delivered to a laboratory certified by the State of California to perform the analyses requested.

One of the samples in brass sleeves not selected for laboratory analysis at each sampling interval is tested in the field using an OVM that is field calibrated at the beginning of each day it is used. This testing is performed by inserting the intake probe of the OVM into the headspace created in the plastic bag containing the soil sample as described in the Drill Cuttings section above. The OVM readings are presented in Logs of Borings included in the project report.

Logging of Borings

A geologist is present to log the soil cuttings and samples using the Unified Soil Classification System. Samples not selected for chemical analysis, and the soil in the sampler shoe, are extruded in the field for inspection. Logs include texture, color, moisture, plasticity, consistency, blow counts, and any other characteristics noted. Logs also include subjective evidence for the presence of hydrocarbons, such as soil staining, noticeable or obvious product odor, and OVM readings.

Monitoring Well Construction

Monitoring wells are constructed in selected borings using clean 2- or 4-inch-diameter, thread-jointed, Schedule 40 polyvinyl chloride (PVC) casing. No chemical cements, glues, or solvents are used in well construction. Each casing bottom is sealed with a threaded end-plug, and each casing top with a locking plug. The screened portions of the wells are constructed of machine-slotted PVC casing with 0.020-inch-wide (typical) slots for initial site wells. Slot size for subsequent wells may be based on sieve analysis and/or well development data. The screened sections in ground-water monitoring wells are placed to allow monitoring during seasonal fluctuations of ground-water levels.

The annular space of each well is backfilled with No. 2 by 12 sand, or similar sorted sand, to approximately two feet above the top of the screened casing for initial site wells. The sand pack grain size for subsequent wells may be based on sieve analysis and/or well development data. A 1- to 2-foot-thick bentonite plug is placed above the sand as a seal against cement entering the filter pack. The remaining annulus is then backfilled with a slurry of water, neat cement, and bentonite to approximately one foot below the ground surface.

An aluminum utility box with a PVC apron is placed over each wellhead and set in concrete placed flush with the surrounding ground surface. Each wellhead cover has a seal to protect the monitoring well against surface-water infiltration and requires a special wrench to open. The design discourages vandalism and reduces the possibility of accidental disturbance of the well.

Ground-Water Monitoring Well Development

The monitoring wells are developed by bailing or over-pumping and surge-block techniques. The wells are either bailed or pumped, allowed to recharge, and bailed or pumped again until the water removed from the wells is determined to be clear. Turbidity measurements (in NTUs) are recorded during well development and are used in evaluating well development. The development method used, initial turbidity measurement, volume of water removed, final turbidity measurement, and other pertinent field data and observations are included in reports. The wells are allowed to equilibrate for at least 48 hours after development prior to sampling. Water generated by well development will be stored in 17E Department of Transportation (DOT) 55-gallon drums on site and will remain the responsibility of the client.

Ground-Water Sampling

The static water level in each well is measured to the nearest 0.01-foot using a Solinst® electric water-level sounder or oil/water interface probe (if the wells contain floating product) cleaned with Alconox® and water before use in each well. The liquid in the onsite wells is examined for visual evidence of hydrocarbons by gently lowering approximately half the length of a Teflon® bailer (cleaned with Alconox® and water) past the air/water interface. The sample is then retrieved and inspected for floating product, sheen, emulsion, color, and clarity. The thickness of floating product detected is recorded to the nearest 1/8-inch.

Wells which do not contain floating product are purged using a submersible pump. The pump, cables, and hoses are cleaned with Alconox® and water prior to use in each well. The wells are purged until withdrawal is of sufficient duration to result in stabilized pH, temperature, and electrical conductivity of the water, as measured using portable meters calibrated to a standard buffer and conductivity standard. If the well becomes dewatered, the water level is allowed to recover to at least 80 percent of the initial water level. Prior to the collection of each ground water sample, the Teflon® bailer is cleaned with Alconox® and rinsed with tap water and deionized water, and the latex gloves worn by the sampler changed. Hydrochloric acid is added to the sample vials as a preservative (when applicable). A sample method blank is collected by pouring distilled water into the bailer and then into sample vials. A sample of the formation water is then collected from the surface of the water in each of the wells using the Teflon® bailer. The water samples are then gently poured into laboratory-cleaned, 40-milliliter (ml) glass vials, 500 ml plastic bottles or 1-liter glass bottles (as required for specific laboratory analysis) and sealed with Teflon®-lined caps, and inspected for air bubbles to check for headspace, which would allow volatilization to occur. The samples are then labeled and promptly placed in iced storage. A field log of well evacuation procedures and parameter monitoring is maintained. Water generated by the purging of wells is stored in 17E DOT 55-gallon drums onsite and remains the responsibility of the client.

Vadose-Zone Sampling

Vapor readings are made with a field calibrated OVM, which has a lower detection limit of 0.1 ppm. Prior to purging each vadose-zone monitoring well, an initial reading is taken inside the well by connecting the tubing of the OVM to a tight fitting at the top of the well. Each vadose-zone monitoring well is then purged for approximately 60 seconds using an electric vacuum pump connected to the tight fitting. Ambient readings of the air at the site are taken with the OVM after each well is purged. The OVM is then connected to the well fitting, and the reading recorded. The well is then again purged for approximately 30

seconds, and again measured using the OVM. These purging and measuring procedures are repeated until two consecutive OVM readings are within ten percent of each other.

Sample Labeling and Handling

Sample containers are labeled in the field with the job number, sample location and depth, and date, and promptly placed in iced storage for transport to the laboratory. A Chain of Custody Record is initiated by the field geologist and updated throughout handling of the samples, and accompanies the samples to a laboratory certified by the State of California for the analyses requested. Samples are transported to the laboratory promptly to help ensure that recommended sample holding times are not exceeded. Samples are properly disposed of after their useful life has expired.

Aquifer Testing

Bailer Test

The initial water level is measured in the test well, and water bailed from the test well using a Teflon® bailer and cable cleaned with Alconox® and water. Pressure transducers are used to measure water levels in the test well during drawdown and partial recovery phases, over a minimum period of approximately one to two hours. The bailing rate for the designated test well is recorded.

Pumping Test

The initial water levels in wells to be used during the test are measured prior to commencement of pumping. The flow rate of the pump is adjusted to the desired pumping rate, and water levels allowed to recover to initial levels. Pumping then begins, and the starting time of pumping is recorded. Drawdowns in observation wells are recorded at intervals throughout pumping using pressure transducers. Evacuated water is stored in a storage tank at the site and remains the responsibility of the client. After the pump is shut off, recovery measurements are taken in the wells until recovery is at least 80 percent of the initial water level. Barometric pressure and tidal information are collected for the time interval of the pumping test to allow screening of possible effects of atmospheric pressure and tidal fluctuations on the ground water levels.

APPENDIX B
LABORATORY ANALYTICAL REPORT



SEQUOIA ANALYTICAL

680 Chesapeake Drive • Redwood City, CA 94063
(415) 364-9600 • FAX (415) 364-9233

Applied GeoSystems 3315 Almaden Expressway, Ste 34 San Jose, CA 95118 Attention: Joel Coffman	Client Project ID: ARCO #2035, Albany Matrix Descript: Soil Analysis Method: EPA 5030/8015/8020 First Sample #: 106-3624	Sampled: Jun 25, 1991 Received: Jun 25, 1991 Analyzed: 6/25-26/91 Reported: Jun 27, 1991
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TOTAL PETROLEUM FUEL HYDROCARBONS with BTEX DISTINCTION (EPA 8015/8020)

Sample Number	Sample Description	Low/Medium B.P. Hydrocarbons mg/kg (ppm)	Benzene mg/kg (ppm)	Toluene mg/kg (ppm)	Ethyl Benzene mg/kg (ppm)	Xylenes mg/kg (ppm)
106-3624	S-5½ B6	N.D.	N.D.	N.D.	N.D.	N.D.
106-3625	S-10½ B6	N.D.	N.D.	N.D.	N.D.	N.D.
106-3626	S-15½ B6	N.D.	N.D.	N.D.	N.D.	N.D.
106-3627	S-17 B6	N.D.	N.D.	N.D.	N.D.	N.D.
106-3628	S-5½ B7	N.D.	N.D.	N.D.	N.D.	N.D.
106-3629	S-10½ B7	N.D.	N.D.	N.D.	N.D.	N.D.
106-3630	S-15½ B7	N.D.	N.D.	N.D.	N.D.	N.D.
106-3631	S-17 B7	N.D.	N.D.	N.D.	N.D.	N.D.
106-3632	S-18½ B7	N.D.	N.D.	N.D.	N.D.	N.D.

Detection Limits:	1.0	0.0050	0.0050	0.0050	0.0050
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Low to Medium Boiling Point Hydrocarbons are quantitated against a gasoline standard.
Analytes reported as N.D. were not present above the stated limit of detection.

SEQUOIA ANALYTICAL


Elizabeth W. Hackl
Project Manager



SEQUOIA ANALYTICAL

680 Chesapeake Drive • Redwood City, CA 94063
(415) 364-9600 • FAX (415) 364-9233

Applied GeoSystems
3315 Almaden Expressway, Ste 34
San Jose, CA 95118
Attention: Dave Higgins

Client Project ID: ARCO #2035, Albany

QC Sample Group: 1063624-3627, 3630-3632

Reported: Jun 27, 1991

QUALITY CONTROL DATA REPORT

ANALYTE	Benzene		Ethyl Benzene		Xylenes	
	Benzene	Toluene	Benzene	Xylenes	Benzene	Xylenes
Method:	EPA 8020	EPA 8020	EPA 8020	EPA 8020	EPA 8020	EPA 8020
Analyst:	C. Donohue	C. Donohue	C. Donohue	C. Donohue	C. Donohue	C. Donohue
Reporting Units:	ng	ng	ng	ng	ng	ng
Date Analyzed:	Jun 25, 1991	Jun 25, 1991	Jun 25, 1991	Jun 25, 1991	Jun 25, 1991	Jun 25, 1991
QC Sample #:	GBLK 062591	GBLK 062591	GBLK 062591	GBLK 062591	GBLK 062591	GBLK 062591
Sample Conc.:	N.D.	N.D.	N.D.	N.D.	N.D.	N.D.
Spike Conc. Added:	100	100	100	100	300	300
Conc. Matrix Spike:	91	90	91	91	270	270
Matrix Spike % Recovery:	91	90	91	91	90	90
Conc. Matrix Spike Dup.:	94	93	92	92	270	270
Matrix Spike Duplicate % Recovery:	94	93	92	92	90	90
Relative % Difference:	3.2	3.3	1.1	1.1	0.0	0.0

SEQUOIA ANALYTICAL

% Recovery:	$\frac{\text{Conc. of M.S.} - \text{Conc. of Sample}}{\text{Spike Conc. Added}} \times 100$
Relative % Difference:	$\frac{\text{Conc. of M.S.} - \text{Conc. of M.S.D.}}{(\text{Conc. of M.S.} + \text{Conc. of M.S.D.}) / 2} \times 100$

Elizabeth W. Hackl
Elizabeth W. Hackl
Project Manager



SEQUOIA ANALYTICAL

680 Chesapeake Drive • Redwood City, CA 94063
 (415) 364-9600 • FAX (415) 364-9233

Applied GeoSystems Client Project ID: ARCO #2035, Albany
 3315 Almaden Expressway, Ste 34
 San Jose, CA 95118
 Attention: Dave Higgins QC Sample Group: 1063628-3629 Reported: Jun 27, 1991

QUALITY CONTROL DATA REPORT

ANALYTE	Benzene		Ethyl Benzene		Xylenes	
	Benzene	Toluene	Benzene	Xylenes	Benzene	Xylenes
Method:	EPA 8020	EPA 8020	EPA 8020	EPA 8020	EPA 8020	EPA 8020
Analyst:	S. Gill	S. Gill	S. Gill	S. Gill	S. Gill	S. Gill
Reporting Units:	ng	ng	ng	ng	ng	ng
Date Analyzed:	Jun 26, 1991	Jun 26, 1991	Jun 26, 1991	Jun 26, 1991	Jun 26, 1991	Jun 26, 1991
QC Sample #:	GBLK 062591	GBLK 062591	GBLK 062591	GBLK 062591	GBLK 062591	GBLK 062591
Sample Conc.:	N.D.	N.D.	N.D.	N.D.	N.D.	N.D.
Spike Conc. Added:	100	100	100	100	300	300
Conc. Matrix Spike:	89	89	89	89	270	270
Matrix Spike % Recovery:	89	89	89	89	90	90
Conc. Matrix Spike Dup.:	88	87	87	87	250	250
Matrix Spike Duplicate % Recovery:	88	87	87	87	83	83
Relative % Difference:	1.1	2.3	2.3	2.3	7.7	7.7

SEQUOIA ANALYTICAL

% Recovery:	$\frac{\text{Conc. of M.S.} - \text{Conc. of Sample}}{\text{Spike Conc. Added}} \times 100$
Relative % Difference:	$\frac{\text{Conc. of M.S.} - \text{Conc. of M.S.D.}}{(\text{Conc. of M.S.} + \text{Conc. of M.S.D.}) / 2} \times 100$

Elizabeth W. Hackl
 Elizabeth W. Hackl
 Project Manager

ARCO Facility no. <u> </u>	City (Facility) <u> </u>	Project manager (Consultant) <u> </u>	
ARCO engineer <u> </u>	Telephone no. (ARCO) <u> </u>	Telephone no. (Consultant) <u> </u>	Fax no. (Consultant) <u> </u>
Consultant name <u> </u>		Address (Consultant) <u> </u>	

Laboratory name

Contract number

Sample I.D.	Lab no.	Container no.	Matrix			Preservation		Sampling date	Sampling time	BTEX 602/EPA 8020	BTEX/TPH EPA M602/8020/8015	TPH Modified 8015 Gas <input type="checkbox"/> Diesel <input type="checkbox"/>	Oil and Grease 413.1 <input type="checkbox"/> 413.2 <input type="checkbox"/>	TPH EPA 418.1/SM503E	EPA 601/8010	EPA 824/8240	EPA 625/8270	TCLP Metals <input type="checkbox"/> VOA <input type="checkbox"/> VOA <input type="checkbox"/>	CAM Metals EPA 8010/7000 TTLC <input type="checkbox"/> STLC <input type="checkbox"/>	Lead Org./DHS Lead EPA 7420/7421 <input type="checkbox"/>								
			Soil	Water	Other	Ice	Acid																					
17-11																												
17-12																												
17-13																												
05/687																												
510/687																												
315/687																												
17-17																												
17-18																												
17-19																												

Method of shipment

Special detection Limit/reporting

Special QA/QC

Remarks

Lab number

Turnaround time

Priority Rush 1 Business Day

Rush 2 Business Days

Expedited 5 Business Days

Standard 10 Business Days

Condition of sample: <u> </u>				Temperature received: <u> </u>				
Relinquished by sampler <u> </u>	Date <u> </u>	Time <u> </u>	Received by <u> </u>	Date <u> </u>	Time <u> </u>	Received by laboratory <u> </u>	Date <u> </u>	Time <u> </u>
Relinquished by <u> </u>	Date <u> </u>	Time <u> </u>	Received by <u> </u>	Date <u> </u>	Time <u> </u>			
Relinquished by <u> </u>	Date <u> </u>	Time <u> </u>	Received by laboratory <u> </u>	Date <u> </u>	Time <u> </u>			