

REPORT PREPARED

FOR

**AIRCO GASES
575 MOUNTAIN AVENUE
MURRAY HILL, NEW JERSEY 07974**

BY

**BSK & ASSOCIATES, INC.
PLEASANTON, CALIFORNIA**

**BSK JOB NO. P94014.4
FORMERLY RS JOB NO. R93003**

**REPORT
EVALUATION OF CONTAMINATION EXTENT
FORMER
CONDENSATE COLLECTOR LOCATION
AIRCO GASES
SAN LEANDRO, CALIFORNIA
FEBRUARY 1994**



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February 2, 1994

BSK JOB NO. P94014.4
RS JOB NO. R93003

Airco Gases
575 Mountain Avenue
Murray Hill, New Jersey 07974

Attention: Mr. Michael Resh

Subject: Evaluation of Contamination Extent
Former Condensate Collector Location
Airco Gases
1588 Doolittle Drive
San Leandro, California

Gentlemen:


BSK & Associates, Inc. (BSK) is pleased to submit this Report which summarizes methodologies used to delineate potential contamination in upper soils and in first groundwater at the subject site, and presents results of chemical analysis.

Our investigation has detected low levels of acetone ranging from 12 to 3,100 $\mu\text{g}/\text{kg}$ in soil and at 10 $\mu\text{g}/\text{l}$ in first groundwater, and MEK at 74 $\mu\text{g}/\text{kg}$ in one soil sample. However, based on the preliminary endangerment assessment presented in this Report, the low levels of acetone and MEK in the soil and low level of acetone in groundwater at the Airco San Leandro Facility are not considered a significant risk to human health and/or the environment.

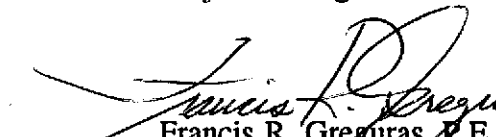
We recommend that a copy of this Report be submitted under an Airco cover letter to Mr. Robert Weston of the Alameda County Department of Environmental Health for review and comment.

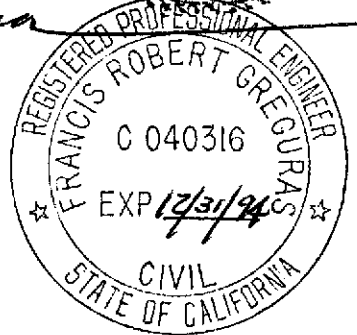
We trust the information presented in this Report satisfies your present needs. If you have questions or require additional services, please call us.

Respectfully submitted
BSK & Associates


John W. Schweizer, P.E.
Project Manager




Francis R. Greguras, P.E.
Project Engineer



JWS\FRG:hhc
(RPTS\ENV.F01)

Distribution:
Airco Gases (5 copies)
Attn: Mr. Michael Resh

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**REPORT
EVALUATION OF CONTAMINATION EXTENT
FORMER CONDENSATE COLLECTOR LOCATION
AIRCO GASES
SAN LEANDRO, CALIFORNIA**

1.0 INTRODUCTION

BSK & Associates, Inc. (BSK) has prepared this Report which summarizes methodologies used to evaluate the extent of potential contamination in upper soils and in first groundwater, and presents results of chemical analyses. This evaluation was performed in the area of the former condensate collector at the Airco facility located at 1588 Doolittle Drive in San Leandro, California. The general location of the site is shown on Figure 1, Vicinity Map.

Services for this evaluation were completed in general accordance with the BSK Proposal No. PR94004.3, dated January 10, 1994, which was authorized and accepted by Airco. An exception to the proposal was that Airco hired Enseco, a California-certified analytical laboratory, to perform the required chemical analyses.

2.0 BACKGROUND

Remediation Services, Inc. (RS), a subsidiary of BSK, performed removal and initial soil remediation services at the site of the condensate collector in February 1993. The condensate collector was utilized to ~~capture compressor condensation in the manufacturing of acetylene.~~ During removal, soil adjacent to the collector appeared to be oil stained. Subsequent remediation of oil-contaminated soil by excavation and chemical analyses performed in June 1993 resulted in the discovery of low-levels of volatile organic compounds. Compounds identified were acetone, methyl ethyl ketone (MEK), tetrachloroethene (PCE), and benzene. The shaded area on Figure 2, Site Plan, shows where removal and soil remediation services were performed. The collector removal, remediation method, and subsequent discovery of volatile organic contamination are detailed in the RS Report R93003, dated June 24, 1993.

3.0 PURPOSE AND SCOPE

The purpose of this evaluation was to delineate potential volatile organic contamination in the soil adjacent and immediately below the excavation zone remediated in June 1993, and to evaluate potential impact to first groundwater in the vicinity of the former condensate collector. To accomplish this purpose, BSK performed the following:

- Drilled four test borings
- Collected soil samples
- Collected one groundwater sample
- Collected and stored drill spoils
- Collected and stored rinsate water
- Refrigerated soil and water samples
- Shipped samples to Enseco for chemical testing
- Prepared this Report.

BSK performed the drilling services under: Zone 7 Water Agency Permit Number 94027 (copy in Appendix A), our Water Well Contractor License C-57 #490942, and Underground Service Alert (USA) Ticket Number 16694. The overall performance of BSK's scope of services was under the direction of a California Registered Civil Engineer.

4.0 INVESTIGATION METHODOLOGY

4.1 DRILLING AND SOIL SAMPLING

The locations of the four test borings are presented on Figure 2, Site Plan. At three of the boring locations, CalWest, Inc. core drilled 10-inch cores through the concrete slab. Drilling was accomplished with a Mobile Drill B-53, truck-mounted rig with 8-inch O.D. continuous flight, hollow stem auger. Soil samples were collected from the native subsoils at ~~5-foot~~ intervals or less to a maximum depth of 14.5 feet in Boring B-3. A 2.0-inch I.D. split-barrel sampler, containing three 2- by 6-inch stainless steel liners, was used to collect the soil samples. The sampler was driven 18 inches beyond the hollow stem auger bit with a 140-pound hammer free falling 30 inches. Upon sampler retrieval, one of the soil-filled liners was removed from the sampler barrel, covered with teflon film, sealed with a pressure-fitted plastic cap, labeled and refrigerated by "blue ice" for delivery to Enseco. Based on odor and visual observation in field, selected samples were field screened for volatile organic compounds by placing a portion of soil sample in a plastic bag, allowing the specimen to volatilize, and then analyzing with a photo-ionization detector (PID), Thermo Environmental Model 580A with a 10.0 ev lamp.

A BSK geologist logged each recovered sample and the auger cuttings. Classification of the subsurface materials was based on the Unified Soil Classification System (USCS). A copy of the USCS Chart and Legend for the Boring Logs is presented on Plate 1 in Appendix A.

Spoils from the drilling and sampling operation were collected and placed on a 6-mil polyethylene sheet and, in turn, covered with a 6-mil polyethylene sheet anchored at the edges with weights. The spoil stockpile is located north of Acetylene Manufacturing Building between the property fence line and the asphalt pavement. ~~Direct sampling of the spoil stockpile composite soil samples were collected in 3- by 6-inch stainless steel containers from the spoil.~~

On January 20, the test borings were backfilled with a cement grout to either existing surface grade or to the base of the concrete slab where concrete slabs were present. After the grout set, the slab was patched with Portland cement concrete.

4.2 GROUNDWATER SAMPLING

An attempt to collect a groundwater sample at Boring B-2 from a temporary 2-inch O.D. stainless steel (0.02-inch slot) well drive point, hydraulically pushed from 11.5 to 14.3 feet was unsuccessful.

No water was measured in the well drive point, one hour and 25 minutes after placement. A ~~sample of first groundwater was collected from Boring B-3 because field screening of soil samples (PID readings) were the highest from this boring and this boring produced a sufficient quantity of water.~~ The other two perimeter borings (B-1 and B-4) also produced groundwater. The water sample collected from Boring B-3 was obtained by lowering a disposable bailer into an open bore hole. The sample was decanted into appropriate containers with preservative as supplied by Enseco, labeled, sealed, and refrigerated with "blue ice" for shipment to the laboratory.

4.3 DECONTAMINATION PROCEDURES

Drilling and sampling equipment were thoroughly cleaned prior to site entry by a high-pressure, high-temperature washer. The hollow stem auger bit and plug, and split-barrel samplers were decontaminated with a hot water Liquinox solution, rinsed with potable water and rinsed with deionized water. Upon completion of the borings, the augers and sampling equipment were thoroughly cleaned by a high-pressure, high-temperature washer. The augers and equipment were washed in a polyethylene-lined containment basin. The rinsate from decontamination operations was placed into a lined 55-gallon DOT 17 E/H drum and labeled.

The drum was placed adjacent to the covered drill spoils. A sample was collected from the rinsate water and placed into appropriate containers, labeled, sealed and placed in the shipping cooler.

4.4 QA/QC PROCEDURES

Chain-of-Custody documentation was prepared and shipped with the samples to Enseco. Security seals were placed on each individual sample and a signed security seal was placed on the outside of the cooler. The cooler and samples were shipped to Enseco via Federal Express under Airbill 0580868774 (a copy of the Airbill is presented in Appendix B).

A trip blank, sample prepared by Enseco and labeled B-6 #1 by BSK, accompanied the soil and water samples. An equipment rinsate (field blank) sample was prepared by collecting deionized water which passed through BSK's split-barrel samplers, a liner, and the water sampling equipment prior to field operations.

5.0 CHEMICAL ANALYSES

Nine soil samples collected from the four test borings were submitted to Enseco for volatile organics analysis by EPA Method 8240. Three aqueous samples (trip blank/field blank/groundwater) were submitted for volatile organics analysis by EPA Method 8240/624. In addition, the groundwater sample was analyzed for oil and grease by State Method 5520 CF. The composite soil samples from the drill spoils and aqueous rinsate samples from equipment decontamination operations were not tested.

6.0 FINDINGS

6.1 SURFACE AND SUBSURFACE CONDITIONS

At Boring B-1 the surface was covered with asphalt varying in thickness from one to three inches. The asphalt pavement is underlain by approximately two feet of aggregate baserock. Below two feet and to the depth investigated (13 feet), dark grey grading to olive mottled brown, silty clay textured soil was encountered. The soil penetrated is moderately plastic (CL/CH) and is generally in a very moist condition. PID readings on samples recovered from five- and ten-foot depths ranged from 0 to 0.5 ppm. After drilling, ground was encountered at 11.8 feet below surface grade.

At Boring B-2, the surface was covered with an eight-inch thick Portland cement concrete slab. Below the slab and to a depth of eight feet, aggregate baserock backfill from the

June 1993 remediation excavation was encountered. Below the backfill material and to a depth of 11.5 feet, olive to olive grey, silty clay soil (CL/CH) was encountered. A PID reading of 0.3 ppm was recorded from the sample collected between 8 and 9.5 feet. No groundwater was measured inside the well drive point which was set between 11.5 and 14.3 feet.

At Boring B-3, the surface was covered with two Portland cement concrete slabs, combined measuring 19 inches. Below the slab and to a depth of 14.5 feet, dark grey grading to olive, silty clay soil (CL/CH) was encountered. PID readings ranged from 0.1 ppm (sample Number 3 at 11 feet) to 13 ppm (sample Number 1 at five feet). After drilling, groundwater was measured at 12.4 feet below surface grade.

At Boring B-4, the surface was covered with an eight-inch thick Portland cement concrete slab. Below the slab, approximately two feet of black colored aggregate baserock with a septic odor was encountered. Below the baserock, black grading to olive grey mottled, silty clay soil (CL/CH) was encountered to 11.5 feet. After drilling, groundwater was measured at 11.5 feet below surface grade.

Information, such as, sample depths, time of samples collection, sampler blow count resistance, and detailed soil descriptions are presented in the individual Boring Logs, Plates 2 through 5 in Appendix A.

6.2 ANALYTICAL RESULTS

The results of the analytical testing performed are reported in the Enseco Report, dated January 26, 1994 which is presented under Appendix B. Enseco's report contains the following information:

- Case Narrative
- Enseco Cal Lab's Quality Assurance Program
- Sample Description Information
- Chain-of-Custody Documentation
- Volatile Organics (Soil & Aqueous) - Method 8240, Sample Data Sheets, Method Blank Reports, and Laboratory Control Sample Reports.
- Oil and Grease (Aqueous) - Method SM 5520CF, Sample Data Sheets, Method Blank Report, and Laboratory Control Sample Report.

The results of the analysis performed on the nine soil samples are summarized in Table 1.

TABLE 1

ANALYTICAL RESULTS SOIL SAMPLES
Results in micrograms per Kilograms (µg/kg)

Sample I.D.	Acetone	MEK	Methylene Chloride	Other 8240 Compounds
B-1 at 5 feet	ND	ND	ND	ND
B-1 at 10 feet	ND	ND	ND	ND
B-2 at 8 feet	ND	ND	ND	ND
B-2 at 10.5 feet	ND	ND	ND	ND
B-3 at 5 feet	ND	ND	ND	ND
B-3 at 9 feet	ND	ND	ND	ND
B-3 at 13.5 feet	ND	ND	ND	ND
B-4 at 2.5 feet	ND	ND	ND	ND
B-4 at 10 feet	ND	ND	ND	ND
Detection Limit	10	10	5.0	See Appendix B

ND = None Detected

20,000
mg/kg

164,000
mg/kg

85 mg/kg
MCL-5PPD

The results of the analyses performed on the three aqueous samples are summarized in Table 2.

TABLE 2

ANALYTICAL RESULTS AQUEOUS SAMPLES
Results in Micrograms per Liter ($\mu\text{g/l}$)
Except as noted for Oil and Grease

Sample I.D.	Acetone	Methylene Chloride	Bromo-Methane	Other 8240 Compound	Oil & Grease (mg/l)
B-3 Groundwater	10		ND	ND	ND
B-5 #1 DI Water Field Blank	ND		ND	ND	NA
B-6 #1 Enseco Prepared Trip Blank	ND			ND	ND
Detection Limit	10			See Appendix B	1

ND = None Detected
 NA = Not Analyzed

↓ ↓ ↓
 MEL →

7.0 PRELIMINARY ENDANGERMENT ASSESSMENT

BSK used the guidelines for application of a three-step screening test as described in the California Department of Health Services "Interim Guidance for Preparation of a Preliminary Endangerment Assessment Report," dated June 22, 1990. From Table A.1 (above referred publication), the drinking water supply screening value for acetone is 50,000 $\mu\text{g/l}$ and for MEK is 200 $\mu\text{g/l}$. From Table A.3 (above referred publication), soil ingestion (5-year old child) for acetone is 10,000 mg/kg and for MEK is 100 mg/kg. Screening for excessive exposure via contact with contaminated soil and water media was significantly less than unity for the three-step test described in Appendix C.

8.0 CONCLUSIONS

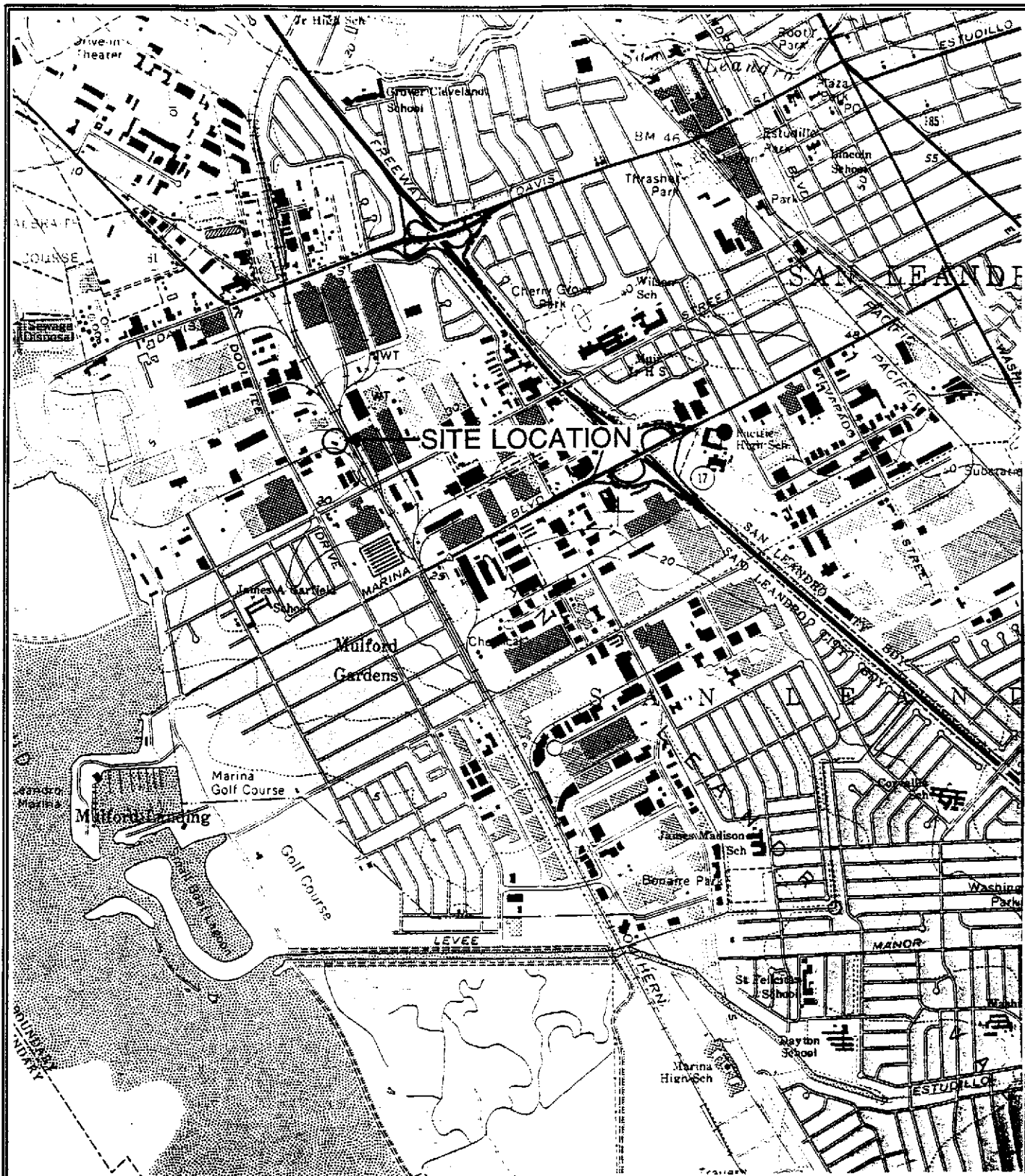
It is our opinion that the bromomethane and methylene chloride detected in the Enseco prepared trip blank, are related to laboratory operations. The methylene chloride detected in the field blank, groundwater sample and soil sample from Boring B-3 are therefore also concluded to be resultant from laboratory operations.

Based on the screening values for soil ingestion and drinking water, and the instructions presented in the California Department of Health Services "Interim Guidance for Preparation of a Preliminary Endangerment Assessment Report," the low levels of acetone and MEK in the soil and low level of acetone in first groundwater at the Airco San Leandro Facility are not considered significant risk to biological receptors. Instructions for the Application of Screening Values (above referenced document) and a table of data and calculations is presented in Appendix C.

9.0 LIMITATIONS

The findings presented in this Report are based on field data, observations and the analytical testing program conducted. This Report has been prepared in accordance with generally accepted methodologies and standards of practice in the area. No other warranty, expressed or implied, is made as to the findings and conclusions included in this Report.

The findings and conclusions of this Report are valid as of the present. The passage of time, natural processes or human intervention on the property or an adjacent property may cause changed conditions which can invalidate the findings and conclusions presented in this Report.

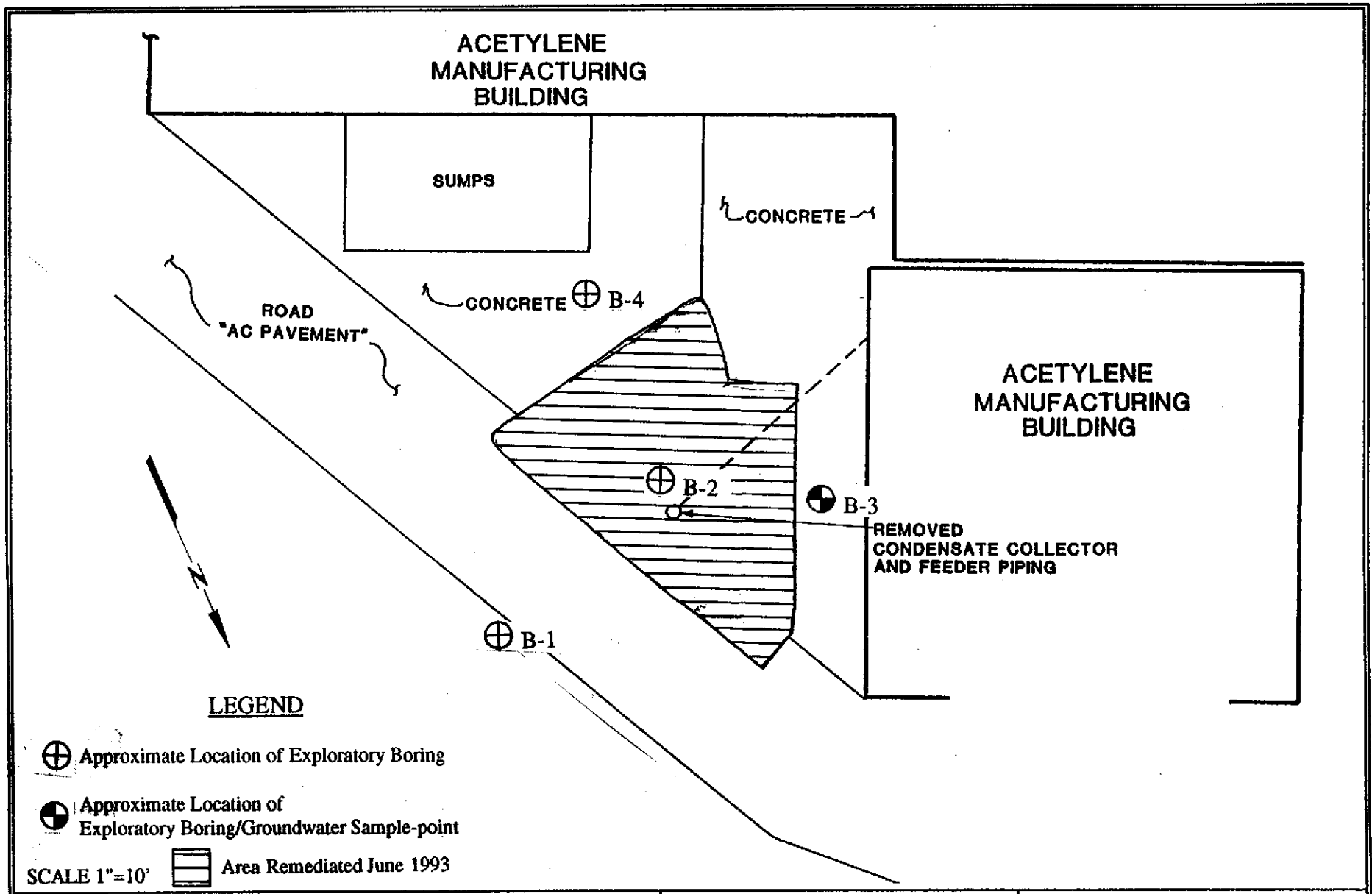


Source: U.S.G.S. Topographic Map, San Leandro Quadrangle Scale 1"=2000'

EVALUATION OF CONTAMINATION EXTENT
 FORMER CONDENSATE COLLECTOR LOCATION
 AIRCO GASES
 SAN LEANDRO, CALIFORNIA

BSK Job No.P94014.4
 FIGURE 1
 VICINITY MAP

BSK
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EVALUATION OF CONTAMINATION EXTENT
 FORMER CONDENSATE COLLECTOR LOCATION
 AIRCO GASES
 SAN LEANDRO, CALIFORNIA

BSK Job No.P94014.4
 FIGURE 2
 SITE PLAN

BSK
 & ASSOCIATES



ZONE 7 WATER AGENCY

5997 PARKSIDE DRIVE

PLEASANTON, CALIFORNIA 94588

VOICE (510) 484-2600

FAX (510) 462-3914

DRILLING PERMIT APPLICATION

FOR APPLICANT TO COMPLETE

FOR OFFICE USE

LOCATION OF PROJECT 1588 Doolittle Drive
San Leandro, CA 94577

PERMIT NUMBER 94027

LOCATION NUMBER _____

CLIENT

Name Airco Cylinder Operations
Address 1588 Doolittle Dr. Voice (510) 297-5028
City San Leandro Zip 94577

PERMIT CONDITIONS

Circled Permit Requirements Apply

APPLICANT

Name BSK & Associates, Inc.
Address 7181 Quarry Lane Fax (510) 462-6283
City Pleasanton Voice (510) 462-4000
Zip 94566

TYPE OF PROJECT

Well Construction	_____	Geotechnical Investigation	_____
Cathodic Protection	_____	General	<u>X</u>
Water Supply	_____	Contamination	_____
Monitoring	_____	Well Destruction	_____

PROPOSED WATER SUPPLY WELL USE

Domestic	_____	Industrial	_____	Other	<u>N/A</u>
Municipal	_____	Irrigation	_____		

DRILLING METHOD:

Mud Rotary	_____	Air Rotary	_____	Auger	<u>X</u>
Cable	_____	Other	_____		

DRILLER'S LICENSE NO. C57-440942

WELL PROJECTS

Drill Hole Diameter	<u>N/A</u> in.	Maximum	
Casing Diameter	_____ in.	Depth	_____ ft.
Surface Seal Depth	_____ ft.	Number	_____

GEOTECHNICAL PROJECTS

Number of Borings	<u>4</u>	Maximum	
Hole Diameter	<u>8</u> in.	Depth	<u>15</u> ft.

ESTIMATED STARTING DATE 1/19/94

ESTIMATED COMPLETION DATE 1/20/94

I hereby agree to comply with all requirements of this permit and Alameda County Ordinance No. 73-68.

APPLICANT'S

SIGNATURE [Signature] Date 1/17/94

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.


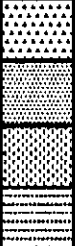

E. WELL DESTRUCTION. See attached.

Approved

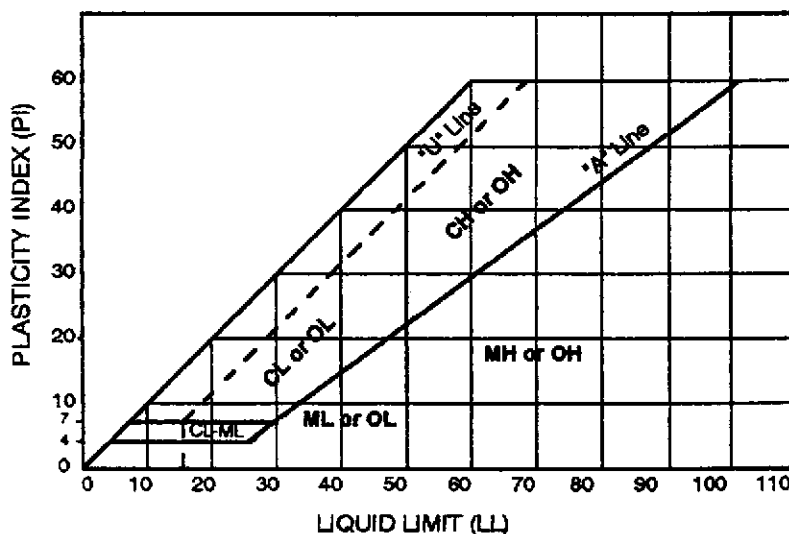
[Signature]
Wyman Hong

Date 20 Jan 94

UNIFIED SOIL CLASSIFICATION CHART

SYMBOL	LETTER	DESCRIPTION	MAJOR DIVISIONS		
	GW	WELL-GRADED GRAVELS OR GRAVEL-SAND MIXTURES, LITTLE OR NO FINES	CLEAN GRAVELS (LITTLE OR NO FINES)	GRAVELS MORE THAN HALF OF COARSE FRACTION IS LARGER THAN NO. 4 SIEVE SIZE	GRAVELS WITH FINES (APPRECIABLE AMOUNT OF FINES)
	GP	POORLY-GRADED GRAVELS OR GRAVEL-SAND MIXTURES, LITTLE OR NO FINES			
	GM	SILTY GRAVELS, GRAVEL-SAND-SILT MIXTURES			
	GC	CLAYEY GRAVELS, GRAVEL-SAND-CLAY MIXTURES			
	SW	WELL-GRADED SAND OR GRAVELLY SANDS, LITTLE OR NO FINES	CLEAN SANDS (LITTLE OR NO FINES)	SANDS MORE THAN HALF OF COARSE FRACTION IS SMALLER THAN NO. 4 SIEVE SIZE	
	SP	POORLY-GRADED SANDS OR GRAVELLY SANDS, LITTLE OR NO FINES			
	SM	SILTY SANDS, SAND-SILT MIXTURES			
	SC	CLAYEY SANDS, SAND-CLAY MIXTURES	SANDS WITH FINES (APPRECIABLE AMOUNT OF FINES)		
	ML	INORGANIC SILTS, VERY FINE SANDS, ROCK FLOUR, SILTY OR CLAYEY FINE SANDS OR CLAYEY SILTS WITH SLIGHT PLASTICITY			
CL	INORGANIC CLAYS OF LOW TO MEDIUM PLASTICITY, GRAVELLY CLAYS, SANDY CLAYS, SILTY CLAYS, LEAN CLAYS	SILTS & CLAYS LIQUID LIMIT LESS THAN 50	COARSE-GRAINED SOILS MORE THAN HALF OF MATERIAL IS LARGER THAN NO. 200 SIEVE SIZE		
OL	ORGANIC SILTS AND ORGANIC SILT-CLAYS OF LOW PLASTICITY				
MH	ORGANIC SILTS AND ORGANIC SILT-CLAYS OF LOW PLASTICITY				
CH	INORGANIC CLAYS OF HIGH PLASTICITY, FAT CLAYS	SILTS & CLAYS LIQUID LIMIT GREATER THAN 50		FINE-GRAINED SOILS MORE THAN HALF OF MATERIAL IS SMALLER THAN NO. 200 SIEVE SIZE <small>THE NO. 200 U.S. STANDARD SIEVE IS ABOUT THE SMALLEST PARTICLE VISIBLE TO THE NAKED EYE</small>	
OH	ORGANIC CLAYS OF MEDIUM TO HIGH PLASTICITY, ORGANIC SILTS				
PT	PEAT AND OTHER HIGHLY ORGANIC SOILS				
HIGHLY ORGANIC SOILS					

SOIL PLASTICITY CHART



TYPES OF SAMPLERS

- SPT—Standard Penetration 1.4" ID Split Spoon Sampler
- CS—2" ID Split Spoon Sampler
- MC—2.4" ID California Sampler
- SH—2.8" ID Thin-Wall (Shelby Tube)
- CC—2.7" ID Double Tube Continuous Coring Sampler

NOTES

- ND Denotes concentration below the test detection limits
- Denotes not analysed
- PID-Photoionization Detector Reading in ppm

EVALUATION OF CONTAMINATION EXTENT
FORMER CONDENSATE COLLECTOR LOCATION
SAN LEANDRO, CALIFORNIA

BSK Job No. P94014.4

PLATE 1

BSK
& ASSOCIATES

BORING LOG B-1

DATE: 1/19/94
 LOGGED BY: M. Cline
 WATER LEVEL: Initially at 11.8 feet Below Surface Grade
 ELEVATION: --
 EQUIPMENT: Mobile Drill B-53, 8" Hollow Stem Auger

FIELD DATA					SYMBOLS	DESCRIPTION
SAMPLE NUMBER	TIME OF COLLECTION	PID READING, ppm	TYPE OF SAMPLER	BLOWS PER FOOT		
					PMT	Asphalt Concrete over aggregate baserock (approximately 2' thick) (Ambient Air PID=25.0 ppm-Background)
					CL/ CH	SILTY CLAY: Dark grey, very moist
1	10:05	0.0	CS	9		grades brown to olive, very moist, stiff, trace sand, no odor
2	10:15	0.5	CS	14		grades olive mottled brown, moist to wet at 11.5 ft., no odor
3	10:25		CS	8		grades brown, wet, soft to stiff

Notes

1. Boring completed at a depth of 13 feet.
2. Sampling resistance is measured in blows per foot required to drive the sampler 12 inches with a 140 lb. hammer falling 30 inches after the sampler has been seated 6 inches.
3. Boring log indicates interpreted subsurface conditions only at the location and the time the boring was drilled.

EVALUATION OF CONTAMINATION EXTENT
 FORMER CONDENSATE COLLECTOR LOCATION
 SAN LEANDRO, CALIFORNIA

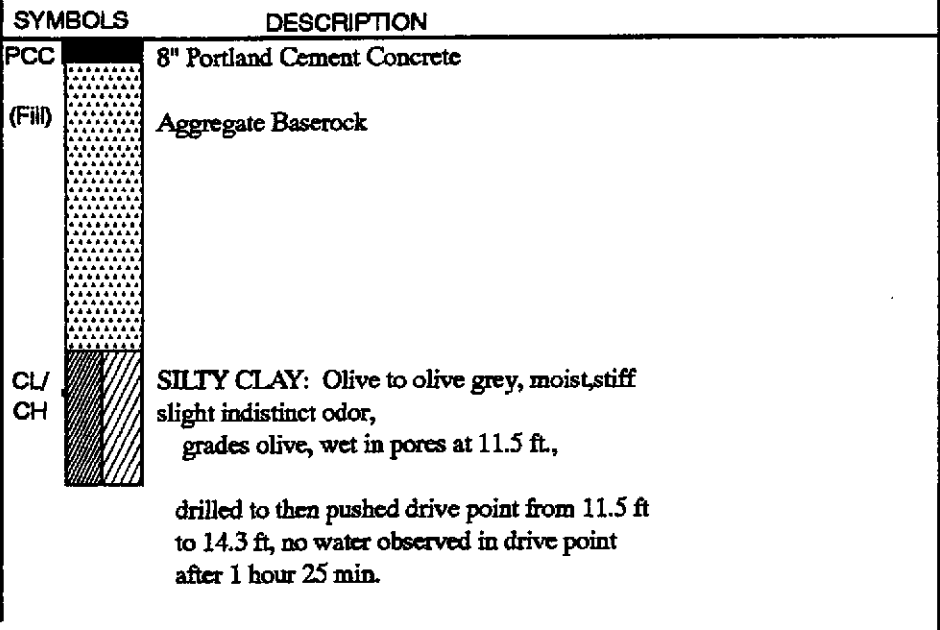
BSK Job No. P94014.4
 PLATE 2

BSK
 & ASSOCIATES

BORING LOG B-2

DATE: 1/19/94
 LOGGED BY: M. Cline
 WATER LEVEL: None Encountered
 ELEVATION: -
 EQUIPMENT: Mobile Drill B-53, 8" Hollow Stem Auger

FIELD DATA				
SAMPLE NUMBER	TIME OF COLLECTION	PID READING, ppm	TYPE OF SAMPLER	BLOWS PER FOOT
1	11:09	0.3	CS	18
2	11:20	-	CS	14



Notes

1. Boring completed at a depth of 11.5 feet.
2. Sampling resistance is measured in blows per foot required to drive the sampler 12 inches with a 140 lb. hammer falling 30 inches after the sampler has been seated 6 inches.
3. Boring log indicates interpreted subsurface conditions only at the location and the time the boring was drilled.

EVALUATION OF CONTAMINATION EXTENT
 FORMER CONDENSATE COLLECTOR LOCATION
 SAN LEANDRO, CALIFORNIA

BSK Job No. P94014.4
 PLATE 3

BSK
 & ASSOCIATES

BORING LOG B-3

DATE: 1/19/94
 LOGGED BY: M. Cline
 WATER LEVEL: Initially at 12.4 feet Below Surface Grade
 ELEVATION: --
 EQUIPMENT: Mobile Drill B-53, 8" Hollow Stem Auger

FIELD DATA					SYMBOLS	DESCRIPTION
SAMPLE NUMBER	TIME OF COLLECTION	PID READING, ppm	TYPE OF SAMPLER	BLOWS PER FOOT		
					PCC	19" Portland Cement Concrete
					CL/CH	SILTY CLAY: Dark grey, moist
1	13:45	13.0	CS	13		grades dark olive grey mottled black, stiff, strong acrid odor
2	13:50	--	CS	19		grades olive grey, moist, no odor
3	14:10	0.1	CS	15		grades olive
4	14:19	--	CS	8		grades wet at 14.5 ft, some fine sand
						Collected groundwater sample from open borehole with polyethylene bailer

Notes

1. Boring completed at a depth of 14.5 feet.
2. Sampling resistance is measured in blows per foot required to drive the sampler 12 inches with a 140 lb. hammer falling 30 inches after the sampler has been seated 8 inches.
3. Boring log indicates interpreted subsurface conditions only at the location and the time the boring was drilled.

EVALUATION OF CONTAMINATION EXTENT
 FORMER CONDENSATE COLLECTOR LOCATION
 SAN LEANDRO, CALIFORNIA

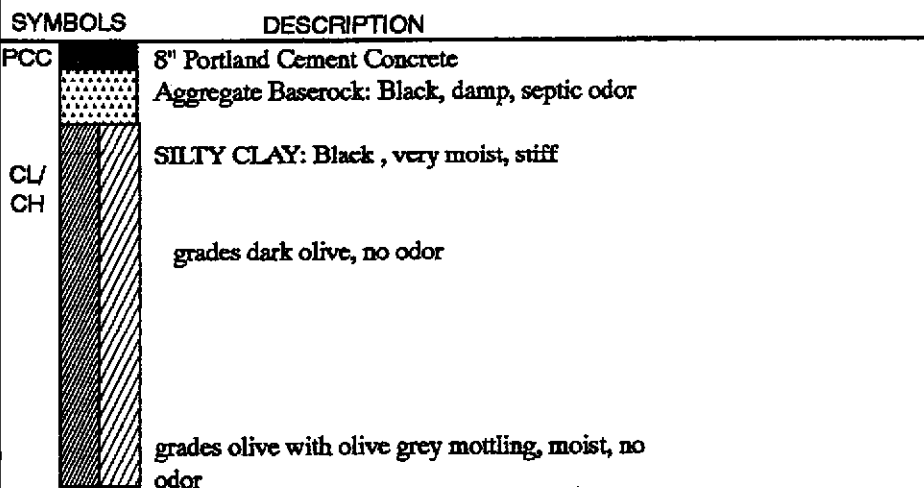
BSK Job No. P94014.4
 PLATE 4

BSK
 & ASSOCIATES

BORING LOG B-4

DATE: 1/19/94
 LOGGED BY: M. Cline
 WATER LEVEL: Initially at 11.5 feet Below Surface Grade
 ELEVATION: --
 EQUIPMENT: Mobile Drill B-53, 8" Hollow Stem Auger

FIELD DATA				
SAMPLE NUMBER	TIME OF COLLECTION	PID READING, ppm	TYPE OF SAMPLER	BLOWS PER FOOT
1	15:10	-	CS	11
2	15:20	-	CS	12
3	15:25	-	CS	11



Notes

- Boring completed at a depth of 11.5 feet.
- Sampling resistance is measured in blows per foot required to drive the sampler 12 inches with a 140 lb. hammer falling 30 inches after the sampler has been seated 6 inches.
- Boring log indicates interpreted subsurface conditions only at the location and the time the boring was drilled.

EVALUATION OF CONTAMINATION EXTENT
 FORMER CONDENSATE COLLECTOR LOCATION
 SAN LEANDRO, CALIFORNIA

BSK Job No. P94014.4

PLATE 5

BSK
 & ASSOCIATES



USE THIS AIRBILL FOR SHIPMENTS WITHIN THE CONTINENTAL U.S.A., ALASKA AND HAWAII.
USE THE INTERNATIONAL AIR WAYBILL FOR SHIPMENTS TO PUERTO RICO AND ALL NON U.S. LOCATIONS.
QUESTIONS? CALL 800-238-5355 TOLL FREE.

AIRBILL
PACKAGE
TRACKING NUMBER

8580868774

3313M 8580868774

P94014
SENDER'S COPY 1/19/94

SENDER'S FEDERAL EXPRESS ACCOUNT NUMBER
1350-5957-9
Date
1/19/94

From (Your Name) Please Print
Martin C. Cline
Your Phone Number (Very Important)
(510) 462 4000
To (Recipient's Name) Please Print
California Analytical
Recipient's Phone Number (Very Important)
(916) 372-1213

Company
B S K & ASSOCIATES
Department/Floor No.
Laboratory
Company
Department/Floor No.

Street Address
1181 QUARRY LANE BLDG #300
Exact Street Address (We Cannot Deliver to P.O. Boxes or P.O. Zip Codes.)
2544 Industrial Blvd
City
PLEASANTON CA 94566
City
W. Sacramento CA 95644 95691

YOUR INTERNAL BILLING REFERENCE INFORMATION (optional) (First 24 characters will appear on Invoice.)
135059579
IF HOLD AT FEDEX LOCATION, Print FEDEX Address Here
Street Address
City State ZIP Required

PAYMENT: Bill Sender Bill Recipient's FedEx Acct. No. Bill 3rd Party FedEx Acct. No. Bill Credit Card
 Cash Check
Acct./Credit Card No. 1465-0567-2
Exp. Date

SENDER'S COPY
DROP OFF YOUR PACKAGE AND SAVE

SERVICES (Check only one box)		DELIVERY AND SPECIAL HANDLING (Check services required)		PACKAGES	WEIGHT in Pounds Only	YOUR DECLARED VALUE (See light)	SERVICE CONDITIONS, DECLARED VALUE AND LIMIT OF LIABILITY	Federal Express Use
<input checked="" type="checkbox"/> Overnight (Delivery by next business morning) <input type="checkbox"/> OTHER PACKAGING <input type="checkbox"/> FEDEX LETTER <input type="checkbox"/> FEDEX PAK* <input type="checkbox"/> FEDEX BOX <input type="checkbox"/> FEDEX TUBE <input type="checkbox"/> Economy Two-Day (Delivery by second business day) <input type="checkbox"/> ECONOMY* *Economy Letter Rate not available. Minimum charge. One pound Economy rate. <input type="checkbox"/> OVERNIGHT FREIGHT** (Continued resorption required) **Delivery commitment may be later in some areas.	<input type="checkbox"/> Standard Overnight (Delivery by next business afternoon, no Saturday delivery) <input type="checkbox"/> OTHER PACKAGING <input type="checkbox"/> FEDEX LETTER* <input type="checkbox"/> FEDEX PAK* <input type="checkbox"/> FEDEX BOX <input type="checkbox"/> FEDEX TUBE <input type="checkbox"/> Government Overnight (Restricted for authorized users only) <input type="checkbox"/> GOVT LETTER <input type="checkbox"/> GOVT PACKAGE <input type="checkbox"/> TWO-DAY FREIGHT** **Declared Value Limit \$500. Call for delivery schedule.	<input type="checkbox"/> Weekday Service 1 <input type="checkbox"/> HOLD AT FEDEX LOCATION WEEKDAY (Fill in Section H) 2 <input checked="" type="checkbox"/> DELIVER WEEKDAY <input type="checkbox"/> Saturday Service 31 <input type="checkbox"/> HOLD AT FEDEX LOCATION SATURDAY (Fill in Section H) 3 <input type="checkbox"/> DELIVER SATURDAY (Extra charge) (Not available to all locations) 9 <input type="checkbox"/> SATURDAY PICK-UP (Extra charge) <input type="checkbox"/> Special Handling 4 <input type="checkbox"/> DANGEROUS GOODS (Extra charge) 6 <input type="checkbox"/> DRY ICE (Dangerous Goods Shipper's Declaration not required) Day(s) IN 155, _____ X _____ kg 904 IR DESCRIPTION _____ 12 <input type="checkbox"/> HOLIDAY DELIVERY (If offered) (Extra charge)	1 59 Total Total Total DIM SHIPMENT (Chargeable Weight) _____ lbs. L x W x H Received At <input type="checkbox"/> Regular Stop <input type="checkbox"/> Drop Box <input type="checkbox"/> On-Call Stop <input type="checkbox"/> B.S.C. Station					



January 26, 1994
ENSECO CAL LAB PROJECT NUMBER: 073663
PO/CONTRACT: NA

John Schweizer
BSK & Associates
1181 Quarry Lane, Bldg #300
Pleasanton, CA 94566

Dear Mr. Schweizer:

This report contains the analytical results for the four aqueous and ten soil samples which were received under chain of custody by Enseco Cal Lab on 20 January 1994. These samples are associated with your Airco Project.

The case narrative is an integral part of this report.

Preliminary results were sent to you via facsimile on 24 January 1994.

If you have any questions, please call me at (916) 374-4357.

Sincerely,

A handwritten signature in cursive script that reads "Steven D. Rogers".

Steven D. Rogers
Project Manager

kw

TABLE OF CONTENTS

ENSECO CAL LAB PROJECT NUMBER 073663

Case Narrative

Enseco Cal Lab's Quality Assurance Program

Sample Description Information

Chain of Custody Documentation

Volatile Organics (Soil) - Method 8240

Includes Samples: 1 - 9

Sample Data Sheets

Method Blank Report

Laboratory Control Sample Report (DCS/SCS)

Volatile Organics (Aqueous) - Method 8240

Includes Samples: 10, 11, 12

Sample Data Sheets

Method Blank Report

Laboratory Control Sample Report (DCS/SCS)

Oil & Grease, IR - Method SM 5520CF

Includes Sample: 10

Sample Data Sheet

Method Blank Report

Laboratory Control Sample Report (DCS)

CASE NARRATIVE

ENSECO CAL LAB PROJECT NUMBER 073663

Volatile Organics (Aqueous) - Method 8240

Sample B-6#1 (073663-0012-TB) when analyzed was found to have 18ug/l of Bromomethane. Since this sample is a trip blank and bromomethane would be considered a questionable result, the sample was analyzed a second time on a different day. The second analysis confirmed the presence of the compound, we therefore reported the data from the original analysis as a positive result.

No other anomalies were associated with this report.

ENSECO CAL LAB'S QUALITY ASSURANCE PROGRAM

Enseco
A Corning Company

Enseco Cal Lab has implemented an extensive Quality Assurance (QA) program to ensure the production of scientifically sound, legally defensible data of known documental quality. A key element of this program is Enseco's Laboratory Control Sample (LCS) system. Controlling lab operations with LCS (as opposed to matrix spike/matrix spike duplicate samples), allows the lab to differentiate between bias as a result of procedural errors versus bias due to matrix effects. The analyst can then identify and implement the appropriate corrective actions at the bench level, without waiting for extensive senior level review or costly and time-consuming sample re-analyses. The LCS program also provides our client with information to assess batch, and overall laboratory performance.

Laboratory Control Samples - (LCS)

Laboratory Control Samples (LCS) are well-characterized, laboratory generated samples used to monitor the laboratory's day-to-day performance of routine analytical methods. The results of the LCS are compared to well-defined laboratory acceptance criteria to determine whether the laboratory system is "in control". Three types of LCS are routinely analyzed: Duplicate Control Samples (DCS), Single Control Samples (SCS), and method blanks. Each of these LCS are described below.

Duplicate Control Samples. A DCS is a well-characterized matrix (blank water, sand, sodium sulfate or celite) which is spiked with certain target parameters and analyzed at approximately 10% of the sample load in order to establish method-specific control limits.

Single Control Samples. An SCS consists of a control matrix that is spiked with surrogate compounds appropriate to the method being used. In cases where no surrogate is available, (e.g. metals or conventional analyses) a single control sample identical to the DCS serves as the control sample. An SCS is prepared for each sample lot. Accuracy is calculated identically to the DCS.

Method Blank Results. A method blank is a laboratory-generated sample which assesses the degree to which laboratory operations and procedures cause false-positive analytical results for your samples.

SAMPLE DESCRIPTION INFORMATION
for
BSK & Associates

Lab ID	Client ID	Matrix	Sampled		Received Date
			Date	Time	
073663-0001-SA	B-1 Sample 1 @ 5'	SOIL	19 JAN 94	10:05	20 JAN 94
073663-0002-SA	B-1 Sample 2 @ 10'	SOIL	19 JAN 94	10:15	20 JAN 94
073663-0003-SA	B-2 Sample 1 @ 8'	SOIL	19 JAN 94	11:09	20 JAN 94
073663-0004-SA	B-2 Sample 2 @ 10.5'	SOIL	19 JAN 94	11:20	20 JAN 94
073663-0005-SA	B-3 Sample 1 @ 5'	SOIL	19 JAN 94	13:45	20 JAN 94
073663-0006-SA	B-3 Sample 2 @ 9'	SOIL	19 JAN 94	13:50	20 JAN 94
073663-0007-SA	B-3 Sample 4 @ 13.5'	SOIL	19 JAN 94	14:19	20 JAN 94
073663-0008-SA	B-4 Sample 1 @ 2.5'	SOIL	19 JAN 94	15:10	20 JAN 94
073663-0009-SA	B-4 Sample 3 @ 10'	SOIL	19 JAN 94	15:25	20 JAN 94
073663-0010-SA	B-3 Water	AQUEOUS	19 JAN 94	15:57	20 JAN 94
073663-0011-EB	B-5 #1	AQUEOUS	19 JAN 94	09:15	20 JAN 94
073663-0012-TB	B-6 #1	AQUEOUS	19 JAN 94	09:30	20 JAN 94
073663-0013-SA	Rinsate Water	AQUEOUS	19 JAN 94	16:10	20 JAN 94
073663-0014-SA	Soil Cuttings	SOIL	19 JAN 94	15:49	20 JAN 94



1414 Stanislaus Street
 Fresno, CA 93706
 (209) 485-8310
 (800) 877-8310
 (209) 485-6935 FAX

Analyses Request / Chain of Custody

BSK Log Number:

Analytical Due Date:

Shaded areas for LAB use only

Requested Analyses

Environmental Services

Client Name <i>Airco c/o BSK</i>	Report Attention:	Phone #
Address	Project, Quote or PO #	FAX #
City, State, Zip	Copy to:	System #

LAB use only			Date Sampled	Time Sampled	Sampled by: <i>Frank Greguras</i>	Comment or Station Code
Sample #	Type	# Cont.			Sample Description/Location	
			<i>1/19/94</i>	<i>0915</i>	<i>B-5 #1</i>	<i>Equipment Rinsate</i>
			<i>" "</i>	<i>0930</i>	<i>B-6 #1</i>	<i>Trip Blank</i>
			<i>1/19/94</i>	<i>1610</i>	<i>Rinsate Water</i>	<i>Drum Sample</i>
			<i>1/19/94</i>	<i>1549</i>	<i>Soil Cuttings</i>	<i>Stockpile</i>
<i>1/3 vials for B-6 #1 rec'd w/ small bubble. Samples rec'd in good condition. 1/19/94</i>						

EPA 624
 Oil & Grease
 I/C/R
 TTLC Metals (ppm)
 STLC Metals (ppm)
 PCBs
 Hold until authorized to proceed

Matrix Type: L - Liquid S - Solid G - Gas
 Type of Hazards Associated with Samples:

Additional Services:
 Rush Priority: 2 Day 5 Day
 - Formal Chain of Custody - QC Data package

Additional Services Authorized by:

Payment Received with Delivery

Date: _____ Amount: \$ _____
 Check # _____ Initials: _____
 Receipt # _____

(Signature)

Signature	Print Name	Company	Date	Time
<i>Frank Greguras</i>	<i>Frank Greguras</i>	<i>BSK & Associates</i>	<i>1/19/94</i>	<i>16:30</i>
<i>Chris Duce</i>	<i>Chris Duce</i>	<i>Enserco</i>	<i>1/19/94</i>	<i>0850</i>



CHAIN OF CUSTODY RECORD ENS-1145-A

- 2544 Industrial Ave., West Sacramento, CA. 95691-3435 (916) 372-1393
- 7440 Lincoln Way, Garden Grove, CA. 92641-1432 (714) 898-6370
- 18501 East Gale Ave., City of Industry, CA. 91748-1321 (818) 965-1006
- Mobile Labs, 1 (900) ENSECO-8

DATE	CHAIN OF CUSTODY NUMBER
LAB NUMBER	08064
Page _____ of _____	

CLIENT Airco			PROJECT MANAGER John Schweizer		
ADDRESS			TELEPHONE NUMBER (AREA CODE) (510) 462-4000		
CITY	STATE	ZIP CODE	SITE CONTACT		
PROJECT NAME Airco BSK # P94014.4			TELEPHONE NUMBER (AREA CODE)		
CONTRACT/PURCHASE ORDER/QUOTE NO.					

EPA 8240/624
Oil & Grease 5520 D/F/C/F

SAMPLE NO./IDENTIFICATION	DATE	TIME	LAB/SAMPLE NUMBER	SAMPLE TYPE			NO. OF CONTAINERS	ANALYSES	Sample Condition/REMARKS
				LIQ.	AIR	SOLID			
B-1 Sample 1 @ 5'	1/19/94	10:05			✓	1	X	Samples rec'd in good condition @ 1/2/94	
B-1 Sample 2 @ 10'	1/19/94	10:15			✓	1	X		
B-2 Sample 1 @ 8'	1/19/94	11:09			✓	1	X		
B-2 Sample 2 @ 10.5'	1/19/94	11:20			✓	1	X		
B-3 Sample 1 @ 5'	"	13:45			✓	1	X		
B-3 " 2 @ 9'	"	13:50			✓	1	X		
B-3 " 4 @ 14.35'	"	14:19			✓	1	X		
B-4 " 1 @ 2.5'	"	15:10			✓	1	X		
B-4 " 3 @ 10'	"	15:25			✓	1	X		
B-3 Water	"	15:57		✓		4	X X		

DO THE SAMPLE(S) POSE ANY POTENTIAL HAZARD(S)? IF YES, PLEASE EXPLAIN
None known

SAMPLERS (SIGNATURE) Frank Grazulis		RELINQUISHED BY (SIGNATURE) Francis R. Grazulis		DATE 1/19/94	TIME 16:30
RECEIVED BY (SIGNATURE)		RECEIVED BY (SIGNATURE)		DATE	TIME
RECEIVED FOR LABORATORY BY [Signature]		RECEIVED	DATE 1/2/94	TIME 0800	ACCEPTED
METHOD OF SHIPMENT					

The delivery of samples and the signature on this chain of custody form constitutes authorization to perform the analyses specified above under the Enseco Terms and Conditions, unless a contract or purchase order has been executed and is sited above.

SAMPLE DESPOSITION:

1. Storage time requested: _____ days
(Samples will be stored for thirty (30) days without additional charge; thereafter storage charges will be billed at the published rates.)

2. Sample to be returned to client: Yes No (Enseco will dispose of unreturned samples for a charge of \$15.00. Disposal will be by incineration wherever possible; otherwise, as appropriate, according to legal requirements.)

Volatile Organics (Soil) - Method 8240

Volatile Organics
Target Compound List (TCL)
Method 8240

Client Name: BSK & Associates
Client ID: B-1 Sample 1 @ 5'
Lab ID: 073663-0001-SA
Matrix: SOIL
Authorized: 20 JAN 94

Sampled: 19 JAN 94
Prepared: NA

Received: 20 JAN 94
Analyzed: 20 JAN 94

Parameter	Result	Wet wt. Units	Reporting Limit
Acetone	ND	ug/kg	10
Benzene	ND	ug/kg	5.0
Bromodichloromethane	ND	ug/kg	5.0
Bromoform	ND	ug/kg	5.0
Bromomethane	ND	ug/kg	10
2-Butanone (MEK)	ND	ug/kg	10
Carbon disulfide	ND	ug/kg	5.0
Carbon tetrachloride	ND	ug/kg	5.0
Chlorobenzene	ND	ug/kg	5.0
Chloroethane	ND	ug/kg	10
Chloroform	ND	ug/kg	5.0
Chloromethane	ND	ug/kg	10
Dibromochloromethane	ND	ug/kg	5.0
1,1-Dichloroethane	ND	ug/kg	5.0
1,2-Dichloroethane	ND	ug/kg	5.0
1,1-Dichloroethene	ND	ug/kg	5.0
1,2-Dichloroethene	ND	ug/kg	5.0
(Total)	ND	ug/kg	5.0
1,2-Dichloropropane	ND	ug/kg	5.0
cis-1,3-Dichloropropene	ND	ug/kg	5.0
trans-1,3-Dichloropropene	ND	ug/kg	5.0
Ethylbenzene	ND	ug/kg	5.0
2-Hexanone	ND	ug/kg	10
Methylene chloride	ND	ug/kg	5.0
4-Methyl-2-pentanone	ND	ug/kg	10
(MIBK)	ND	ug/kg	10
Styrene	ND	ug/kg	5.0
1,1,2,2-Tetrachloroethane	ND	ug/kg	5.0
Tetrachloroethene	ND	ug/kg	5.0
Toluene	ND	ug/kg	5.0
1,1,1-Trichloroethane	ND	ug/kg	5.0
1,1,2-Trichloroethane	ND	ug/kg	5.0
Trichloroethene	ND	ug/kg	5.0
Vinyl acetate	ND	ug/kg	10
Vinyl chloride	ND	ug/kg	10
Xylenes (total)	ND	ug/kg	5.0

Surrogate	Recovery	
Toluene-d8	106	%
4-Bromofluorobenzene	94	%

(continued on following page)

ND = Not detected
NA = Not applicable

Reported By: Steve Siegel

Approved By: Steve Rogers

The cover letter is an integral part of this report.
Rev 230787

Volatile Organics
Target Compound List (TCL)
Method 8240

Client Name: BSK & Associates
Client ID: B-1 Sample 1 @ 5'
Lab ID: 073663-0001-SA
Matrix: SOIL
Authorized: 20 JAN 94

Sampled: 19 JAN 94
Prepared: NA

Received: 20 JAN 94
Analyzed: 20 JAN 94

Surrogate	Recovery
1,2-Dichloroethane-d4	96 %

ND = Not detected
NA = Not applicable

Reported By: Steve Siegel

Approved By: Steve Rogers

The cover letter is an integral part of this report.
Rev 230787

Volatile Organics
Target Compound List (TCL)
Method 8240

Client Name: BSK & Associates
Client ID: B-1 Sample 2 @ 10'
Lab ID: 073663-0002-SA
Matrix: SOIL
Authorized: 20 JAN 94

Sampled: 19 JAN 94
Prepared: NA

Received: 20 JAN 94
Analyzed: 20 JAN 94

Parameter	Result	Wet wt. Units	Reporting Limit
Acetone	ND	ug/kg	10
Benzene	ND	ug/kg	5.0
Bromodichloromethane	ND	ug/kg	5.0
Bromoform	ND	ug/kg	5.0
Bromomethane	ND	ug/kg	10
2-Butanone (MEK)	ND	ug/kg	10
Carbon disulfide	ND	ug/kg	5.0
Carbon tetrachloride	ND	ug/kg	5.0
Chlorobenzene	ND	ug/kg	5.0
Chloroethane	ND	ug/kg	10
Chloroform	ND	ug/kg	5.0
Chloromethane	ND	ug/kg	10
Dibromochloromethane	ND	ug/kg	5.0
1,1-Dichloroethane	ND	ug/kg	5.0
1,2-Dichloroethane	ND	ug/kg	5.0
1,1-Dichloroethene	ND	ug/kg	5.0
1,2-Dichloroethene	ND	ug/kg	5.0
(Total)	ND	ug/kg	5.0
1,2-Dichloropropane	ND	ug/kg	5.0
cis-1,3-Dichloropropene	ND	ug/kg	5.0
trans-1,3-Dichloropropene	ND	ug/kg	5.0
Ethylbenzene	ND	ug/kg	5.0
2-Hexanone	ND	ug/kg	10
Methylene chloride	ND	ug/kg	5.0
4-Methyl-2-pentanone	ND	ug/kg	10
(MIBK)	ND	ug/kg	5.0
Styrene	ND	ug/kg	5.0
1,1,2,2-Tetrachloroethane	ND	ug/kg	5.0
Tetrachloroethene	ND	ug/kg	5.0
Toluene	ND	ug/kg	5.0
1,1,1-Trichloroethane	ND	ug/kg	5.0
1,1,2-Trichloroethane	ND	ug/kg	5.0
Trichloroethene	ND	ug/kg	5.0
Vinyl acetate	ND	ug/kg	10
Vinyl chloride	ND	ug/kg	10
Xylenes (total)	ND	ug/kg	5.0

Surrogate	Recovery	
Toluene-d8	103	%
4-Bromofluorobenzene	99	%

(continued on following page)

ND = Not detected
NA = Not applicable

Reported By: Steve Siegel

Approved By: Steve Rogers

The cover letter is an integral part of this report.

Volatile Organics
Target Compound List (TCL)
Method 8240

Client Name: BSK & Associates
Client ID: B-1 Sample 2 @ 10'
Lab ID: 073663-0002-SA
Matrix: SOIL
Authorized: 20 JAN 94

Sampled: 19 JAN 94
Prepared: NA

Received: 20 JAN 94
Analyzed: 20 JAN 94

Surrogate	Recovery
1,2-Dichloroethane-d4	98 %

ND = Not detected
NA = Not applicable

Reported By: Steve Siegel

Approved By: Steve Rogers

The cover letter is an integral part of this report.
Rev 230787

Volatile Organics
Target Compound List (TCL)
Method 8240

Client Name: BSK & Associates
Client ID: B-2 Sample 1 @ 8'
Lab ID: 073663-0003-SA
Matrix: SOIL
Authorized: 20 JAN 94

Sampled: 19 JAN 94
Prepared: NA

Received: 20 JAN 94
Analyzed: 20 JAN 94

Parameter	Result	Wet wt. Units	Reporting Limit	
Acetone	14	ug/kg	10	b
Benzene	ND	ug/kg	5.0	
Bromodichloromethane	ND	ug/kg	5.0	
Bromoform	ND	ug/kg	5.0	
Bromomethane	ND	ug/kg	10	
2-Butanone (MEK)	ND	ug/kg	10	
Carbon disulfide	ND	ug/kg	5.0	
Carbon tetrachloride	ND	ug/kg	5.0	
Chlorobenzene	ND	ug/kg	5.0	
Chloroethane	ND	ug/kg	10	
Chloroform	ND	ug/kg	5.0	
Chloromethane	ND	ug/kg	10	
Dibromochloromethane	ND	ug/kg	5.0	
1,1-Dichloroethane	ND	ug/kg	5.0	
1,2-Dichloroethane	ND	ug/kg	5.0	
1,1-Dichloroethene	ND	ug/kg	5.0	
1,2-Dichloroethene	ND	ug/kg	5.0	
(Total)	ND	ug/kg	5.0	
1,2-Dichloropropane	ND	ug/kg	5.0	
cis-1,3-Dichloropropene	ND	ug/kg	5.0	
trans-1,3-Dichloropropene	ND	ug/kg	5.0	
Ethylbenzene	ND	ug/kg	5.0	
2-Hexanone	ND	ug/kg	10	
Methylene chloride	ND	ug/kg	5.0	
4-Methyl-2-pentanone (MIBK)	ND	ug/kg	10	
Styrene	ND	ug/kg	5.0	
1,1,2,2-Tetrachloroethane	ND	ug/kg	5.0	
Tetrachloroethene	ND	ug/kg	5.0	
Toluene	ND	ug/kg	5.0	
1,1,1-Trichloroethane	ND	ug/kg	5.0	
1,1,2-Trichloroethane	ND	ug/kg	5.0	
Trichloroethene	ND	ug/kg	5.0	
Vinyl acetate	ND	ug/kg	10	
Vinyl chloride	ND	ug/kg	10	
Xylenes (total)	ND	ug/kg	5.0	
Surrogate	Recovery			
Toluene-d8	103	%		
4-Bromofluorobenzene	97	%		

(continued on following page)

ND = Not detected
NA = Not applicable

Reported By: Steve Siegel

Approved By: Steve Rogers

The cover letter is an integral part of this report.

Rev 230787

Volatile Organics
Target Compound List (TCL)
Method 8240

Client Name: BSK & Associates
Client ID: B-2 Sample 1 @ 8'
Lab ID: 073663-0003-SA
Matrix: SOIL
Authorized: 20 JAN 94

Sampled: 19 JAN 94
Prepared: NA

Received: 20 JAN 94
Analyzed: 20 JAN 94

Surrogate

Recovery

1,2-Dichloroethane-d4

97 %

Note b : Analytical results should not be considered reliable for
this common lab contaminant unless the sample result exceeds
5 times the reporting limit or 10 times the blank result.

ND = Not detected
NA = Not applicable

Reported By: Steve Siegel

Approved By: Steve Rogers

The cover letter is an integral part of this report.

Rev 230787

Volatile Organics
Target Compound List (TCL)
Method 8240

Client Name: BSK & Associates
Client ID: B-2 Sample 2 @ 10.5'
Lab ID: 073663-0004-SA
Matrix: SOIL
Authorized: 20 JAN 94

Sampled: 19 JAN 94
Prepared: NA

Received: 20 JAN 94
Analyzed: 20 JAN 94

Parameter	Result	Wet wt. Units	Reporting Limit	
Acetone	17	ug/kg	10	b
Benzene	ND	ug/kg	5.0	
Bromodichloromethane	ND	ug/kg	5.0	
Bromoform	ND	ug/kg	5.0	
Bromomethane	ND	ug/kg	10	
2-Butanone (MEK)	ND	ug/kg	10	
Carbon disulfide	ND	ug/kg	5.0	
Carbon tetrachloride	ND	ug/kg	5.0	
Chlorobenzene	ND	ug/kg	5.0	
Chloroethane	ND	ug/kg	10	
Chloroform	ND	ug/kg	5.0	
Chloromethane	ND	ug/kg	10	
Dibromochloromethane	ND	ug/kg	5.0	
1,1-Dichloroethane	ND	ug/kg	5.0	
1,2-Dichloroethane	ND	ug/kg	5.0	
1,1-Dichloroethene	ND	ug/kg	5.0	
1,2-Dichloroethene	ND	ug/kg	5.0	
(Total)	ND	ug/kg	5.0	
1,2-Dichloropropane	ND	ug/kg	5.0	
cis-1,3-Dichloropropene	ND	ug/kg	5.0	
trans-1,3-Dichloropropene	ND	ug/kg	5.0	
Ethylbenzene	ND	ug/kg	5.0	
2-Hexanone	ND	ug/kg	10	
Methylene chloride	ND	ug/kg	5.0	
4-Methyl-2-pentanone (MIBK)	ND	ug/kg	10	
Styrene	ND	ug/kg	5.0	
1,1,2,2-Tetrachloroethane	ND	ug/kg	5.0	
Tetrachloroethene	ND	ug/kg	5.0	
Toluene	ND	ug/kg	5.0	
1,1,1-Trichloroethane	ND	ug/kg	5.0	
1,1,2-Trichloroethane	ND	ug/kg	5.0	
Trichloroethene	ND	ug/kg	5.0	
Vinyl acetate	ND	ug/kg	10	
Vinyl chloride	ND	ug/kg	10	
Xylenes (total)	ND	ug/kg	5.0	

Surrogate	Recovery	
Toluene-d8	107	%
4-Bromofluorobenzene	93	%

(continued on following page)

ND = Not detected
NA = Not applicable

Reported By: Steve Siegel

Approved By: Steve Rogers

The cover letter is an integral part of this report.

Rev 230787

Volatile Organics
Target Compound List (TCL)
Method 8240

Client Name: BSK & Associates
Client ID: B-2 Sample 2 @ 10.5'
Lab ID: 073663-0004-SA
Matrix: SOIL
Authorized: 20 JAN 94

Sampled: 19 JAN 94
Prepared: NA

Received: 20 JAN 94
Analyzed: 20 JAN 94

Surrogate

Recovery

1,2-Dichloroethane-d4

98 %

Note b : Analytical results should not be considered reliable for this common lab contaminant unless the sample result exceeds 5 times the reporting limit or 10 times the blank result.

ND = Not detected
NA = Not applicable

Reported By: Steve Siegel

Approved By: Steve Rogers

The cover letter is an integral part of this report.
Rev 230787

Volatile Organics
Target Compound List (TCL)
Method 8240

Client Name: BSK & Associates
Client ID: B-3 Sample 1 @ 5'
Lab ID: 073663-0005-SA
Matrix: SOIL
Authorized: 20 JAN 94

Sampled: 19 JAN 94
Prepared: NA

Received: 20 JAN 94
Analyzed: 21 JAN 94

Parameter	Result	Wet wt. Units	Reporting Limit	
Acetone	3100	ug/kg	1000	RDb
Benzene	ND	ug/kg	5.0	
Bromodichloromethane	ND	ug/kg	5.0	
Bromoform	ND	ug/kg	5.0	
Bromomethane	ND	ug/kg	10	
2-Butanone (MEK)	74	ug/kg	10	
Carbon disulfide	ND	ug/kg	5.0	
Carbon tetrachloride	ND	ug/kg	5.0	
Chlorobenzene	ND	ug/kg	5.0	
Chloroethane	ND	ug/kg	10	
Chloroform	ND	ug/kg	5.0	
Chloromethane	ND	ug/kg	10	
Dibromochloromethane	ND	ug/kg	5.0	
1,1-Dichloroethane	ND	ug/kg	5.0	
1,2-Dichloroethane	ND	ug/kg	5.0	
1,1-Dichloroethene	ND	ug/kg	5.0	
1,2-Dichloroethene	ND	ug/kg	5.0	
(Total)	ND	ug/kg	5.0	
1,2-Dichloropropane	ND	ug/kg	5.0	
cis-1,3-Dichloropropene	ND	ug/kg	5.0	
trans-1,3-Dichloropropene	ND	ug/kg	5.0	
Ethylbenzene	ND	ug/kg	5.0	
2-Hexanone	ND	ug/kg	10	
Methylene chloride	ND	ug/kg	5.0	
4-Methyl-2-pentanone	ND	ug/kg	10	
(MIBK)	ND	ug/kg	10	
Styrene	ND	ug/kg	5.0	
1,1,2,2-Tetrachloroethane	ND	ug/kg	5.0	
Tetrachloroethene	ND	ug/kg	5.0	
Toluene	ND	ug/kg	5.0	
1,1,1-Trichloroethane	ND	ug/kg	5.0	
1,1,2-Trichloroethane	ND	ug/kg	5.0	
Trichloroethene	ND	ug/kg	5.0	
Vinyl acetate	ND	ug/kg	10	
Vinyl chloride	ND	ug/kg	10	
Xylenes (total)	ND	ug/kg	5.0	
Surrogate	Recovery			
Toluene-d8	104	%		
4-Bromofluorobenzene	101	%		

(continued on following page)

ND = Not detected
NA = Not applicable

Reported By: Steve Siegel

Approved By: Steve Rogers

The cover letter is an integral part of this report.

Rev 230787

Volatile Organics
Target Compound List (TCL)
Method 8240

Client Name: BSK & Associates
Client ID: B-3 Sample 1 @ 5'
Lab ID: 073663-0005-SA
Matrix: SOIL
Authorized: 20 JAN 94

Sampled: 19 JAN 94
Prepared: NA

Received: 20 JAN 94
Analyzed: 21 JAN 94

Surrogate	Recovery
1,2-Dichloroethane-d4	98 %

Note R : Raised reporting limit(s) due to high analyte level(s).

Note D : Compound quantitated using a secondary dilution.

Note b : Analytical results should not be considered reliable for
this common lab contaminant unless the sample result exceeds
5 times the reporting limit or 10 times the blank result.

ND = Not detected
NA = Not applicable

Reported By: Steve Siegel

Approved By: Steve Rogers

The cover letter is an integral part of this report.
Rev 230787

Volatile Organics
Target Compound List (TCL)
Method 8240

Client Name: BSK & Associates
Client ID: B-3 Sample 2 @ 9'
Lab ID: 073663-0006-SA
Matrix: SOIL
Authorized: 20 JAN 94

Sampled: 19 JAN 94
Prepared: NA

Received: 20 JAN 94
Analyzed: 21 JAN 94

Parameter	Result	Wet wt. Units	Reporting Limit	
Acetone	18	ug/kg	10	b
Benzene	ND	ug/kg	5.0	
Bromodichloromethane	ND	ug/kg	5.0	
Bromoform	ND	ug/kg	5.0	
Bromomethane	ND	ug/kg	10	
2-Butanone (MEK)	ND	ug/kg	10	
Carbon disulfide	ND	ug/kg	5.0	
Carbon tetrachloride	ND	ug/kg	5.0	
Chlorobenzene	ND	ug/kg	5.0	
Chloroethane	ND	ug/kg	10	
Chloroform	ND	ug/kg	5.0	
Chloromethane	ND	ug/kg	10	
Dibromochloromethane	ND	ug/kg	5.0	
1,1-Dichloroethane	ND	ug/kg	5.0	
1,2-Dichloroethane	ND	ug/kg	5.0	
1,1-Dichloroethene	ND	ug/kg	5.0	
1,2-Dichloroethene	ND	ug/kg	5.0	
(Total)	ND	ug/kg	5.0	
1,2-Dichloropropane	ND	ug/kg	5.0	
cis-1,3-Dichloropropene	ND	ug/kg	5.0	
trans-1,3-Dichloropropene	ND	ug/kg	5.0	
Ethylbenzene	ND	ug/kg	5.0	
2-Hexanone	ND	ug/kg	10	
Methylene chloride	5.4	ug/kg	5.0	b
4-Methyl-2-pentanone (MIBK)	ND	ug/kg	10	
Styrene	ND	ug/kg	5.0	
1,1,2,2-Tetrachloroethane	ND	ug/kg	5.0	
Tetrachloroethene	ND	ug/kg	5.0	
Toluene	ND	ug/kg	5.0	
1,1,1-Trichloroethane	ND	ug/kg	5.0	
1,1,2-Trichloroethane	ND	ug/kg	5.0	
Trichloroethene	ND	ug/kg	5.0	
Vinyl acetate	ND	ug/kg	10	
Vinyl chloride	ND	ug/kg	10	
Xylenes (total)	ND	ug/kg	5.0	

Surrogate

Recovery

Toluene-d8	101	%
4-Bromofluorobenzene	95	%

(continued on following page)

ND = Not detected
NA = Not applicable

Reported By: Brian Ruscio

Approved By: Steve Rogers

The cover letter is an integral part of this report.

Rev 230787

Volatile Organics
Target Compound List (TCL)
Method 8240

Client Name: BSK & Associates
Client ID: B-3 Sample 2 @ 9'
Lab ID: 073663-0006-SA
Matrix: SOIL
Authorized: 20 JAN 94

Sampled: 19 JAN 94
Prepared: NA

Received: 20 JAN 94
Analyzed: 21 JAN 94

Surrogate	Recovery
1,2-Dichloroethane-d4	94 %

Note b : Analytical results should not be considered reliable for this common lab contaminant unless the sample result exceeds 5 times the reporting limit or 10 times the blank result.

ND = Not detected
NA = Not applicable

Reported By: Brian Ruscio

Approved By: Steve Rogers

The cover letter is an integral part of this report.
Rev 230787

Volatile Organics
Target Compound List (TCL)
Method 8240

Client Name: BSK & Associates
Client ID: B-3 Sample 4 @ 13.5'
Lab ID: 073663-0007-SA
Matrix: SOIL
Authorized: 20 JAN 94

Sampled: 19 JAN 94
Prepared: NA

Received: 20 JAN 94
Analyzed: 20 JAN 94

Parameter	Result	Wet wt. Units	Reporting Limit
Acetone	ND	ug/kg	10
Benzene	ND	ug/kg	5.0
Bromodichloromethane	ND	ug/kg	5.0
Bromoform	ND	ug/kg	5.0
Bromomethane	ND	ug/kg	10
2-Butanone (MEK)	ND	ug/kg	10
Carbon disulfide	ND	ug/kg	5.0
Carbon tetrachloride	ND	ug/kg	5.0
Chlorobenzene	ND	ug/kg	5.0
Chloroethane	ND	ug/kg	10
Chloroform	ND	ug/kg	5.0
Chloromethane	ND	ug/kg	10
Dibromochloromethane	ND	ug/kg	5.0
1,1-Dichloroethane	ND	ug/kg	5.0
1,2-Dichloroethane	ND	ug/kg	5.0
1,1-Dichloroethene	ND	ug/kg	5.0
1,2-Dichloroethene	ND	ug/kg	5.0
(Total)	ND	ug/kg	5.0
1,2-Dichloropropane	ND	ug/kg	5.0
cis-1,3-Dichloropropene	ND	ug/kg	5.0
trans-1,3-Dichloropropene	ND	ug/kg	5.0
Ethylbenzene	ND	ug/kg	5.0
2-Hexanone	ND	ug/kg	10
Methylene chloride	ND	ug/kg	5.0
4-Methyl-2-pentanone (MIBK)	ND	ug/kg	10
Styrene	ND	ug/kg	5.0
1,1,2,2-Tetrachloroethane	ND	ug/kg	5.0
Tetrachloroethene	ND	ug/kg	5.0
Toluene	ND	ug/kg	5.0
1,1,1-Trichloroethane	ND	ug/kg	5.0
1,1,2-Trichloroethane	ND	ug/kg	5.0
Trichloroethene	ND	ug/kg	5.0
Vinyl acetate	ND	ug/kg	10
Vinyl chloride	ND	ug/kg	10
Xylenes (total)	ND	ug/kg	5.0

Surrogate	Recovery	
Toluene-d8	106	%
4-Bromofluorobenzene	94	%

(continued on following page)

ND = Not detected
NA = Not applicable

Reported By: Steve Siegel

Approved By: Steve Rogers

The cover letter is an integral part of this report.

Volatile Organics
Target Compound List (TCL)
Method 8240

Client Name: BSK & Associates
Client ID: B-3 Sample 4 @ 13.5'
Lab ID: 073663-0007-SA
Matrix: SOIL
Authorized: 20 JAN 94

Sampled: 19 JAN 94
Prepared: NA

Received: 20 JAN 94
Analyzed: 20 JAN 94

Surrogate	Recovery
1,2-Dichloroethane-d4	98 %

ND = Not detected
NA = Not applicable

Reported By: Steve Siegel

Approved By: Steve Rogers

The cover letter is an integral part of this report.
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ALCO
HAZMAT

94 MAY -4 PM 3: 14

5957

BSK & ASSOCIATES
GEOTECHNICAL CONSULTANTS, INC.
1181 QUARRY LN., BLDG. 300 510-462-4000
PLEASANTON, CA 94566

02 May 1994

11-35/1210


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TO THE
ORDER OF

Alameda County Health Agency

\$ 750⁰⁰

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 **Bank of America** NT & SA
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P.O. Box 10
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7940144
OVERSIGHT

J. R. Hedley

⑈005957⑈ ⑆121000358⑆ 02357⑈00060⑈

Volatile Organics
Target Compound List (TCL)
Method 8240

Client Name: BSK & Associates
Client ID: B-4 Sample 1 @ 2.5'
Lab ID: 073663-0008-SA
Matrix: SOIL
Authorized: 20 JAN 94

Sampled: 19 JAN 94
Prepared: NA

Received: 20 JAN 94
Analyzed: 20 JAN 94

Parameter	Result	Wet wt. Units	Reporting Limit	
Acetone	31	ug/kg	10	b
Benzene	ND	ug/kg	5.0	
Bromodichloromethane	ND	ug/kg	5.0	
Bromoform	ND	ug/kg	5.0	
Bromomethane	ND	ug/kg	10	
2-Butanone (MEK)	ND	ug/kg	10	
Carbon disulfide	ND	ug/kg	5.0	
Carbon tetrachloride	ND	ug/kg	5.0	
Chlorobenzene	ND	ug/kg	5.0	
Chloroethane	ND	ug/kg	10	
Chloroform	ND	ug/kg	5.0	
Chloromethane	ND	ug/kg	10	
Dibromochloromethane	ND	ug/kg	5.0	
1,1-Dichloroethane	ND	ug/kg	5.0	
1,2-Dichloroethane	ND	ug/kg	5.0	
1,1-Dichloroethene	ND	ug/kg	5.0	
1,2-Dichloroethene				
(Total)	ND	ug/kg	5.0	
1,2-Dichloropropane	ND	ug/kg	5.0	
cis-1,3-Dichloropropene	ND	ug/kg	5.0	
trans-1,3-Dichloropropene	ND	ug/kg	5.0	
Ethylbenzene	ND	ug/kg	5.0	
2-Hexanone	ND	ug/kg	10	
Methylene chloride	ND	ug/kg	5.0	
4-Methyl-2-pentanone (MIBK)	ND	ug/kg	10	
Styrene	ND	ug/kg	5.0	
1,1,2,2-Tetrachloroethane	ND	ug/kg	5.0	
Tetrachloroethene	ND	ug/kg	5.0	
Toluene	ND	ug/kg	5.0	
1,1,1-Trichloroethane	ND	ug/kg	5.0	
1,1,2-Trichloroethane	ND	ug/kg	5.0	
Trichloroethene	ND	ug/kg	5.0	
Vinyl acetate	ND	ug/kg	10	
Vinyl chloride	ND	ug/kg	10	
Xylenes (total)	ND	ug/kg	5.0	
Surrogate	Recovery			
Toluene-d8	114	%		
4-Bromofluorobenzene	86	%		

(continued on following page)

ND = Not detected
NA = Not applicable

Reported By: Steve Siegel

Approved By: Steve Rogers

The cover letter is an integral part of this report.

Volatile Organics
Target Compound List (TCL)
Method 8240

Client Name: BSK & Associates
Client ID: B-4 Sample 1 @ 2.5'
Lab ID: 073663-0008-SA
Matrix: SOIL
Authorized: 20 JAN 94

Sampled: 19 JAN 94
Prepared: NA

Received: 20 JAN 94
Analyzed: 20 JAN 94

Surrogate	Recovery
1,2-Dichloroethane-d4	99 %

Note b : Analytical results should not be considered reliable for this common lab contaminant unless the sample result exceeds 5 times the reporting limit or 10 times the blank result.

ND = Not detected
NA = Not applicable

Reported By: Steve Siegel

Approved By: Steve Rogers

The cover letter is an integral part of this report.
Rev 230787

Volatile Organics
Target Compound List (TCL)
Method 8240

Client Name: BSK & Associates
Client ID: B-4 Sample 3 @ 10'
Lab ID: 073663-0009-SA
Matrix: SOIL
Authorized: 20 JAN 94

Sampled: 19 JAN 94
Prepared: NA

Received: 20 JAN 94
Analyzed: 20 JAN 94

Parameter	Result	Wet wt. Units	Reporting Limit	
Acetone	12	ug/kg	10	b
Benzene	ND	ug/kg	5.0	
Bromodichloromethane	ND	ug/kg	5.0	
Bromoform	ND	ug/kg	5.0	
Bromomethane	ND	ug/kg	10	
2-Butanone (MEK)	ND	ug/kg	10	
Carbon disulfide	ND	ug/kg	5.0	
Carbon tetrachloride	ND	ug/kg	5.0	
Chlorobenzene	ND	ug/kg	5.0	
Chloroethane	ND	ug/kg	10	
Chloroform	ND	ug/kg	5.0	
Chloromethane	ND	ug/kg	10	
Dibromochloromethane	ND	ug/kg	5.0	
1,1-Dichloroethane	ND	ug/kg	5.0	
1,2-Dichloroethane	ND	ug/kg	5.0	
1,1-Dichloroethene	ND	ug/kg	5.0	
1,2-Dichloroethene	ND	ug/kg	5.0	
(Total)	ND	ug/kg	5.0	
1,2-Dichloropropane	ND	ug/kg	5.0	
cis-1,3-Dichloropropene	ND	ug/kg	5.0	
trans-1,3-Dichloropropene	ND	ug/kg	5.0	
Ethylbenzene	ND	ug/kg	5.0	
2-Hexanone	ND	ug/kg	10	
Methylene chloride	ND	ug/kg	5.0	
4-Methyl-2-pentanone (MIBK)	ND	ug/kg	10	
Styrene	ND	ug/kg	5.0	
1,1,2,2-Tetrachloroethane	ND	ug/kg	5.0	
Tetrachloroethene	ND	ug/kg	5.0	
Toluene	ND	ug/kg	5.0	
1,1,1-Trichloroethane	ND	ug/kg	5.0	
1,1,2-Trichloroethane	ND	ug/kg	5.0	
Trichloroethene	ND	ug/kg	5.0	
Vinyl acetate	ND	ug/kg	10	
Vinyl chloride	ND	ug/kg	10	
Xylenes (total)	ND	ug/kg	5.0	
Surrogate	Recovery			
Toluene-d8	104	%		
4-Bromofluorobenzene	95	%		

(continued on following page)

ND = Not detected
NA = Not applicable

Reported By: Steve Siegel

Approved By: Steve Rogers

The cover letter is an integral part of this report.

Rev 230787

Volatile Organics
Target Compound List (TCL)
Method 8240

Client Name: BSK & Associates
Client ID: B-4 Sample 3 @ 10'
Lab ID: 073663-0009-SA
Matrix: SOIL
Authorized: 20 JAN 94

Sampled: 19 JAN 94
Prepared: NA

Received: 20 JAN 94
Analyzed: 20 JAN 94

Surrogate	Recovery
1,2-Dichloroethane-d4	98 %

Note b : Analytical results should not be considered reliable for this common lab contaminant unless the sample result exceeds 5 times the reporting limit or 10 times the blank result.

ND = Not detected
NA = Not applicable

Reported By: Steve Siegel

Approved By: Steve Rogers

The cover letter is an integral part of this report.
Rev 230787

QC LOT ASSIGNMENT REPORT
Volatile Organics by GC/MS

Laboratory Sample Number	QC Matrix	QC Category	QC Lot Number (DCS)	QC Run Number (SCS/BLANK)
073663-0001-SA	SOIL	8240-SL	18 JAN 94-4A	20 JAN 94-4A
073663-0002-SA	SOIL	8240-SL	18 JAN 94-4A	20 JAN 94-4A
073663-0003-SA	SOIL	8240-SL	18 JAN 94-4A	20 JAN 94-4A
073663-0004-SA	SOIL	8240-SL	18 JAN 94-4A	20 JAN 94-4A
073663-0005-SA	SOIL	8240-SL	18 JAN 94-4A	20 JAN 94-4A
073663-0006-SA	SOIL	8240-SL	21 JAN 94-3A	21 JAN 94-3A
073663-0007-SA	SOIL	8240-SL	18 JAN 94-4A	20 JAN 94-4A
073663-0008-SA	SOIL	8240-SL	18 JAN 94-4A	20 JAN 94-4A
073663-0009-SA	SOIL	8240-SL	18 JAN 94-4A	20 JAN 94-4A

METHOD BLANK REPORT
Volatile Organics by GC/MS

Analyte	Result	Units	Reporting Limit
Test: 8240CPL-TCL-S			
Matrix: SOIL			
QC Lot: 18 JAN 94-4A QC Run: 20 JAN 94-4A			
Acetone	ND	ug/kg	10
Benzene	ND	ug/kg	5.0
Bromodichloromethane	ND	ug/kg	5.0
Bromoform	ND	ug/kg	5.0
Bromomethane	ND	ug/kg	10
2-Butanone (MEK)	ND	ug/kg	10
Carbon disulfide	ND	ug/kg	5.0
Carbon tetrachloride	ND	ug/kg	5.0
Chlorobenzene	ND	ug/kg	5.0
Chloroethane	ND	ug/kg	10
Chloroform	ND	ug/kg	5.0
Chloromethane	ND	ug/kg	10
Dibromochloromethane	ND	ug/kg	5.0
1,1-Dichloroethane	ND	ug/kg	5.0
1,2-Dichloroethane	ND	ug/kg	5.0
1,1-Dichloroethene	ND	ug/kg	5.0
1,2-Dichloroethene	ND	ug/kg	5.0
(Total)	ND	ug/kg	5.0
1,2-Dichloropropane	ND	ug/kg	5.0
cis-1,3-Dichloropropene	ND	ug/kg	5.0
trans-1,3-Dichloropropene	ND	ug/kg	5.0
Ethylbenzene	ND	ug/kg	5.0
2-Hexanone	ND	ug/kg	10
Methylene chloride	ND	ug/kg	5.0
4-Methyl-2-pentanone (MIBK)	ND	ug/kg	10
Styrene	ND	ug/kg	5.0
1,1,2,2-Tetrachloroethane	ND	ug/kg	5.0
Tetrachloroethene	ND	ug/kg	5.0
Toluene	ND	ug/kg	5.0
1,1,1-Trichloroethane	ND	ug/kg	5.0
1,1,2-Trichloroethane	ND	ug/kg	5.0
Trichloroethene	ND	ug/kg	5.0
Vinyl acetate	ND	ug/kg	10
Vinyl chloride	ND	ug/kg	10
Xylenes (total)	ND	ug/kg	5.0

METHOD BLANK REPORT
Volatile Organics by GC/MS (cont.)

Analyte	Result	Units	Reporting Limit
Test: 8240CPL-TCL-S			
Matrix: SOIL			
QC Lot: 21 JAN 94-3A	QC Run: 21 JAN 94-3A		
Acetone	ND	ug/kg	10
Benzene	ND	ug/kg	5.0
Bromodichloromethane	ND	ug/kg	5.0
Bromoform	ND	ug/kg	5.0
Bromomethane	ND	ug/kg	10
2-Butanone (MEK)	ND	ug/kg	10
Carbon disulfide	ND	ug/kg	5.0
Carbon tetrachloride	ND	ug/kg	5.0
Chlorobenzene	ND	ug/kg	5.0
Chloroethane	ND	ug/kg	10
Chloroform	ND	ug/kg	5.0
Chloromethane	ND	ug/kg	10
Dibromochloromethane	ND	ug/kg	5.0
1,1-Dichloroethane	ND	ug/kg	5.0
1,2-Dichloroethane	ND	ug/kg	5.0
1,1-Dichloroethene	ND	ug/kg	5.0
1,2-Dichloroethene	ND	ug/kg	5.0
(Total)	ND	ug/kg	5.0
1,2-Dichloropropane	ND	ug/kg	5.0
cis-1,3-Dichloropropene	ND	ug/kg	5.0
trans-1,3-Dichloropropene	ND	ug/kg	5.0
Ethylbenzene	ND	ug/kg	5.0
2-Hexanone	ND	ug/kg	10
Methylene chloride	ND	ug/kg	5.0
4-Methyl-2-pentanone (MIBK)	ND	ug/kg	10
Styrene	ND	ug/kg	5.0
1,1,2,2-Tetrachloroethane	ND	ug/kg	5.0
Tetrachloroethene	ND	ug/kg	5.0
Toluene	ND	ug/kg	5.0
1,1,1-Trichloroethane	ND	ug/kg	5.0
1,1,2-Trichloroethane	ND	ug/kg	5.0
Trichloroethene	ND	ug/kg	5.0
Vinyl acetate	ND	ug/kg	10
Vinyl chloride	ND	ug/kg	10
Xylenes (total)	ND	ug/kg	5.0

DUPLICATE CONTROL SAMPLE REPORT
Volatile Organics by GC/MS

Analyte	Spiked	Concentration		AVG	Accuracy		Precision	
		DCS1	Measured DCS2		DCS	Average (%) Limits	(RPD) DCS Limit	DCS Limit
Category: 8240-SL								
Matrix: SOIL								
QC Lot: 18 JAN 94-4A								
Concentration Units: ug/kg								
1,1-Dichloroethene	50	43.7	43.2	43.4	87	63-165	1.2	16.0
Trichloroethene	50	47.1	45.6	46.4	93	68-114	3.2	12.0
Benzene	50	51.0	49.3	50.2	100	84-120	3.4	11.0
Toluene	50	48.5	48.0	48.2	97	82-118	1.0	13.0
Chlorobenzene	50	50.0	49.6	49.8	100	81-121	0.8	14.0

Category: 8240-SL
Matrix: SOIL
QC Lot: 21 JAN 94-3A
Concentration Units: ug/kg

1,1-Dichloroethene	50	46.9	43.5	45.2	90	63-165	7.5	16.0
Trichloroethene	50	50.8	46.9	48.8	98	68-114	8.0	12.0
Benzene	50	53.6	50.9	52.2	105	84-120	5.2	11.0
Toluene	50	53.8	50.9	52.4	105	82-118	5.5	13.0
Chlorobenzene	50	53.4	50.4	51.9	104	81-121	5.8	14.0

Calculations are performed before rounding to avoid round-off errors in calculated results.

SINGLE CONTROL SAMPLE REPORT
Volatile Organics by GC/MS

Analyte	Concentration		Accuracy(%)	
	Spiked	Measured	SCS	Limits

Category: 8240-SL
Matrix: SOIL
QC Lot: 18 JAN 94-4A QC Run: 20 JAN 94-4A
Concentration Units: ug/kg

1,2-Dichloroethane-d4	50.0	49.0	98	70-121
Toluene-d8	50.0	50.3	101	81-117
4-Bromofluorobenzene	50.0	50.4	101	74-121

Category: 8240-SL
Matrix: SOIL
QC Lot: 21 JAN 94-3A QC Run: 21 JAN 94-3A
Concentration Units: ug/kg

1,2-Dichloroethane-d4	50.0	44.8	90	70-121
Toluene-d8	50.0	49.7	99	81-117
4-Bromofluorobenzene	50.0	49.1	98	74-121

Calculations are performed before rounding to avoid round-off errors in calculated results.

Volatile Organics (Aqueous) - Method 8240

Volatile Organics
Target Compound List (TCL)
Method 8240

Client Name: BSK & Associates
Client ID: B-3 Water
Lab ID: 073663-0010-SA
Matrix: AQUEOUS
Authorized: 20 JAN 94

Sampled: 19 JAN 94
Prepared: NA

Received: 20 JAN 94
Analyzed: 21 JAN 94

Parameter	Result	Units	Reporting Limit	
Acetone	10	ug/L	10	b
Benzene	ND	ug/L	5.0	
Bromodichloromethane	ND	ug/L	5.0	
Bromoform	ND	ug/L	5.0	
Bromomethane	ND	ug/L	10	
2-Butanone (MEK)	ND	ug/L	10	
Carbon disulfide	ND	ug/L	5.0	
Carbon tetrachloride	ND	ug/L	5.0	
Chlorobenzene	ND	ug/L	5.0	
Chloroethane	ND	ug/L	10	
Chloroform	ND	ug/L	5.0	
Chloromethane	ND	ug/L	10	
Dibromochloromethane	ND	ug/L	5.0	
1,1-Dichloroethane	ND	ug/L	5.0	
1,2-Dichloroethane	ND	ug/L	5.0	
1,1-Dichloroethene	ND	ug/L	5.0	
1,2-Dichloroethene	ND	ug/L	5.0	
(Total)	ND	ug/L	5.0	
1,2-Dichloropropane	ND	ug/L	5.0	
cis-1,3-Dichloropropene	ND	ug/L	5.0	
trans-1,3-Dichloropropene	ND	ug/L	5.0	
Ethylbenzene	ND	ug/L	5.0	
2-Hexanone	ND	ug/L	10	
Methylene chloride	5.8	ug/L	5.0	Bb
4-Methyl-2-pentanone (MIBK)	ND	ug/L	10	
Styrene	ND	ug/L	5.0	
1,1,2,2-Tetrachloroethane	ND	ug/L	5.0	
Tetrachloroethene	ND	ug/L	5.0	
Toluene	ND	ug/L	5.0	
1,1,1-Trichloroethane	ND	ug/L	5.0	
1,1,2-Trichloroethane	ND	ug/L	5.0	
Trichloroethene	ND	ug/L	5.0	
Vinyl acetate	ND	ug/L	10	
Vinyl chloride	ND	ug/L	10	
Xylenes (total)	ND	ug/L	5.0	
Surrogate	Recovery			
Toluene-d8	98	%		
4-Bromofluorobenzene	86	%		

(continued on following page)

ND = Not detected
NA = Not applicable

Reported By: Steve Siegel

Approved By: Steve Rogers

The cover letter is an integral part of this report.

Rev 230787

Volatile Organics
Target Compound List (TCL)
Method 8240

Client Name: BSK & Associates
Client ID: B-3 Water
Lab ID: 073663-0010-SA
Matrix: AQUEOUS
Authorized: 20 JAN 94

Sampled: 19 JAN 94
Prepared: NA

Received: 20 JAN 94
Analyzed: 21 JAN 94

Surrogate	Recovery
1,2-Dichloroethane-d4	94 %

Note b : Analytical results should not be considered reliable for this common lab contaminant unless the sample result exceeds 5 times the reporting limit or 10 times the blank result.

Note B : Compound is also detected in the blank.

ND = Not detected
NA = Not applicable

Reported By: Steve Siegel

Approved By: Steve Rogers

The cover letter is an integral part of this report.
Rev 230787

Volatile Organics
Target Compound List (TCL)
Method 8240

Client Name: BSK & Associates
Client ID: B-5 #1
Lab ID: 073663-0011-EB
Matrix: AQUEOUS
Authorized: 20 JAN 94

Sampled: 19 JAN 94
Prepared: NA

Received: 20 JAN 94
Analyzed: 21 JAN 94

Parameter	Result	Units	Reporting Limit	
Acetone	ND	ug/L	10	
Benzene	ND	ug/L	5.0	
Bromodichloromethane	ND	ug/L	5.0	
Bromoform	ND	ug/L	5.0	
Bromomethane	ND	ug/L	10	
2-Butanone (MEK)	ND	ug/L	10	
Carbon disulfide	ND	ug/L	5.0	
Carbon tetrachloride	ND	ug/L	5.0	
Chlorobenzene	ND	ug/L	5.0	
Chloroethane	ND	ug/L	10	
Chloroform	ND	ug/L	5.0	
Chloromethane	ND	ug/L	10	
Dibromochloromethane	ND	ug/L	5.0	
1,1-Dichloroethane	ND	ug/L	5.0	
1,2-Dichloroethane	ND	ug/L	5.0	
1,1-Dichloroethene	ND	ug/L	5.0	
1,2-Dichloroethene				
(Total)	ND	ug/L	5.0	
1,2-Dichloropropane	ND	ug/L	5.0	
cis-1,3-Dichloropropene	ND	ug/L	5.0	
trans-1,3-Dichloropropene	ND	ug/L	5.0	
Ethylbenzene	ND	ug/L	5.0	
2-Hexanone	ND	ug/L	10	
Methylene chloride	6.1	ug/L	5.0	Bb
4-Methyl-2-pentanone (MIBK)	ND	ug/L	10	
Styrene	ND	ug/L	5.0	
1,1,2,2-Tetrachloroethane	ND	ug/L	5.0	
Tetrachloroethene	ND	ug/L	5.0	
Toluene	ND	ug/L	5.0	
1,1,1-Trichloroethane	ND	ug/L	5.0	
1,1,2-Trichloroethane	ND	ug/L	5.0	
Trichloroethene	ND	ug/L	5.0	
Vinyl acetate	ND	ug/L	10	
Vinyl chloride	ND	ug/L	10	
Xylenes (total)	ND	ug/L	5.0	
Surrogate	Recovery			
Toluene-d8	99	%		
4-Bromofluorobenzene	99	%		

(continued on following page)

ND = Not detected
NA = Not applicable

Reported By: Steve Siegel

Approved By: Steve Rogers

The cover letter is an integral part of this report.
Rev 230787

Volatile Organics
Target Compound List (TCL)
Method 8240

Client Name: BSK & Associates
Client ID: B-5 #1
Lab ID: 073663-0011-EB
Matrix: AQUEOUS
Authorized: 20 JAN 94

Sampled: 19 JAN 94
Prepared: NA

Received: 20 JAN 94
Analyzed: 21 JAN 94

Surrogate	Recovery
1,2-Dichloroethane-d4	100 %

Note B : Compound is also detected in the blank.

Note b : Analytical results should not be considered reliable for this common lab contaminant unless the sample result exceeds 5 times the reporting limit or 10 times the blank result.

ND = Not detected
NA = Not applicable

Reported By: Steve Siegel

Approved By: Steve Rogers

The cover letter is an integral part of this report.
Rev 230787

Volatile Organics
Target Compound List (TCL)
Method 8240

Client Name: BSK & Associates
Client ID: B-6 #1
Lab ID: 073663-0012-TB
Matrix: AQUEOUS
Authorized: 20 JAN 94

Sampled: 19 JAN 94
Prepared: NA

Received: 20 JAN 94
Analyzed: 21 JAN 94

Parameter	Result	Units	Reporting Limit	
Acetone	ND	ug/L	10	
Benzene	ND	ug/L	5.0	
Bromodichloromethane	ND	ug/L	5.0	
Bromoform	ND	ug/L	5.0	
Bromomethane	18	ug/L	10	
2-Butanone (MEK)	ND	ug/L	10	
Carbon disulfide	ND	ug/L	5.0	
Carbon tetrachloride	ND	ug/L	5.0	
Chlorobenzene	ND	ug/L	5.0	
Chloroethane	ND	ug/L	10	
Chloroform	ND	ug/L	5.0	
Chloromethane	ND	ug/L	10	
Dibromochloromethane	ND	ug/L	5.0	
1,1-Dichloroethane	ND	ug/L	5.0	
1,2-Dichloroethane	ND	ug/L	5.0	
1,1-Dichloroethene	ND	ug/L	5.0	
1,2-Dichloroethene				
(Total)	ND	ug/L	5.0	
1,2-Dichloropropane	ND	ug/L	5.0	
cis-1,3-Dichloropropene	ND	ug/L	5.0	
trans-1,3-Dichloropropene	ND	ug/L	5.0	
Ethylbenzene	ND	ug/L	5.0	
2-Hexanone	ND	ug/L	10	
Methylene chloride	5.9	ug/L	5.0	Bb
4-Methyl-2-pentanone (MIBK)	ND	ug/L	10	
Styrene	ND	ug/L	5.0	
1,1,2,2-Tetrachloroethane	ND	ug/L	5.0	
Tetrachloroethene	ND	ug/L	5.0	
Toluene	ND	ug/L	5.0	
1,1,1-Trichloroethane	ND	ug/L	5.0	
1,1,2-Trichloroethane	ND	ug/L	5.0	
Trichloroethene	ND	ug/L	5.0	
Vinyl acetate	ND	ug/L	10	
Vinyl chloride	ND	ug/L	10	
Xylenes (total)	ND	ug/L	5.0	
Surrogate				
	Recovery			
Toluene-d8	99	%		
4-Bromofluorobenzene	99	%		

(continued on following page)

ND = Not detected
NA = Not applicable

Reported By: Steve Siegel

Approved By: Steve Rogers

The cover letter is an integral part of this report.
Rev 230787

Volatile Organics
Target Compound List (TCL)
Method 8240

Client Name: BSK & Associates
Client ID: B-6 #1
Lab ID: 073663-0012-TB
Matrix: AQUEOUS
Authorized: 20 JAN 94

Sampled: 19 JAN 94
Prepared: NA

Received: 20 JAN 94
Analyzed: 21 JAN 94

Surrogate	Recovery
1,2-Dichloroethane-d4	101 %

Note B : Compound is also detected in the blank.

Note b : Analytical results should not be considered reliable for this common lab contaminant unless the sample result exceeds 5 times the reporting limit or 10 times the blank result.

ND = Not detected
NA = Not applicable

Reported By: Steve Siegel

Approved By: Steve Rogers

The cover letter is an integral part of this report.
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QC LOT ASSIGNMENT REPORT
Volatile Organics by GC/MS

Laboratory Sample Number	QC Matrix	QC Category	QC Lot Number (DCS)	QC Run Number (SCS/BLANK)
073663-0010-SA	AQUEOUS	624-A	21 JAN 94-4A	21 JAN 94-4A
073663-0011-EB	AQUEOUS	624-A	21 JAN 94-4A	21 JAN 94-4A
073663-0012-TB	AQUEOUS	624-A	21 JAN 94-4A	21 JAN 94-4A

METHOD BLANK REPORT
Volatile Organics by GC/MS

Analyte	Result	Units	Reporting Limit
Test: 8240CP-TCL-AP			
Matrix: AQUEOUS			
QC Lot: 21 JAN 94-4A	QC Run: 21 JAN 94-4A		
Acetone	ND	ug/L	10
Benzene	ND	ug/L	5.0
Bromodichloromethane	ND	ug/L	5.0
Bromoform	ND	ug/L	5.0
Bromomethane	ND	ug/L	10
2-Butanone (MEK)	ND	ug/L	10
Carbon disulfide	ND	ug/L	5.0
Carbon tetrachloride	ND	ug/L	5.0
Chlorobenzene	ND	ug/L	5.0
Chloroethane	ND	ug/L	10
Chloroform	ND	ug/L	5.0
Chloromethane	ND	ug/L	10
Dibromochloromethane	ND	ug/L	5.0
1,1-Dichloroethane	ND	ug/L	5.0
1,2-Dichloroethane	ND	ug/L	5.0
1,1-Dichloroethene	ND	ug/L	5.0
1,2-Dichloroethene	ND	ug/L	5.0
(Total)	ND	ug/L	5.0
1,2-Dichloropropane	ND	ug/L	5.0
cis-1,3-Dichloropropene	ND	ug/L	5.0
trans-1,3-Dichloropropene	ND	ug/L	5.0
Ethylbenzene	ND	ug/L	5.0
2-Hexanone	ND	ug/L	10
Methylene chloride	7.4	ug/L	5.0
4-Methyl-2-pentanone (MIBK)	ND	ug/L	10
Styrene	ND	ug/L	5.0
1,1,2,2-Tetrachloroethane	ND	ug/L	5.0
Tetrachloroethene	ND	ug/L	5.0
Toluene	ND	ug/L	5.0
1,1,1-Trichloroethane	ND	ug/L	5.0
1,1,2-Trichloroethane	ND	ug/L	5.0
Trichloroethene	ND	ug/L	5.0
Vinyl acetate	ND	ug/L	10
Vinyl chloride	ND	ug/L	10
Xylenes (total)	ND	ug/L	5.0

DUPLICATE CONTROL SAMPLE REPORT
Volatile Organics by GC/MS

Analyte	Concentration Spiked	Concentration Measured		AVG	Accuracy Average(%)		Precision (RPD)	
		DCS1	DCS2		DCS	Limits	DCS Limit	DCS Limit
Category: 624-A								
Matrix: AQUEOUS								
QC Lot: 21 JAN 94-4A								
Concentration Units: ug/L								
1,1-Dichloroethene	50	47.6	45.7	46.6	93	65-139	4.1	16.0
Trichloroethene	50	49.8	46.6	48.2	96	70-119	6.6	13.0
Benzene	50	52.8	49.1	51.0	102	81-129	7.3	13.0
Toluene	50	51.3	48.5	49.9	100	83-125	5.6	14.0
Chlorobenzene	50	52.9	49.6	51.2	103	83-125	6.4	11.0

Calculations are performed before rounding to avoid round-off errors in calculated results.

SINGLE CONTROL SAMPLE REPORT
Volatile Organics by GC/MS

Analyte	Concentration		Accuracy(%)	
	Spiked	Measured	SCS	Limits

Category: 624-A
Matrix: AQUEOUS
QC Lot: 21 JAN 94-4A QC Run: 21 JAN 94-4A
Concentration Units: UG/L

1,2-Dichloroethane-d4	50.0	47.6	95	88-107
4-Bromofluorobenzene	50.0	49.8	100	89-113
Toluene-d8	50.0	49.7	99	92-110

Calculations are performed before rounding to avoid round-off errors in calculated results.

Oil & Grease, IR - Method SM 5520CF

Oil and Grease (TPH Fraction), IR

Method SM 5520CF

Client Name: BSK & Associates
Client ID: B-3 Water
Lab ID: 073663-0010-SA
Matrix: AQUEOUS
Authorized: 20 JAN 94

Sampled: 19 JAN 94
Prepared: 21 JAN 94

Received: 20 JAN 94
Analyzed: 23 JAN 94

Parameter	Result	Units	Reporting Limit
Oil and Grease (TPH Fraction)	ND	mg/L	1.0

ND = Not detected
NA = Not applicable

Reported By: Lisa Stafford

Approved By: Kirby Garrett

The cover letter is an integral part of this report.
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QC LOT ASSIGNMENT REPORT
Hydrocarbon Work Cell

Laboratory Sample Number	QC Matrix	QC Category	QC Lot Number (DCS)	QC Run Number (SCS/BLANK)
073663-0010-SA	AQUEOUS	TPH-SM-A	21 JAN 94-11A	21 JAN 94-11A

METHOD BLANK REPORT
Hydrocarbon Work Cell

Analyte	Result	Units	Reporting Limit
Test: TPH-IR-O&G/5520CF-A			
Matrix: AQUEOUS			
QC Lot: 21 JAN 94-11A QC Run: 21 JAN 94-11A			
Oil and Grease (TPH Fraction)	ND	mg/L	1.0

DUPLICATE CONTROL SAMPLE REPORT
Hydrocarbon Work Cell

Analyte	Concentration Spiked	Concentration Measured		AVG	Accuracy Average (%)		Precision (RPD)		
		DCS1	DCS2		DCS	Limits	DCS	Limit	
Category: TPH-SM-A Matrix: AQUEOUS QC Lot: 21 JAN 94-11A Concentration Units: mg/L									
Oil and Grease (TPH Fraction)	2.0	2.07	2.10	2.08	104	53-158	1.4	36.0	

Calculations are performed before rounding to avoid round-off errors in calculated results.

PROJECT AIRCO SAN LEANARD'S ASSESSMENT PROJECT NO. P94014.3
 SUBJECT Preliminary Endangerment Assessment - Acetone/MEK BY J. Schweizer DATE 2-2-94
 REVIEWED BY F. Gregaras and CK. DATE 2/2/94

PLAN

The plan for this calculation is attached as "Instructions for Application of Screening Values" from App. A of the below listed reference

Screening levels to protect human

REFERENCE

- 1) California Department of Health Services
 "Interim Guidance for Preparation of a Preliminary Endangerment Assessment Report" 6-22-90

DATA

	<u>Acetone/water</u>	<u>Acetone/soil</u>	<u>MEK/soil</u>
Sample Conc. (MAX.)	10 µg/l	3100 µg/kg	74 µg/kg
Screening level	50,000 µg/l	10,000 mg/kg = 10,000,000 µg/kg	106 mg/kg = 109,000 µg/kg
Ref: 1) TABLE A.3 5 YEAR (CHILD)			

CALCULATIONS

TEST 1

$$\text{ACETONE/WATER} : \frac{\text{Sample Conc.}}{\text{Screening level}} = \frac{10}{50,000} = 0.0002 \ll 1 \quad (A)$$

child's value

$$\text{ACETONE/SOIL} : \frac{\text{Sample Conc.}}{\text{Screening level}} = \frac{3100}{10,000,000} = 0.00031 \ll 1 \quad (B)$$

(µg/kg)

PROJECT AIRCO SAN LEANDRO ASSESSMENT PROJECT NO. P94014.3
 SUBJECT Preliminary Endangerment BY J. Schweizer DATE 2.2.94
Assessment - Acetone/MEK REVIEWED BY F. Greguras DATE 2/2/94
 and Ck.

TEST 1 (COT'D)

$$\text{MEK/SOIL} : \frac{\text{Sample Conc}}{\text{Screening level}} = \frac{74}{100,000}$$

$$= 0.00074 \lll 1 \quad (C)$$

TEST 2

$$(A) + (B) < 1 ?$$

$$0.0002 + 0.00031 = 0.00051 \lll 1$$

TEST 3

$$(A) + (B) + (C) < 1 ?$$

$$0.0002 + 0.00031 + 0.00074 = 0.00125 \lll 1$$

Instructions for Application of Screening Values

The screening of contaminants on a hazardous waste site can be accomplished by applying a series of three appraisal tests. If any of the tests fail, it is concluded that a significant level of contamination exists at the site.

Test 1: The first test in the risk appraisal process evaluates single chemical/single medium exposure. It determines whether a biological receptor receives an excessive exposure to any toxic substance via contact with a contaminated medium (e.g., water, air, soil, or biota). The test compares the level of exposure to a chemical in a medium, abbreviated as C_{medium} , with the screening level for that chemical in the same medium, i.e.,

$$\frac{C_{\text{medium}}}{\text{Screening Level}_{\text{medium}}}$$

If the resulting value is greater than one, then the test fails and the level of contamination is considered to be significant.

Test 2: The second test in the risk appraisal process evaluates single chemical/multiple media exposure. It determines whether a biological receptor receives an excessive exposure to any toxic substance via contact with all pertinent media of exposure. The exposures via various media are assumed to be cumulative. Test 2 is:

$$\frac{C_{\text{water}}}{\text{Screening Level}_{\text{water}}} + \frac{C_{\text{air}}}{\text{Screening Level}_{\text{air}}} + \frac{C_{\text{soil}}}{\text{Screening Level}_{\text{soil}}}$$

If the sum above exceeds unity, then the test fails, and the level of contamination is considered to be significant.

Test 3: The third test in the risk appraisal process evaluates multiple chemical/multiple media exposure. It determines whether a biological receptor receives an excessive exposure in all pertinent media to an aggregate of substances. This test can be expressed as:

$$\begin{array}{ccccccc}
 \frac{C_{\text{water},1}}{\text{Screening Level}_{\text{water},1}} & + & \frac{C_{\text{air},1}}{\text{Screening Level}_{\text{air},1}} & + & \frac{C_{\text{soil},1}}{\text{Screening Level}_{\text{soil},1}} & + & \\
 \\
 \frac{C_{\text{water},2}}{\text{Screening Level}_{\text{air},2}} & + & \frac{C_{\text{air},2}}{\text{Screening Level}_{\text{air},2}} & + & \frac{C_{\text{soil},2}}{\text{Screening Level}_{\text{soil},2}} & + & \\
 \\
 & & & & \frac{C_{\text{medium},n}}{\text{Screening Level}_{\text{medium},n}} & & \\
 \dots & + & & & & &
 \end{array}$$

If the sum for all contaminants exceed unity, then the test fails and the level of contamination is considered to be significant.

TABLE A.1. DRINKING WATER SUPPLY SCREENING VALUES

Screening values are tools to help select chemicals that need further assessment. They are not limits which indicate absolute levels of health or environmental concern. The actual site-specific conditions determine if a health or environmental threat exists.

<u>Chemical</u>	<u>(ug/l) Source</u>	<u>Chemical</u>	<u>(ug/l) Source</u>
Acephate	4 CPF	Bayleton	200 RfD
Acetone	5E+04 RfD	Baythroid	200 RfD
Acetone cyanohydrin	500 RfD	Benefin	2000 RfD
Acetonitrile	40 RfD	Benomyl	300 RfD
Acetophenone	700 RfD	Bentazon	20 RfD
Acifluorfen	.	Benzaldehyde	700 RfD
Acrylamide	0.0007 CPF	Benzene	1 CPF
Acrylic acid	600 RfD	Benzidene	1E-04 CPF
Acrylonitrile	0.06 CPF	Benzoic acid	3E+04 RfD
Aflatoxin B1	1E-05 CPF	Beryllium	30 RfD
Alachlor	70 RfD	Bidrin	0.6 RfD
Alar	1000 RfD	Biphenthrin	100 RfD
Aldicarb	9 RfD	1,1-Biphenyl	300 RfD
Aldicarb sulfone	9 LHA	Bis(2-chloroethyl)ether (BCEE)	0.03 CPF
Aldicarb sulfoxide	9 LHA	Bis(2-ethylhexyl)phthalate (BEHP)	2 CPF
Aldrin	0.0002 CPF	Bis(chloromethyl) ether	1E-04 CPF
Ally	2000 RfD	Bisphenol A	300 RfD
Allyl Alcohol	30 RfD	Boron	600 RfD
Aluminum phosphide	3 RfD	Bromacil	80 LHA
Amdro	2 RfD	Bromodichloromethane	100 RfD
Ametryn	60 LHA	Bromoform	100 RfD
Amitraz	20 RfD	Bromomethane	.
Ammonium sulfamate	1000 RfD	Bromoxynil	100 RfD
Aniline	6 CPF	Bromoxynil octanoate	100 RfD
Antimony	3 RfD	1,3-Butadiene	0.01 RfD
Apollo	90 RfD	n-Butanol	700 RfD
Arsenic	7 RfD ⁵⁰	Butylate	300 RfD
Asbestos	7 PMCLG	Butylbenzyl phthalate	1000 RfD
Asulam	300 RfD	Butylphthalyl butylglycolate (BPPG)	7000 RfD
Atrazine	3 PMCLG	Cadmium	5 PMCLG
Azobenzene	0.3 CPF		
Barium	300 RfD		
Barium cyanide	500 RfD		
Baygon	3 LHA		

59020

Table A.1. continued

<u>Chemical</u>	<u>(ug/l) Source</u>		<u>Chemical</u>	<u>(ug/l) Source</u>	
cyclohexane (t-HCCH)	0.01	CPF	Methoxychlor	300	LHA
Hexachlorocyclo- pentadiene (HCCPD)	50	RfD	2-Methoxyethanol	7	RfD
Hexachlorodibenzo-p- dioxin, mixture (HxCDD)	5E-06	CPF	Methyl chlorocarbonate	7000	RfD
Hexachloroethane	2	CPF	Methyl ethyl ketone (MEK)	200	LHA
Hexachlorophene	2	RfD	Methyl isobutyl ketone (MIBK)	300	RfD
Hexahydro-1,3,5-trinitro- 1,3,5 triazine (RDX)	20	RfD	Methyl mercury	2	RfD
n-Hexane	.		Methyl parathion	2	RfD
Hexazinone	200	LHA	Methyl styrene	40	RfD
Hydrazine/ Hydrazine Sulfate	0.01	CPF	2-Methyl-4-chlorophenoxy- acetic acid (MCPA)	3	RfD
Hydrogen cyanide	100	RfD	Methylnitrosourea	1E-04	CPF
Hydrogen sulfide	20	RfD	Metolachlor	100	LHA
p-Hydroquinone	300	RfD	Metribuzin	200	RfD
Imazalil	90	RfD	Mirex	0.01	RfD
Imazaquin	2000	RfD	Naled	10	RfD
Iprodione	300	RfD	Naphthalene	3000	RfD
Isobutyl alcohol	2000	RfD	Nickel	100	RfD
Isophorone	1000	RfD	Nitrapyrin	10	RfD
Isopropalin	100	RfD	Nitrate	7000	RfD
Lactofen	10	RfD	Nitrates plus Nitrites	1E+04	PMCLG
Lindane	0.02	CPF	Nitric oxide	700	RfD
Linuron	10	RfD	Nitrite	700	RfD
Londax	1000	RfD	Nitrobenzene	3	RfD
Malathion	100	RfD	Nitrofurantion	500	RfD
Maleic anhydride	700	RfD	Nitrogen dioxide	7000	RfD
Maleic hydrazide	4000	LHA	N-Nitroso-N- methylethylamine	0.01	CPF
Maneb	30	RfD	N-Nitrosodi-N- propylamine	0.004	CPF
Manganese	1000	RfD	N-Nitrosodiethanol- amine	0.01	CPF
Mepiquat chloride	200	RfD	N-Nitrosodiethylamine	2E-04	CPF
Mercury	1	LHA	N-Nitrosodimethyl- amine	6E-04	CPF
Merphos	0.2	RfD	N-Nitrosodiphenylamine	7	CPF
Merphos oxide	0.2	RfD	N-Nitrosopyrrolidine	0.01	CPF
Metalaxyl	400	RfD	Norflurazon	300	RfD
Methacrylonitrile	0.6	RfD	Octabromodiphenyl ether	20	RfD
Methamidophos	0.3	RfD	Octahydro-1,3,5,7-tetranitro-		
Methanol	4000	RfD			
Methidathion	7	RfD			
Methomyl	200	RfD			

TABLE A.3. SOIL INGESTION SCREENING VALUES

Screening values are tools to help select chemicals that need further assessment. They are not limits which indicate absolute levels of health or environmental concern. The actual site-specific conditions determine if a health or environmental threat exists.

Chemical	Chronic (mg/kg) Source		5 Year (Child) (mg/kg) Source	
	Value	Source	Value	Source
Acephate	1E+02	CPF	2E-01	CPF
Acetone	9E+06	RfD	1E+04	RfD
Acetone cyanohydrin	9E+04	RfD	1E+02	RfD
Acetonitrile	8E+03	RfD	1E+01	RfD
Acetophenone	1E+05	RfD	2E+02	RfD
Acifluorfen
Acrylamide	3E-01	CPF	5E-04	CPF
Acrylic acid	1E+05	RfD	1E+02	RfD
Acrylonitrile	2E+00	CPF	4E-03	CPF
Aflatoxin B1	4E-04	CPF	8E-07	CPF
Alachlor	1E+04	RfD	2E+01	RfD
Alar	2E+05	RfD	3E+02	RfD
Aldicarb	1E+03	RfD	3E+00	RfD
Aldicarb sulfone	8E+03	RfD	1E+01	RfD
Aldicarb sulfoxide
Aldrin	8E-02	CPF	1E-04	CPF
Ally	3E+05	RfD	6E+02	RfD
Allyl Alcohol	7E+03	RfD	1E+01	RfD
Aluminum phosphide	5E+02	RfD	9E-01	RfD
Amdro	4E+02	RfD	7E-01	RfD
Ametryn	1E+04	RfD	2E+01	RfD
Amitraz	3E+03	RfD	6E+00	RfD
Ammonium sulfamate	2E+05	RfD	4E+02	RfD
Aniline	2E+02	CPF	4E-01	CPF
Antimony	5E+02	RfD	9E-01	RfD
Apollo	1E+04	RfD	3E+01	RfD
Arsenic	1E+03	RfD	2E+00	RfD
Asulam	7E+04	RfD	1E+02	RfD
Atrazine	7E+03	RfD	1E+01	RfD
Azobenzene	1E+01	CPF	2E-02	CPF
Barium	7E+04	RfD	1E+02	RfD
Barium cyanide	9E+04	RfD	1E+02	RfD

Table A.3. continued

Chemical	Chronic (mg/kg) Source		5 Year (Child) (mg/kg) Source	
Maleic hydrazide	7E+05	RfD	1E+03	RfD
Maneb	7E+03	RfD	1E+01	RfD
Manganese	2E+05	RfD	4E+02	RfD
Mepiquant chloride	4E+04	RfD	7E+01	RfD
Mercury	4E+02	RfD	7E-01	RfD
Merphos	4E+01	RfD	7E-02	RfD
Merphos oxide	4E+01	RfD	7E-02	RfD
Metalaxyl	8E+04	RfD	1E+02	RfD
Methacrylonitrile	1E+02	RfD	2E-01	RfD
Methamidophos	7E+01	RfD	1E-01	RfD
Methanol	7E+05	RfD	1E+03	RfD
Methidathion	1E+03	RfD	2E+00	RfD
Methomyl	3E+04	RfD	6E+01	RfD
Methoxychlor				
2-Methoxyethanol	1E+03	RfD	2E+00	RfD
Methyl chlorocarbonate	1E+06	RfD	2E+03	RfD
Methyl ethyl ketone (MEK)	7E+04	RfD	1E+02	RfD
Methyl isobutyl ketone (MIBK)	7E+04	RfD	1E+02	RfD
Methyl mercury	4E+02	RfD	7E-01	RfD
Methyl parathion	3E+02	RfD	6E-01	RfD
Methyl styrene	8E+03	RfD	1E+01	RfD
2-Methyl-4-chlorophenoxy-acetic acid (MCPA)	7E+02	RfD	1E+00	RfD
Methylnitrosourea	4E-03	CPF	8E-06	CPF
Metolachlor	1E+05	RfD	2E+02	RfD
Metribuzin	3E+04	RfD	6E+01	RfD
Mirex	2E+00	RfD	4E-03	RfD
Naled	2E+03	RfD	4E+00	RfD
Naphthalene	5E+05	RfD	9E+02	RfD
Nickel	2E+04	RfD	4E+01	RfD
Nitrapyrin	2E+03	RfD	3E+00	RfD
Nitrate	1E+06	RfD	2E+03	RfD
Nitric oxide	1E+05	RfD	2E+02	RfD
Nitrite	1E+05	RfD	2E+02	RfD
Nitrobenzene	7E+02	RfD	1E+00	RfD
Nitrofurantoin	9E+04	RfD	1E+02	RfD
Nitrogen dioxide	1E+06	RfD	2E+03	RfD
N-Nitroso-N-methylethylamine	6E-01	CPF	1E-03	CPF
N-Nitrosodi-N-propylamine	2E-01	CPF	3E-04	CPF
N-Nitrosodiethanolamine	5E-01	CPF	8E-04	CPF
N-Nitrosodiethylamine	9E-03	CPF	1E-05	CPF
N-Nitrosodimethylamine	2E-02	CPF	4E-05	CPF