A GROUND WATER CONSULTANCY / Rg Soil > 9640 Carbon

1600 mg 9640 mg

Ms. Madhulla Logan
Hazardous Materials Specialist
Alameda County Health Care Services Agency
Environmental Health Services
Environmental Protection (LOP)

9.64 Kg

Environmental Health Services
Environmental Protection (LOP)
1131 Harbor Bay Parkway, Suite 250
Alameda, California 94502-6577

RE: Additional Site Investigations at Runnels Industries, Inc., 3590 Enterprise Avenue, Hayward, CA.

Dear Ms. Logan;

This letter report documents implementation of the Workplan for Additional Site Investigations at Runnels Industries, Inc., 3590 Enterprise Avenue in Hayward, California, dated June 23, 1997. The location of the 3590 Enterprise Avenue property is shown in Figure 1.

As was the Workplan, this letter report is organized around the bullated items in your January 15, 1997 letter. The report sections are organized as follows:

Section 1.0 Bullet 1 Installation and sampling of four monitoring wells.

Section 2.0 Bullet 2 A borehole near Phase II location B-5.

Bullet 3 Provided with Workplan.

Section 3.0 Bullet 4 A soil and groundwater sample from behind Open Paint Building B

Section 4.0 Bullet 5 MEK analysis of MW-1 groundwater.

1.0 INSTALLATION AND SAMPLING OF FOUR MONITORING WELLS

The fulfillment of Runnels obligations to respond to your January 15, 1997 letter's first bullated item included the installation of four 15 to 18 foot deep monitoring wells at the approximate locations shown on the Workplan Figure 2. Also included was the collection of groundwater samples from each of the four monitoring wells and analysis of halogenated volatile halocarbon compounds by U.S. EPA Method 8010 from each of these wells. Analysis of a groundwater sample from the monitoring well near B-4 for dissolved chromium, lead, and zinc.

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Workplan Figure 2 is now replaced with Figure 2 included in this report. The monitoring well that was present prior to this investigation has been designated MW-1. Figure 2 shows the locations of the four monitoring wells installed in response to bullated item 1 along with water level information developed and boreholes responding to later bullated items.

1.1 MONITORING WELL INSTALLATION

Four groundwater monitoring wells were installed at the 3590 Enterprise Avenue property between August 14th and 18th, 1997. The monitoring well boreholes were drilled using a hand operated Iwan Auger and constructed under license agreement with ASE Drilling, Inc. of Livermore, California. Attachment A includes copies of the well drilling permits issued by ZONE 7 Water Agency (ZONE 7) and copies of the California Department of Water Resources (DWR) Form 188 submitted to ZONE 7 and DWR.

Borehole lithologic logs are included in Attachment B. These logs document the sediments encountered during drilling and, along with DWR Form 188 and the following table document well construction.

WELL CONSTRUCTION DETAILS

Well Number	Borehole Diameter (inches)	Casing/ Screen Diameter (inches)	Total Borehole Depth (feet)	Total Well Depth (feet)	Screened Interval (feet)
MGJ 3		<u>.</u> .			
MW-1	Not Available	2	Not Available	15.65	Not Available
MW-2	6.25/4	2	12.65	12.14	7-12
MW-3	6.25/4	2	12.50	12.15	7-12
MW-4	6.25/4	2	13.04	12.65	7.5-12.5
MW-5	6.25/4	2	13.25	12.68	7.5-12.5

1.2 POTENTIOMETRIC SURFACE GRADIENT AND DIRECTION OF GRADIENT

The wells were surveyed by Ron Archer, Civil Engineer, Inc. on August 20, 1997 (Attachment C). Depth to water in each monitoring well was measured to +/- 0.01 feet using a Solinst Model 101 water level meter between 07:18 and 07:48 on August 20, 1997. The depth to water was converted to potentiometric surface elevation by subtracting the measured depths to water from the casing top elevation. This information in presented in the table on the following page.

WELL AND GROUNDWATER ELEVATIONS AUGUST 20, 1997

Well Number	Top of Casing Elevation (feet, msl)	Time of Depth	Depth to Water (feet)	Groundwater Surface Elevation (feet, msl)
MW-1	9.96	07:48	8.56	1.40
MM-2	8.86	07:26	6.41	2.45
MW-3	7.91	07:18	5.77	2.14
MW-4	8.47	07:44	7.34	1.13
MW-5	8.86	07:35	7.55	1.31

For the five monitoring wells there are four triangles with a well at each apex for which a groundwater gradient and flow direction (more precisely direction of groundwater gradient, since the horizontal hydraulic conductivity anisotropy is unknown) may be calculated using the three-point problem approach. The groundwater gradient direction and gradient for each of the triangles are:

Well Tr	iangle	Gradient Direction	Gradient
:	1,2,5	S 59.43°W	0.00485
	2,3,5	S 82.55°W	0.00743
	3,4,5	N 73.08°W	0.00526
	1,4,5	<u>s 46.79°W</u>	0.00155
:	Average	S 73.92°W	0.00478

Figure 2 presents a potentiometric surface map showing well locations and groundwater surface contours as measured on August 20, 1997 using the method of minimum area triangles in a minimum bounded field.

1.3 MONITORING WELL PURGING AND SAMPLING

The monitoring wells were purged by pumping with an "ES-60" submersible pump marketed for monitoring well purging by Enviro-Tech Services Co. of Martinez, California. Field measured water quality parameters were measured using a Cambridge Scientific Industries Hydac™ Conductivity Temperature pH Tester. Well purging activities and the field measured water quality parameters are documented in Attachment D. For each well, purging continued until specific conductance stabilized to +/- 5% on consecutive readings.

Groundwater samples were collected for halogenated volatile organic compound analysis by U.S. EPA Method 8010 from monitoring wells MW-2, MW-3, MW-4, and MW-5. The samples were collected directly from the discharge end of the purge pump delivery tubing at a pumping rate of less than 1 L/minute. Water samples were collected, in duplicate, into 40-mL glass vials with TeflonTM septum lids.

A groundwater sample for dissolved metals was collected from MW-4 in an emptied deionized water bottle pre-rinsed with well water. The well water was then pumped from the bottle through a precleaned silicone tubing that passed through a peristaltic pump head and through a filter housing containing a 0.45 micron filter membrane filter and into a polypropylene bottle containing nitric acid as a preservative that was provided by the analytical laboratory.

Groundwater sample bottles were labeled and placed in an ice chest with 2 Liter plastic bottles containing ice. Chain-of-Custody forms were filled out and were delivered with the ice chest to Chromalab, Inc. of Pleasanton, California, a state certified laboratory (DTSC No. 1094).

1.4 GROUNDWATER ANALYTICAL RESULTS

Groundwater samples from MW-2, MW-3, MW-4, and MW-5 were submitted to Chromalab for analysis by EPA Method 8010 for halogenated volatile organic compounds and a groundwater sample from MW-4 for analysis of metals (Cr, Pb, and Zn) using EPA Method 3010A/6010A. Copies of the laboratory report and chain-of-custody documentation are contained in Attachment E.

Five Method 8010 analytes were identified in groundwater from the four new wells at the 3590 Enterprise Avenue property. These compounds and their respective maximum contaminant levels (MCLs) are listed below

Concentration in micrograms per Liter	MW-2	MW-3	MW-4	MW-5	MCL
1,1-Dichloroethane	4.5	5.9	<0.50	25	5.0
1,1-Dichloroethene	3.9	13	<0.50	170	6.0
1,1,1-Trichloroethane	<0.50	0.60	<0.50	<0.50	200
1,1,2-Trichloroethane	<0.50	<0.50	<0.50	0.90	32
Trichloroethene	5.0	0.50	0.60	8.6	5.0



1,1-Dichloroethane (11-DCA) was near (MW-2) to slightly above (MW-3) its MCL in upgradient monitoring wells. In centrally located monitoring well MW-5 11-DCA exceeded its MCL by a factor of five.

1,1-Dichloroethene (11-DCE) below is MCL in upgradient monitoring well MW-2 and was twice its MCL in upgradient monitoring well MW-3. In centrally located monitoring well MW-5 11-DCE greatly exceeded its MCL (28 times).

1,1,1-Trichloroethane and 1,1,2-Trichloroethane did not exceed their MCLs in any of the monitoring wells. Trichloroethene (TCE) matched its MCL in upgradient monitoring well MW-2 and slightly exceeded its MCL in centrally located monitoring well MW-5.

Dissolved chromium and lead were not found in the sample from MW-4. The dissolved zinc concentration was 0.19 milligrams per Liter (mg/L), well within background concentrations and substantially below the drinking water standard of 2 mg/L

2.0 A BOREHOLE NEAR PHASE II LOCATION B-5

A borehole (B8) was installed near Phase II location B-5 to determine the vertical extent of chromium, lead, zinc, and halogenated volatile halocarbon compound contamination. Three soil samples and one groundwater sample were analyzed for chromium, lead, and zinc by U.S. EPA Method 3050A or 3005A (as appropriate)/6010A and for halogenated volatile halocarbon compounds by U.S. EPA Method 8010. The location is shown on attached Figure 2.

The lithologic log of borehole B8 in included in Attachment B. Soil samples were collected from depths of 3, 6, and 9 feet. Groundwater samples were collected after the borehole was advanced to total depth. The samples were labeled and placed in an ice chest with 2 Liter plastic bottles containing ice. Chain-of-Custody forms were filled out and were delivered with the ice chest to Chromalab.

These soil and groundwater samples were analyzed as stated in the Workplan. Copies of the laboratory report and chain-of-custody documentation are contained in Attachment E.

No U.S. EPA Method 8010 halogenated volatile halocarbon compounds were detected in the three soil samples or in the groundwater sample.

Chromium, lead, and zinc analytical results (in units of mg/L) were as follows

	Chromium	Lead	Zinc
B8/3 Ft.	32	8.4	المر الم
B8/6 Ft.	30	4.1	45 corpects
B8/9 Ft.	29	6.1	54 10 PK
B8/GW	<0.005	0.018	0.68

Soil concentrations of chromium and lead are within the range expected for background concentrations at all three depth samples. Zinc is present in background concentration in the six and nine foot samples. Zinc concentration is slightly elevated in the three foot sample, but well within urban background, particularly within the soil chemical halo contiguous to a galvanized chain link fence.

Groundwater concentrations of chromium, lead, and zinc are below their respective drinking water standards.

An odor similar to that of diesel was present in soil from borehole B8 continuously below a depth of 1.5 feet. The soil odor is noted on the lithologic log (Attachment C). A sheen and floating organic phase liquid globules were also note on the water bailed from B8. Consequent to these observations soil and groundwater samples were also collected for Total Extractable Petroleum Hydrocarbon (TEPH) analysis by U.S. EPA Method 8015M.

The laboratory misconstrued their instructions and the soil samples went past their holding times as indicated by the dates on the analytical reports. Regardless, the following TEPH results (in units of mg/K or mg/L, as appropriate) were reported:

	Kerosene	Diesel	Motor Oil
B8/3 Ft.	<5.0	580	130
B8/6 Ft.	<5.0	460	160
B8/9 Ft.	<1.0	280	78
B8/GW	<2.8	220	28

3.0 A SOIL AND GROUNDWATER SAMPLE FROM BEHIND OPEN PAINT BUILDING B

A soil and groundwater sample was collected in the area behind Open Paint Building B, between the building and the fence and analyzed for halogenated volatile halocarbon compounds by U.S. EPA Method 8010. The borehole from which these samples were collected was designated B7. The location is shown on Figure 2.

The samples were labeled and placed in an ice chest with 2 Liter plastic bottles containing ice. Chain-of-Custody forms were filled out and were delivered with the ice chest to Chromalab. These soil and groundwater samples were analyzed as stated in the Workplan. Copies of the laboratory report and chain-of-custody documentation are contained in Attachment E.

No U.S. FPA Method 8010 volatile halocarbon compounds were detected in the soil sample. In the groundwater sample three Method 8010 analytes were found:

1,1-Dichloroethane 17 μ g/L 1,1-Dichloroethene 87 μ g/L Trichloroethene 5.3 μ g/L

Borehole B7 is located on the upgradient edge of the property. These three compounds were also detected in the two upgradient monitoring wells MW-2 and MW-3.

4.0 MEK ANALYSIS OF MW-1 GROUNDWATER

A groundwater sample was collected from the existing well (MW-1) onsite and analyzed for Methyl Ethyl Ketone by U.S. EPA Method 8260. The approximate location of MW-1 is shown on attached Figure 2.

The groundwater sample from MW-1 was collected and processed in a manner similar tho those from monitoring wells MW-2 through MW-5.

No MEK was found in the sample (reported as 2-Butanone, < 20 μ g/L). Groundwater from MW-1 was found to contain 520 μ g/L MTBE (Methyl Tertiary Butyl Ether) and 44 μ g/L TCE.

5.0 SUMMARY AND CONCLUSIONS

5.1 Soils and Groundwater Borne Metals

The metals chromium, lead, and zinc were found not to be an issue in soil and groundwater samples collected and analyzed as a part of this investigation. Consequently, it can be concluded that

these metals are only locally present as reported by Blymer Engineers, Inc. in their "Phase II - Environmental Site Assessment."

5.2 Soil Borne Volatile Halocarbon Compounds

Volatile halocarbon compounds were not detected in soil samples collected and analyzed as a part of this investigation. Nor were volatile halocarbon compounds identified in soil sample analytical results reported by Blymer Engineers, Inc. in their "Phase II - Environmental Site Assessment." Thus, there appears not to be a risk associated with soil contact from volatile halocarbon compounds.

Since volatile halocarbon compounds were not detectable in soils, it appears unlikely that these compounds are able to volatilize from the soil into the overlying air. This apparent lack of soil devolatilization potential indicates that volatile halocarbon compounds do not pose an air quality risk from this source.

5.3 Groundwater Borne Volatile Halocarbon Compounds

Volatile halocarbon compounds identified in groundwater sampled from monitoring wells and from groundwater collected as grab samples from boreholes are summarized in Figure 3.

All of the primary volatile halocarbon compounds identified during the present investigation, and those reported by Blymer Engineers, Inc. in their "Phase II - Environmental Site Assessment," are present in the upgradient monitoring wells (MW-2 and MW-3) and borehole (B-7). These upgradient sampling locations are within five feet of the eastern fence line.

The concentrations of one or more compounds are generally highest in the central locations (mid property) and less in the upgradient locations (eastern fence line). Groundwater from downgradient location B-8 shows the lowest concentration though this borehole is not axially located relative to the highest concentrations and the observed potentiometric surface gradient direction.

The groundwater volatile halocarbon compound concentration distribution shown in Figure 3 and discussed above is suggestive of a concentration slug (plume) moving across the property in an approximately westerly direction from an off site source. Soil analytical data suggests that volatile halocarbon compounds are not significantly fractionating from groundwater into the overlying soil column.

Three volatile halocarbon compounds (1,1-Dichloroethane, 1,1-Dichloroethene, and Trichloroethene) locally exceeded their respective maximum contaminant levels. The shallow groundwater present in the thin (less than two inches) first encountered water bearing zone (aka aquifer) is not potable due to dissolved solids (specific conductance >1,500 micromhos per centimeter). The thin first encountered aquifer's occurrence above the minimum seal depth of a water supply well (50 or 20 feet, see Attachment A) indicates that this interval would not directly contribute to a water supply well if conditions were otherwise favorable for the construction of one in this area.

5.4 Petroleum Hydrocarbons

The petroleum hydrocarbon (TEPH) results (reported by the laboratory as diesel and motor oil fractions) from borehole B8 soil and groundwater exceed 100 mg/Kg. When considered with the result from the Phase II location B5 at 0.5 Ft. sample, (610 mg/Kg reported as transmission fluid fraction) suggest a more pervasive TEPH contamination issue in the vicinity. Shallow, two foot depth, TEPHs are distributed at least as broadly as B5 and B-8 and as deep as first encountered groundwater at a depth of about nine feet.

6.0 PROFESSIONAL CERTIFICATION

GARY D. LOWE

CERTRED

ENGELERING

This report regarding 3590 Enterprise Avenue in Hayward, California has been prepared by H₂OGEOL A GroundWater Consultancy, by and under the professional supervision of the sole proprietor. The findings, recommendations, specifications, or professional opinions are presented after being investigated and prepared in accordance with generally accepted professional environmental hydrogeologic and groundwater monitoring practice. Incorporation of information developed and or reported by others does not necessarily mean that the undersigned accepts that information as valid. There is no other warranty, either expressed or implied.

This report was prepared by:

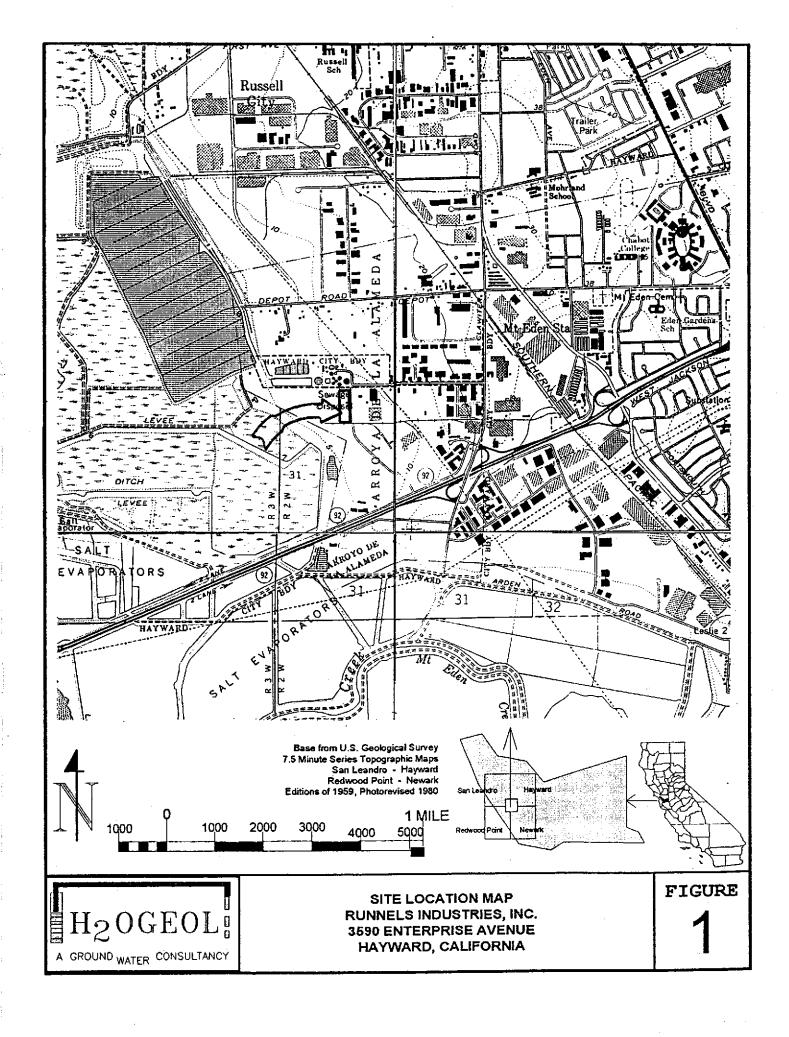
Gary D. Lowe, R.G., C.E.G., C.HG. Principal, Hydrogeologist

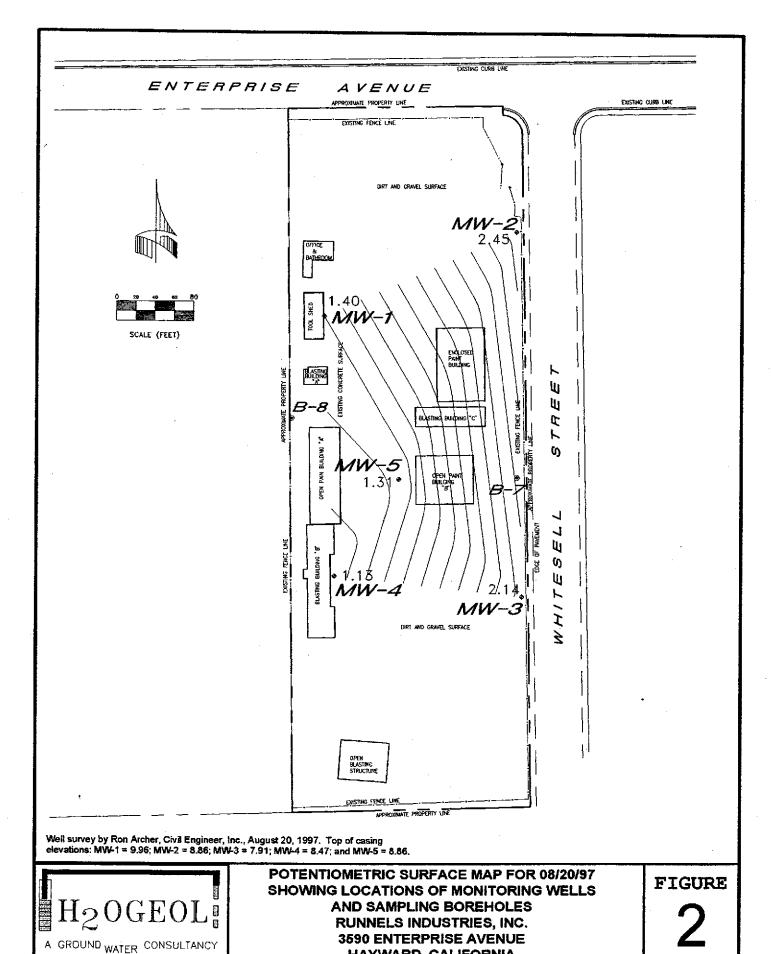
H₂OGEOL A GroundWater Consultancy

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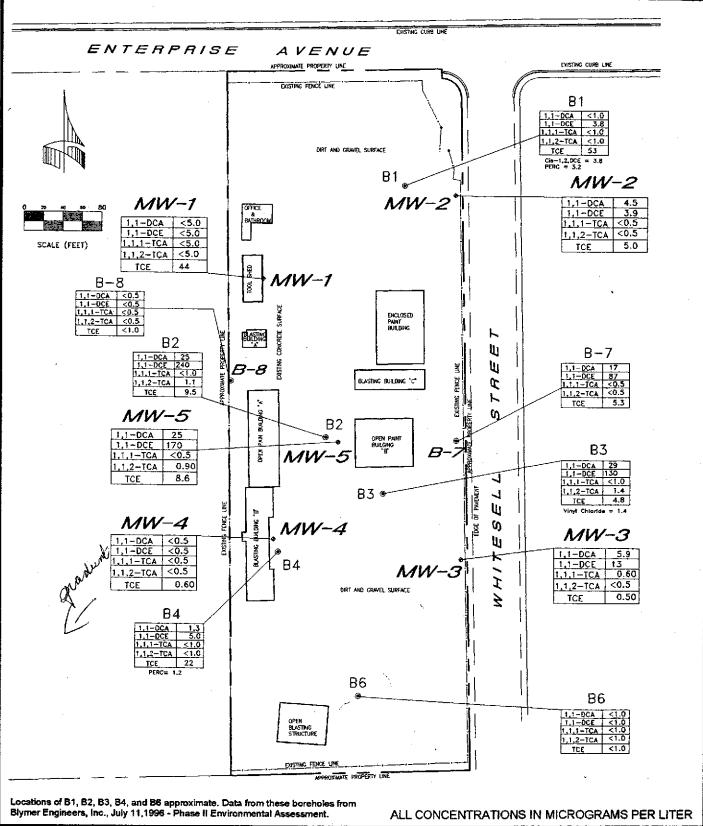
NOTICE TO NOTICE TO SELECTION OF THE PROPERTY OF THE PROPERTY

HOGEOL A GROUND WATER CONSULTANCY





HAYWARD, CALIFORNIA



H2OGEOL A GROUND WATER CONSULTANCY

GROUNDWATER CONCENTRATIONS OF
VOLATILE HALOCARBON COMPOUNDS
FROM MONITORING WELLS AND SAMPLING BOREHOLES
RUNNELS INDUSTRIES, INC.
3590 ENTERPRISE AVENUE
HAYWARD, CALIFORNIA

FIGURE

3



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ATTACHMENT A

PERMITS/FORMS

ZONE 7 WATER AGENCY DRILLING PERMIT APPLICATION/ PERMIT No. 97404

AND

CALIFORNIA DEPARTMENT OF WATER RESOURCES FORM 188

No. 504020 FOR MW-2

No. 504021 FOR MW-3

No. 504022 FOR MW-4

No. 504023 FOR MW-5



APPLICANT'S

ZONE 7 WATER AGENCY

augh 1 Date 06/23/97

5997 PARKSIDE DRIVE PLEASANTON, CALIFORNIA 94588

VOICE (510) 484-2600 FAX (510) 462-3914

DRILLING PERMIT APPLICATION

NUM HUM BES 31 T35, KZW = 310

FOR APPLICANT TO COMPLETE	FOR OFFICE USE
LOCATION OF PROJECT Runnels Industries	PERMIT NUMBER 97404
3270 Enterprise Ne	LOCATION NUMBER
- Mayward CA 94545 - 320	62
CLIENT APN 439	-99-3-7
Name Hv. A. B. "AI" Gant at above location Address Voice 510 - 727	i Chian COMPITIONS
Address Voice 510 -783 - 4 City Zip	Circled Permit Requirements Apply
APPLICANT	
Name Gary D. Louis, disa Habarac	A. GENERAL
Fax 510 - 373 -922	 \ /
Address 10 88 x 2-165 Voice 510 - 32 3-92	Zone 7 office five days prior to proposed starting date.
City Livermore Zip 94551-216	2. Submit to Zone 7 within 60 days after completion of permitted
TYPE OF PROJECT	work the original Department of Water Resources Water Well
Well Construction Geotechnical Investigation	Drillers Report or equivalent for well Projects, or drilling logs
Cathodic Protection General	and location sketch for geotechnical projects. 3. Permit is void if project not begun within 90 days of approval
Water Supply Contamination	date.
Monitoring Well Destruction	B.)WATER WELLS, INCLUDING PIEZOMETERS
PROPOSED WATER SUPPLY WELL USE	Minimum surface seal thickness is two inches of camera grout
Domination	placed by tremie.
Municipal Ingigation Other	Minimum seal depth is 50 feet for municipal and industrial wells
	or 20 feet for domestic and irrigation wells unless a lesser
DRILLING METHOD:	depth is specially approved. Minimum seal depth for
Mud Rotary Alr Rotary Augery Hand	monitoring wells is the maximum depth practicable or 20 feet.
Cable Other Halassy	C. GEOTECHNICAL. Backfill bore hole with compacted cuttings or heavy bentonite and upper two feet with compacted material. In
MGC () 11	
DRILLER'S LICENSE NO. 14 Hand 257-629340 V+4	shall be used in place of compacted cuttings.
d57 77 N	
WELL PROJECTS	tremie.
Drill Hole Diameter 6/10 in. Maximum	E. WELL DESTRUCTION. See attached.
Casing Diameter 12 in. Depth 20 f	•
Surface Seal Depth 5-io ft. Number 4	Prevars well ouside (HW-1) permit
BEOTECHNICAL PROJECTS	no. 96397
Number of Borings 2 Maximum ,	
Hole Diameter 4 in. Depth /6 fr	.
ESTIMATED STARTING DATE 06/30/97	
ESTIMATED COMPLETION DATE DE 15/97	.,
D8/15/97	Walnus Ston N - 22 200
hereby agree to comply with all requirements of this permit and Alame	Approved Wyman Hong Date 27 Jun 97
County Ordinance No. 73-68.	da // Wyman Hong /

91992

STATE OF CALIFORNIA DWR WELL COMPLETION REPORT (WELL LOGS)

STATE OF CALIFORNIA DWR WELL COMPLETION REPORT (WELL LOGS)

STATE OF CALIFORNIA DWR WELL COMPLETION REPORT (WELL LOGS)

STATE OF CALIFORNIA DWR WELL COMPLETION REPORT (WELL LOGS)



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ATTACHMENT B

BOREHOLE LITHOLOGIC LOGS AND WELL COMPLETION DIAGRAMS

MW-2

MW-3

MW-4

MW-5

StID 6068 - Site History (SLIC) /co-058

Runnels Industries 3590 Enterprise Avenue Hayward, CA 94545

The property is approximately 4 acres in size and contains 11 building and numerous storage containers. Runnel Industries, a metal painting company, has occupied the site since 1966. The property is primarily unpaved except around buildings, where concrete and asphalt aprons are present.

Sediments encountered at the site to a depth of approximately 13 feet bgs consisted mostly of clays with some silts and/or sands. These sediments are consistent with Bay Muds. Depth to groundwater at the site has ranged from 5.86 to 7.55 feet bgs in well MW-5. Groundwater flows SW to WNW.

A groundwater monitoring well, MW-1, was installed in December 1985 to monitor three USTs (diesel, gasoline and MEK) located under a concrete pad to the south of the office. The USTs were removed in May 1993. Soil samles collected from beneath each tank did not contain remarkable levels of TPHg, TPHd, or BTEX. However, chromium, lead and nickel concentrations were greater than 10X their respective STLCs.

In April 1996, a phase I environmental site assessment was conducted at the site. Areas of environmental concern identified include:

- 1. overspray from outside painting

 The ground surface in the outside spray painting are south of Open Paint

 Building B was red in color, which appeared to have resulted from overspray.
- 2. Spills of solvents
 Used thinners are stored in 55-gallon drums to allow particles to settle. The
 thinner is then removed and reused. The sludge was emptied into sludge bins to
 allow to air dry, then disposed in garbage dumpsters.
- 3. Filling in of low spots with used blasting sand Sandblast materials (used to clean rust off metal and remove paint and epoxy off metal) was analyzed for metals. Only chromium at 78ppm and copper at 1,400ppm exceed 10x their respective STLCs. Some of the sandblast material was used to fill low spots on the property and off the property at the adjacent radio station KFAX.
- 4. Historic use of lead-based paints
- 5. Diesel staining adjacent to the former diesel AST
 Oil stains were noted in soil adjacent to the above ground diesel tanks. Aerial
 photos from 1977 identified dark staining east of Blasting Building B, north of
 Open Paint Building A, and northwest of Blasting Building C. Mr. Ringlee
 believes the dark stains are likely due to rain soaked soil.
- 6. Washer unit

Based on the above assessment, a Phase II investigation was conducted in June 1996. Five Geoprobe borings (B1 through B4, and B6) were advanced to 16'bgs. A hand-auger boring, B5, was drilled to 1.5'bgs due to restricted access in this area. Boring B1 was drilled adjacent to the former diesel AST in the northeast corner of the property; Borings B2 and B3 were by the two outside spray painting areas; B4 was west of the northwest corner of Open Paint Building A; Boring B5 was east of Blasting Building B; and, Boring 6 was drilled in the south portion of the property. All soil and grab groundwater samples were analyzed for TEPH (as diesel, stoddard solvent, and motor oil), metals (Sb, Ar, Cd, Cr, Co, Mo, Ni, Zn, Pb, and Hg), and VOCs (by Method 8240). Grab water samples were filtered by the laboratory prior to analyses for metals.

Detectable concentrations of TEPH as diesel and as transmission fluid were detected in each soil sample. The detected TEPHtf is believed to be a cutting oil used to lubricate metal during cutting processes off-site. No VOCs were detectable in the soil samples collected at 0.5 to 3.0 feet bgs. Soil samples were collected from 2.0 and 2.5 feet bgs in boring B3 and B2, respectively. All metal concentrations were within geogenic levels with the exception of Cr, Pb, and Zn. These concentrations were greater than 10x their respective STLCs. Therefore, STLC analysis for lead was requested for soil sample B4-1, and STLC analysis for chromium, lead, and zinc was requested for soil sample B5-0.5. The respective STLCs for each metal were exceeded.

Relatively low detectable concentrations of TEPH were detected in each grab groundwater sample. Detectable concentrations of seven VOCs were present in all the water samples. MCLs were exceeded for 1,1-DCA, 1,1-DCE, TCE, and VC. MCLs for metals were not exceeded, however, the method detection limit for Sb and Cd was greater than their respective MCL value.

In August 1997, four additional groundwater monitoring wells (MW-2 through MW-5) and two soil borings (B7 and B8) were installed. Boring B8 was drilled near previous Boring 5 to delineate the vertical extent of metals and HVOC contamination in soil and groundwater. Soil samples were collected from B7 (at 4.7'bgs) and B8 (at 3', 6', and 9'bgs), and groundwater samples were collected from all borings for HVOC analysis. In addition, soil from Boring B8 and groundwater from Well MW-4 was analyzed for metals (Cr, Pb, and Zn). Soil and groundwater samples from Boring B8 were also analyzed for TEPH.

HVOCs were not detected in the soil samples (4.7' in B7 and 3', 6', and 9' bgs in B8). Low to ND levels of 1,1-DCA, 1,1-DCE, 1,1,1-TCA, 1,1,2-TCA and TCE were detected in the groundwater samples. Dissolved Cr and Pb were not found in well MW-4. Dissolved Zn concentration was at 190ppb, well below MCLs. Metal concentrations in soil from B8 were within geogenic/background levels. TPHd and TPHmo were detected in soil (up to 580ppm TPHd and 160ppm TPHmo) and groundwater (up to 220,000ppb TPHd and 28,000ppb TPHmo) from Boring B8.

The probable sources of the heavy petroleum hydrocarbons found in borehole B8 include runoff from a diesel powered air compressor formerly located on the existing concrete pad and immediately upgradient with respect to both surface water drainage and the potentiometric surface configuration from borehole B8. The concrete pad has also been used as a wash down area for motor equipment maintenance operations.

In July 1998 nine test holes (TH-1 through TH-9) were advanced using a hand operated Iwan Auger in the area downgradient of borehole B8. This area is on the KFAX property. A total of six soil samples and one water sample were collected for TPHd analysis. The soil samples contained up to 640ppm TPHd at 5'bgs. The groundwater sample from borehole TH-4 did not contain TPHd above the detection limit of 50ppb. It appears that the TPHd plume is limited in extent (extending approximately 50 feet from the source).

Groundwater was sampled for VOCs for four consecutive quarters (from May 1998 to Feb 1999). VOC concentrations are stable, although the plume has not been delineated in the downgradient direction. HVOCs may also be from an offsite source. However, an offsite source has not been identified.

The analysis for dissolved metals (Cd, Cr, Pb, Ni, and Zn) in Well MW-1 was conducted in June 2000. Only zinc was detected, at 14ppb.

It appears that metals and HVOCs detected at the site should not pose a risk to human health.

1,1 DCE may be coming from a trucking maintenance facility (Mac Trucking) directly across Whitesell Street. 1,1 DCE is a component of old brake cleaning fluid (per Gary Lowe)

Ask G. Lowe for:

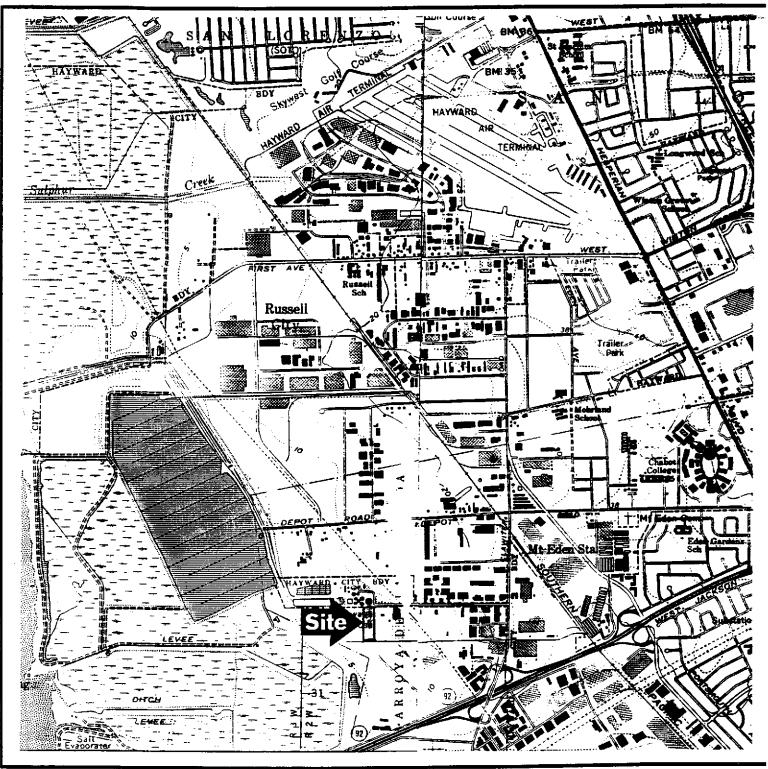
- water well survey
- conduit/preferential pathway
- modeling for degradation of VOCs to determine if surface water will be impacted
- no water supply wells allowed at site (in RMP)
- wash down area no long part of operation, therefore, diesel runoff has been eliminated
- HPs or monitoring across Whitesell Street (across from boring B7)
 - scale on site plan
 - compare 95% UCL 1,1 DCE concentration with RWQCB's RBSLs. Is there a risk to human health or the environment

2/27/01 Ask Al Gaut of signal statement that HVOCS were not used at the plot in part history-done

runnels-history (February 21, 2001)

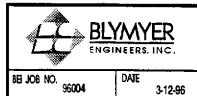
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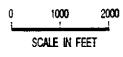
Consultant for potential power plant - IS radio station is moved - it would be a good time to do the to deturent wocpleme.



UNITED STATES GEOLOGICAL SURVEY 7.5' QUADS. "SAN LEANDRO, CA" AND "HAYWARD. CA" BOTH ED. 1959 AND PHOTOREVISED 1980.









SITE LOCATION MAP

RUNNELS INDUSTRIES, INC. 3590 ENTERPRISE AVE. HAYWARD, CA FIGURE

COMMERCIAL/INDUSTRIAL CITY OF HAYWARD WASTE WATER TREATMENT PLANT CITY OF HAYWARD THE USE OF THESE DRAWINGS AND SPECIFICATIONS SHALL BE RESTRICTED TO THE ORIGINAL USE FOR WHICH THEY WERE PREPARED. REUSE, REPRODUCTION, OR PUBLICATION, IN WHOLE OR IN PART, IS PROHIBITED WITHOUT THE WRITTEN CONSENT OF BLYWYER ENGINEERS, INC. UNDEVELOPED **ENTERPRISE** AVE. COMMERCIAL/INDUSTRIAL DRIVE PAVING MAG TRUCKING **ALLGOOD** WHITESELL SITE UNDEVELOPED RADIO STATION INDUSTRIES, INC. \aleph DRAINAGE SWALE ROHM AND HASS **SENSORMATIC UNDEVELOPED FIGURE** LEGEND **BLYMYER** SURROUNDING LAND USE ENGINEERS, INC. RUNNELS INDUSTRIES, INC. 3590 ENTERPRISE AVE. BEI JOB NO. DATE HAYWARD, CA 96004 4-4-96 NOT TO SCALE

REVISED 4-9-96 H:\PUBLIC\ACADLW\960045

TANK CLOSURE DIAGRAM

Note Following:

- Sketch area of excavation.
- Dimensions of excavation.
- Exact location of excavation. (i.e. Distances from building or other stationary features.
- Location of samples.
- If any damage to tank/pipes noted, sketch detailed location of pipes and fittings.

Blue Quonset	
Builty	OF
	<u> </u>
MER GASO 81	
1,000 gal 500 gal 1,000 gal	
My Bar	
441	

FACILITY	AME:
PACITITIV	DDDECC



Superior Frecision Analytica, Inc.

825 Arnold Drive, Suite 114 • Martinez, California 94553 • (510) 229-1512 / fax (510) 229-1526

Decon Environmental Services

Attn: TOM REESE

Project RUNNELS 1020 Reported 05/19/93

TOTAL PETROLEUM HYDROCARBONS

Lab #	Sample Identification	Sampled	Analyzed Matrix
88578- 1	#1 North end of goodnew ST	05/11/93	05/15/93 Soil
88578- 2	#2 southend -	05/11/93	05/15/93 Soil
88578- 3	#3 Under deselust	05/11/93	05/19/93 Soil
88578- 4	#4 North end of MEK UST	05/11/93	05/19/93 Soil
88578- 5	#5 Southern of in "	05/11/93	05/19/93 Soil

RESULTS OF ANALYSIS

	IV.E	SOUTIS OF	WANTIDIO	
Laboratory Number:	88578-1 8 6ණ	38578- 2 G as	88578- 3 ئەھقىگ	
		170 1		
Gasoline:	ND<1	ND<1	NA	
Benzene:	ND<.003	ND<.003		
Toluene:	ND<.003	ND<.003	ND<0.3	
Ethyl Benzene:	0.021	0.10	ND<0.3	
Xylenes:	0.066	0.35	ND<0.3	
Diesel:	NA	NA	20	
Concentration:	mg/kg	mg/kg	mg/kg	
Laboratory Number:	88578-4 8	38578- 5 MEK		······································
Gasoline:	NA	NA		
Benzene:	ND<.003	ND<.003		
Toluene:	ND<.003	ND<.003		
Toluene: Ethyl Benzene:	ND<.003 ND<.003	ND<.003 ND<.003		
Toluene: Ethyl Benzene: Xylenes:	ND<.003 ND<.003 ND<.009	ND<.003 ND<.003 ND<.009		
Toluene: Ethyl Benzene:	ND<.003 ND<.003	ND<.003 ND<.003		

Page 1 of 2

CERTIFICATE OF ANALYSIS

LABORATORY NO.: 88578

CLIENT: Decon Environmental Services

CLIENT JOB NO.: RUNNELS 1020

DATE RECEIVED: 05/12/93

DATE REPORTED: 05/19/93

DATE SAMPLED: 05/11/93

ANALYSIS FOR CADMIUM, CHROMIUM, LEAD, ZINC & NICKEL by EPA SW-846 Method 6010

LAB				Concentration (mg/kg)			
#	Samj	ple Identification	Cadmium	Chromium	Lead	Zinc	Nickel
4	#4	MEK	ND	90	14	80	97
5	#5	MEK	ND	2400	85	200	A\$600

mg/kg - parts per million (ppm)
Method Detection Limit for Cadmium in Soil: 1 mg/kg
Method Detection Limit for Chromium in Soil: 5 mg/kg
Method Detection Limit for Lead in Soil: 5 mg/kg
Method Detection Limit for Zinc in Soil: 10 mg/kg
Method Detection Limit for Nickel in Soil: 10 mg/kg

QAQC Summary: MS/MSD Recovery Range: 88%-99%

Duplicate RPD : < 2%

Richard Srna, Ph.D.

tex.

Laboratory Manager

a groundwater sample collected from the monitoring well. No BTEX or MEK were detected in the groundwater sample.

The following table provides a summary of the groundwater monitoring analytical results from July 1987 to June 1992 for samples collected from the monitoring well. Earlier laboratory results for groundwater samples collected from the monitoring well were located in the file, but not included in this table.

Summary of Groundwater Sample Analytical Laboratory Results									
Sample Date	TPH as Diesel (µg/L)	TPH as Gasoline (µg/L)	MEK (pg/L)	BTEX (µg/L)					
7/21/87	0.12*	0.051**	ND	NA					
1/26/88	ND*	32**	ND	NA					
7/21/88	ND	20	ND	NA					
2/1/89	ND	13	ND	NA ·					
7/18/89	ND	34	ND	NA					
12/29/89	ND	20	ND	NA					
7/16/90	ND	44	ND	benzene 0.54					
1/2/91	360	56	ND	benzene 0.70					
6/26/91	ND	ND	ND	benzene 0.68					
12/23/91	ND	ND	ND	ethylbenzene 0.62 total xylenes 3.0					
6/23/92	ND	59	ND	ND					

Notes:

TPH - Total Petroleum Hydrocarbons

MEK - Methyl Ethyl Ketone

BTEX - benzene, toluene, ethylbenzene, and total xylenes

μg/L - micrograms per liter

* - Results are for Extractable Hydrocarbons by modified EPA Method 8015

** - Results are for Volatile Hydrocarbons by modified EPA Method 8015

ND - Not Detected

NA - Not Analyzed

REVISED 4-1196 h:\public\acadiw\960042A

3-11-96

96004

NOT TO SCALE

4-11-96 h:\public\acadiw\960043 PLOT 1"=100"

96004

3-11-96

ن <u>z</u>

NOT TO SCALE

USE FOR WHICH THEY WERE PREPARED. E WRITTEN CONSENT OF BLYWYER ENGINEERS, BE RESTRICTED TO THE ORIGINAL UPART, IS PROHIBITED WITHOUT THE SHALL OR IN THE USE OF THESE DRAWINGS AND SPECIFICATIONS REUSE, REPRODUCTION, OR PUBLICATION, IN WHOLE

3-11-96

96004

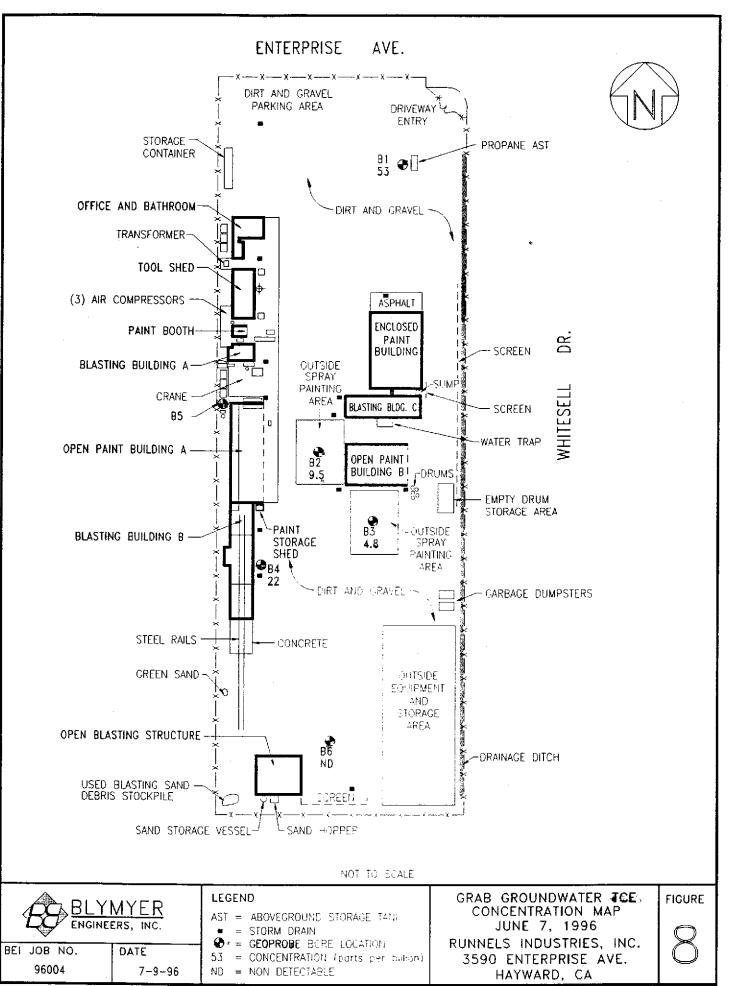


Table I, Summary of Petroleum and VOC Suit Sample Analytical Results BEI Job No. 96004, Runnels Industries, Inc. 3590 Enterprise Avenue, Hayward, California									
Sample	Sample	Modified EP	A Method 8015	EPA Method 8240					
I.D.	Date	TEPH as diesel	TEPH as transmission fluid	VOCs					
	·	(mg/kg)	(mg/kg)	(µg/kg) °					
B1-3	6/7/96	3.3	3.3	ND					
B2-2.5	6/7/96	<1.0	95	24*					
B3-2	6/7/96	<1.0	23	ND					
B4-1.0	6/7/96	<1.0	84	12*					

610

43

ND

11*

Notes:	EPA	=	Environmental Protection Agency
	TEPH	=	Total Extractable Petroleum Hydrocarbons
	VOCs	=	Volatile Organic Compounds
	mg/kg '	=	milligrams per kilogram (parts per million)
	μg/kg	=	micrograms per kilogram (parts per billion)
	<x< td=""><td>=</td><td>Not detected above the listed detection limit</td></x<>	=	Not detected above the listed detection limit
	ND	=	Not detected above the detection limit, see laboratory report
			for individual compound detection limit
	B1-3	=	Soil sample from bore 1 at a depth of 3 feet
	*	=	Acetone

<1.0

<1.0

B5-0.5

B6-2.5

6/7/96

6/7/96

	Table II, Summary of Soil Sample Met al Analysis Results BEI Job No. 96004, Runnels Industries, Inc. 3590 Enterprise Avenue, Hayward, California													
Sample I.D.	Sample Date		EPA Method 6010 (mg/kg)							EPA Method 7421 (mg/kg)	EPA Method 7471 (mg/kg)	EPA Method 6010 (mg/L)	EPA Method 7421 (mg/L)	EPA Method 6010 (mg/L)
		Sb	Cd	Cr	Со	Мо	Ni	Zn	Ar	Pb	Hg	STLC "Cr	STLC Pb	≯STLC Zn
B1-3	6/7/96	<10	<2.0	36	15	<5.0	36	44	2.3	14	0.10	NA	NA	NA
B2-2.5	6/7/96	<10	<2.0	25*	31*	<5.0	29*	78	7.5	9.1	0.13	NA	NA	NA
B3-2	6/7/96	<10	<2.0	39*	27*	<5.0	42*	200	6.2	31	0.10	NA	NA	NA
P4 -1.0	6/7/96	<10	<2.0	40*	18*	<5.0	27*	1,400	4.4	* 67	0.08	NA	5.5	NA
₽5- 0.5	6/7/96	<10	<2.0	460*]	23*	<5.0	46*	3,700	3.7	3 49 0 🛔	0.04	31.7	\$\$8. jr	(OFF)
B6-2.5	6/7/96	<10	<2.0	38	10	<5.0	31	58	3.7	40	0.06	NA	NA	NA
STLC (mg/L)	N/A	15	1.0	5	80	350	20 1500	250 \$	5.0	5.0	0.2	5	5.0	250
TTLC	N/A	500	100	2,500	8,000	3,500	2,000	5,000	500	1,000	20	2,500	1,000	5,000
				WYON.			• 4,6 С	2953	A	(b.c)				

Notes: EPA =	Environmental Protection A	51	(Antimony		٠	
	Environmental Protection Agency	Sb	= \	Antimony	Ni	==	Nickel
mg/kg =	milligrams per kilogram (parts per million)	Ar	=	Arsenic	Hg	=	Mercury
mg/L =	milligrams per liter (parts per million)	Cd	=	Cadmium	Pb	=	Lead
NA =	Not Analyzed	Cr.	=	Chromium			
STLC =	Soluble Threshold Limit Concentration	C.	_	Cinomium	Zn	. =	Zinc

B1-3 = Soil sample from bore 1 at a depth of 3 feet N/A = Not Applicable

Bold results indicate concentrations over the listed method detection limit.

Shaded results indicate concentrations over 10X the STLC value, or over the STLC value.

Table III, Summary of Petroleum and VOC Groundwater Sample Analytical Results BEI Job No. 96004, Runnels Industries, Inc. 3590 Enterprise Avenue, Hayward, California

	. 0 1	Petroleum F	lydrocarbons	VOCs									
Sample I.D.	Sample Date	Modified EPA	Method 8015	EPA Method 8260									
		TEPH as diesel	TEPH as transmission	1,1-DCA	cis- 1,2-DCE	1,1-DCE	PCE	1,1,2-TCA (μg/L)	TCE (µg/L)	VC (µg/L)			
		(mg/L)	fluid (mg/L)	(µg/L)	(µg/L)	(μg/L)	(µg/L)	1,0,0	\ \(\frac{1}{2}\), \(\frac{1}{2}\)	(0)			
B1W	6/7/96	0.38	< 0.050	<1.0	1.1	3.8	3.2	<1.0	53	<1.0			
B2W	6/7/96	< 0.050	0.56	25	<1.0	240	<1.0	1.1	9.5	<1.0			
B3W	6/7/96	< 0.050	10	29	<1.0	130	<1.0	1.4	4.8	1.4			
B4W	6/7/96	0.25	0.24	1.3	<1.0	5.0	1.2	<1.0	22	<1.0			
B6W	6/7/96	< 0.050	0.81	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0			
MCL ^a	N/A	N/A	N/A	5	6	6	5	5	5	0.5			

Table IV, Summary of Soluble Groundwater Sample Metal Analysis Results BEI Job No. 96004, Runnels Industries, Inc. 3590 Enterprise Avenue, Hayward, California EPA Method 6010 **EPA** EPA Sample Sample (mg/L) Method Method Date I.D. 7421 7471 (mg/L)(mg/L)CdCr Co Mo Ni Zn Pb Hg Sb Ar < 0.0050 < 0.020 < 0.020 < 0.050 < 0.050 < 0.050 < 0.050 0.012 < 0.00020 6/7/96 < 0.10 B1W < 0.020 < 0.050 < 0.050 0.30 3.1 0.006< 0.00020 6/7/96 < 0.10 < 0.0050 < 0.020 B2W < 0.00020 < 0.020 < 0.020 < 0.050 < 0.050 0.44 6.1 0.007 B3W 6/7/96 < 0.10 < 0.0050 < 0.00020 < 0.020 < 0.020 < 0.050 < 0.050 < 0.050 1.7 < 0.0020 B4W 6/7/96 < 0.10 < 0.0050 < 0.050 < 0.0020 < 0.00020 < 0.0050 < 0.020 < 0.020 < 0.050 < 0.050 0.16 B6W 6/7/96 < 0.10 80 350 20 250 5.0 0.2 1.0 5 **STLC** N/A 15 5.0 0.1 5* 0.015** 0.002 0.005 0.05 N/A N/A MCL N/A 0.006 0.05

bun

34000 Notes: EPA = Arsenic Sb Antimony Environmental Protection Agency = Ar = milligrams per liter (parts per million) CdCadmium Hg Mercury mg/L == = Pb Lead CrChromium = N/A =Not Applicable = Cobalt Zn Zinc STLC = Soluble Threshold Limit Concentration Co = Molybdenum Ni Nickel Mo N/A =Not Applicable = Secondary MCL MCL =Maximum Contaminant Level =

** = Federal Treatment Technique triggered at

PRH

an Action Level of 0.015 mg/L

Ms. Madhulla Logan September 30, 1997 Page 7

3.0 A SOIL AND GROUNDWATER SAMPLE FROM BEHIND OPEN PAINT BUILDING B

A soil and groundwater sample was collected in the area behind Open Paint Building B, between the building and the fence and analyzed for halogenated volatile halocarbon compounds by U.S. EPA Method 8010. The borehole from which these samples were collected was designated B7. The location is shown on Figure 2.

The samples were labeled and placed in an ice chest with 2 Liter plastic bottles containing ice. Chain-of-Custody forms were filled out and were delivered with the ice chest to Chromalab. These soil and groundwater samples were analyzed as stated in the Workplan. Copies of the laboratory report and chain-of-custody documentation are contained in Attachment E.

No U.S. EPA Method 8010 volatile halocarbon compounds were detected in the soil sample. In the groundwater sample three Method 8010 analytes were found:

87

1,1-Dichloroethane 17 μ g/L 1,1-Dichloroethene 87 μ g/L Trichloroethene 5.3 μ g/L

Borehole B7 is located on the upgradient edge of the property. These three compounds were also detected in the two upgradient monitoring wells MW-2 and MW-3.

4.0 MEK ANALYSIS OF MW-1 GROUNDWATER

A groundwater sample was collected from the existing well (MW-1) onsite and analyzed for Methyl Ethyl Ketone by U.S. EPA Method 8260. The approximate location of MW-1 is shown on attached Figure 2.

The groundwater sample from MW-1 was collected and processed in a manner similar tho those from monitoring wells MW-2 through MW-5.

No MEK was found in the sample (reported as 2-Butanone, < 20 μ g/L). Groundwater from MW-1 was found to contain 520 μ g/L MTBE (Methyl Tertiary Butyl Ether) and 44 μ g/L TCE.

5.0 SUMMARY AND CONCLUSIONS

5.1 Soils and Groundwater Borne Metals

The metals chromium, lead, and zinc were found not to be an issue in soil and groundwater samples collected and analyzed as a part of this investigation. Consequently, it can be concluded that

Page 2 of 3

Analytical Results for Runnels Industries, Inc.

Clayton Project No. 96022.64

Sample Identification: SAMPLE 1

Lab Number: 9602264-01

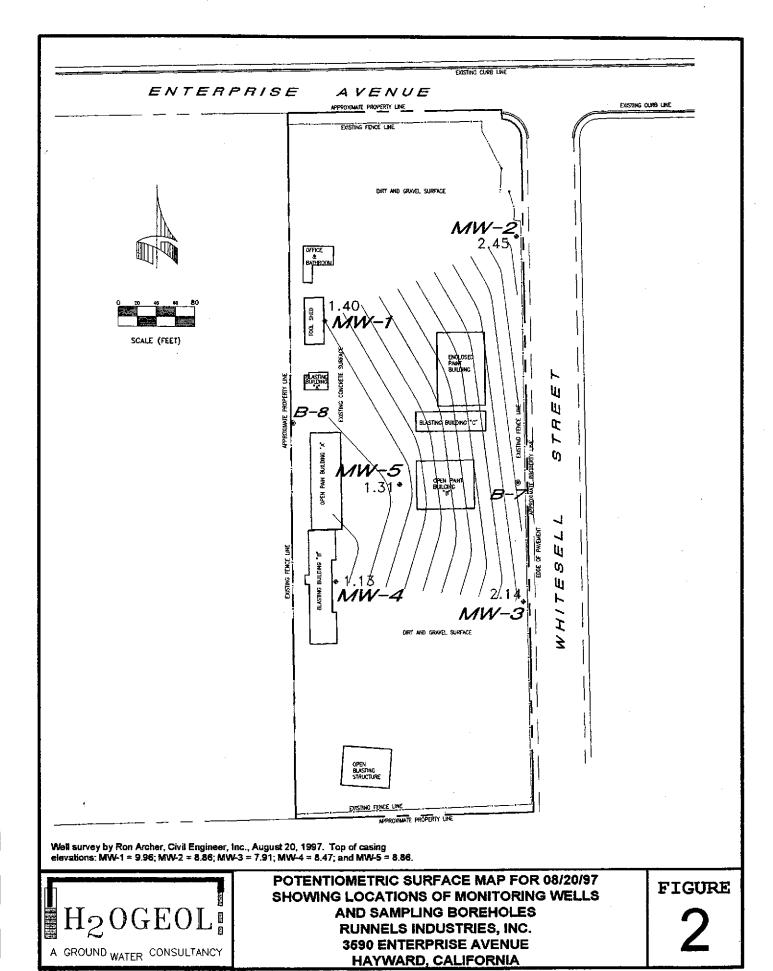
Sample Matrix/Media: SOLID

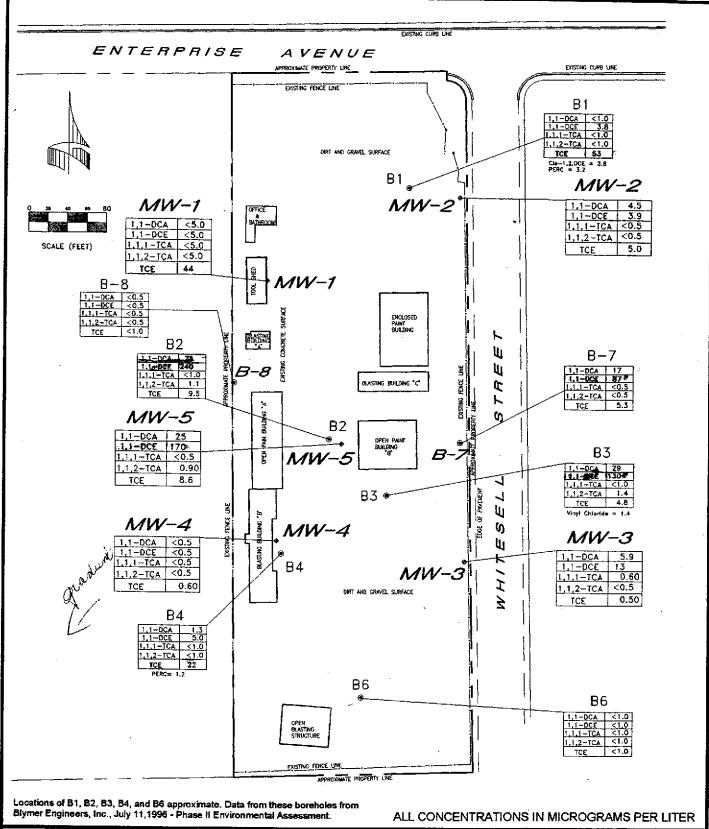
Date Sampled: 02/21/96
Date Received: 02/22/96

		Method		Date	Date	Prop	Method
Analyte	Concentration	Detection Limit	Units	Date Prepared	Date Analyzed	Prep Method	Reference
Antimony	8	1	mg/kg	02/23/96	02/23/96	EPA 3050A	EPA 6010A
Arsenic	3	1	mg/kg	02/23/96	02/23/96	EPA 3050A	EPA 6010A
Barium	300	1	mg/kg	02/23/96	02/23/96	EPA 3050A	EPA 6010A
_Beryllium	0.6	0.1	mg/kg	02/23/96	02/23/96	EPA 3050A	EPA 6010A
Cadmium	<0.4	0.4	mg/kg	02/23/96	02/23/96	EPA 3050A	EPA 6010A
Chromium	78	1	mg/kg	02/23/96	02/23/96	EPA 3050A	EPA 6010A
Cobalt	31	1	mg/kg	02/23/96	02/23/96	EPA 3050A	EPA 6010A
Copper	1400	. 1	mg/kg	02/23/96	02/23/96	EPA 3050A	EPA 6010A
Lead	17	1	mg/kg	02/23/96	02/23/96	EPA 3050A	EPA 6010A
Mercury	<0.1	0.1	mg/kg	02/27/96	02/27/96	EPA 7471A	EPA 7471A
_Molybdenum	4	1	mg/kg	02/23/96	02/23/96	EPA 3050A	EPA 6010A
Nickel	46	1	mg/kg	02/23/96	02/23/96	EPA 3050A	EPA 6010A
Selenium	<1	1	mg/kg	02/23/96	02/23/96	EPA 3050A	EPA 6010A
Silver	<0.5	0.5	mg/kg	02/23/96	02/23/96	EPA 3050A	EPA 60107
Thallium	31	1	mg/kg	02/23/96	02/23/96	EPA 3050A	EPA 6010A
Vanadium	86	1	mg/kg	02/23/96	02/23/96	EPA 3050A	EPA 6010A
Zinc	770	. 1	mg/kg	02/23/96	02/23/96	EPA 3050A	EPA 6010A

ND: Not detected at or above limit of detection --: Information not available or not applicable

Results are reported on a wet-weight basis, as received.







GROUNDWATER CONCENTRATIONS OF
VOLATILE HALOCARBON COMPOUNDS
FROM MONITORING WELLS AND SAMPLING BOREHOLES
RUNNELS INDUSTRIES, INC.
3590 ENTERPRISE AVENUE
HAYWARD, CALIFORNIA

FIGURE

3

Ms. Madhulla Logan September 30, 1997 Page 4

Groundwater samples were collected for halogenated volatile organic compound analysis by U.S. EPA Method 8010 from monitoring wells MW-2, MW-3, MW-4, and MW-5. The samples were collected directly from the discharge end of the purge pump delivery tubing at a pumping rate of less than 1 L/minute. Water samples were collected, in duplicate, into 40-mL glass vials with TeflonTM septum lids.

A groundwater sample for dissolved metals was collected from MW-4 in an emptied deionized water bottle pre-rinsed with well water. The well water was then pumped from the bottle through a precleaned silicone tubing that passed through a peristaltic pump head and through a filter housing containing a 0.45 micron filter membrane filter and into a polypropylene bottle containing nitric acid as a preservative that was provided by the analytical laboratory.

Groundwater sample bottles were labeled and placed in an ice chest with 2 Liter plastic bottles containing ice. Chain-of-Custody forms were filled out and were delivered with the ice chest to Chromalab, Inc. of Pleasanton, California, a state certified laboratory (DTSC No. 1094).

1.4 GROUNDWATER ANALYTICAL RESULTS

Groundwater samples from MW-2, MW-3, MW-4, and MW-5 were submitted to Chromalab for analysis by EPA Method 8010 for halogenated volatile organic compounds and a groundwater sample from MW-4 for analysis of metals (Cr, Pb, and Zn) using EPA Method 3010A/6010A. Copies of the laboratory report and chain-of-custody documentation are contained in Attachment E.

Five Method 8010 analytes were identified in groundwater from the four new wells at the 3590 Enterprise Avenue property. These compounds and their respective maximum contaminant levels (MCLs) are listed below

Concentration in micrograms per Liter	MW-2	MW-3	MW-4	MW-5	MCL
1,1-Dichloroethane	4.5	5.9	<0.50	25	5.0
1,1-Dichloroethene	3.9	13	<0.50	170	6.0
1,1,1-Trichloroethane	<0.50	0.60	<0.50	<0.50	200
1,1,2-Trichloroethane	<0.50	<0.50	<0.50	0.90	32
Trichloroethene	5.0	0.50	0.60	8.6	5.0

Ms. Madhulla Logan September 30, 1997 Page 6

Chromium, lead, and zinc analytical results (in units of mg/L) were as follows

	Chromium	Lead	Zinc
B8/3 Ft.	32	8.4	100
B8/6 Ft.	30	4.1	45 compenies
B8/9 Ft.	29	6.1	45 corprois 54 - to PROIS
B8/GW	<0.005	0.018	0.68

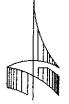
Soil concentrations of chromium and lead are within the range expected for background concentrations at all three depth samples. Zinc is present in background concentration in the six and nine foot samples. Zinc concentration is slightly elevated in the three foot sample, but well within urban background, particularly within the soil chemical halo contiguous to a galvanized chain link fence.

Groundwater concentrations of chromium, lead, and zinc are below their respective drinking water standards.

An odor similar to that of diesel was present in soil from borehole B8 continuously below a depth of 1.5 feet. The soil odor is noted on the lithologic log (Attachment C). A sheen and floating organic phase liquid globules were also note on the water bailed from B8. Consequent to these observations soil and groundwater samples were also collected for Total Extractable Petroleum Hydrocarbon (TEPH) analysis by U.S. EPA Method 8015M.

The laboratory misconstrued their instructions and the soil samples went past their holding times as indicated by the dates on the analytical reports. Regardless, the following TEPH results (in units of mg/K or mg/L, as appropriate) were reported:

	Kerosene	Diesel	Motor Oil
B8/3 Ft.	<5.0	580	130
B8/6 Ft.	<5.0	460	160
B8/9 Ft.	<1.0	280	78
B8/GW	<2.8	220	28





SCALE (FEET)

TH-6/6 Ft. = 53 TH-6 •

TH-4 GW TH-3/6.5 FI. TH-3
5.8 FI. \(\text{70.050} \cdot \cdot \cdot \text{640} \cdot \cdot \text{71.0} \)
\(\text{71.0} \)
\(\text{71.0} \)





TH-8 \odot TH-8/5.8 Ft. = 170 TH-9 \odot TH-9/6.3 Ft. = <1.0



B8/3 Ft. = 580 B8/6 ft. = 460 B8/9 Ft. = 280 B8/GW = 220

B-8

PPROXIMATE PROPERTY LINE

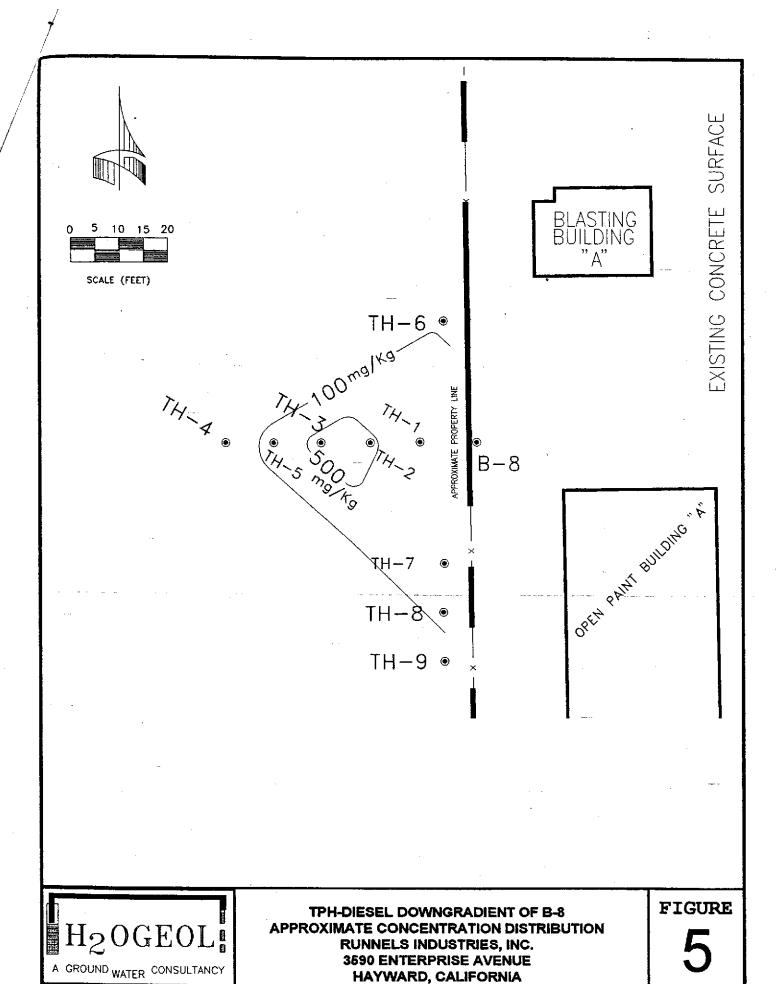
OPEN PAINT BUILDING . P

H2OGEOL

TPH-DIESEL DOWNGRADIENT OF B-8

RUNNELS INDUSTRIES, INC. 3690 ENTERPRISE AVENUE HAYWARD, CALIFORNIA FIGURE

4



Ms. Madhulla Logan August 07, 1998 Page 3

with the ice chest to Chromalab, Inc. of Pleasanton, California, a state certified laboratory (DTSC No. 1094). Chromalab analyzed the soil and water samples for total extractable petroleum hydrocarbon as diesel (TEPH-d) like using U.S. EPA Method 8015M. The laboratory report and chain-of-custody documentation are attached hereto.

The TEPH-diesel analytical results were as follows:

TH-3/6.5 Ft. 640 mg/Kg TH-4/5.8 Ft. <1.0 mg/Kg TH-6/6 Ft. 53 mg/Kg TH-8/5.8 Ft. 170 mg/Kg TH-9/6.3 Ft. <1.0 mg/Kg

The downgradient groundwater sample was reported as N.D. at less than <0.050 mg/L (less than 50 micrograms per liter).

These results and the earlier results from borehole B-8 are shown graphically in Figure 4. These data are contoured to show approximate distribution of TEPH-diesel in Figure 5.

The relatively close proximity of the end of the plume (i.e., N.D. at TH-4) to the probable source area suggests that a stable plume situation exists. Furthermore, all of the concentrations of diesel reported are below levels normally expected to trigger further investigation.

Please do not hesitate to call me at 925-373-9211 should you have any questions.

Sincerely,

Gary D. Lowe, R.G., C.E.G., C.HG Principal, Hydrogeologist

Mr. Al Gant - Runnels Industries XC:

OF CALIFO Mr. Dirk Gastaldo - Salem Communications Corporation

Mr. Alan N. Bick - Gibson, Dunn & Crutcher LLP

GARY D. LOWE

No. 127 CEHTIFIED

HYDROGEOLOGIS

TABLE 3 VOLATILE HALOGENATED ORGANIC COMPOUNDS IN GROUNDWATER

RUNNELS INDUSTRIES, INC.

3590 ENTERPRISE AVENUE, HAYWARD, CALIFORNIA (all concentrations in micrograms per liter).

		(a	ali concen	trations	in micro	grams pe	₽			
	Vinyl chloride	1,1-Dichloroethane	1,2-Dichloroethane	1,1-Dichloroethene	1,1,1-Trichloroethane	1,1,2-Trichloroethane	TRANS-1,2-Dichloroethen	CIS-1,2-Dichloroethene	Trichloroethene	Tetrachloroethene
MW-1. Instal	u 4 0 /0	2/05 TO	15.60	E Carao	o lotarus	i not ava	ilable			
8/20/97	< 5.0	< 5.0	< 5.0 ·		< 5.0	< 5.0	< 5.0	< 5.0	44	< 5.0
5/7/98	< 0.5	< 0.5	< 0.5	2.4	< 0.5	< 0.5	< 0.5	3.3	39	1.3
8/3/98	< 0.5	< 0.5	< 0.5	2.2	< 0.5	< 0.5	< 0.5	3.0	36	1.1
11/3/98	< 0.5	< 0.5	< 0.5	2.3	< 0.5	< 0.5	0.80	2.2	28	< 0.5
2/4/99	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	0.82	2.9	42	1.2
MW-2. Insta	llad 09/1	ד לפופ	121	A Scree	n interv	al 7.1-12	.1			
8/20/97	< 0.5	4.5	< 0.5	3.9	< 0.5	< 0.5	< 0.5	< 0.5	5.0	< 0.5
6/20/97	< 0.5	4.5	₹0.5	J.J	~ 0.5	٧٠.٥	10.0			
5/7/98	< 0.5	0.6	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5
8/3/98	< 0.5	1.1	< 0.5	1.1	< 0.5	< 0.5	< 0.5	< 0.5	2.2	< 0.5
11/3/98	< 0.5	3.7	< 0.5	3.0	< 0.5	< 0.5	< 0.5	< 0.5	3.4	< 0.5
2/4/99	< 0.5	3.5	< 0.5	3.0	< 0.5	< 0.5	< 0.5	< 0.5	2.7	< 0.5
MW-3. Insta	illed 08/1	8/97 TI	D = 12.1	5. Scree	en interv	al 7.1-12	.1			
8/20/97	< 0.5	5.9	< 0.5	13	0.6	< 0.5	< 0.5	< 0.5	0.5	< 0.5
0/20/37	₹0.5	0.0	V 0.0		0.0					
5/7/98	< 0.5	2.9	< 0.5	4.4	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5
8/3/98	< 0.5	2.7	< 0.5	7.3	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5
11/3/98	< 0.5	4.7	< 0.5	10	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5
2/4/99	< 0.5	4.5	< 0.5	11	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5
MW-4. Insta	alload COT	10/07 T	D = 12 6	S Scra	en interv	al 7.6-12	2.6			
		< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	0.6	< 0.5
8/20/97	< 0.5	< 0.5	< 0.5	₹ 0.5	₹ 0.5	~ 0.5	~ 0.0		0.2	
5/7/98	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	2.7	< 0.5
8/3/98	< 0.5		< 0.5	< 0.5	< 0.5		< 0.5	< 0.5	0.72	< 0.5
11/3/98	< 0.5			< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5
2/4/99	< 0.5		< 0.5	1.1	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5
- MW/-5. Inst	sllad DP /	18/97 T	D = 124	is Scre	en inten	val 7.5-1:	2.65			
8/20/97	< 0.5		< 0.5	170	< 0.5	0.9	< 0.5	< 0.5	8.6	< 0.5
0/20/3/	₹0.5	20	~ 0.5	170	~ 0.0	3.0				
5/7/98	0.5	16	< 0.5	140	< 0.5				7.4	< 0.5
8/3/98	< 0.5		0.53	150	< 0.5	< 0.5			7.5	< 0.5
11/3/98	< 0.5	15	< 0.5	150	< 0.5	< 0.5			5.3	
2/4/99	< 0.5		< 0.5	e) 60	< 0.5	< 0.5	< 0.5	0.92	720	* < 0.5
				* *						

					SOIL BORE LOG: B1					Page	1 of 1		
				S, INC.	Job No.: 96004 Clent: Runnels Industries, Inc. Site: 3590 Enterpise Avenue Hayward, California Clate Orilled: June 7, 1998 Logged By: M. Detterman		Oriling Company: Gregg Orilling and Testing Oriller: Paul Orilling Equipment: GeoProbe 5400 Sample Method: 4 ft. HDPE sleeve Soil Bore Diameter: 2 in. Total Depth Orilled: 18 ft.						
							Initial Water Depth: \$\foatie\ 15 ft. Stabilized Water Depth: \$\foatie\ 5.5 ft.						
Depth (ft.)	Blows/6 in.	P.I.D. (ppm)	Sample Intervals		LITHOLOGIC DESCRIPTION		Unified Soil Classification	Graphic Lôg	Water Depth				
0			V		n sandy Gravel, 20% sand, medium; angular	, <u> </u>	GP	~ ° ° ′			L ₀		
					LL own clayey SAND, with gravel; 20% clay; to medium; 10% gravel, subangular, up to 0	0.25	SC						
					meter; moist; FILL	/							
	B1-3			Black silty	/ CLAY; plastic; moist					·			
5				As above; 0.25 inche	grades dark brown; 30% caliche blebs to s						-5		
									Ţ 6.5′		-		
			-								-		
10							CL		,		-		
10			X		·						10		
			<u> </u>								-		
					grades gray—brown mottled with 25% own; trace fine sand; maist						-		
											-		
15				Light brow	n clayey SILT/silty CLAY; very moist				<u>⊽</u> (5'	en suite La	-15		
				Sail bore t	rerminated at 18 feet								
								Succession of	(1) (1) (1) (1) (1) (1) (1) (1) (1) (1)	Tiblian (1946) a. Tai III 746 Carlossa (1947)			
	 -		-		•			5	K. Go	1/00 m	-		
. 20			-					·		er jarak	- 20		

Ē	BL NGI	/ M	Y	ER , INC.	SOIL BORE LOG: B2 Jab No.: 98004 Client: Runnels Industries, Inc. Site: 3590 Enterpise Avenue Hayward, California Date Orlied: June 7, 1998	Oriller: Orilling Sampl Soli B	Paul Equipme Method ore Diam	ent: Geof : 4 ft. Hi eter: 2 in		
					Logged By: M. Detterman	Initial	Water D	illed: 18 epth: 🎗 er Deoth		
Depth (ft.)	Blows/6 in.	P.I.O. (ppm)	Sample Intervals		ATTURE COTO DECCRIPATION	Unified Soil				
0				Medium br	LITHOLOGIC DESCRIPTION own silty SAND; 70% sand, fine to medium;		22 22 2			$\lceil 0 \rceil$
	B2-25				0% gravel, tine; dry to damp; FILL	SM				-
5				Black silt	y CLAY; plastic; maist					-5
:					; grades dark brown ; grades whitish-green (caliche); greenish			6.5		1
10				along roc	r; grades dark brown; moist	CL				- 10
										-
15								Ĭ <u>4</u> .		- 15
				Sail bare	terminated at 16 feet		JEG/O	ERED MA DETE	GEO OK E MAN	-
20							E P	GE GE	100 100 117	- 20

					SOIL BORE LOG: B3					Page	e i of i	
				ER S, INC.	Jab No.: 98004 Clent: Runnels-Industries, Inc. Site: 3590 Enterpise Avenue Hayward, California Date Orlled: June 7, 1998 Logged By: M. Detterman		Oriling Company: Gregg Drilling and Testing Oriller: Paul Drilling Equipment: GeoProbe 5400 Sample Nethod: 4 ft. HDPE sleeve Soil Bore Diameter: 2 in. Total Depth Orilled: 18 ft. Initial Water Depth: ¥ 14 ft.					
							Stabiliz	ed Water	er Depth	: ¥ 8.5 ft.		
Ueptn (It.)	Blows/8 in.	P.I.D. (ppm)	Sample Intervals				Unified Soil Classification	Graphic Log	water Depth			
0				Nodium be	LITHOLOGIC DESCRIPTION rown silty SAND with gravel, with greenish		_				۲۰	
				cast; 70%	fine to medium sand; 10% subangular granich diameter; dry; FILL	vel, 	SM				-	
	B3-2.0			Medium br	rawn silty CLAY with gravel; 15% fine grave LL	et;	SM	<i>/////////////////////////////////////</i>			-	
	B3-2.0			Medium bi	rown silty SANO with gravel, with greenish K sand, fine to medium; 10% gravel, subang nch diameter; damp; FILL	jular,					-	
5				Black silt	y CLAY; plastic; moist						-5	
									¥ 6.5'		-	
10				As above	e; grades light brown; dense; moist		CL				-10	
				As abov	e; grades light yellow brown; trace fine sa	and			Ų iã·		-	
15				<u> </u>							- 15	
				Soil bore	e terminated at 18 feet			3	In Lumber	PARK E	89 - O - O - O - O - O - O - O - O - O -	
								Hate Brathman				
			+	_				13:17		3/97	-	
20		 	_	-					· .	-	- 50	

					SOIL BORE LOG: B4	·		,	Page	i of i
				ER 5, INC.	Job No.: 96004 Clent: Runnels Industries, Inc. Site: 3590 Enterpise Avenue Hayward, California Date Orlled: June 7, 1998 Lagged By: M. Detterman	Orliler Orliling Sampl Soll B	: Paul 1 Equipm	ient: Ge d: 4 ft. l leter: 2		sting
						Initial	Water D	lepth: Ş	7 14 ft. th: ¥ 0 ft.	
Depth (ft.)	Blows/8 in.	P.I.D. (ppm)	Sample Intervals	· 	LITHOLOGIC DESCRIPTION	Unified Soil Classification	Graphic Log	Water Depth		
0			╫		wn and greenish black silty SAND; 30%			-	+	۲٥
	B4-I.0				ack and 40% medium brown sand, fine to	SM			2 0 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1	
	_			Medium bro	wn clayey SILT; slightly plastic; damp	ML				- -
5				Grades gra moist	k brown silty CLAY; plastic; moist ly green; diffuse caliche throughout; plastic; litled black and olive green; soft; very moist			Ť		-5
10					·	CL				- 10
15				As above; g green in col	grades increasing black and decreasing lor			¥. 14.	ED GE	- - 15
20 -				Soil bare te	erminated at 18 feet		And Section of the Control of the Co	O A	MARK E. ITERIAAN 46.0700 152873D 152873D 152873D	20

Page I of I SOIL BORE LOG: B5 Orilling Company: Gregg Orilling and Testing Job No.: 98004 BLYMYER ENGINEERS, INC. Orllier: Paul Clent Runnels Industries, Inc. Orilling Equipment: GeoProbe 5400 Site: 3590 Enterpise Avenue Sample Nethod: 4 ft. HOPE sleeve Hayward, California Soil Bore Clameter: 2 in. Date Ortled: June 7, 1996 Total Depth Orilled: 1.5 1t. Logged By: M. Detterman Initial Water Depth: \$\qquad 1.5 ft. Stabilized Water Depth: ¥ Sample Intervals Classification P.I.D. (ppm) Unified Soil Depth (ft.) Blows/8 i Graphic Løg Water Depth LITHOLOGIC DESCRIPTION 0 Dark brown sandy CLAY with gravel; 35% sand, medium CL to coarse; 15% gravel, medium, angular; moist; FILL B5-0.5 CL · Black silty CLAY; plastic; soft; very moist Soil bore terminated at 1.5 feet 5 5 10 10 - 15 15 20 20

				· · · · · · · · · · · · · · · · · · ·	SOIL BORE LOG:	B6	Orilina	Compan	v: Gread	<i>Page</i> Orilling and T	e f of f	
Ē	BL' ENGI	Y M	Y	ER 5, INC.	Clent: Runnels Industries, Site: 3590 Enterpise Aven Hayward, California Date Drilled: June 7, 1998 Logged By: M. Detterman	Oriller: Orilling Sample Sall Bo Total O	Orlier: Paul Orling Equipment: GeoProbe 5400 Sample Method: 4 ft. HDPE sleeve Sall Bore Diameter: 2 in. Total Depth Orlied: 18 ft. Initial Water Depth: \$\Pi\$ 14 ft.					
										14 1t. : ¥ 5 ft.		
Depth (ft.)	Blows/6 In.	P.I.D. (ppm)	Sample Intervals			ION	Unified Soil Classification	Graphic Log	Water Depth			
0			\vdash		sandy GRAVEL; 15% sand, c		GP	020			Lo	
					ngular; dry; FILL		SM				-	
					wn silty SAND with organics; and, medium; dry to damp; Fl		SM				+	
	B6-2.5				ıy silty SAND; 15% silt; sand, ı	medium; damp;		<u> </u>			- 1	
5				`~	CLAY with organics; 15% orga	anics: plastic;	CL		♥ 5'		-5	
10				to wet at the Black silty As above,	ray clayey SAND; 20% clay; 8 ft CLAY; plastic; moist grades to dark brown, then I trace fine to medium sand; m		SC			•	-10	
			X		· .		CL				-	
				,					<u>∇</u> (4.		_	
15				Medium bro	own silty SAND; 20% silt; sand	d, fine; wet	SM				-15	
			+	9lack silty	CLAY; plastic; wet		CL		A CALLES TO	ED GEO		
					terminated at 18 feet					MARK E. RANGETTS RANGETT	The second secon	
20				1							- 20	

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H ₂ C	GEOL

	112													
A	GROUN) WATER	e co	NSULTAI	NCY				BOREHOLE No.	MW	/-2 Sh	eet 1 of	1	
Project	No.:		Dat	e:	08/18/	97		Drilling	Co. ASE Dri	illing	Drill Model	lwan A	Auger	
Client:	Runnels	Industr	ies					Drilling	Method - Hand C	Operation	Borehole Di	ameter	6.25/4	-in
Locatio	n: 3590 E	nterpris	se Av	enue				Ground	Surface Elevatio	n 9.12	—— Dat	um: ground	1 surface	
	Hayward	J, Califo	mia					Borehol	e MW-2 was co	mpleted as a	monitoring well	MW-2		
Logged	by:	GDL	Drill	er:	RCV/G	DL								
	•						Water L	.evel	6.41			ľ		
Sampling Blowcounts	_ &						Time		7:26					
MCO.	PID/FID HNu/OVA reading	₽	윮	- <mark>하</mark>	Graphic Soil Symbol	USCS Soil Symbol	Date		8/20/97					
888	등록 <u>8</u>	Depth test	Sar	SSS	0.000	S S S			Fie	ld Soil Descri	otion	 		
			\vdash	-	4		En 1		J-b- b 401/D	0/4				<u> </u>
	 	—1—	╁	-	1		FIII - Ga	rk yellow	rish brown 10YR	3/4 sandy gra	velly clay		 -	2-inch PVC casing and screen. screen openings
		2								•				3 I L
	 	_	<u> </u>		-			V 0 F (4)						
	-	3	╁┈	-		CL	Black 6	Y 2.5/1	3 clay	· · · · · · · · · · · · · · · · · · ·		Neat Co	ement Grout	- BE
		1_							gray mottling					1 6
	<u> </u>	7	<u> </u>		-		Very da	rk grayis	h brown 2.5Y 4/	2 mattled oliv	e gray 5Y 4/2	clay] 🗟
	 	5	╁			CL	Olive or	av 5Y 5/	2 silty clay					1 3
						CL ~			rown 2.5Y 4/2 c	lay				1113
		•	 	<u> </u>	-	-	ļ <u>.</u>	V 3.513						g
		 7	╁			CL		Y 2.5/2 o	h brown 10YR 4	/4 pebbly clay		Be	entonite Seal	9
		8				Cr ~					Encountered Wate	er at 8.2 Feet	t	3
			<u> </u>]									
 -	 	-9-	\vdash		-	ML	Very da	rk grayis	h brown 2.5Y 3/	z ciayey siit	*	*1		1 5
		-10			-									1
	 		\vdash	-	-		Dork Wa	Housiah h	rown 10YR 4/4	olav.		LONESTAR	No 2 Cand	
-	 	-11	 			CL	Daik ye	HOWISH D	10 WI 10 1 A 4/4 1	Clay		LONESTAR	140, 3 5810	
		-12					- ML		llowish brown 10] [5
	 		-			CL_			llowish brown 10 h brown 10YR 4			/eil Depth = 12.	14 East hat	
		–13–	1		Total De	J pth 12.66		YEHOWIS	II DIOWII TOTA 4	74 BHLY CIDY		pleted with 7-inc		-
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	GROUP								BOREHOLE No.	<u>_M</u>	W-3	Sheet	t 1 of	1						
Project	No.:		Dat	te:	08/18/	97	<u> </u>	Drifling	Co. ASE Dr	illing	CN-201 I	d-d-l	, ,				↲			
1	Runnel	s Industi	_		00/10/	<u> </u>		1 -	Method - Hand (Model	iwan A			•	Т			
i	n: 3590			/AD1/A				1				ole Diame		6.25/4			Т			
Location		rd, Calife		renue				1	Surface Elevation		B.44			surface			ı			
					50.440			Borehol	e MW-3 was co	mpleted as	a monitorir	ng well M	W-3				\dashv			
Logged	т Бү:	_GDL	Dril	ier:	RCV/G	DL	Water L	aval	5.77	<u> </u>			1				4			
ŧo.							Time		7:18				ļ <u>.</u>				-			
Sampling Blowcounts	₽₹	2 -	용	e se	ु≌ ठ	رم <u>م</u>	Date						ļ ——				4			
Sem	PID/FID HNWOVA	Dept Test	Sam	Samp	Graphic Soil Symbol	Soil	Date		8/20/97	ld Soil Desc	rintion		<u> </u>				⅃			
]]	1					<u> </u>		· ·		П	2	Т			
		 1–	+	 -	-		निहा - dar	k yellow	ish brown 10YR	3/4 sandy (ravelly cla	у				<u> </u>				
		1-2-	lacksquare		2000000											7				
<u></u>		۱,	-	 			Black 5	Y 2.5/1 3	3 clay							ည္က				
		<u> </u> ~				_		The state of the s												
		 4 -	-	 		CL		Neat Cement Grout												
\vdash		 5–			1		Color gr	ades bet	ween 4.6 to 5.2	to that belo	w		11001.00	THE THE COLUMN		8	g.			
		1_6_	上			CL	Olive 5Y	Dive 5Y 4/3 sitty clay												
<u> </u>		-	-	 		ML	Olive 5Y	4/4 cla	vev silt				Per	ntonite Sea		8				
		T'-				CL	Olive 5Y	/ 5/4 cla	y		Encountered	Water at 8			u jest	E	(63)			
		 8 -							yish brown 2.5\ 16 Ft. Dgb 10YR		fine to me	dium sand	1	▽		8 :	▋			
	-	 9 -	\vdash			CL	CL SC		ve gray 6Y 3/2 c Ft. Dark olive gr							3				
		L ₁₀₋					Da	rk grayis	h brown 2.5Y 4/	2 clay			sand	— • • • • • • • • • • • • • • • • • • •		\$ U	∄.			
		 -11		-		CL	Olive 5Y	5/3 mo	ttled strong brov	vn 7.5YR 5/	6 silty clay		NESTAR	No. 3 Sand		2-inch PVC casing and screen, screen openings of				
<u> </u>		` `	-			CL	Olive 5Y	4/3 me	edium to coarse o ottled dark brown	sandy clay	214	······································				8	•			
		12-	匚						4/4 silty clay	1 7.51 3/Z 8		Total Well D	epth = 12.1	15 Feet, bct		===	∄ ं			
 	 	 - 13-	-	 	Total Dep	oth 12.6					M	ieli completed	with 7-inc	h flush box.						
		14-										· · · · · · · · · · · · · · · · · · ·			l					
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	HoOGEOL
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Δ	GROUND CONSULTANCY

ROPEHOLE LITHOLOGIC LOC

一層 ぜっひん	CEAI	r e			BUREHU	JLE LIII	HULUGIU	LUG							
H20	_				BOREHOLE No.	MW	/-4 She	et 1 of1							
Project No.:	Date:	08/14/97	1	Drilling	Co. ASE Dr	illing	Drill Model	lwan Auger		┨					
Client: Runnels Indust	ries			1 .	Method - Hand (Borehole Diar		-in	1					
Location: 3590 Enterpr	ise Avenue			Ground	Surface Elevation	n 8.		m: ground surface		1					
Hayward, Calif	Amia			Pombol	a MW 4 was an					1					
				BOTETION	e MW-4 was co	mpieteu as a	monitoring weil	VIVV-4	·	┨					
Logged by: GDL	Driller:	RCV/GDL	T	1						4					
			Water	.evel	7.34			<u> </u>		╝					
Esta - ≪			Time		7:44										
Sampling Blowcounts PICYFID HNWOVA reading Depth test	Sample Soil Sample Number	Graphic Soit Symbol USCS Soil Symbol	Date		8/20/97					٦					
R S S S S S S S S S S S S S S S S S S S	\$ 88 S					ld Soil Descri		 		_					
	MW-4/	1			blast sand and				N Elektrical N	-					
 	++-	-	FIR - da	rk yellow	ish brown 10YR	3/4 gravelly s	andy clay		┨┋						
2-									<u>Ş</u> [[[
		- CL	Black 5	Y 2.5/1 c	coarse sandy clar	y with root fra	gments.								
3							······································		j i s						
 -4 -		- CL	Distant b	lasti 10D	25/1		···		2-inch PVC casing and screen	200000					
	4 Ft.		Bluish black 108 2.5/1 clay Neat Cement Grout Greenish gray 10Y 5/1 with light greenish gray 10Y8 7/1 mottles sandy clay												
			Greenis	Greenish gray 10Y 5/1 with light greenish gray 10YR 7/1 mottles sandy clay											
6-	6.5 Ft	CL CL		Sceniar gray to to 77 with light greenar gray 10 th 771 moties samely clay											
7-										2000					
									<u> </u>	i					
8-	8 Ft.	CL	Very da	rk gravis	h brown 10YR 3	/2 clay		Bentonite Seal	# S	 \$					
9			- sc	8.75-8.	BO Vdgb clayey :	sand. moist, N			₽	∄					
		CL	CL SC	Vdgb cl			Encountered Water	at 9.1 Feet. Yes sand. Saturated.		∄ :					
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 11-	10.5 F	t. CL	\vdash	Dark val	llowish brown 10	VD 212 at 16 a		LONESTAR No. 3 Sand	screen openings = 0.020 inch						
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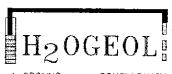
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, ,	GNOON	WATE	á co	MODERA	NC :				BOREHOLE No.	M	W-5	Shee	t 1 of	1			
Project	No.:		Dat	ie:	08/15/	97	·	Drilling	Co. ASE Dri	illing	Drill	Model	lwan A	uger		-	1
Client:	Runnels	industr	ies					Drilling	Method - Hand C	Operation	Bore	hole Diam	eter	6.25/4	-in		
Locatio	n: 3590	Enterpri	se Av	renue				Ground	Surface Elevatio	n	9.11	Datum	ground	surface			۱
	Haywa	d, Calife	mia					Boreho	le MW-5 was co	mpleted as	a monitor	ing well M	W-5				┛
Logged	by:	GDL	Drii	ler:	RCV/G	DL											╽
							Water I	_evel	7.55					-			
nts ants	_ &						Time		7:35								
Sampling Blowcounts	PID/FID HNWOVA	Depth test	Sample	Soil Sample Number	Graphic Soil Symbol	S = jo	Date		8/20/97				<u> </u>				
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	 	 3 -		3.1 Ft.			Diack 9	1 2.0/1	coarse sariety cia-	<u>,</u>		•			Н	<u>≅</u> .	
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		<u>]_8_</u>												ntonite Seal		ē	_
-	-			8 Ft.	-	CL			sh brown 2.5Y 3/).05 Ft. Dark brov							=0:	▋
	1	-9-	+	1				Vdgb c	lay	Fir	st Encounte	ered Water s		. 		<u> </u>	1
		-10-	igaplus			CL_	sw	9.6-9.7	75 Ft. fine to med	lium sand be	ed interpr	eted.				screen openings = 0	
	┼			10.5 Ft	-	CL	 	· · · · · · · · · · · · · · · · · · ·				<u>i</u>	ONESTAR	No. 3 Sand		= 0	∄.
		 11-					Dark ye	llowish	brown 10YR 3/2	stiff clay					1	.020	1
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		 13-				·								68 Feet. bcl			
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	GROUN								BOREH	OLE No.		В7		Sheet	1 of	1	_
Project	No.:		Date	e;	08/14/	97	·	Drilling	Co.	ASE Dr	illing		Drill Me	odel	lwan A	uger	
Client:	Runnels	Industri	ies					Drilling	Method	- Hand (Operation	1	Boreho	le Diame	ter	4-in	<u> </u>
Locatio	n: 3590	Enterpris	e Av	enue				Ground	Surface	Elevatio	n .	Unknov	vn	Datum:	ground	surface	
	Haywar	d, Califo	mia					Borehok	e B7 wa	s not co	mpleted	as a m	onitorin	g well.			
Logged	by:	GDL	Drill	er:	RCV/G	DL		<u> </u>		-			,				_
							Water L	_evel									
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Sampling Blowcounts	PID/FID HNu/OVA reading	£	훈	<u>8</u> §	Po Pic	_Ω <u>B</u>	Date							··· <u> </u>			
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Project N	No.:		Dat	e:	08/15/	97		Drilling (ASE Dri	illing		Drill M	lodel	lwan A	luger	
Client:	Runnels	Industri	ies					Drilling N	lethod	Hand C)perati	on	Boreh	ole Diam	eter	4-in	
Location	: 3590 E	nterpris	se Av	enue				Ground :	Surface	Elevatio	п	Unkno	wn .	_ Datum	ground	surfac	ce e
	Hayward	, Califo	mia					Borehole	88 wa	s not co	mplete	ed as a r	nonitorir	ıg well.			
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		—5					Black 5Y 2.5/1 with greenish gray 10Y 5/1 mottled clay										
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A GROUND WATER CONSULTANCY BOREHOLE No. MW-2 Sheet 1 of Project No.: 08/18/97 Drilling Co. ASE Drilling Drill Model lwan Auger Client: Runnels Industries Drilling Method - Hand Operation Borehole Diameter 6.25/4 -in Location: 3590 Enterprise Avenue **Ground Surface Elevation** 9.12 Datum: ground surface Hayward, California Borehole MW-2 was completed as a monitoring well MW-2 Logged by: GDL Driller: RCV/GDL 6.41 Water Level 7:26 Time PID/FID
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Symbol 8/20/97 Field Soil Description 2-inch PVC casing and screen, screen oper Fill - dark yellowish brown 10YR 3/4 sandy gravelly clay Black 5Y 2.5/1 3 clay CL Neat Cement Grou 3.4 beginning of gray mottling Very dark grayish brown 2.5Y 4/2 mottled olive gray 5Y 4/2 clay CL Olive gray 5Y 5/2 silty clay Dark grayish brown 2.5Y 4/2 clay Black 5Y 2.5/2 clay Dark yellowish brown 10YR 4/4 pebbly clay CL First Encountered Water at 8.2 Feet. ML Very dark grayish brown 2.5Y 3/2 clayey silt 10-Dark yellowish brown 10YR 4/4 clay CL Dark yellowish brown 10YR 4/4 clayey silt SW Dark yellowish brown 10YR 4/4 fine to medium sand Dark yellowish brown 10YR 4/4 silty clay Total Well Depth = 12.14 Feet, but -13-Total Depth 12.65 Well completed with 7-inch flush box. -14--15--16--18--19-21--22 -23-24 25



A GROUND WATER CONSULTANCY BOREHOLE No. MW-3 Sheet 1 of 08/18/97 Project No.: Date: Drilling Co. **ASE Drilling** Drill Model lwan Auger Client: Runnels Industries Drilling Method - Hand Operation Borehole Diameter 6.25/4 -in Location: 3590 Enterprise Avenue **Ground Surface Elevation** 8.44 Datum: ground surface Hayward, California Borehole MW-3 was completed as a monitoring well MW-3 Logged by: GDL : Oriller: RCV/GDL 5.77 Water Level Time 7:18 Depth lest
Sample
Soil
Sample
Number
Graphic
Soil
Symbol
USCS
Soil 8/20/97 Field Soil Description 2-inch PVC casing and screen. screen openings = Fill - dark yellowish brown 10YR 3/4 sandy gravelly clay Black 5Y 2.5/1 3 clay CL Nest Cement Grou Color grades between 4.6 to 5.2 to that below Olive 5Y 4/3 silty clay CL Olive 5Y 4/4 clayey silt ML Bentonite Se First Encountered Water at 8.02 Feet. Olive 5Y 5/4 clay Dark grayish brown 2.5Y 4/2 clay 8.05-8.15 Ft. Dgb 10YR 3/2 clayey fine to medium sand Dark olive gray 5Y 3/2 clay SC 8.7-8.8 Pt. Dark offive gray 5Y 3/2 clayey fine to medium sand > Dark grayish brown 2.5Y 4/2 clay Olive 5Y 5/3 mottled strong brown 7.5YR 5/6 silty clay CL LONESTAR No. 3 Sans Olive 5Y 4/3 medium to coarse sandy clay Olive 5Y 4/3 mottled dark brown 7.5Y 3/2 silty clay Total Well Depth = 12.15 Feet, bot Olive brown 2.5Y 4/4 silty clay Total Depth 12.5 Well completed with 7-inch flush box. 13 14 15 -16-18--19-21-22-25



	GROUNI			NSULTAI	_				BOREHOLE No.		MW-4		Sheet	: 1 of	1	<u> </u>		
Project	No.:		Dat	e:	08/14/	97	·	Drilling	Co. ASE Dr	illing		Drill Mod	el	lwan A	Auger			1
Client:	Runnels	Industri	ies					Drilling	Method - Hand (Operation	1	Borehole	Diame	ter	6.25/4	i -in		ŀ
Locatio	n: 3590 E	Enterprie	se Av	enue				Ground	Surface Elevation	n ,	8.86	C	atum:	ground	surface	<u> </u>		
	Hayward	d, Califo	rnia					Boreho	le MW-4 was co	mpleted	as a mo	nitoring w	rell M\	N-4				
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Sampling Blowcounts	PID/FID HNu/OVA reading	Depth	Sample	Soil Sample Number	Graphic Soil Symbol	USCS Soil Symbol	Date		8/20/97	ld Soil D	indi			<u> </u>			_	J
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		2	\vdash	-			<u> </u>	*								-	9	
							Black 5	Y 2.5/1	coarse sandy cla	y with ro	ot fragn	nents.				1	S O	
		-3	┼	 		CL									· · · · · ·	-	<u>8</u>	
		4				CL										劃	2-inch PVC casing and screen	
			F	4 Ft.			Bluish b	lack 10	B 2.5/1 clay	-		· · · · ·		Neat Co	ement Grou	#	호	
		-3-					Greenis	h gray 1	OY 5/1 with light	greenist	gray 1	OYR 7/1 n	nottles	sandy	clay	131	SE SE	
		-6-		5.5 Ft.		CL	<u> </u>									-11	Ĕ	
		7														11		
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		0		8 Ft.		CL			sh brown 10YR 3								- 	
		-9	\vdash	-	The state of the state of			8.75-8. Vdgb c	80 Vdgb clayey lav	sand. mo		saturated Nountered W		9.1 Feet	 V		screen openings =	
		-10-		!		CL	SC	9.1-9.1	5 Dark brown 10		layey v	ery fine to	fine :	sand, S	aturated	<u> </u>	9	
				10.5 Ft	-		Very da	rk grayk	sh brown 10YR 3	/2 clay			LC	NESTAR	No. 3 San	1		
		-11				CL -		Dark ye	ellowish brown 1	OYR 3/2	stiff clar	with roo] [8	
		-12	╁	 	-	CL	Dark ve	llowish l	brown 10YR 3/2	stiff clay						-	7	
		-13-		<u> </u>													<u> </u>	<u> </u>
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Project	No.:		Dat	e:	08/15/	97		Drilling	Co. ASE Dri	illing	Dr	ill Model	lwan A	luger			┪			
Client:	Runnels	Industri	88					Drilling	Method - Hand C		Во	rehole Diar	neter	6.25/4	-in					
Locatio	n: 3590 i	Enterpris	e Av	enue				Ground	Surface Elevatio	n	9.11	Datu	m: ground							
	Haywan								le MW-5 was co								ŀ			
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				4.1 Ft.	-		C-1		45 -4 5 -1		•		Neat Ce	ement Grout		3				
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	 	- 8									1			ntonite Seal		<u>ē</u>	F. 50.00			
		_		8 Ft.	-	ÇL	Very da		sh brown 2.5Y 3/ 0.05 Ft. Dark brov							고 :유:				
		-9-				CL_		Vdgb c	lay		First Encour	ntered Water		∇		<u> </u>				
	-	-10-	├	 		<u> </u> =	- sw	9.6-9.7	5 Ft. fine to med	ium sand	bed inter	preted.				screen openings				
		-11 - -		10.6 Ft		CL	 						LONESTAR	No. 3 Sand		80				
					7		Dark ye	llowish t	orown 10YR 3/2	stiff clay						ß				
		-12	-	 -	-		Dark ve	llowish t	orown 10YR 3/2	stiff clay				<u> </u>		5				
		-13-				ML			orown 10YR 3/2		t		Bentonite (Bottom Seal		<u> </u>				
			-	├─		pth 13.25	 		· · · · · · · · · · · · · · · · · · ·				Depth = 12.0 sted with 7-inc							
		 14-	\vdash		٦٠٠٠-		 	·············				A A CHI C'RI STAC	SIEG WILL)-SI C	JI IRZSH DUA.						
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A	GROUNI								BOREH	OLE No.		В7	··· ····	Sheet	1 of	1	_
Project	No.:		Date):	08/14/9	97	•	Drilling	Co.	ASE Dri	lling		Drill Mo	del	lwan A	uger	
Client:	Runnels	Industri	ies					Drilling I	Method	- Hand C	peration	n	Borehole	e Diame	ter	4-in	
Locatio	n: 3590 l	nterpris	se Ave	nue				Ground	Surface	Elevatio	n	Unknow	/n	Datum:	ground	surface	<u> </u>
	Haywan	đ, Califo	mia					Borehok	e 8 7 wa	s not co	mpleted	das a mo	onitoring	well.			
Logged	by:	GDL	Drille	er:	RCV/GI												
	· · · · · · · · · · · · · · · · · · ·						Water L	.evel									
ş							Time				Ü						
Sampling Blowcounts	PID/FID HNu/OVA reading	' <u> </u>	용	e e	Pic Sol	ω <u>δ</u>	Date										
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				B7/]	1						yey grav		ng to			
		<u> </u>			4		gravelly	clay at	.2 ft.			-					-
		2				CL	Dark ye	llowish b	rown 10	OYR 3/4	clay, gra	ades to b	lack cla	y below]
ļ	 		\vdash				Riack F	Y 2 5/1 -	andy cl	av with	Winsim	crystals	to < 1 m	m			
		 - 3					DIGUK 0	. 2.0/13	wiley Ci	el Almi	y pount	- y g cara					
<u> </u>		-4-		4.2 Ft.	-	CL	<u> </u>								Nest C	ement Gro	
		_5		4.211.			<u> </u>										
						<u></u>						greenish	gray 10	Y 5/1sa	ndy cil	ау,	
<u> </u>	 	-6-				CL		h gray 10 brown 2									3 44 9 4
		-7-				ML -		Light ye	llowish	brown 1	0YR 5/4	clayey s	silt countered	18/	9 A E		
	 	0		 		CL	Very da	rk grayis	h browr	10YR 3	/2 clay	FIFST EIN	COUNTERED	AABICS BI	a.o reel	. 4	
		-						8.0-8.1				y clay		•			7 6
	 	9-	╂		-	CL	Dark ve	llowish b	rown 10	OYR 3/4	clay						
		-10-			-		- sc	9.8-9.9	Vdgb c	layey sar	nd/sandy	y clay]
	+		-	<u> </u>	Toal Dep	CL th 10.5	Dark ye	llowish b	rown 10	OYR 3/4	clay						
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BOREHOLE LITHOLOGIC LOG A GROUND WATER CONSULTANCY Sheet 1 of BOREHOLE No. Project No.: Date: 08/15/97 Drilling Co. ASE Drilling Drill Model lwan Auger Client: Runnels Industries Drilling Method - Hand Operation Borehole Diameter Location: 3590 Enterprise Avenue **Ground Surface Elevation** Unknown Datum: ground surface Hayward, California Borehole B8 was not completed as a monitoring well. Logged by: GDL Driller: RCV/GDL Water Level Time Field Soil Description Fill - Dark yellowish brown 10YR 6/4 clayey sandy silt Black 5Y 2.5/1clay TO STRONG HYDROCARBON ALL SOILS APPEAR GLEYED CL Black 5Y 2.5/1 with greenish gray 10Y 5/1 mottled clay Dark greenish gray 5G 4/1 silty clay CL First Encountered Water at 9.1 Feet. CL SC Possible clayey sand/sandy clay.Structure obscured. Sheen and floating globules present on bailed water. Dark greenish gray 5G 4/1 clay Toal Depth 10.3 -11- -13--16-18--19--20--21--22-25



P.O.Box 2165 - Livermore, California 94551 - 510-373-9211

ATTACHMENT C

WELL SURVEYOR'S REPORT RON ARCHER, CIVIL ENGINEER, INC.

RON ARCHER

CIVIL ENGINEER INC.

CONSULTING • PLANNING • DESIGN • SURVEYING

4133 Mohr Ave., Suite E • Pleasanton, CA 94566 Phone: [510] 462-9372 Fax: [510] 462-4454



AUGUST 20, 1997 JOB NO 2520 ELEVATIONS OF MONITORING WELLS AT THE RUNNELS INDUSTRIES INC. FACILITY LOCATED AT 3590 ENTERPRISE AVENUE AT WHITESELL STREET, CITY OF HAYWARD, ALAMEDA COUNTY, CALIFORNIA.

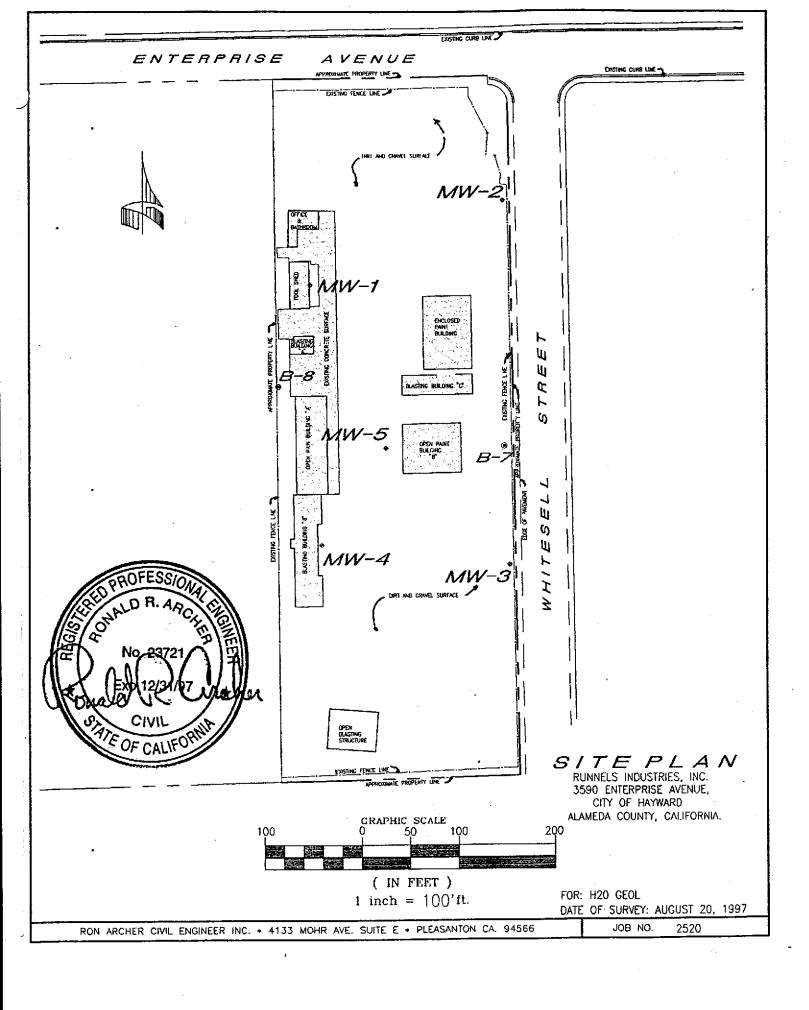
FOR: H20 GEOL

BENCHMARK:

TOP OF DISK SET IN STANDARD MONUMENT CASTING AT THE INTERSECTION OF ENTERPRISE AVENUE AND WHITESELL STREET, AT THE ENTRANCE TO THE CITY OF HAYWARD SANITARY SEWER TREATMENT PLANT. . ELEVATION TAKEN AS 10.864 M.S.L.

MONITORING WELL DATA TABLE

AA/ELI	TOD OF CACINIC	GROUND
WELL	TOP OF CASING	
DESIGNATION	ELEVATION	ELEVATION
MW-1	9.96	10.20
MW-2	8.86	9.12
MW-3	7.91	8.44
MW-4	8.47	8.86
MW-5	8.86	9.11
	数多次为100mm200mm201mm200mm201mm200mm201mm200mm201mm200mm201mm201mm201mm201mm201mm201mm201mm201mm201mm201mm201mm2	





P.O.Box 2165 = Livermore, California 94551 = 510-373-9211

ATTACHMENT D

FIELD DATA SHEET LOG OF WELL SAMPLING ACTIVITIES

LOG OF WELL SAMPLING ACTIVITIES

/ell Loca	tion:	· · · · · · · · · · · · · · · · · · ·		. Well C	Casing Diamet	er;	2-inch	Depth of Weil C	aeing: 15.6	Σ.
leasuring	Point: <u>Top</u>	of PVC Casing	Initial	Depth to V	Vater: <u>8.5</u>	م)	Final	Depth to Water:	Not measured	!
seing Vo	ilume (1 vol	./ 3 vol): 1, 1	5/3.	<u> </u>			Well Boreho	le Volume:		_
urging M		Cantrifugai Pumj Grundfos Subme Centrifugai Pumj ES-40/-80 Subm	reible Pum o/ES-60 Su	o bmersible	•	Se	mpilag Metho	Grundfoe Su Teffon Beiler	bmersible Pum	_
wging Ai	ete: <u>See</u>	below	Total Dies	harge:	38		Cesir	ig Volumee Purgeo	# 1.25	
comment	•;	······································					······································			
								' 	···	
/sete Wa	ster Diepose	i: <u>To drum</u>	·							
terting Ti	ster Dispose Ime:	1:53	•							
terting Ti	ime:	1:53	рН	T dag. P	Diluted S.C.	·	Cil. Factor	S.C. (#S/cm)	Color	_
terting Ti ime Pum Date	ime:	:55		T deg. P		x	Cil. Factor		 	
terting Ti me Pum Date	ime:	: SS Gel. Purged	рН			×		1560	Golor Eli pesu	
Date 8/20/97	ime:	1:53 3:55 Gal. Purgad 4.7 5.9 6.7	pH 7.70 7.72 7.52	64.4 64.4		×		/5(0 /550 /570	61. sea	
Date B/20/97	Time 8:58 9:59 9:00	1:53 Gel. Purged 4:7 5:9 6:7	pH 7,70 7,72 7,52 7,54	64.4 64.4 64.4		×		/5(0 /550 /570 /570	fl. sery	
Date 8/20/97	Time 8:58 9:59 9:00	Gel. Purged 4. 7 5. 9 6. 7 7. 6. 8. (pH 7.70 7.72 7.52 7.54 7.51	64.4 64.4 64.4		* * *		/5(0 /550 /570 /570 /600	61: sean	
Date B/20/97	Time \$:5% \$:5% \$:5% \$:5% \$:00 9 :00 9 :01	1:53 Gel. Purged 4:7 5:9 6:7	pH 7,70 7,72 7,52 7,54	64.4 64.4 64.4		* * *		/5(0 /550 /570 /570 /600	fl. sery	
Date 8/20/97	Time 8 S S S S S S S S S	Gel. Purged 4. 7 5. 9 6. 7 7. 6. 8. (pH 7.70 7.72 7.52 7.54 7.51	64.4 64.4 64.4		* * * * * *		/5(0 /550 /510 /570 /600 /600	61: sean	
Date 8/20/97	Time 8:58 9:59 9:00 9:01 7:02 9:03 ::	Gel. Purged 4. 7 5. 9 6. 7 7. 6. 8. (pH 7.70 7.72 7.52 7.54 7.51	64.4 64.4 64.4		x x x x		/5(0 /550 /510 /570 /600 /600	61: sean	
Date B/20/97	Time 8 S S S S S S S S S	Gel. Purged 4. 7 5. 9 6. 7 7. 6. 8. (pH 7.70 7.72 7.52 7.54 7.51	64.4 64.4 64.4		x x x x x		/5(0 /550 /510 /570 /600 /600	61: sean	
Date B/20/97	Time 8 :5% 9 :5% 9 : 60 1 7 : 62 1 9 : 63 1 : : : :	Gel. Purged 4. 7 5. 9 6. 7 7. 6. 8. (pH 7.70 7.72 7.52 7.54 7.51	64.4 64.4 64.4		x x x x x		/5(0 /550 /510 /570 /600 /600	61: sean	
tarting Time Pum Date 8/20/97	Firms:	Gel. Purged 4. 7 5. 9 6. 7 7. 6. 8. (ph 7.70 7.72 7.52 7.54 辛.51 7.52	64.4 64.4 64.4		* * * * * * * * * * * * * * * * * * *		/5(0 /550 /510 /570 /600 /600	61: sean	

LOG OF WELL SAMPLING ACTIVITIES

Well Ident	ification:	MW-2 Pro	ject Name					CA 0	
Sampled t	γ: <u>(1. Lov</u>	10	•	West	her Conditions	ij	C/oud	1,67°F,C	•/ <u>-</u>
Well Loca	tion:			_ Woil (Casing Diames	97 I	2-inch	Depth of Well C	esing: (2.14
Measuring	Point: <u>To</u>	of PVC Casing	Initial	Depth to V	Vacer: <u>6.41 (</u>	7:2	(a) Final	Depth to Weter:	Not measured
Casing Vo	iume (1 vo	1./3 voll: <u>0.91</u>	/ L.	75			Well Bareho	• Valume:	
Purging M		Centrifugal Pump Grundfoe Subme Centrifugal Pump ES-40/-80 Subme	eible Pum /ES-60 Su	p bmersible	-	Sa	mpling Matho	Grundfoe Su Teflon Bailer	bmersible Pump
Purging Re	ito: <u>Sec</u>	below	Total Disc	harge:	11.5		Casin	g Valumes Purged	12.5
Corremanti	·						·		
Starting 11	me:	7:49							<u> </u>
Qate	Time	Gal. Purged	рΗ	T deg. F	Diluted S.C.		Dit. Factor	S.C. (µS/cm)	Color
08/20/97	9:57	5.8 / sugge				×	-		
	10:11	9. /	7.44	66.5		×	-	1530	Jellowith board.
	10:13	10.1	7.46	66.7		×	-	1510	٠٠ ـــــــــــــــــــــــــــــــــــ
	10:15	11.0	7.44	66.7		×		1355	** **
	10:17	11.5	7.43	66.8	l	×		1520	"
					<u> </u>	×	 -		
	— : 					×	-	<u> </u>	
	-:-	****			 	×			
						×			
						Î		 	
Semple	dentificat	tion: 3690/MW	- 2_		Sample Time			IDITY ANALYSIS	·
Finishi	ng Time: ຸ				Tir	ne /	Analyzed:		Value:

LOG OF WELL SAMPLING ACTIVITIES

/all Identification: MW-3 Project Name:	3590 Enterprise Av	enue, Hayward,	CA D	ate: 08/20/97
empled by: 0. Lowe	Weather Conditions	_C/nud	, 67-E, ca	/
/ell Location:	Well Casing Diamet	er: <u>2-inc</u> h	Depth of Well C	asing: 12.15
leasuring Point: Top of PVC Casing Initial O	epth to Water: 5.42	<u>(7:</u> 16', Fina	d Oepth to Water:	Not measured
asing Volume (1 vol./3 vol): 1.02 / 3	<u>C</u> b	Weil Soreh	ole Volume:	
urging Method: Centrifugal Pump/Peristeltic I Grundtes Submersible Pump Centrifugal Pump/ES-60 Subr ES-40/-80 Submersible Pump	nersible	Sampling Meth	Grundfos Su Tetion Bailer	bmersible Pump
urging Rate: See below Total Cisch	erge: /e-5	Cas	ing Volumes Purgeo	1: <u>6.4</u>
iomments:				
Veste Water Disposal; To drum.				
tarting Time: 9:28		•		
ime Pump on: 9:32				
	Tideg. F Diluted S.C.	Dit. Factor	S.C. (µS/cm)	Color
	67.7	x .	= /200	Lt. Seau
" 5:37 S.S 7.60	47.2	x I	- 1550	11.75
1. 7:30 (.c. 7.5E	67.4	×	- 1590	11 11
	47.2	x	- 169c	(· (·
		x	-	
:		x	_	1
		x -		
: 1			_	
: 1 . 1		N	_	
			_	
			<u> </u>	
Sample Identification: 3590/MW	Sample Time	ا ــــــــــــــــــــــــــــــــــــ	//_	· · · · · · · · · · · · · · · · · · ·
		T1 /1		
		100	RBIDITY ANALYSIS	

LOG OF WELL SAMPLING ACTIVITIES

Well Ident	dfication:	MW-47 Pr	oject Name	: <u>3590</u>	3590 Enterprise Avenue, Hayward, CA Date: 08/20/97						
Sampled I	by: <u>G. Lo</u> y	W 0	-	Weath	Weather Conditions:						
Well Loca	tion:			_ Well C	Casing Diamet	or;	2-inc	h	Depth of Well C	seing: 12.65	
Measuring	Point: <u>To</u>	p of PVC Casing	Initial	Depth to V	Vator: <u>7,34</u>	(<i>[244</i>)Fin	ad D	epth to Water:	Not measured	
Casing Vo	ilume (1 vo	11.13 vol): <u>D.S</u>	4/2	<u>.</u>			Well Borel	rola	Volume:		
Purging M	lethod:	Centrifugal Pump Grundfoa Subma Centrifugal Pump ES-407-60 Subm	rsible Pum /ES-60 Su	bmereible	•	Sa	mpling Met	hod	Grundfor Sul Teflon Beiler	bmersible Pump	
Purging Re	ate: <u>So</u> c	a below	Total Died	iharge:	3.4		Ce	ing	Volumes Purged	<u>Ψ.Ο</u>	
Comment	·								· · · · · · · · · · · · · · · · · · ·		
Waste We	tar Dispos	al; <u>To drum.</u>									
	ime:										
Time Pum	p on:	<u>7: </u>									
Date	Time	Gal, Purged	рН	T deg. F	Oiluted S.C.		Dil. Factor		S.C. (µ\$/om)	Color	
08/20/97	8:00	15 (erpti)				×		-			
.!'	8:07		6.79	66.2		×		-	2860	11 peru	
11	8:11	2.5/metr	6.77	66.4		×		-	2840	. 4.	
44	8:14	2.9/2014		66.1		×		-	2840	culetes	
44	8:17	3. 2	6.92	66.2		×		-	2650	Color has	
,,	8:18	3.4	6.99	66.0		×		-	2440	C = / = / tes	
	:					×		-			
	;					×		-			
	: .					×					
	:					×		-			
	:					×		-			
Sample	a Identifica	tion: <u>3590/MW</u>	1-4		Sample Time	:	2.18		_	·	
	*						TU	RBIÇ	OITY ANALYSIS		
Finishir	ng Time:		-		Tin	ne /	Analyzed;		MTU \	/alue:	

LOG OF WELL SAMPLING ACTIVITIES

Well Iden	tification:	MW- 5 Pr	oject Nam	e: <u>3590</u>	Enterprise A	/enu	e, Haywai	d. (CA D	ste: <u>08/20/97</u>
Sampled by: G. Lowe Weather Conditione:										
Well Loca	ution:		<u> </u>	Weil	Casing Diamer	er:		<u>c</u> h	Depth of Well C	daing: 12.68
Messurin	g Point; <u>To</u>	p of PVC Gasing	Initial	Depth to V	Water: 7,55	(7	35) Ri	nal (Septh to Water:	Not messured
Casing V	olume (1 vo	1./3 vol); 0.8	2/2	46			Well Bore	hole	Votume:	
Purging M	fethod:	Centrifugal Purry Grundfoe Subma Centrifugal Purry ES-407-60 Subm	rsible Pum /ES-60 Su	p bmersible	- - -	Sa	mpling Me	tho	Grundfoe Sul Teflon Beiler	omereible Pump
Purging R	e18: <u>Sac</u>	balow	Total Disc	sharge:	6.5		c.	sing	Volumes Purged	: 7.9
Comment	.: <u> </u>									
Weste Wi	ater Dispose	al: <u>To drum</u> .								
Starting T	lme:	8:3e								
Time Pum	up on:	8:33					-			
Date	Time	Qal, Purged	рН	T dag. F	Diluted S.C.		Dil, Fector		S.C. (µS/cm)	Color
08/20/97	8:36	4.5	7.40	65.2		ж		•	1990	Calarias
- 11	8:30	5.0	7.42	650		×		_:	1960	**
١٠.	ક : પ્ય	5.5	7.41	65.1		×			1970	
41	8 : YZ	6.3	7.92	65.2		×		•	1990	L.
1,1	8:43	6.5	7.41	65.7		×			1990	1.
	;					×		-		
	:					×				
	:					×		-		
	:					×				
	;					×		-		
	:					×				
Sample	o Identificat	ion: <u>3590/MW</u>	٠ 5		Sample Time:		8:4	ಲ		<u></u>
•							TU	Reil	DITY ANALYSIS	
flaistá	ng 11ma: _				Tim	16 A	nelyzed:	_	MTU V	falue:



P.O.Box 2165 - Livermore, California 94551 - 510-373-9211

ATTACHMENT E

LABORATORY ANALYTICAL RESULTS AND CHAIN-OF-CUSTODY DOCUMENTATION

Environmental Services (SDB)

September 2, 1997

Submission #: 9708172

H2OGEOL

Atten: Gary Lowe

Project: RUNNELS INDUSTRIES

Received: August 15, 1997

re: One sample for Halogenated Volatile Organics by GC/MS analysis.

Method: SW846 Method 8240A Nov 1990

Client Sample ID: B7/4.2FT.

Spl#: 143788 Sampled: August 14, 1997

Matrix: SOIL Run#: 8431

Analyzed: August 28, 1997

ANALYTE	RESULT	REPORTING LIMIT (ug/Kg)	BLANK RESULT (ug/Kg)	BLANK SPIKE (%)	DILUTION FACTOR
BROMODICHLOROMETHANE	N.D.	5.0	N.D.		1
BROMOFORM	N.D.	5.0	N.D.		1
BROMOMETHANE	N.D.	10	N.D.		1
CARBON TETRACHLORIDE	N.D.	5.0	N.D.		1
CHLOROBENZENE	N.D.	5.0	N.D.	92.1	1
CHLOROETHANE	N.D.	10	N.D.		1
2-CHLOROETHYLVINYLETHER	N.D.	50	N.D.		1
CHLOROFORM	N.D.	5.0	N.D.		1
CHLOROMETHANE	N.D.	10	N.D.		ī
DIBROMOCHLOROMETHANE	N.D.	5.0	N.D.		ī
1,2-DICHLOROBENZENE	N.D.	5.0	N.D.	'	ī
1,3-DICHLOROBENZENE	N.D.	5.0	N.D.		ĩ
1,4-DICHLOROBENZENE	N.D.	5.0	N.D.		ī
1,1-DICHLOROETHANE	N.D.	5.0	N.D.		ī
1,2-DICHLOROETHANE	N.D.	5.0	N.D.		ī.
1,1-DICHLOROETHENE	N.D.	5.0	N.D.	114	ī
1,2-DICHLOROETHENE (CIS)	N.D.	5.0	N.D.		ī
1,2-DICHLOROETHENE (TRANS)	N.D.	5.0	N.D.	* -	ī
1,2-DICHLOROPROPANE	N.D.	5.0	N.D.		ī
CIS-1,3-DICHLOROPROPENE	N.D.	5.0	N.D.		ĩ
TRANS-1,3-DICHLOROPROPENE	N.D.	5.0	N.D.		1 1
METHYLENE CHLORIDE	N.D.	5.0	N.D.		<u>ī</u>
1,1,2,2-TETRACHLOROETHANE	N.D.	5.0	N.D.		ī
TETRACHLOROETHENE	N.D.	5.0	N.D.		ī
1,1,1-TRICHLOROETHANE	N.D.	5.0	N.D.		ī
1,1,2-TRICHLOROETHANE	N.D.	5.0	N.D.		ī
TRICHLOROETHENE	N.D.	5.0	N.D.	88.6	ĩ
VINYL CHLORIDE	N.D.	5.0	N.D.		1
TRICHLOROTRIFLUOROETHANE	N.D.	5.0	N.D.		ī
trichlorofluoromethane	N.D.	5.0	N.D.		ĩ

June Zhao Chemist

Operations Manager

CHROMALAB, INC.

Environmental Services (SDB)

August 28, 1997

Submission #: 9708172

H2OGEOL

Atten: Gary Lowe

Project: RUNNELS INDUSTRIES Received: August 15, 1997

re: One sample for Volatile Halogenated Organics analysis.

Method: SW846 Method 8010A July 1992

Client Sample ID: B7/GW

Spl#: 143789 Matrix: WATER Sampled: August 14, 1997 Run#: 8280

Analyzed: August 18, 1997

	RESULT	REPORTING LIMIT	blank Result	SPIKE	DILUTION FACTOR
ANALYTE	(ug/L)	(ug/L)	(ug/L)	(%)	
VINYL CHLORIDE	N.D.	0.50	N.D.		1
CHLOROETHANE	N.D.	0.50	N.D.		1
TRICHLOROFLUOROMETHANE	N.D.	0.50	N.D.		1
1,1-DICHLOROETHENE	87	0.50	N.D.	66.0	1
Note: VALUE IS TAKEN FROM					
METHYLENE CHLORIDE	N.D.	5.0	N.D.		1
TRANS-1,2-DICHLOROETHENE	N.D.	0.50	N.D.		1
CIS-1,2-DICHLOROETHENE	N.D.	0.50	N.D.		I
1,1-DICHLOROETHANE	17_	0.50	N.D.		. 1
CHLOROFORM	N.D.	3.0	N.D.		1
1,1,1-TRICHLOROETHANE	N.D.	0.50	N.D.		1
CARBON TETRACHLORIDE	N.D.	0.50	N.D.		- 1
1,2-DICHLOROETHANE	N.D.	0.50	N.D.		1
TRICHLOROETHENE	5.3	0.50	N.D.	107	1
1,2-DICHLOROPROPANE	й.D.	0.50	Ņ.D.		1 1 1 1
BROMODICHLOROMETHANE	Ŋ.D.	0.50	Ŋ.D.		1
2-CHLOROETHYL VINYL ETHER	Ŋ.D.	0.50	N.D.		+
TRANS-1,3-DICHLOROPROPENE	N.D.	0.50	N.D.		1
CIS-1,3-DICHLOROPROPENE	N.D. N.D.	0.50	и.D.		1
1,1,2-TRICHLOROETHANE TETRACHLOROETHENE	N.D.	0.50 0.50	N.D. N.D.		1
DIBROMOCHLOROMETHANE	N.D.	0.50	N.D.		1
CHLOROBENZENE	N.D.	0.50	N.D.	104	1
BROMOFORM	N.D.	2.0	N.D.	104	1 1 1 1
1,1,2,2-TETRACHLOROETHANE	N.D.	0.50	N.D.		. 1
1,3-DICHLOROBENZENE	N.D.	ŏ.5ŏ	N.D.		
1,4-DICHLOROBENZENE	N.D.	0.50	N.D.		ĩ
1,2-DICHLOROBENZENE	N.D.	0.50	N.D.		1 1 1 1 1 1 1
TRICHLOROTRIFLUOROETHANE	N.D.	0.50	N.D.		ī
CHLOROMETHANE	N.D.	1.0	N.D.		ĩ
BROMOMETHANE	N.D.	ī.ŏ	N.D.		ī
122 1/ h			CUN		_

Oleg NewSOV

Oleg Nemtsov Chemist

Chip Poalinelli Operations Manager

Environmental Services (SDB)

August 19, 1997

Submission #: 9708172

H20GEOL

Atten: Gary Lowe

Project: RUNNELS INDUSTRIES Received: August 15, 1997

re: One sample for Miscellaneous Metals analysis.

Method: EPA 3010A/3050A/6010A Nov 1990

Client Sample ID: B8/3FT.

Spl#: 143790 Sampled: August 15, 1997 Matrix: SOIL Run#: 8251

RESULT

(mg/Kg)

8.4

100

Extracted: August 19, 1997 Analyzed: August 19, 1997

99.6

REPORTING BLANK BLANK DILUTION LIMIT RESULT SPIKE FACTOR (mg/Kg) (mg/Kg) N.D. N.D. 1.0 99.2

Chemist

Inorganics Supervisor

N.D./

CHROMALAB, INC.

Environmental Services (SD8)

August 20, 1997

H2OGEOL

Submission #: 9708172

Revised from August 19, 1997

Atten: Gary Lowe

Project: RUNNELS INDUSTRIES Received: August 15, 1997

re: One sample for Miscellaneous Metals analysis.

Method: EPA 3010A/3050A/6010A Nov 1990

Client Sample ID: B8/6FT.

Spl#: 143791 Sampled: August 15, 1997

Matrix: SOIL

Extracted: August 19, 1997

Run#: 8251 Analyzed: August 19, 1997

ANALYTE /	RESULT (mg/Kg)	REPORTING LIMIT (mg/Kg)	ELANK RESULT (mg/Kg)	BLANK SPIKE (%)	DILUTION FACTOR
CHROMIUM	30	1.0	N.D.	99.4	1
LEAD	4.1		N.D.	99.2	1
ZINC	45		N.D.	99.6	1

510-373-9222 6C EMTZ

norganica Subetvisor

Environmental Services (SDB)

August 19, 1997

Submission #: 9708172

H2OGEOL

Atten: Gary Lowe

Project: RUNNELS INDUSTRIES Received: August 15, 1997

re: One sample for Miscellaneous Metals analysis.

Method: EPA 3010A/3050A/6010A Nov 1990

Client Sample ID: B8/9FT.

Spl#: 143792

Sampled: August 15, 1997

Matrix: SOIL Run#: 8251 Extracted: August 19, 1997

Analyzed: August 19, 1997

ANALYTE	RESULT (mg/Kg)	REPORTING LIMIT (mg/Kg)	BLANK RESULT (mg/Kg)	BLANK SPIKE (%)	DILUTION FACTOR
CHROMIUM	29	1.0	N.D.	99.4	1
LEAD	6.1	1.0	N.D.	99.2	1
ZINC	54	1.0	N.D.	99.6	1

CHROMALAB, INC.

Environmental Services (SDB)

August 19, 1997

Submission #: 9708172

H20GEOL

Atten: Gary Lowe

Project: RUNNELS INDUSTRIES Received: August 15, 1997

re: One sample for Soluble Miscellaneous Metals analysis.

Method: EPA 3005A/6010A Nov 1990

Client Sample ID: B8/GW

SpI#: 143793 Sampled: August 15, 1997 Matrix: WATER

Extracted: August 18, 1997

Run#: 8233 Analyzed: August 18, 1997

ANALYTE	RESULT (mg/L)	LIMIT (mg/L)	BLANK RESULT (mg/L)	BLANK SPIKE (%)	FACTOR
CHROMIUM	N.D.	0.0050	N.D.	100	1
LEAD	0.018	0.0050	N.D.	101	1
ZINC	0.68	0.010 .	N.D.,	/ 99.2	ī
1		^ <i>/</i>	1	1	_

510-373-9222 cc cm22

Chemist

Environmental Services (SDB)

September 2, 1997

Submission #: 9708172

H20GEOL

Atten: Gary Lowe

Project: RUNNELS INDUSTRIES

Received: August 15, 1997

re: One sample for Halogenated Volatile Organics by GC/MS analysis.

Method: SW846 Method 8240A Nov 1990

Client Sample ID: B8/3FT.

Spl#: 143790 Sampled: August 15, 1997 Matrix: SOIL

Run#: 8439

Analyzed: August 29, 1997

RESULT			REPORTING	BLANK	BLANK :	DILUTION
ANALYTE		RESULT	LIMIT	RESULT	SPIKE	FACTOR
BROMODICHLOROMETHANE		(ua/Ka)	(ug/Kg)	(ug/Kg)	(%)	
BROMOFORM		N.D.	5.0	N.D.		1
BROMOMETHANE		N.D.		N.D.		ī
CARBON TETRACHLORIDE N.D. 5.0 N.D 1 CHLOROBENZENE N.D. 5.0 N.D. 89.0 1 CHLOROETHANE N.D. 10 N.D 1 2-CHLOROETHYLVINYLETHER N.D. 50 N.D 1 CHLOROFORM N.D. 5.0 N.D 1		N.D.				ĩ
CHLOROSENZENE N.D. 5.0 N.D. 89.0 1 CHLOROETHANE N.D. 10 N.D. 1 2-CHLOROETHYLVINYLETHER N.D. 50 N.D. 1 CHLOROFORM N.D. 5.0 N.D. 1		N.D.	5.0			ī
CHLOROETHANE N.D. 10 N.D 1 2-CHLOROETHYLVINYLETHER N.D. 50 N.D 1 CHLOROFORM N.D. 5.0 N.D 1		N.D.			89.0	ī
2-CHLOROETHYLVINYLETHER N.D. 50 N.D 1 CHLOROFORM N.D. 5.0 N.D 1		N.D.	10			ī
CHLOROFORM N.D. 5.0 N.D 1		N.D.	50			ī
	CHLOROFORM	N.D.	5.0			ī
	CHLOROMETHANE	N.D.	10		~	i
DIBROMOCHLOROMETHANE N.D. 5.0 N.D 1		N.D.				ī
1,2-DICHLOROBENZENE N.D. 5.0 N.D i		N.D.				ĩ
1,3-DICHLOROBENZENE N.D. 5.0 N.D 1			5.0			ī
1,4-DICHLOROBENZENE N.D. 5.0 N.D 1		N.D.				ī
1,1-DICHLOROETHANE N.D. 5.0 N.D i		N.D.	5.0			. โ
1,2-DICHLOROETHANE N.D. 5,0 N.D 1	1,2-DICHLOROETHANE		5.0	N.D.		ī
1.1-DICHLORGETHENE N.D. 50 N.D. 110 1	1,1-DICHLOROETHENE	N.D.	5.0		110	ī
1,2-DICHLOROETHENE (CIS) N.D. 5.0 N.D. 1	1,2-DICHLOROETHENE (CIS)		5.0	N.D.	:	ī
1,2-DICHLOROETHENE (TRANS) N.D. 5.0 N.D 1	1,2-DICHLOROETHENE (TRANS)	N.D.		N.D.		ī
1,2-DICHLOROPROPANE N.D. 5.0 N.D 1		N.D.	5.0	N.D.		1
CIS-1,3-DICHLOROPROPENE N.D. 5.0 N.D 1		N.D.		N.D.		1
TRANS-1,3-DICHLOROPROPENE N.D. 5.0 N.D 1	TRANS-1,3-DICHLOROPROPENE	N.D.				1
METHYLENE CHLORIDE N.D. 5.0 N.D 1	METHYLENE CHLORIDE					1
1,1,2,2-TETRACHLOROETHANE N.D. 5.0 N.D 1	1,1,2,2-TETRACHLOROETHANE					1
TETRACHLOROETHENE N.D. 5.0 N.D I	TETRACHLOROETHENE					1
1,1,1-TRICHLOROETHANE N.D. 5.0 N.D 1	1,1,1-TRICHLOROETHANE					1
1,1,2-TRICHLOROETHANE N.D. 5.0 N.D.						1
TRICHLOROETHENE N.D. 5.0 N.D. 88.0 I					88.0	1.
VINYL CHLORIDE N.D. 5.0 N.D.						1
TRICHLOROTRIFLUOROETHANE N.D. 5.0 N.D. 1						1
TRICHLOROFLUOROMETHANE N.D. 5.0 N.D 1						1

Note: Surrogate Recoveries demonstrate Matrix interference.

June Zhao Chemist

Operations Manager

CHROMALAB, INC.

Environmental Services (SOB)

September 2, 1997

Submission #: 9708172

H2OGEOL

Atten: Gary Lowe

Project: RUNNELS INDUSTRIES Received: August 15, 1997

re: One sample for Halogenated Volatile Organics by GC/MS analysis.

DEDODETIC

Method: SW846 Method 8240A Nov 1990

Client Sample ID: B8/6FT.

Spl#: 143791

Matrix: SOIL

Sampled: August 15, 1997

Run#: 8439

Analyzed: August 29, 1997

ANALYTE	RESULT (ug/Kg)	LIMIT (ug/Kg)	BLANK RESULT (ug/Kg)	BLANK SPIKE (%)	FACTOR
BROMODICHLOROMETHANE	N.D.	5.0	N.D.	······································	
BROMOFORM	N.D.	5.0	N.D.		i
BROMOMETHANE	N.D.	10	N.D.		i
CARBON TETRACHLORIDE	N.D.	5.0	N.D.		1
CHLOROBENZENE CHLOROETHANE	N.D.	5.0	N.D.	89.0	i
CHLOROETHANE	N.D.	10	N.D.	27.0	Ť
2-CHLOROETHYLVINYLETHER	N.D.	50	N.D.		ī
CHLOROFORM	N.D.	5.0	N.D.		1
CHLOROMETHANE	N.D.	10	N.D.		i
DIBROMOCHLOROMETHANE	N.D.	5.0	N.D.		ī
1,2-DICHLOROBENZENE	N.D.	5.0 5.0	N.D.		ī
1,3-DICHLOROBENZENE	N.D.	5.0	N.D.		ī
1,4-DICHLOROBENZENE	N.D.	5.0 5.0	N.D.		ī
1,1-DICHLOROETHANE	N.D.	5.0	N.D.		ī
1,2-DICHLOROETHANE	N.D.	5.0000000000000000000000000000000000000	N.D.		ĩ
1,1-DICHLOROETHENE	N.D.	5.0	N.D.	110	ī
1,2-DICHLOROETHENE (CIS)	N.D.	5.0	N.D.		ī
1,2-DICHLOROETHENE (TRANS) 1,2-DICHLOROPROPANE	N.D. N.D.	5.0	N.D.		ĩ
1,2-DICHLOROPROPANE CIS-1,3-DICHLOROPROPENE TRANS-1,3-DICHLOROPROPENE	N.D.	5.0	N.D.		ī
CIS-1,3-DICHLOROPROPENE	N.D.	5.0	N.D.		1
TRANS-1, J-DICHLOROPROPENE	N.D.	5.0	N.D.		1
METHYLENE CHLORIDE	N.D.	5.0	N.D.		1
1,1,2,2-TETRACHLOROETHANE TETRACHLOROETHENE	N.D.	5.0	N.D.		1
1 1 1 TRICULOROETHENE	й.₫.	5.0	N.D.		1
1,1,1-TRICHLOROETHANE 1,1,2-TRICHLOROETHANE	N.D.	5.0	Ŋ.D.		1
TRICHLOROETHENE	N.D.	5.0	N.D.		1
VINYL CHLORIDE	N.D.	5.0	N.D.	88.0	1
TRICHLOROTRIFLUOROETHANE	И.D. И.D.	5.0	N.D.	• -	ļ
TRICHLOROFLUOROMETHANE		5.0	N.D.	• •	1
THE THOROUGH TOWNS THE	N.D.	5.0	N.D.	• •	1

June Zhao Chemist

Operations Manager

Environmental Services (SDB)

September 2, 1997

Submission #: 9708172

H2OGEOL

Atten: Gary Lowe

Project: RUNNELS INDUSTRIES

Received: August 15, 1997

re: One sample for Halogenated Volatile Organics by GC/MS analysis.

Method: SW846 Method 8240A Nov 1990

Client Sample ID: B8/9FT.

Spl#: 143792

Matrix: SOIL Run#: 8439

Sampled: August 15, 1997

Analyzed: August 29, 1997

ANALYTE	RESULT	REPORTING LIMIT (ug/Kg)	BLANK RESULT (ug/Kg)	BLANK SPIKE (%)	DILUTION FACTOR
BROMODICHLOROMETHANE	N.D.	5.0	N.D.	· · · · · · · · · · · · · · · · · · ·	1
BROMOFORM	N.D.	5.0	N.D.		†
BROMOMETHANE	N.D.	10	Ñ.Ď.		÷
CARBON TETRACHLORIDE	N.D.	5.0	Ñ.D.		†
CHLOROBENZENE	N.D.	5.0	N.D.	89.0	÷
CHLOROETHANE	N D	ĩỏ	N.D.	03.0	†
2-CHLOROETHYLVINYLETHER	N.D.	Šŏ	N.D.		÷
CHLOROFORM	N.D.	5.0	N.D.		÷
CHLOROMETHANE	N.D.	10°	N.D.		<u> </u>
DIBROMOCHLOROMETHANE	N.D.	5.0	N.D.		+
1,2-DICHLOROBENZENE	N.D.	5.0	N.D.		+
1,3-DICHLOROBENZENE	N.D.	5.0	N.D.		+
1,4-DICHLOROBENZENE	N.D.	5.ŏ	N.D.		Ť
1.1-DICHLOROETHANE	N.D.	5.0	N.D.		<u>+</u>
1,2-DICHLOROETHANE	N.D.	5.0	N.D.		Ť
1.1-DICHLOROETHENE	N.D.	5.0	N.D.	170	Ţ
1,2-DICHLOROETHENE (CIS)	N.D.	5.0	N.D.	110	Ť
1,2-DICHLOROETHENE (TRANS)	N.D.	5.0	N.D.		<u> </u>
1,2-DICHLOROPROPANE	N.D.	5.0	N.D.		1
CIS-1,3-DICHLOROPROPENE	N.D.	5.0			1
TRANS-1,3-DICHLOROPROPENE	N.D.	5.0	N.D.		1
METHYLENE CHLORIDE	N.D.	5.0	N.D.		1
1,1,2,2-TETRACHLOROETHANE	N.D.	5.0	Ŋ.D.		1
TETRACHLOROETHENE	N.D.	5.0	n.D.		1
1,1,1-TRICHLOROETHANE	N.D.	5.0	й.Б.		1
1,1,2-TRICHLOROETHANE	N.D.		Ŋ.D.		1
TRICHLOROETHENE	N.D.	5.0	й.Б.		1
VINYL CHLORIDE	N.D.	5.0	й.D.	88.0	1
TRICHLOROTRIFLUOROETHANE	N.D.	5.0	Ŋ.D.		1
TRICHLOROFLUOROMETHANE	N.D.	5.0	Ŋ.D.		1,
THE CHILDROL BOOKOND TUMBE	м	5.0	N.D.		1

June Zhao Chemist

Operations Manager

CHROMALAB, INC.

Environmental Services (SD8)

September 3, 1997

Submission #: 9708172

H2OGEOL

Atten: Gary Lowe

Project: RUNNELS INDUSTRIES Received: August 15, 1997

re: One sample for Volatile Halogenated Organics analysis.

Method: SW846 Method 8010A July 1992

Client Sample ID: B8/GW

SpI#: 143793

Matrix: WATER

Sampled: August 15, 1997

Run#: 8280

Analyzed: August 18, 1997

ANALYTE	RESULT	REPORTING LIMIT	BLANK RESULT	SPIKE	DILUTION FACTOR
VINYL CHLORIDE	(ug/L)	(yq/L)	(uq/L)	(%)	
CHLOROETHANE	N.D.	0.50	N.D.		1
TRICHLOROFLUOROMETHANE	N.D.	0.50	N.D.		1
1,1-DICHLOROETHENE	N.D.	0.50	N.D.		1
METHYLENE CHLORIDE	N.D.	0.50	N.D.	56.0	1
TRANS-1, 2-DICHLOROETHENE	N.D.	5.0	N.D.		1
CIS-1,2-DICHLOROETHENE	N.D.	1.00	N.D.		1
1,1-DICHLOROETHANE	Ŋ.D.	1.00	N.D.		1
CHLOROFORM	N.D.	0.50	N.D.		1
1,1,1-TRICHLOROETHANE	N.D.	3.0	N.D.		1
CARBON TETRACHLORIDE	Ŋ.D.	0.50	Ŋ.D.		1
1,2-DICHLOROETHANE	Ŋ.D.	0.50	N.D.		111111111111111111
TRICHLOROETHENE	N.D.	0.50	N.D.		1
1,2-DICHLOROPROPANE	N.D.	1.00	Й.D.	107	1
BROMODICHLOROMETHANE	N.D.	0.50	N.D.		1
2-CHLOROETHYL VINYL ETHER	N.D. N.D.	0.50	и.D.		1 1 1 1
TRANS-1,3-DICHLOROPROPENE		0.50	N.D.		1
CIS-1,3-DICHLOROPROPENE	N.D.	0.50	N.D.		1.
1,1,2-TRICHLOROETHANE	Ŋ.D.	0.50	И.D.		1
TETRACHLOROETHENE	N.D.	0.50	Ŋ.D.		1
DIBROMOCHLOROMETHANE	Ŋ.D.	0.50	N.D.		1
CHLOROBENZENE	И.D.	0.50	й.D.	_ = = =	1
BROMOFORM	N.D.	0.50	N.D.	104	1
1,1,2,2-TETRACHLOROETHANE	N.D. N.D.	2.0	й.D.		1
1,3-DICHLOROBENZENE	N.D.	0.50	Ŋ.D.		1
1,4-DICHLOROBENZENE	N.D.	0.50	Ŋ.D.		1
1,2-DICHLOROBENZENE	N.D.	0.50	Й.D.		1
TRICHLOROTRIFLUOROETHANE	N.D.	0.50	Ŋ.D.		1
CHLOROMETHANE		0.50	Ŋ.D.		1
BROMOMETHANE	N.D.	1.0	N.D.		1
DICOMONIE TELEBRIE	N.D.	1.0	N.D.		1
\sim 11 \sim			0 11 8		

Oleg Newson

Chemist

For Chip Poalinelli Operations Manager

510-373-9222 at 1942

Environmental Services (SDB)

August 20, 1997

Submission #: 9708172

H2OGEOL

Atten: Gary Lowe

Project: RUNNELS INDUSTRIES Received: August 15, 1997

re: 1 sample for TEPH analysis.

Method: EPA 8015M

Sampled: August 15, 1997

Matrix: WATER Run#: 8253

N.D.

2800

N.D.

Extracted: August 19, 1997 Analyzed: August 19, 1997

Kerosene Diesel Motor Oil (ug/L)(ug/L) (ug/L) 51000

2800

N.D.

93.0

Reporting Limits Blank Result Blank Spike Result (%)

28000 N.D.

Bruce Havlik Chemist

Semivolatiles Supervisor

510-373-9222 cc 4472

1220 Quarry Lane • Pleasanton, California 94566-4756 (510) 484-1919 • Facsimile (510) 484-1096 Federal ID #68-0140157

172 /48778-4378

									, -	
H2OGEOL	A GROUN	Durren	CONSIL	TAXCY			CHAIN			
P.O. BOX 2165		-WAIGN				DATS Sample S	: 08/15/97	PAG	E_1_	of <u>1</u>
LIVERMORE,	CALIFORNIA	A 94551-216	35			Runnels	source; Industries terprise Av	ėnu e		
SAMPLERISI:	Gary D. Lov	N97					, California			
SAMPLER'S SIGNAT	URE: 🔀	ater l	12				ANALYTI	Ξ		
	CAMOLE D	SOUS DE					T			
I	SAMPLE R AL No. of CONTAIN				1		1			
	IN OF CUSTODY 8				ğ			12		123
-			— I		ğ			<u> </u>	1 1	ž.
: # Mau2			C		Halogenated Halocarbon Compounds	1	1	-	1	NUMBER OF CONTAINERS
CLIENT:					<u> </u>		ន	ď		5
DUE: REF #:35	08/2 2 /9	17			JE SC	ء ا	•	FoR	1	ö
NEF #130	SOL				표	& Zn	1 €	1	1 1	BER
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FAX RESULTS TO 16	10, 030 0000				Halogenate EPA 8010	Total Cr. Pb.	Dissolved Cr. Pb. &			
SAMPLE ID.	DATE	TIME	MATRIX	LAB ID.	- "	-		14	1 1	
B7/4.2Ft.	08/14/97	13:04	SOIL		×	1	i		1 1	1
B7/GW	08/14/97	13:40	WATER		×	1				2
88/ 3 Ft.	08/15/97	12:45	SOIL		×	х		Х		2
88/ 6 Ft.	08/15/97	13:00	SOIL		х	×		χ		2
88/ Ft.	08/15/97	13:15	SOIL		Х	×		X		2
88/GW	08/15/97	13:30	WATER	ļ	х		x*	×		94
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SIGNATURE	Dan.	n K L		SIGNATURE						
PRINTED NAME	O O 1	<i>.</i> ''	YME		_	_			TIME	
PRINTED NAME	Gary D. Low		15/1	PRINTED NAM	·		·····			-
COMPANY	H ₂ OGEOL		08/15/97	COMPANY _			_	Λ	DATE	- 1
RECEIVED BY:				RECEIVED BY	LABORAT	pay/:	1) 1	/		
SIGNATURE				SIGNATURE	- (_	MUS	KNU	2	1511	1
			TIME]	77	٠ .	∇		TIME	-
PRINTED NAME			DATE	PRINTED NAM	1E (JIMS	Low	4	DATE	-
COMPANY				COMPANY	Chroma	ab, Inc.		0	8/15/97	

1584-0 K.190 DATE # HOLD FUR TON \$ OATE: 08/15/37 P Sample Source: Runnels Industries 3590 Enterpres Avenue Hayward, California TURNAROUND IO POAY ANALYTE 1- F. B. B. Dissal THE BLOW B. ZIL OFD8 A13 HOGGEDL A GROUNDWATER CONSULTANCY * 110 HAS, ("Dritt vistal) Thre 15// Dane 08/15/97 WATER S S SOIL 쭚 P.O. BOX 2165 LIVERMORE, CALIFORNIA 94551-2165 08/15/97 13:30 00:15/97 13:00 5%: 21 FE/81/80 13:40 4500-3000-00AD-10460LD SAMPLE RECIEP CHAIN OF CUSTODY SEALS MPLER'S SIGNATURE: COUNTY NAS TO RECORD 08/14/97 70350FH 08/18/97 08/14/97 CA8 NO 38/ 3 Ft. 88) of E. 88/ 6 Ft. 97/4.2Ft. W5/78 88/GW

CHROMALAB

Change request received by: Mike Varans

Date Requested: 8 / 18 / 97

		MPLE STATUS C	HANGE FORM	Requested by
Submission#	Client Samp.ID	Old Status Description	Description of Changes	(Client's name)
1708172	B8/GW	TEPH- HOLD	RUN FULL TEPH	H2 DGEOL GAHLOWE
·			* Due Thes. 9/2/97	GAHLOWE
7908172	35/ A	>	changed ID To BB/9 Ft.	w 4
		70.11	o la lag	
hanges were	done in lims by(login): Bubb	on: 8/18/17	
C: Lab.D	irector Dep	t.manager Analyst	Proj.Manager	1

Environmental Services (SDB)

September 3, 1997

Submission #: 9708214

HZOGEOL

Atten: Gary Lowe

Project: RUNNELS INDUSTRIES Received: August 20, 1997

re. One sample for Volatile Halogenated Organics analysis.

Method: SW846 Method 8010A July 1992

Client Sample ID: 3590/MW-5

Spl#: 144270

Matrix: WATER

Sampled: August 20, 1997 Run#: 8407

Analyzed: August 27, 1997

		REPORTING	BLANK	BLANK	DILUTION
•	RESULT	LIMIT	RESULT	SPIKE	FACTOR
ANALYTE	(ug/L)	(ug/L)	(ug/L)	(%)_	
VINYL CHLORIDE	N.D.	0.50	N.D.		1
CHLOROETHANE	N.D.	0.50	N.D.		ī
TRICHLOROFLUOROMETHANE	N.D.	0.50	N.D.		1 1 1
1,1-DICHLOROETHENE	170	0.50	N.D.	88.0	ī
Note: VALUE IS TAKEN FROM	GC/MB RUN E	PA METHOD 8240			_
METHYLENE CHLORIDE	N.D.	5.0	N.D.		1
TRANS-1,2-DICHLOROETHENE	N.D.	0.50	N.D.		ī
CIS-1,2-DICHLOROETHENE	N.D.	0.50	N.D.		1 1 1
1,1-DICHLOROETHANE	25	0.50	N.D.		ī
Note: VALUE IS TAKEN FROM	GC/MS RUN E.	PA METHOD 8240			-
CHLOROFORM	N.D.	3.0	N.D.		1
1,1,1-TRICHLOROETHANE	N.D.	0.50	N.D.		ī
CARBON TETRACHLORIDE	N.D.	0.50	N.D.		ī
1,2-DICHLOROETHANE	N.D.	0.50	N.D.		ī
TRICHLOROETHENE	8.6	0.50	N.D.	100	1
1,2-DICHLOROPROPANE	N.D.	0.50	N.D.		ī
BROMODICHLOROMETHANE	N.D.	0.50	N.D.		ī
2-CHLOROETHYL VINYL ETHER	N.D.	0.50	N.D.		ī
TRANS-1,3-DICHLOROPROPENE	N.D.	0.50	N.D.		1
CIS-1,3-DICHLOROPROPENE	N.D.	0.50	N.D.		1
1,1,2-TRICHLOROETHANE	0.90	0.50	N.D.		1
TETRACHLOROETHENE	N.D.	0.50	N.D.		1
DIBROMOCHLOROMETHANE	N.D.	0.50	N.D.		1
CHLOROBENZENE	и.р.	0.50	N.D.	97.0	1
BROMOFORM	N.D.	2.0	N.D.		1
1,1,2,2-TETRACHLOROETHANE	И.D.	0.50	N.D.		1
1,3-DICHLOROBENZENE	N.D.	0.50	N.D.		1
1,4-DICHLOROBENZENE	N.D.	0.50	N.D.		1
1,2-DICHLOROBENZENE	N.D.	0.50	Ŋ.D.		1
TRICHLOROTRIFLUOROETHANE CHLOROMETHANE	Ŋ.D.	0.50	N.D.		1
BROMOMETHANE	N.D.	1.0	Ŋ.D.		ī
DROMONE I MAINE	N.D.	1.0	N.D.		1

Oleg Nemtsov Chemist Chip Poalinelli Operations Manager

/ Operations Manager

510-373-9222 st 9487

1220 Quarry Lane • Pteasanton, California 94566-4756 (510) 484-1919 • Facsimile (510) 484-1098 Federal ID #68-0140157 CHROMALAB, INC.

Environmental Services (SDB)

August 29, 1997

Submission #: 9708214

H2OGEOL

Atten: Gary Lowe

Project: RUNNELS INDUSTRIES Received: August 20, 1997

re: One sample for Volatile Halogenated Organics analysis.

Method: SW846 Method 8010A July 1992

Client Sample ID: 3590/MW-2

Spl#: 144268

Matrix: WATER

Sampled: August 20, 1997

Run#: 8407

Analyzed: August 27, 1997

		REPORTING	BLANK		DILUTI
2.272 W 200044	RESULT	LIMIT	RESULT		FACTO
ANALYTE	(ug/L)	(ug/L)	(ug/L)	(%)	
VINYL CHLORIDE	Ñ.Đ.	0.50	N.D.		
CHLOROETHANE	N.D.	0.50	N.D.		
TRICHLOROFLUOROMETHANE	N,D,	0.50	N.D.		
1,1-DICHLOROETHENE METHYLENE CHLORIDE	3.9	0.50	N.D.	88.0	
METHYLENE CHLORIDE TRANS-1,2-DICHLOROETHENE CIS-1,2-DICHLOROETHENE 1,1-DICHLOROETHANE CHLOROFORM	N.D.	5.0	N.D.		
TRANS-1,2-DICHLOROETHENE	N.D.	0.50	N.D.		
CIS-1,2-DICHLOROETHENE	N.D.	0.50	N.D.	•	
1,1-DICHLOROETHANE	4.5 N.D.	0.50	N.D.		
CHLOROFORM	N.D.	3.0	N.D.		
1,1,1-TRICHLOROETHANE	N.D.	0.50	N.D.		
CARBON TETRACHLORIDE	N.D.	0.50	N.D.		
1,2-DICHLOROETHANE	N.D.	0.50	N.D.		
TRICHLOROETHENE	5.0	0.50	N.D.	100	
1,2-DICHLOROPROPANE BROMODICHLOROMETHANE	N.D.	0.50	N.D.	-::	
BROMODICHLOROMETHANE	N.D.	0.50	N.D.		
2-CHLOROETHYL VINYL ETHER	N.D.	0.50	N.D.		
TRANS-1,3-DICHLOROPROPENE	N.D.	0,50	N.D.		
CIS-1,3-DICHLOROPROPENE	NI.D.	0.50	N.D.		
1,1,2-TRICHLOROETHANE	N.D.	0.50	N.D.		
TETRACHLOROETHENE	N.D.	0.50	N.D.		
DIBROMOCHLOROMETHANE	N.D.	0.50	N.D.		
CHLOROBENZENE	N.D.	0.50	N.D.	97.0	
BROMOFORM	N.D.	2.0	N.D.		:
1,1,2,2-TETRACHLOROETHANE	N.D.	0.50	N.D.		:
1,3-DICHLOROBENZENE 1,4-DICHLOROBENZENE 1,2-DICHLOROBENZENE	N.D.	0.50	N.D.		
1,4-DICHLOROBENZENE	N.D.	0.50	N.D.		
1,2-DICHLOROBENZENE	N.D.	0.50	N.D.		
TRICHLOROTRIFLUOROETHANE	N.D.	0.50	N.D.		
CHLOROMETHANE	N.D.	1.0	N.D.		
BROMOMETHANE	N.D.	1.0	N.D.		

Oleg Nemtsov

Chemist

VO30 0:000405 DLEG 18:58

Chip Poalinelli Operations Manager

Environmental Services (SDB)

August 29, 1997

Submission #: 9708214

H2OGEOL

Atten: Gary Lowe

Project: RUNNELS INDUSTRIES Received: August 20, 1997

re: One sample for Volatile Halogenated Organics analysis.

Method: SW846 Method 8010A July 1992

Client Sample ID: 3590/MW-3

SpI#: 144269 Sampled: August 20, 1997 Matrix: WATER

Run#: 8407

Analyzed: August 27, 1997

REPORTING BLANK BLANK DILUTION RESULT LIMIT RESULT SPIKE FACTOR ANALYTE
VINYL CHLORIDE
CHLOROETHANE
TRICHLOROFLUOROMETHANE
1,1-DICHLOROETHENE $(\underline{u}a/L)$ (ug/L)(uq/L)(%) N.D. 0.50 N.D. 0.50 N.D. N.D. 0.50 N.D. N.D. 0.50 N.D. 88.0 METHYLENE CHLORIDE N.D. 5.0 TRANS-1,2-DICHLOROETHENE CIS-1,2-DICHLOROETHENE 1,1-DICHLOROETHANE N.D. 0.50 N.D. 0.50 N.D. --5.9 0.50 N.D. CHLOROFORM N.D. 3.0 N.D. --1,1,1-TRICHLOROETHANE 0.60 N.D. N.D. 0.50 CARBON TETRACHLORIDE 1,2-DICHLOROETHANE TRICHLOROETHENE 1,2-DICHLOROPROPANE 0.50 N.D. __ N.D. 0.50 N.D. 0.50 0.50 N.D. 100 N.D. 0.50 N.D. BROMODICHLOROMETHANE ND. 0.50 N.D. 2-CHLOROETHYL VINYL ETHER N.D. 0.50 N.D. Z-CHLOROETHYL VINYL ETHER TRANS-1,3-DICHLOROPROPENE CIS-1,3-DICHLOROPROPENE 1,1,2-TRICHLOROETHANE TETRACHLOROETHENE DIBROMOCHLOROMETHANE N.D. 0.50 N.D. N.D. 0.50 N.D. N.D. 0.50 N.D. N,D. 0.50 N.D. N.D. 0.50 N.D. CHLOROBENZENE N D 0.50 N.D. 97.0 BROMOFORM N.D. 2.0 N.D. 1,1,2,2-TETRACHLOROETHANE 1,3-DICHLOROBENZENE 1,4-DICHLOROBENZENE N.D. 0.50 N.D. N.D. 0.50 N.D. N.D. 0.50 N.D. , 2-DICHLOROBENZENE ND. 0.50 N.D. TRICHLOROTRIFLUOROETHANE N.D. 0,50 N.D. CHLOROMETHANE BROMOMETHANE N.D. 1.0 N.D. N.D.

Oleg Nemtsov Chemist

Fol Chip Poalinelli

Operations Manager

CHROMALAB, INC.

Environmental Services (SD8)

September 3, 1997

Submission #: 9708214

H2OGEOL

Atten: Gary Lowe

Project: RUNNELS INDUSTRIES Received: August 20, 1997

re: One sample for Volatile Halogenated Organics analysis.

Method: SW846 Method 8010A July 1992

Client Sample ID: 3590/MW-4

Spl#: 144271

Macrix: WATER

Sampled: August 20, 1997

Run#: 8407

REPORTING

Analyzed: August 27, 1997

ANALYTE	RESULT	LIMIT (ug/L)	RESULT (ug/L)	BLANK I SPIKE (%)	FACTOR
VINYL CHLORIDE	N.D.	0.50	N.D.	` ` '	1
CHLOROETHANE	N.D.	0,50	N.D.	·	ī
TRICHLOROFLUOROMETHANE	N.D.	0.50	N.D.		1
1,1-DICHLOROETHENE	N.D.	0.50	N.D.	88.0	ī
METHYLENE CHLORIDE	N.D.	5.0	N.D.		ĩ
TRANS-1, 2-DICHLOROETHENE	N.D.	0.50	N.D.		1
CIS-1,2-DICHLOROETHENE	N.D.	0.50	N.D.		. 1
1,1-DICHLOROETHANE	N.D.	0.50	N.D.		1
CHLOROFORM	N.D.	3.0	N.D.		1
1,1,1-TRICHLOROETHANE	N.D.	0.50	N.D.		1
CARBON TETRACHLORIDE	N.D.	0.50	N.D.		1
1,2-DICHLOROETHANE	N.D.	0.50	N.D.		1
TRICHLOROETHENE	0.60	0.50	N.D.	100	1
1,2-DICHLOROPROPANE	Ŋ.D.	0.50	N.D.		1
BROMODICHLOROMETHANE	и.р.	0.50	N.D.		1
2-CHLOROETHYL VINYL ETHER	Ŋ.D.	0.50	Ŋ.D.		1
TRANS-1,3-DICHLOROPROPENE	Ŋ.D.	0.50	N.D.		1
CIS-1,3-DICHLOROPROPENE 1,1,2-TRICHLOROETHANE	Ŋ.D.	0.50	Ŋ.D.		1
TETRACHLOROETHENE	й.D.	0.50	Ŋ.D.		1
DIBROMOCHLOROMETHANE	N.D.	0.50	<u>й</u> .р.		1
CHLOROBENZENE	N.D.	0.50	Ŋ.D.		1
BROMOFORM	N.D.	0.50 2.0	й.D.	97.0	1
1,1,2,2-TETRACHLOROETHANE	N.D. N.D.		N.D.		1
1 3-DYCULODODONOCHIMANE		0.50	Ŋ.D.		1
1,3-DICHLOROBENZENE 1,4-DICHLOROBENZENE	<u>и</u> .р.	0.50	Ņ.D.		1
1,2-DICHLOROBENZENE	N.D. N.D.	0.50	Ŋ.D.		1
TRICHLOROTRIFLUOROETHANE	N.D.	0.50	N.D.		1
CHLOROMETHANE	N.D.	0.50	Ŋ.D.		1
BROMOMETHANE	N.D.	1.0	N.D.		111111111111111111111111111111111111111
(h)	и.Б.	1.0	N.D.		1

Oleg Nemtsov

Kea Newson

Chemist

V830 0:000405 JIPWFI 14:17

Chip Poalinelli Operations Manager

Environmental Services (SDB)

August 27, 1997

Submission #: 9708214

H20GEOL

Atten: Gary Lowe

Project: RUNNELS INDUSTRIES Received: August 20, 1997

re: One sample for Soluble Miscellaneous Metals analysis. Method: EPA 3005A/6010A Nov 1990

Client Sample ID: 3590/MW-4

SpI#: 144271

Sampled: August 20, 1997

Matrix: WATER Run#: 8356

Extracted: August 27, 1997

Analyzed: August 27, 1997

REPORTING BLANK BLANK DILUTION RESULT LIMIT RESULT SPIKE FACTOR (mq/L) N.D. N.D. 0.19 (mg/L) 0.0050 0.0050 0.010 N.D. N.D. N.D.

(Mountles For Christopher Arndt Chemist

John S. Labesh Inorganics Supervisor

1252 Quarry Lane P.O. Box 9019 Pleasanton, CA 94566 (510) 426-2600 Fax (\$10) 426-0106

ENVIRONMENTAL CONSULTANTS

September 9, 1997

Ms. Criselda Laluces CHROMALAB, INC. 1220 Quarry Lane Pleasanton, CA 94566

> Client Ref.: 9708214 Clayton Project No.: 97090.14

Dear Ms. Laluces:

Attached is our analytical laboratory report for the samples received on September 2, 1997. Also enclosed is a copy of the Chain-of-Custody record acknowledging receipt of these samples.

Please note that any unused portion of the samples will be discarded after October 9, 1997, unless you have requested otherwise.

We appreciate the opportunity to assist you. If you have any questions concerning this report, please contact Suzanne Haus, Client Services Supervisor, at (510) 426-2657.

Sincerely.

mehund Sicedlem Harriotte A. Hurley, CIH Director, Laboratory Services San Francisco Regional Office

HAH/las

Attachments

Clayton Environmental Consultants, Inc. • Atlanta • Chicago • Cleveland • Los Angeles • Minneapolis • New York • Orange County • Portland • Detroit # Honglulu • Indianapolis

Clayton ENVIRONMENTAL CONSULTANTS

Page 2

Analytical Results

for CHROMALAB, INC.

Client Reference: 9708214 Clayton Project No. 97090.14

Sample Identification: 3590/MW-1 Lab Number: 9709014-01A Sample Matrix/Media: WATER Preparation Method: EPA 5030A Method Reference:

FDA 9260A

Date Sampled: 08/20/97 Date Received: 09/02/97 Date Prepared: 09/02/97

Date Analyzed: 09/02/97

method Reference: EPA 8280	A	Analyst:	DTL
Analyte	CAS #	Concentration (ug/L)	Limit of Detectior (ug/L)
Volatile Organic Compounds			
Acetone	67-64-1	ND .	20
Benzene	71-43-2	ND	Š
Bromobenzene	108-86-1	ND	5
Bromochloromethane	74-97-5	ND	5
Bromodichloromethane	75-27-4	ND	š
Bromoform	75-25-2	ND	5
Bromomethane	74-83-9	ND	5

2-Butanone 78-93-3 ND 20 n-Butvlbenzene 104-51-8 ND 5 Carbon disulfide 75-15-0 ND Carbon tetrachloride 56-23-5 ND Chlorobenzene 108-90-7 ND Chloroethane 5 5 75-00-3 ND Chloroform 67-66-3 ND Chloromethane 74-87-3 ND 5 5 5 2-Chlorotoluene 95-49-8 ND 4-Chlorotoluene 106-43-4 ND Dibromochloromethane 124-48-1 ND 5 1.2-Dibromo-3-chloropropane 96-12-8 ND 1,2-Dibromoethane 106-93-4 ND 55555555 Dibromomethane 74-95-3 ND 1.2-Dichlorobenzene 95-50-1 ND 1.3-Dichlorobenzene 541-73-1 ND 106-46-7 1,4-Dichlorobenzene ND Dichlorodifluoromethane 75-71-8 ND 1.1-Dichloroethane 75-34-3 ND 1,2-Dichloroethane 107-06-2 ND 1.1-Dichloroethene 75-35-4 ND Cis-1.2-Dichloroethene 156-59-2 ND trans-1,2-Dichloroethene 156-60-5 ND

Page 4 of 7

08/20/97

09/02/97

09/02/97

DTL

Page 3 of 7

Analytical Results for

CHROMALAB, INC. Client Reference: 9708214 Clayton Project No. 97090.14

Analytical Results for CHROMALAB, INC.

Client Reference: 9708214 Clayton Project No. 97090.14

Sample Identification: 3590/MW-1 Lab Number: 9709014-01A Sample Matrix/Media: WATER Preparation Method:

Method Reference:

EPA 5030A EPA 8260A Date Sampled: 08/20/97 09/02/97 Date Received: Date Prepared: Date Analyzed:

Analyst:

09/02/97 09/02/97 DTL

	S
	9 F
t	-

Sample Identification: 3590/MW-1 Date Sampled: 9709014-01A Lab Number: Date Received: 09/02/97 Sample Matrix/Media: WATER Date Prepared: Preparation Method: EPA 5030A Date Analyzed: Method Reference: EPA 8260A Analyst:

Analyte	CAS #	Concentration (ug/L)	Limit of Detection (ug/L)
Volatile Organic Compounds (Cont	tinued)		
1,2-Dichloropropane	78-87-5	ND	5
1,3-Dichloropropane	142-28-9	ND	5
2,2-Dichloropropane	594-20-7	NĎ	5
1,1-Dichloropropene	563-58-6	ND	5
cis-1.3-dichloropropene	10061-01-5	ND	5
trans-1,3-dichloropropene	10061-02-6	ИĎ	5
Ethylbenzene	100-41-4	ИĎ	5
Freon 113	76-13-1	ИД	5
Hexachlorobutadiene	87- 6 8-3	ND	5
2-Hexanone	591-78-6	ND	20
Isopropylbenzene	98-82-8	ND	5
p-Isopropyltoluene	99-87-6	ND	5
Methylene chloride	75-09-2	ND	5
4-Methyl-2-pentanone	108-10-1	ND	20
MTBE	1634-04-4	520	5
Naphthalene	91-20-3	ND	5
n-Propylbenzene	103-65-1	ND	5
sec-Butylbenzene	135-98-8	ND	5
Styrene	100-42-5	ND	5
tert-Butylbenzene	98-06-6	NĎ	5
1,1,1,2-Tetrachloroethane	630-20-6	ND	5
1,1,2,2-Tetrachloroethane	79-34-5	ND	5
Tetrachloroethene	127-18-4	ND	5
Toluene	108-88-3	ND	5
1,2,3-Trichlorobenzene	87-61-6	ND	5 5 5 5 5 5 5 5 5 5 5 5 5 5 5 5 5 5 5
1,2,4-Trichlorobenzene	120-82-1	ND	5
1.1.1-Trichloroethane	71-55-6	ND	5
1.1.2-Trichloroethane	79-00-5	άи	5
Trichloroethene	79-01-6	44	5
Trichlorofluoromethane	75-69-4	. ND	5

Analyte	CAS #	Concentration (ug/L)	Limit of Detection (ug/L)
Volatile Organic Compounds (Con	ntinued)		
1.2.3-Trichloropropane	96-18-4	ND	5
1,2,4-Trimethylbenzene	95-63- 6	ND	5 5 5
1,3,5-Trimethylbenzene	108-67-8	ND	
Vinyl acetate	108-05-4	ND	20
Vinyl chloride	75-01-4	ND	5
o-Xylene	95-47 <i>-6</i>	ND	5 5
p,m-Xylenes		ND	5
Surrogates		Recovery (%)	QC Limits (%)
4-Bromofluorobenzene	460-00-4	98	86 - 115
Dibromofluoromethane	1868-53-7	101	86 - 118
1,2-Dichloroethane-d4	17060-07-0	100	80 - 120
Toluene-d8	2037-26-5	99	88 - 110

ND: Not detected at or above limit of detection --: Information not available or not applicable

Page 5 of 7

for CHROMALAB, INC. Client Reference: 9708214 Clayton Project No. 97090.14

Analytical Results

Page 6 of 7

Analytical Results for

CHROMALAB, INC. Client Reference: 9708214 Clayton Project No. 97090.14

Sample Identification: METHOD BLANK

Lab Number: Sample Matrix/Media:

9709014-02A WATER

EPA 5030A

Preparation Method: Method Reference:

EPA 8260A

Date Sampled: Date Received: --

Date Prepared: 09/02/97

Date Analyzed: 09/02/97 Analyst:

Sample Identification: METHOD BLANK Lab Number: 9709014-02A

Sample Matrix/Media:

Preparation Method:

EPA 5030A

WATER

Date Sampled: -Date Received: --

Date Prepared: 09/02/97 Date Analyzed: 09/02/97

Method Reference: EPA 8260A		Analyst:	DTL	Method Reference:	EPA 8260A		Analyst:	DTL.
Analyte	CAS #	Concentration (ug/L)	Limit of Detection (ug/L)	Analyte		CAS #	Concentration (ug/L)	Limit of Detecti (ug/L)
Volatile Organic Compounds				Volatile Organic Comp	oounds (Continue	<u>a)</u>		
Acetone	67-64-1	ND	20	1,2-Dichloropropane		78-87-5	ND	-
Benzene	71-43-2	ND	5	1.3-Dichloropropans		142-28-9	ND	5
Bromobenzene	108-86-1	ND	5	2,2-Dichloropropane		594-20-7	ND	5
Bromochloromethane	74-97-5	ND	5	1.1-Dichloropropens		563-58-6	ND	2
Bromodichloromethane	75-27-4	ND	5	cis-1,3-dichloropro	nana	10061-01-5	ND	5
Bromoform	75-25-2	ND	5	trans-1,3-dichlorop	, berre	10061-01-5	ND	5
Bromomethane	74-83-9	ND	5	Ethylbenzene	ropene	100-41-4		5
2-Butanone	78-93-3	ИD	20	Freon 113		76-13-1	ND	5
n-Butylbenzene	104-51-8	ND	5	Hexachlorobutadiene			מא	5
Carbon disulfide	75-15-0	ND	5	2-Hexanone	•	87-68-3	ND	5
Carbon tetrachloride	56-23-5	ND	Š	Isopropylbenzene		591-78-6	ND	20
Chlorobenzene	108-90-7	ND	š	p-Isopropyltoluene		98-82-8	ND	5
Chloroethane	75-00-3	ND	Š	Methylene chloride		99-87-6	ND	5
Chloroform	67-66-3	ND	5			75-09-2	ND	5
Chloromethane	74-87-3	ND	5	4-Methyl-2-pentanon	ıe	108-10-1	ND	20
2-Chlorotoluene	95-49-8	ND	7 8			1634-04-4	ND	5
4-Chlorotoluene	106-43-4	ND	9	Naphthalene		91-20-3	ND	5
Dibromochloromethane	124-48-1	ND		n-Propylbenzene		103-65-1	ND	5
1,2-Dibromo-3-chloropropane	96-12-8	ND	9	sec-Butylbenzene		135-98-8	ND	5
1,2-Dibromoethane	106-93-4	ND	5	Styrene		100-42-5	ИD	5
Dibromomethane	74-95-3	ND	5	tert-Butylbenzene		98-06-6	ИD	5
1,2-Dichlorobenzene	95-50-1	ND ND	5	1,1,1,2-Tetrachloro		630-20-6	ND	5
1,3-Dichlorobenzene	541-73-1	ND UN	5	1,1,2,2-Tetrachloro	ethane	79-34-5	ND	5
1,4-Dichlorobenzene	106-46-7		2	Tetrachloroethene		127-18-4	ND	5
Dichlorodifluoromethane	75-71-8	ND	5	Toluene		108-88-3	ND	5
1,1-Dichloroethane		ND	5	1,2,3-Trichlorobenz		87-61-6	ND	5
1,2-Dichloroethane	75-34-3	ND	5	1,2,4-Trichlorobenz		120-82-1	ND	5
1,1-Dichloroethene	107-06-2	. מא	5	1.1.1-Trichloroetha		71-55-6	ND	5
cis-1,2-Dichloroethene	75-35-4	ND	· 5	1.1.2-Trichloroetha	.ne	79-00-5	ND	5
trans-1,2-Dichloroethene	156-59-2	ND	5	Trichloroethene		79-01-6	ND	5
crans-1,2-Dichiordethene	156-60-5	ND	5	Trichlorofluorometh	ane	75-69-4	ND	ξ

Clayton

Page 7 of 7

Analytical Results for

CHROMALAB, INC. Client Reference: 9708214 Clayton Project No. 97090.14

Sample Identification: METHOD BLANK

Lab Number:

9709014-02A

Sample Matrix/Media: Preparation Method: Method Reference: WATER

EPA 5030A EPA 8260A Date Sampled:

Date Received: -

Date Prepared: 09/02/97 Date Analyzed: 09/02/97

Analyst: D'

DTL

Analyte	CAS #	Concentration (ug/L)	Limit of Detection (ug/L)
Volatile Organic Compounds (Con	tinued)		
1,2,3-Trichloropropane 1,2,4-Trimethylbenzene 1,3,5-Trimethylbenzene Vinyl acetate Vinyl chloride o-Xylene p,m-Xylenes	96-18-4 95-63-6 108-67-8 108-05-4 75-01-4 95-47-6	ND ND ND ND ND ND	5 5 20 5 5 5
Surrogates		Recovery (%)	OC Limits (%)
4-Bromofluorobenzene Dibromofluoromethane 1,2-Dichloroethane-d4 Toluene-d8	460-00-4 1868-53-7 17060-07-0 2037-26-5	98 100 98 99	86 - 115 86 - 118 80 - 120 88 - 110

ND: Not detected at or above limit of detection --: Information not available or not applicable

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Environmental Services (SDB)

September 10, 1997

Submission #: 9709117

H2OGEOL

Atten: Gary Lowe

Project: RUNNELS INDUSTRIES Received: August 15, 1997

re: 2 samples for TEPH analysis.

Method: EPA 8015M

Sampled: August 15, 1997

Matrix: SOIL Run#: 8553 Extracted: September 9, 1997
Analyzed: September 9, 1997

Kerosene Diesel Motor Oil CLIENT SPL ID (mg/Kg) (mg/Kg) (mg/Kg) 146747 B8/3 N.D. 580 Note: Estimated concentration due to overlapping fuel patterns. 146748 B8/6' N.D. 460 160 Note: Estimated concentration due to overlapping fuel patterns. Reporting Limits 5.0 5.0 100

N.D.

85.3

Blank Result Blank Spike Result (%)

Bruce Havlik Chemist

Alex Tam Semivolatiles Supervisor CHROMALAB, INC.

Environmental Services (SDB)

September 10, 1997

Submission #: 9709117

H2OGEOL

Atten: Gary Lowe

Project: RUNNELS INDUSTRIES Received: August 15, 1997

re: 1 sample for TEPH analysis.

Method: EPA 8015M

Sampled: August 15, 1997

CLIENT SPL ID

Matrix: SOIL

Extracted: September 9, 1997

 Run#:
 8553
 Analyzed: September 9, 1997

 Kerosene
 Diesel
 Motor Oil

 (mg/Kg)
 (mg/Kg)
 (mg/Kg)

146750 88/9'
N.D. 280 78
Note: Estimated concentration due to overlapping fuel patterns.

Reporting Limits 1.0 1.0 50

Blank Result
Blank Spike Result (%)

Bruce Havlik

Chemist

..0 1.0 N.D. -- 85.3

Alex Tam

Semivolatiles Supervisor

Environmental Services (SDB) (DOHS 1094)

ADD ON/CHANGE ORDER

Original Submission Info	Name of Caller:			:35402/9708172	
Client Name: H2 OGEO	Call Date: 9/	9 (97 Time:			
\sim	- Add on Dua Date	9/15/97 Date Sample	ed 8/15/97		•
Project Mgr: GAPY Lows Project Name: RUNNELS IND	Comments: X E	XTRACT 9/9/9-	7 1		
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·		ANALYSIS REPO	RT		
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Submission No: 9708172			LUFF METALS: Cd. Cr. Pb. Zn. 1 CAM METALS (17) PRIORITY POLLUTANT METALS (13)	TOTAL 16AD EXTRACTION ITCLP. STIC)	NUMBER OF CONTAINERS
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08/15/97

Chromelab, Inc.

1.116016