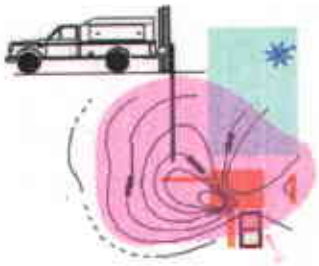
GeoSolv, LLC
Environmental and Hydrogeological Consulting
643 Oregon Street, Sonoma, CA 95476
Phone: (707) 996-4227 Fax: (707) 996-7882

We Don't Just Work on Your Environmental Problems. We Solve Them!



January 20, 1998

Tom Peacock, Director
Alameda County Health Care Agency
Environmental Protection Division, Department of Environmental Health
1131 Harbor Bay Parkway, 2nd Floor, Room 250
Alameda, CA 94502
(510) 567-6700 Phone, (510) 337-9335 Fax

SUBJECT: Transmittal of Subsurface Investigation Report of Waste Discharges from USTs and Other Point Sources at the Former Glovatorium/The Leather Cleaners Site Located at: 3815 BROADWAY , OAKLAND, CA 94611

Dear Mr. Peacock,

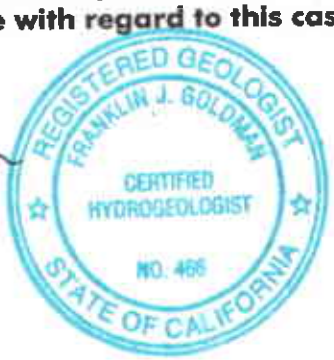
GeoSolv, LLC is pleased to submit the attached subsurface investigation report. As I stated during our recent phone conversation, it was completed over a month ago and has since undergone legal review by the Depper's attorney. A cursory review of the attached report reveals that this case involved more than just discharges from USTs and therefore required some additional time for completion. I would also like to reiterate that I have not received any formal due date in writing for the submittal of this report. The last reference to a due date was from Stuart Depper who stated that the report had to be completed approximately one week prior to a January 26th court hearing so that Scott Seary would have enough time to review the report. According to my calender, since Monday, January 19th is a holiday, and this report has been submitted on Tuesday, I am right on time.

I appreciate your concern during our recent phone conversation and would welcome any dialogue you may want to initiate with regard to this case.

Sincerely,

Franklin J. Goldman

Franklin J. Goldman
CEO/GeoSolv, LLC
Registered Geologist No. 5557
Certified Hydrogeologist No. 466



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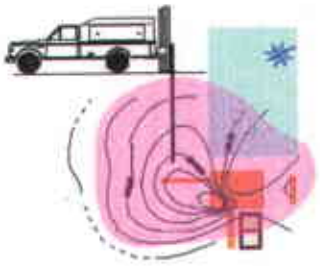


We Don't Just Work on Your Environmental Problems. We Solve Them!

January 16, 1998

Scott Seary
Alameda County Health Care Agency
Environmental Protection Division, Department of Environmental Health
1131 Harbor Bay Parkway, 2nd Floor, Room 250
Alameda, CA 94502
(510) 567-6783 Phone, (510) 337-9335 Fax

SUBJECT: **Subsurface Investigation Report of Two Clusters of Underground Storage Tanks (USTs) at the Former Glovatorium/The Leather Cleaners Site Located at: 3815 BROADWAY, OAKLAND, CA 94611**

Dear Mr. Seary,

GeoSolv, LLC **has completed the aforementioned subsurface investigation and the report is contained herein. The purpose of the investigation was to comply with the requirements of the approved workplan and to identify incidental discharges from two clusters of six USTs. Discharges of stoddard solvent have been confirmed to have emanated from within the vicinity of the USTs onsite and possibly from the Thompson property to the south. During the course of the investigation, MTBE was identified in groundwater and appears to have migrated from offsite. Chlorinated solvents were identified in the vicinity of borehole B-10 within the subject facility. BTEX constituents were identified in groundwater and appear to be migrating from the direction of the underground storage tanks located at the Earl Thompson property at 316 38th Street. Prior sampling, conducted in about 1993, reported the presence of diesel in the subsurface. This report attempted to confirm the reported presence of this diesel fuel but was unable to do so. While heavy long change hydrocarbons were identified in soil and groundwater, the most recent analyses performed during this investigation could not confirm that these constituents biodegraded from diesel.**

when?

Heavy long carbon chain hydrocarbons were identified in soil and groundwater as a result of analysis for diesel ranged organics which could have originated from a number of potential sources (Figure A - Map of site location relative to adjacent sites). Groundwater resources are not at risk because the site is located in an area where the beneficial uses of groundwater are not even suited for industrial/commercial use and all business and residences in the vicinity are on municipal supply water. The contamination identified on site does not pose a significant threat to health or the environment.

Sincerely,

Franklin J. Goldman

REGISTERED GEOLOGIST
FRANKLIN J. GOLDMAN
CERTIFIED
HYDROGEOLOGIST
NO. 466
STATE OF CALIFORNIA

Franklin J. Goldman
CEO/GeoSolv, LLC
Registered Geologist No. 5557
Certified Hydrogeologist No. 466

1.0 Soil and Groundwater Sampling

Fourteen (14), 2.5 inch diameter continuously cored boreholes were excavated with a push technology drill rig from 8-19-97 through 8-22-97 to obtain soil and groundwater samples. When drilling met significant resistance, a 1.0 inch diameter split spoon sampler was used to complete the boreholes until groundwater was encountered. Seven (7) of the boreholes received a ½ inch, temporary PVC blank and screened casing (0.02 inch slots) to obtain groundwater samples. The boreholes were logged by a State registered geologist (Appendix A - Boring Logs). Soil samples extruded into the acetate liners were cut into approximate six inch lengths. Samples collected with the split spoon were extruded into brass tubes. Soil samples were covered at each end with Teflon sheets, capped with plastic end caps, tapped with duct tape, labeled, placed into plastic Zip-loc bags, placed into an ice chest at 4 degrees centigrade, and transported to a State certified laboratory, under proper chain of custody, within appropriate holding times. All samplers were cleaned with a Liquinox solution between samplings.

Groundwater samples were collected by purging and developing the temporary wells with a 3/8 inch steel bailer. Approximately three (3) borehole volumes were removed from each well. Groundwater samples were collected after the water level had recovered to within 80% of its original depth bgs. Groundwater extracted during the development process was analyzed for temperature, conductivity, and pH with a Hydac Kit until three consecutive readings were within 10% difference for each parameter. Groundwater samples were placed in 40 ml VOAs with HCL preservative and in one amber liter bottles for VOCs and diesel ranged organics, respectively. Water samples were labeled under proper chain of custody and placed in an ice chest at four (4) degrees centigrade for transport to a State certified lab. All bailers were cleaned with a Liquinox solution between samplings. Seven of the boreholes were backfilled and sealed with grout and the seven temporary well points were covered with a six inch thick bentonite plug and a concrete cap to complete the seal at the surface opening. A report dated 11-20-97 was submitted to the Zone 7 Water Agency documenting well abandonment activities.

Soil drill cuttings, well purge water, and rinseate were placed in drums. The drums were labeled and left onsite for profiling for eventual transport to a legal point of disposal.

2.0 Groundwater Level Measurements

Water level measurements were taken with an electronic water level sounder to the nearest 100th of a foot below ground surface. Well locations were measured for relative elevation by a certified land surveyor. The groundwater gradient direction is to the southwest at a gradient of 0.11 feet/foot (Figure 1A & Figure 1). This is consistent with the investigation performed for the UNOCAL Service Station at 40th and Broadway which also exhibited a groundwater gradient in the west to southwest direction towards the subject site (see Appendix B2 for Unocal's gradient map).

Flow direction appears, based on Geo Solv data, to be complex w/ possible mounding in area of B-3, with isopleths wrapping around that pt. from northerly to southwesterly. Other mounding appears possible in area of B-10.

2

3.0 Local Hydrogeology

The site is located within gravelly and sandy clays below the stratigraphic equivalent of the water bearing Merritt sand (Figure 2). The earth materials encountered in the boreholes support the lithology in the reference map and stratigraphic section. The site is located within Area "B" which is has a probable maximum well yield which is "adequate for stock or single family domestic use but inadequate to marginal for light industrial use" according to the USGS and the Department of Housing and Urban development.

- map states data are for "water bearing rocks," NOT unconsolidated sediments. Which is it intended to represent?

The site is predominantly clay with peat in isolated areas near surface elevation (Figures 3, 4, & 5 - Lithologic cross sections).

4.0 Reporting and Interpretation of Laboratory Results

Stoddard Solvent

The distribution of stoddard solvent in soil and groundwater was assessed as an indicator constituent to demonstrate a generalized configuration of potential point sources and migratory pathways of other constituents identified at the site. Stoddard solvent is not carcinogenic or toxic according to any regulatory interpretation of existing State and Federal regulations. It is not a hazardous substance.

wrong -
- Class II combust.
- PEL 500 ppm
- listed haz waste (22 CCR)

Cross sections of stoddard solvent in soil (Figure 6) indicate that the plume is centered around borehole B7. The highest concentrations of stoddard solvent in borehole B7 are at a depth of approximately ten (10) feet bgs. (Lower concentrations were found above the 10 foot level). This indicates that the stoddard solvent migrated from a lateral point source rather than from the surface.

— probably combination of surface/shallow and deeper (UST?) source

Prior field observations during the UST abandonment procedure on the Depper property indicated that one UST in the vicinity of boreholes B3 and B4 had leaked. Sampling in boreholes B3 and B4 confirmed the presence of stoddard solvent at depths of 5 feet to 11 feet below ground surface which is consistent with these prior observations. It is also known that stoddard solvent was stored in USTs located on the Earl Thompson property located south of boreholes B3 and B4. As exhibited in Figures 4 and 5, there is a laterally continuous sandy clay layer which exhibits a preferred stratigraphic orientation which would direct the migration of contaminants from the vicinity of boreboles B3 and B4 towards borehole B7 (See Figure 6). In addition, the groundwater flow direction is east to west from the direction of boreholes B3 and B4 towards borehole B7. Therefore, it appears that most of the contamination in the vicinity of borehole B7 migrated from the direction of the Earl Thompson property and the onsite USTs in the vicinity of boreholes B3 and B4.

- also, Depper accounts indicate UST had leaked prior to purchase in 1960's

would, or could?

!?
*

In addition, it has been reported that there was a bare patch of soil, which has since been sealed with concrete, on the surface in the vicinity of borehole B7. It is also reported that the prior owner of the Depper property washed the floors in this area with stoddard solvent. Therefore, the bare patch may have provided a pathway for surface discharges of stoddard solvent to the subsurface. As exhibited in Figure 6, the data confirms the presence of stoddard solvent near the surface in the vicinity of borehole B7.

- open patch of ground still present as of 8/97

reported by whom?

* boring B-7 was advanced through a bare dirt patch in the floor of stoddard solvent cleaning machine room

In summary, most of the stoddard solvent identified in soil appears to have come from the vicinity of the onsite USTs and the Earl Thompson property and some of the stoddard solvent came from surface spillage onsite.

Groundwater at the property is located at a depth of approximately 14 feet below ground surface. Stoddard solvent in groundwater generally mimics the lateral distribution of the plume in soil (See Figures 7 and 7A and Appendix C1) in that it is centered around borehole B7. The highest concentrations of stoddard solvent in groundwater are centered at B3, implying a potential source in the vicinity of the USTs and the Earl Thompson property. A high concentration of stoddard solvent in groundwater was also found in the vicinity of borehole B10 (stoddard solvent levels in soil in B10 were very low). Figures 4, 5 and 6 indicate the presence of a laterally continuous sand layer, ½ foot to 2 feet thick, at a depth of about 15 to 17 feet bgs in boreholes B7, B8, B9, B10, B11 and B12. This sand layer is very permeable and serves as a conduit for the migration of contaminants. Since no significant levels of stoddard solvent were found in the soil in the vicinity of B10, it appears that the stoddard solvent contamination in groundwater in boring B10 migrated to this area from the vicinity of the USTs and the Earl Thompson property through this sand layer.

As noted above, the stoddard solvent identified is not toxic or carcinogenic and groundwater has no practical beneficial use. In addition, stoddard solvent does not biodegrade into a hazardous waste. Moreover, the whole site is covered with concrete to prevent physical contact with human receptor. Therefore, the stoddard solvent does not pose a risk requiring any remedial activity at the site.

Chlorinated Solvents

Groundwater sampling was conducted in B3, B6, B9 and B10 for PCE and TCE. PCE and TCE were only identified in groundwater at borehole B10, but not in boreholes B3, B6 and B9 (Figure 8A, Figure 8 and Appendix C). Cis 1,2-dichloroethene (DCE) was found in the groundwater in all four boreholes. DCE is a well known biodegradation daughter product of the breakdown of PCE and TCE in soil and groundwater. The results demonstrate that a significant amount of the PCE and TCE onsite has biodegraded to DCE. DCE is generally not considered a significant health risk. This extensive transformation indicates that (1) onsite discharges have ceased and (2) there is a high rate and extent of biodegradation of PCE and TCE onsite. It is also evident that the PCE/TCE plume is no longer migrating and, indeed, is dissipating in place by being biodegraded into DCE, a significantly less hazardous material. Therefore, the isolated PCE/TCE plume poses a limited health risk. Based on the ASTM guidelines for risk based corrective action (RBCA) and experience with the State of California State Water Resources Control Board, it appears that this site qualifies for closure without the need for any additional investigation or remedial work.

Soil sampling was conducted in B3, B6, B9 and B10 for PCE and TCE. PCE and TCE were identified in soil at borehole B10 and were not identified in B3, B6, and B9 (Figure 8A, Figure 8 & Appendix C2). DCE was identified in soil in all four boreholes and appears to mimic the plume of DCE in groundwater. The DCE is a biodegradation product of the breakdown to the PCE and TCE identified in soil at B10. Since the chlorinated solvents in soil appear to be isolated at B10 in relatively deep soil,

* 1,2-DCE (usually mixture of trans and cis isomers) is also a solvent used in dye extraction, a likely process at this leather cleaning facility.

beneath concrete slabs, the risk of potential exposure to humans through inhalation and dermal exposure is minimal. Moreover, the presence of DCE in all four boreholes at relatively high concentrations indicates that the PCE/DCE plume is diminishing over time and should qualify for site closure based upon ASTM risk evaluation.

Other Related Issues - Significant Conduit for Migration of Chlorinated Solvent Offsite

One factor which could spread, or may have spread, the chlorinated solvent plume in groundwater, is the five (5) foot diameter Alameda County storm drain which runs underneath the property. It is riddled with holes, cracks, and very serious deep gaps in the concrete/brick liner which could permit chlorinated solvent contaminated groundwater to enter the stormdrain which would then serve as a preferential pathway for the migration of chlorinated solvents throughout the site and offsite.

It is recommended that the Alameda County Department of Public Works conduct a subsurface investigation to define the extent of the problem and to determine what remedies should be applied.

MTBE

MTBE was identified in groundwater at B1, B7, and B8 and is migrating from offsite (from the north and northwest) from the general direction of the existing UNOCAL service station. Initial laboratory results revealed 790 ppb of MTBE in groundwater at borehole B1(Figure 9 & Figure 9A) and a follow-up analysis by EPA Method 8260(Appendix D) confirmed the prior results.

There is no evidence of gasoline usage at the subject site and the only likely candidate up-gradient is the UNOCAL gasoline service station. The Alameda County Department of Environmental Health should contact UNOCAL and require them to investigate and mitigate the MTBE identified in groundwater.

Benzene

Benzene was identified in groundwater and is emanating from the south in the general direction of the Earl Thompson property (Figure 10A & Figure 10). It is also possible that this benzene could have emanated from the Express Auto Clinic located at 3610 Broadway (Figure A). No benzene was identified in soil (Appendix C1). Detectable levels of ethyl benzene, toluene, and xylene were identified in soil and are typically associated with benzene within gasoline fuels. Since the benzene is usually the first to biodegrade and volatilize within a gasoline mixture, in-situ, it indicates that the primary (e.g. a UST) and secondary (gasoline contaminated soil) contaminant sources exist to the south of the investigation area. Contamination identified at the Earl Thompson property and the constituents at the subject site are ethyl benzene, toluene, and xylene (Appendix E). There is no know source of BTEX constituents on the Depper property, however, toluene and xylenes were identified in a water sample collected from Earl Thompson's USTs.

The benzene plume, at the subject site, does not possess a spatial distribution which is similar to that of the stoddard solvent or chlorinated solvent plumes and therefore cannot be considered as a trace constituent which could have been entrained in the solvent products.

The Alameda County Department of Environmental Health should contact Earl Thompson and require a subsurface investigation and mitigation of benzene and stoddard solvent in groundwater. Benzene should be evaluated by Earl Thompson's environmental consultant for health risk to workers via inhalation inside the building and possibly for the residences nearby if the plume has been demonstrated to have migrated beneath one of the nearby houses, in the vapor phase.

Diesel and Oil Ranged Organics

Testing conducted in about 1993 by the Alameda County Health Department reported the presence of diesel fuel in soil on the property. As part of this study, sampling was conducted to determine the nature and extent of any diesel fuel at the property. Of the 19 soil and groundwater samples collected from the site and specifically analyzed for diesel ranged organics, not one was confirmed with the subscript of "a" in the lab reports (Appendix F1 and F2) which designates these hydrocarbons as diesel fuel. Instead, every diesel ranged hit was designated in the lab report as a "b" subscript which indicates that diesel ranged organic compounds are present yet there is no way of confirming that the original hydrocarbon it degraded from is actually diesel fuel. The statement associated with the "b" footnote designation, as labeled in the lab report (Appendix F1 and F2), is "no recognizable pattern." This means that the gas chromatographic peak cannot be matched with a diesel standard gas chromatographic peak as interpreted by a qualified chemist at a State Certified Analytical Laboratory. In summary, the numerical results presented in Appendix F1 and F2 represent long carbon chain petroleum hydrocarbons and do not represent diesel fuel. In other words, there is no discrete chemical analysis which can establish that a biodegradation relationship exists between a petroleum hydrocarbon such as stoddard solvent and a generic long carbon chain petroleum hydrocarbon which could be representative of natural organics in soil (e.g. Bay Mud and peat) or oil ranged organics.

- diesel "fuel" or diesel - range?

relevance?

Also, the distribution pattern of these long carbon chain petroleum hydrocarbon concentrations in soil and groundwater does not mimic the distribution of any of the other hydrocarbons identified at the site, according to the data collected to date. Therefore, there is no basis for concluding that these long carbon chain hydrocarbons are a biodegradation product of any other contaminants identified at the site.

Since the is no confirmation of diesel fuel and the long carbon chain petroleum hydrocarbons do not appear to be associated with any other hydrocarbons at the site, the implication is that these hydrocarbons did not degrade from some other hydrocarbon and may have emanated from some other source. The most likely source would be via the Alameda County Storm Drain System which is in serious disrepair and is serving as a conduit for the migration of long carbon chain petroleum hydrocarbons from offsite as confirmed from storm drain samples collected during this investigation, upflow from the site. Thus as part of this investigation, oil ranged organics (81ppb in water) were identified migrating from offsite through the County storm drain system conduit - a water sample was collected from the storm drain, after the first rain of the season (1997), located across Manila street, upflow from the site (Appendix F3 for laboratory data sheet). In addition, water samples collected from the storm drain leading into the Depper's property on 11-29-93 identified oil range compounds (700ppb in water) (Appendix F4 for laboratory data sheets). Oil ranged organic compounds (i.e. long carbon chain

a stretch

petroleum hydrocarbons) were also identified in the storm drain leading into the Depper's property on 10-14-93 (1,300 ppb in water)(Appendix F5).

Allegations of diesel identified at the subject site during past sampling events was certainly not confirmed by this investigation.

Are Diesel Ranged Organics of Concern?

The "Scope of the CERCLA Petroleum Exclusion" generated by the US EPA Office of Solid Waste and Emergency Response (Attachement A) generally states that petroleum distillates such as diesel are not hazardous substances and therefore when discharged are not hazardous wastes because, in effect, the diesel does not alter or degrade into a hazardous form.

relevance?

Diesel ranged organics, regardless of where they came from, will not be evaluated for risk because they are not toxic or carcinogenic. Diesel ranged organics have a taste and odor threshold for deliverable water but the beneficial uses of groundwater are not at issue.

Gasoline Ranged Organic Compounds

no, diesel-range

No definite point source of contamination has been associated with the gasoline ranged organic compounds identified in soil at a depth of 9.5 to 10.0 feet bgs at 220 PPM and in groundwater at 3,200 ppb in borehole BSD (Figure 1 for borehole location & Appendix F2) located in the sidewalk on Manilla street, adjacent to the five foot diameter County storm drain. The only potential point sources for this contamination, with the data collected to date, are the storm drain and/or associated bedding material or a discharge of gasoline fuel which could have occurred during the recent construction work performed by the City of Oakland Sewer Maintenance Department personnel at that exact location.

5.0 Conclusions

The site is predominantly underlain by clay in an industrial/commercial area where groundwater is of no beneficial use. The site is completely covered by concrete thus limiting exposures related to health risk. MTBE and benzene were identified onsite and appear to by migrating from offsite from the ~~Unocal~~ Gasoline Service Station to the north, and the Earl Thompson property to the south, respectively. The stoddard solvent and the chlorinated solvents appear to have emanated from onsite. In any event, however, the stoddard solvent does not pose a risk and the chlorinated solvents are biodegrading in-place. Uncontrolled storm water runoff is migrating from offsite into the Depper's property via a County storm drain system which has very poor structural integrity and may be transporting long carbon chain hydrocarbons into the Depper's property. Gasoline ranged organics may be migrating from offsite via the storm drain and/or from an illegal waste discharge to the subsurface during recent construction on Manilla street.

6.0 Recommendations

The seven temporary wells should be converted to more permanent groundwater monitoring wells so that quarterly groundwater monitoring can be utilized to

establish trends in concentrations to perform fate and transport calculation to establish relative health risks.

Since the chlorinated solvents are biodegrading in-situ, the natural attenuation process should be evaluated in general accordance with 1) the methods established in the US EPA guidance document entitled "Technical Protocol for Evaluating the Natural Attenuation of Chlorinated Ethenes in Groundwater" (Attachment B) and by 2) ASTM Risk-Based Corrective Action.

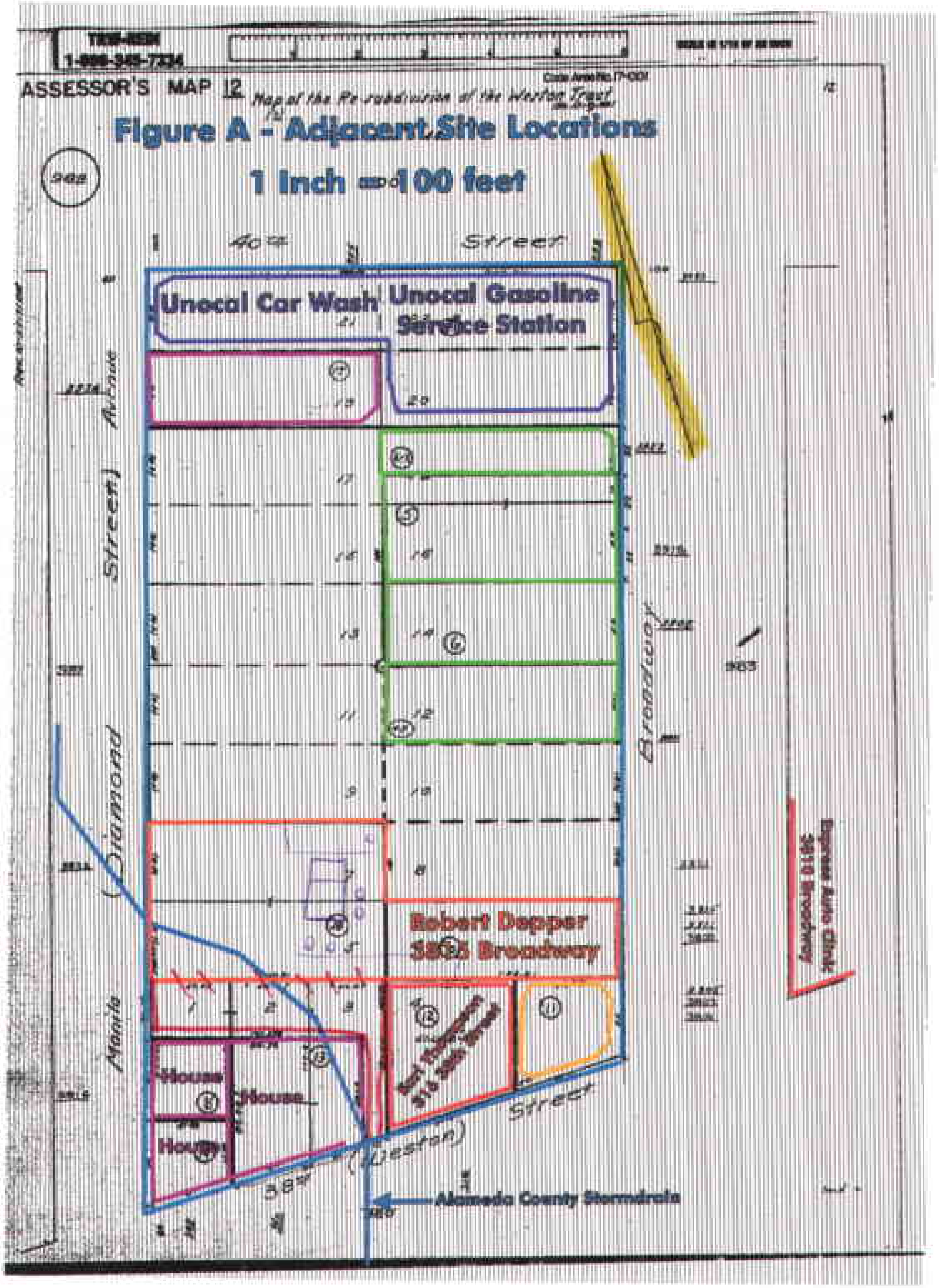
Earl Thompson, UNOCAL, and the Alameda County Department of Public Works should be contacted ASAP so that they can address the subsurface contamination problems associated with their operations. Earl Thompson should analyze for stoddard solvent, chlorinated solvents and BTEX constituents as these chemicals were identified in water samples collected from his USTs. Unocal should analyze for MTBE and BTEX constituents.

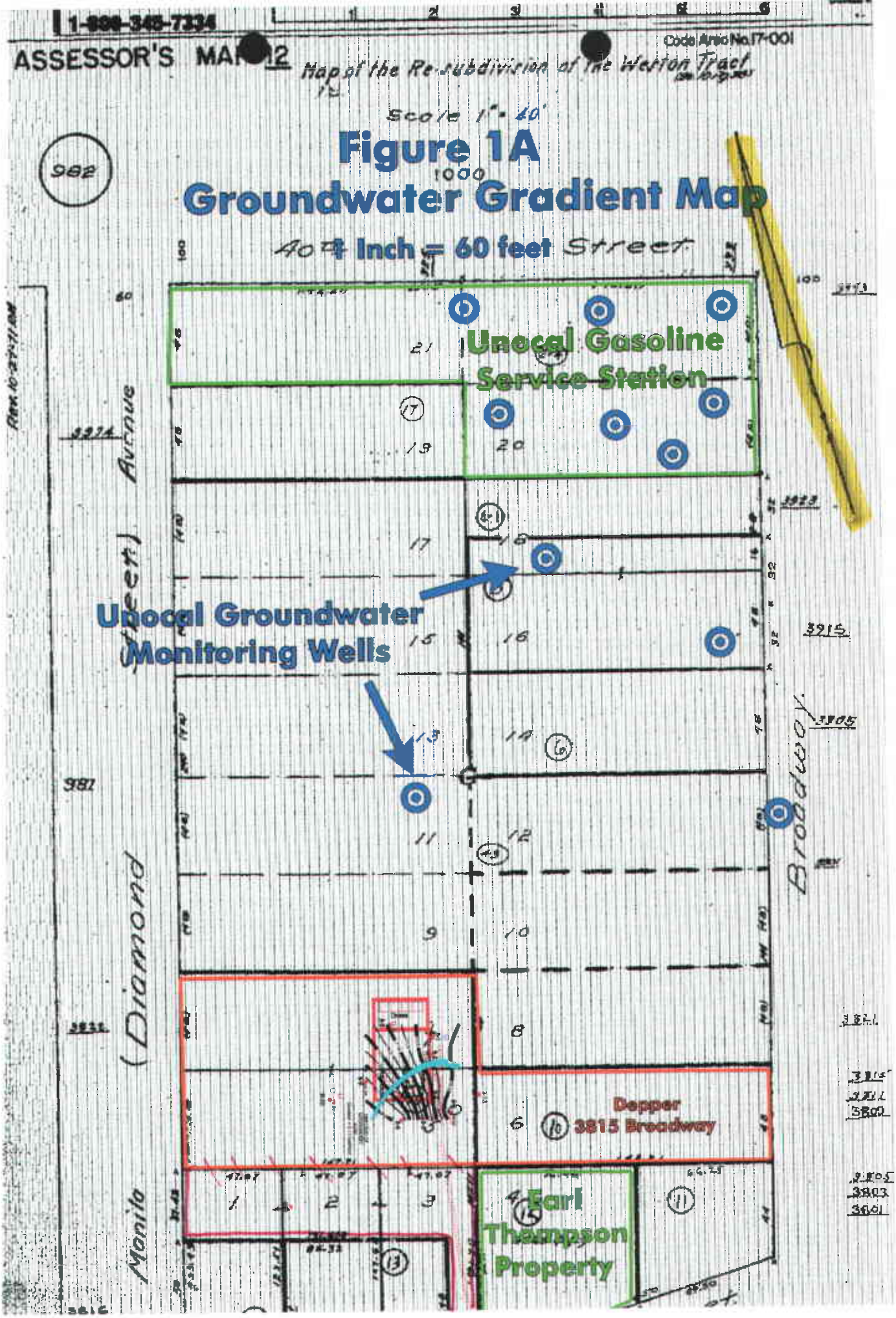
Limitations

This report has been prepared in accordance with generally accepted environmental, geological and engineering practices. No warranty, either expressed or implied, is made as to the professional advice presented herein. The analysis, conclusions and recommendations contained in this report are based upon site conditions as they existed at the time of the investigation and they are subject to change.

The conclusions presented in this report are professional opinions based solely upon visual observations of the site and vicinity, and interpretation of available information as described in this report. *GEOSOLV, LLC.* recognizes that the limited scope of services performed in execution of this investigation may not be appropriate to satisfy the needs or requirements of other state and local agencies or of other users. Any use or reuse of this document or its findings, conclusions or recommendations presented herein is at the sole risk of said user. Any and all previous drafts of this report dated prior to this report will be considered irrelevant and unsuitable for any purpose other than for communications between the client and the client's legal representatives.

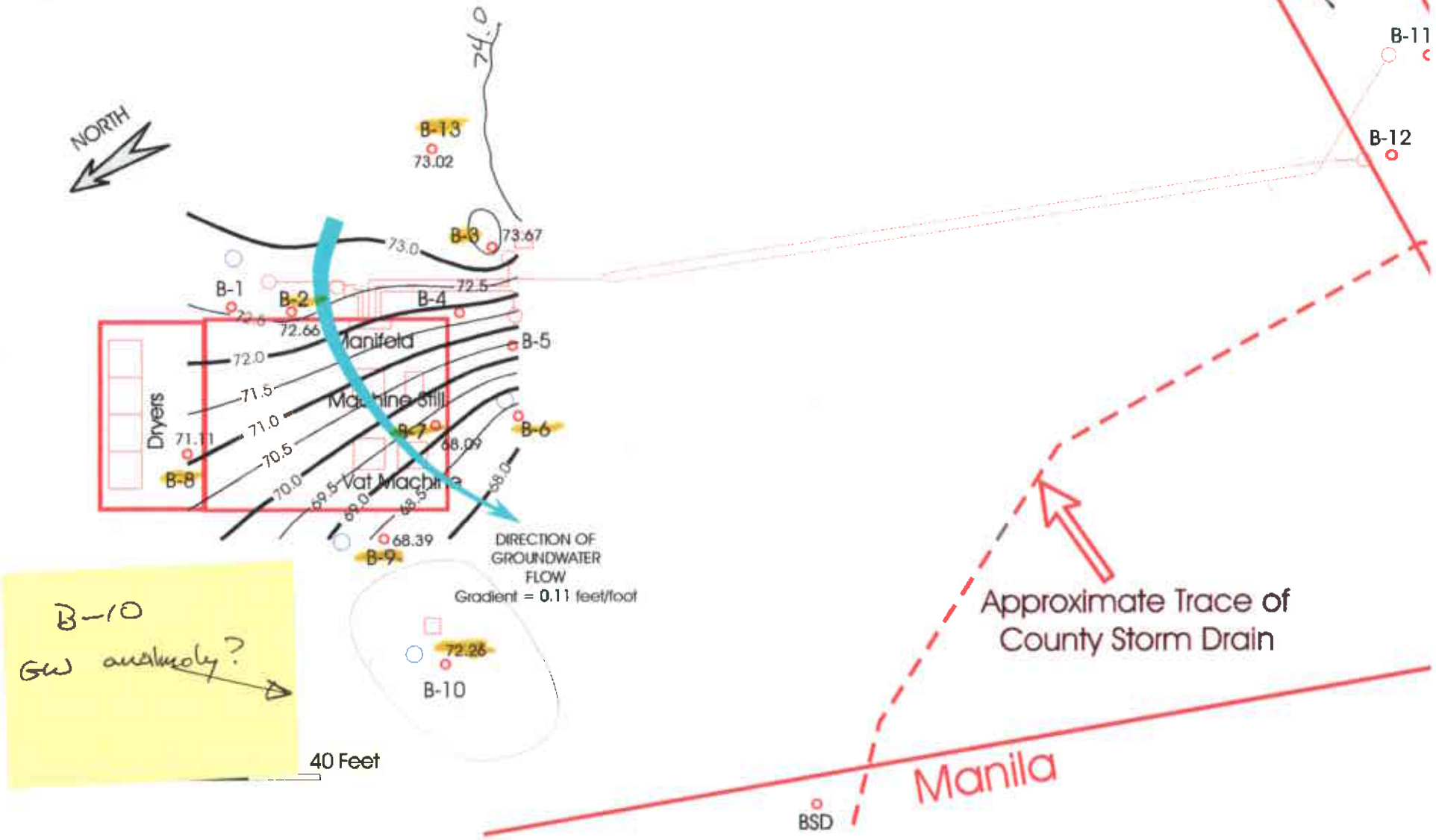
yes.

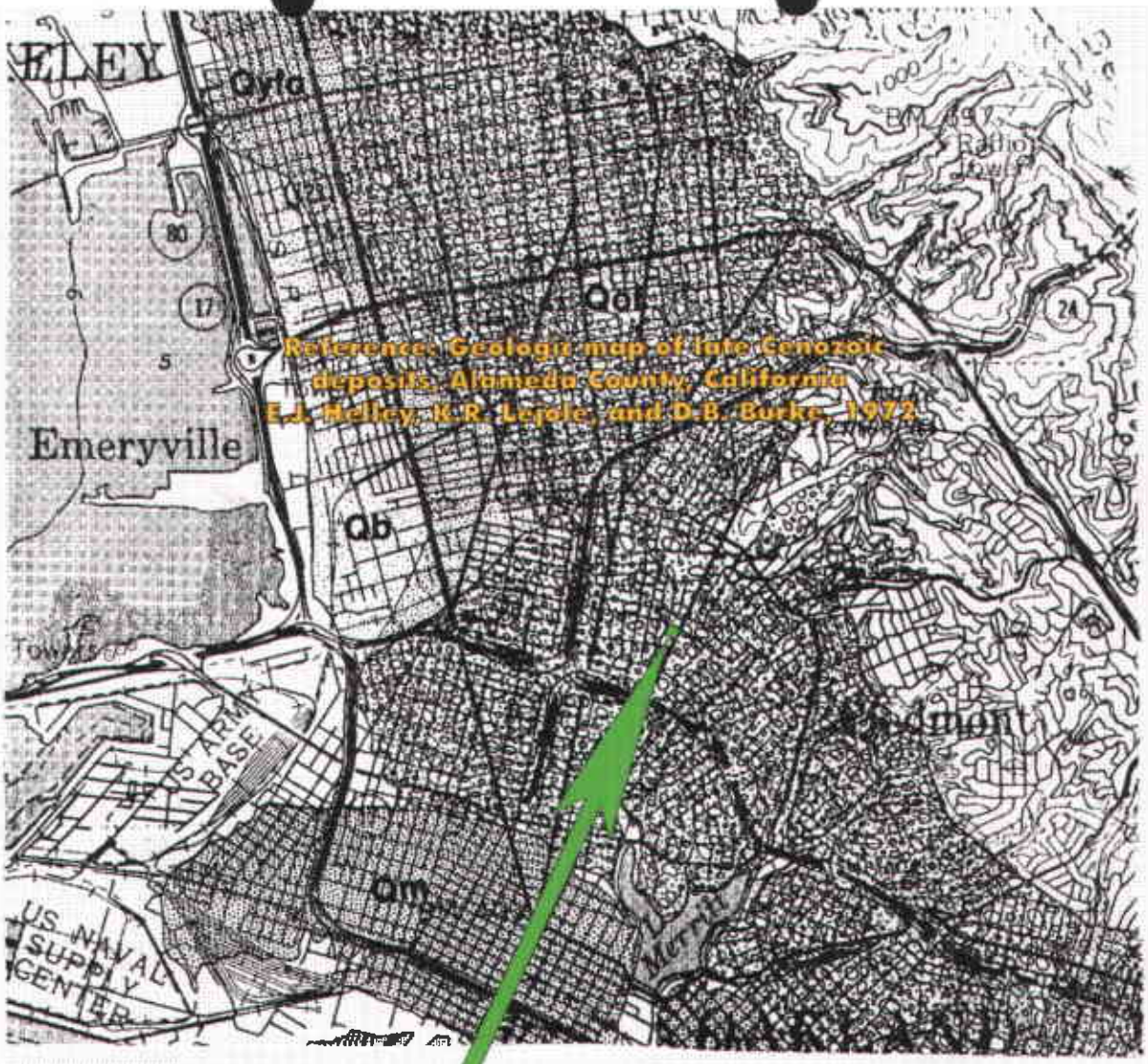

ASSESSOR'S MAP 12
Figure A - Adjacent Site Locations
1 Inch = 100 feet
40th Street
Unocal Car Wash
Unocal Gasoline Service Station
Diamond Street) Avenue
Broadway
Robert Depper
Broadway
House
House
House
Manila
Street
(Weston)
Alameda County Stormdrain
3810 Broadway

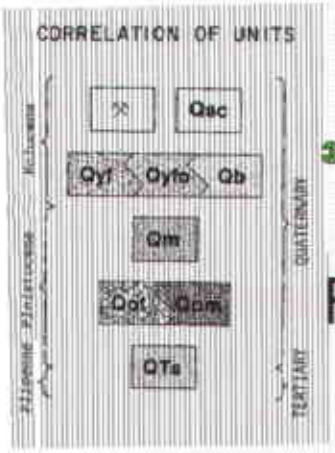

1-800-345-7334
ASSESSOR'S MAP 12
Code Area No. 17-001
Map of the Re-subdivision of the Weston Tract
Scale 1" = 40'
Figure 1A
Groundwater Gradient Map
40 1/4 Inch = 60 feet
Street
Unocal Gasoline Service Station
Unocal Groundwater Monitoring Wells
Diamond (Street)
Broadway
Manila Avenue
Depper 3815 Broadway
Earl Thompson Property

DATE ?

Figure 1 - Groundwater Elevation Contours in Feet







3815 Broadway
Oakland, CA

Figure 02

water bearing "rocks" or unconsolidated sediments?

MAP EXPLANATION

RANGES IN THE PROBABLE MAXIMUM YIELD OF WELLS[1]

Map symbol	Adequacy of yield (at 68-percent level of chance)	68-percent chance that maximum yields will range from (gpm)	95-percent chance that maximum yields will range from (gpm)
A	Marginal to adequate for stock or single family domestic use.	0.5 to 5	0.1 to 10
B	Adequate for stock or single family domestic use, but inadequate to marginal for light industrial use.	5 to 50	1 to 100
C	Adequate for light industry, but inadequate to marginal for irrigation, heavy industry, and municipal uses.	50 to 500	10 to 1,000
D	Marginal to adequate for irrigation, heavy industry, and municipal uses.	500 to 1,500	100 to 3,000

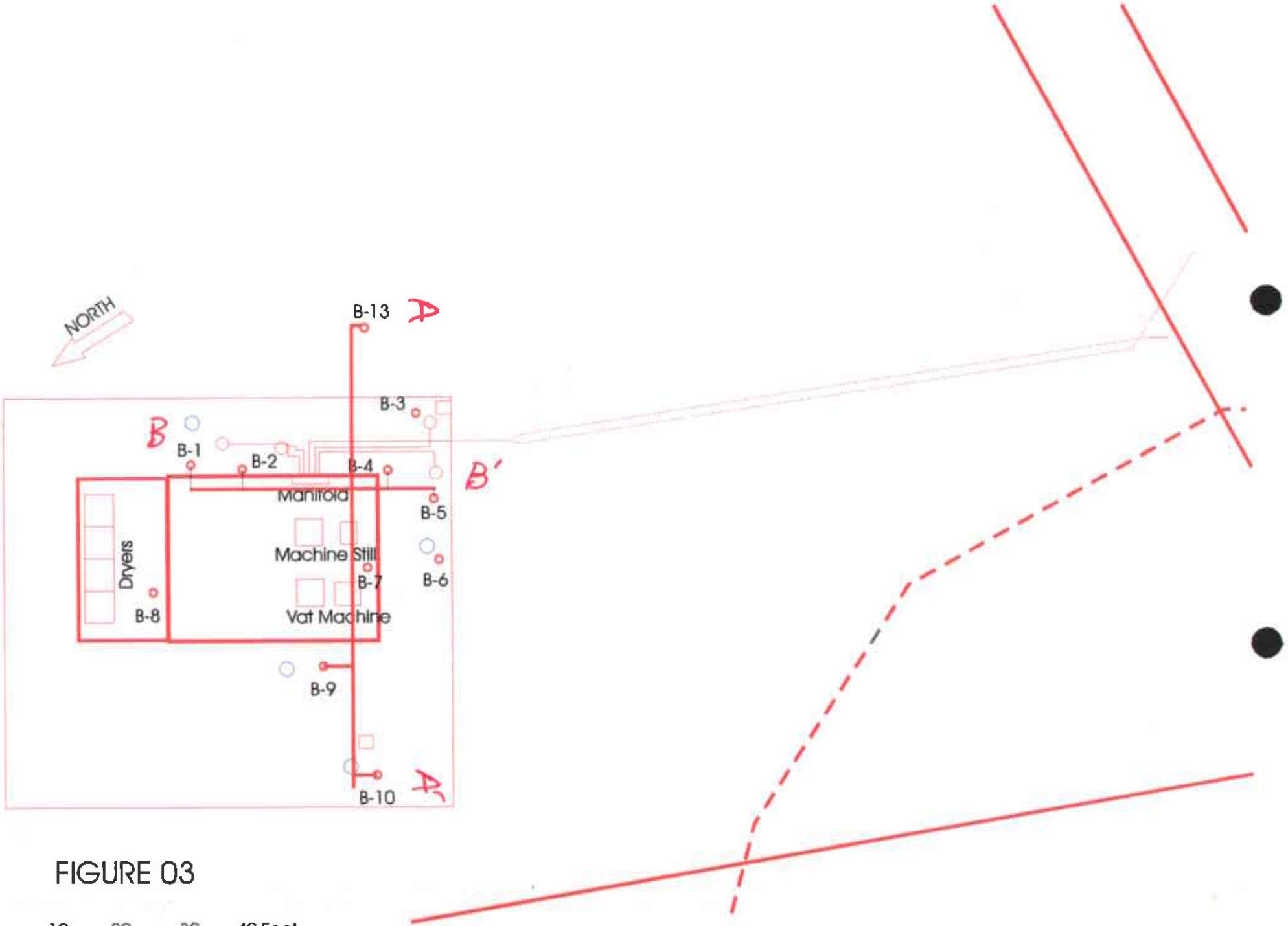


FIGURE 03

10 20 30 40 Feet

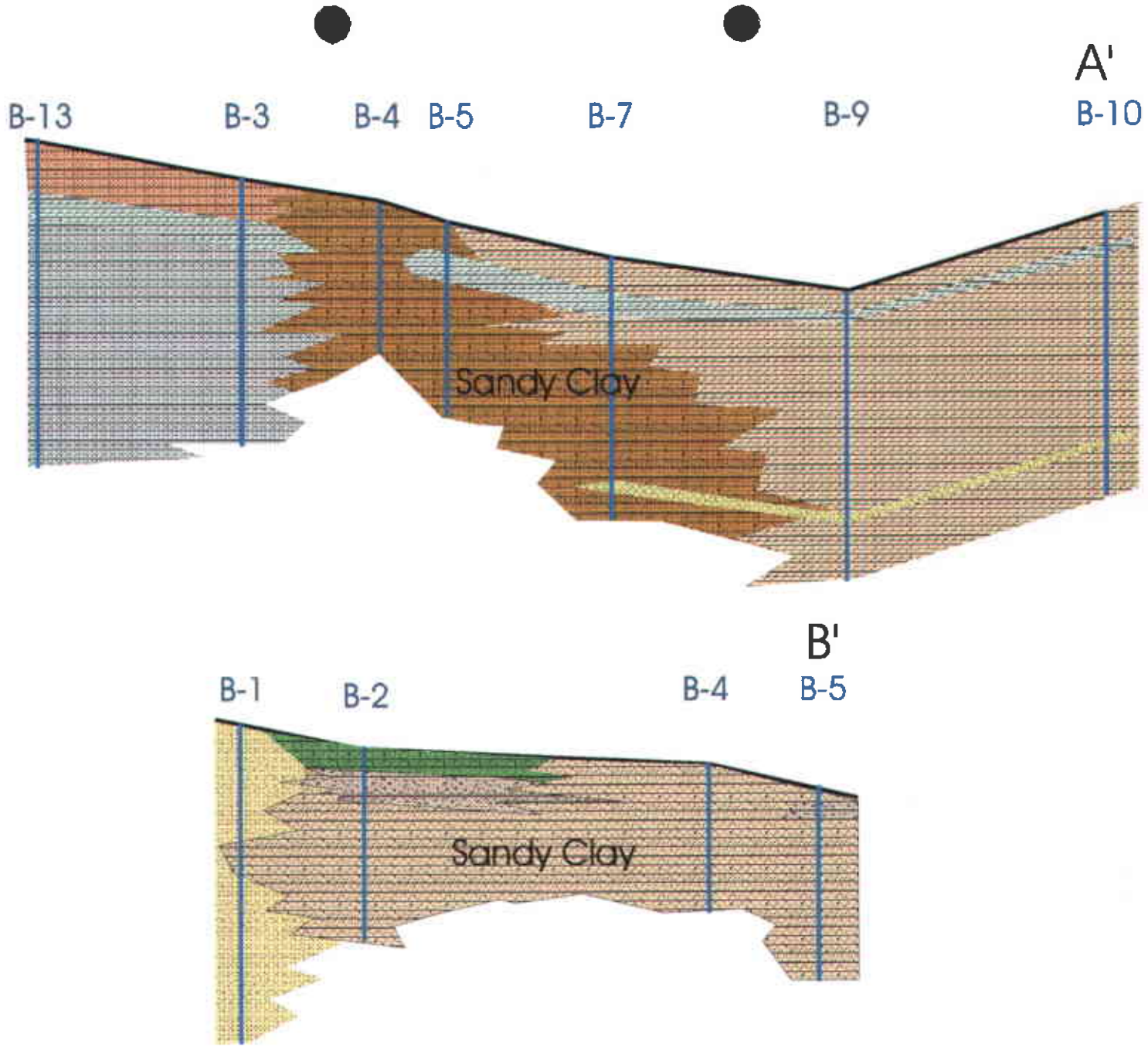

A'
B-13
B-3
B-4
B-5
B-7
B-9
B-10
Sandy Clay
B'
B-1
B-2
B-4
B-5
Sandy Clay

FIGURE 04


Sand
Sandy Clay
Clayey Silt
Silty clay
Clay


0
10
20
30
40 Feet

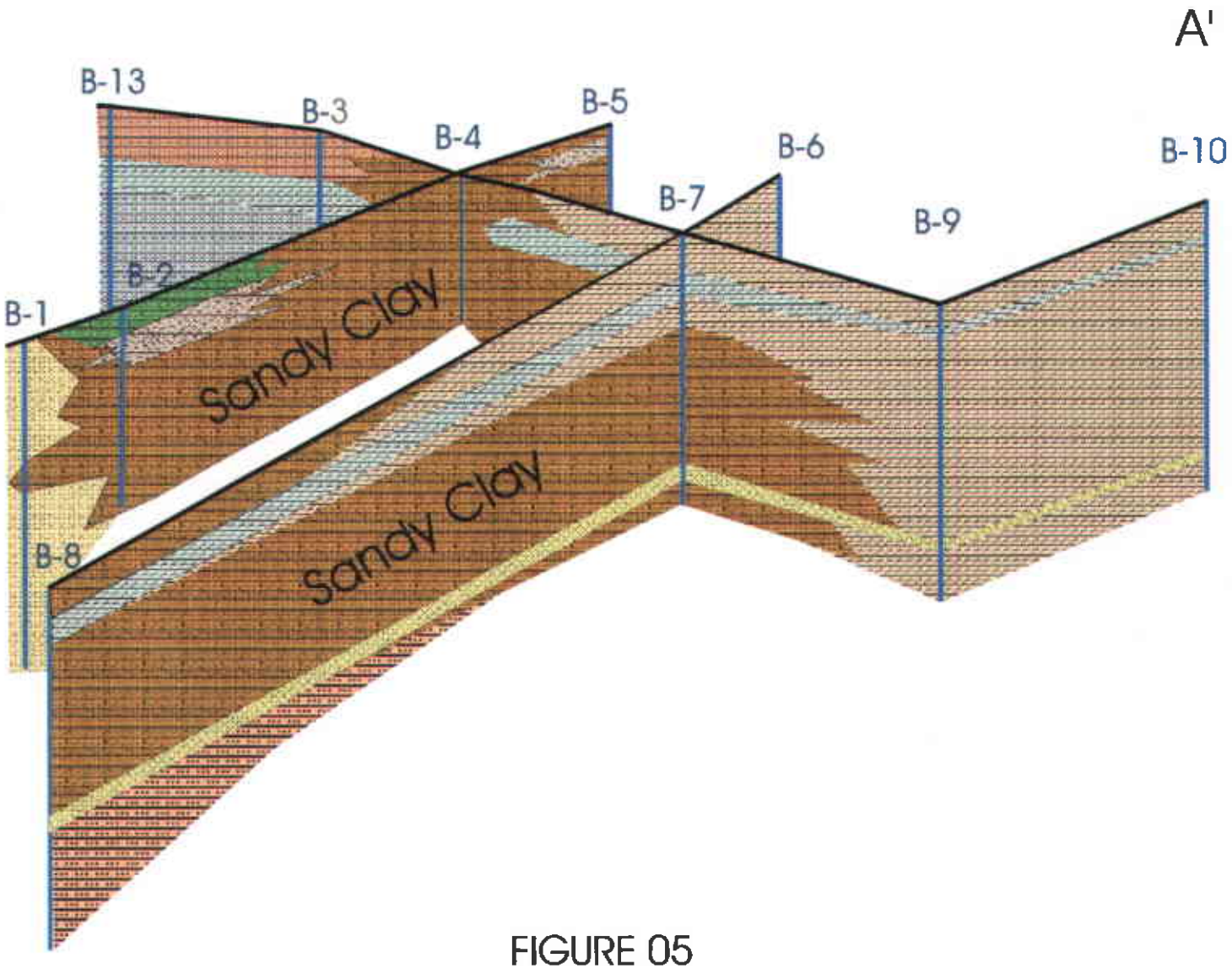
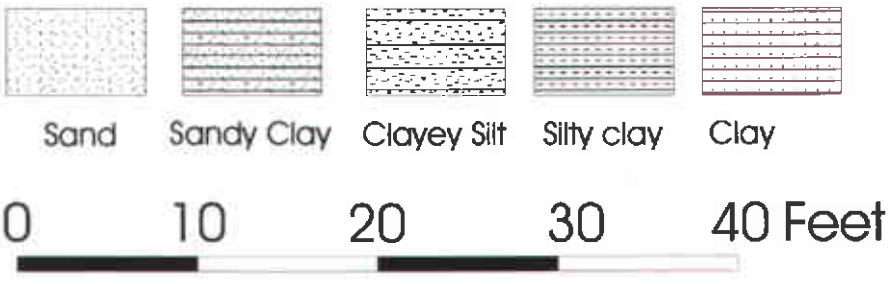

A'
B-13
B-3
B-4
B-5
B-6
B-10
B-7
B-9
B-2
B-1
Sandy Clay
Sandy Clay
B-8

FIGURE 05


Sand
Sandy Clay
Clayey Silt
Silty clay
Clay
0
10
20
30
40 Feet

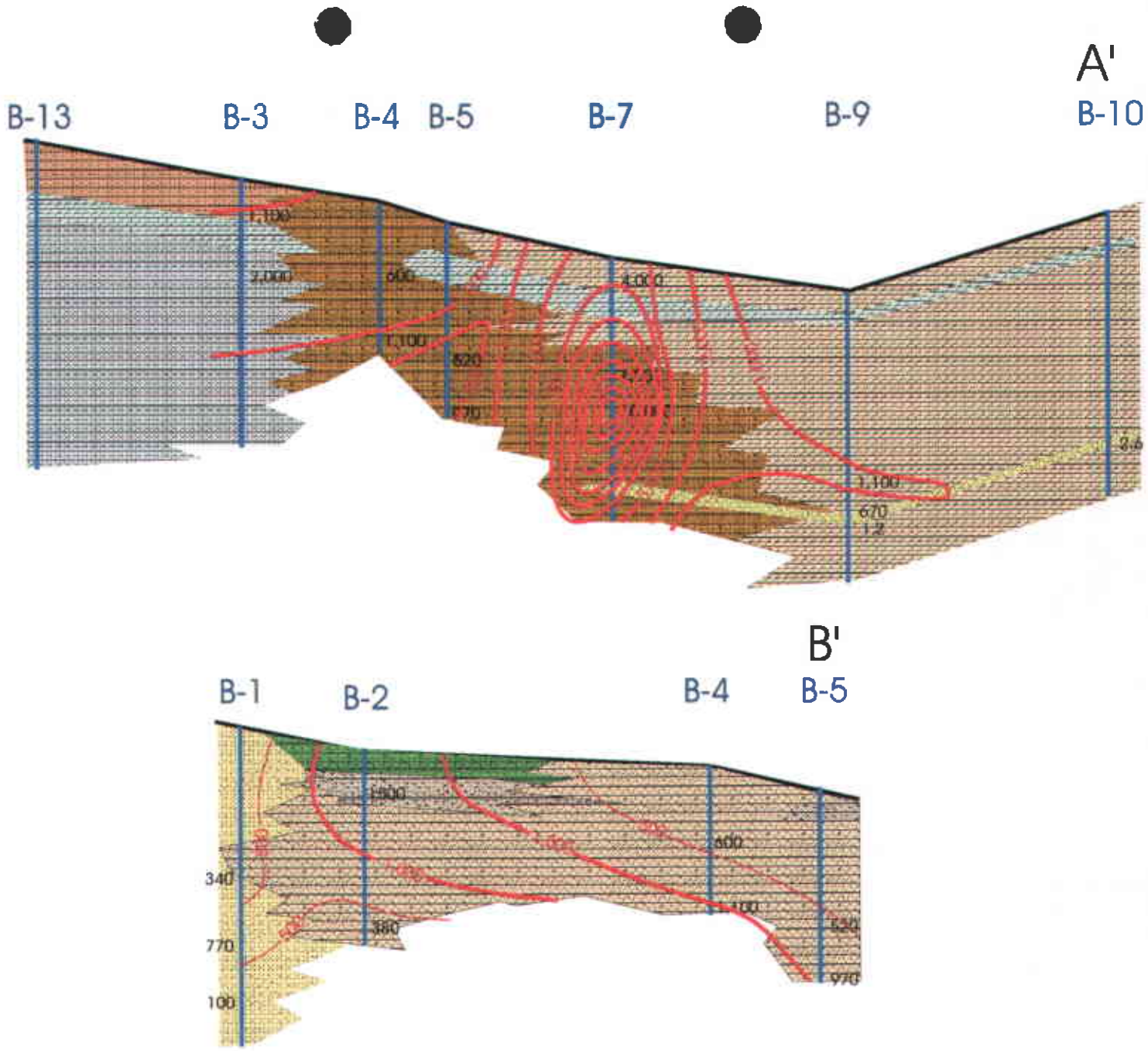


FIGURE 06
STODDART SOLVENT (mg/kg)

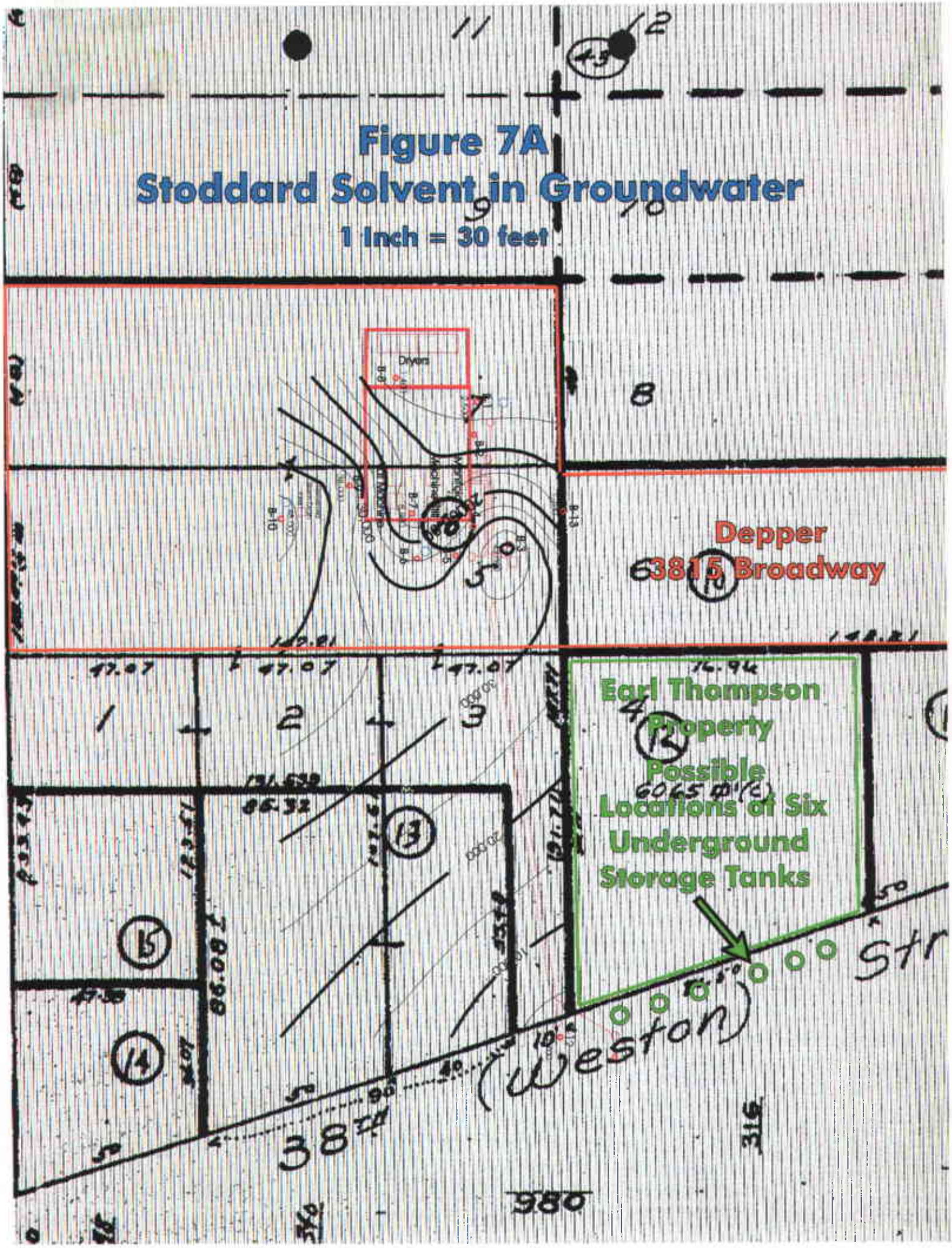


Figure 7A
Stoddard Solvent in Groundwater
1 Inch = 30 feet
Depper
6315 Broadway
Earl Thompson
Property
Possible
Locations of Six
Underground
Storage Tanks
(Weston)
Dryers

Figure 7 - Stoddard Solvent in Groundwater

Groundwater contours show stoddard solvent in ppb.

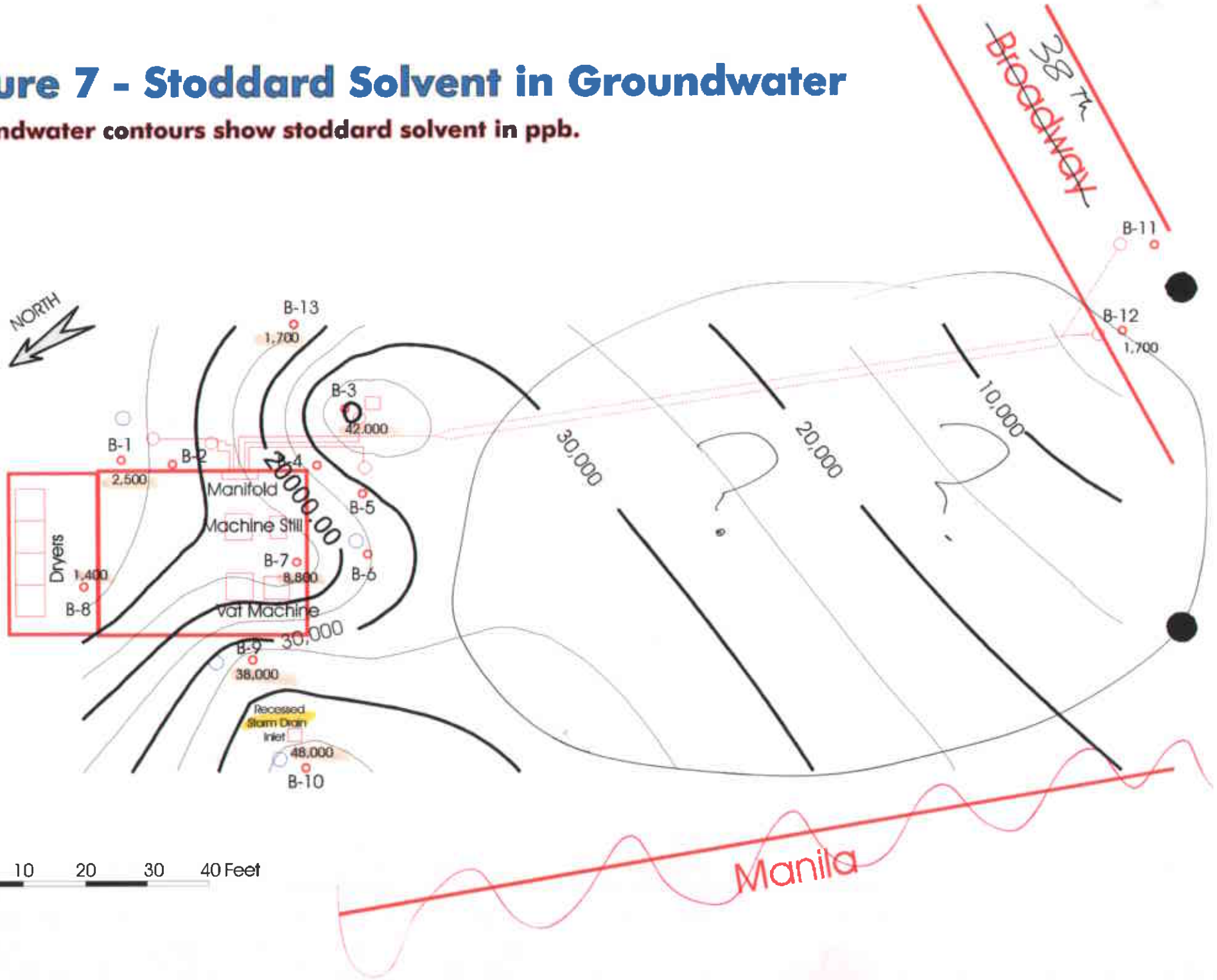


Figure 8A
Chlorinated Solvents in Groundwater
1 Inch = 30 feet

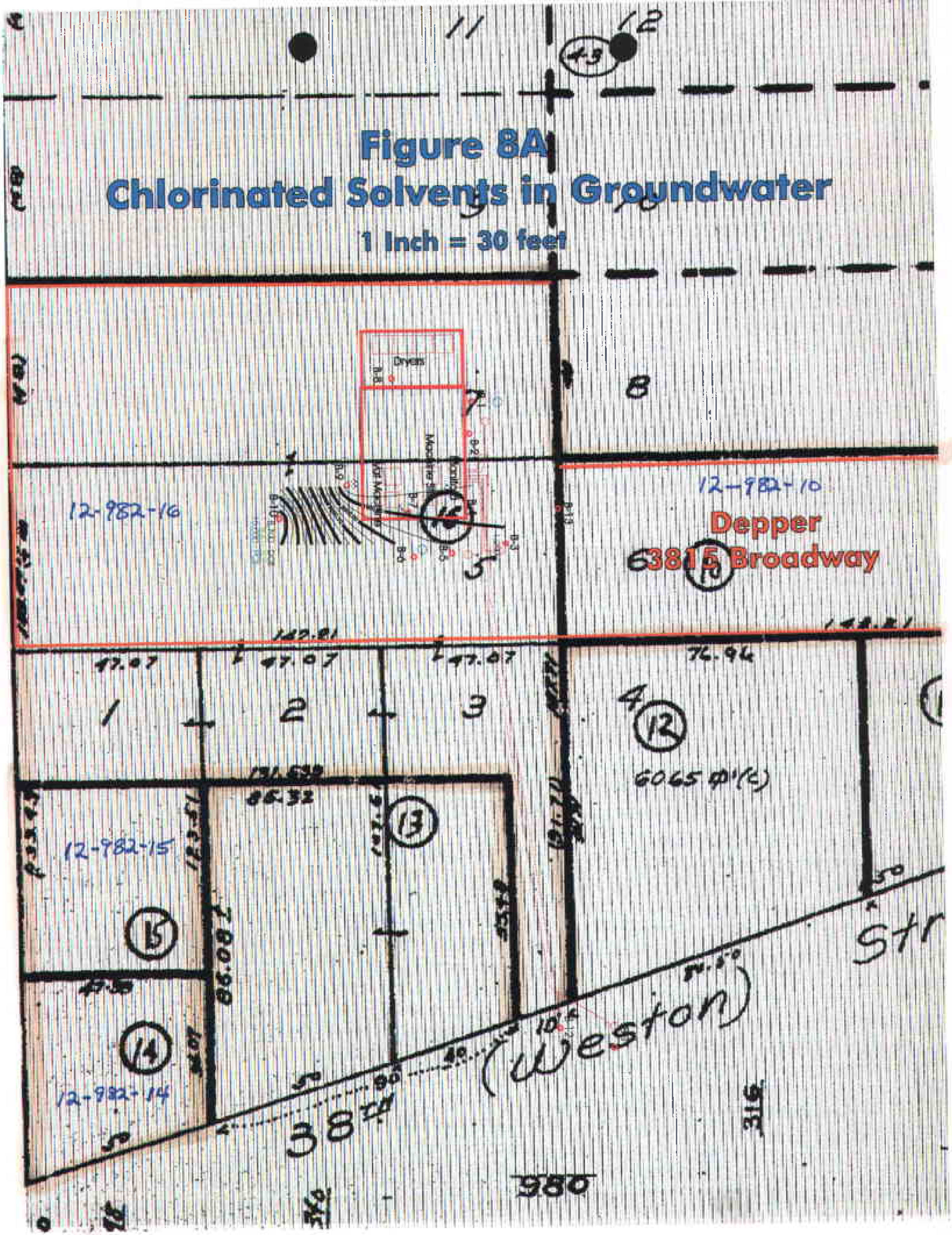
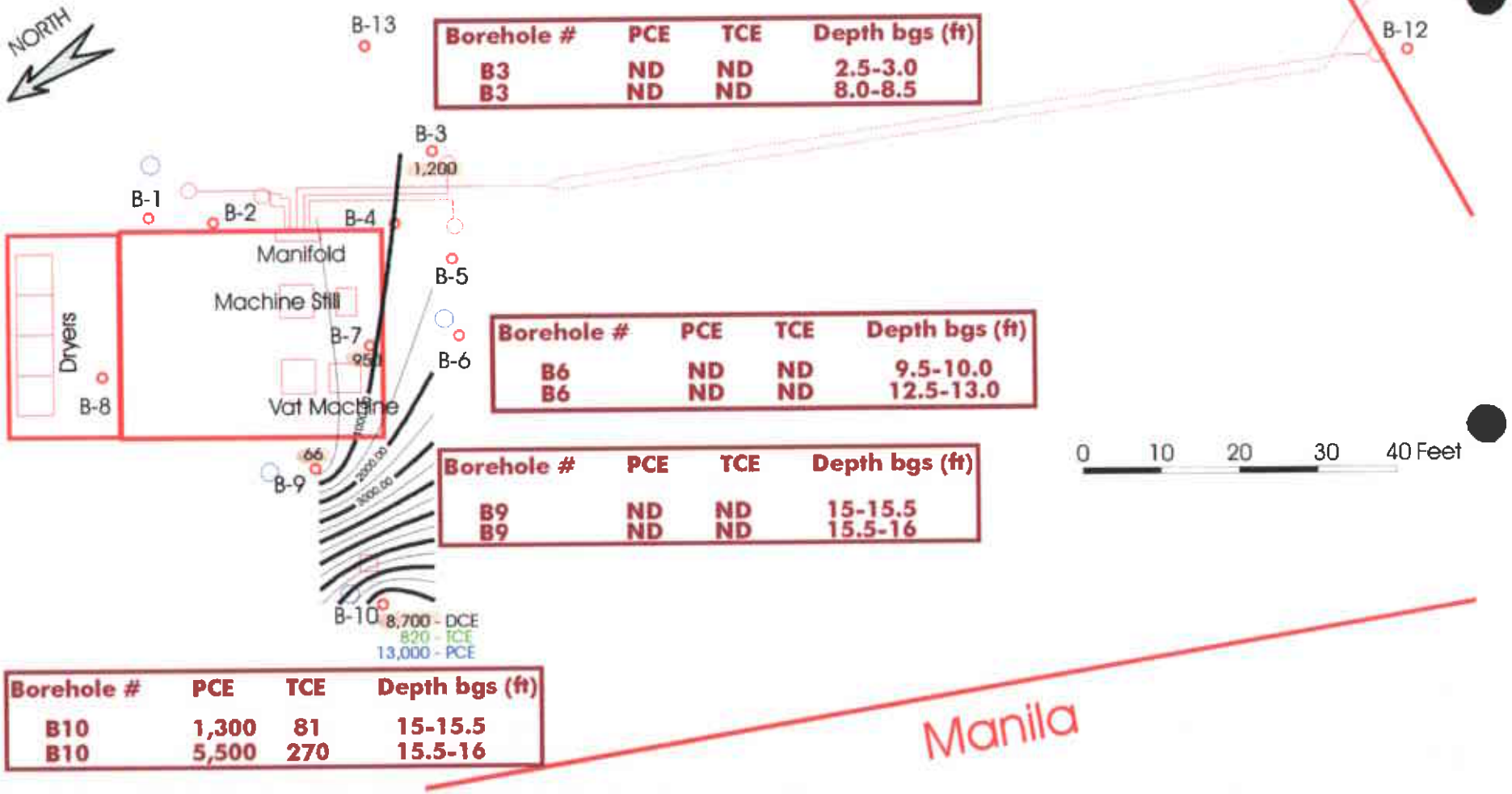


Figure 8 - Chlorinated Solvents in Groundwater

Groundwater contours show cis 1,2-DCE in ppb. PCE and TCE are shown @ B-10

Concentrations of PCE and TCE in soil are shown in PPM @ B-3, B-6, B-9, and B-10



Borehole #	PCE	TCE	Depth bgs (ft)
B3	ND	ND	2.5-3.0
B3	ND	ND	8.0-8.5

Borehole #	PCE	TCE	Depth bgs (ft)
B6	ND	ND	9.5-10.0
B6	ND	ND	12.5-13.0

Borehole #	PCE	TCE	Depth bgs (ft)
B9	ND	ND	15-15.5
B9	ND	ND	15.5-16

Borehole #	PCE	TCE	Depth bgs (ft)
B10	1,300	81	15-15.5
B10	5,500	270	15.5-16

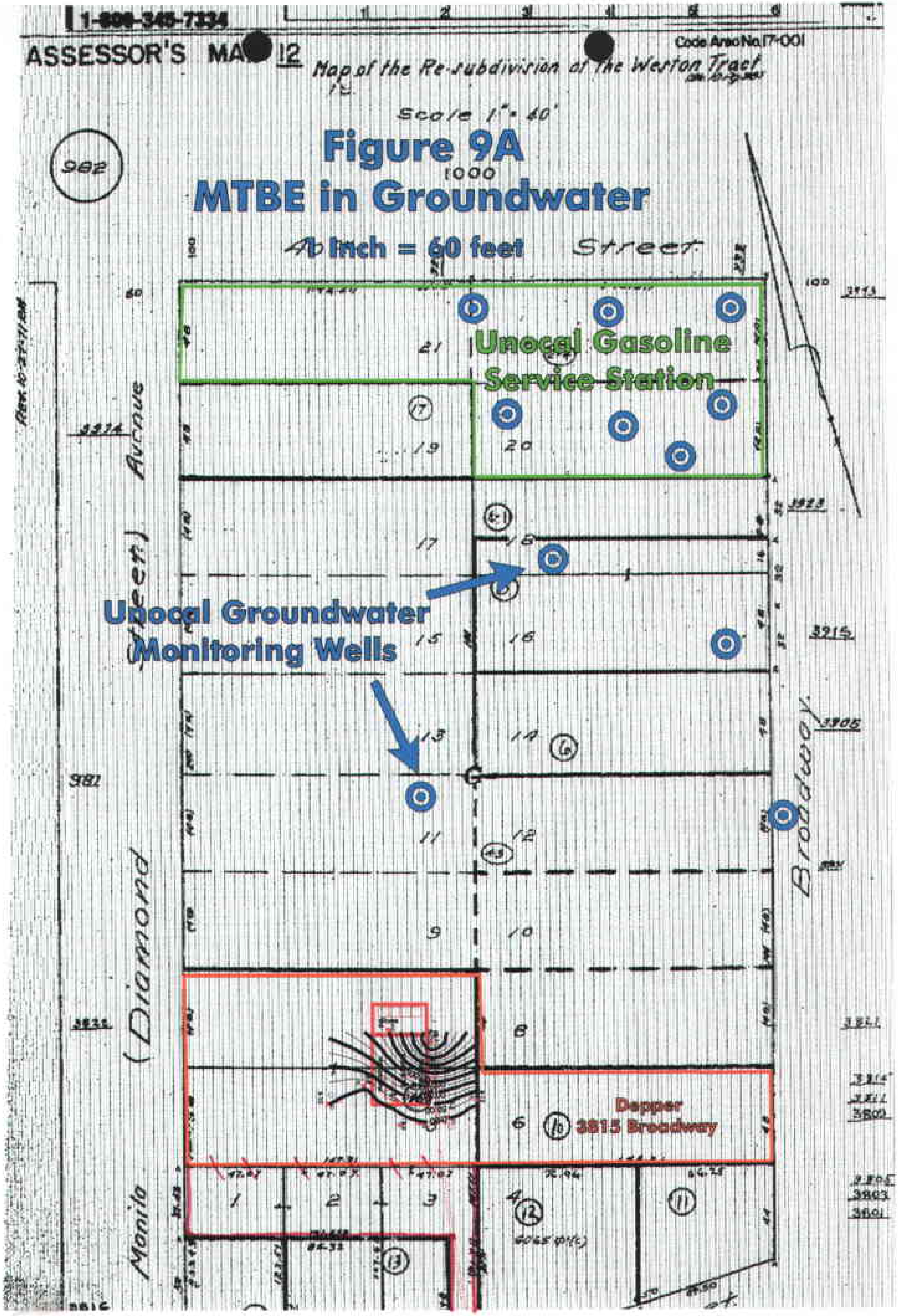
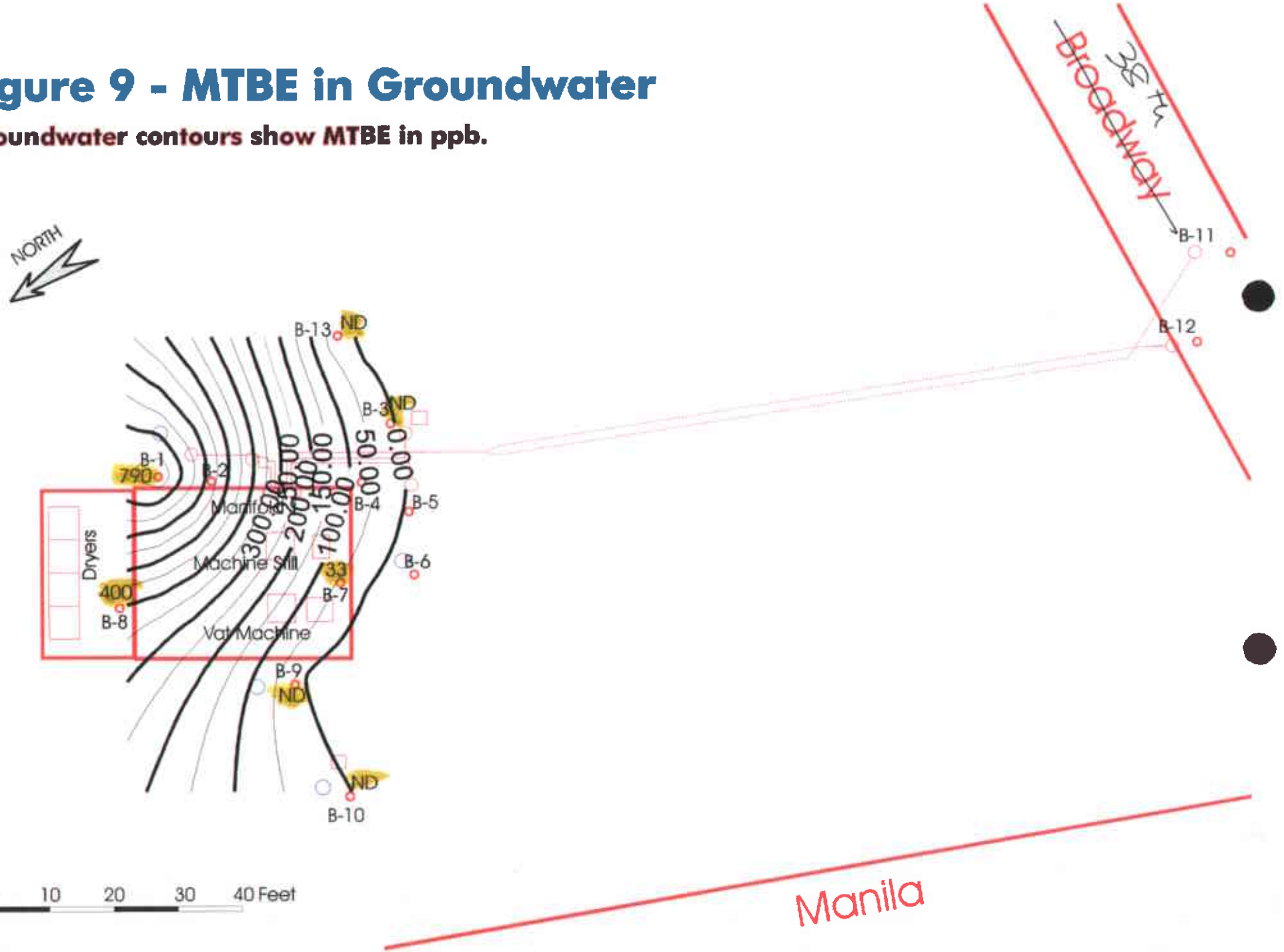

1-800-345-7334
ASSESSOR'S MAP 12
Code Area No. 17-001
Map of the Re-subdivision of the Weston Tract
Scale 1" = 40'
Figure 9A
MTBE in Groundwater
1 inch = 60 feet
Street
Unocal Gasoline Service Station
Unocal Groundwater Monitoring Wells
(Diamond Street) Avenue
Broadway
Dapper 3815 Broadway
Manila
982
981

Figure 9 - MTBE in Groundwater

Groundwater contours show MTBE in ppb.



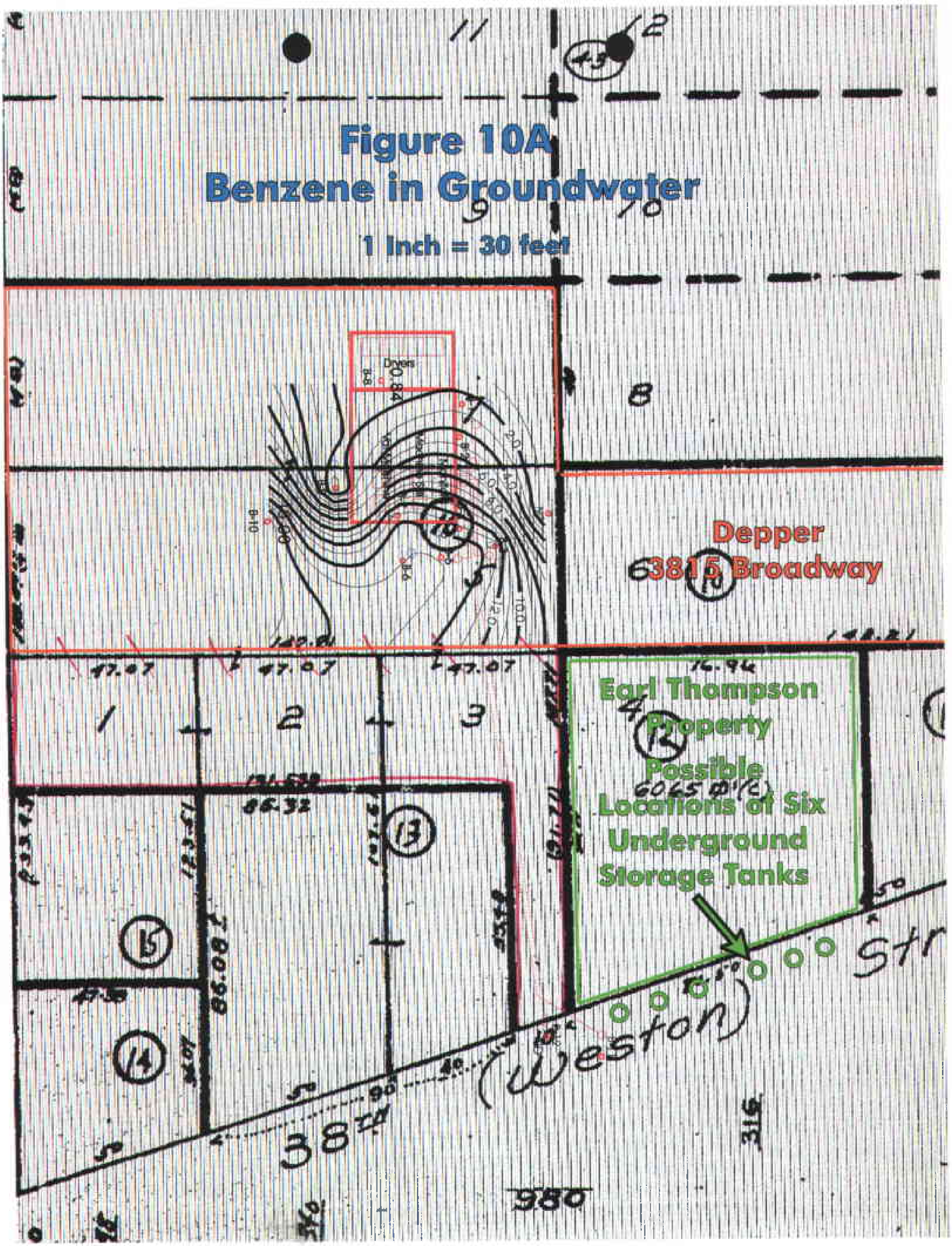
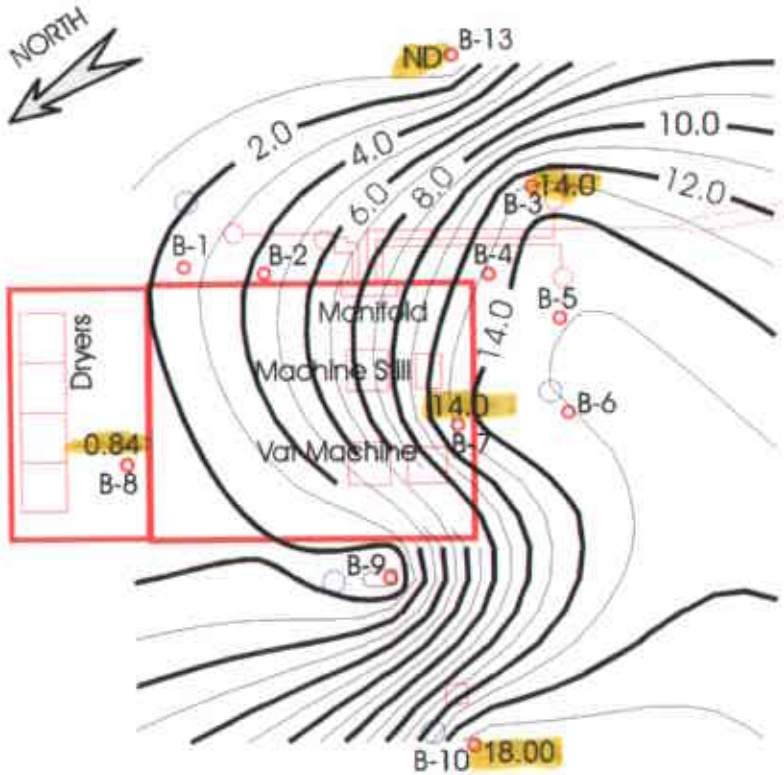
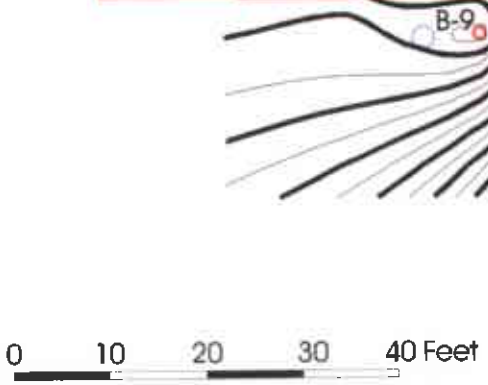


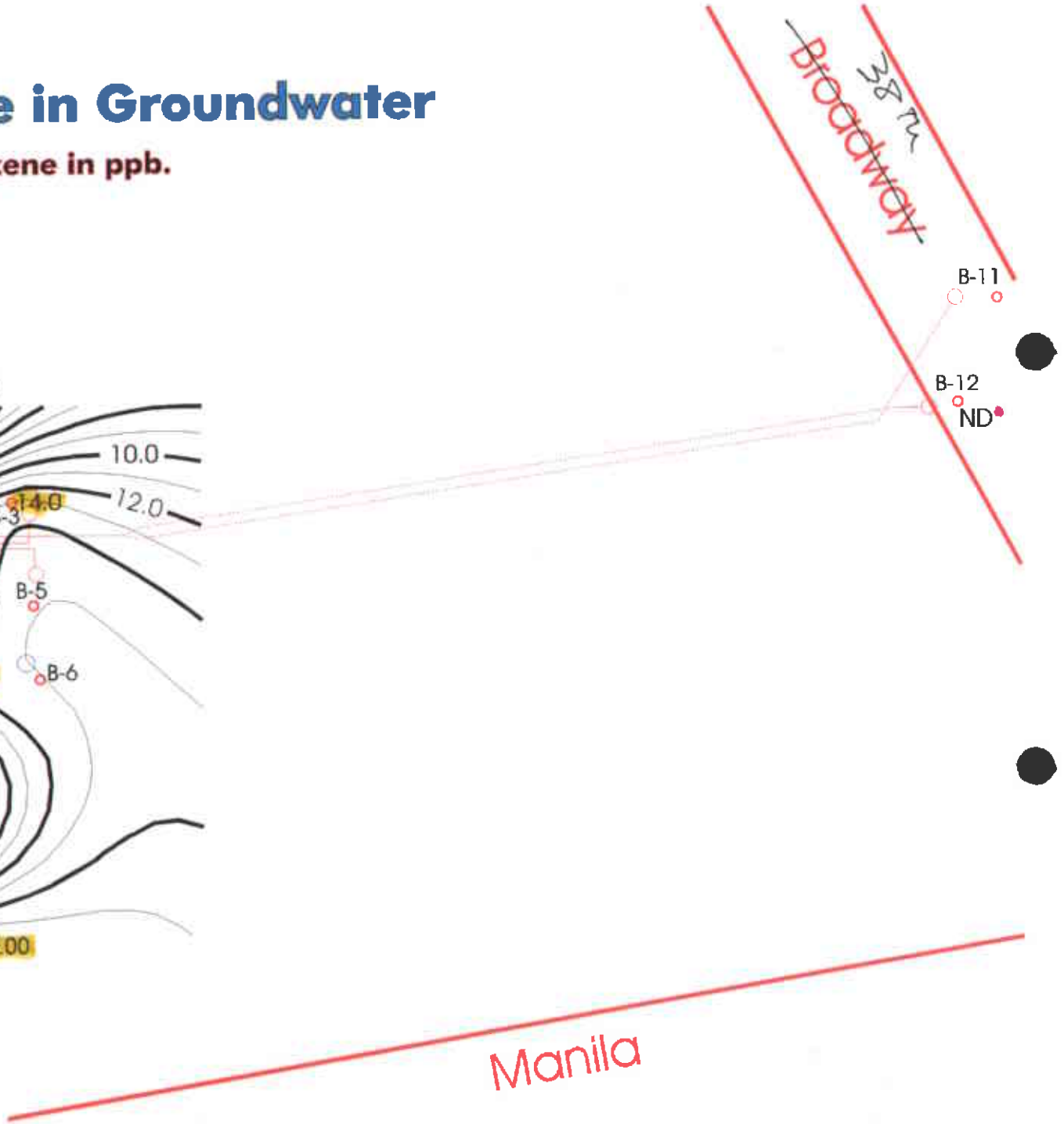
Figure 10A
Benzene in Groundwater
1 Inch = 30 feet
Dryers
Depper
3815 Broadway
Earl Thompson Property
Possible Locations of Six Underground Storage Tanks
Weston
38th

Figure 10 - Benzene in Groundwater

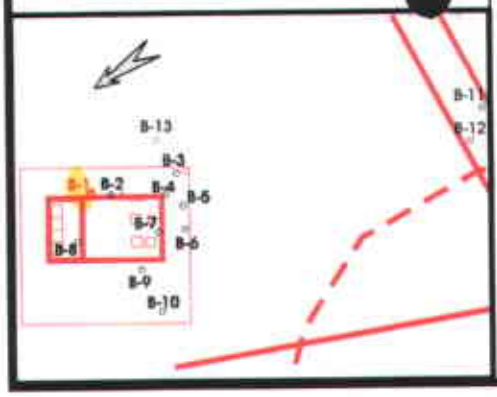
Groundwater contours show Benzene in ppb.







Appendix - A

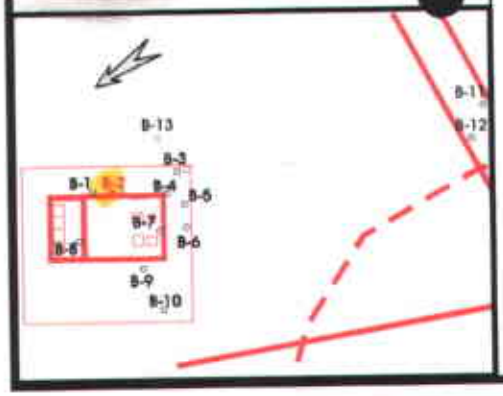


DRILLING LOG

BORING NO. B1

PROJECT NAME:	Depper	PROJECT NO.	
ADDRESS:	3815 Broadway, Oakland, California		
FIELD GEOLOGIST:	Frank Goldman	DATE:	08/19/97
DRILLING COMPANY:	Precision	SAMPLER:	
DRILLING METHOD:		TOTAL DEPTH:	21.5'
BORING DIAMETER:	2.5"		

DEPTH	SAMPLE RECOVERY	BLOW COUNT	PID [ppm]	BORING CONSTR.	LITHOLOGIC LOG	USCS SYMBOLS	LITHOLOGIC DESCRIPTION Description, Grain Size, Sorting, Color, Moisture, Mechanical Properties
						SW	Sand fine to medium grained with some gravel, gray, slightly moist, very loose. Mild odor..
							Mild to medium strong diesel odor in loose sand.
						CL	Sandy clay, medium to coarse, gray, moist.
10							Mild to moderate strong diesel odor.
							Increasing gravel with depth.
						SW	Mild diesel odor at 12.5'.
							Refusal at 14' due to cobble.
15							(Continueded with 1" split spoon)
						SW	
20							
						SW	
25							End of boring at 21.5 feet. No groundwater encountered during drilling. Boring converted into a well.
30							
35							
40							

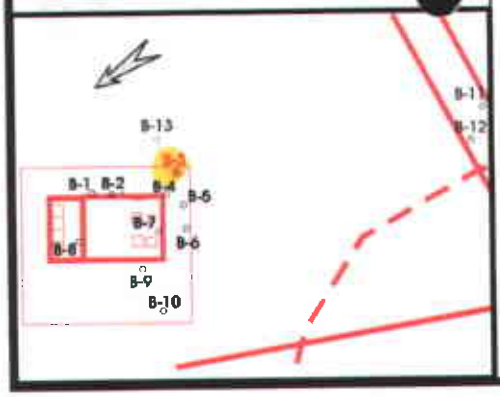


DRILLING LOG

BORING NO. B2

PROJECT NAME:	Depper	PROJECT NO.	
ADDRESS:	3815 Broadway, Oakland, California		
FIELD GEOLOGIST:	Frank Goldman	DATE:	08/19/97
DRILLING COMPANY:	Precision	SAMPLER:	
DRILLING METHOD:		TOTAL DEPTH:	13'
BORING DIAMETER:	2.5"		

DEPTH	SAMPLE RECOVERY	BLOW COUNT	PID [ppm]	BORING CONSTR.	LITHOLOGIC LOG	USCS SYMBOLS	LITHOLOGIC DESCRIPTION Description, Grain Size, Sorting, Color, Moisture, Mechanical Properties
						CL	Sandy clay, green, soft, moist.
						ML	Clayey silt, black, soft, moist; high organics; organic odor.
						CL	Sandy clay with some gravel, broun, stiff, moist; mild hydrocarbon odor at 4.5'.
10							Increasing sand and gravel with depth. Medium strong odor at 12'. Refusal at 13' due to dense gravel.
15							End of boring at 13 feet. No groundwater encountered. Boring abandoned with bentonite.
20							
25							
30							
35							
40							



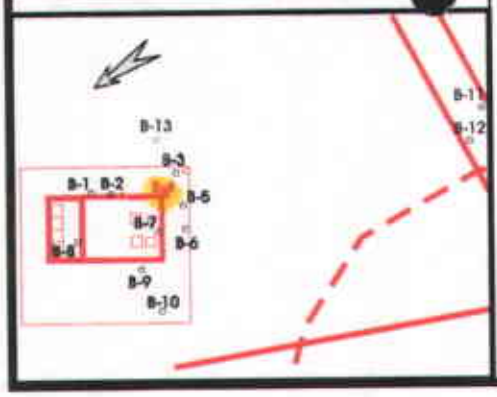
DRILLING LOG

BORING NO. B3

PROJECT NAME:	Depper	PROJECT NO.	
ADDRESS:	3815 Broadway, Oakland, California		
FIELD GEOLOGIST:	Frank Goldman	DATE:	08/19/97
DRILLING COMPANY:	Precision	SAMPLER:	
DRILLING METHOD:		TOTAL DEPTH:	18'
BORING DIAMETER:	2.5"		

DEPTH	SAMPLE RECOVERY	BLOW COUNT	PID [ppm]	BORING CONSTR.	LITHOLOGIC LOG	USCS SYMBOLS	LITHOLOGIC DESCRIPTION Description, Grain Size, Sorting, Color, Moisture, Mechanical Properties
						CL	Clay, brown, soft, moist; Brick.
						CL	Silty clay, black, soft, moist, high organics.
						CL	Silty clay, green, soft to firm, moist.
						CL	Mild diesel odor.
10						CL	Moderately strong diesel odor with staining in the tube
							Very dense at 13 feet.
						CL	Refusal at 14.5'. Resumed with 1" split spoon sampler.
15							
20							
25							
30							
35							
40							

End of boring at 18 feet.
No groundwater encountered during drilling.
Boring converted into a well.

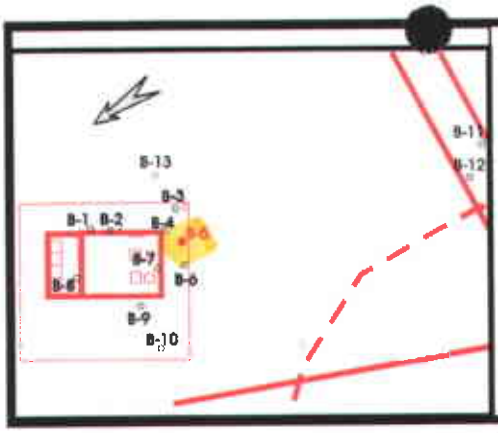


DRILLING LOG

BORING NO. B4

PROJECT NAME:	Depper	PROJECT NO.	
ADDRESS:	3815 Broadway, Oakland, California		
FIELD GEOLOGIST:	Frank Goldman	DATE:	08/19/97
DRILLING COMPANY:	Precision	SAMPLER:	
DRILLING METHOD:		TOTAL DEPTH:	10'
BORING DIAMETER:	2.5"		

DEPTH	SAMPLE RECOVERY	BLOW COUNT	PID [ppm]	BORING CONSTR.	LITHOLOGIC LOG	USCS SYMBOLS	LITHOLOGIC DESCRIPTION Description, Grain Size, Sorting, Color, Moisture, Mechanical Properties
						CL	Sandy clay, dark brown, firm, moist.
						CL	Mild hydrocarbon odor.
10						CL	No odor. Refusal at 10 feet due to rock sluff at the bottom.
15							End of boring at 10 feet. No groundwater encountered . Boring abandoned with bentonite.
20							
25							
30							
35							
40							



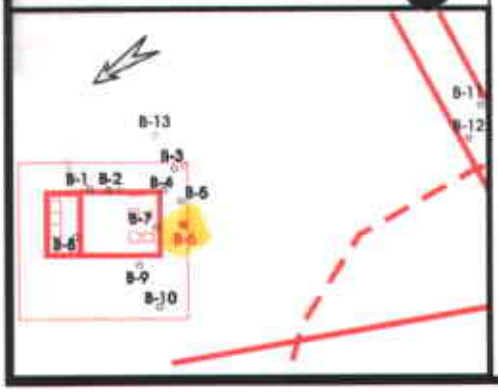
DRILLING LOG

BORING NO. B5

PROJECT NAME:	Depper	PROJECT NO.	
ADDRESS:	3815 Broadway, Oakland, California		
FIELD GEOLOGIST:	Frank Goldman	DATE:	08/20/97
DRILLING COMPANY:	Precision	SAMPLER:	
DRILLING METHOD:		TOTAL DEPTH:	13'
BORING DIAMETER:	2.5"		

DEPTH	SAMPLE RECOVERY	BLOW COUNT	PID [ppm]	BORING CONSTR.	LITHOLOGIC LOG	USCS SYMBOLS	LITHOLOGIC DESCRIPTION Description, Grain Size, Sorting, Color, Moisture, Mechanical Properties
							Sandy clay, brown, soft, moist.
						CL	Clayey silt, black, soft to firm, moist; high organics, no odor.
						ML	Sandy clay, brown, soft, moist; no odor.
10						CL	Very faint hydrocarbon odor.
						CL	No odor. Refusal at 13 feet.
15							End of boring at 13 feet. No groundwater encountered during drilling.. Boring converted into a well.
20							
25							
30							
35							
40							

not analyzed

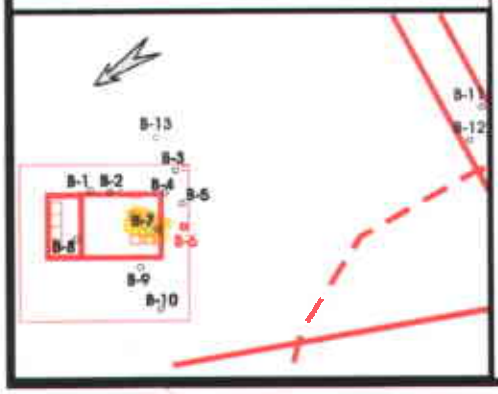


DRILLING LOG

BORING NO. B6

PROJECT NAME:	Depper	PROJECT NO.	
ADDRESS:	3815 Broadway, Oakland, California		
FIELD GEOLOGIST:	Frank Goldman	DATE:	
DRILLING COMPANY:	Precision	SAMPLER:	
DRILLING METHOD:		TOTAL DEPTH:	13'
BORING DIAMETER:	2.5"		

DEPTH	SAMPLE RECOVERY	BLOW COUNT	PID [ppm]	BORING CONSTR.	LITHOLOGIC LOG	USCS SYMBOLS	LITHOLOGIC DESCRIPTION Description, Grain Size, Sorting, Color, Moisture, Mechanical Properties
						CL	Sandy clay, brown, soft to firm, moist; no odor.
						CL	Silty clay, black, soft, moist; high organics.
						CL	Sandy clay, brown, firm to stiff, moist; no odor.
						CL	Hard clay increases with depth. Gravel increases with depth.
10						CL	
						CL	Slight hydrocarbon odor. Refusal due to hard clay.
15							End of boring at 13 feet. No groundwater encountered during drilling. Boring converted into a well.
20							
25							
30							
35							
40							



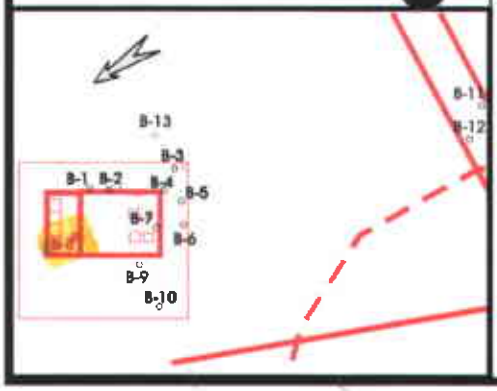
DRILLING LOG

BORING NO. B7

PROJECT NAME:	Depper	PROJECT NO.	
ADDRESS:	3815 Broadway, Oakland, California		
FIELD GEOLOGIST:	Frank Goldman	DATE:	?
DRILLING COMPANY:	Precision	SAMPLER:	
DRILLING METHOD:		TOTAL DEPTH:	17.5'
BORING DIAMETER:	2.5"		

DEPTH	SAMPLE RECOVERY	BLOW COUNT	PID [ppm]	BORING CONSTR.	LITHOLOGIC LOG	USCS SYMBOLS	LITHOLOGIC DESCRIPTION Description, Grain Size, Sorting, Color, Moisture, Mechanical Properties
	■					CL	Silty clay, brown, soft, moist; solvent odor.
						CL	Silty clay, black, firm, moist; high organics.
	■					CL	Sandy clay, brown, stiff, moist.
							Mild solvent odor.
	■						Solvent odor.
	■						Sandier with depth.
10	■						End continuous core at 11 feet. refusal Resume with 1" split barrel.
15						SW	Sand, brown, dense, coarse, wet; perched zone.
						CL	Clay, brown, stiff, moist; no odor.
20							End of boring at 17.5 feet. Groundwater encountered at 15'. Boring converted into a well.
25							
30							
35							

analyzed



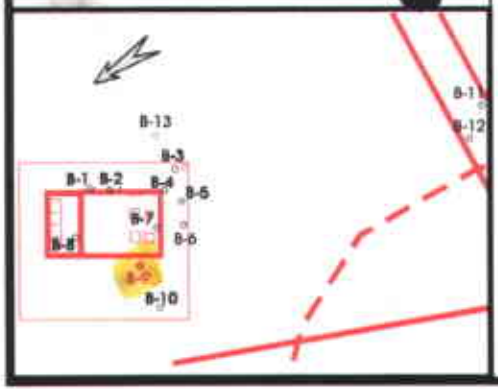
DRILLING LOG

BORING NO. B8

PROJECT NAME:	Depper	PROJECT NO.	
ADDRESS:	3815 Broadwa, Oakland, California		
FIELD GEOLOGIST:	Frank Goldman	DATE:	08/20/97
DRILLING COMPANY:	Precision	SAMPLER:	
DRILLING METHOD:		TOTAL DEPTH:	24'
BORING DIAMETER:	2.5"		

DEPTH	SAMPLE RECOVERY	BLOW COUNT	PID [ppm]	BORING CONSTR.	LITHOLOGIC LOG	USCS SYMBOLS	LITHOLOGIC DESCRIPTION Description, Grain Size, Sorting, Color, Moisture, Mechanical Properties
						CL	Clay, brown, soft, moist.
						CL	Silty clay, black to brown, soft, moist.
						CL	Sandy clay, brown, firm, moist.
10							End continuous core at 12.5 feet. refusal Resume with 1" diameter split spoon to obtain groundwater sample.
15						SW	Sand, brown, dense, wet; slow recharge.
						CL	Clay, brown, stiff, moist; no odor.
20							
25							End of boring at 24 feet. Groundwater encountered at 15'. Boring converted into a well.
30							
35							
40							

analyzed (3-3.5')



DRILLING LOG

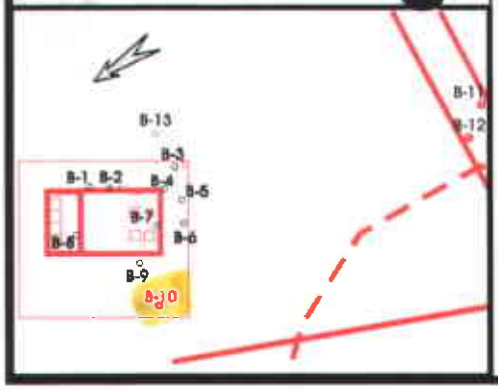
BORING NO. B9

PROJECT NAME:	Depper	PROJECT NO.	
ADDRESS:	3815 Broadway, Oakland, California		
FIELD GEOLOGIST:	Frank Goldman	DATE:	08/21/97
DRILLING COMPANY:	Precision	SAMPLER:	
DRILLING METHOD:		TOTAL DEPTH:	19.5'
BORING DIAMETER:	2.5"		

DEPTH	SAMPLE RECOVERY	BLOW COUNT	PID [ppm]	BORING CONSTR.	LITHOLOGIC LOG	USCS SYMBOLS	LITHOLOGIC DESCRIPTION Description, Grain Size, Sorting, Color, Moisture, Mechanical Properties
						CL	Silty clay, brown, firm, moist.
						CL	Silty clay, black, soft, moist; organics.
						CL	Silty clay, brown, hard, moist.
						CL	End of 2.5" borehole due to hard clay.
							Resume with 1" split spoon.
						CL	
10						CL	Mild hydrocarbon odor. Sandier with depth.
						CL	Mild solvent odor.
							Sand with coarse gravel, dark brown, medium dense;
15						SW	strong solvent odor.
						CL	Silty clay, brown, stiff to hard, moist; no odor.
20							End of boring at 19.5 feet. Groundwater encountered at 15'. Boring converted into a well.
25							
30							
35							
40							

not analyzed

DRILLING LOG

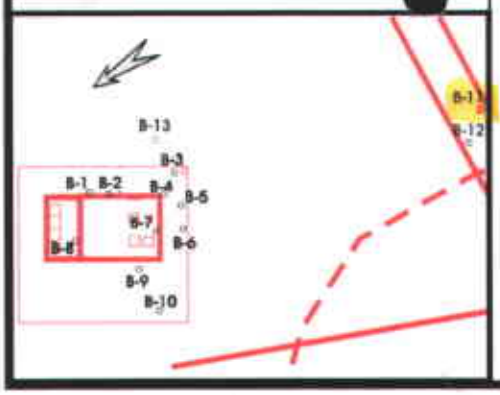


BORING NO. B10

PROJECT NAME:	Depper	PROJECT NO.	
ADDRESS:	3815 Broadway, Oakland, California		
FIELD GEOLOGIST:	Frank Goldman	DATE:	08/22/97
DRILLING COMPANY:	Precision	SAMPLER:	
DRILLING METHOD:		TOTAL DEPTH:	19'
BORING DIAMETER:	2.5"		

DEPTH	SAMPLE RECOVERY	BLOW COUNT	PID [ppm]	BORING CONSTR.	LITHOLOGIC LOG	USCS SYMBOLS	LITHOLOGIC DESCRIPTION Description, Grain Size, Sorting, Color, Moisture, Mechanical Properties
						CL	Silty clay, brown, firm, moist;no odor.
						CL	Silty clay, black, firm, moist; organics.
						CL	Sandy clay, brown, stiff to hard, moist; no odor.
							End of 2.5" borehole due to hard clay. Resume with 1" split spoon.
							Sandier with depth.
10							
15						SW	Sand, coarse, gray, dense, wet; solvent odor.
						CL	Silty clay, brown, hard, moist; no odor.
20							End of boring at 19 feet. Groundwater encountered at 15'. Boring converted into a well.
25							
30							
35							
40							

DRILLING LOG



BORING NO. B11

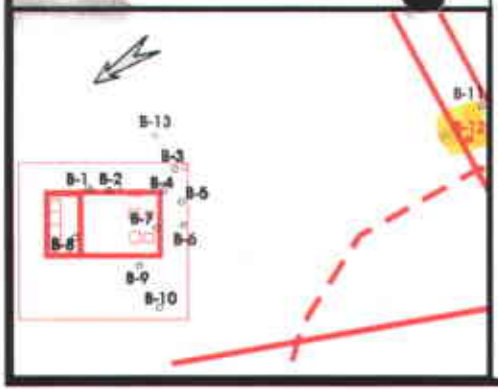
PROJECT NAME:	Depper	PROJECT NO.	
ADDRESS:	3815 Broadway, Oakland, California		
FIELD GEOLOGIST:	Frank Goldman	DATE:	08/22/97
DRILLING COMPANY:	Precision	SAMPLER:	
DRILLING METHOD:		TOTAL DEPTH:	22'
BORING DIAMETER:	2.5"		

double-cased the whole way?

DEPTH	SAMPLE RECOVERY	BLOW COUNT	PID [ppm]	BORING CONSTR.	LITHOLOGIC LOG	USCS SYMBOLS	LITHOLOGIC DESCRIPTION Description, Grain Size, Sorting, Color, Moisture, Mechanical Properties
						SW	Sand, reddish brown, medium to coarse, very dense, dry to slightly moist; no odor.
						SP	Sand, medium grained, orange, dense, slightly moist; no odor.
10						CL	Gravelly clay, brown, stiff, moist; mottled; no odor.
15						CL	Silty clay, grayish green, firm to stiff, moist; no odor.
						ML	Sandy silt, green, firm, moist; no odor.
20						SP	Silty sand, green, moderate dense, fine to medium, wet; no odor.
						ML	Sandy silt, light brown, stiff, slightly moist to moist.
25							End of boring at 22 feet. Groundwater encountered at 21' Boring converted into a well.
30							
35							
40							

not analyzed

18.5' sample analyzed

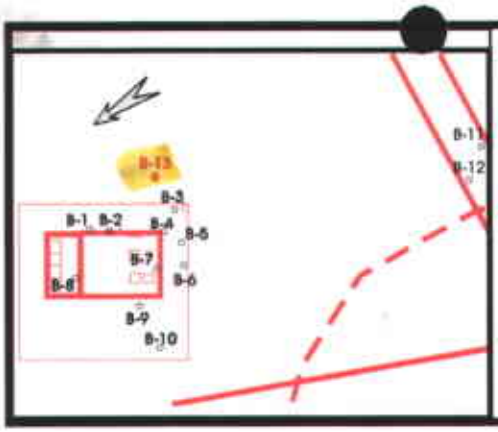


DRILLING LOG

BORING NO. B12

PROJECT NAME:	Depper	PROJECT NO.	
ADDRESS:	3815 Broadway, Oakland, California		
FIELD GEOLOGIST:	Frank Goldman	DATE:	08/22/97
DRILLING COMPANY:	Precision	SAMPLER:	
DRILLING METHOD:		TOTAL DEPTH:	20'
BORING DIAMETER:	2.5"		

DEPTH	SAMPLE RECOVERY	BLOW COUNT	PID (ppm)	BORING CONSTR.	LITHOLOGIC LOG	USCS SYMBOLS	LITHOLOGIC DESCRIPTION Description, Grain Size, Sorting, Color, Moisture, Mechanical Properties
						SW	Gravel, coarse, medium dense, gray, slightly moist; no odor.
							No core recovery to 4 feet.
							Used 1" macrocore sampler.
						CL	Silty clay, reddish brown, firm to stiff, moist; no odor.
10							
	■					CL	No odor.
							No odor.
15	■					SW	Sand, medium to coarse grained, dark gray, dense, wet, strong diesel odor.
	■						No odor.
20							End of boring at 20 feet.
							Groundwater encountered at 15'.
							Boring converted into a well.
25							
30							
35							
40							



DRILLING LOG

BORING NO. B13

PROJECT NAME:	Depper	PROJECT NO.	
ADDRESS:	3815 Broadway, Oakland, California		
FIELD GEOLOGIST:	Frank Goldman	DATE:	
DRILLING COMPANY:	Precision	SAMPLER:	
DRILLING METHOD:		TOTAL DEPTH:	22'
BORING DIAMETER:	2.5"		

- double-cased

DEPTH	SAMPLE RECOVERY	BLOW COUNT	PID [ppm]	BORING CONSTR.	LITHOLOGIC LOG	USCS SYMBOLS	LITHOLOGIC DESCRIPTION Description, Grain Size, Sorting, Color, Moisture, Mechanical Properties
						CL	Clay, brown, soft, moist;bBrick.
						CL	Silty clay, black, soft, moist, high organics.
						CL	Silty clay, green, soft to firm, moist.
10						CL	No odor.
						CL	Moderately strong diesel odor with staining in the tube
						CL	Very dense at 13 feet.
15							
						CL	Silty clay, green, soft to firm, moist; odor.
20						CL	Silty clay, brown, soft to firm, moist; no odor.
							End of boring at 22 feet. No groundwater encountered during drilling. Boring converted into a well.
25							
30							
35							
40							

Appendix - B1

Virgil Chavez Land Surveying
312 Georgia Street, Suite 200
Vallejo, California 94590
(707) 553-2476

October 1, 1997
Project No. 1420-05

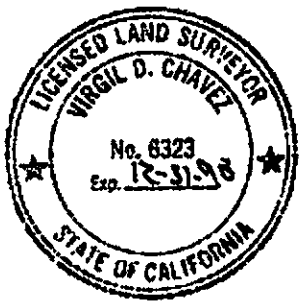
Frank Goldman
Geosolv, Inc.
643 Oregon Street
Sonoma, Ca. 94576

Subject: Monitoring Well Survey
3815 Broadway
Oakland, Ca.

Dear Frank:

This is to confirm that we have proceeded at your request with the monitoring well survey at the above referenced site. The survey was performed on September 29, 1997. Measurements were taken as per your directions. Elevations are shown in the table below. The benchmark for the survey was a USGS bronze disk located near the north end of the curb return at the northwest corner of 38th Street and Broadway. Benchmark Elev. = 85.41' USGS Datum (NAVD 29).

STATION No.	RIM Elevation *(concrete at grade)
MW - A	85.12'
MW - B	82.60'
MW - C	82.20'
MW - D	82.06'
MW - E	81.65'
MW - F	77.33'
MW - G	77.57'

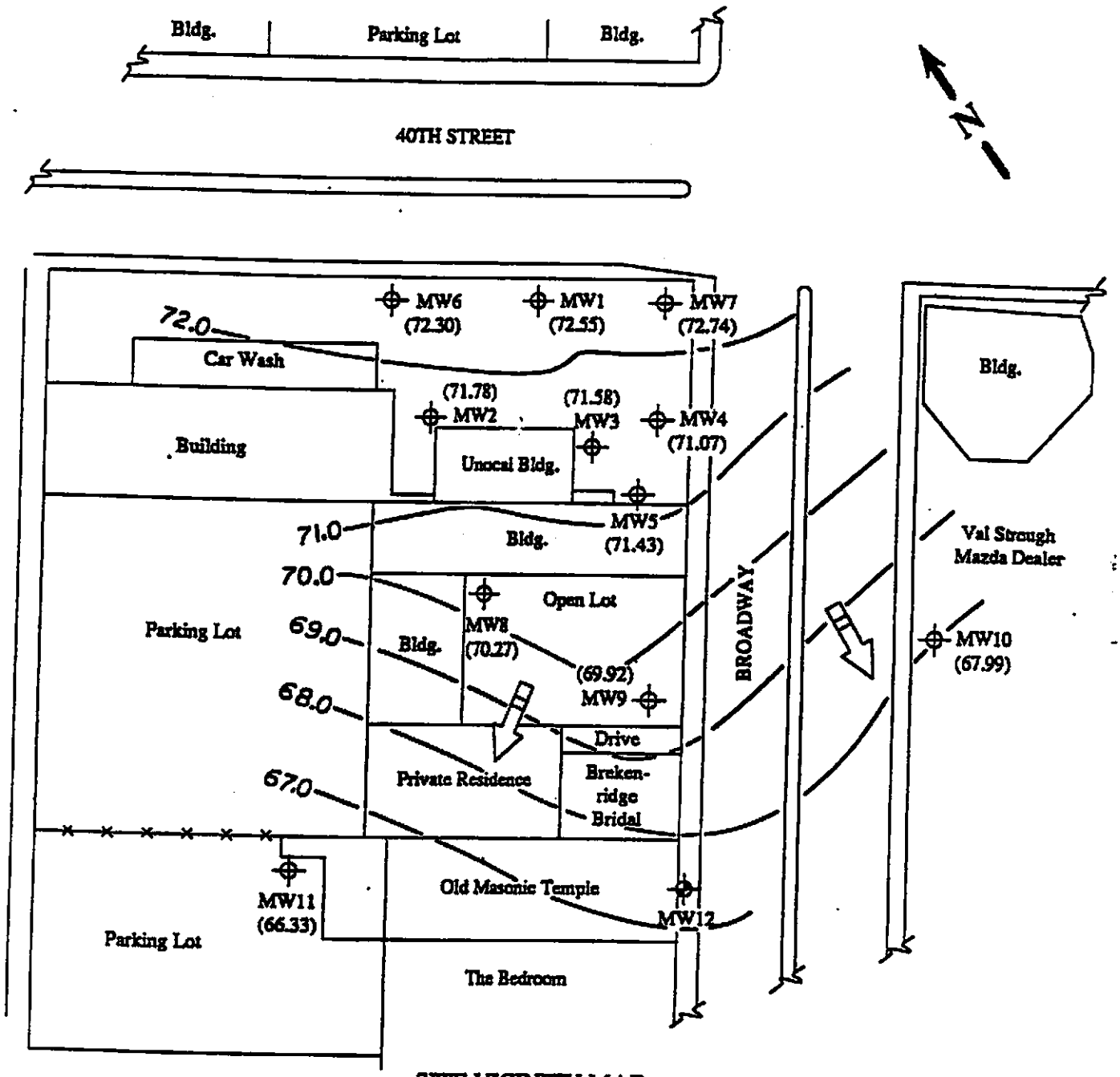


Sincerely,

Virgil D. Chavez, PLS 6323

Appendix - B2

KAPREALIAN ENGINEERING, INC.
Consulting Engineers
P.O. BOX 996 • BENICIA, CA 94510
(707) 746-6915 • (707) 746-6916 • FAX (707) 746-5581



LEGEND

- Monitoring well (existing)
- Monitoring well (previously proposed)
- ( ) Ground water elevation in feet above Mean Sea Level on 2/6/92
- Direction of ground water flow
- Contours of ground water elevation

SITE VICINITY MAP

Figure 1

2/6/92

0 60 120
Approx. scale feet

Unocal Service Station #0746
3943 Broadway
Oakland, CA

Appendix - C1

McCAMPBELL ANALYTICAL INC.

110 Second Avenue South, #D7, Pacheco, CA 94553
Telephone : 510-798-1620 Fax : 510-798-1622
http://www.mccampbell.com E-mail: main@mccampbell.com

GEOSOLV, Inc. 643 Oregon Street Sonoma, CA 95476	Client Project ID: Depper	Date Sampled: 08/19-08/22/97
		Date Received: 08/22/97
	Client Contact: Frank Goldman	Date Extracted: 08/22/97
	Client P.O:	Date Analyzed: 08/22/97

08/29/97

Dear Frank:

Enclosed are:

1). the results of **51** samples from your **Depper** project,

2). a QC report for the above samples

3). a copy of the chain of custody, and

4). a bill for analytical services.

All analyses were completed satisfactorily and all QC samples were found to be within our control limits. If you have any questions please contact me. McCampbell Analytical Laboratories strives for excellence in quality, service and cost. Thank you for your business and I look forward to working with you again.

Yours truly,

Edward Hamilton, Lab Director

McCAMPBELL ANALYTICAL INC.

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643 Oregon Street		Date Received: 08/22/97
Sonoma, CA 95476	Client Contact: Frank Goldman	Date Extracted: 08/25/97
	Client P.O:	Date Analyzed: 08/25-08/27/97

Stoddard Solvent Range (C9-C12) Volatile Hydrocarbons as Stoddard Solvent *, with Methyl tert-Butyl Ether* & BTEX*

EPA methods 5030, modified 8015, and 8020 or 602; California RWQCB (SF Bay Region) method GCFID(5030)

Lab ID	Client ID	Matrix	TPH(ss)+	MTBE	Benzene	Toluene	Ethylben-zene	Xylenes	% Recovery Surrogate
80124	B1-10.5-11	S	340,e	ND<0.2	ND<0.05	ND<0.05	ND<0.05	2.5	101
80126	B2-3-3.5	S	1500,e	ND<0.2	ND<0.01	0.21	1.1	3.5	101
80129	B2-12-12.5	S	380,e	ND<0.1	ND<0.01	0.037	0.15	2.6	94
80130	B3-2.5-3	S	1100,e	ND<0.2	ND<0.01	0.062	0.45	7.4	102
80131	B3-6.5-7	S	2000,e	ND<0.4	ND<0.02	0.24	0.96	18	101
80135	B4-5.5-6	S	2300,e	ND<0.2	ND<0.01	0.29	1.7	57	98
80136	B4-9.5-10	S	600,e	ND<0.2	ND<0.01	0.082	0.30	4.5	103
80139	B5-9.5-10	S	1100,e	ND<0.2	ND<0.01	0.095	0.33	9.1	104
80140	B5-12.5-13	S	520,e	ND<0.2	ND<0.01	0.070	0.095	4.5	101
80143	B6-9.5-10	S	970,e	ND<0.4	ND<0.02	0.21	1.0	9.2	101
80144	B6-12.5-13	S	100,e	ND<0.2	ND<0.01	ND<0.05	0.08	0.86	102
80145	B7-1.5-2	S	4000,e	ND<0.4	ND<0.02	0.68	ND<0.02	9.6	102
80147	B7-8-8.5	S	1000,e	ND<1	ND<0.05	0.33	0.63	8.6	101
80148	B7-10.5-11	S	10,000,e	ND<2	ND<0.01	2.3	6.2	89	97
Reporting Limit unless otherwise stated; ND means not detected above the reporting limit		W	50 ug/L	5.0	0.5	0.5	0.5	0.5	
		S	1.0 mg/kg	0.05	0.005	0.005	0.005	0.005	

* water and vapor samples are reported in ug/L, wipe samples in ug/wipe, soil and sludge samples in mg/kg, and all TCLP and SPLP extracts in ug/L

cluttered chromatogram; sample peak coelutes with surrogate peak

+The following descriptions of the TPH chromatogram are cursory in nature and McCampbell Analytical is not responsible for their interpretation: a) unmodified or weakly modified gasoline is significant; b) heavier gasoline range compounds are significant(aged gasoline?); c) lighter gasoline range compounds (the most mobile fraction) are significant; d) gasoline range compounds having broad chromatographic peaks are significant; biologically altered gasoline?; e) TPH pattern that does not appear to be derived from gasoline (stoddard solvent?); f) one to a few isolated peaks present; g) strongly aged gasoline or diesel range compounds are significant; h) lighter than water immiscible sheen is present; i) liquid sample that contains greater than ~5 vol. % sediment; j) no recognizable pattern.

DHS Certification No. 1644

Edward Hamilton, Lab Director

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Stoddard Solvent Range (C9-C12) Volatile Hydrocarbons as Stoddard Solvent *, with Methyl tert-Butyl Ether* & BTEX*

EPA methods 5030, modified 8015, and 8020 or 602; California RWQCB (SF Bay Region) method GCFID(5030)

Lab ID	Client ID	Matrix	TPH(ss)+	MTBE	Benzene	Toluene	Ethylben -zene	Xylenes	% Recovery Surrogate
80149	B8-3-3.5	S	450,e	ND<0.2	ND<0.05	ND<0.05	ND<0.05	1.0	101
80152	B8-12-12.5	S	760,e	ND<0.7	ND<0.2	ND<0.2	ND<0.2	3.9	106
80153	B8-20.5-21	S	3.6,e	0.058	ND	ND	ND	0.027	104
80154	B7-W	W	8800,e,a,i	33	14	73	14	100	94
80155	B8-W	W	1400,e,h,i	400	0.84	2.3	0.63	8.2	94
80159	B9-13-13.5	S	1100,e	ND<1	ND<0.05	0.67	ND<0.05	9.8	94
80160	B9-15-15.5	S	670,e	ND<2	ND<0.4	0.52	ND<0.4	3.9	99
80162	B9-16-16.5	S	1.2,e	ND	ND	ND	ND	0.020	98
80163	B9-W	W	38,000,e,h,i	ND<60	ND<11	110	36	370	92
80168	B10-15-15.5	S	2.6,e	ND	ND	0.005	ND	0.023	105
80169	B10-15.5-16	S	3.7,e	ND	ND	0.009	ND	0.030	105
80170	B10-W	W	48,000,e,h,i	ND<90	18	120	22	410	92
80171	B1-15.5-16	S	770,e	ND<0.2	ND<0.01	0.18	0.29	1.7	109
80172	B1-18.5-19	S	100,e	ND<0.1	ND<0.01	0.026	ND<0.01	0.34	94
Reporting Limit unless otherwise stated; ND means not detected above the reporting limit		W	50 ug/L	5.0	0.5	0.5	0.5	0.5	
		S	1.0 mg/kg	0.05	0.005	0.005	0.005	0.005	

sheen

sheen

sheen

* water and vapor samples are reported in ug/L, wipe samples in ug/wipe, soil and sludge samples in mg/kg, and all TCLP and SPLP extracts in ug/L

* cluttered chromatogram; sample peak coelutes with surrogate peak

+The following descriptions of the TPH chromatogram are cursory in nature and McCampbell Analytical is not responsible for their interpretation: a) unmodified or weakly modified gasoline is significant; b) heavier gasoline range compounds are significant(aged gasoline?); c) lighter gasoline range compounds (the most mobile fraction) are significant; d) gasoline range compounds having broad chromatographic peaks are significant; biologically altered gasoline?; e) TPH pattern that does not appear to be derived from gasoline (stoddard solvent?); f) one to a few isolated peaks present; g) strongly aged gasoline or diesel range compounds are significant; h) lighter than water immiscible sheen is present; i) liquid sample that contains greater than ~5 vol. % sediment; j) no recognizable pattern.

DHS Certification No. 1644

For Edward Hamilton, Lab Director

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Stoddard Solvent Range (C9-C12) Volatile Hydrocarbons as Stoddard Solvent *, with Methyl tert-Butyl Ether* & BTEX*

EPA methods 5030, modified 8015, and 8020 or 602; California RWQCB (SF Bay Region) method GCFID(5030)

Lab ID	Client ID	Matrix	TPH(ss)+	MTBE	Benzene	Toluene	Ethylben -zene	Xylenes	% Recovery Surrogate
80174	B1-W	W	2500,e,h,i	790	2.8	9.9	ND<2.2	18	100
80176	B3-W	W	42,000,e,h,i	ND<62	14	63	19	330	92
80180	B11-15.5-16	S	ND	ND	ND	ND	ND	ND	102
80186	B12-15.5-16	S	300,e	ND<0.2	ND<0.05	ND<0.05	ND<0.05	0.49	107
80187	B12-18.5-19	S	ND	ND	ND	ND	ND	ND	104
80188	B12-W	W	1700,e,h,i	ND<2	ND	ND<0.7	ND	ND	95
80194	B13-W	W	13,000,e,h,i	ND<30	ND<6	13	ND<6	90	106
Reporting Limit unless otherwise stated; ND means not detected above the reporting limit		W	50 ug/L	5.0	0.5	0.5	0.5	0.5	
		S	1.0 mg/kg	0.05	0.005	0.005	0.005	0.005	

* water and vapor samples are reported in ug/L, wipe samples in ug/wipe, soil and sludge samples in mg/kg, and all TCLP and SPLP extracts in ug/L

cluttered chromatogram; sample peak coelutes with surrogate peak

+The following descriptions of the TPH chromatogram are cursory in nature and McCampbell Analytical is not responsible for their interpretation: a) unmodified or weakly modified gasoline is significant; b) heavier gasoline range compounds are significant(aged gasoline?); c) lighter gasoline range compounds (the most mobile fraction) are significant; d) gasoline range compounds having broad chromatographic peaks are significant; biologically altered gasoline?; e) TPH pattern that does not appear to be derived from gasoline (stoddard solvent?); f) one to a few isolated peaks present; g) strongly aged gasoline or diesel range compounds are significant; h) lighter than water immiscible sheen is present; i) liquid sample that contains greater than ~5 vol. % sediment; j) no recognizable pattern.

DHS Certification No. 1644

Edward Hamilton, Lab Director

Appendix - C2

1, 2 - dichlorobenzene
used for:
- degreasing hides
- dyes
- solvent for wide variety of organic compounds

1, 2 - DCE used for: dye extraction

1, 2 DCE =
1, 2 dichloroethylene =
acetylene dichloride
CAS 540-59-0

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		Date Received: 08/22/97
	Client Contact: Frank Goldman	Date Extracted: 08/25-08/28/97
	Client P.O:	Date Analyzed: 08/25-08/28/97

Volatile Halocarbons

EPA method 601 or 8010

Lab ID	80130	80132	80143	80144
Client ID	B3-2.5-3	B3-8-8.5	B6-9.5-10	B6-12.5-13
Matrix	S	S	S	S
Compound	Concentration			
Bromodichloromethane	ND<25	ND<25	ND<10	ND
Bromoform[b]	ND<25	ND<25	ND<10	ND
Bromomethane	ND<25	ND<25	ND<10	ND
Carbon Tetrachloride[c]	ND<25	ND<25	ND<10	ND
Chlorobenzene	ND<25	ND<25	ND<10	ND
Chloroethane	ND<25	ND<25	ND<10	ND
2-Chloroethyl Vinyl Ether[d]	ND<25	ND<25	ND<10	ND
Chloroform [e]	ND<25	ND<25	ND<10	ND
Chloromethane	ND<25	ND<25	ND<10	ND
Dibromochloromethane	ND<25	ND<25	ND<10	ND
1,2-Dichlorobenzene	ND<25	39	16	ND
1,3-Dichlorobenzene	ND<25	ND<25	ND<10	ND
1,4-Dichlorobenzene	ND<25	ND<25	ND<10	ND
Dichlorodifluoromethane	ND<25	ND<25	ND<10	ND
1,1-Dichloroethane	ND<25	ND<25	ND<10	ND
1,2-Dichloroethane	ND<25	ND<25	ND<10	ND
1,1-Dichloroethene	ND<25	ND<25	ND<10	ND
cis 1,2-Dichloroethene	ND<25	360	330	9.3
trans-1,2-Dichloroethene	ND<25	ND<25	ND<10	ND
1,2-Dichloropropane	ND<25	ND<25	ND<10	ND
cis 1,3-Dichloropropene	ND<25	ND<25	ND<10	ND
trans 1,3-Dichloropropene	ND<25	ND<25	ND<10	ND
Methylene Chloride[f]	ND<25	ND<25	ND<10	ND
1,1,2,2-Tetrachloroethane	ND<25	ND<25	ND<10	ND
Tetrachloroethene	ND<25	ND<25	ND<15	ND<15
1,1,1-Trichloroethane	ND<25	ND<25	ND<10	ND
1,1,2-Trichloroethane	ND<25	ND<25	ND<10	ND
Trichloroethene	ND<25	ND<25	ND<10	ND
Trichlorofluoromethane	ND<25	ND<25	ND<10	ND
Vinyl Chloride[g]	ND<25	ND<25	ND<10	ND
% Recovery Surrogate	103	104	110	93
Comments	j	j		

* water and vapor samples and all TCLP & SPLP extracts are reported in ug/L, soil and sludge samples in ug/kg, wipe samples in ug/wipe

Reporting limit unless otherwise stated: water/TCLP/SPLP extracts, ND<0.5ug/L; soils and sludges, ND<5ug/kg; wipes, ND<0.2ug/wipe

ND means not detected above the reporting limit; N/A means analyte not applicable to this analysis

(b) tribromomethane; (c) tetrachloromethane; (d) (2-chloroethoxy) ethene; (e) trichloromethane; (f) dichloromethane; (g) chloroethene; (h) a lighter than water immiscible sheen is present; (i) liquid sample that contains greater than ~5 vol. % sediment; (j) sample diluted due to high organic content.

DHS Certification No. 1644

Edward Hamilton, Lab Director

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Volatile Halocarbons

EPA method 601 or 8010

Lab ID	80154	80160	80161	80162
Client ID	B7-W	B9-15-15.5	B9-15.5-16	B9-16-16.5
Matrix	W	S	S	S
Compound	Concentration*			
Bromodichloromethane	ND<22	ND	ND	ND
Bromoform[b]	ND<22	ND	ND	ND
Bromomethane	ND<22	ND	ND	ND
Carbon Tetrachloride[c]	ND<22	ND	ND	ND
Chlorobenzene	ND<22	ND	ND	ND
Chloroethane	ND<22	ND	ND	ND
2-Chloroethyl Vinyl Ether[d]	ND<22	ND	ND	ND
Chloroform[e]	ND<22	ND	ND	ND
Chloromethane	ND<22	ND	ND	ND
Dibromochloromethane	ND<22	ND	ND	ND
1,2-Dichlorobenzene	ND<22	ND	ND	ND
1,3-Dichlorobenzene	ND<22	ND	ND	ND
1,4-Dichlorobenzene	ND<22	ND	ND	ND
Dichlorodifluoromethane	ND<22	ND	ND	ND
1,1-Dichloroethane	ND<22	ND	ND	ND
1,2-Dichloroethane	ND<22	ND	ND	ND
1,1-Dichloroethene	ND<22	ND	ND	ND
cis 1,2-Dichloroethene	950	7.9	ND	ND
trans 1,2-Dichloroethene	ND<22	ND	ND	ND
1,2-Dichloropropane	ND<22	ND	ND	ND
cis 1,3-Dichloropropene	ND<22	ND	ND	ND
trans 1,3-Dichloropropene	ND<22	ND	ND	ND
Methylene Chloride[f]	ND<22	ND	ND	ND
1,1,2,2-Tetrachloroethane	ND<22	ND	ND	ND
Tetrachloroethene	ND<22	ND<15	ND<15	ND<15
1,1,1-Trichloroethane	ND<22	ND	ND	ND
1,1,2-Trichloroethane	ND<22	ND	ND	ND
Trichloroethene	ND<22	ND	ND	ND
Trichlorofluoromethane	ND<22	ND	ND	ND
Vinyl Chloride[g]	ND<22	ND	ND	ND
% Recovery Surrogate	97	96	90	95
Comments	h,i			

* water and vapor samples and all TCLP & SPLP extracts are reported in ug/L, soil and sludge samples in ug/kg, wipe samples in ug/wipe

Reporting limit unless otherwise stated: water/TCLP/SPLP extracts, ND<0.5ug/L; soils and sludges, ND<5ug/kg; wipes, ND<0.2ug/wipe

ND means not detected above the reporting limit; N/A means analyte not applicable to this analysis

(b) tribromomethane; (c) tetrachloromethane; (d) (2-chloroethoxy) ethene; (e) trichloromethane; (f) dichloromethane; (g) chloroethene; (h) a lighter than water immiscible sheen is present; (i) liquid sample that contains greater than ~5 vol. % sediment; (j) sample diluted due to high organic content.

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	Client P.O:	Date Analyzed: 08/25-08/28/97

Volatile Halocarbons

EPA method 601 or 8010

Lab ID	80163	80168	80169	80170
Client ID	B9-W	B10-15-15.5	B10-15.5-16	B10-W
Matrix	W	S	S	W
Compound	Concentration*			
Bromodichloromethane	ND<2	ND<25	ND<130	ND<250
Bromoform[b]	ND<2	ND<25	ND<130	ND<250
Bromomethane	ND<2	ND<25	ND<130	ND<250
Carbon Tetrachloride[c]	ND<2	ND<25	ND<130	ND<250
Chlorobenzene	ND<2	ND<25	ND<130	ND<250
Chloroethane	ND<2	ND<25	ND<130	ND<250
2-Chloroethyl Vinyl Ether[d]	ND<2	ND<25	ND<130	ND<250
Chloroform[e]	ND<2	ND<25	ND<130	ND<250
Chloromethane	ND<2	ND<25	ND<130	ND<250
Dibromochloromethane	ND<2	ND<25	ND<130	ND<250
1,2-Dichlorobenzene	ND<2	ND<25	ND<130	ND<250
1,3-Dichlorobenzene	ND<2	ND<25	ND<130	ND<250
1,4-Dichlorobenzene	ND<2	ND<25	ND<130	ND<250
Dichlorodifluoromethane	ND<2	ND<25	ND<130	ND<250
1,1-Dichloroethane	ND<2	ND<25	ND<130	ND<250
1,2-Dichloroethane	ND<2	ND<25	ND<130	ND<250
1,1-Dichloroethene	ND<2	ND<25	ND<130	ND<250
cis 1,2-Dichloroethene	66	130	220	8700
trans 1,2-Dichloroethene	ND<2	ND<25	ND<130	ND<250
1,2-Dichloropropane	ND<2	ND<25	ND<130	ND<250
cis 1,3-Dichloropropene	ND<2	ND<25	ND<130	ND<250
trans 1,3-Dichloropropene	ND<2	ND<25	ND<130	ND<250
Methylene Chloride[f]	ND<3	ND<25	ND<130	ND<250
1,1,2,2-Tetrachloroethane	ND<2	ND<25	ND<130	ND<250
Tetrachloroethene	ND<3	1300	5500	13,000
1,1,1-Trichloroethane	ND<2	ND<25	ND<130	ND<250
1,1,2-Trichloroethane	ND<2	ND<25	ND<130	ND<250
Trichloroethene	ND<2	81	270	820
Trichlorofluoromethane	ND<2	ND<25	ND<130	ND<250
Vinyl Chloride[g]	ND<2	ND<25	ND<130	ND<250
% Recovery Surrogate	102	93	98	96
Comments	h,i			h,i

* water and vapor samples and all TCLP & SPLP extracts are reported in ug/L, soil and sludge samples in ug/kg, wipe samples in ug/wipe

Reporting limit unless otherwise stated: water/TCLP/SPLP extracts, ND<0.5ug/L; soils and sludges, ND<5ug/kg; wipes, ND<0.2ug/wipe

ND means not detected above the reporting limit; N/A means analyte not applicable to this analysis

(b) tribromomethane; (c) tetrachloromethane; (d) (2-chloroethoxy) ethene; (e) trichloromethane; (f) dichloromethane; (g) chloroethene; (h) a lighter than water immiscible sheen is present; (i) liquid sample that contains greater than ~5 vol. % sediment; (j) sample diluted due to high organic content.

DHS Certification No. 1644

Edward Hamilton, Lab Director

McCAMPBELL ANALYTICAL INC.
110 Second Avenue South, #D7, Pacheco, CA 94553
Telephone : 510-798-1620 Fax : 510-798-1622
http://www.mccampbell.com E-mail: main@mccampbell.com

GEOSOLV, Inc. 643 Oregon Street Sonoma, CA 95476	Client Project ID: Depper	Date Sampled: 08/19-08/22/97
		Date Received: 08/22/97
	Client Contact: Frank Goldman	Date Extracted: 08/25-08/28/97
	Client P.O:	Date Analyzed: 08/25-08/28/97

Volatile Halocarbons

EPA method 601 or 8010

Lab ID	80176			
Client ID	B3-W			
Matrix	W			
Compound	Concentration*			
Bromodichloromethane	ND<25			
Bromoform[b]	ND<25			
Bromomethane	ND<25			
Carbon Tetrachloride[c]	ND<25			
Chlorobenzene	ND<25			
Chloroethane	ND<25			
2-Chloroethyl Vinyl Ether[d]	ND<25			
Chloroform[e]	ND<25			
Chloromethane	ND<25			
Dibromochloromethane	ND<25			
1,2-Dichlorobenzene	ND<25			
1,3-Dichlorobenzene	ND<25			
1,4-Dichlorobenzene	ND<25			
Dichlorodifluoromethane	ND<25			
1,1-Dichloroethane	ND<25			
1,2-Dichloroethane	ND<25			
1,1-Dichloroethene	ND<25			
cis 1,2-Dichloroethene	1200			
trans 1,2-Dichloroethene	ND<25			
1,2-Dichloropropane	ND<25			
cis 1,3-Dichloropropene	ND<25			
trans 1,3-Dichloropropene	ND<25			
Methylene Chloride[f]	ND<40			
1,1,2,2-Tetrachloroethane	ND<25			
Tetrachloroethene	ND<40			
1,1,1-Trichloroethane	ND<25			
1,1,2-Trichloroethane	ND<25			
Trichloroethene	ND<25			
Trichlorofluoromethane	ND<25			
Vinyl Chloride[g]	ND<25			
% Recovery Surrogate	96			
Comments	h,i			

* water and vapor samples and all TCLP & SPLP extracts are reported in ug/L, soil and sludge samples in ug/kg, wipe samples in ug/wipe

Reporting limit unless otherwise stated: water/TCLP/SPLP extracts, ND<0.5ug/L; soils and sludges, ND<5ug/kg; wipes, ND<0.2ug/wipe

ND means not detected above the reporting limit; N/A means analyte not applicable to this analysis

(b) tribromomethane; (c) tetrachloromethane; (d) (2-chloroethoxy) ethene; (e) trichloromethane; (f) dichloromethane; (g) chloroethene; (h) a lighter than water immiscible sheen is present; (i) liquid sample that contains greater than ~5 vol. % sediment; (j) sample diluted due to high organic content.

DHS Certification No. 1644

For Edward Hamilton, Lab Director

Appendix - D

McCAMPBELL ANALYTICAL INC.
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Telephone : 510-798-1620 Fax : 510-798-1622
http://www.mccampbell.com E-mail: main@mccampbell.com

GEOSOLV, Inc. 643 Oregon Street Sonoma, CA 95476	Client Project ID: Depper	Date Sampled: 08/19-08/22/97
		Date Received: 08/22/97
	Client Contact: Frank Goldman	Date Extracted: 09/02/97
	Client P.O:	Date Analyzed: 09/02/97

Methyl tert-Butyl Ether *

EPA method 8260 modified

Lab ID	Client ID	Matrix	MTBE*	% Recovery Surrogate
80174	B1-W	W	850	106
Reporting Limit unless otherwise stated; ND means not detected above the reporting limit		W	5.0 ug/L	
		S	50 ug/kg	

* water samples are reported in ug/L, soil and sludge samples in ug/kg, wipe samples in ug/wipe and all TCLP / STLC / SPLP extracts in ug/L

h) lighter than water immiscible sheen is present; i) liquid sample that contains greater than ~5 vol. % sediment.

DHS Certification No. 1644

Edward Hamilton, Lab Director

Appendix - E

Stid 5026

(Na) 3/13/96

DATE:

TO : Local Oversight Program

FROM: MADHULLA LOGAN

SUBJ: Transfer of Eligible Local Oversight Case

Site name: ~~80 Frank~~ EARL Thompson's ~~Property~~

Address: ~~316 38th Street~~ City OAKAND Zip 94609

TO BE ELLIGIBLE FOR LOP A CASE MUST MEET 3 QUALIFICATIONS: No tank removal

1. Number of Tanks: ______ removed? Y N Date of removal ______

2. Samples received? (Y) N Contamination level: 9500 Diesel (ppm and type of test) Stoddard solvent - 3500

Contamination should be over 100 ppm TPH to qualify for LOP

3. Petroleum (Y) N Types: Avgas Jet leaded unleaded (Diesel) fuel oil waste oil kerosene (solvents)

DepRef remaining $ No

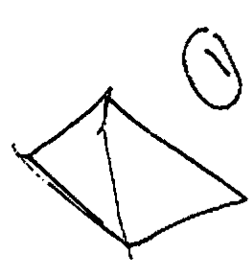
Closed with Candace/Leslie? N/A N (If no explain why?)

IF YOUR SITE MEETS ALL OF THE ABOVE QUALIFICATIONS YOU SHOULD DO THE FOLLOWING TO TRANSFER THE SITE:

1. YOU MUST CLOSE THE DEPOSIT REFUND CASE AT THIS TIME. YOU MUST ACCOUNT FOR ALL TIME YOU HAVE SPENT ON THE CASE AND TURN IN THE ACCOUNT SHEET TO LESLIE. IF THERE ARE FUNDS STILL REMAINING IT IS STILL BETTER TO TRANSFER THE CASE TO LOP AS THE RATE FOR LOP ALLOWS THE ADDITION OF MANAGEMENT AND CLERICAL TIME. DO NOT ATTEMPT TO CONTINUE TO OVERSEE THE SITE SIMPLY BECAUSE THERE ARE FUNDS REMAINING!

2. COMPLETE THE A AND B PERMIT APPLICATION FORMS AND GIVE TO CONNIE/ELAINE

3. GIVE THE ENTIRE CASE TO THE PROPER LOP STAFF UPSTAIRS FOR THEM TO DO THE REST OF THE TRANSFER AND YOU ARE DONE!



CHROMALAB, INC.

Environmental Services (SDB)

GW? Tank contents? other?

August 11, 1995

Submission #: 9508075

SUTTON GROUP

Atten: John Sutton
Project: 316-38th St
Received: August 4, 1995
re: One sample for Volatile Organic Compounds analysis.
Method: EPA 8240/8260
SampleID: 8/4-1A,B,2A,B
Sample #: 98236
Sampled: August 4, 1995

Project#: SG 3030
Matrix: WATER
Run: 8016-O
Analyzed: August 11, 1995

Analyte	RESULT (ug/L)	REPORTING LIMIT (ug/L)	BLANK RESULT (ug/L)	BLANK SPIKE RESULT (%)
ACETONE	4700	200	N.D.	--
BENZENE	N.D.	50	N.D.	102
BROMODICHLOROMETHANE	N.D.	50	N.D.	--
BROMOFORM	N.D.	50	N.D.	--
BROMOMETHANE	N.D.	50	N.D.	--
METHYL ETHYL KETONE	N.D.	50	N.D.	--
CARBON TETRACHLORIDE	N.D.	50	N.D.	--
CHLOROBENZENE	N.D.	50	N.D.	105
CHLOROETHANE	N.D.	50	N.D.	--
2-CHLOROETHYLVINYL ETHER	N.D.	50	N.D.	--
CHLOROFORM	N.D.	50	N.D.	--
CHLOROMETHANE	N.D.	50	N.D.	--
DIBROMOCHLOROMETHANE	N.D.	50	N.D.	--
1,1-DICHLOROETHANE	180	50	N.D.	--
1,2-DICHLOROETHANE	N.D.	50	N.D.	104
1,1-DICHLOROETHENE	N.D.	50	N.D.	--
CIS-1,2-DICHLOROETHENE	N.D.	50	N.D.	--
TRANS-1,2-DICHLOROETHENE	N.D.	50	N.D.	--
1,2-DICHLOROPROPANE	N.D.	50	N.D.	--
CIS-1,3-DICHLOROPROPENE	N.D.	50	N.D.	--
TRANS-1,3-DICHLOROPROPENE	N.D.	50	N.D.	--
ETHYLBENZENE	180	50	N.D.	--
2-HEXANONE	N.D.	50	N.D.	--
METHYLENE CHLORIDE	N.D.	50	N.D.	--
METHYL ISOBUTYL KETONE	4700	50	N.D.	--
STYRENE	N.D.	50	N.D.	--
1,1,2,2-TETRACHLOROETHANE	N.D.	50	N.D.	--
TETRACHLOROETHENE	N.D.	50	N.D.	--
TOLUENE	210	50	N.D.	92
1,1,1-TRICHLOROETHANE	N.D.	50	N.D.	--
1,1,2-TRICHLOROETHANE	N.D.	50	N.D.	--
TRICHLOROETHENE	110	50	N.D.	103
TRICHLOROFLUOROMETHANE	N.D.	50	N.D.	--
VINYL ACETATE	N.D.	50	N.D.	--
VINYL CHLORIDE	N.D.	50	N.D.	--
TOTAL XYLENES	2200	50	N.D.	--

Oleg Nemtsov
Chemist

Ali Kharrazi
Organic Manager

1220 Quarry Lane • Pleasanton, California 94566-4756
(510) 484-1919 • Facsimile (510) 484-1096

CHROMALAB, INC.

Environmental Services (SDB)

August 11, 1995

Submission #: 9508075

SUTTON GROUP

Atten: John Sutton
Project: 316-38th St
Received: August 4, 1995
re: One sample for Volatile Organic Compounds analysis.
Method: EPA 8240/8260
SampleID: 8/4-4A,B,5A,B
Sample #: 98237
Sampled: August 4, 1995

Project#: SG 3030

Matrix: WATER
Run: 8016-O

Analyzed: August 11, 1995

Analyte	RESULT (ug/L)	REPORTING LIMIT (ug/L)	BLANK RESULT (ug/L)	BLANK SPIKE RESULT (%)
ACETONE	170000	4000	N.D.	--
BENZENE	N.D.	200	N.D.	102
BROMODICHLOROMETHANE	N.D.	200	N.D.	--
BROMOFORM	N.D.	200	N.D.	--
BROMOMETHANE	N.D.	200	N.D.	--
METHYL ETHYL KETONE	N.D.	200	N.D.	--
CARBON TETRACHLORIDE	N.D.	200	N.D.	--
CHLOROBENZENE	N.D.	200	N.D.	105
CHLOROETHANE	N.D.	200	N.D.	--
2-CHLOROETHYLVINYL ETHER	N.D.	200	N.D.	--
CHLOROFORM	N.D.	200	N.D.	--
CHLOROMETHANE	N.D.	200	N.D.	--
DIBROMOCHLOROMETHANE	N.D.	200	N.D.	--
1,1-DICHLOROETHANE	N.D.	200	N.D.	--
1,2-DICHLOROETHANE	N.D.	200	N.D.	--
1,1-DICHLOROETHENE	N.D.	200	N.D.	104
CIS-1,2-DICHLOROETHENE	N.D.	200	N.D.	--
TRANS-1,2-DICHLOROETHENE	N.D.	200	N.D.	--
1,2-DICHLOROPROPANE	N.D.	200	N.D.	--
CIS-1,3-DICHLOROPROPENE	N.D.	200	N.D.	--
TRANS-1,3-DICHLOROPROPENE	N.D.	200	N.D.	--
ETHYLBENZENE	N.D.	200	N.D.	--
2-HEXANONE	N.D.	200	N.D.	--
METHYLENE CHLORIDE	N.D.	200	N.D.	--
METHYL ISOBUTYL KETONE	N.D.	200	N.D.	--
STYRENE	N.D.	200	N.D.	--
1,1,2,2-TETRACHLOROETHANE	N.D.	200	N.D.	--
TETRACHLOROETHENE	N.D.	200	N.D.	--
TOLUENE	N.D.	200	N.D.	92
1,1,1-TRICHLOROETHANE	N.D.	200	N.D.	--
1,1,2-TRICHLOROETHANE	N.D.	200	N.D.	--
TRICHLOROETHENE	N.D.	200	N.D.	103
TRICHLOROFLUOROMETHANE	N.D.	200	N.D.	--
VINYL ACETATE	N.D.	200	N.D.	--
VINYL CHLORIDE	N.D.	200	N.D.	--
TOTAL XYLENES	N.D.	200	N.D.	--

Oleg Nemtsov
Chemist

Ali Khazrazi
Organic Manager

CHROMALAB, INC.

Environmental Services (SDB)

August 15, 1995 *Submission #:* 9508110

SUTTON GROUP

Atten: John Sutton
Project: SG3030
Received: August 8, 1995
re: One sample for Volatile Organic Compounds analysis.
Method: EPA 8240/8260
SampleID: 8/8-3A,3B,3C
Sample #: 98476 *Matrix:* LIQUID
Sampled: August 8, 1995 *Run:* 8050-O *Analyzed:* August 14, 1995

Analyte	RESULT (ug/L)	REPORTING LIMIT (ug/L)	BLANK RESULT (ug/L)	BLANK SPIKE RESULT (%)
ACETONE	80	4.0	N.D.	--
BENZENE	N.D.	2.0	N.D.	86
BROMODICHLOROMETHANE	N.D.	2.0	N.D.	--
BROMOFORM	N.D.	2.0	N.D.	--
BROMOMETHANE	N.D.	2.0	N.D.	--
METHYL ETHYL KETONE	18	2.0	N.D.	--
CARBON TETRACHLORIDE	N.D.	2.0	N.D.	--
CHLOROBENZENE	N.D.	2.0	N.D.	92
CHLOROETHANE	N.D.	2.0	N.D.	--
2-CHLOROETHYLVINYL ETHER	N.D.	2.0	N.D.	--
CHLOROFORM	N.D.	2.0	N.D.	--
CHLOROMETHANE	N.D.	2.0	N.D.	--
DIBROMOCHLOROMETHANE	N.D.	2.0	N.D.	--
1,1-DICHLOROETHANE	2.0	2.0	N.D.	--
1,2-DICHLOROETHANE	14	2.0	N.D.	--
1,1-DICHLOROETHENE	N.D.	2.0	N.D.	77
CIS-1,2-DICHLOROETHENE	N.D.	2.0	N.D.	--
TRANS-1,2-DICHLOROETHENE	N.D.	2.0	N.D.	--
1,2-DICHLOROPROPANE	N.D.	2.0	N.D.	--
CIS-1,3-DICHLOROPROPENE	N.D.	2.0	N.D.	--
TRANS-1,3-DICHLOROPROPENE	N.D.	2.0	N.D.	--
ETHYLBENZENE	N.D.	2.0	N.D.	--
2-HEXANONE	N.D.	2.0	N.D.	--
METHYLENE CHLORIDE	N.D.	2.0	N.D.	--
METHYL ISOBUTYL KETONE	13	2.0	N.D.	--
STYRENE	2.0	2.0	N.D.	--
1,1,2,2-TETRACHLOROETHANE	N.D.	2.0	N.D.	--
TETRACHLOROETHENE	6.0	2.0	N.D.	--
TOLUENE	N.D.	2.0	N.D.	87
1,1,1-TRICHLOROETHANE	N.D.	2.0	N.D.	--
1,1,2-TRICHLOROETHANE	N.D.	2.0	N.D.	--
TRICHLOROETHENE	N.D.	2.0	N.D.	96
TRICHLOROFLUOROMETHANE	N.D.	2.0	N.D.	--
VINYL ACETATE	N.D.	2.0	N.D.	--
VINYL CHLORIDE	N.D.	2.0	N.D.	--
TOTAL XYLENES	4.0	2.0	N.D.	--

Oleg Nemtsov
Chemist

Ali Kharrazi
Organic Manager

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(510) 484-1919 • Facsimile (510) 484-1096
Federal ID #68-0140157

CHROMALAB, INC.

Environmental Services (SDB)

August 11, 1995

Submission #: 9508075

SUTTON GROUP

Atten: John Sutton
Project: 316-38th St
Project#: SG 3030
Received: August 4, 1995
re: 2 samples for Total Extractable Petroleum Hydrocarbons (TEPH) analysis.
Method: EPA 3510/8015M
Sampled: August 4, 1995

Matrix: WATER
Run: 7948-D
Extracted: August 8, 1995
Analyzed: August 9, 1995

Spl #	Sample ID	Kerosene (ug/L)	Diesel (ug/L)	Motor Oil (ug/L)
98236	8/4-1A,B,2A,B	N.D.	95000	N.D.
	For above sample:	*REPORTING LIMITS RAISED 100X DUE TO DILUTION.*		
98237	8/4-4A,B,5A,B	3500	N.D.	N.D.
	For above sample:	*Sample profile is similar to that of stoddard solvent. Reporting limits raised 10X due to dilution.*		
Reporting Limits		50	50	500
Blank Result		N.D.	N.D.	N.D.
Blank Spike Result (%)		--	96	--

Dennis Mayugba
Chemist

Ali Kharrazi
Organic Manager

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

copy to M. Logan ACEH

CHROMALAB, INC.

Environmental Services (SDB)

August 15, 1995

Submission #: 9508110

SUTTON GROUP

Atten: John Sutton
Project: SG3030
Received: August 8, 1995
re: 1 sample for Total Extractable Petroleum Hydrocarbons (TEPH) analysis.
Method: EPA 3510/8015M
Sampled: August 8, 1995

Matrix: LIQUID
Run: 8030-D
Extracted: August 11, 1995
Analyzed: August 11, 1995

Spl #	Sample ID	Kerosene (ug/L)	Diesel (ug/L)	Motor Oil (ug/L)
98476	8/8-3A,3B,3C	2900	N.D.	N.D.

For above sample: REPORTING LIMITS RAISED 10X DUE TO DILUTION.

Reporting Limits	500	500	5000
Blank Result	N.D.	86.00	N.D.
Blank Spike Result (%)	--	--	--

Dennis Mayugba
Chemist

Ali Kharrazi
Organic Manager

96 MAR 19 PM 1:40
ENVIRONMENTAL PROTECTION

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

08/15 743-0150

N:QC726 DENNIS 15:01:37

Appendix - F1

McCAMPBELL ANALYTICAL INC.
110 Second Avenue South, #D7, Pacheco, CA 94553
Telephone : 510-798-1620 Fax : 510-798-1622
http://www.mccampbell.com E-mail: main@mccampbell.com

GEOSOLV, Inc. 643 Oregon Street Sonoma, CA 95476	Client Project ID: Depper	Date Sampled: 08/19-08/22/97
		Date Received: 08/22/97
	Client Contact: Frank Goldman	Date Extracted: 08/25-08/26/97
	Client P.O:	Date Analyzed: 08/25-08/27/97

Diesel Range (C10-C23) Extractable Hydrocarbons as Diesel *

EPA methods modified 8015, and 3550 or 3510; California RWQCB (SF Bay Region) method GCFID(3550) or GCFID(3510)

Lab ID	Client ID	Matrix	TPH(d)+	% Recovery Surrogate
80123	B1-9-9.5	S	130,d,b	105
80128	B2-9.5-10	S	430,d,b	106
80129	B2-12-12.5	S	100,d	106
80133	B3-12.5-13	S	9600,d,b	107
80134	B3-14-14.5	S	17,d,b	106
80173	B1-21-21.5	S	4.0,d,b	105
80181	B11-18.5-19	S	ND	106
80182	B11-21.5-22	S	ND	103
80184	B11-WD	W	460,d,i ug/l	100
80185	B12-12.5-13	S	1200,d,c	105
80186	B12-15.5-16	S	53,d,b	106
80187	B12-18.5-19	S	ND	116
80189	B12-WD	W	290,000,d,c,h,i ug/l	104
80190	B13-9.5-10	S	ND	98
Reporting Limit unless otherwise stated; ND means not detected above the reporting limit		W	50 ug/L	
		S	1.0 mg/kg	

water tanks 38th St.

* water and vapor samples are reported in ug/L, wipe samples in ug/wipe, soil and sludge samples in mg/kg, and all TCLP / STLC / SPLP extracts in ug/L

, cluttered chromatogram resulting in coeluted surrogate and sample peaks, or; surrogate peak is on elevated baseline, or; surrogate has been diminished by dilution of original extract.

+The following descriptions of the TPH chromatogram are cursory in nature and McCampbell Analytical is not responsible for their interpretation: a) unmodified or weakly modified diesel is significant; b) diesel range compounds are significant; no recognizable pattern; c) aged diesel? is significant); d) gasoline range compounds are significant; e) medium boiling point pattern that does not match diesel (?); f) one to a few isolated peaks present; g) oil range compounds are significant; h) lighter than water immiscible sheen is present; i) liquid sample that contains greater than ~5 vol. % sediment.

DHS Certification No. 1644

Edward Hamilton, Lab Director

McCAMPBELL ANALYTICAL INC.
110 Second Avenue South, #D7, Pacheco, CA 94553
Telephone : 510-798-1620 Fax : 510-798-1622
http://www.mccampbell.com E-mail: main@mccampbell.com

GEOSOLV, Inc. 643 Oregon Street Sonoma, CA 95476	Client Project ID: Depper	Date Sampled: 08/19-08/22/97
		Date Received: 08/22/97
	Client Contact: Frank Goldman	Date Extracted: 08/25-08/26/97
	Client P.O:	Date Analyzed: 08/25-08/27/97

Diesel Range (C10-C23) Extractable Hydrocarbons as Diesel *

EPA methods modified 8015, and 3550 or 3510; California RWQCB (SF Bay Region) method GCFID(3550) or GCFID(3510)

Lab ID	Client ID	Matrix	TPH(d)+	% Recovery Surrogate
80192	B13-18.5-19	S	7.1,d,b	105
80193	B13-21.5-22	S	3.5,d	104
80195	B13-WD	W	4600,d,b,i ug/L	118#
Reporting Limit unless otherwise stated; ND means not detected above the reporting limit		W	50 ug/L	
		S	1.0 mg/kg	

water

* water and vapor samples are reported in ug/L, wipe samples in ug/wipe, soil and sludge samples in mg/kg, and all TCLP / STLC / SPLP extracts in ug/L

cluttered chromatogram resulting in coeluted surrogate and sample peaks, or; surrogate peak is on elevated baseline, or; surrogate has been diminished by dilution of original extract.

+The following descriptions of the TPH chromatogram are cursory in nature and McCampbell Analytical is not responsible for their interpretation: a) unmodified or weakly modified diesel is significant; b) diesel range compounds are significant; no recognizable pattern; c) aged diesel? is significant); d) gasoline range compounds are significant; e) medium boiling point pattern that does not match diesel (?); f) one to a few isolated peaks present; g) oil range compounds are significant; h) lighter than water immiscible sheen is present; i) liquid sample that contains greater than ~5 vol. % sediment.

DHS Certification No. 1644

Edward Hamilton, Lab Director

McCAMPBELL ANALYTICAL INC.
110 2nd Avenue South, #D7, Pacheco, CA 94553
Tele: 510-798-1620 Fax: 510-798-1622

QC REPORT FOR HYDROCARBON ANALYSES

Date: 08/25/97 Matrix: Water

Analyte	Concentration (mg/L) Sample #(80000)	MS	MSD	Amount Spiked	% Recovery MS	MSD	RPD
TPH (gas)	0.0	105.3	103.5	100.0	105.3	103.5	1.7
Benzene	0.0	8.9	9.0	10.0	89.0	90.0	1.1
Toluene	0.0	10.2	10.2	10.0	102.0	102.0	0.0
Ethyl Benzene	0.0	11.2	11.2	10.0	112.0	112.0	0.0
Xylenes	0.0	33.7	33.8	30.0	112.3	112.7	0.3
TPH(diesel)	0	104	100	100	104	100	3.9
TRPH (oil & grease)	N/A	N/A	N/A	N/A	N/A	N/A	N/A

% Rec. = (MS - Sample) / amount spiked x 100

RPD = (MS - MSD) / (MS + MSD) x 2 x 100

McCAMPBELL ANALYTICAL INC.
110 2nd Avenue South, #D7, Pacheco, CA 94553
Tele: 510-798-1620 Fax: 510-798-1622

QC REPORT FOR HYDROCARBON ANALYSES

Date: 08/26/97-08/27/97 Matrix: Water

Analyte	Concentration (mg/L) Sample #(80000)	MS	MSD	Amount Spiked	% Recovery MS	MSD	RPD
TPH (gas)	0.0	104.1	102.7	100.0	104.1	102.7	1.3
Benzene	0.0	8.9	9.1	10.0	89.0	91.0	2.2
Toluene	0.0	10.1	10.5	10.0	101.0	105.0	3.9
Ethyl Benzene	0.0	11.0	11.3	10.0	110.0	113.0	2.7
Xylenes	0.0	33.6	34.0	30.0	112.0	113.3	1.2
TPH(diesel)	0	104	100	100	104	100	3.9
TRPH (oil & grease)	N/A	N/A	N/A	N/A	N/A	N/A	N/A

% Rec. = (MS - Sample) / amount spiked x 100

RPD = (MS - MSD) / (MS + MSD) x 2 x 100

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QC REPORT FOR HYDROCARBON ANALYSES

Date: 09/01/97-09/02/97 Matrix: Water

Analyte	Concentration (mg/L) Sample #(80000)	MS	MSD	Amount Spiked	% Recovery MS	MSD	RPD
TPH (gas)	0.0	110.0	116.2	100.0	110.0	116.2	5.4
Benzene	0.0	10.4	10.7	10.0	104.0	107.0	2.8
Toluene	0.0	10.5	10.7	10.0	105.0	107.0	1.9
Ethyl Benzene	0.0	10.4	10.6	10.0	104.0	106.0	1.9
Xylenes	0.0	30.9	31.3	30.0	103.0	104.3	1.3
TPH(diesel)	0	104	100	100	104	100	3.9
TRPH (oil & grease)	N/A	N/A	N/A	N/A	N/A	N/A	N/A

% Rec. = (MS - Sample) / amount spiked x 100

RPD = (MS - MSD) / (MS + MSD) x 2 x 100

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QC REPORT FOR HYDROCARBON ANALYSES

Date: 08/25/97 Matrix: Soil

Analyte	Concentration (mg/kg) Sample (#77621)	MS	MSD	Amount Spiked	% Recovery MS	MSD	RPD
TPH (gas)	0.000	2.247	2.120	2.03	111	104	5.8
Benzene	0.000	0.168	0.190	0.2	84	95	12.3
Toluene	0.000	0.182	0.200	0.2	91	100	9.4
Ethylbenzene	0.000	0.182	0.194	0.2	91	97	6.4
Xylenes	0.000	0.570	0.582	0.6	95	97	2.1
TPH(diesel)	0	328	326	300	109	109	0.5
TRPH (oil and grease)	N/A	N/A	N/A	N/A	N/A	N/A	N/A

% Rec. = (MS - Sample) / amount spiked x 100

RPD = (MS - MSD) / (MS + MSD) x 2 x 100

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QC REPORT FOR HYDROCARBON ANALYSES

Date: 08/27/97 Matrix: Soil

Analyte	Concentration (mg/kg) Sample (#77621)	MS	MSD	Amount Spiked	% Recovery MS	MSD	RPD
TPH (gas)	0.000	2.242	2.149	2.03	110	106	4.2
Benzene	0.000	0.182	0.192	0.2	91	96	5.3
Toluene	0.000	0.192	0.202	0.2	96	101	5.1
Ethylbenzene	0.000	0.190	0.196	0.2	95	98	3.1
Xylenes	0.000	0.592	0.582	0.6	99	97	1.7
TPH(diesel)	0	329	327	300	110	109	0.6
TRPH (oil and grease)	0.0	17.9	17.8	20.8	86	86	0.6

% Rec. = (MS - Sample) / amount spiked x 100

RPD = (MS - MSD) / (MS + MSD) x 2 x 100

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QC REPORT FOR EPA 8010/8020/EDB

Date: 08/28/97-08/29/97 Matrix: Water

Analyte	Concentration (ug/L)				% Recovery		
	Sample #(79810)	MS	MSD	Amount Spiked	MS	MSD	RPD
1,1-DCE	0.0	11.6	11.2	10.0	116	112	3.5
Trichloroethene	0.0	10.0	9.8	10.0	100	98	2.0
EDB	0.0	8.3	8.7	10.0	83	87	4.9
Chlorobenzene	0.0	9.9	9.9	10.0	99	99	0.2
Benzene	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Toluene	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Chlorobz (PID)	N/A	N/A	N/A	N/A	N/A	N/A	N/A

% Rec. = (MS - Sample) / amount spiked x 100

RPD = (MS - MSD) / (MS + MSD) x 2 x 100

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Tele: 510-798-1620 Fax: 510-798-1622

QC REPORT FOR EPA 8010/8020/EDB

Date: 08/25/97 Matrix: Soil

Analyte	Concentration (ug/kg) Sample (#77621)	MS	MSD	Amount Spiked	% Recovery MS	MSD	RPD
1,1-DCE	0	99	105	100	99	105	5.9
Trichloroethene	0	92	96	100	92	96	4.3
EDB	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Chlorobenzene	0	93	95	100	93	95	2.1
Benzene	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Toluene	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Chlorobz (PID)	N/A	N/A	N/A	N/A	N/A	N/A	N/A

% Rec. = (MS - Sample) / amount spiked x 100

RPD = (MS - MSD) / (MS + MSD) x 2 x 100

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QC REPORT FOR EPA 8010/8020/EDB

Date: 08/28/97-08/29/97 Matrix: Soil

Analyte	Concentration (ug/kg)				% Recovery		
	Sample (#77621)	MS	MSD	Amount Spiked	MS	MSD	RPD
1,1-DCE	0	106	111	100	106	111	4.6
Trichloroethene	0	90	93	100	90	93	3.3
EDB	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Chlorobenzene	0	93	94	100	93	94	1.1
Benzene	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Toluene	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Chlorobz (PID)	N/A	N/A	N/A	N/A	N/A	N/A	N/A

% Rec. = (MS - Sample) / amount spiked x 100

RPD = (MS - MSD) / (MS + MSD) x 2 x 100

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CHAIN OF CUSTODY RECORD

Laboratory Analysis P.O. No.________
Laboratory Please Call Accounts Payable for P.O. No.
Date: 8/19/97 Sheet 1 of 8

Project Name: Depper
Project Number:
Address:
Sampler's Name: Frank Goldman
Sampler's Signature:

Lab Name: McCampbell
Address: Pacheco, CA
Phone Number: (510) 798-1620
Turnaround Time: Rush ☐ 24 Hour ☐ 48 Hour ☐ 5-Day ☒
Repeat to:

Sampler's Number Location	Date	Time	TPH as Gasoline 8015	TPH as Diesel 8015	TPH-G and BTEX 8015/8020	BTEX & EPA 8020	Oil and Grease 5520	Volatile Organics (8010)	CAM Metals (17)	Pr. Pollutant Metals (13)	Base/Neu/Acids (Organic)	Pesticides 8140/8141	TPH (gas) + BTEX + MTBE PbFG			SOIL SAMPLE	WATER SAMPLE		
B1-9-9½	8/19/97	9:20		X												X		23	80123
B1-10½-11		10:05											X					24	80124
B1-12½-13		11:10																25	H 80125
B2-3-3½		11:40											X					26	80126
B2-6½-7		11:55																27	H 80127
B2-9½-10		12:10		X														28	80128
B2-12-12½		12:25		X									X					29	80129
B3-2½-3		1:10						X					X					30	80130
B3-6½-7		1:20											X					31	80131
B3-8-8½	↓	1:40						X								↓		32	80132

Relinquished By	Date	Time	Received By	Date	Time
Franklin J. Goldman (signature)	8/22/97	7:40pm	(signature)	8/22/97	7:40pm
Dispatched By	Date	Time	Received In Lab By	Date	Time

Total Number of Containers this Sheet:
Method of Shipment:
Special Shipment/Handling or Storage Requirements:

ICE/t° ✓ GOOD CONDITION ✓ HEAD SPACE ABSENT ✓
PRESERVATION | VOAS | O&G | METALS | OTHER
APPROPRIATE CONTAINERS ✓

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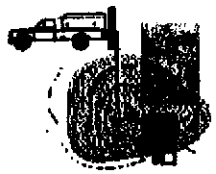

CHAIN OF CUSTODY RECORD

Laboratory Analysis P.O. No. _____
Laboratory Please Call Accounts Payable for P.O. No.
Date: 8/19/97 Sheet 2 of 8

Project Name: Depper
Project Number:
Address:
Sampler's Name: Frank Goldman
Sampler's Signature:

Lab Name: McCampbell
Address: Pacheco, CA
Phone Number: (510) 798-1620

Turnaround Time: ☐ Rush ☐ 24 Hour ☐ 48 Hour ☑ 5-Day
Repeat to:

Sampler's Number	Location	Date	Time	TPH as Gasoline 8015	TPH as Diesel 8015	TPH-G and BTEX 8015/8020	BTEX & EPA 8020	Oil and Grease 5520	Volatile Organics (8010)	CAM Metals (17)	Pr. Pollutant Metals (13)	Base/Neu/Acids (Organic)	Pesticides 8140/8141	TPH (SS) BTEX + MTBE per PG			SOIL SAMPLE	WATER SAMPLE	C	
B3-12½-13		8/19/97	1:50		X												X			80133
B3-14-14½		8/19/97	2:10		X														33	80134
B4-5½-6		8/19/97	2:40											X					34	80135
B4-9½-10		8/19/97	2:50											X					35	80136
B5-2½-3		8/20/97	8:40																36	H 80137
B5-5-5½			8:50																37	H 80138
B5-9½-10			8:55											X					38	80139
B5-12½-13			9:15											X					39	80140
B6-1½-2			9:30																40	H 80141
B6-6-6½			9:40																41	H 80142
																			42	

Relinquished By	Date	Time	Received By	Date	Time
Frank Goldman	8/22/97	7:40pm	Angela Rydelius	8/22/97	7:40pm
Dispatched By	Date	Time	Received In Lab By	Date	Time

Total Number of Containers this Sheet:
Method of Shipment:
Special Shipment/Handling or Storage Requirements:

	VOAs	O&G	METALS	OTHER
ICE/® ✓	✓			
GOOD CONDITION ___	APPROPRIATE			
HEAD SPACE ABSENT ___	CONTAINERS ✓			

PRESERVATION

74

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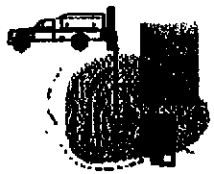

CHAIN OF CUSTODY RECORD

Laboratory Analysis P.O. No. _____
Laboratory Please Call Accounts Payable for P.O. No.
Date: 8/20/97 Sheet 3 of 8

Project Name: Depper
Project Number:
Address:
Sampler's Name: Frank Goldman
Sampler's Signature:

Lab Name: McCampbell
Address: Pacheco, CA
Phone Number: (510) 798-1620

Turnaround Time: ☐ Rush ☐ 24 Hour ☐ 48 Hour ☒ 5-Day
Repeat to:
Cc

Sampler's Number	Location	Date	Time	TPH as Gasoline 8015	TPH as Diesel 8015	TPH-G and BTEX 8015/8020	BTEX & EPA 8020	Oil and Grease 5520	Volatile Organics (8010)	CAM Metals (17)	Pr. Pollutant Metals (13)	Base/Neut/Acids (Organic)	Pesticides 8140/8141	TPH(ss) + BTEX + MTBE per F6			SOIL SAMPLE	WATER SAMPLE		
B6-9½-10		8/20/97	10¹⁰						X					X			X		43	80143
B6-12½-13			10⁵⁰						X					X					44	80144
B7-1½-2			11¹⁵											X					45	80145 H
B7-6½-7			11³⁰																46	80146
B7-8-8½			11⁵⁰											X					47	80147
B7-10½-11			12²⁰											X					48	80148
B8-3-3½			12⁵⁰											X					49	80149
B8-6½-7			1²⁵																50	80150 H
B8-10½-11			2⁰⁵																51	80151 H
B8-12-12½		↓	3⁰⁰											X			↓		52	80152

Relinquished By	Date	Time	Received By	Date	Time
Franklin J Goldman	8/22/97	7:40 pm	Angela Rydelius	8/22/97	7:40 pm
Dispatched By	Date	Time	Received In Lab By	Date	Time

Total Number of Containers this Sheet:
Method of Shipment:
Special Shipment/Handling or Storage Requirements:

	VOAS	O&G	METALS	OTHER
ICE/4° ✓				
GOOD CONDITION ✓	PRESERVATION APPROPRIATE ✓			
HEAD SPACE ABSENT ✓	CONTAINERS ✓			

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CHAIN OF CUSTODY RECORD

Laboratory Analysis P.O. No. _____
Laboratory Please Call Accounts Payable for P.O. No.
Date: 8/20/97 9/21/97 Sheet 4 of 8

Project Name: Depper
Project Number:
Address:
Sampler's Name: Frank Goldman
Sampler's Signature:

Lab Name: McCampbell
Address: Pacheco, CA
Phone Number: (510) 798-1620

Turnaround Time: ☐ Rush ☐ 24 Hour ☐ 48 Hour ☒ 5-Day

Repeat to: Cc

Sampler's Number	Location	Date	Time	TPH as Gasoline 8015	TPH as Diesel 8015	TPH-G and BTEX 8015/8020	BTEX & EPA 8020	Oil and Grease 5520	Volitile Organics (8010)	CAM Metals (17)	Pr. Pollutant Metals (13)	Base/Neu/Acids (Organic)	Pesticides 8140/8141	TPH(ss) (+ BTEX + MTBE per FG)			SOIL SAMPLE	WATER SAMPLE	
B8-20½-21		8/20/97	3:30											X			X		53 80153
+5 B7-W		8/21/97	7:40		W/A				X					X				X	54 80154
+10 B6-W		8/21/97	8:05											X				X	55 80155
B9-2-2½		8/21/97	8:30														X		56 H 80156
B9-6-6½		8/21/97	8:45														X		57 H 80157
92 B9-10-10½		8/21/97	9:10														X		58 H 80158
B9-13-13½			9:20											X			X		59 80159
B9-15-15½			9:35						X					X			X		60 80160
B9-15½-16			9:50						X								X		61 80161
B9-16-16½		↓	10:05						X					X			X		62 80162

Relinquished By	Date	Time	Received By	Date	Time
Frank J. Goldman	8/22/97	7:40 pm	Angela Rydelius	8/22/97	7:40 pm
Dispatched By	Date	Time	Received In Lab By	Date	Time

Total Number of Containers this Sheet: _____
Method of Shipment: _____
Special Shipment/Handling or Storage Requirements: _____

ICE/T® ✓ GOOD CONDITION ✓ HEAD SPACE ABSENT ✓

	VOAs	O&G	METALS	OTHER
PRESERVATION ✓ APPROPRIATE CONTAINERS ✓				

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CHAIN OF CUSTODY RECORD

Laboratory Analysis P.O. No. _____
Laboratory Please Call Accounts Payable for P.O. No.
Date: 8/21/97 Sheet 5 of 8

Project Name: Depper
Project Number:
Address:
Sampler's Name: Frank Goldman
Sampler's Signature:

Lab Name: McCampbell
Address: Pacheco, CA
Phone Number: (510) 798-1620

Turnaround Time: ☐ Rush ☐ 24 Hour ☐ 48 Hour ☒ 5-Day
Repeat to:

Sampler's Number	Location	Date	Time	TPH as Gasoline 8015	TPH as Diesel 8015	TPH-G and BTEX 8015/8020	BTEX & EPA 8020	Oil and Grease 5520	Volitile Organics (8010)	CAM Metals (17)	Pr. Pollutant Metals (13)	Base/Neu/Acids (Organic)	Pesticides 8140/8141	TPH(GS) + BTEX + MTBE per FG			SOIL SAMPLE	WATER SAMPLE	Co
x20	B9-W	8/21/97	10^15						X					X				X	63
	B10-1½-2		10^25														X		64
	B10-4½-5		10^40														X		65
V	B10-9½-10		10^50																66
	B10-12½-13		11^00																67
	B10-15-15½		11^15						X					X					68
	B10-15½-16		11^30						X					X			↓		69
x20	B10-W		11^45						X					X				X	70
	B1-15½-16		12^20											X			X		71
	B1-18½-19	↓	1^00											X			X		72

Relinquished By	Date	Time	Received By	Date	Time
Frank Goldman	8/22/97	7:40pm		8/22/97	7:40pm
Dispatched By	Date	Time	Received In Lab By	Date	Time

Total Number of Containers this Sheet: _____
Method of Shipment: _____
Special Shipment/Handling or Storage Requirements: _____

ICE/T° _____
GOOD CONDITION ✓
HEAD SPACE ABSENT ✓

PRESERVATION	VOAs	O&G	METALS	OTHER
APPROPRIATE CONTAINERS	✓			

80163
80164
80165
80166
80167
80168
80169
80170
80171
80172

9314 XGI48

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CHAIN OF CUSTODY RECORD

Laboratory Analysis P.O. No. ____

Laboratory Please Call Accounts Payable for P.O. No.

Date: 8/21/97 Sheet 6 of 8

Project Name: Depper

Project Number:

Address:

Sampler's Name: Frank Goldman

Sampler's Signature:

Lab Name: McCampbell

Address: Pacheco, CA

Phone Number: (510) 798-1620

Turnaround Time: ☐ Rush ☐ 24 Hour ☐ 48 Hour ☒ 5-Day

Repeat to: C

Sampler's Number / Location	Date	Time	TPH as Gasoline 8015	TPH as Diesel 8015	TPH-G and BTEX 8015/8020	BTEX & EPA 8020	Oil and Grease 5520	Volatile Organics (8010)	CAM Metals (17)	Pr. Pollutant Metals (13)	Base/Neu/Acids (Organic)	Pesticides 8140/8141	TPH(SS) + MTBE + BTEX per FG	MTBE conf. by 8260 add-on [illegible] std TAT		SOIL SAMPLE	WATER SAMPLE		Lab No.
B1-21-21½	8/21/97	2:15		X												X		73	80173
x20 B1-W	8/21/97	2:30		X (crossed out)									X	X			X	74	80174
B3-17½-18	8/21/97	2:45														X		75	H 80175
x20 B3-W	8/21/97	2:55		X (crossed out)				X					X				X	76	80176
B11-3½-4	8/22/97	9:45														X		77	H 80177
32 B11-6-6½		10:30																78	H 80178
B11-9½-10		11:00																79	H 80179
B11-15½-16		11:30											X					80	80180
B11-18½-19		12:00		X														81	80181
B11-21½-22		12:10		X												↓		82	80182

Relinquished By	Date	Time	Received By	Date	Time
Franklin J. Goldman	8/22/97	7:40pm	[signature]	8/22/97	7:40pm
Dispatched By	Date	Time	Received In Lab By	Date	Time

Total Number of Containers this Sheet:

Method of Shipment:

Special Shipment/Handling or Storage Requirements:

ICE/t° ✓

GOOD CONDITION ✓

HEAD SPACE ABSENT ✓

PRESERVATION	VOAS	O&G	METALS	OTHER
	✓			

APPROPRIATE CONTAINERS ✓

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CHAIN OF CUSTODY RECORD

Laboratory Analysis P.O. No.
Laboratory Please Call Accounts Payable for P.O. No.
Date: 8/22/97 Sheet 7 of 8

Project Name: Depper
Project Number:
Address:
Sampler's Name: Frank Goldman
Sampler's Signature:

Lab Name: McCampbell
Address: Pacheco, CA
Phone Number: (510) 798-1620
Turnaround Time: Rush / 24 Hour / 48 Hour / 5-Day
Repeat to:

Parameters:

Sampler's Number	Location	Date	Time	TPH as Gasoline 8015	TPH as Diesel 8015	TPH-G and BTEX 8015/8020	BTEX & EPA 8020	...se 5520	...ics (8010)	...(17)	...etals (13)	...ase/Neut/Acids (Organic)	Pesticides 8140/8141	TPH(ss) per FG + BTEX + MTBE	(blank 1)	(blank 2)	SOIL SAMPLE	WATER SAMPLE	Lab No.	Comments
	B11-W	8/22/97	12:50															X	80183	83 4 VOAs
	B11-WD		12:55		X													X	80184	84 1 Amber liter
	B12-12½-13		1:15		X												X		80185	85
	B12-15½-16		1:20		X									X			X		80186	86
	B12-18½-19		1:45		X									X			X		80187	87
	B12-W		1:50											X				X	80188	88 4 VOAS
	B12-WD		2:10		X													X	80189	89 1 Amber liter
	B13-9½-10		3:00		X												X		80190	90
	B13-12-12½		3:20														X		80191	91
	B13-18½-19	↓	3:45		X												X		80192	92

(Margin notes: +10 beside B11-W / B11-WD; 62; +5 beside B12-W / B12-WD)

Relinquished By	Date	Time	Received By	Date	Time
Franklin J. Goldman	8/22/97	7:40pm	Angela Rydelius	8/22/97	7:40pm

Dispatched By	Date	Time	Received In Lab By	Date	Time

Total Number of Containers this Sheet:
Method of Shipment:
Special Shipment/Handling or Storage Requirements:

ICE/t° ✓
GOOD CONDITION ✓
HEAD SPACE ABSENT ✓
PRESERVATION ✓ — VOAS | O&G | METALS | OTHER
APPROPRIATE CONTAINERS ✓

9314 XGI48

GeoSolv, LLC
Environmental and Hydrogeological Consulting
683 Oregon Street, Sonoma, CA 95476
Phone: (707) 996-4227 Fax: (707) 996-7882

We Don't Just Work on Your Environmental Problems. We Solve Them!

CHAIN OF CUSTODY RECORD

Laboratory Analysis P.O. No. _____
Laboratory Please Call Accounts Payable for P.O. No.
Date: 8/22/97 Sheet 8 of 8

Project Name: Depper
Project Number:
Address:
Sampler's Name: Frank Goldman
Sampler's Signature:

Lab Name: McCampbell
Address: Pacheco, CA
Phone Number: (510) 798-1620

Turnaround Time: ☐ Rush ☐ 24 Hour ☐ 48 Hour ☒ 5-Day
Repeat to:

Sampler's Number	Location	Date	Time	TPH as Gasoline 8015	TPH as Diesel 8015	TPH-G and BTEX 8015/8020	BTEX & EPA 8020	Oil and Grease 5520	Volatile Organics (8010)	CAM Metals (17)	Pr. Pollutant Metals (13)	Base/Neu/Acids (Organic)	Pesticides 8140/8141	TPH(GS) + BTEX + MTBE per FG			SOIL SAMPLE	WATER SAMPLE	Comments
B13-21½-22		8/22/97	4:00 PM		X												X		93 4 VOAs
B13-W		↓	4:20											X				X	94 4 VOAs + 1 Amber liter
B13-WD		↓	4:25		X													X	95 1 Amber liter

80193
80194
80195

Relinquished By	Date	Time	Received By	Date	Time
Franklin J. Goldman	8/22/97	7:40pm	Angela Rydelius	8/22/97	7:40pm
Dispatched By	Date	Time	Received In Lab By	Date	Time

Total Number of Containers this Sheet:
Method of Shipment:
Special Shipment/Handling or Storage Requirements:
ICE/4° ✓
GOOD CONDITION ✓
HEAD SPACE ABSENT ✓

	VOAs	O&G	METALS	OTHER
PRESERVATION ✓				
APPROPRIATE CONTAINERS ✓				

Appendix - F2

McCAMPBELL ANALYTICAL INC.
110 Second Avenue South, #D7, Pacheco, CA 94553
Telephone : 510-798-1620 Fax : 510-798-1622
http://www.mccampbell.com E-mail: main@mccampbell.com

GEOSOLV, Inc. 643 Oregon Street Sonoma, CA 95476	Client Project ID: Frank/Depper	Date Sampled: 08/22/97
		Date Received: 08/22/97
	Client Contact: Frank Goldman	Date Extracted: 08/22/97
	Client P.O:	Date Analyzed: 08/22/97

08/29/97

Dear Frank:

Enclosed are:

1). the results of **2** samples from your **Frank/Depper** project,

2). a QC report for the above samples

3). a copy of the chain of custody, and

4). a bill for analytical services.

All analyses were completed satisfactorily and all QC samples were found to be within our control limits. If you have any questions please contact me. McCampbell Analytical Laboratories strives for excellence in quality, service and cost. Thank you for your business and I look forward to working with you again.

Yours truly,

Edward Hamilton, Lab Director

McCAMPBELL ANALYTICAL INC.

110 Second Avenue South, #D7, Pacheco, CA 94553
Telephone : 510-798-1620 Fax : 510-798-1622
http://www.mccampbell.com E-mail: main@mccampbell.com

GEOSOLV, Inc.	Client Project ID: Frank/Depper	Date Sampled: 08/22/97
643 Oregon Street		Date Received: 08/22/97
Sonoma, CA 95476	Client Contact: Frank Goldman	Date Extracted: 08/25-08/26/97
	Client P.O:	Date Analyzed: 08/25-08/27/97

Diesel Range (C10-C23) Extractable Hydrocarbons as Diesel *

EPA methods modified 8015, and 3550 or 3510; California RWQCB (SF Bay Region) method GCFID(3550) or GCFID(3510)

Lab ID	Client ID	Matrix	TPH(d)*	% Recovery Surrogate
80196	BSD-9.5-10	S	220,d,b	107
80197	BSD-W	W	3200,d,b	132#
Reporting Limit unless otherwise stated; ND means not detected above the reporting limit		W	50 ug/L	
		S	1.0 mg/kg	

Manila street

* water and vapor samples are reported in ug/L, wipe samples in ug/wipe, soil and sludge samples in mg/kg, and all TCLP / STLC / SPLP extracts in ug/L

cluttered chromatogram resulting in coeluted surrogate and sample peaks, or; surrogate peak is on elevated baseline, or; surrogate has been diminished by dilution of original extract.

*The following descriptions of the TPH chromatogram are cursory in nature and McCampbell Analytical is not responsible for their interpretation: a) unmodified or weakly modified diesel is significant; b) diesel range compounds are significant; no recognizable pattern; c) aged diesel? is significant); d) gasoline range compounds are significant; e) medium boiling point pattern that does not match diesel (?); f) one to a few isolated peaks present; g) oil range compounds are significant; h) lighter than water immiscible sheen is present; i) liquid sample that contains greater than ~5 vol. % sediment.

DHS Certification No. 1644

83

for Edward Hamilton, Lab Director

McCAMPBELL ANALYTICAL INC.
110 Second Avenue South, #D7, Pacheco, CA 94553
Telephone : 510-798-1620 Fax : 510-798-1622
http://www.mccampbell.com E-mail: main@mccampbell.com

GEOSOLV, Inc.	Client Project ID: Frank/Depper	Date Sampled: 08/22/97
643 Oregon Street		Date Received: 08/22/97
Sonoma, CA 95476	Client Contact: Frank Goldman	Date Extracted: 08/28/97
	Client P.O:	Date Analyzed: 08/28/97

Gasoline Range (C6-C12) Volatile Hydrocarbons as Gasoline*, with Methyl tert-Butyl Ether* & BTEX*

EPA methods 5030, modified 8015, and 8020 or 602; California RWQCB (SF Bay Region) method GCFID(5030)

Lab ID	Client ID	Matrix	TPH(g)+	MTBE	Benzene	Toluene	Ethylben-zene	Xylenes	% Recovery Surrogate
80196	BSD-9.5-10	S	140,e	---	ND	0.008	ND	0.005	95
Reporting Limit unless otherwise stated; ND means not detected above the reporting limit		W	50 ug/L	5.0	0.5	0.5	0.5	0.5	
		S	1.0 mg/kg	0.05	0.005	0.005	0.005	0.005	

* water and vapor samples are reported in ug/L, wipe samples in ug/wipe, soil and sludge samples in mg/kg, and all TCLP and SPLP extracts in ug/L

cluttered chromatogram; sample peak coelutes with surrogate peak

+The following descriptions of the TPH chromatogram are cursory in nature and McCampbell Analytical is not responsible for their interpretation: a) unmodified or weakly modified gasoline is significant; b) heavier gasoline range compounds are significant(aged gasoline?); c) lighter gasoline range compounds (the most mobile fraction) are significant; d) gasoline range compounds having broad chromatographic peaks are significant; biologically altered gasoline?; e) TPH pattern that does not appear to be derived from gasoline (stoddard solvent?); f) one to a few isolated peaks present; g) strongly aged gasoline or diesel range compounds are significant; h) lighter than water immiscible sheen is present; i) liquid sample that contains greater than ~5 vol. % sediment; j) no recognizable pattern.

DHS Certification No. 1644

Edward Hamilton, Lab Director

McCAMPBELL ANALYTICAL INC.
110 2nd Avenue South, #D7, Pacheco, CA 94553
Tele: 510-798-1620 Fax: 510-798-1622

QC REPORT FOR HYDROCARBON ANALYSES

Date: 08/25/97 Matrix: Soil

Analyte	Concentration (mg/kg) Sample (#77621)	MS	MSD	Amount Spiked	% Recovery MS	MSD	RPD
TPH (gas)	0.000	2.247	2.120	2.03	111	104	5.8
Benzene	0.000	0.168	0.190	0.2	84	95	12.3
Toluene	0.000	0.182	0.200	0.2	91	100	9.4
Ethylbenzene	0.000	0.182	0.194	0.2	91	97	6.4
Xylenes	0.000	0.570	0.582	0.6	95	97	2.1
TPH(diesel)	0	328	326	300	109	109	0.5
TRPH (oil and grease)	N/A	N/A	N/A	N/A	N/A	N/A	N/A

% Rec. = (MS - Sample) / amount spiked x 100

RPD = (MS - MSD) / (MS + MSD) x 2 x 100

McCAMPBELL ANALYTICAL INC. | 110 2nd Avenue South, #D7, Pacheco, CA 94553
Tele: 510-798-1620 Fax: 510-798-1622

QC REPORT FOR HYDROCARBON ANALYSES

Date: 08/27/97 Matrix: Soil

Analyte	Concentration (mg/kg) Sample (#77621)	MS	MSD	Amount Spiked	% Recovery MS	MSD	RPD
TPH (gas)	0.000	2.242	2.149	2.03	110	106	4.2
Benzene	0.000	0.182	0.192	0.2	91	96	5.3
Toluene	0.000	0.192	0.202	0.2	96	101	5.1
Ethylbenzene	0.000	0.190	0.196	0.2	95	98	3.1
Xylenes	0.000	0.592	0.582	0.6	99	97	1.7
TPH(diesel)	0	329	327	300	110	109	0.6
TRPH (oil and grease)	0.0	17.9	17.8	20.8	86	86	0.6

% Rec. = (MS - Sample) / amount spiked x 100

RPD = (MS - MSD) / (MS + MSD) x 2 x 100

McCAMPBELL ANALYTICAL INC.
110 2nd Avenue South, #D7, Pacheco, CA 94553
Tele: 510-798-1620 Fax: 510-798-1622

QC REPORT FOR HYDROCARBON ANALYSES

Date: 08/28/97 Matrix: Soil

Analyte	Concentration (mg/kg) Sample (#77621)	MS	MSD	Amount Spiked	% Recovery MS	MSD	RPD
TPH (gas)	0.000	1.888	1.908	2.03	93	94	1.1
Benzene	0.000	0.182	0.184	0.2	91	92	1.1
Toluene	0.000	0.192	0.192	0.2	96	96	0.0
Ethylbenzene	0.000	0.192	0.192	0.2	96	96	0.0
Xylenes	0.000	0.592	0.596	0.6	99	99	0.7
TPH(diesel)	0	285	288	300	95	96	1.0
TRPH (oil and grease)	N/A	N/A	N/A	N/A	N/A	N/A	N/A

% Rec. = (MS - Sample) / amount spiked x 100

RPD = (MS - MSD) / (MS + MSD) x 2 x 100

9315XGI49

GeoSolv, LLC
Environmental and Hydrogeological Consulting
643 Oregon Street, Sonoma, CA 95476
Phone (707) 996-4227 Fax (707) 996-7882
We Don't Just Work on Your Environmental Problems, We Solve Them!

CHAIN OF CUSTODY RECORD

Laboratory Analysis P.O. No.________
Laboratory Please Call Accounts Payable for P.O. No.

Date:______ Sheet 1 of 1

Project Name [redacted] Frank/Pepper
Project Number
Address

Sampler's Name: Frank Goldman
Sampler's Signature:

Lab Name McCampbell
Address Pacheco, CA
Phone Number (510) 798-1620

Turnaround Time: Rush ☐ 24 Hour ☐ 48 Hour ☐ 5-Day ☒
Repeat to:

Sampler's Number Location	Date	Time	TPH as Gasoline 8015	TPH as Diesel 8015	TPH-G and BTEX 8015/8020	BTEX & EPA 8020	Oil and Grease 5520	Volatile Organics (8010)	CAM Metals (17)	Pr. Pollutant Metals (13)	Base/Neu/Acids (Organic)	Pesticides 8140/8141	TPH(ss) add-on 8/26 per f.o.	5 day TAT TPH(g) + BTEX		SOIL SAMPLE	WATER SAMPLE	Comments
BSD - 9½-10	8/22/97	8:30		X									X	X		X		Do contaminated ends of large sample & small sample
88 BSD-W	8/22/97	8:55		X													X	1 Amber liter

80196
80197

Relinquished By	Date	Time	Received By	Date	Time
Franklin J. Goldman	8/22/97	7:40pm	[signature]	8/22/97	7:40pm
Dispatched By	Date	Time	Received in Lab By	Date	Time

Total Number of Containers this Sheet:
Method of Shipment:
Special Shipment/Handling or Storage Requirements:

ICE/t° ✓ PRESERVATION | VOAS | O&G | METALS | OTHER
GOOD CONDITION ✓ APPROPRIATE CONTAINERS ✓
HEAD SPACE ABSENT ✓

Appendix - F3

McCAMPBELL ANALYTICAL INC.

110 Second Avenue South, #D7, Pacheco, CA 94553
Telephone : 510-798-1620 Fax : 510-798-1622
http://www.mccampbell.com E-mail: main@mccampbell.com

GEOSOLV, Inc. 643 Oregon Street Sonoma, CA 95476	Client Project ID: Depper; Depper/Frank, 3815 Broadway	Date Sampled: 10/09/97
		Date Received: 10/10/97
	Client Contact: Frank Goldman	Date Extracted: 10/10/97
	Client P.O:	Date Analyzed: 10/10/97

10/17/97

Dear Frank:

Enclosed are:

1). the results of 1 samples from your **Depper; Depper/Frank, 3815 Broadway** project,

2). a QC report for the above samples

3). a copy of the chain of custody, and

4). a bill for analytical services.

All analyses were completed satisfactorily and all QC samples were found to be within our control limits. If you have any questions please contact me. McCampbell Analytical Laboratories strives for excellence in quality, service and cost. Thank you for your business and I look forward to working with you again.

Yours truly,

Edward Hamilton, Lab Director

McCAMPBELL ANALYTICAL INC.
110 Second Avenue South, #D7, Pacheco, CA 94553
Telephone : 510-798-1620 Fax : 510-798-1622
http://www.mccampbell.com E-mail: main@mccampbell.com

GEOSOLV, Inc. 643 Oregon Street Sonoma, CA 95476	Client Project ID: Depper; Depper/Frank, 3815 Broadway	Date Sampled: 10/09/97
		Date Received: 10/10/97
	Client Contact: Frank Goldman	Date Extracted: 10/10/97
	Client P.O:	Date Analyzed: 10/10-10/13/97

Diesel Range (C10-C23) Extractable Hydrocarbons as Diesel *

EPA methods modified 8015, and 3550 or 3510; California RWQCB (SF Bay Region) method GCFID(3550) or GCFID(3510)

water

Lab ID	Client ID	Matrix	TPH(d)+	% Recovery Surrogate
81738	1-W	W	81,g	102
Reporting Limit unless otherwise stated; ND means not detected above the reporting limit		W	50 ug/L	
		S	1.0 mg/kg	

* water and vapor samples are reported in ug/L, wipe samples in ug/wipe, soil and sludge samples in mg/kg, and all TCLP / STLC / SPLP extracts in ug/L

cluttered chromatogram resulting in coeluted surrogate and sample peaks, or; surrogate peak is on elevated baseline, or; surrogate has been diminished by dilution of original extract.

+The following descriptions of the TPH chromatogram are cursory in nature and McCampbell Analytical is not responsible for their interpretation: a) unmodified or weakly modified diesel is significant; b) diesel range compounds are significant; no recognizable pattern; c) aged diesel? is significant); d) gasoline range compounds are significant; e) medium boiling point pattern that does not match diesel (?); f) one to a few isolated peaks present; g) oil range compounds are significant; h) lighter than water immiscible sheen is present; i) liquid sample that contains greater than ~5 vol. % sediment.

DHS Certification No. 1644

Edward Hamilton, Lab Director

McCAMPBELL ANALYTICAL INC.

110 Second Avenue South, #D7, Pacheco, CA 94553
Telephone : 510-798-1620 Fax : 510-798-1622
http://www.mccampbell.com E-mail: main@mccampbell.com

GEOSOLV, Inc. 643 Oregon Street Sonoma, CA 95476	Client Project ID: Depper; Depper/Frank, 3815 Broadway	Date Sampled: 10/09/97
		Date Received: 10/10/97
	Client Contact: Frank Goldman	Date Extracted: 10/10/97
	Client P.O:	Date Analyzed: 10/10/97

Petroleum Oil & Grease (with Silica Gel Clean-up) *

EPA methods 413.1, 9070 or 9071; Standard Methods 5520 D/E&F or 503 D&E for solids and 5520 B&F or 503 A&E for liquids

Lab ID	Client ID	Matrix	Oil & Grease*
81738	1-W	W	ND
Reporting Limit unless otherwise stated; ND means not detected above the reporting limit		W	5 mg/L
		S	50 mg/kg

* water samples are reported in mg/L, wipe samples in mg/wipe, soil and sludge samples in mg/kg, and all TCLP / STLC / SPLP extracts in mg/L

h) lighter than water immiscible sheen is present; i) liquid sample that contains greater than ~5vol. % sediment.

DHS Certification No. 1644

/h/ Edward Hamilton, Lab Director

McCAMPBELL ANALYTICAL INC.
110 Second Avenue South, #D7, Pacheco, CA 94553
Telephone : 510-798-1620 Fax : 510-798-1622
http://www.mccampbell.com E-mail: main@mccampbell.com

GEOSOLV, Inc. 643 Oregon Street Sonoma, CA 95476	Client Project ID: Depper; Depper/Frank, 3815 Broadway	Date Sampled: 10/09/97
		Date Received: 10/10/97
	Client Contact: Frank Goldman	Date Extracted: 10/10/97
	Client P.O:	Date Analyzed: 10/10/97

Gasoline Range (C6-C12) Volatile Hydrocarbons as Gasoline*, with Methyl tert-Butyl Ether* & BTEX*

EPA methods 5030, modified 8015, and 8020 or 602; California RWQCB (SF Bay Region) method GCFID(5030)

Lab ID	Client ID	Matrix	TPH(g)*	MTBE	Benzene	Toluene	Ethylben-zene	Xylenes	% Recovery Surrogate
81738	1-W	W	ND	ND	ND	ND	ND	ND	95
Reporting Limit unless otherwise stated; ND means not detected above the reporting limit		W	50 ug/L	5.0	0.5	0.5	0.5	0.5	
		S	1.0 mg/kg	0.05	0.005	0.005	0.005	0.005	

* water and vapor samples are reported in ug/L, wipe samples in ug/wipe, soil and sludge samples in mg/kg, and all TCLP and SPLP extracts in ug/L

cluttered chromatogram; sample peak coelutes with surrogate peak

*The following descriptions of the TPH chromatogram are cursory in nature and McCampbell Analytical is not responsible for their interpretation: a) unmodified or weakly modified gasoline is significant; b) heavier gasoline range compounds are significant(aged gasoline?); c) lighter gasoline range compounds (the most mobile fraction) are significant; d) gasoline range compounds having broad chromatographic peaks are significant; biologically altered gasoline?; e) TPH pattern that does not appear to be derived from gasoline (?); f) one to a few isolated peaks present; g) strongly aged gasoline or diesel range compounds are significant; h) lighter than water immiscible sheen is present; i) liquid sample that contains greater than ~5 vol. % sediment; j) no recognizable pattern.

DHS Certification No. 1644

Edward Hamilton, Lab Director

McCAMPBELL ANALYTICAL INC.
110 2nd Avenue South, #D7, Pacheco, CA 94553
Tele: 510-798-1620 Fax: 510-798-1622

QC REPORT FOR HYDROCARBON ANALYSES

Date: 10/10/97 Matrix: WATER

Analyte	Concentration (mg/L) Sample #(81643)	MS	MSD	Amount Spiked	% Recovery MS	MSD	RPD
TPH (gas)	0.0	104.2	103.0	100.0	104.2	103.0	1.2
Benzene	0.0	10.5	10.6	10.0	105.0	106.0	0.9
Toluene	0.0	10.5	10.6	10.0	105.0	106.0	0.9
Ethyl Benzene	0.0	10.7	10.8	10.0	107.0	108.0	0.9
Xylenes	0.0	32.2	32.4	30.0	107.3	108.0	0.6
TPH(diesel)	0	162	163	150	108	109	1.0
TRPH (oil & grease)	0	23200	22900	23700	98	97	1.3

% Rec. = (MS - Sample) / amount spiked x 100

RPD = (MS - MSD) / (MS + MSD) x 2 x 100

McCAMPBELL ANALYTICAL INC.
110 2nd Avenue South, #D7, Pacheco, CA 94553
Tele: 510-798-1620 Fax: 510-798-1622

QC REPORT FOR HYDROCARBON ANALYSES

Date: 10/13/97 Matrix: WATER

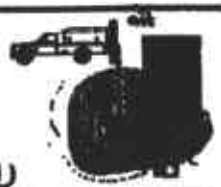
Analyte	Concentration (mg/L) Sample #(81750)	MS	MSD	Amount Spiked	% Recovery MS	MSD	RPD
TPH (gas)	0.0	98.9	98.2	100.0	98.9	98.2	0.7
Benzene	0.0	10.1	10.1	10.0	101.0	101.0	0.0
Toluene	0.0	10.1	10.2	10.0	101.0	102.0	1.0
Ethyl Benzene	0.0	10.2	10.3	10.0	102.0	103.0	1.0
Xylenes	0.0	30.7	31.0	30.0	102.3	103.3	1.0
TPH(diesel)	0	165	164	150	110	109	0.9
TRPH (oil & grease)	0	23100	22400	23700	97	95	3.1

% Rec. = (MS - Sample) / amount spiked x 100

RPD = (MS - MSD) / (MS + MSD) x 2 x 100

9623XG150

GeoSolv, LLC
Environmental and Hydrogeological Consulting
643 Oregon Street, Sonoma, CA 95476
Phone: (707) 996-4227 Fax: (707) 996-7882
We Don't Just Work on Your Environmental Problems We Solve Them!



CHAIN OF CUSTODY RECORD

Laboratory Analysis P.O. No. _____
Laboratory Please Call Accounts Payable for P.O. No.
Date: _____ Sheet 1 Of 1

Project Name: Depper / Frank
Project Number: Depper
Address: 3815 Broadway
Sampler's Name: Frank Goldman
Sampler's Signature: Frank Goldman

Lab Name: McCampbell
Address: Pacheco, CA
Phone Number: (510) 798-1620

Turnaround Time: ☐ Rush ☐ 24 Hour ☐ 48 Hour ☒ 5-Day

Repeat to: _____

Sampler's Number	Location	Date	Time	TPH as Gasoline 8015 Road Oils (5520)	TPH as Diesel 8015	TPH-G and BTEX 8015/8020/MTBE	BTEX & EPA 8020	Oil and Grease 5520	Volatile Organics (8010)	CAM Metals (17)	Pr. Pollutant Metals (13)	Base/Neu/Acids (Organic)	Pesticides 8140/8141				SOIL SAMPLE	WATER SAMPLE	Comments
1	W	10/9/97	1545	X	X	X												X	2 Amber liters, 4 VOAs
		10/9/97	[redacted]																[redacted]

VOAS O&G METALS OTHER
PRESERVATION
ICE/T°
GOOD CONDITION
APPROPRIATE CONTAINERS
HEAD SPACE ABSENT

Relinquished By	Date	Time	Received By	Date	Time
Frank Goldman	10/10/97	10:30a	Steve Ramos	10/10	11:40
Steve Ramos	10/10/97	1:00p	D. Louie 743	10/10/97	1250
D. Louie 743	10/10/97	2:25p	Emilie Inc MAI	10/10/97	2:25pm
Dispatched By	Date	Time	Received In Lab By	Date	Time

Total Number of Containers this Sheet: 6
Method of Shipment:
Special Shipment/Handling or Storage Requirements:

Appendix - F4

McCAMPBELL ANALYTICAL INC.
110 2nd Avenue South, #D7, Pacheco, CA 94553
Tele: 510-798-1620 Fax: 510-798-1622

COPY

12/06/93

Dear Gary:

Enclosed are:

1). the results of 2 samples from your Gloveterium project,

2). a QC report for the above samples, and

3). a copy of the chain of custody.

If you have any questions please contact me. McCampbell Analytical Laboratories strives for excellence in quality, service and cost. Thank you for your business and I look forward to working with you again.

Yours truly,

Edward Hamilton

McCAMPBELL ANALYTICAL INC.
110 2nd Avenue South, #D7, Pacheco, CA 94553
Tele: 510-798-1620 Fax: 510-798-1622

Certified Environmental Consultants 32 W. 25th Avenue, Ste. 102 San Mateo, CA 94403	Client Project ID: Glovetorium	Date Sampled: 11/29/93
		Date Received: 11/29/93
	Client Contact: Gary Rogers	Date Extracted: 11/30/93
	Client P.O:	Date Analyzed: 11/30/93

Gasoline Range (C6-C12) Volatile Hydrocarbons as Gasoline*, with BTEX*
EPA methods 5030, modified 8015, and 8020 or 602; California RWQCB (SF Bay Region) method GCFID(5030)

Lab ID	Client ID	Matrix	TPH(g)+	Benzene	Toluene	Ethylben-zene	Xylenes	% Rec. Surrogate
33346	SD# 1	W	ND	ND	ND	ND	ND	92
33347	SD# 2	W	ND	ND	ND	ND	ND	91
Detection Limit unless other-wise stated; ND means Not Detected		W	50 ug/L	0.5	0.5	0.5	0.5	
		S	1.0 mg/kg	0.005	0.005	0.005	0.005	

*water samples are reported in ug/L, soil samples in mg/kg, and all TCLP extracts in mg/L

cluttered chromatogram; sample peak co-elutes with surrogate peak

+ The following descriptions of the TPH chromatogram are cursory in nature and McCampbell Analytical is not responsible for their interpretation: a) unmodified or weakly modified gasoline is significant; b) heavier gasoline range compounds are significant(aged gasoline?); c) lighter gasoline range compounds (the most mobile fraction) are significant; d) gasoline range compounds are significant; no recognizable pattern; e) TPH pattern that does not appear to be derived from gasoline (?); f) one to a few isolated peaks present; g) strongly aged gasoline or diesel range compounds are significant; h) lighter than water immiscible phase is present.

DHS Certification No. 1644

Edward Hamilton, Lab Director

McCAMPBELL ANALYTICAL INC. | 110 2nd Avenue South, #D7, Pacheco, CA 94553
Tele: 510-798-1620 Fax: 510-798-1622

Certified Environmental Consultants 32 W. 25th Avenue, Ste. 102 San Mateo, CA 94403	Client Project ID: Glovetorium	Date Sampled: 11/29/93
		Date Received: 11/29/93
	Client Contact: Gary Rogers	Date Extracted: 12/06/93
	Client P.O:	Date Analyzed: 12/06-12/07/93

Diesel Range (C10-C23) Extractable Hydrocarbons as Diesel *

EPA methods modified 8015, and 3550 or 3510; California RWQCB (SF Bay Region) method GCFID(3550) or GCFID(3510)

Lab ID	Client ID	Matrix	TPH(d)+	% Recovery Surrogate
33346	SD# 1	W	410,b	—#
33347	SD# 2	W	700,g,b	—#
Detection Limit unless otherwise stated; ND means Not Detected		W	50 ug/L	
		S	10 mg/kg	

*water samples are reported in ug/L, soil samples in mg/kg, and all TCLP extracts in mg/L

cluttered chromatogram; surrogate and sample peaks co-elute or surrogate peak is on elevated baseline

+ The following descriptions of the TPH chromatogram are cursory in nature and McCampbell Analytical is not responsible for their interpretation: a) unmodified or weakly modified diesel is significant; b) diesel range compounds are significant; no recognizable pattern; c) modified diesel?; light(C_L) or heavy(C_H) diesel compounds are significant); d) gasoline range compounds are significant; e) medium boiling point pattern that does not match diesel(?); f) one to a few isolated peaks present; g) oil range compounds are significant; h) lighter than water immiscible phase is present.

DHS Certification No. 1644

Edward Hamilton, Lab Director

McCAMPBELL ANALYTICAL INC.
110 2nd Avenue South, #D7, Pacheco, CA 94553
Tele: 510-798-1620 Fax: 510-798-1622

Certified Environmental Consultants 32 W. 25th Avenue, Ste. 102 San Mateo, CA 94403	Client Project ID: Glovetorium	Date Sampled: 11/29/93
		Date Received: 11/29/93
	Client Contact: Gary Rogers	Date Extracted: 12/04/93
	Client P.O:	Date Analyzed: 12/04/93

Volatile Halocarbons

EPA method 601 or 8010

Lab ID	33346	33347		
Client ID	SD# 1	SD# 2		
Matrix	W	W		
Compound[1]	Concentration*	Concentration*	Concentration*	Concentration*
Bromodichloromethane	ND	ND		
Bromoform[2]	ND	ND		
Bromomethane	ND	ND		
Carbon Tetrachloride[3]	ND	ND		
Chlorobenzene	ND	ND		
Chloroethane	ND	ND		
2-Chloroethyl Vinyl Ether[4]	ND	ND		
Chloroform[5]	ND	ND		
Chloromethane	ND	ND		
Dibromochloromethane	ND	ND		
1,2-Dichlorobenzene	ND	ND		
1,3-Dichlorobenzene	ND	ND		
1,4-Dichlorobenzene	ND	ND		
1,1-Dichloroethane	ND	ND		
1,2-Dichloroethane	ND	ND		
1,1-Dichloroethene	ND	ND		
cis 1,2-Dichloroethene	ND	ND		
trans 1,2-Dichloroethene	ND	ND		
1,2-Dichloropropane	ND	ND		
cis 1,3-Dichloropropene	ND	ND		
trans 1,3-Dichloropropene	ND	ND		
Methylene Chloride[6]	ND	ND		
1,1,2,2-Tetrachloroethane	ND	ND		
Tetrachloroethene[7]	ND	ND		
1,1,1-Trichloroethane	ND	ND		
1,1,2-Trichloroethane	ND	ND		
Trichloroethene	ND	ND		
Trichlorofluoromethane	ND	ND		
Vinyl Chloride[8]	ND	ND		
% Recovery Surrogate	94	94		
Comments				

Detection limit unless otherwise stated: water, ND< 1.0ug/L; soil, ND< 10ug/kg

* water samples are reported in ug/L, soil samples in ug/kg and all TCLP extracts in ug/L

(1) IUPAC allows "ylene" or "ene"; ex. ethylene or ethene; (2) tribromomethane; (3) tetrachloromethane; (4) (2-chloroethoxy) ethene; (5) trichlormethane; (6) dichloromethane; (7) perchlorethylene, PCE or percior; (8) chloroethene; (9) unidentified peak(s) present.

DHS Certification No. 1644

Edward Hamilton, Lab Director

McCAMPBELL ANALYTICAL INC.
110 2nd Avenue South, #D7, Pacheco, CA 94553
Tele: 510-798-1620 Fax: 510-798-1622

QC REPORT FOR HYDROCARBON ANALYSES

Date: 11/30/93 Matrix: Water

Analyte	Concentration (ug/L)			Amount Spiked	% Recovery		RPD
	Sample	MS	MSD		MS	MSD	
TPH (gas)	0.0	120.1	116.6	100	120.1	116.6	2.9
Benzene	0	11.7	11.3	10	117.0	113.0	3.5
Toluene	0	11.1	10.8	10	111.0	108.0	2.7
Ethyl Benzene	0	11	10.7	10	110.0	107.0	2.8
Xylenes	0	33.5	32.7	30	111.7	109.0	2.4
TPH (diesel)	N/A	N/A	N/A	N/A	N/A	N/A	N/A
TRPH (oil & grease)	0	23600	23600	23700	100	100	0.0

% Rec. = (MS - Sample) / amount spiked x 100

RPD = (MS - MSD) / (MS + MSD) x 2 x 100

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Tele: 510-798-1620 Fax: 510-798-1622

QC REPORT FOR HYDROCARBON ANALYSES

Date: 12/06-12/08/93 Matrix: Water

Analyte	Concentration (ug/L)			Amount Spiked	% Recovery		RPD
	Sample	MS	MSD		MS	MSD	
TPH (gas)	0.0	109.0	112.4	100	109.0	112.4	3.0
Benzene	0	9.9	9.9	10	99.0	99.0	0.0
Toluene	0	10	9.9	10	100.0	99.0	1.0
Ethyl Benzene	0	10.1	9.7	10	101.0	97.0	4.0
Xylenes	0	30.5	30.1	30	101.7	100.3	1.3
TPH (diesel)	0	172	161	150	115	107	6.5
TRPH (oil & grease)	N/A	N/A	N/A	N/A	N/A	N/A	N/A

% Rec. = (MS - Sample) / amount spiked x 100

RPD = (MS - MSD) / (MS + MSD) x 2 x 100

McCAMPBELL ANALYTICAL INC. | 110 2nd Avenue South, #D7, Pacheco, CA 94553
Tele: 510-798-1620 Fax: 510-798-1622

QC REPORT FOR EPA 8010/8020/EDB

Date: 12/04/93 Matrix: Water

Analyte	Concentration (ug/L)				% Recovery		
	Sample	MS	MSD	Amount Spiked	MS	MSD	RPD
1,1-DCE	0.0	5.0	5.4	5.0	100	108	7.7
Trichloroethene	0.0	4.5	4.8	5.0	90	96	6.5
EDB	0.0	4.3	4.6	5.0	86	92	6.7
Chlorobenzene	0.0	4.5	5.0	5.0	90	100	10.5
Benzene	0.0	4.6	5.2	5.0	92	104	12.2
Toluene	0.0	4.6	5.2	5.0	92	104	12.2
Chlorobz (PID)	0.0	4.6	5.2	5.0	92	104	12.2

% Rec. = (MS - Sample) / amount spiked x 100

RPD = (MS - MSD) / (MS + MSD) x 2 x 100

Inv# 1861 ACECM10

McCAMPBELL ANALYTICAL

110 2nd AVENUE, # D7
PACHECO, CA 94553
(510) 798-1620 FAX (510) 798-1622

CHAIN OF CUSTODY RECORD

TURN AROUND TIME: ☐ RUSH ☐ 24 HOUR ☐ 48 HOUR ☒ 5 DAY

REPORT TO: Gary Rogers BILL TO:
COMPANY: CEC
32 West 25th Ave
San Mateo, CA
TELE: 415-341-7630 FAX #: 415-341-7652
PROJECT NUMBER: PROJECT NAME: Gloveteria
PROJECT LOCATION: 3815 Broadway Oakland SAMPLER SIGNATURE: Gary Rogers

SAMPLE ID	LOCATION	SAMPLING DATE	SAMPLING TIME	# CONTAINERS	TYPE CONTAINERS	MATRIX: WATER	SOIL	AIR	SLUDGE	OTHER	METHOD PRESERVED: HCL	HNO_3	OTHER
SD #1	Storm Drain	11-29-93	12:10	1		✓							
SD #2	Gutter	11-29-93	12:30	1		✓							

ANALYSIS REQUEST

BTEX & TPH as Gasoline (602/8020 & 8015)	TPH as Diesel (8015)	Total Petroleum Oil & Grease (5520 E&F/3520 B&F)	Total Petroleum Hydrocarbons (418.1)	EPA 601/8010	EPA 602/8020	EPA 608/8080	EPA 608/8080 - PCBs Only	EPA 624/8240/8260	EPA 625/8270	CAM - 17 Metals	EPA - Priority Pollutant Metals	LEAD (7240/7421/239.2/6010)	ORGANIC LEAD	RCI
✓	✓		-	✓	✓									
✓	✓			✓										

OTHER

COMMENTS: 33346 33347

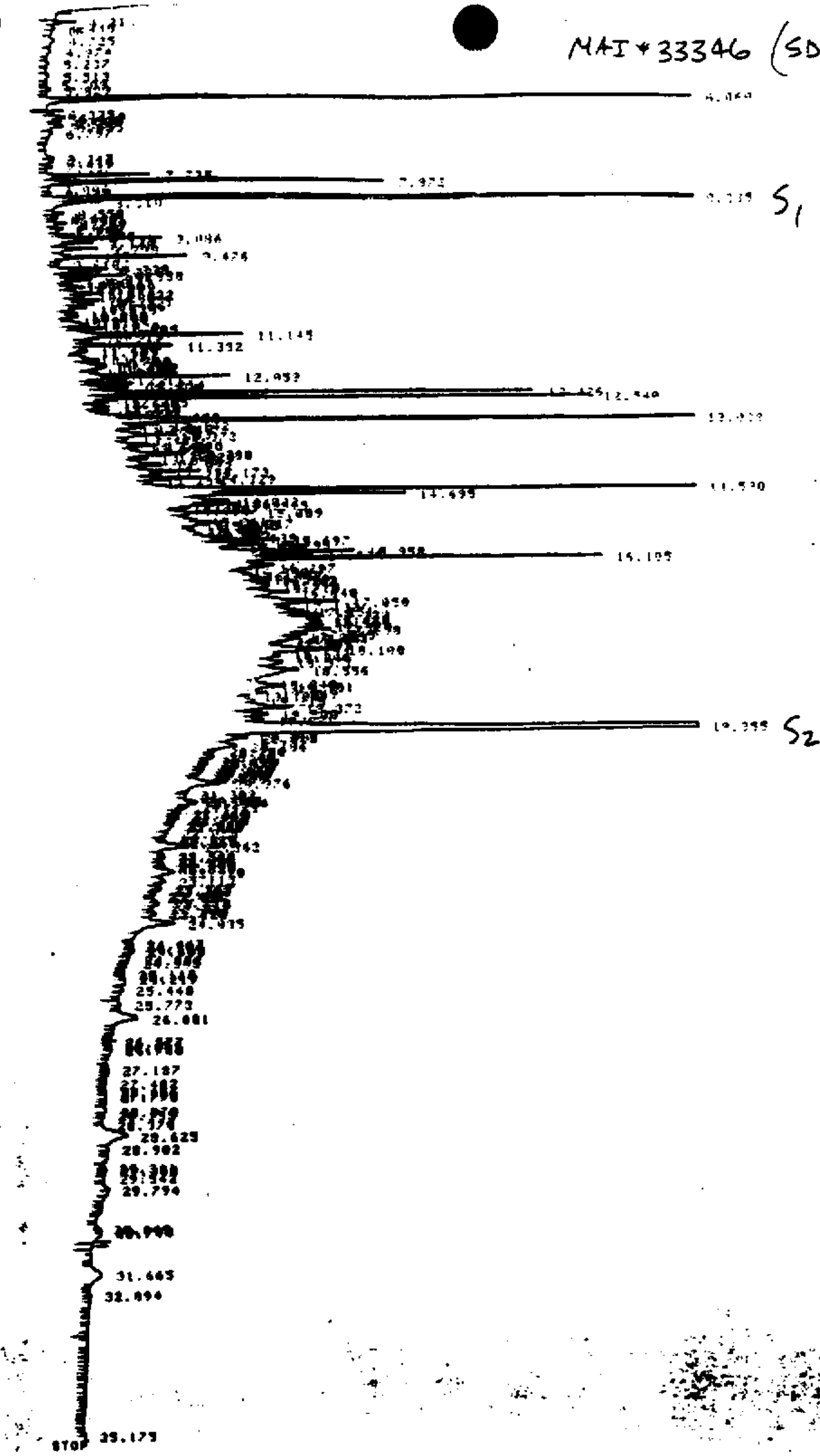
RELINQUISHED BY:	DATE	TIME	RECEIVED BY:
Gary Rogers	11-29-93	16:30	
RELINQUISHED BY:	DATE	TIME	RECEIVED BY:
RELINQUISHED BY:	DATE	TIME	RECEIVED BY LABORATORY:

REMARKS:

ICE/T ✓ PRESERVATIVE ✓ VOAS ✓ O&G ___ METALS ___ OTHER ___
GOOD CONDITION ✓ APPROPRIATE
HEAD SPACE ABSENT ___ CONTAINERS ✓
No VOAs. Headspace in 1 of the 1-Liters

105

MAI # 33346 (SD*1)



Closing signal file MISIGNAL .BNC

RUN# 722 DEC 4, 1993 21:14:39

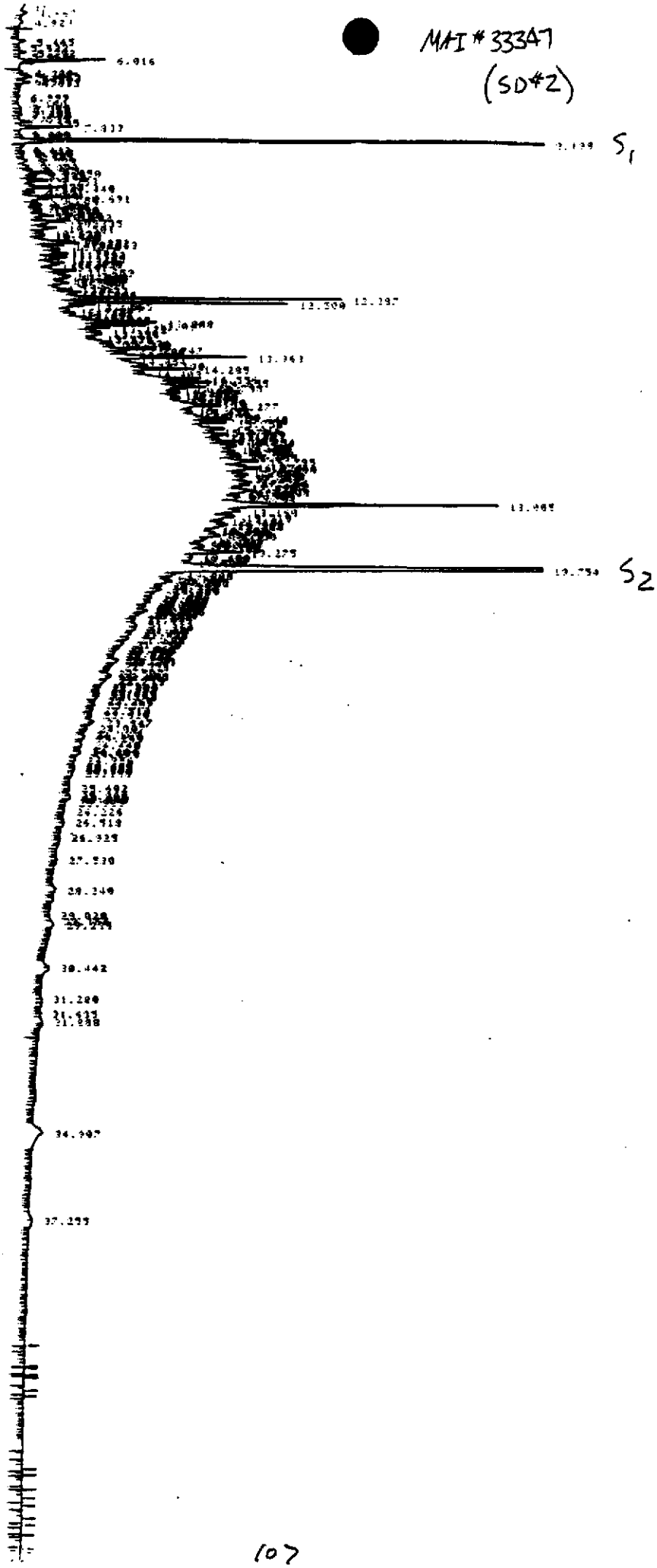
SAMPLE# 12

SIGNAL FILE: MISIGNAL.BNC
ESTD-AREA

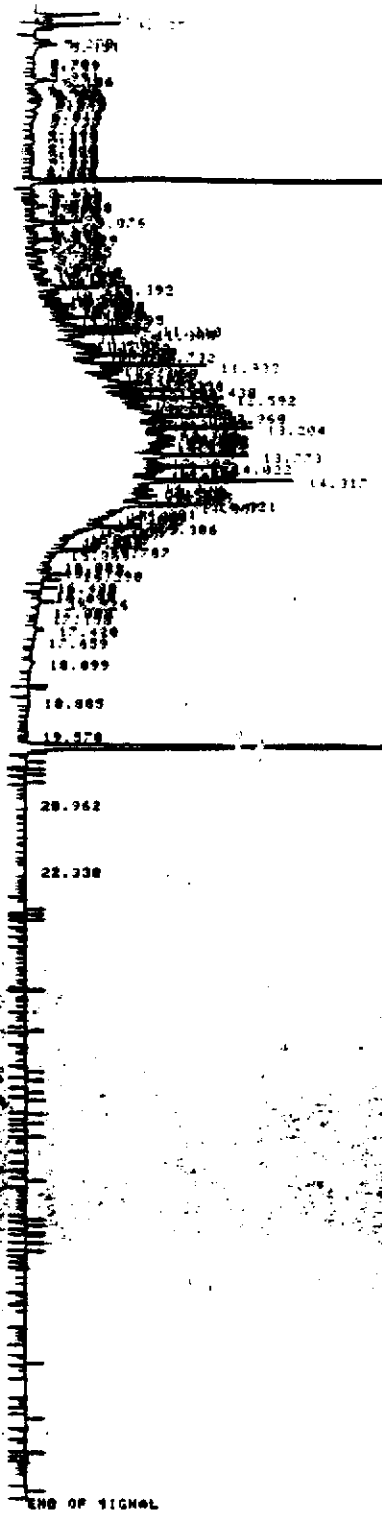
RT	AREA	TYPE	CAL#	AMOUNT
3.934	97392	BB		24.467
4.313	1315	BP		.368
4.448	394	PP		.057
4.725	909	PP		.226
4.974	492	PP		.135
5.237	247	PP		.067
5.513	453	PP		.129
5.799	152	PH		.041
5.929	497	HH		.133
6.068	35945	HH		10.069
6.379	442	HH		.120
6.449	[illegible]	HH		[illegible]
6.538	[illegible]	HH		[illegible]
[illegible]	[illegible]	HH		[illegible]

106

MAI # 33347
(SD#2)



300ppm Diesel Standard -



DIESEL RANGE.- 9.38 - 17.61 MINS (C10-23) PEAKSUM= 2791382.

[illegible] 4.63 - 11.36 MINS (C6..C12) PEAKSUM= 502769.

[illegible] OF DIESEL/TOTALGAS= 4.78972 %

[illegible] COMPOUNDS OF GAS RANGE- 4.63 - 6.78 MINS (C7-C8) PEAKSUM= 64845. = 18 % OF TOTAL GAS

HSP COMPOUNDS OF GAS RANGE- 6.78 - 9.58 MINS (C8+..C10) PEAKSUM= 273379. = 46 % OF TOTAL GAS

HSP COMPOUNDS OF GAS RANGE. 9.58 - 11.36 MINS (C10+..C12) PEAKSUM= 245345. = 42 % OF TOTAL GAS

OIL & GREASE RANGE. 14.38 + MINS (C18+) PEAKSUM= 536374.

STODDARD SOLVENT RANGE. 9.58 - 11.36 MINS (C8-C12) PEAKSUM= 522677.

KEROSINE RANGE. [illegible] MINS [illegible] PEAKSUM = [illegible]
[illegible].

[illegible] END OF RUN [illegible]

Appendix - F5

CERTIFIED
ENVIRONMENTAL
CONSULTING INC.

October 27, 1993

REF: JOB # 93-454-1315

Mr. Barry Gallagher
Gallagher Law Offices
Ordway Bldg., Suite 2450
Oakland, Ca. 94612-3685
(510) 836-1266
(510) 836-1559 FAX

SUBJECT: Storm Drain Water Sample For Investigation at 3815 Broadway, Oakland, CA.

Dear Mr. Gallagher:

Certified Environmental Consulting, Inc. (CEC) is pleased to provide the results of the water sampling performed for Mr. Depper on 10-14-93 at 3815 Broadway, Oakland, CA.

The attached figure shows the site location. The water sample was taken from the storm drain behind the Dry Cleaning Building (see figure for location). The water sample was stored on ice and transported under chain of custody to McCampbell Analytical in Pacheco for analysis.

The water sample was analyzed for TPH as Gasoline, TPH as Diesel, BTEX, Volatile Organics, and Stoddard. Results were below detectable limits for TPH-G, BTEX, Volatile Organics, and Stoddard. There is, however, TPH-D contamination of the water sample taken from the storm drain. Although the results yielded detectable levels in the diesel range, the chromatogram yielded an unknown pattern of average molecular weight heavier than diesel.

The results do suggest that something has found its way into the storm drain at a location above the Depper property. Without further analysis, it is difficult to say more regarding the location and/or identity of the contamination.

The chain of custody report and analytical results from McCampbell lab are attached. Please let us know if you have any questions.

Sincerely,

Gary Rogers
District Manager

Stanley Klemetson, Ph.D, P.E.
Executive Vice President

536 Stone Road, Suite J
Benicia, California 94510-1170

Ofc (707) 745-0171
Fax (707) 745-0163
(800) 228-0171

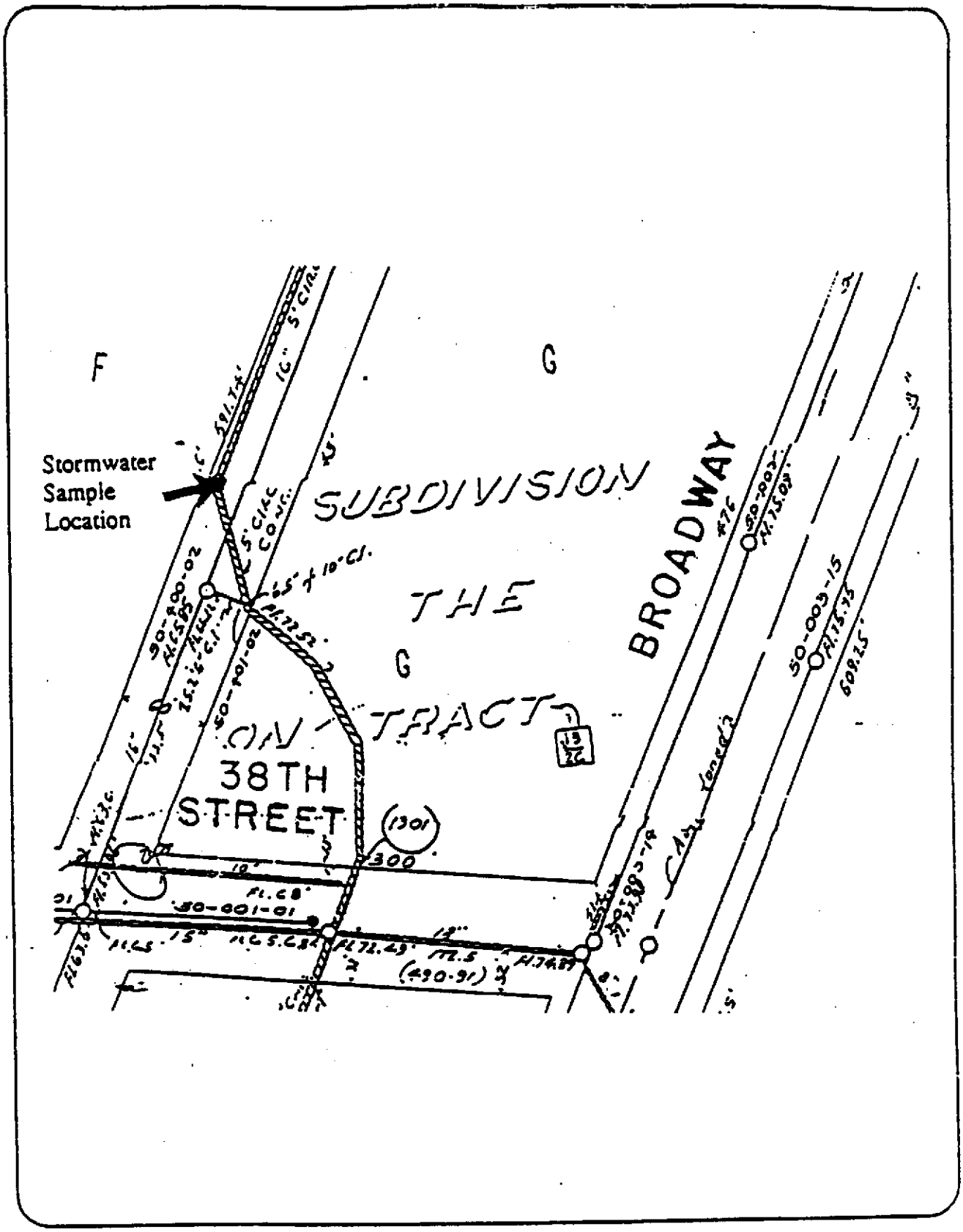


Figure 1. Site Location

McCAMPBELL ANALYTICAL INC.
110 2nd Avenue South, #D7, Pacheco, CA 94553
Tele: 510-798-1620 Fax: 510-798-1622

Certified Environmental Consulting 536 Stone Road, Ste. J Benicia, CA 94510-1016	Client Project ID: Stuart Depper; Oakland	Date Sampled: 10/14/93
		Date Received: 10/14/93
	Client Contact: Stan Klemetson	Date Extracted: 10/14/93
	Client P.O:	Date Analyzed: 10/14/93

Diesel Range (C10-C23) Extractable Hydrocarbons as Diesel *

EPA methods modified 8015, and 3550 or 3510; California RWQCB (SF Bay Region) method GCFID(3550) or GCFID(3510)

Lab ID	Client ID	Matrix	TPH(d)*	% Recovery Surrogate
32626	Depper	W	1300,e	#
Detection Limit unless otherwise stated; ND means Not Detected		W	50 ug/L	
		S	10 mg/kg	

*water samples are reported in ug/L, soil samples in mg/kg, and all TCLP extracts in mg/L

cluttered chromatogram; surrogate and sample peaks co-elute or surrogate peak is on elevated baseline

* The following descriptions of the TPH chromatogram are cursory in nature and McCampbell Analytical is not responsible for their interpretation: a) unmodified or weakly modified diesel is significant; b) diesel range compounds are significant; no recognizable pattern; c) modified diesel?; light(CL) or heavy(CH) diesel compounds are significant); d) gasoline range compounds are significant; e) medium boiling point pattern that does not match diesel/unknown pattern; average molecular weight is heavier than diesel); f) one to a few isolated peaks present; g) oil range compounds are significant; h) lighter than water immiscible phase is present.

DHS Certification No. 1644

Edward Hamilton, Lab Director

McCAMPBELL ANALYTICAL INC. | 110 2nd Avenue South, #D7, Pacheco, CA 94553
Tele: 510-798-1620 Fax 510-798-1622

Certified Environmental Consulting 536 Stone Road, Ste. J Benicia, CA 94510-1016	Client Project ID: Stuart Depper; Oakland	Date Sampled: 10/14/93
		Date Received: 10/14/93
	Client Contact: Stan Klemetson	Date Extracted: 10/15/93
	Client P.O:	Date Analyzed: 10/15/93

Gasoline Range (C6-C12) Volatile Hydrocarbons as Gasoline*, with BTEX*

E.P.A methods 5030, modified 8015, and 8020 or 602; California RWQCB (SF Bay Region) method GCFID(5030)

Lab ID	Client ID	Matrix	TPH(g)*	Benzene	Toluene	Ethylbenzene	Xylenes	% Rec. Surrogate
32626	Depper	W	ND	ND	ND	ND	ND	90
Detection Limit unless otherwise stated; ND means Not Detected		W	50 ug/L	0.5	0.5	0.5	0.5	
		S	1.0 mg/kg	0.005	0.005	0.005	0.005	

*water samples are reported in ug/L, soil samples in mg/kg, and all TCLP extracts in mg/L

cluttered chromatogram; sample peak co-elutes with surrogate peak

* The following descriptions of the TPH chromatogram are cursory in nature and McCampbell Analytical is not responsible for their interpretation: a) unmodified or weakly modified gasoline is significant; b) heavier gasoline range compounds are significant(aged gasoline?); c) lighter gasoline range compounds (the most mobile fraction) are significant; d) gasoline range compounds are significant; no recognizable pattern; e) TPH pattern that does not appear to be derived from gasoline (?); f) one to a few isolated peaks present; g) strongly aged gasoline or diesel range compounds are significant; h) lighter than water immiscible phase is present.

DHS Certification No. 1644

Edward Hamilton, Lab Director

McCAMPBELL ANALYTICAL INC.
110 2nd Avenue South, #D7, Pacheco, CA 94553
Tele: 510-798-1620 Fax: 510-798-1622

Certified Environmental Consulting 536 Stone Road, Ste. J Benicia, CA 94510-1016	Client Project ID: Stuart Depper; Oakland	Date Sampled: 10/14/93
		Date Received: 10/14/93
	Client Contact: Stan Klemetson	Date Extracted: 10/15/93
	Client P.O:	Date Analyzed: 10/15/93

Stoddard Solvent (C8-C12) Volatile Hydrocarbons as Gasoline*, with BTEX*

EPA methods 5030, modified 8015, and 8020 or 602; California RWQCB (SF Bay Region) method GCFID(5030)

Lab ID	Client ID	Matrix	TPH(ss)*	Benzene	Toluene	Ethylbenzene	Xylenes	% Rec. Surrogate
32626	Depper	W	ND	—	—	—	—	90
Detection Limit unless otherwise stated; ND means Not Detected		W	50 ug/L	0.5	0.5	0.5	0.5	
		S	1.0 mg/kg	0.005	0.005	0.005	0.005	

*water samples are reported in ug/L, soil samples in mg/kg, and all TCLP extracts in mg/L

cluttered chromatogram; sample peak co-elutes with surrogate peak

* The following descriptions of the TPH chromatogram are cursory in nature and McCampbell Analytical is not responsible for their interpretation: a) unmodified or weakly modified gasoline is significant; b) heavier gasoline range compounds are significant(aged gasoline?); c) lighter gasoline range compounds (the most mobile fraction) are significant; d) gasoline range compounds are significant; no recognizable pattern; e) TPH pattern that does not appear to be derived from gasoline (?); f) one to a few isolated peaks present; g) strongly aged gasoline or diesel range compounds are significant; h) lighter than water immiscible phase is present.

Edward Hamilton, Lab Director

McCAMPBELL ANALYTICAL INC.
110 2nd Avenue South, #D7, Pacheco, CA 94553
Tele: 510-798-1620 Fax: 510-798-1622

Certified Environmental Consulting 536 Stone Road, Ste. J Benicia, CA 94510-1016	Client Project ID: Stuart Depper; Oakland	Date Sampled: 10/14/93
		Date Received: 10/14/93
	Client Contact: Stan Klemetson	Date Extracted: 10/25/93
	Client P.O:	Date Analyzed: 10/25/93

Volatile Halocarbons

EPA method 601 or 8010

Lab ID	32626			
Client ID	Depper			
Matrix	W			
Compound[1]	Concentration*	Concentration*	Concentration*	Concentration*
Bromodichloromethane	ND			
Bromoform[2]	ND			
Bromomethane	ND			
Carbon Tetrachloride[3]	ND			
Chlorobenzene	ND			
Chloroethane	ND			
2-Chloroethyl Vinyl Ether[4]	ND			
Chloroform[5]	ND			
Chloromethane	ND			
Dibromochloromethane	ND			
1,2-Dichlorobenzene	ND			
1,3-Dichlorobenzene	ND			
1,4-Dichlorobenzene	ND			
1,1-Dichloroethane	ND			
1,2-Dichloroethane	ND			
1,1-Dichloroethene	ND			
cis 1,2-Dichloroethene	ND			
trans 1,2-Dichloroethene	ND			
1,2-Dichloropropane	ND			
cis 1,3-Dichloropropene	ND			
trans 1,3-Dichloropropene	ND			
Methylene Chloride[6]	ND			
1,1,2,2-Tetrachloroethane	ND			
Tetrachloroethene[7]	ND			
1,1,1-Trichloroethane	ND			
1,1,2-Trichloroethane	ND			
Trichloroethene	ND			
Trichlorofluoromethane	ND			
Vinyl Chloride[8]	ND			
% Recovery Surrogate	96			
Comments				

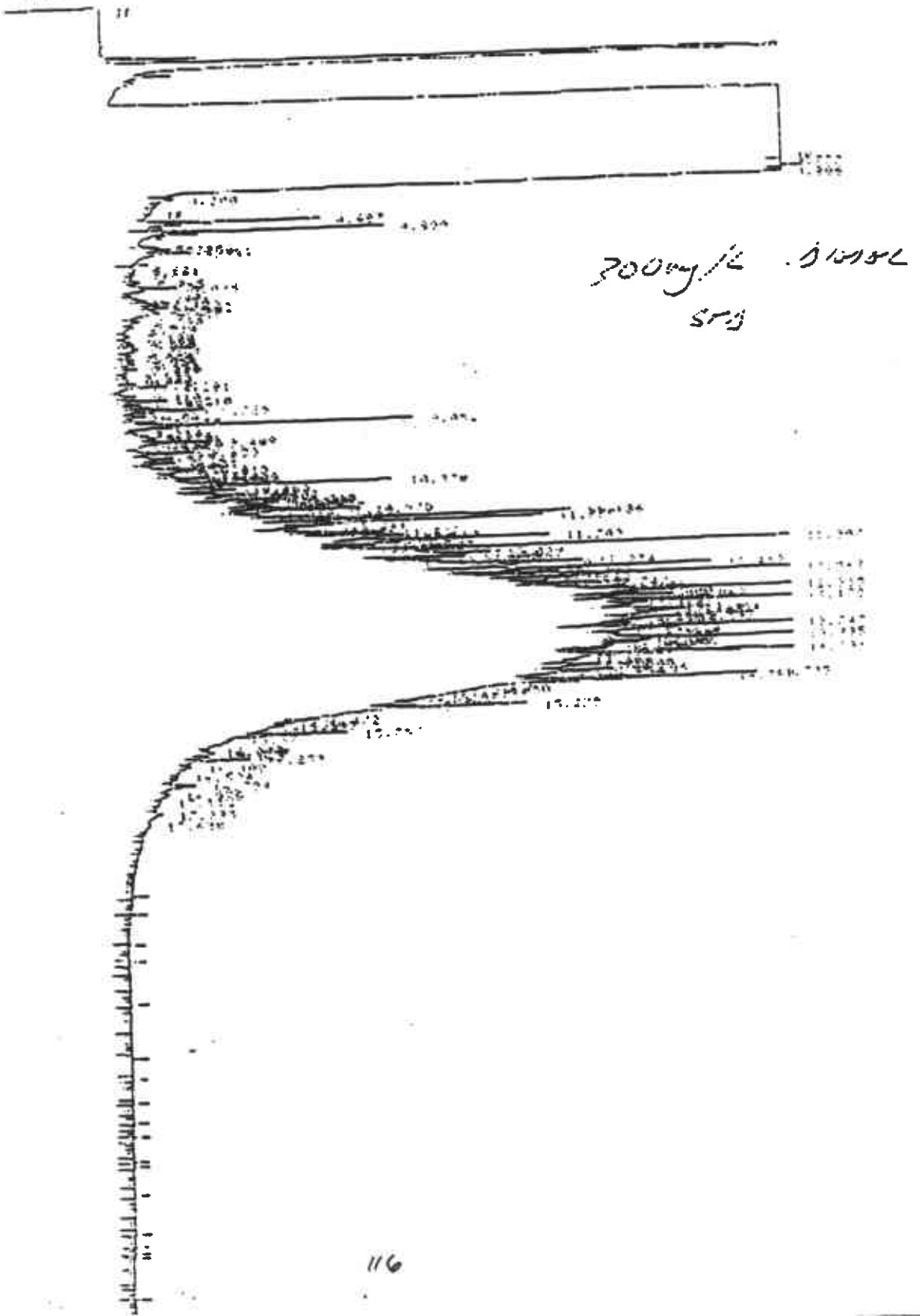
Detection limit unless otherwise stated: water, ND< 1ug/L; soil, ND< 10ug/kg

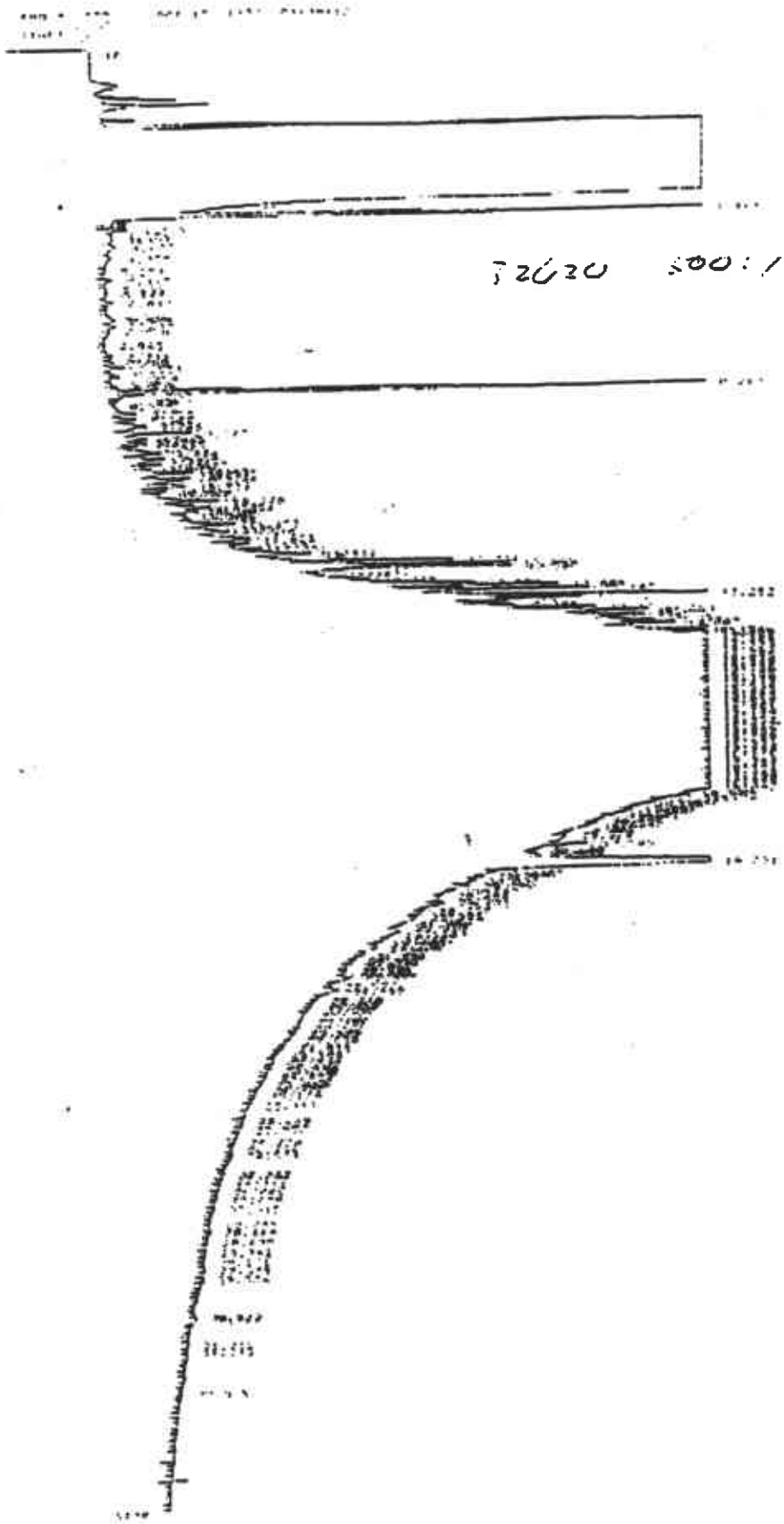
* water samples are reported in ug/L, soil samples in ug/kg and all TCLP extracts in ug/L

(1) IUPAC allows "ylene" or "ene", ex. ethylene or ethene; (2) tribromomethane; (3) tetrachloromethane; (4) (2-chloroethoxy) ethene; (5) trichlormethane; (6) dichloromethane; (7) perchlorethylene, PCE or perclor; (8) chloroethene; (9) unidentified peak(s) present.

DHS Certification No. 1644

Edward Hamilton, Lab Director

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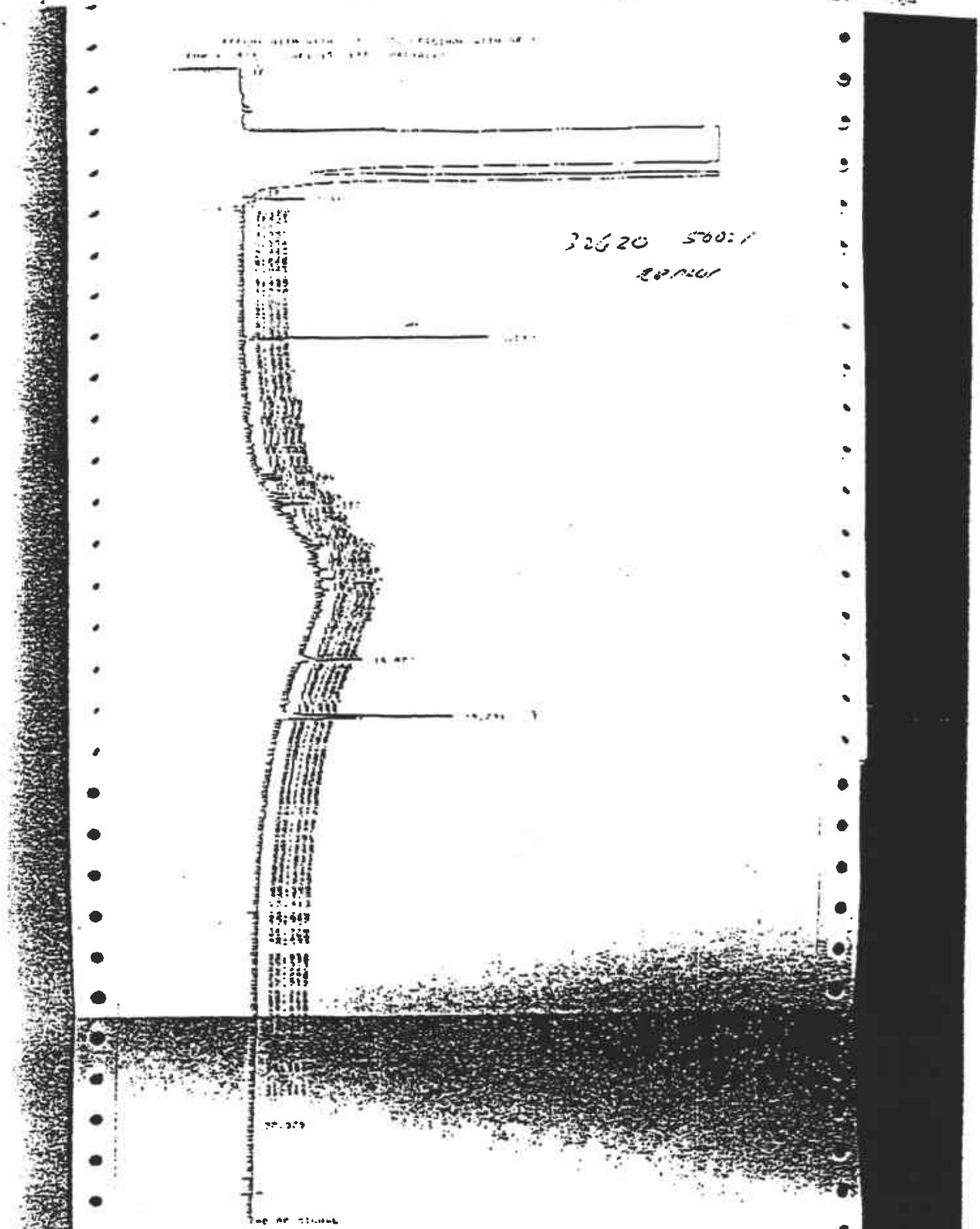
32620 500:1

Cambria Environmental Consultants, Inc.
140 West Industrial Way, Benicia, CA, 94510-1016
Ofc. (707) 745-0171 (800) 447-0171 Fax. (707) 745-0163

Chain of Custody Record

Date 10/14/93 Sheet 1 of 1

Project Number:
Project Name: Stuart Dapper
Address: 3815 Broadway Oakland, Ca.
Sampler's Name: Troy W. Pew
Sampler's Signature: Troy W. Pew

Parameters: TPH as Gasoline 8015 | TPH as Diesel 8015 | TPH-G and B.T.E.X 8015/8020 | B.T.E.X & E 8020 | Oil and Grease 5520 | Volatile Organics (8010) 601 | CAM Metals (17) | Pr. Pollutant Metals (13) | Base/Neut/Acids (Organic) | Pesticides 8140/8141 | Stoddard | Matrix (Soil/Water)

Sample Number	Location	Date	Time												
32626		10/14/93	11:30	X	X		X		X				X		S

ICE/T GOOD CONDITION ✓
HEAD SPACE ABSENT ✓
PRESERVATIVE APPROPRIATE CONTAINERS ✓
VOA O&G METALS OTHER

Lab Name: McCampbell
Address: Pacheco, Ca.
Phone Number:

Turnaround Time: ☐ Rush ☐ 24 Hour ☐ 48 Hour ☒ 5-Day
Report to: STAN Klemetson

Comments: Hold till 10-15 pm or until instructed by CEC 6-5 10-11-93

32626

Relinquished By	Date	Time	Received By	Date	Time
Troy W. Pew	10-14-93	4:30	1.	10/14/93	4:30
			2.		
			3.		
Dispatched By	Date	Time	Received in Lab By	Date	Time

Total Number of Containers This Sheet: 8

Method of Shipment:

Special Shipment / Handling or Storage Requirements:

ATTACHMENT - A

UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
WASHINGTON, D.C. 20460

9838.1

JUL 31 1987

MEMORANDUM

SUBJECT: Scope of the CERCLA Petroleum Exclusion Under Sections 101(14) and 104(a)(2)

FROM: Francis S. Blake
General Counsel (LE-130)

TO: J. Winston Porter
Assistant Administrator
for Solid Waste and Emergency Response (WH-562A)

One critical and recurring issue arising in the context of Superfund response activities has been the scope of the petroleum exclusion under CERCLA. Specifically, you have asked whether used oil which is contaminated by hazardous substances is considered "petroleum" under CERCLA and thus excluded from CERCLA response authority and liability unless specifically listed under RCRA or some other statute. For the reasons discussed below, we believe that the contaminants present in used oil or any other petroleum substance are not within the petroleum exclusion. "Contaminants", as discussed below, are substances not normally found in refined petroleum fractions or present at levels which exceed those normally found in such fractions. If these contaminants are CERCLA hazardous substances, they are subject to CERCLA response authority and liability.

Background

Under the Comprehensive Environmental Response, Compensation and Liability Act of 1980 as amended (CERCLA), governmental response authority, release notification requirements, and liability are largely tied to a release of a "hazardous substance." Section 104 authorizes government response to releases or threatened releases of hazardous substances, or "pollutants or contaminants." Similarly, liability for response costs and damages under Section 107 attaches to persons who generate, transport or

dispose of hazardous substances at a site from which there is a release or threatened release of such substances. Under Section 103, a release of a reportable quantity of a hazardous substance triggers notification to the National Response Center.

The term "hazardous substance" is defined under CERCLA Section 101(14) to include approximately 714 toxic substances listed under four other environmental statutes, including RCRA. Both the definition of hazardous substance and the definition of "pollutant or contaminant" under Section 104(a)(2) exclude "petroleum, including crude oil or any fraction thereof", unless specifically listed under those statutes. 1/ Accordingly, no petroleum substance, including used oil, can be a "hazardous substance" except to the extent it is listed as a hazardous waste under RCRA or under one of the other statutes. Thus two critical issues in assessing whether a substance is subject to CERCLA is whether or not, and to what extent, a substance is "petroleum." This memorandum discusses the second type of petroleum exclusion issue. The question, therefore, is not whether used oil is "petroleum" and thus exempted from CERCLA jurisdiction, but to what extent substances found in used oil which are not found in crude oil or refined petroleum fractions are also "petroleum". If such substances are not "petroleum" then a release of used oil containing such substances may trigger CERCLA response actions, not to the release of used oil, but to the contaminants present in the oil.

1/ The full texts of these provisions are as follows:

Section 101(14)

. . . .

The term [hazardous substance] does not include petroleum, including crude oil or any fraction thereof which is not otherwise specifically listed or designated as a hazardous substance under subparagraphs (A) through (F) of this paragraph, and the term does not include natural gas, natural gas liquids, liquefied natural gas, or synthetic gas usable for fuel (or mixtures of natural gas and such synthetic gas).

Section 104 (a)(2)

. . . .

The term [pollutant or contaminant] does not include petroleum, including crude oil and any fraction thereof which is not otherwise specifically listed or designated as hazardous substances under section 101(14)(A) through (F) of this title, nor does it include natural gas, liquefied natural gas, or synthetic gas of pipeline quality (or mixtures of natural gas and such synthetic gas).

Although the term "hazardous substance" is defined by statute, there is no CERCLA definition of "petroleum" and very little direct legislative history explaining the purpose or intended scope of this exclusion. None of the four early Superfund bills originally excluded responses to oil, although the apparent precursor to Section 101(14), found in S. 1480, excluded "petroleum" without explanation in all versions except that introduced. The legislative debates on the final compromise indicate only that Congress intended to enact later, separate superfund-type legislation to cover "oil spills." See generally 126 Cong. Rec. H11793-11802 (December 3, 1980).

Since the enactment of CERCLA, the Agency has provided some interpretations of the nature and scope of the petroleum exclusion. In providing guidance in 1981 on the notification required under Section 103 for non-RCRA hazardous waste sites the Agency stated that petroleum wastes, including waste oil, which are not specifically listed under RCRA are excluded from the definition of "hazardous substance" under 101(14). 46 Fed. Reg. 22145 (April 15, 1981). 2/

In 1982 and in 1983, the General Counsel issued two opinions on the CERCLA petroleum exclusion. In the first opinion, the General Counsel distinguished under the petroleum exclusion between hazardous substances which are inherent in petroleum, such as benzene, and hazardous substances which are added to or mixed with petroleum products. The General Counsel concluded that the petroleum exclusion includes those hazardous substances which are inherent in petroleum but not those added to or mixed with petroleum products. Thus, the exclusion of diesel oil as "petroleum" includes its hazardous substance constituents, such as benzene and toulene, but PCB's mixed with oil would not be excluded. Moreover, if the petroleum product and an added hazardous substance are so commingled that, as a practical matter, they cannot be separated, then the entire oil spill is subject to CERCLA response authority.

In the second opinion, the General Counsel concluded that the petroleum exclusion as applied to crude oil "fractions" includes blended gasoline as well as raw gasoline, even though refined or blended gasoline contains higher levels of hazardous

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2/ In the notice the Agency used the term "waste oil" without stating whether it was intended to include all waste oil or only unadulterated waste oil. The Agency has subsequently interpreted the reference to "waste oil" in this notice to include only unadulterated waste oil. 50 Fed. Reg. 13460 (April 4, 1985).

substances. The increased level of hazardous substances results from the blending of raw gasoline with other petroleum fractions to increase its octane levels. Because virtually all gasoline which leaves the refinery is blended gasoline, the petroleum exclusion would include virtually none of this fraction if the increased concentration of hazardous substances due only to its processing made it subject to CERCLA.

Finally, the Agency has interpreted the petroleum exclusion in two recent Federal Register notices. In the April 4, 1985 final rule adjusting reportable quantities under Section 102, the Agency provided its general interpretation of the exclusion:

> EPA interprets the petroleum exclusion to apply to materials such as crude oil, petroleum feedstocks, and refined petroleum products, even if a specifically listed or designated hazardous substance is present in such products. However, EPA does not consider materials such as waste oil to which listed CERCLA substances have been added to be within the petroleum exclusion. Similarly, pesticides are not within the petroleum exclusion, even though the active ingredients of the pesticide may be contained in a petroleum distillate: when an RQ of a listed pesticide is released, the release must be reported.

50 Fed. Reg. 13460 (April 4, 1985).

In March 10, 1986, the Agency published a notice of data availability and request for comments on the proposed used oil listing under RCRA. 51 Fed. Reg. 8206. In that notice, the Agency responded to commenters who had argued that the RCRA listing would discourage used oil recycling because it would subject generators, transporters, processors, and users to Superfund liability. The Agency stated that used oil which contains hazardous substances at levels which exceed those normally found in petroleum are currently subject to CERCLA. 51 Fed. Reg. 8206 (March 10, 1986). Although the fact that the used oil is contaminated does not remove it from the protection of the petroleum exclusion, the contaminants in the used oil are subject to CERCLA response authority if they are hazardous substances. Accordingly, most used oil, even without a specific listing, would not be fully within the petroleum exclusion, irrespective of the listing.

Discussion

Because there is no definition of "petroleum" in CERCLA or any legislative history which clearly expresses the intended scope of this exclusion, there are several possible interpretations which could be given to this provision. However, we believe that our current interpretation, under which "petroleum" includes hazardous substances normally found in refined petroleum fractions but does not include either hazardous substances found at levels which exceed those normally found in such fractions or substances not normally found in such fractions, is most consistent with the statute and the relevant legislative history. Under this interpretation, the source of the contamination, whether intentional addition of hazardous substances to the petroleum or addition of hazardous substances by use of the petroleum, is not relevant to the applicability of the petroleum exclusion. The remainder of this memorandum explains in greater detail this interpretation and its legal basis, and responds to arguments raised in opposition to this interpretation.

The following is our interpretation of "petroleum" under CERCLA 101(14) and 104(a)(2), which we believe to be consistent with Congressional intent and the position which the Agency has taken on the scope of the petroleum exclusion thus far. First, we interpret this provision to exclude from CERCLA response and liability crude oil and fractions of crude oil, including the hazardous substances, such as benzene, which are indigenous in those petroleum substances. Because these hazardous substances are found naturally in all crude oil and its fractions, they must be included in the term "petroleum," for that provision to have any meaning.

Secondly, "petroleum" under CERCLA also includes hazardous substances which are normally mixed with or added to crude oil or crude oil fractions during the refining process. This includes hazardous substances the levels of which are increased during refining. These substances are also part of "petroleum" since their addition is part of the normal oil separation and processing operations at a refinery in order to produce the product commonly understood to be "petroleum."

Finally, hazardous substances which are added to petroleum or which increase in concentration solely as a result of contamination of the petroleum during use are <u>not</u> part of the "petroleum" and thus are not excluded from CERCLA under the

exclusion. 3/ In such cases, EPA may respond to releases of the added hazardous substance, but not the oil itself.

We believe that an interpretation of "petroleum" to include only indigenous, refinery-added hazardous substances is the interpretation of this provision which is most consistent with Congressional intent. The language of the provision, its explanation in the legislative history, and the Congressional debates on the final Superfund bill clearly indicate that Congress had no intention of shielding from Superfund response and liability hazardous substances merely because they are added, intentionally or by use, to petroleum products.

The language of the petroleum exclusion describes "petroleum" principally in terms of crude oil and crude oil fractions. This language is virtually identical to the language used in an earlier Superfund bill to define "oil." 4/ There is no indication in the statute or legislative history that the term "petroleum" was to be given any meaning other than its ordinary, everyday meaning. See Malat v. Riddell, 383 U.S. 569, 571 (1966) (words of a statute should be interpreted where possible in their ordinary, everyday sense). Petroleum is defined in a standard dictionary as

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3/ The mixing of two or more excluded petroleum substances, such as blending of fuels, would not be considered contamination by use, and the mixture would thus also be an excluded substance.

4/ See H.R. 85, 96th Cong., 2d Sess. §101(s) (as passed by the House, September 1980) (""Oil" means petroleum, including crude oil or any fraction or residue therefrom"). H.R. 85 was designed principally to provide compensation and assess liability for oil tanker spills in navigable waters. As discussed below, the omission of this "oil spill" coverage under the petroleum exclusion was believed to be the most significant omission in terms of response to environmental releases under the final Superfund bill.

Although the bill containing the precursor to Section 101(14), S. 1480, does not have a definition of "petroleum", its accompanying report did explain the term "petroleum oil" in the context of the taxing provisions:

> The term "petroleum oil" as used in subsection 5 means petroleum, including crude petroleum and any of its fractions or residues other than carbon black.

S. Rep. No. 96-848, 96th Cong., 2d Sess. 70 (1980).

> an oily flammable bituminous liquid that may vary from almost colorless to black, occurs in many places in the upper strata of the earth, is a complex mixture of hydrocarbons with small amounts of other substances, and is prepared for use as gasoline, naphtha, or other products by various refining processes.

Webster's Ninth New Collegiate Dictionary 880 (1985). Thus, an interpretation of the phrase "petroleum, including crude oil or any fraction thereof" to include only crude oil, crude oil fractions, and refined petroleum fractions is consistent with the plain language of the statute. 5/

The only legislative history which specifically discusses this provision states that

> petroleum, including crude oil and including fractions of crude oil which are not otherwise specifically listed or designated as hazardous substances under subparagraphs (A) through (F) of the definition, is excluded from the definition of a hazardous substance. The reported bill does not cover spills or other releases strictly of oil.

S. Rep. No. 96-848, 96th Cong., 2d Sess. 29-30 (1980) (emphasis added). Thus, the petroleum exclusion is explained as an exclusion from CERCLA for spills or releases only of oil. The legislative history clearly contemplates that the petroleum

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5/ This distinction under the exclusion in Title I of CERCLA between petroleum as the substance that leaves the refinery and the hazardous substances which are added to it prior to, during or after use was also made by Congress in Title II, the revenue provisions or CERCLA. In Title II, Congress made a distinction between "chemicals", petrochemical feedstocks and inorganic substances, taxed in Subchapter B of Chapter 38 of Internal Revenue Code, and "petroleum", crude oil and petroleum products, taxed in Subchapter A. Section 211 of CERCLA. The list of taxed chemicals includes many of the contaminant hazardous substances typically found in used oil: arsenic, cadmium, chromium, lead oxide, and mercury. The term "petroleum products" was explained in the legislative history as including essentially crude oil and its refined fractions. H. Rep. No. 96-172, Part III, 96th Cong., 2d Sess. 5 (1980) (to accompany H.R. 85).

exclusion will not apply to mixtures of petroleum and other toxic materials since these would not be releases "strictly of oil".

The Congressional debates on the final compromise Superfund legislation provides further clarification of Congressional intent concerning the scope of the petroleum exclusion, both in terms of what this provision deleted from the bill and what it did not. First, the major concern expressed with respect to the final compromise bill was the omission of its oil spill jurisdiction due to the petroleum exclusion. See e.g. 126 Cong. Rec. H11787 (Rep. Florio) (daily ed. December 3, 1980); id. at H11790 (Rep. Broyhill); id. at H11792 (Rep. Madigan); id. at H11793 (Rep. Studds); id. at H11795 (Rep. Biaggi); id. at H11796 (Rep. Snyder). This omission was of concern because it was believed to leave coastal areas and fisheries vunerable to tanker spills of crude and refined oil, such as the wreck of the Argo Merchant, and offshore oil well accidents. 126 Cong. Rec. H11793 (Rep. Studds) (daily ed. December 3, 1980). See also 126 Cong. Rec. S10578 (proposed amendment to S1480 by Sen. Magnuson) (daily ed. August 1, 1980); id. at S10845 (proposed amendment to S1480 by Sen. Gravel) (daily ed. August 5, 1980). The omitted coverage of oil spills was believed to include approximately 500 spills per year, 126 Cong. Rec. H11796 (Rep. Snyder) (daily ed. December 3, 1980), far less than the number of contaminated oil releases each year.

However, it was clear that the omission of oil coverage was intended to include spills of oil only, and there was no intent to exclude from the bill mixtures of oil and hazardous substances. The remarks of Rep. Mikulski are typical of the general understanding of the effect of the petroleum exclusion in the final bill:

> The Senate bill is substantially similar to the House measure, with the exception that there is no oil title.
>
> I realize that it is disappointing to see no oil-related provision in the bill, but we must also realize that this is our only chance to get hazardous waste dump site cleanup legislation enacted. . . .
>
> Moreover, there is already a mechanism in place that is designed to deal with spills in navigable waterways. There is not, however, any provision currently in our law that addresses the potentially ruinous situation of abandoned toxic dump sites.
>
> I, therefore, believe that it is imperative that we pass the Senate bill as a very important beginning in our attempt to defuse the ticking environmental time bomb of abandoned toxic waste sites.

Id. at H11796.

In addition, several speakers specifically identified such mixtures as releases not only covered by the legislation but releases to which the bill was addressed.

Mr. Edgar ...

In my State, hazardous substances problems have been discovered at an alarming rate in recent years. In the summer of 1979, an oil slick appeared on the Susquehanna River near Pittston, Pa. When EPA officials responded under section 311 of the Clean Water Act, they learned that the slick contained a variety of highly poisonous chemicals in addition to the oil.

Officials estimate that more than 300,000 gallons of acids, cyanide compounds, industrial solvents, waste oil and other chemicals remain at this site where they could be washed to the surface anywhere in a 10-square - mile surface.

Id. at H11798. See also 126 Cong. Rec. S14963 (daily ed. November 24, 1980) (Sen. Randolph) (contaminated oil slick). Other petroleum products containing hazardous substance additives intended to be addressed by the legislation include PCB's in transformer fluid, id. at S14963 (Sen. Randolph) and S14967 (Sen. Stafford), dioxin in motor fuel used as a dust suppressant, id. at S14974 (Sen. Mitchell), PCB's in waste oil, id. (Sen. Mitchell) 6/ and contaminated waste oil, id. at S14980 (Sen. Cohen). Accordingly, Congress understood the petroleum exclusion to remove from CERCLA jurisdiction spills only of oil, not releases of hazardous substances mixed with the oil.

There are two principal arguments which have been raised in opposition to this interpretation. First, the argument has been made that this interpretation narrows the petroleum exclusion to the extent that it has became virtually meaningless. As we have noted in previous opinions on this issue, an interpretation which emasculates a provision of a statute is strongly disfavored. Marsano v. Laird, 412 F.2d 65, 70 (2d Cir. 1969). However, this interpretation leaves a significant number of petroleum spills outside the reach of CERCLA. Spills or releases of gasoline remain excluded from CERCLA under the petroleum exclusion. As indicated by the legislative history for the 1984 underground storage tank

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6/ The illegal disposal of PCB's in North Carolina described by Senator Mitchell was a result of the spraying of 131,000 gallons of PCB-contaminated waste oil along a roadway. See 126 Cong. Rec. H9448 (daily ed. September 23, 1980).

legislation, leakage of gasoline from underground tanks appears to be the greatest source of groundwater contamination in the United States. 130 Cong. Rec. S2027, 2028 (daily ed. February 29, 1984) (Sen. Durenberger). In addition, spills of crude or refined petroleum are not subject to Superfund, as was frequently noted prior to its passage. See generally 126 Cong. Rec. H11786-H11802 (daily ed. December 5, 1980). Moreover, under this interpretation not all releases of used oil will be subject to CERCLA since used oil does not necessarily contain non-indigenous hazardous substances or hazardous substances in elevated levels. 7/ Although used oil is generally "contaminated" by definition, see e.g., RCRA Section 1005 (36), the impurities added by use may not be CERCLA hazardous substances.

A second argument which has been made opposing this interpretation is that Congress intended to include in the term "petroleum" all hazardous substances added through normal use of the petroleum substance. However, even if it were possible to determine in a response situation whether a hazardous substance was added intentionally or only through normal use or to determine what additions are "intentional", the legislative history is contrary to such a distinction. As noted above, the Senate Report explaining this provision states that it excludes releases or spills strictly of oil. This explanation expresses Congressional intent that releases of mixtures of oil and toxic chemicals, i.e. releases which are not strictly of oil, would be subject to CERCLA response authority. Releases of contaminated oil even if contaminated due to "normal use" are not releases strictly of oil.

Furthermore, the Congressional debates prior to passage clearly indicate an intent that contaminated oil would be subject to Superfund as several such releases were discussed as the focus of the legislation. Congress was concerned with the environmental and health effect of abandoned toxic waste sites, not whether the presence of such hazards was intentional or due to normal practices. In fact, one of the petroleum-hazardous substance mixtures most often mentioned during the debates was that of PCB contaminated oil, which is a type of contamination arguably resulting from the "normal use" of the oil in transformers. Accordingly, an interpretation of the petroleum exclusion which includes as "petroleum" hazardous substances added during use of the petroleum would not be consistent with Congressional intent.

7/ Data submitted to EPA by the Utility Solid Waste Activities Group et al. in Appendix C of their comments on the RCRA Used Oil listing, February 11, 1986.

Finally, although the Superfund Amendments and Reauthorization Act of 1986 (SARA) contains several provisions related to oil and oil releases, it did not amend the petroleum exclusion under CERCLA. Moreover, the new provisions concerning oil and oil releases and their legislative history do not indicate a Congressional intent inconsistent with this opinion.

The only discussion of "petroleum" in the Conference Report for SARA is in the context of defining the scope of the new petroleum response fund for leaking underground storage tanks under Subtitle I of the Resource Conservation and Recovery Act (RCRA). Subtitle I defines "petroleum" in a manner nearly identical to CERCLA. The Conference Report specifies that used oil would be subject to the response fund notwithstanding its contamination with hazardous substances. H. Rep. No. 99-962, 99th Cong., 2d Sess. 228 (1986). The Conference Report is not inconsistent with the Agency's position on "petroleum" under CERCLA since it merely specifies that the leaking underground storage tank (UST) response fund is applicable to tanks containing certain mixtures of oil and hazardous substances, as well as to tanks containing uncontaminated petroleum. In fact, the Report further states that the UST response fund must cover releases of used oil from tanks since "releases from tanks containing used oil would not rise to the priority necessary...for CERCLA response", id. (emphasis added), not because such releases would be entirely excluded from CERCLA jurisdiction. See also 132 Cong. Rec. S14928 (daily ed. October 3, 1986) (Senator Chaffee) (Nothing in Section 114, pertaining to liability for releases of recycled oil, "shall affect or impair the authority of the President to take a response action pursuant to Section 104 or 106 of CERCLA with respect to any release...of used oil or recycled oil"); 132 Cong. Rec. H9611 (daily ed. October 8, 1986) (Rep. Schneider) ("...the oil companies are rightfully assessed a significant share of the Superfund tax...Waste oils laced with contaminants have been identified at at least 153 Superfund sites in 32 States.").

(daily ed. October 8, 1986) (Rep. Schneider) ("...the oil companies are rightfully assessed a significant share of the Superfund tax...Waste oils laced with contaminants have been

ATTACHMENT - B

" Technical Protocol for Evaluating the Natural Attenuation of Chlorinated Ethenes in Groundwater "

3815 Broadway
12-982-10

3816 Manila
12-982-15

3822 Manila
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348 38th St.
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