

**RAMCON**  
**Engineering & Environmental Contracting**  
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**West Sacramento, CA 95691**

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**FAX COVER SHEET**

<b>DATE:</b>	03-19-93
<b>TO:</b>	Ms Jennifer Eberle
<b>COMPANY:</b>	Alameda County, Department of Environmental Health
<b>FAX NUMBER:</b>	(560) 569-4757 Phone # (510) 271-4530
<b>FROM:</b>	Jaff Auchterlonie, RAMCON Project Geologist
<b>COMMENTS:</b>	<b>DONGARY INVESTMENTS: Oakland- Site Assessment, RAMCON Job #476004</b>
<p>I have included the written report minus Appendix 2, 3, and 4. I have also FAXed the report to Dongary Ringsby. As I stated, I will make every effort to complete the full report by the meeting on 03-23-93.</p> <p>If you have any questions please call.</p> <p>Sincerely,</p> <p style="text-align: right;"><i>Jaff Auchterlonie</i></p>	
Total Number of Pages (Including Cover Sheet): 20	
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**RAMCON***Engineering & Environmental Contracting*

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**SOIL & GROUNDWATER SITE ASSESSMENT:**

**DONGARY INVESTMENTS - OAKLAND**  
2225 7th street  
Oakland, CA. 94607

March 18, 1993      **RAMCON Job #476004**

App. 2      soil boring logs  
App. 3      Taber report

**RAMCON**

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March 18, 1993

Ms. Jennifer Eberle  
Hazardous Materials Specialist  
Alameda County Health Care Services Agency  
Department of Environmental Health  
80 Swan Way, Room 200  
Oakland, CA. 94621

RE- SITE ASSESSMENT: **DONGARY INVESTMENTS - OAKLAND**  
2225 7th street  
Oakland, CA. 94607  
RAMCON Job #476004

Dear Ms. Eberle,

The site assessment report includes a description of the work completed in the field, site plans of the boring/monitor well locations, calculation of the groundwater gradient, the tabulated analytical data, boring & well completion diagrams, two cross sections, and copies of all analytical data. Additionally, a site plan with the estimated extent of the plume has been included.

Following RAMCON's "Soil & Groundwater Site Assessment Work Plan" dated 11-13-92, a total of 16 soil borings were drilled at the subject site, (Appendix 1, Plate 1 & 2). Three of the soil borings were later converted into groundwater monitoring wells.

**SUMMARY:**

Based on the field observations and analyses of soil and water samples collected from during the assessment, the extent of the free product plume extends 160 feet north of the southern end of the main excavation, less than 20 feet south of the northern end of the main excavation, and has an estimated width of 200 feet, (Appendix 1, Plate 3). The total dimensions of the plume defined by the soil borings are approximately 200 feet by 300 feet. Vertical contamination was observed at approximately 4 feet from grade and extends to the water table at 6 to 7 feet. No samples from below the water table were analyzed. Water samples collected from the three monitor wells were free of BTEX and Total Petroleum Hydrocarbons but contained chlorinated solvents.

Our client is currently reviewing proposals from consulting firms to remediate the site.

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**Previous Reports-** RAMCON has filed the following reports with the Alameda County Health Care Services Agency Department of Environmental Health (CAHCS): "Soil & Groundwater Site Assessment Work Plan", dated 11-13-92, and "Tank Removal Work Summary", dated 10-9-12-92.

**Current Site Conditions-** Both the main excavation and the waste oil excavation are open and free product, (diesel), is present floating on the groundwater. Four stockpiles are located around the main excavation. A total of four 55 gallon barrels of water are stored on site: three barrels of rinsate from steam cleaning the auger flight and one barrel of water generated from developing the three groundwater monitoring wells.

*are they secured?*

#### **SITE BACKGROUND & TANK REMOVALS:**

The subject site is located approximately 1 mile south of the Interstate 80 toll gate to the Bay Bridge at the intersection of Maritime and 7th Street, (Plates 1 & 2). The property is owned by the Port of Oakland, leased to Dongary Investments, who in turn sublease the property to ANR Freight, NW Transport Services, and Sealand Services Inc.

During the summer of 1989 one of the 20,000 gallon diesel tanks failed a leak detection test. Bore holes were placed around the eight existing tanks and samples of the soil and water were collected and analyzed. Contamination was detected and in March of 1990 the one leaking diesel tank was removed. Soil samples were collected and hydrocarbon contamination found below the former diesel tank. The contaminated soil was excavated, disposed of off site, and the excavation was backfilled. A report summarizing the soil borings and tank removal was forwarded to the Alameda County of Hazardous Materials Division on June 7, 1991.

*by ANR Freight ←*

On 7-27-92, RAMCON's personnel removed 6 diesel tanks and 1 bulk oil tank. Upon removal the tanks were inspected and no obvious holes or leaks were noted in the six diesel tanks. One hole was observed in the bulk oil tank. On 8-18-92, RAMCON personnel excavated and removed one 2,000 gallon waste oil tank. Upon removal the tank was inspected and no obvious holes or leaks were noted.

Groundwater seeped into the main excavation and the waste oil excavation, filling the tank impressions. Hydrocarbon contamination was noted floating on the water and the excavated soil had a strong diesel odor. Groundwater was observed at approximately 6 to 8 feet from grade and fluctuated about 1 foot in response to tidal effects. The dimensions of the single excavation containing the seven tanks are 110 ft by 45 ft and ranged in depth from 10 to 13 feet and the waste oil excavation are 18 ft by 12 ft and 11 ft deep.

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The concentration of TPH as Diesel measured in the 16 main excavation soil samples averaged 28,000 ppm. The analyses of the composite samples from the stockpiled soil detected an average concentration of TPH as Diesel of 5,800 ppm. *(up to 100,000 ppm)* *(up to 8,900 ppm)*

*oil ppm +* The soil samples from the waste oil pit contained measurable levels of Benzene, TPH as Diesel (270 ppm and ~~27 ppm~~), TPH as Motor Oil, four Halogenated Solvent compounds, and five Semi-Volatile compounds. No Oil & Grease compounds or Organochlorine Pesticides & PCB's were detected and the concentration of the five waste oil metals (Cd/Cr/Pb/Ni/Zn) were below the Title 22 STLC values. For further information, please refer to RAMCON's "Tank Removal Summary".

#### SOIL SITE ASSESSMENT:

In order to determine the extent of the soil and groundwater hydrocarbon contamination associated with the former underground storage tanks; RAMCON drilled a total of 16 soil borings, (BH1 to BH16) and converted three of the borings to groundwater monitoring wells: (BH15= MW-1, BH16= MW-2, and BH13= MW3), (Appendix 1, Plate 2).

Taber Drilling, (C51, C57, & C61 license #466270) drilled all of the soil borings and installed three monitor wells. The drill cuttings were added to the stockpiles surrounding the main excavation and covered with plastic. All auger flights and the core barrel were steamed cleaned between borings. The rinsate was collected in a wash tub and later transferred into 55 gallon drums. Currently, three barrels of steam rinse water are stored along the fence line 30 feet north west of the main excavation. The water in the barrels has not been profiled for disposal.

RAMCON's Project Geologist, Mr. Jaff Auchterlonie, collected and described the soil samples from the soil borings. All of the borings, with the exception of boring #16, were continuously cored over a five foot five interval to a depth of 9 to 10 feet. A log of each soil boring was made noting the lithology, bedding, sample points, and any obvious contamination. Please refer to Appendix 2 for copies of the sixteen soil borings and the well completion diagram for the three groundwater monitor wells.

**Soil Sample Collection-** A continuous coring device was used to collect a five foot core from approximately 5 to 10 feet. The core barrel was opened and samples were immediately collected into 2" by 6" brass sleeves. The sleeves were sealed with teflon tape, plastic caps, and duct tape. The samples were then labeled, placed on ice, and transported under chain-of-custody to Western Environmental Science & Technology (WEST) for analyses. WEST is a DOHS certified laboratory, (CA DOHS ELAP #1346). A split spoon sampler was used to collect samples at a depth of 10 feet in BH-4.

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A total of 29 soil samples were collected and 25 of the samples were analyzed for TPH as Diesel & Motor Oil (EPA method 8015 modified). Six of the samples were saturated with diesel and not analyzed. Of the 25 samples analyzed, 13 samples were also analyzed for BTEX & TPH as Gasoline, (EPA method 8020/8015 modified).

**Field Observations-** Six of the sixteen borings drilled, bore holes 3, 4, 5, 7, 8, 10, and 11, contained free product. The occurrence of free product was verified by:

- \* diesel odors were noted coming from the cuttings while drilling
- \* In core samples while describing the lithology
- \* Noted in fluid samples collected directly from the open borings.

Typically, a strong diesel odor was noted in the sand at a depth of four feet to five feet. At this point the sand was dry and the presence of diesel is a residual coating of the grains. From 4 feet to 7 feet the concentration of diesel increased. At the base of the cores, (6 to 7 feet), free product would flow out of the core when samples were collected.

The recovery of soil using the continuous coring device appears to be controlled by the depth to ground water. In most cases, no core was recovered below the water table at a depth of seven feet. While drilling the auger flight would liquify sediment at the water table and no soil could enter the core barrel. When the auger flight was removed from the hole; the boring would collapse up to the water table. In some cases, the formation would flow up the inside of the auger flight when the core barrel was removed. Based on the unconsolidated nature of the formation, and trenching below the water table, 7 feet, will require shoring to remain open.

**ANALYTICAL DATA- SOIL:** A total of 19 soil samples were analyzed and 13 soil samples, collected from bores holes (2, 6, 9, 12, 13, 14, 15, and 16), were free of BTEX, TPH as Diesel contamination. Six of the samples, collected from bore holes (1, 4, 3, 5, 7, and 10) contained diesel in concentrations ranging from 42 ppm to 7,400 ppm. Refer to Table 1 in Appendix 1, for a summary of WEST's sample logs #5555 & #5579.

Note: Only one foot of core ~~of core~~ was recovered from BH-1 at five feet. The sample contained 42 ppm diesel and 77 ppm motor oil. No obvious diesel contamination was noted in the drill cuttings or on the auger flights. No free product was observed in the bottom of the boring after the auger flights were removed. In addition, the signature of the gas chromatogram in the sample does not match the G.C. curves of samples collected from within the diesel plume.

For these reasons, BH1 is considered to lie outside of the free product plume and the contamination detected in BH1-5 maybe the result of a minor surface spill.

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#### **WATER SITE ASSESSMENT:**

**Water Sampling-** A hydropunch was used in bore holes #9 and #13 to collect water samples. In BH9, the punch was pressed to 14 feet and pulled back to 12.5 feet and in BH13 the interval opened was from 13 to 15 feet. No water entered the hydropunch in either boring. The lack of water entering the hydropunch could be due to pressing the hydropunch into an impermeable clay bed from 12 to 15 feet.

**Groundwater Monitor Well completion-** Three soil borings were completed as groundwater monitor wells: BH15= MW-1, BH16= MW-2, and BH13= MW3. All of wells were completed in the following manner: Drill a 12" hole to 15 feet and run in 10 feet of screen and 5 feet of blank PVC pipe. The PVC is a TriLoc brand and the slot size of the screen is (.010). Sand (#0/30 RMC Lonestar ARB Grade) was poured in the annular space up to 4 feet from grade, one foot of bentonite pellets were placed from 3 to 4 feet, cement was poured to surface, and a flush mount well cover box. See the well completion diagram attached in Appendix 2, Plate 1-2.

**Groundwater Monitor Well Samples-** Referring to Taber Consultants summary of well development, survey, and sampling attached in Appendix 3, one water sample was collected from each of the monitor wells. The samples were collected in 40 ml VOA bottles and one liter glass bottles, check to insure that no head space was present, and transported under chain-of-custody to WEST for analyses. The three samples, MW-1, MW-2, and MW-3 were analyzed for BTEX (EPA method 602/purge-and-trap) and TPH as Diesel & Motor Oil (EPA method 8015/extraction). Sample MW-1, was also analyzed for Volatile Organic Priority Pollutants (EPA method 624)

#### **ANALYTICAL DATA- WATER:**

The water samples collected from the borings were free of BTEX, TPH as Diesel, and TPH as Motor Oil contamination above the laboratory detection limits, (Appendix 1, Table 2). Referring to WEST's sample log #5701, distinct spikes are present on the BTEX gas chromatogram curves in all three water samples. In order to define what the spikes represent, sample MW-1 was analyzed for Volatile Organic Priority Pollutants (EPA method 624). Five solvents were detected in the water sample at concentrations ranging from 1.9 ug/L to 23 ug/L.

**Solvents-** Based on the presence of the spikes on the three water samples G.C. curves it is assumed that the water from all three wells contains solvents. Since the three wells are located around the main excavation and a gradient has been defined at the site; the occurrence of solvents in the water indicates the solvents may be introduced from a source up gradient of the main tank pit.

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*tank A*  
*tank B*  
*waste oil pit*  
*PF-1A + PF-1B*

Note: Two soil samples, PFA-1 & PFB-1, were collected from the waste oil pit following the tank removal on 8-18-92. The samples were analyzed for Halogenated Volatile Organics (EPA 8010) and detected the presence of solvents. The table below compares the analytes detected in the monitor well water sample to the two waste oil pit soil samples. MW-1 is located up gradient from and 230 feet south of the waste oil pit.

Analyte	MW-1	PFA-1	PFB-1
t-1, 2-Dichloroethane <i>DCE</i>	--	.066 mg/kg ✓	.066 mg/kg ✓
1, 2-Dichloropropane	--	.048 mg/kg ✓	.087 mg/kg ✓
<i>o-1, 2-Dichloroethane</i> <i>DCE</i>	1.9 ug/L ✓	.36 mg/kg ✓	.036 mg/kg ✓
1, 1-Dichloroethane <i>DCE</i>	13 ug/L ✓	--	--
1, 1-Dichloroethane <i>DCA</i>	23 ug/L ✓	--	--
Tetrachloroethene <i>PCE</i>	3.2 ug/L ✓	.0021 mg/kg ✓	ND ✓
Trichloroethene <i>TCE</i>	7.9 ug/L ✓	--	--

*only 2 same HVOCs in soil + gw*

A full description of the waste oil tank removal, sample collection, and analytical data can be found in RAMCON's "Tank Removal Work Summary" dated 10-12-92.

**Groundwater Gradient-** Review of other soil and groundwater remediation projects on file at the Alameda County Department of Environmental Health revealed three projects sites located within one half mile of the subject site: Southern Pacific Site, (Northeast, across the street from the Dongary Site), a site at 801 Maritime, and one site at the intersection of Ferry and Petroleum. The study of the S.P. site determined the groundwater gradient was in the North-Northwest direction. The 801 Maritime site concluded the tidal effects would override the gradient and the groundwater flow direction was not studied. At the Ferry and Petroleum site a groundwater study determined that the tidal influences did not effect the groundwater. The varied conclusions of the three groundwater studies may be the result of the heterogenous nature of the Bay mud and the backfill material used to originally develop the Port of Oakland. From observations made at the Dongary site open pit; tidal influences appear to effect the groundwater level.

*1912-7th St.*  
*Stid 3681*  
*there's only 1 mw, but 4 more are proposed (July 92 wp)*

Taber Consultants surveyed the three monitor well locations and measured the depth to ground water in each well on 01-08-93. The flow direction was determined to be S85W and the gradient was calculated to be 0.0014 feet per foot. (Appendix 3, Plate 1).

*gw flow was assessed ~1400' W of the site, at SPTCo wastewater impoundm'ts, as N 20° W.*



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Note: The flow direction determined by Taber differed from the S.P. flow direction by approximately 50 degrees. Refer to Appendix 1, Plate 5, ~~the flow direction of S85W does not fit the direction of the free product plume~~ as determined by soil borings.

Gradients and groundwater flow directions are dynamic and can change seasonally in response to rain and surface runoff. Considering the main excavation is open and significant amounts of rain fell in the month of December and January; it is not surprising that the flow direction was not consistent with the plume direction. In addition, tidal effects on the groundwater may have an effect on a one time measurement.

#### LITHOLOGY:

Based on descriptions of the continuous cores and the cuttings from the auger flights the two distinct lithologies were encountered at the site, a uniform well sorted sand and a poorly sorted clayey sand interval, (Appendix 1, Plate 4).

Sand- 13 of the 16 borings encountered a SAND from 4 to 7 feet that is well sorted, fine to medium grained, contains less than 5% clay and is very loose. The top of the sand varies from 2 to 5 feet. Since no core was recovered from 7 to 10 feet, it appears that lost core interval is composed of sand that was liquefying ahead of the auger flight. Based on the liquefaction assumption, the sand interval appears to extend from 4 to 10 feet. The following borings encountered the sand: BH1, BH2, BH3, BH4, BH5, BH7, BH8, BH9, BH11, BH13, BH14, BH15, and BH16.

The interval overlying the sand is asphalt and gravel from 0 to 1 foot, mixed sand\gravel\ and clay soil from 1 to 3 feet, and sandy clay from 2 to 5 feet. The overlying soil is loose and poorly sorted.

The interval underlying the sand was penetrated in four borings: BH9 to 11.5 feet, and BH13, BH14, and BH16. In BH4 a splitspoon sample from 10 to 11.5 was recovered and was made up of interbedded sand and clay. The sand beds were 1" to 2" thick, well sorted, and loose. The clay was green in color, highly plastic. Observation of the auger cuttings and of the material stuck to the auger flight indicates the formation ~~from 10 to 15 feet is dominated by green and black clay with minor amounts sand.~~ The dominance of clay is also supported by our failure to collect water samples using a hydropunch from 12 to 15 feet.

not BH6  
 BH10  
 BH12

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**Poorly sorted clayey sand interval-** Borings BH6, BH10, and BH12 encountered this lithology. The interval occurs from 4 to 10 feet and is dominated by blue green clayey sand. In bore hole 12, the lithology consists of stiff clay and clayey sand from 3 to 9 feet.

Note: BH12 was drilled to a depth of 9 feet, allowed to remain open over night, and no groundwater entered the boring. Based on this observation; the lithology appears to effect or impede the groundwater flow. In bore hole 10, green clay and black fractured gravel was observed at 4.5 feet before the auger failed to make hole.

**Lateral Changes in Lithology-** The lateral change from the uniform sand to the poorly sorted clayey sand interval occurs within a distance of 25 feet between BH11 and BH10. The change in lithology is estimated trend east-west between BH10 and BH11, and BH6 and BH4, (Plate 3 and the cross sections in Plate 4).

#### CONCLUSIONS:

**Plume Dimensions-** Based on the field observations and analyses of soil and water samples collected from during the assessment, the free product plume is estimated to extend 160 feet north of the southern end of the main excavation, less than 20 feet south of the northern end of the main excavation, and has an estimated width of 200 feet, (Plate 3). The total dimensions of the plume defined by the soil borings is approximately 200 feet by 300 feet. Vertical contamination was observed from approximately 4 feet from grade and extends to the water table at 7 feet. No soil samples from below the water table were analyzed.

**Water Quality-** Water samples collected from the three monitor wells, located outside of the free product plume, were free of BTEX and Total Petroleum Hydrocarbons and contained chlorinated solvents. Since the solvents are present in all three wells and the wells are located both up and down gradient of the main excavation and the waste oil pit; part or all of the solvents detected water appear to be coming from a source located up gradient from the excavations. (It is unlikely that the solvents detected in the waste oil pit soil samples could migrate in the water to all three wells.) *the tidal action could move the VOCs.*

The soluble concentrations of hydrocarbons in the water underlying the free product are not known.

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**Summary-** Soil and groundwater contamination exists at the subject site. Based on the data gathered in the site assessment, the limits of the plume have been defined to the south, east, west, and north of the main excavation. The water sampled in three groundwater monitoring wells is free of hydrocarbon contamination and contains solvents.

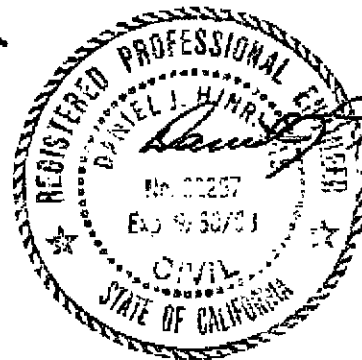
Remediation of the soil and groundwater will be required and our client is currently reviewing proposals from consulting firms to remediate the site. The stockpiled soil and five 55 gallon barrels of rinsate and well water will require further treatment and/or disposal.

If you have any questions pertaining to the assessment work plan; please feel free to contact Jaff Auchterloine @ (916) 372-7535.

Sincerely,

*Jaff S Auchterloine*

Jaffrey S Auchterloine  
 RAMCON- Project Geologist



*Daniel J. Hinrichs*

Daniel J. Hinrichs P.E.  
 Consulting Engineer

cc. Mr. Don Ringsby, **Dongary Investments**  
 P.O. Box 7240, Denver, CO. 94607  
 Mr. Rich Hiett, **RWQCB San Francisco Bay Region**  
 2101 Webster St., Suite 500, Oakland, CA. 94612  
 Ms Dan Schoenholz, **Port of Oakland- Environmental Department**  
 530 Water St., Oakland, CA. 94604-2064  
 Mr. Ken Detweiler **ANR Freight- Environmental Group**  
 1519 Denver West Drive, Golden, CO. 80401-3112  
 Mr. Omar Omar **Coastal Environmental**  
 707 5th Street, Roanoke, Virginia 24016

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## APPENDICIES

### APPENDIX 1- Plates & Tables

Plate 1	General Location Map
Plate 2	Site Plan- Soil Borings and Monitor Well Locations
Plate 3	Site Plan- Index to Cross Sections, and Estimated Free Product Limits
Plate 4	Cross Sections A-A' and B-B'
Plate 5	Site Plan- Taber Consultants Groundwater Gradient
Table 1	Analytical Summary, 25 Soil Boring Samples
Table 2	Analytical Summary, 3 Monitor Well Water Samples

### APPENDIX 2- Well Diagram and Soil Boring Logs

Well Completion Diagram

16 Soil Boring Logs

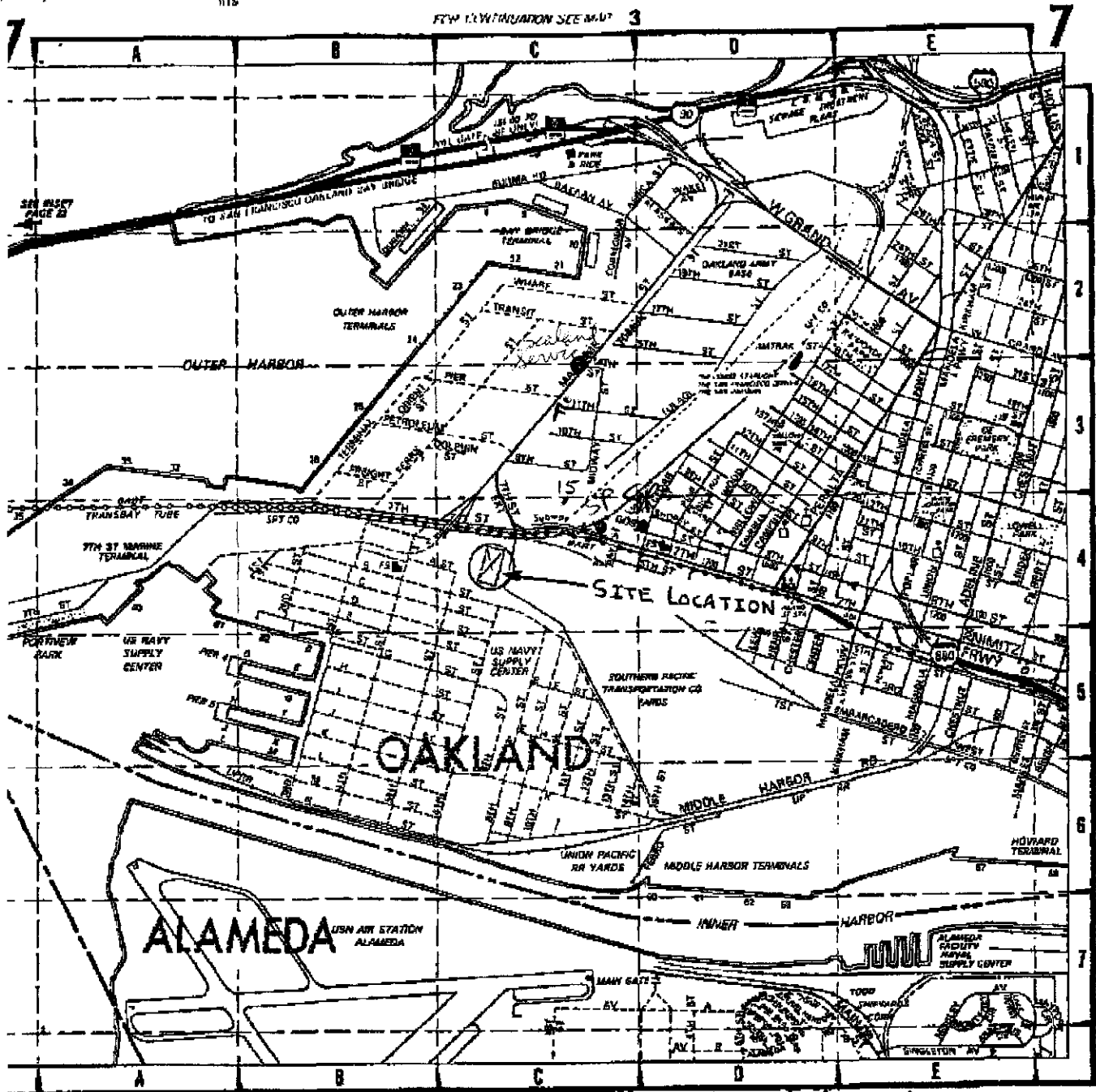
### APPENDIX 3- Taber Consultants Reports

Groundwater Gradient and Flow Direction

Sieve Analyses of uniform sand

### APPENDIX 4- Analytical Data

Sample Log #5555	Sampled 12-15-92, 6 soil boring samples
Sample Log #5579	Sampled 12-15-92 & 12-16-92, 13 soil boring samples
Sample Log #5701	Sampled 01-15-93, 3 monitor well water samples



ALAMEDA CO.

DETAIL

1,470.

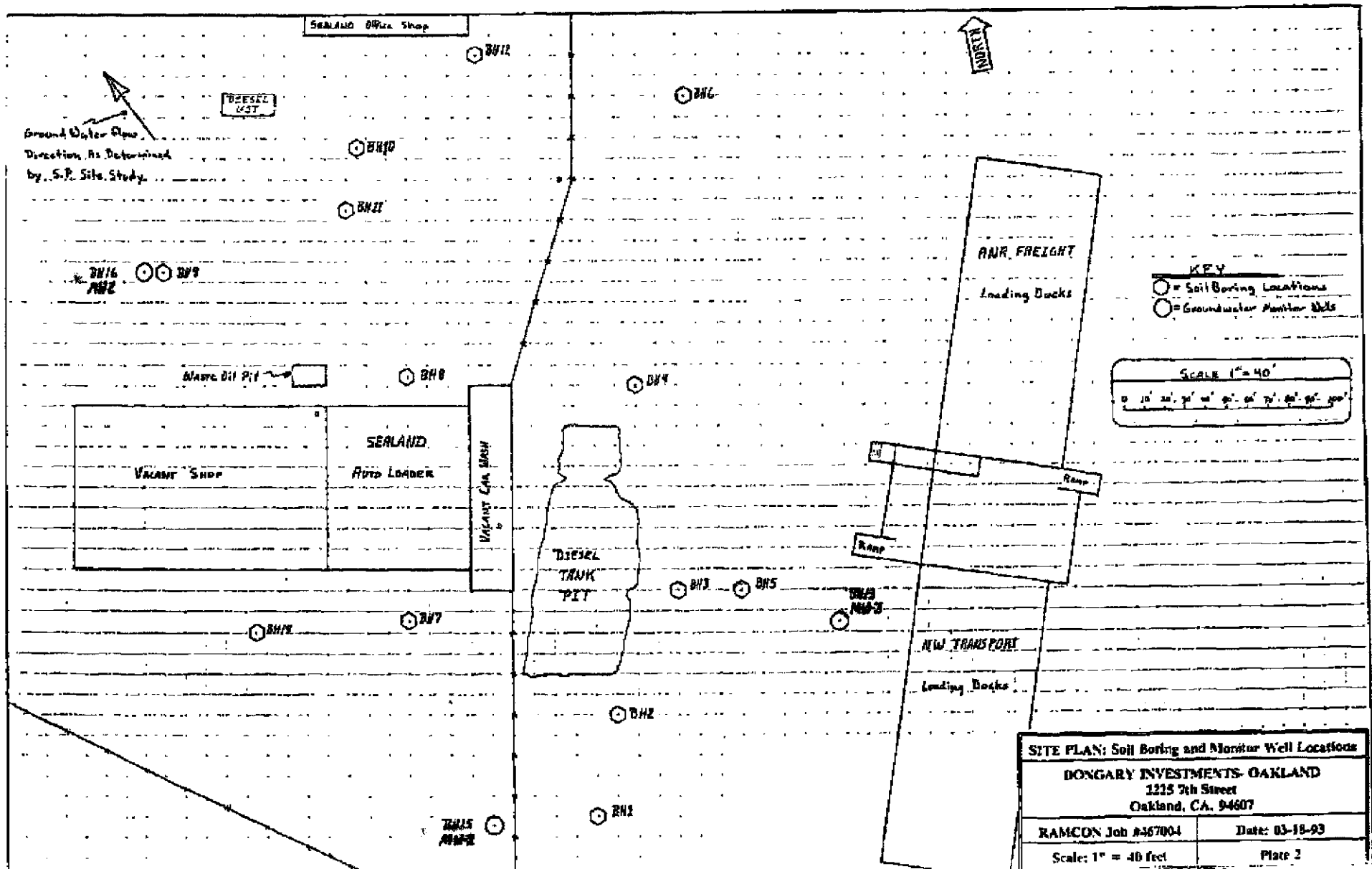
1,473.

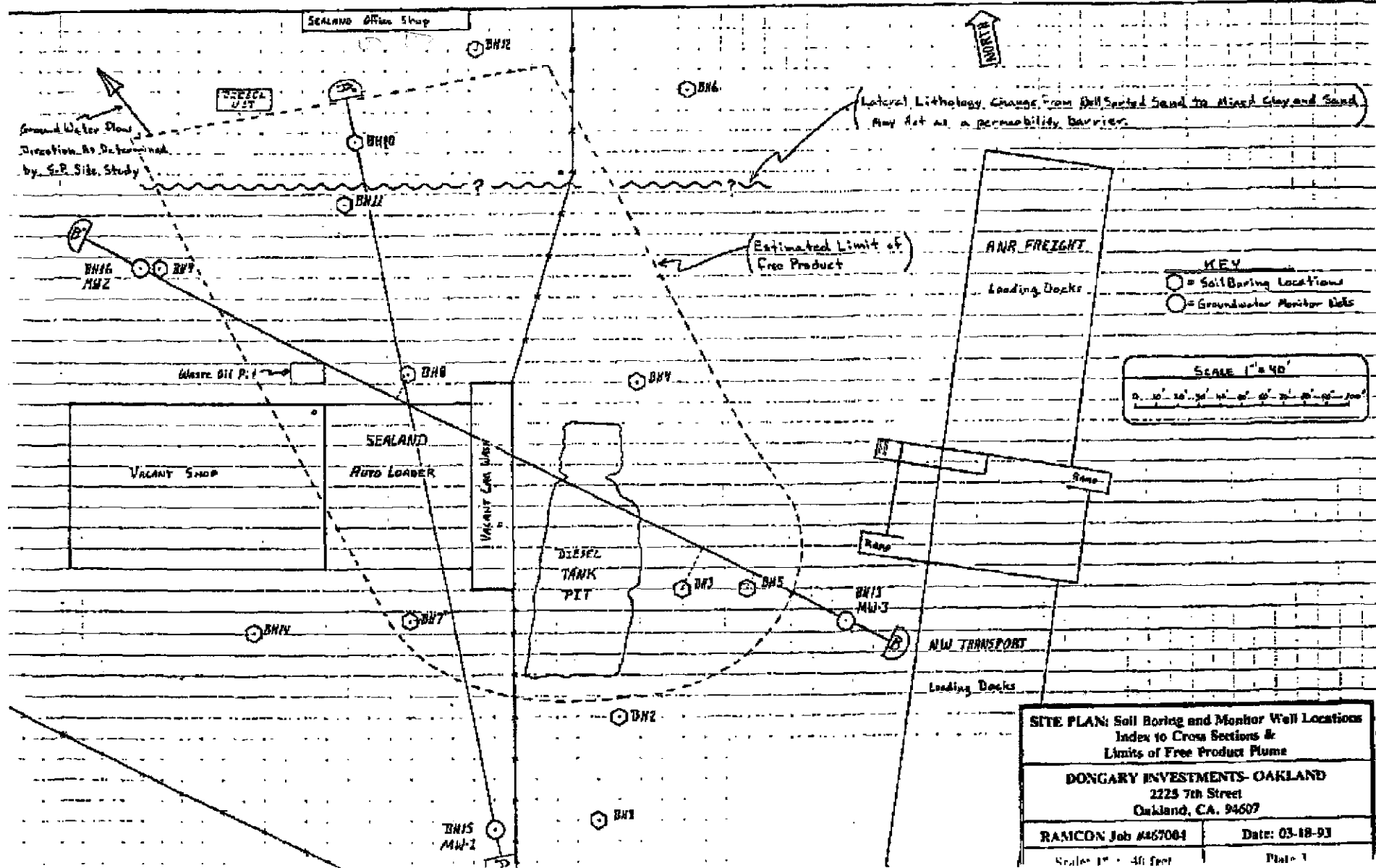
FOR CONTINUATION SEE MAP 8

Oakland Army Base consistent  
 Site 15 WNW gradient  
 Site F NE to SE  
 (June 92 QR by SCS)

NSC - Brian doesn't know  
 if there's a map w/mw locations.  
 The tank pulls he did  
 were ~ 1 mi from 7th St.  
 (near Bay)

GENERAL LOCATION MAP	
DONGARY INVESTMENTS- OAKLAND	
2225 7th Street	
Oakland, CA. 94607	
RAMCON Job #467004	Date: 03-18-93
Scale: 1" = 2,200 feet	Plate 1





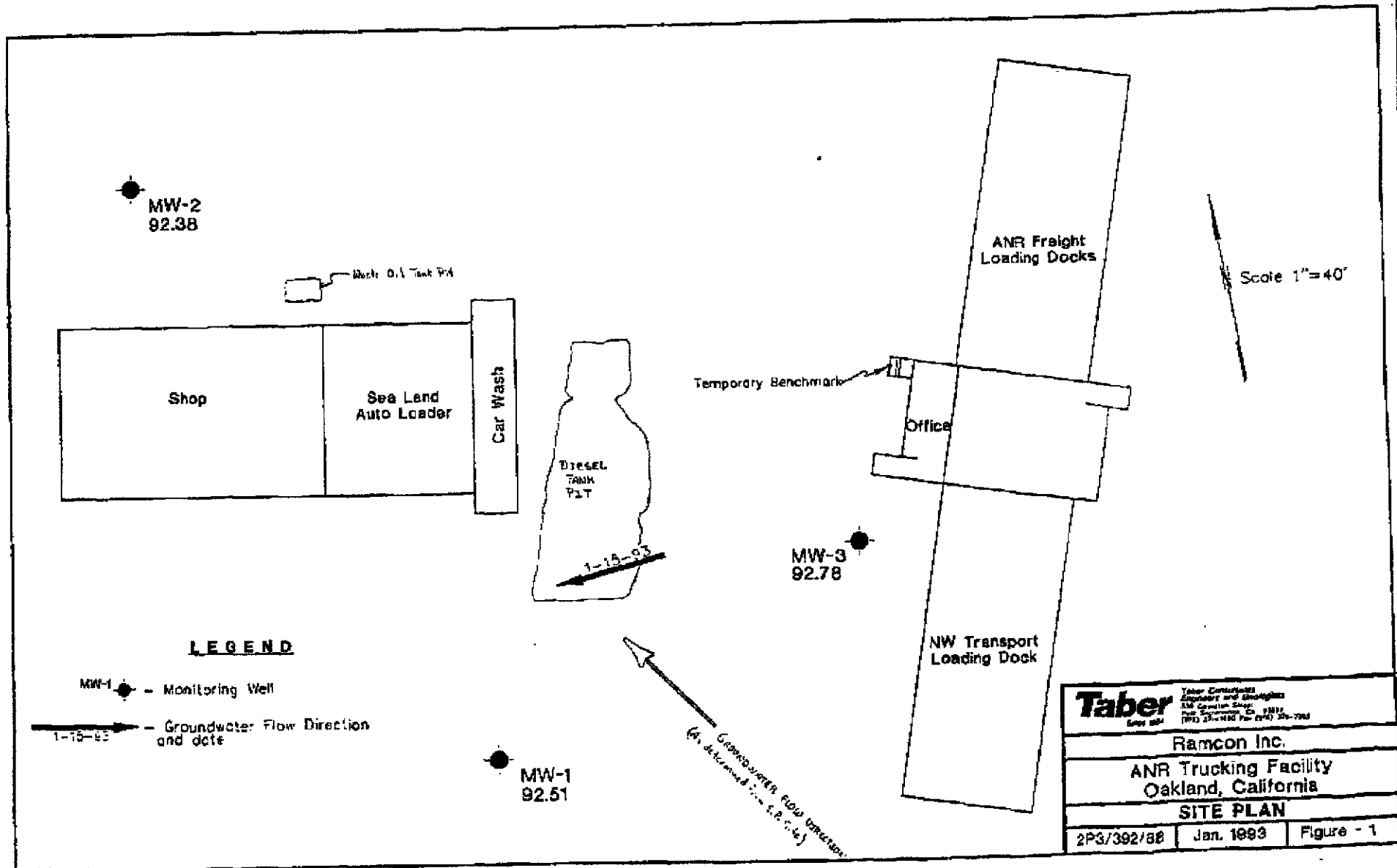
**SITE PLAN: Soil Boring and Monitor Well Locations  
Index to Cross Sections &  
Limits of Free Product Plume**

**DONGARY INVESTMENTS- OAKLAND**  
2225 7th Street  
Oakland, CA. 94607

RAMCON Job #467004	Date: 03-18-93
Scale: 1" = 40 feet	Plate 1







**LEGEND**

MW-1 - Monitoring Well

1-15-93 - Groundwater Flow Direction and date

<b>Taber</b> <small>Taber Consulting          Engineers and Geologists          138 Canton Street          San Francisco, CA 94111          (415) 224-1100 Fax (415) 224-7262</small>		
<b>Ramcon Inc.</b>		
<b>ANR Trucking Facility          Oakland, California</b>		
<b>SITE PLAN</b>		
2P3/392/88	Jan. 1993	Figure - 1

**TABLE 1: ANALYTICAL SUMMARY, DONGARY INVESTMENTS- Oakland**Soil Samples from 16 Soil borings, drilled Dec. 14-16, 1992  
WEST, Sample Logs #5555 & #5579

Sample #	Location	TPH Diesel	TPH Motor Oil	BTEX	TPH Gasoline
BH1-5'	205' South & 40' East	42	77	--	--
BH2-5'	155' South & 50' East	ND	ND	--	--
BH2-8'		ND	ND	--	--
BH3-5'	100' South & 80' East	7,400	<200	--	--
BH4-4'	60' East	2,800	<100	--	--
BH4-6'		*	*	*	*
BH5-4'	100' South & 110' East	660	<50	--	--
BH5-6.5'		*	*	*	*
BH6-4'	140' North & 85' East	ND	ND	ND	ND
BH6-7'		ND	ND	ND	ND
BH7-4'	15' South & 50' West	310	18	--	--
BH7-7'		*	*	*	*
BH8-4'	5' North & 50' West	*	*	*	*
BH8-7'		*	*	*	*
BH9-4'	55' North & 170' West	ND	ND	ND	ND
BH9-6'		ND	53	ND	ND
BH10-5'	115' North & 75' West	1,800	ND	--	--
BH11-4'	85' North & 80' West	*	*	*	*
BH12-4'	160' North & 15' West	ND	ND	ND	ND
BH12-9'		ND	ND	ND	ND
BH13-4'	15' South & 137' East	ND	16	ND	ND
BH13-7'		ND	ND	ND	ND
BH14-4'	20' South & 125' West	ND	ND	ND	ND
BH14-7'		ND	ND	ND	ND
BH15-5'	115' South & 10' West	ND	ND	ND	ND
Reporting Limits- mg/kg or ppm		(10 to 200 mg/kg)		(.005)	(10 mg/kg)

Note: All locations measured perpendicular from the North-East corner of the Car Wash.  
\* = No Analyses Run, Strong Diesel Odor and Free Product Observed in Soil Sample.

file:mp311\Doc\16\F478Data

TABLE 2: ANALYTICAL SUMMARY, DONGARY INVESTMENTS- Oakland RAMCON Job #476004				
3 Water Samples Collected from Monitor Wells MW-1, MW-2, & MW-3 Sampled 01-15-93 WEST, Sample Log #5701				
Sample #	Location	B - T - E - X	TPH as Diesel	TPH as Motor Oil
MW-1 *	115' South & 10' West	ND - ND - ND - ND	ND	ND
MW-2 *	53' North & 180' West	ND - ND - ND - ND	ND	ND
MW-3 *	15' South & 137' East	ND - ND - ND - ND	ND	ND
Reporting Limits- ug/L or ppb		(0.30 ug/L)	( 50 ug/L)	

Note: All locations measured perpendicular from the North-East corner of the Car Wash.

\* = Laboratory noted discrete peaks on the BTEX G.C. curve. Ran sample MW-1 for Volatile Organics (EPA method 624) and detected the following solvents:

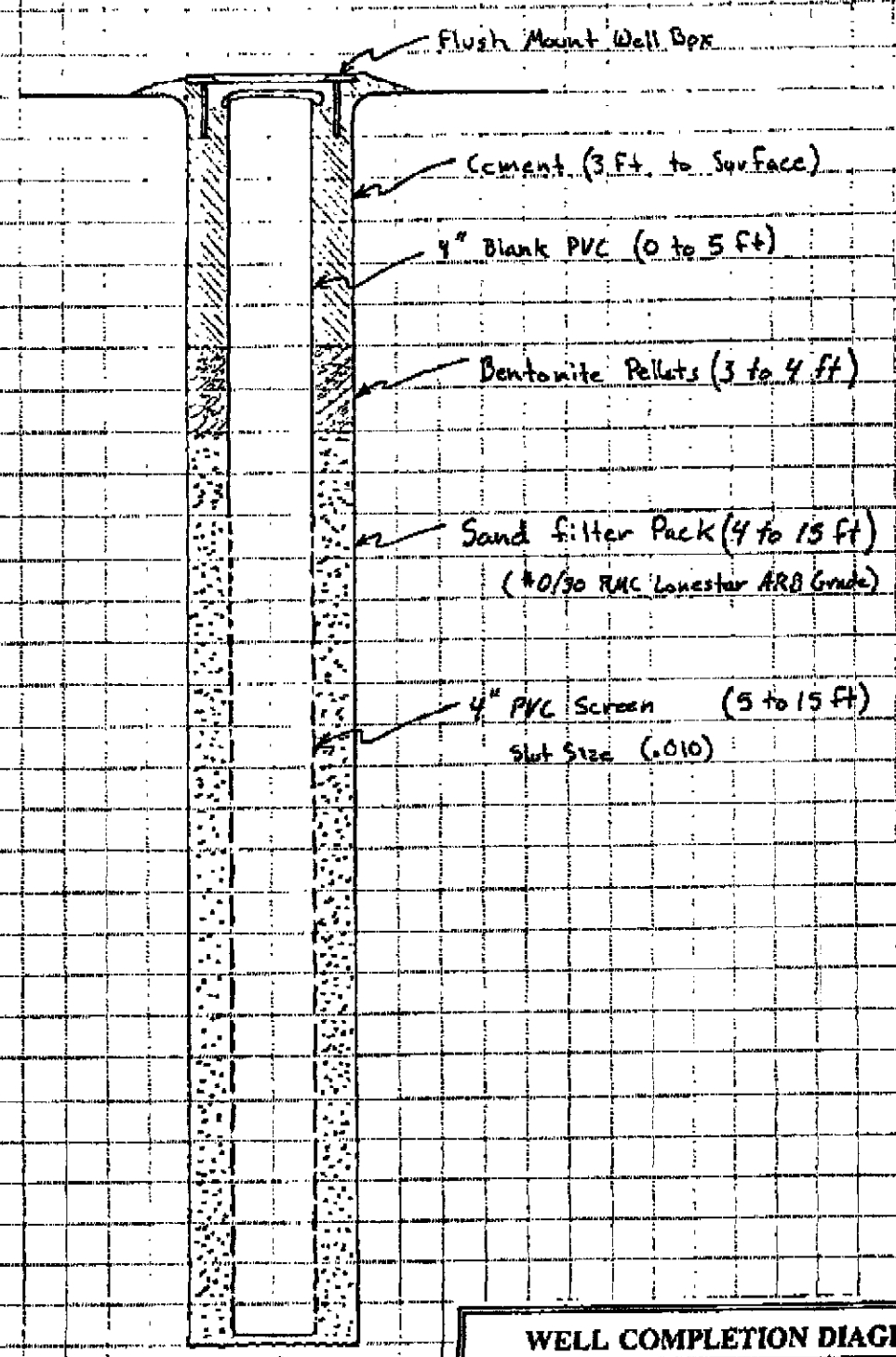
C-1,2- DCE	1.9	ug/L
1,1- DCE	13	ug/L
1,1- DCA	23	ug/L
TCE	7.9	ug/L
PCE	3.2	ug/L

Based on field observations and a gradient study; MW-1 and MW-3 are located up-gradient from the Diesel Pit. MW-2 is located down-gradient from the Diesel Pit and the Waste Oil Pit.

### GROUNDWATER MONITOR WELL

Depth (ft)

0'  
1'  
2'  
3'  
4'  
5'  
6'  
7'  
8'  
9'  
10'  
11'  
12'  
13'  
14'  
15'



Flush Mount Well Box

Cement (3 Ft. to Surface)

4" Blank PVC (0 to 5 Ft)

Bentonite Pellets (3 to 4 ft)

Sand filter Pack (4 to 15 ft)  
(#20/30 RMC Lanester ARB Grade)

4" PVC Screen (5 to 15 ft)  
Slot Size (.010)

4"  
12"

#### WELL COMPLETION DIAGRAM

DONGARY INVESTMENTS- OAKLAND

2225 7th Street

Oakland, CA. 94607

RAMCON Job #467004

Date: 03-18-93

Three wells (MW-1, MW-2, MW-3)  
all completed to 15 feet.