JAYKIM ENGINEERS, INC.

June 6, 1988

Ref: 6973.02B

Mr. Gene Boyer
Toxic Control Section
Department of Health Services
2151 Berkeley Way Annex 7
Berkeley, CA 94764

SUBJECT: REVISED WORK PLAN FOR SITE INESTIGATION AT EKOTEK-LUBE IN OAKLAND

We are submitting this revised Work Plan for the subsurface investigation for potential site and groundwater contamination at the above mentioned location. We have reviewed and incorporated the comments from your letter dated April 22, 1988. The areas of concern identified from the prior usage of equipment on the site are as follows:

(a) Solvent tanks
(b) Acid tanks
(c) Underground API separator and slop tank
(d) Underground clarifier
(e) Transformer oil tanks
(f) Oil storage tanks
(g) Caustic soda tanks
(h) Used & finished motor oils

Attached are two plans. One indicates the most recent uses of the tanks and equipment from 1979 through 1981 (Figure 1). The other idicates the previous uses of tanks and equipment prior to a modernization program in 1979 (Figure 2). This information was derived from previous Bay Area Air Quality Management Permits and input from former operational personnel.

SITE DESCRIPTION

The site is located at 4200 Alameda Avenue in Oakland at the cross section of East 8th Street. The plant has not been operated since late 1981. Prior to this time, the plant was operated for 3 years by Ekotek-Lube, Inc. They manufactured unfinished paraffinic based oil used in the blending of finishing automotive and diesel engine lubricants by a thin film distillation process. Prior to distillation, the used oil was pretreated with sodium hydroxide to neutralize any organic acids. The products derived from the total process were unfinished lube base oil, light distillate fuel, and asphalt flux.

10701 Los Alamitos Blvd., Suite 200, Los Alamitos, CA 90720 (213) 596-2755

The period prior to the 1979 modernization utilized sulfuric acid for treatment of the oil, however, upon its discontinuance all sludge from that process was removed at that period of time from the site. Used glycol was also received and distilled during this time.

The chronology of previous firms owning and operating the site for waste oil reclamation is as follows:

1978 - 1981 Ekotek-Lube, Inc.
1976 - 1978 Bonus International
1966 - 1976 Economy Refining & Service Company
1925 - 1966 Economy Byproducts & Economy Service Company

GROUNDWATER DEPTH

The groundwater depth in the vicinity of the subject site is 9 feet below the surface. This level may be influenced by tidal fluctuations in San Leandro Bay. The gradient is expected to be in a westerly direction.

I. SITE CHARACTERIZATION PROCEDURES

PROPOSED RESIDUAL INVESTIGATION

We do not propose testing of the residual products in the tanks and vessels at the present time. The tanks will continue to be used once the oil waste separator operation is resumed at the facility. Since no abandonment or closure of tanks is anticipated, an investigation of tank residuals is not included in the scope of work.

PROPOSED SUBSURFACE INVESTIGATION

A drilling and sampling program to determine the presence of subsurface contamination will be conducted. A total of eight holes will be drilled, three of which will be completed as observation wells with slotted PVC and manholes. The tentative locations for the borings are shown on Figure 3.

The observation wells Nos. 1, 2, and 3 are spaced in an equidistant manner along the periphery of the facility to collect data up and down gradient of the shallow water table.

Holes Nos. 2 and 4 will be positioned in the vicinity of the underground API separator and two underground slop tanks of 4,000 and 6,000 gallon capacity. Borehole #4, specifically, will be placed adjacent to tank No. 35B.

Hole No. 5 will be positioned next to the 4,000 gallon underground clarifier near the central entrance. Due to the hardscape features and unknown location of underground pipes, a second hole for sampling purposes in this area is not feasible.

Hole No. 6 will be drilled in the former location of the transformer oil tanks. Two additional boreholes, Nos. 7 and 8, will be drilled near the loading dock and the former solvent press, respectivley.

SOIL SAMPLING

The soil borings will be drilled with a hollow stem auger and soil samples will be taken with a Modified California sampler. We propose to collect the undisturbed soil samples at surface, 1½-, 3-, 6- and 10-foot depths. A composite of the surface and 1-1/2 foot depth sample and one composite of the 3 foot depth and 6 foot depth samples will be obtained from each boring. Soil samples at the 10 foot depth will be discrete. Duplicate discrete "split" soil samples from each depth will be retained for possible future analyses in case contamination is encountered during the initial laboratory analyses.

Soil samples will be collected in stainless steel tubes which will be sealed with aluminum foil and plastic end caps. The samples will be immediately stored in an ice chest containing a refrigerant to prevent the possibility of volatilization.

A boring log will be maintained for each soil boring and a report of the drilling program will be prepared by a State registered engineering-geologist or civil engineer. Chain of custody documents will be kept for all of the samples.

WATER SAMPLES

The proposed monitoring wells will be drilled to a depth of 20 feet below the observed groundwater depth. As the water table is believed to be approximately 10 feet from surface the wells be extended down an estimated 30 feet. The well casing will consist of 4 inch PVC which will be slotted from the bottom to 5 feet above the observed groundwater depth. A solid PVC casing will be used from this point to the surface where a locking well box will be installed. A sand pack will be

placed around the slotted section a few feet into the solid section. From this point, a bentonite grout mixture will be used around the solid section to the surface well box which will be encased in concrete.

Each well will be developed before sampling. The well headspaces will also be sampled for analysis. The samples will be transported in airtight viles in a refrigerated container. Duplicate discrete "split" samples will be collected and stored.

Following completion, development, and sampling of the wells, we propose to survey each well and obtain data to establish the groundwater gradient at the site.

ANALYSIS

All samples will be analyzed by Kennedy-Jenks-Chilton, Inc., a DHS certified laboratory (No.113) at 657 Howard Street in San Francisco. EPA sample holding times and conditions will be adhered to. The samples will be analyzed within the practical quantifiable limits of the tests undertaken. The following analyses are to be performed:

Location Hole Number	Depth of Sample (feet)	Type of Sample	Number of Samples	Lab Analysis EPA Method*
#1	(Surface, 1-1/2)	Composite	3	418.1
	(3,6)	Composite		8020
	10	Discrete		9040
				7420
	Water	Discrete	2	418.1
				602
				9040
#2	Surface,1-1/2	Composite	3	418.1
	3,6	Composite		8020
	10	Discrete		8240
				9040
				7420
	Water	Discrete	2	418.1
				602
				8240
#3	Surface, 1-1/2	Composite	3	418.1
	3,6	Composite		8020
	10	Discrete		8240
				7420
	Water	Discrete	2	418.1
				602
				8240

Location Hole Number	Depth of Sample (feet)	Type of Sample	Number of Samples	Lab Analysis EPA Method*
#4	Surface, 1-1/2	Composite	3	418.1
	3,6	Composite		8020
	10	Discrete		8240
				9040
				6010
#5	Surface, 1-1/2	Composite	3	418.1
	3,6	Composite		8020
	10	Discrete		9040
				6010
#6	Surface, 1-1/2	Composite	3	418.1
	3,6	Composite		8020
	10	Discrete		8240
				9040
				6010
#7	Surface, 1-1/2	Composite	3	418.1
	3,6	Composite		8020
	10	Discrete		8240
				9040
				6010
#8	Surface, 1-1/2	Composite	3	418.1
	3,6	Composite		8020
	10	Discrete		8240
				9040
				6010

*Both composite and discrete soil samples will be analyzed for all tests indicated for that boring.

Samples from the clarifier, API separator, and sludge tank will also be taken. These samples will be tested in accordance to EPA Methods 418.1 and 8240.

Summary of testing methods:

EPA Method 418.1 - Total Petroleum Hydrocarbons
EPA Method 602 - BTX (water)
EPA Method 8020 - BTX (soil)
EPA Method 8240 - Volatile Organics
EPA Method 9040 - pH
EPA Method 7420 - Organolead

II. SAFETY EQUIPMENT AND PROCEDURES

This section outlines the safety equipment to be maintained on-site and the safety procedures to be followed during sampling for hazardous materials to ensure both personnel and community safety.

PROTECTIVE CLOTHING AND EQUIPMENT

a) Protective Clothing

Goggles, face shields, hard hats, rubber boots, gloves, and coveralls or work clothes will be provided on-site and are required to be worn as appropriate during waste transfer activities. Disposable coveralls shall be of material resistent to oil and grease, acid and PCB's.

Handling of Hazardous Materials and Decontamination Procedures - During sampling extreme care shall be taken to prevent exposure of sample materials to the skin. In order to prevent spread of the contamination, the following decontamination procedures shall be implemented in the event of exposure to skin and also at the cessation of operations each day.

Prior to eating, drinking or smoking, all personnel shall remove disposable gloves and wash thoroughly with soap and water. Under no circumstances will personnel be allowed to eat, drink or smoke on the drilling or sampling site.

Work clothes should be left on-site at a designated location at the end of each day to be commercially laundered.

At the end of the day's operation, all personnel shall decontaminate themselves by rinsing boots, gloves and protective clothing with water. A temporary portable shower shall be set up onsite for this purpose. All disposable boot covers, gloves and coveralls shall be removed and discarded in an approved DOT container and stored in the same manner discussed in Section II-B for drilling spoils. Rinse water shall be collected in a plastic tub and discraded in an approved DOT container. Sorbent material will be added so water in container is not free-standing. Following determination of whether hazardous contaminants are present, the containers will be hauled to an appropriate disposal site.

Protective Equipment

a) Use of Protective Clothing and Equipment - All personnel involved in drilling and sampling operations including contractors, shall be instructed in the purpose and use any of the protective clothing and equipment required. This training shall be accomplished prior to the beginning of the sampling program.

b) All equipments shall be manufactured in accordance with NIOSH regulations.

A variety of half and full-face respirators will be available for use. Respirators will utilize replaceable cartridges. Available cartridges for dust, organic vapors, fumes, and mists will be maintained on-site.

Instruction will include the following:

1. Inspection of unit, i.e., positive and negative pressure tests.

2. Use of respirator and maintenance of a proper face-to-mask seal.

3. Personnel shall be advised of the heat build-up potential while wearing protective equipment. They shall be made aware of the symptoms of heat exhaustion, heat stroke, heart attack, and pulmonary collapse and receive taining in first aid treatment for these ailments.

EMERGENCY EQUIPMENT

a) Safety Shower and Eyewash

An emergency shower and eyewash station will be provided on-site.

b) First-Aid

A first-aid kit will be provided on-site and stocked with fresh supplies as necessary.

c) Fire Extinguishers

Dry chemical fire extinguishers will be provided on-site and be readily accessable. All workers will be familiarized with their operation.

d) Spill Control Equipment

Tailings from the drilling activity will be stored in 55 gallon drums until such time it is determined from lab analysis if contamination is present. All drums will be DOT approved, properly labeled, manifested, and transported by a State approved carrier to an approved disposal site. Non-contaminated material will be hauled off to a local landfill.

Water pumped out of the wells during development will be stored in approved 55 gallon drums. If it is found to be contaminated, the drums will be handled as mentioned above and sent to an approved treatment facility. If the water is found to be non-hazardous, it will be poured into a site catch basin.

Prior to removal off-site all drums containing soil tailings, purged development waters, disposable clothing and the used cleaning materials will be sealed and kept in a bermed area to prevent any chance of the materials leaking out and contaminating the environment.

The following types of spill control equipment will be available on-site;

1) Sorbent material
2) Shovels
3) Neutralizing agents

All spill control equipment shall be kept within the immediate area of the current drilling site.

DECONTAMINATION OF EQUIPMENT

The following types of decontamination equipment will be used to clean equipment between drilling holes and before it leaves the site.

1) Solvent soaps
2) Detergents (for any oil removal)
3) Steam cleaning equipment
4) Pressure washing equipment

In order to facilitate decontamination of equipment, solvent soap and/or detergents will be used initially to breakdown any materials adhering to the surfaces to be decontaminated. All surfaces will be scrubbed before steam cleaning or pressure washing is used. The drilling augers and sampling equipment will be cleaned before drilling each hole. All cleaning materials will be stored in 55 gallon drums until such time they can be disposed of to a legal point of discharge.

TESTING AND MAINTENANCE

All emergency equipment shall be inspected and maintained as necessary to ensure its proper operation in time of emergency. If the equipment fails in use, or a problem is detected during routine inspection, the problem will be immediately remedied.

SECURITY

The site is secured by chain-link fencing. During non-operating hours the gates will be chained and pad locked. No incoming traffic is expected. Keys to the gates are to be provided to the operators.

WARNING SIGNS

Signs will be posted on all gates in both English and Spanish containing the following notices:

CAUTION
Hazardous Waste Storage Area
Unauthorized Persons Keep Out

In case of Emergency Call (415) 788-2830

CUIDADO
Zona de Residios Peligrosos
Proivida la Entrada a Personas
No Autorizadas

En caso de Emergenica Llame (415) 788-2830

Signs will be approximately 20 inches high by 30 inches wide and are visible and legible from a distance of 25 feet. Lettering size is as follows:

Caution/Cuidado - 3 inches high; red on white background

Remaining letters - 2 inches high; black on white background

WATER SUPPLY

An adequate supply of water for cleaning equipment, dust control, and sanitation is to be provided on-site. Additionally, the locations of fire hydrants in the vicinity of the site will be displayed on-site.

III. PROPOSED SCHEDULE

Jaykim Engineers, Inc. proposes to perform the aforementioned subsurface investigation within 5 weeks of our receipt of approval of the revised Work Plan and safety procedures. The following preliminary schedule is proposed for submitting a report to your office.

Week

1	Mobilization
2	Perform drilling & sampling
3-4	Obtain laboratory results
4-5	Prepare and submit report

IV. COMMUNITY RELATIONS PLAN

At this time we feel a Community Relations Plan is not warranted until an evaluation of the alleged contamination is made based on the aforementioned testing. If the Community Relations Plan is required it will be done in accordance to DHS guidelines.

V. SITE FUTURE USE

It is intended that the site will resume operation as a waste oil separation facility as soon as the site assessment for hazardous waste is completed and any required clean-up or mitigation is initiated.

VI. SUMMARY

We look forward to your review and comments on the revised Work Plan for the proposed subsurface investigation at the former Ekotek-Lube, Inc. site. If you have any questions or need additional information, please call us at (213) 596-2755.

Very truly yours,

JAYKIM ENGINEERS, INC.

John Schock
Project Engineer

Jack K. Bryant
Project Manager

REGISTERED PROFESSIONAL ENGINEER
JACK KENDALL BRYANT
CIVIL
STATE OF CALIFORNIA

JS/JL/JKB/
icoastal

JAYKIM ENGINEERS, INC.

April 12, 1988

Ref: 6973.028

COMOEKL.WP

Mr. Gene Boyer
Toxic Control Section
Department of Health Services
2151 Berkeley Way Annex 7
Berkeley, CA 94764

SUBJECT: WORK PLAN FOR SITE INVESTIGATION AT EKOTEK-LUBE AT 4200 ALAMEDA AVENUE IN OAKLAND

Dear Mr. Boyer:

In accordance with your letter dated April 1, 1988, we are submitting this Work Plan for tank residuals testing and subsurface investigation for potential site and groundwater contamination at the above mentioned location. The areas of concern identified from the prior usage of equipment on the site are as follows:

(a) Solvent tanks
(b) Acid tanks
(c) Underground API separator and slop tank
(d) Underground clarifier
(e) Transformer oil tanks
(f) Oil storage tanks
(g) Caustic soda tanks
(h) Used & finished motor oils

Attached are two plans. One indicates the most recent uses of the tanks and equipment from 1979 through 1981 (Figure 1). The other idicates the previous uses of tanks and equipment prior to a modernization program in 1979 (Figure 2). This information was derived from previous Bay Area Air Quality Management Permits and input from former operational personnel.

SITE DESCRIPTION

The site is located at 4200 Alameda Avenue in Oakland at the cross section of East 8th Street. The plant has not been operated since late 1981. Prior to this time, the plant was operated for 3 years by Ekotek-Lube, Inc. They manufactured unfinished paraffinic based oil used in the blending of finishing automotive and diesel engine lubricants by a thin film distillation process. Prior to distillation, the used oil was pretreated with sodium hydroxide to neutralize any organic acids. The products derived from the total process were unfinished lube base oil, light distillate fuel, and asphalt flux.

10701 Los Alamitos Blvd., Suite 200, Los Alamitos, CA 90720 (213) 596-2755

The period prior to the 1979 modernization utilized sulfuric acid for treatment of the oil, however, upon its discontinuance all sludge from that process was removed at that period of time from the site. Used glycol was also received and distilled during this time.

The chronology of previous firms owning and operating the site for waste oil reclamation is as follows:

1978 - 1981 Ekotek-Lube, Inc.
1976 - 1978 Bonus International
1966 - 1976 Economy Refining & Service Company
1925 - 1966 Economy Byproducts & Economy Service Company

GROUNDWATER DEPTH

The groundwater depth in the vicinity of the subject site is 9 feet below the surface. This level may be influenced by tidal fluctuations in San Leandro Bay. The gradient is expected to be in a westerly direction.

I. SITE CHARACTERIZATION PROCEDURES

PROPOSED RESIDUAL INVESTIGATION

better inspection of tanks

All the tanks and vessels will be opened and inspected for residual products. A sample will be obtained from those tanks that are not clean. These samples will be tested for constituents as are shown on the Tank & Equipment Table II. The laboratory analyses will utilize the appropriate EPA Methods to ascertain if contaminants still reside in the tanks. This information will help to determine if the scope of subsurface investigation is adequate. SCBA

PROPOSED SUBSURFACE INVESTIGATION

A drilling and sampling program to determine the presence of subsurface contamination will be conducted. A total of six holes will be drilled, three of which will be completed as observation wells with slotted PVC and manholes. The tentative locations for the borings are shown on Figure 3 attached, hereto.

The observation wells No. 1, 2, and 3 are spaced in an equidistant manner along the periphery to collect data up and down gradient in the shallow water table.

Holes No. 2 and 4 will be positioned on either side of the underground API separator, and two underground slop tanks of 4,000 and 6,000 gallons.

Hole No. 5 will be positioned next to the 4,000 gallon underground clarifier near the central entrance. Due to the hardscape features and unknown location of underground pipes, a second hole for sampling purposes in this area is not feasible.

Hole No. 6 will be drilled in the former location of the transformer oil tanks.

SOIL SAMPLING splits for DHS

The soil borings will be drilled with a hollow stem auger and soil samples will be taken with a Modified California sampler. We propose to collect the undisturbed soil samples at 5 feet and just above the water table, believed to be at 10 feet. Duplicate discrete soil samples from these depths will be retained for possible future analyses in case contamination is encountered during the initial laboratory analyses. surface, 18", 3', 6', 10'

Soil samples will be collected in stainless steel tubes which will be sealed with aluminum foil and plastic end caps. The samples will be immediately stored in an ice chest containing a refrigerant to prevent the possibility of volatilization.

A boring log will be maintained for each soil boring and a report of the drilling program will be prepared by a State registered engineering-geologist or civil engineer. Chain of custody documents will be kept for all of the samples.

WATER SAMPLES splits for DHS / Test well headspace for volatiles

The proposed monitoring wells will be drilled to a depth of 20 feet below the observed groundwater depth. The well casing will consist of 4 inch PCV which will be slotted from the bottom to 5 feet above the observed groundwater depth. A solid PVC casing will be used from this point to the surface where a locking well box will be installed. A sand pack will be placed around the slotted section a few feet into the solid section. From this point, a bentonite grout mixture will be used around the solid section to the surface well box which will be encased in concrete.

Each well will be developed before sampling. The samples will be transported in air tight bottles in a refrigerated container. Duplicate discrete samples will be taken and stored.

Following completion, development, and sampling of the wells, we propose to survey each well and obtain data to establish the groundwater gradient at the site.

ANALYSIS

#8300 for suggested samples

All samples will be analyzed by Kennedy-Jenks-Chilton, Inc., a DOHS certified laboratory (No.113) at 657 Howard Street in San Francisco. EPA sample holding times and conditions will be adhered to. The samples will be analyzed within the practical quantifiable limits of the tests undertaken. The following analyses are to be performed:

Location Hole Number	Depth of Sample (feet)	Number of Samples	Lab Analysis EPA Method
#1	5, 10	2	418.1 8020 9040 7420
	water	1	418.1 602 9040
#2	5, 10	2	418.1 8020 8240 9040 7420
	water	1	418.1 602 8240
#3	5, 10	2	418.1 8020 8240 7420
	water	1	418.1 602 8240
#4	5, 10	2	418.1 8020 8240 9040 ~~6010~~ 7420
#5	5, 10	2	418.1 8020 9040 ~~6010~~ 7420
#6	5, 10	2	418.1 8020 8240 9040 ~~6010~~ 7420

TS 00250 03

Samples from the clarifier, API separator, and sludge tank will also be taken. These samples will be tested in accordance to EPA Methods 418.1 and 8240.

Summary:

EPA Method	418.1	-	Total Petroleum Hydrocarbons
EPA Method	602	-	BTX (water)
EPA Method	8020	-	BTX (soil)
EPA Method	8240	-	Volatile Organics
EPA Method	9040	-	pH
EPA Method	7420	-	Determination of Organolead

II. SAFETY EQUIPMENT AND PROCEDURES

This section outlines the safety equipment to be maintained on-site and the safety procedures to be followed during sampling for hazardous materials.

SAFETY EQUIPMENT

a) Respirators

A variety of half and full-face respirators are available for use. Respirators will utilize replaceable cartridges. Available cartridges for dust, organic vapors, fumes, and mists will be maintained on-site.

b) Protective Clothing

Goggles, face shields, hard hats, rubber boots, gloves, and overalls or work clothes will be provided on-site and are required to be worn as appropriate during waste transfer activities. Work clothes should be left on-site at the end of each day to be commercially laundered.

EMERGENCY EQUIPMENT

a) Safety Shower and Eyewash

An emergency shower and eyewash station will be provided on-site.

b) First-Aid

A first-aid kit will be provided on-site and stocked with fresh supplies as necessary.

c) Fire Extinguishers

Dry chemical fire extinguishers will be provided on-site and easily accessable. All workers will be familiarized with their operation.

d) Spill Control Equipment

need a special liner or catch basin?

Tailings from the drilling activity will be stockpiled separately next to each hole on the concrete pavement until such time it is determined from lab analysis if there is contamination. Afterwhich, if any of the stockpiles are contaminated, they will be shoveled into DOT approved drums, properly labeled, manifested, and transported by an State approved carrier to a State approved disposal site. Non-contaminated material will be hauled off to a local landfill.

55 gal drum, sealed

Water pumped out of the wells during development will be stored in approved drums. If it is found to be contaminated, the drums will be handled as mentioned above and sent to an approved treatment facility. If the water is found to be non-hazardous, it will be poured into a site catch basin.

The following types of spill control equipment will be available on-site;

1) Sorbent material
2) Shovels

DECONTAMINATION OF EQUIPMENT

The following types of decontamination equipment will be used to clean equipment between drilling holes and before it leaves the site.

1) Solvent soaps
2) Detergents (for any oil removal)
3) Steam cleaning equipment
4) Pressure washing equipment

Solvent soap and/or detergents will be used initially to breakdown any materials adhering to the surfaces to be decontaminated. All surfaces will be scrubbed before steam cleaning or pressure washing is used. The drilling augers and sampling equipment will be cleaned before drilling each hole.

How will the cleaning material be handled after it is used? Do we need a special area and catch basin for the material?

55 gal drums, sealed

TS 0025005

TESTING AND MAINTENANCE

All emergency equipment shall be inspected and maintained as necessary to ensure its proper operation in time of emergency. If the equipment fails in use, or a problem is detected during routine inspection, the problem will be immediately remedied.

SECURITY

The site is secured by chain-link fencing. During non-operating hours the gates will be chained and pad locked. No incoming traffic is expected. Keys to the gates are to be provided to the operators.

WARNING SIGNS

Signs will be posted on all gates containing the following notices:

CAUTION
Hazardous Waste Storage Area
Unauthorized Persons Keep Out

In case of Emergency Call (415) 788-2830

CUIDADO
Zona de Residios Peligrosos
Proivida la Entrada a Personas
No Autorizadas

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WATER SUPPLY

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III. PROPOSED SCHEDULE

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Week	
1	Mobilization
2	Perform drilling & sampling
3-4	Obtain laboratory results
4-5	Prepare and submit report

IV. COMMUNITY RELATIONS PLAN

At this time we feel a Community Relations Plan is not warranted until an evaluation of the alleged contamination is made based on the aforementioned testing. If the Community Relations Plan is required it will be done in accordance to DHS guidelines.

V. SITE FUTURE USE

It is intended that the site will resume operation as a waste oil separation facility as soon as the site assessment for hazardous waste is completed and any required clean-up or mitigation is initiated.

VI. SUMMARY

We look forward to your review and comments on the Work Plan for the proposed subsurface investigation at the former Ekotek-Lube, Inc. site. If you have any questions or need additional information, please call us at (213) 596-2755.

Very truly yours,

JAYKIM ENGINEERS, INC.

John Schock
Project Engineer

Jack K. Bryant
Project Manager

JS/JKB/mc
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FACILITY DESCRIPTION AT 4200 ALAMEDA, OAKLAND
BEFORE 1979 MODERNIZATION

EQUIPMENT	USAGE	RESIDUALS
TANK 1	FLASHED OIL	
TANK 2	FLASHED OIL	
TANK 3	ROAD OIL MIXER	
TANK 4	WASTE OIL DEHYDRATOR	
TANK 5	WASTE OIL DEHYDRATOR	
TANK 6	FLASHED OIL	
TANK 7	FINISHED OIL	
TANK 8	FINISHED OIL	
TANK 9	WASTE OIL DEHYDRATOR	
TANK 10	WASTE OIL DEHYDRATOR	
TANK 11	ACID TREATER	
TANK 12	WASTE OIL RECEIVER	
TANK 13	FINISHED OIL	
TANK 13A	CAUSTIC SODA 50%	
TANK 13B	FINISHED OIL	
TANK 13C	FINISHED OIL	
TANK 14	ACID TREATER	
TANK 15	WASTE OIL RECEIVER	
TANK 16	FLASHED OIL	
TANK 17	FINISHED OIL	
TANK 17A	FINISHED OIL	
TANK 18	WASTE OIL RECEIVER	
TANK 19	AUTOMATIC TRANSMISSION FLUID	
TANK 20	FLASHED OIL	
TANK 20A	ROAD OIL	

FACILITY DESCRIPTION AT 4200 ALAMEDA, OAKLAND
BEFORE 1979 MODERNIZATION

EQUIPMENT	USAGE	RESIDUALS
TANK 21A	TRANSFORMER OIL	
TANK 21B	TRANSFORMER OIL	
TANK 26	SULFURIC ACID	
TANK 27	WASTE OIL RECEIVER	
TANK 28	WASTE OIL RECEIVER	
TANK 29	ANTI-FREEZE	
TANK 30	WASTE OIL RECEIVER	
TANK 30A	WASTE OIL RECEIVER	
TANK 30B	WASTE SOLVENT RECEIVER	
TANK 30C	FINISHED SOLVENT	
TANK 30D	SOLVENT STILL RUNDOWN	
TANK 32	LIGHT DISTILLATE RECEIVER	
TANK 33	DIESEL FUEL	
TANK 34	SOLVENT RECEIVER	
TANK 35	SOLVENT RECEIVER	
TANK 35A	SOLVENT RECEIVER	
TANK 35B	LIGHT DISTILLATE RECEIVER	
TANK 35C	GASOLINE	
TANK 35D	LIGHT DISTILLATE RECEIVER	
TANK 35E	LIGHT DISTILLATE RECEIVER	
TANK 35F	LIGHT DISTILLATE RECEIVER	
TANK 35G	LIGHT DISTILLATE RECEIVER	
TANK 36	TRANSFORMER OIL ACID TREATER	
TANK 37	TRANSFORMER OIL ACID TREATER	
TANK 42	ROAD OIL	

FACILITY DESCRIPTION AT 4200 ALAMEDA, OAKLAND
BEFORE 1979 MODERNIZATION

EQUIPMENT	USAGE	RESIDUALS
TANK 43	ROAD OIL	
TANK 44	FLASHED OIL	
TANK 45	ROAD OIL	
TANK 47	CLAY TREATER	
TANK 48	CLAY TREATER	
TANK 49	CLAY SLURRY	
TANK QQ	WASTE DIESEL FUEL	
TANK RR	ACID SLUDGE NEUTRALIZER	
TANK SS	ACID SLUDGE NEUTRALIZER	
TANK TT	PRETREATING OIL	
TANK VV	FINISHED OIL	
TANK WW	SOLVENT STILL	
TANK XX	UNDERGROUND WATER	
TANK YY	SOLVENT & WATER	
TANK ZZ	DIRTY SOLVENT	
WAREHOUSE A	RICE HULL ASH	
WAREHOUSE B	STANDARD UTAH CLAY	

TS 002510

FACILITY DESCRIPTION AT 4200 ALAMEDA, OAKLAND
AFTER 1979 MODERNIZATION

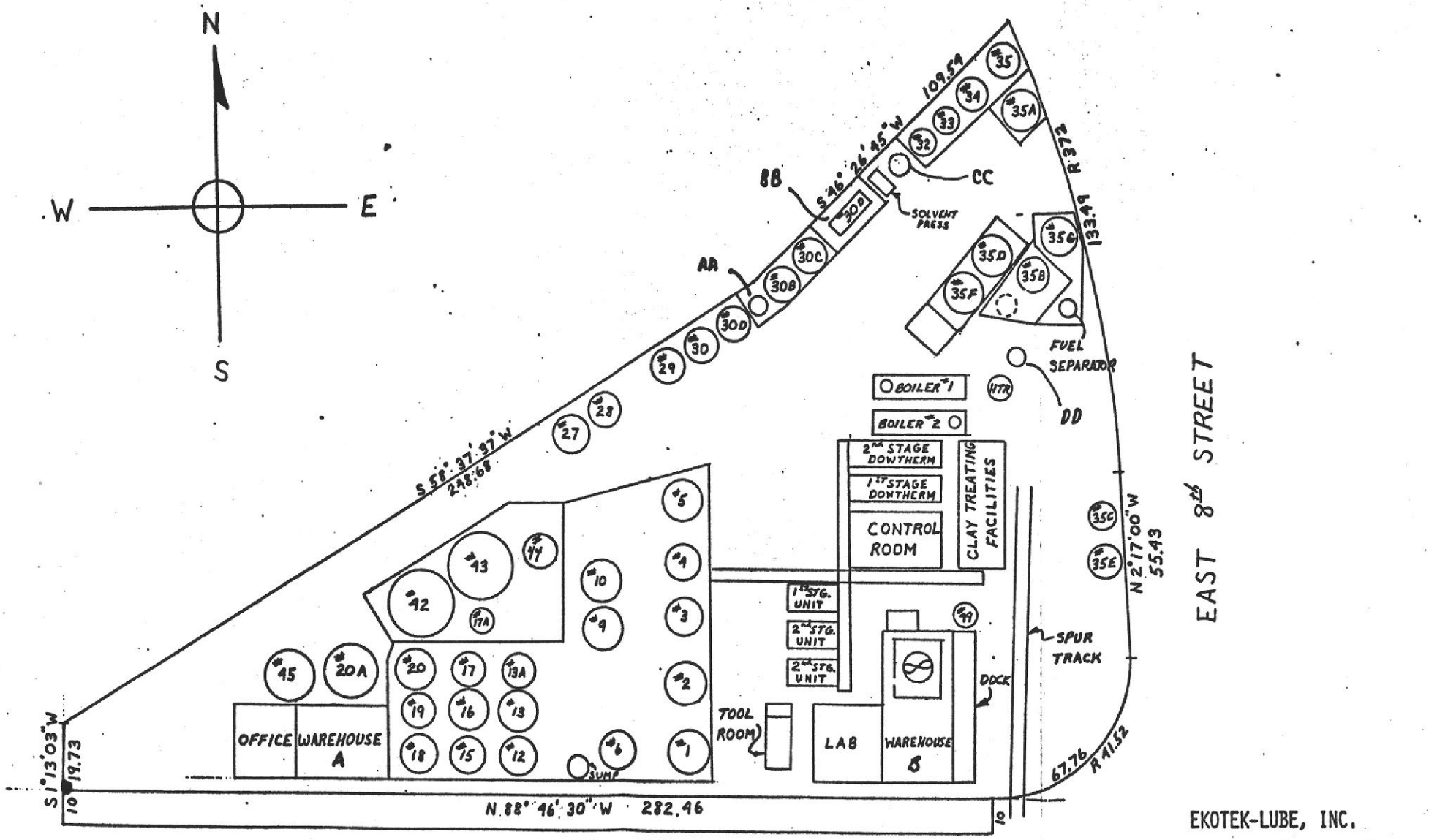
EQUIPMENT	USAGE	RESIDUALS
TANK 1	SEMI FINISHED OIL	
TANK 2	SEMI FINISHED OIL	
TANK 3	UNUSED	
TANK 4	UNUSED	
TANK 5	REMOVED	
TANK 6	UNUSED	
TANK 9	SEMI FINISHED OIL	
TANK 10	SEMI FINISHED OIL	
TANK 12	WASTE OIL RECEIVER	
TANK 13	WASTE OIL TREATER	
TANK 13A	CAUSTIC SODA 50%	
TANK 15	WASTE OIL RECEIVER	
TANK 16	WASTE OIL TREATER	
TANK 17	UNUSED	
TANK 17A	REMOVED	
TANK 18	WASTE OIL RECEIVER	
TANK 19	WASTE OIL RECEIVER	
TANK 20	1ST STAGE RUNDOWN	
TANK 20A	ASPHALT FLUX	
TANK 27	WASTE OIL RECEIVER	
TANK 28	WASTE OIL RECEIVER	
TANK 29	WASTE OIL RECEIVER	
TANK 30	WASTE OIL RECEIVER	
TANK 30B	UNUSED	
TANK 30C	UNUSED	

F

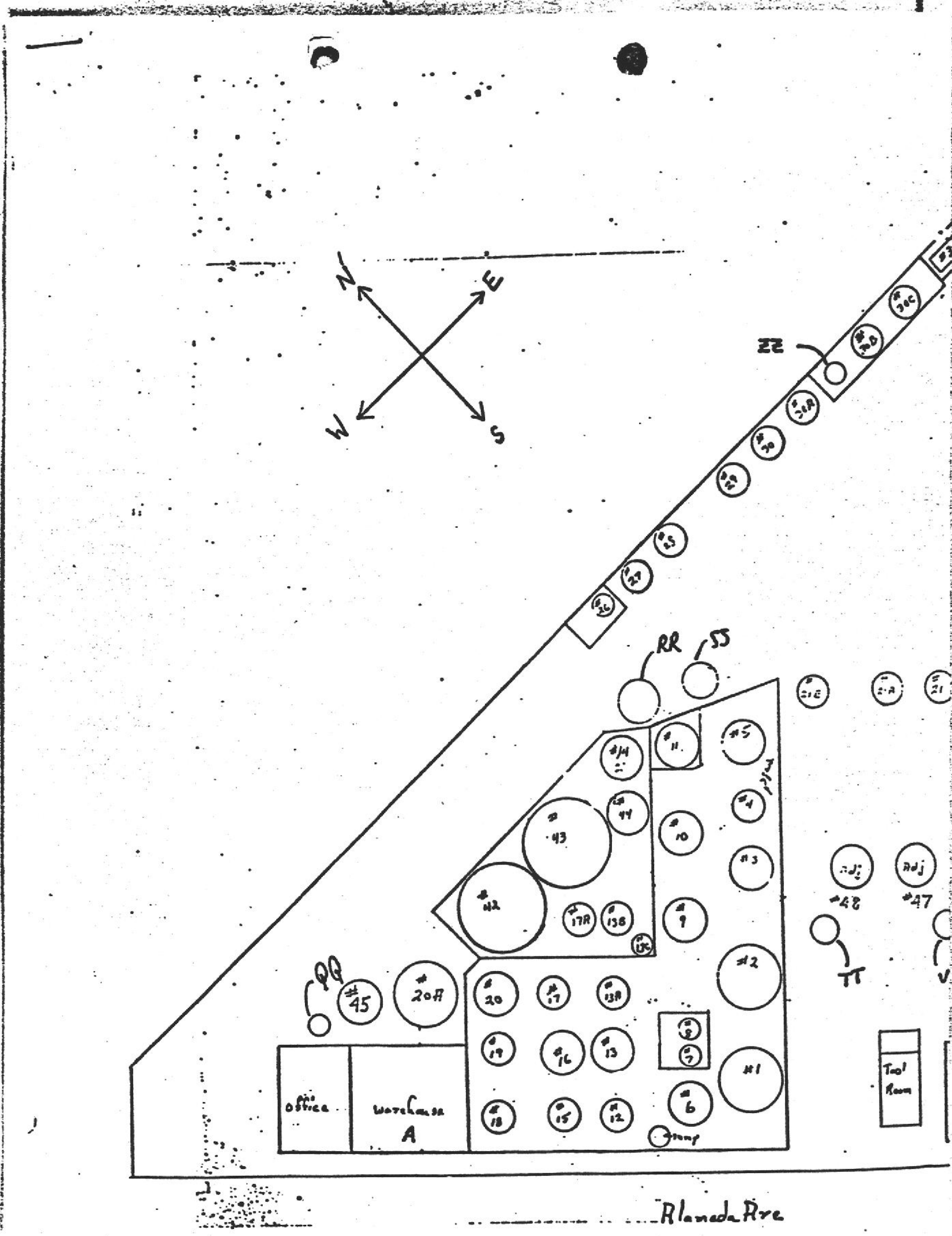
TS 002511

FACILITY DESCRIPTION AT 4200 ALAMEDA, OAKLAND
AFTER 1979 MODERNIZATION

EQUIPMENT	USAGE	RESIDUALS
TANK 30D	WASTE OIL RECEIVER	
TANK 32	LIGHT DISTILLATE RECEIVER	
TANK 33	LIGHT DISTILLATE RECEIVER	
TANK 34	UNUSED	
TANK 35	UNUSED	
TANK 35A	LIGHT DISTILLATE RECEIVER	
TANK 35B	LIGHT DISTILLATE RECEIVER	
TANK 35C	REMOVED	
TANK 35D	WATER TREATMENT	
TANK 35E	UNUSED	
TANK 35F	WATER TREATMENT	
TANK 35G	LIGHT DISTILLATE RECEIVER	
TANK 42	1ST STAGE RUNDOWN	
TANK 43	1ST STAGE RUNDOWN	
TANK 45	ASPHALT FLUX	
TANK 49	REMOVED	
TANK AA	UNUSED	
TANK BB	REMOVED	
TANK CC	REMOVED	
TANK DD	REMOVED	
WAREHOUSE A	RICE HULL ASH	
WAREHOUSE B	CONTROL ROOM & LAB	
SOLVENT PRESS	REMOVED	
BOILER #1 & #2	REMOVED	

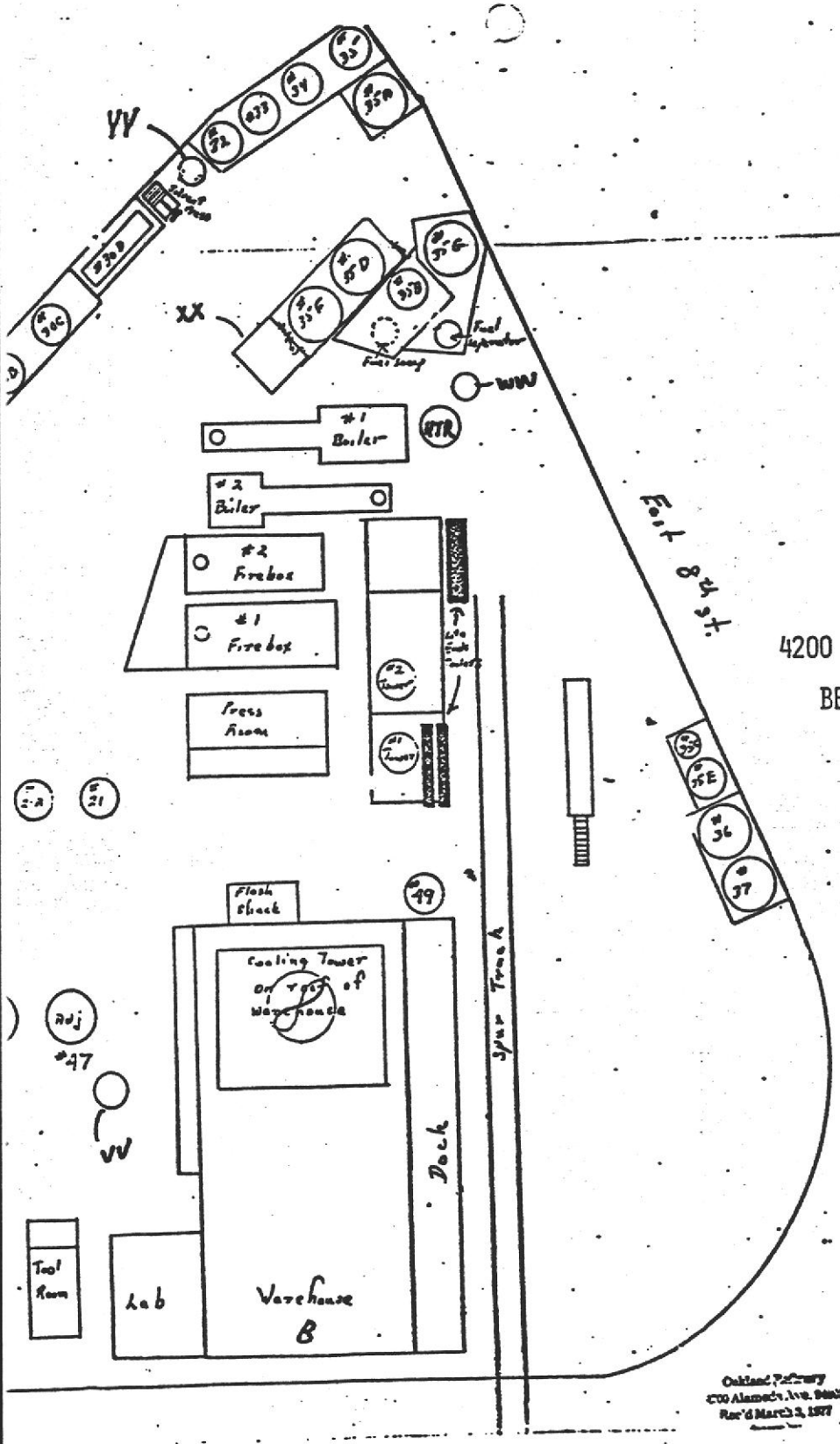


EKOTEK-LUBE, INC.
4200 ALAMEDA AVENUE, OAKLAND, CA
AFTER 1979 MODERNIZATION
FIGURE 1



TS 002514

FRAGMENT BEGIN

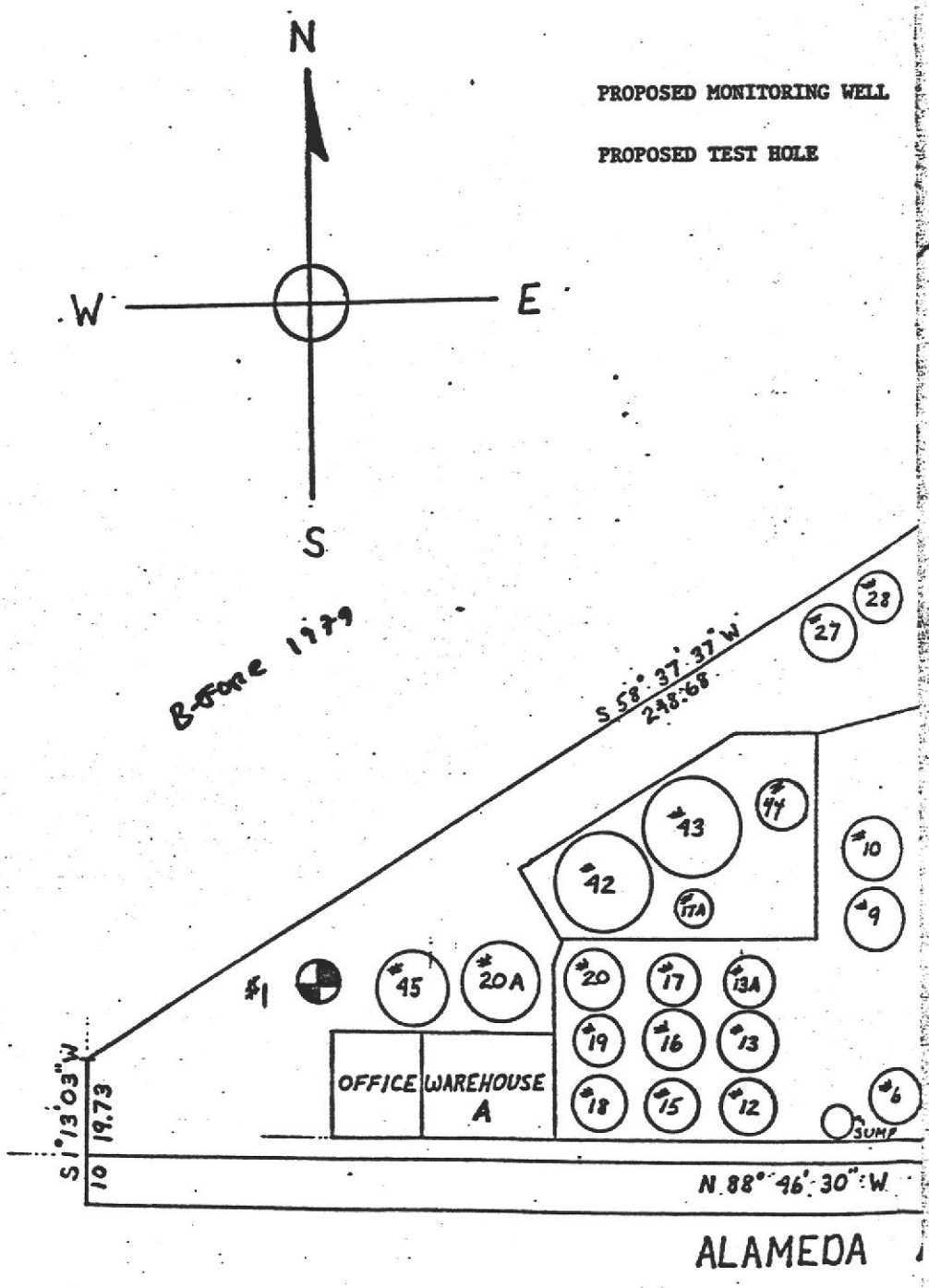


EKOTEK-LUBE, INC.
4200 ALAMEDA AVENUE, OAKLAND, CA
BEFORE 1979 MODERNIZATION
FIGURE 2

Oakland Fire Dept
4700 Alameda Ave. 94619
Rec'd March 3, 1977

TS 0025115

FRAGMENT END



EKOTEK-LUBE FAC
4200 ALAMEDA AV
OAKLAND, CALIFO

TS 00045116

FRAGMENT BEGIN

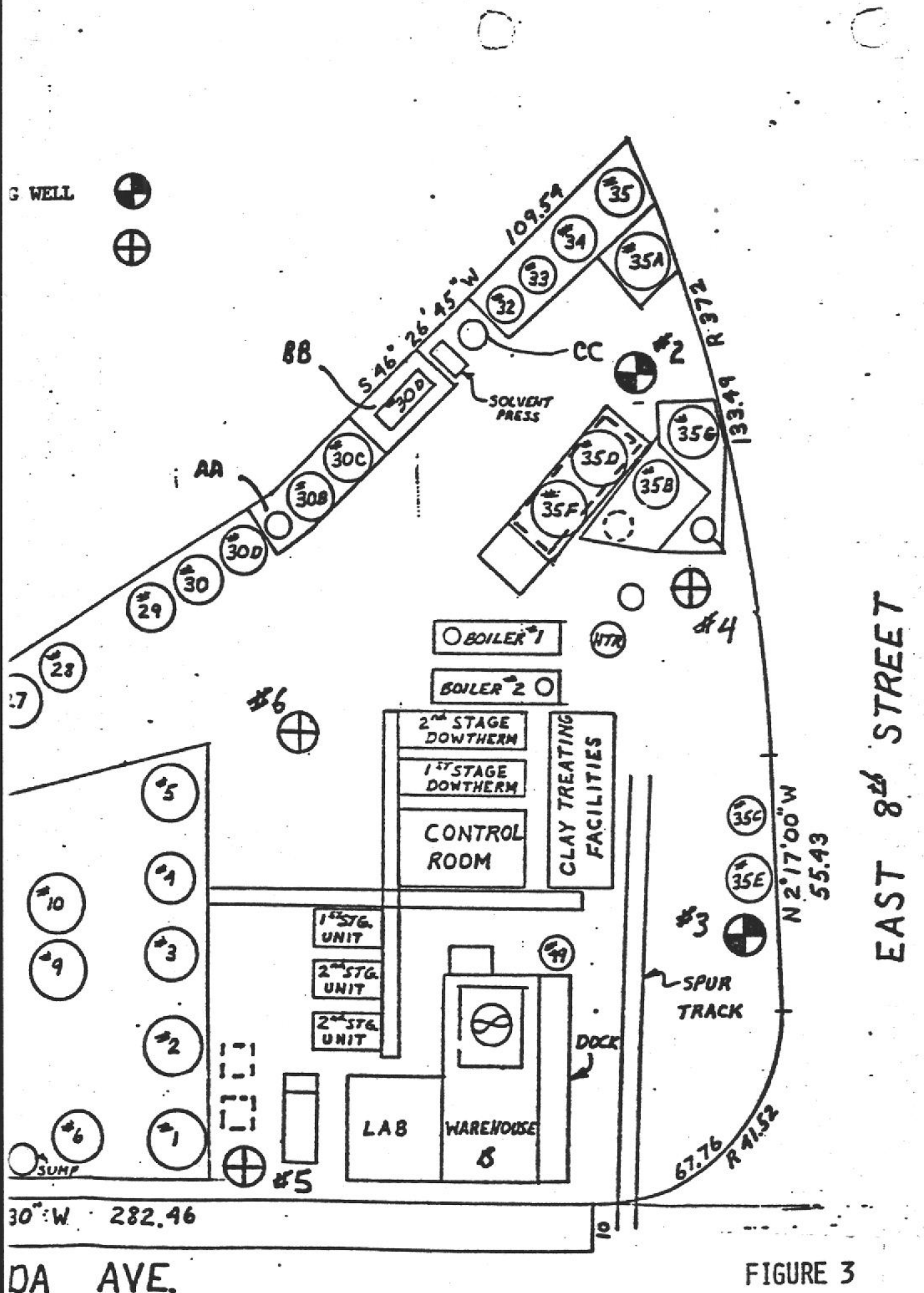


FIGURE 3

SCALE 1"=30"

-LUBE FACILITY

LAMEDA AVENUE

D, CALIFORNIA

JACK K. BRYANT - SR. VICE PRESIDENT/PRINCIPAL ENGINEER/ PROGRAM MANAGER

EDUCATION: B.S. in Civil Engineering
University of Arkansas

M.S. in Civil Engineering
University of Southern California

M.S. in Public Administration
University of Southern California

REGISTRATION: Civil Engineer #9801, State of California when

ORGANIZATIONS: Fellow, American Society of Civil Engineers
American Public Works Association
City and County Engineers Association
Water Pollution Control Federation
Los Angeles Solid Waste Forum
Los Angeles Chamber of Commerce
Townhall of California

SUMMARY:

Mr. Bryant has over 30 years of experience in the field of civil works, including such projects as streets & highways, water & sewer systems, grading & drainage, site developments, wastewater collection and treatment, waste disposal sites, and transit systems. He has extensive experience in project management of multi-discipline programs with responsibility for the technical direction, scheduling and budgeting, staffing/man-loading, project control, quality assurance, and the client/public interface. As a "hands-on" participant, he provides mature judgement and experience to all phases of project activities under his jurisdiction.

EXPERIENCE:

As the Senior Vice President of Jaykim Engineers, Inc., Mr. Bryant is responsible for the technical compliance with client requirements and administrative supervision of projects in civil and environmental works. He is currently providing technical direction for environmental engineering concerned with hazardous material management and for several municipal civil works projects involving site development.

During his career, Mr. Bryant has performed every task relating to the design and construction management of civil systems and facilities, from concept to completion. Over the years he has acquired a wealth of "hands-on" experience in the resolution of civil and environmental requirements for private industry/ business and for local, state, and the federal governments.

While serving in the Los Angeles County Engineering Department, Mr. Bryant was involved in the following activities:

- Waste Disposal Management
- Environmental Impact Reports
- Water Resources Development
- Sanitary Engineering
- Public Works Planning
- Flood Control Works

As a consultant, Mr. Bryant has been involved in providing engineering services for public agencies and private industry/ business, in:

- Environmental Engineering
- Hazardous Waste Management
- Civil Engineering for Land Development
- Public Works Engineering and Planning
- Sanitary Engineering
- Water Supply Treatment and Distribution

Some of the projects on which he served for civil engineering for land development included:

- Industrial park of 120 acres - Ventura, CA
- Condominium complex of 298 units - Whittier, CA
- Shopping center of 20 acres - Simi Valley, CA
- Housing subdivision of 306 homes - Camarillo, CA
- Mobile home park of 400 units - Compton, CA
- Co-generation central utility at Los Angeles Airport - Inglewood, CA
- Bus maintenance facility - Carson, CA
- Torrance High School expansions - Torrance, CA

Mr. Bryant has provided engineering services from conceptual/ feasibility studies to construction management and quality assurance for civil and environmental projects.

RELEVANT WASTE MANAGEMENT EXPERIENCE:

- Site clean-up and closure of major steel facility - Los Angeles, CA
- Designed and permitted a Class I waste disposal site - Benicia, CA
- Designed a Class II waste disposal site - Kagle Canyon, Los Angeles County, CA
- Engineering planning of a waste treatment facility - Gardena, CA
- Planning of a mobile home park on completed landfill - Carson, CA
- Biodegradation of a 500,000 cubic yard oil sump - Long Beach, CA

JAHAN NAZARIAN
Project Engineer

EDUCATION

Ph.D, Wastewater Treatment, Loughborough University of Technology, 1986
DMS, Diploma in Management Studies, Derby Lonsdale College, 1980
M.S., Water Resources Development Studies and Wastewater Treatment, Loughborough University of Technology, 1978
B.S., Civil Engineering and Environmental Science, University of Warwick, 1976

not registered

EXPERIENCE SUMMARY

Mr. Nazarian has been involved with a variety of environmental projects since 1974 and is currently leading the site assessment and site investigation projects as well as underground storage tank programs at Jaykim Engineers, Inc. He is the project engineer directly responsible for site assessment and implementing remedial action for contaminated soil and groundwater from hazardous materials. He has been the lead engineer on over 10 site assessment projects. Involved in underground storage tank leak detection, monitoring system design and removal. Responsible for all arrangements with clients, sub-contractors, city, county and state agencies. Supervises field work, collects samples, interpretes data, determines the extent of contamination and recommends remedial measures. Prepares cost estimates, proposals, work plans and agency reports.

Engaged in hazardous waste assessment for a consortium of oil operating companies and planning for the treatment and disposal of brines produced by oil operators.

Investigated the landfarming process of sump material from oil production and of oily wastes produced from refining processes at a facility in Los Angeles County.

Mr. Nazarian has been involved in advising hazardous waste generators in the auto-motive industry. He has been responsible for the preliminary design of a suitable treatment system for the minimization of alkaLine hazardous wastes generated from degreasing processes.

As a research assistant at Loughborough University of Technology, Mr. Nazarian was responsible for the design, operation, maintenance, sampling, physical, chemical and biological analyses and QA/QC for several biological treatment systems.

TODD P. BRODY
ENVIRONMENTAL BIOLOGIST

EDUCATION

B.A., Environmental Biology, Cum Laude
California State University, Northridge, 1978

SPECIAL TRAINING

Sampling Techniques, Apparatus, and QA/QC
EPA Protocol
CARB
Visible Emissions Evaluation
Technical Writing
Statistical and Marketing Surveys
Computer Searches and Data Bases with Emphasis on the IBM Mainframe and PC Computers Using SAS and Various PC Data Base Systems
Electronic Equipment Maintenance and Repair

EXPERIENCE SUMMARY

Mr. Brody has over 9 years in the environmental field, including extensive work in the quantification of gaseous emissions from landfills, air pollution compliance, noise studies, and, groundwater, wastewater, and soil sampling. He is currently responsible for site assessment and implementing remedial action for contaminated soil and groundwater from hazardous materials at several sites in Los Angeles County. Activities include the development of detailed work plans (sampling, safety, QA/QC, etc.) groundwater impact assessments, site investigation and characterization (data collection, interpretation, and report preparation), feasibility studies, and site remediation. He is also responsible for all agency contacts on his various projects. Mr. Brody has authored numerous technical and training documents for both EPA and private sector clients. He also has extensive experience in data base management, computer searches, and computer modeling.

RELEVANT PROJECT EXPERIENCE

As an Environmental Analyst with Getty Synthetic Fuels, he prepared landfill test reports to evaluate the quantity and suitability of landfills for methane gas extraction. Responsibilities included entry, analysis, and interpretation of landfill test data from landfills across the nation. He was also responsible for preparation of guidance and training manuals of field procedures used in site investigations and site development, user guides for proprietary computer models, and documentation of R & D projects. He also interfaced with other departments in report preparation and editing.

As an Associate Environmental Scientist with Pacific Environmental Services, Mr. Brody was involved with the following services:

- Analysis of control technologies for solvent emissions from cottonseed oil extraction plants for the California Air Resources Board, including project coordination between PES and site personnel, site visits, and sampling of organic vapors.
- Data interpretation and computer coding for a nationwide emissions and waste survey of all types of petroleum distributors for the American Petroleum Institute.
- Stationary source inspections and compliance evaluations for U.S. EPA Region IX.
- Compilation of marketing packages for groundwater monitoring and hazardous waste compliance inspections for private sector clients.
- Stack sampling for organic emissions.

As an Environmental Engineer with Jacobs Engineering Group, Mr. Brody was responsible for nationwide wastewater sampling of industrial plants for development of EPA effluent limitation guidelines as defined by the Federal Clean Water Act. Responsibilities for this task, representing the sampling of approximately 50 plants, included the preparation of engineering and sampling reports for EPA's Chemical Regulation Department.

Mr. Brody authored chapters on water, soils, and biota for a manual of the best available sampling methods for the analysis of hazardous waste constituents. This manual was prepared to be used as protocol for future hazardous waste sampling by EPA's Hazardous Waste Enforcement Task Force. He authored sampling field manuals used for training field technicians and provided on-the-job training and overseeing of field technicians.

He was also involved in the compilation and overall coordination of a document on environmental perspectives of the then emerging oil shale industry, which included input from all EPA and industry officials concerned with oil shale development.

AVAILABILITY

Mr. Brody will be 75% available to support this BLM project from January, 1988.

JANIE LAYTON
ENVIRONMENTAL SPECIALIST

EDUCATION

Graduate Studies in Marine Ecology, California State University, Long Beach, 1979-1983

B.A., Marine Biology, University of California, Berkeley, 1974

EXPERIENCE SUMMARY

Ms. Layton has over 9 years experience in environmental studies with current emphasis on underground tank investigations and hazardous waste management. She has additional skills in EIR preparation, the permitting process, governmental contracts, and proposal writing. Knowledge of a broad range of environmental regulations, effecting both offshore and inland environments, has provided her with effective tools for environmental assessment studies and regulatory compliance.

RELEVANT EXPERIENCE

Environmental Specialist; at Jaykim Engineers, Inc., Ms. Layton is involved with site mitigation projects, underground tank removals, excavation permitting, soils analysis, closure reports, and site characterization work.

Quality Assurance Project Coordinator; Ms. Layton was responsible for implementation and management of the QA programs for environmental and geological investigations for Earth Technology, including site selection studies for high level nuclear waste repositories in salt and crystalline rock. She conducted QA training sessions, audits and inspections in conformance with NCR 10 CFR 50, Appendix B. In addition, she developed technical procedures, QA plans, and served on the management review committee for specific work instructions, activity plans, and reports.

Consultant/Administrative Assistant; assisting the California Gillnetters Association, a commercial fisherman's rights organization, Ms. Layton participates in meetings with the California Coastal Commission, Fish and Game Department, and commercial, sport and recreational fishing associations, oil companies and area marine advisors, to resolve problems between same resource user groups for more effective management of coastal fisheries.

Land & Water Use Analyst; while employed with the California Department of Water Resources Ms. Layton updated the State's basic data in projecting water use demands in urban, agricultural, and native sectors and evaluated the data to determine whether an area should be developed or left in the natural state. Responsibilities included field identification of water usage, aerial photograph identification, and preparation and drawing of land use maps and technical reports.

Biologist; Ms. Layton was responsible for on-site sampling,for the following environmental investigations, laboratory analysis, and interpretation of the data/reporting for both industry and government agenices.

SKC Research, Long Beach - evaluation of composting techniques and soil nutrient depletion for proposed large scale organic farming studies in the midwest and abroad.

Lockheed Marine Laboratory, Oceanside - EPA environmental monitoring study of the effects of power plant entrainment on marine zooplankton. Responsible for sampling intake and discharge units at several Southern California power plants and conducting mortality studies on key species.

Tetra Tech, Inc., Pasadena and Associated Laboratories, Orange - involved in baseline studies characterizing the marine habitat of Los Angeles Harbor including the identification of benthic and planktonic animals.

RESEARCH EXPERIENCE

- Bermuda Biological Station for Research, St. George - Study on the comparative diel richness of the neuston layer between an offshore and inshore area of Bermuda.
- Friday Harbor Laboratories, San Juan Island, Washington (University of Washington) - Distribution study of a local holothurian in the False Bay mudflats.
- Bodega Marina Laboratory, Bodega Bay, California (University of California) - Study of the effect of bacterial colonization in promoting cyprid larval settlement in Bodega Harbor.
- Hopkins Marine Station, Pacific Grove, California (Stanford University) - Habitat selection and distribution investigation of marine coelenterates on an offshore reef in Monterey Bay, California.

John Schock - Project Civil Engineer

EDUCATION: B.S. in Civil Engineer
California State University, Long Beach when

REGISTRATION Civil Engineer
State of California - 35420 when

ORGANIZATIONS Member, American Society of Civil Engineers

CAPABILITY SUMMARY

Mr. Schock has served eight years in the field of civil and structural engineering as a design engineer and project manager. His work has entailed design and consultant engineering for road/highway construction, municipal grading plan checking, marina facilities, recreational facilities, commercial site preparation/development, hazardous waste assessment and management, public and private buildings, and offshore structures.

CURRENT ASSIGNMENTS

At Jaykim Engineers Mr. Schock is responsible for project engineering for a $100 million recreational development. The development entails two separate residential tracts of 240 and 180 acres, a 90 acre mobile home site, and a golf course/recreational area. In providing design supervision for the tentative and final tract maps he monitores regulatory compliance with the clients scheme. He also provides design for the common water and sewer systems serving these separately developed areas.

REPRESENTATIVE EXPERIENCE

Mr. Schock's experience with site improvements include designs of :

- Street widening and storm drain design for the LAUSD
- Hillside grading for General Telephone
- 16 Acre parking lot and storm drain for Compri Hotel
- Street reconstruction for City of Monterey Park

JAYKIM ENGINEERS, INC.

TS 00225

- Park improvement, and boat launch ramp design for County of Riverside Parks Department

- Grading plan checking for the City of Tracy in Contra Costa County

His experience with construction administration includes:

- Project management of well drilling and hazardous waste management program for underground tank monitoring for over 50 clients

- Assistant contract administration for the completion of a 1400 slip Marina for the Port of Los Angelels provided RFI, RFQ, claim responses, and design revisions

- Supervision of X-ray and UT Technicians for non-destructive testing of petroleum refinery equipment

- Assistant construction superintendent and scheduler for a 184 townhouse development project in Laguna Niguel

His experience with structural engineering includes:

- Hull and mooring designs for floating offshore oil terminals (CALMS & SALMS) and offshore semisubmersible oil drilling platforms

- Floating concrete breakwater for the U.S. Navy

- Water storage tank designs up to 500,000 gallons for tank fabricators

- Prestressed concrete fishing wharf for the County of Ventura

- Numerous Type III, IV & V commercial and residential structures and retaining walls

TECHNICAL SKILLS

- Computer aided design systems integration for micro computers

- Static and dynamic finite element model analysis using Gifts IV, Stardyne, EASE2 and ANSYS