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RMH
Ryan-Murphy, Incorporated
Environmental Construction

February 4, 1991

Fuel Systems Consulting

Underground Storage Tank Management Programs

Fuel Systems Construction and Service

General Contracting and Complete Build-Up

Site Remedial Action

The Good Earth Machine™

Mr. Larry Seto
Senior Hazardous Materials Specialist
Dept. of Environmental Health
Hazardous Materials Program
80 Sway Way, Room 200
Oakland, CA 94621

Mr. Seto:

Enclosed find your copy of the soil remediation at the former Firestone Tire & Rubber Company facility - 969 San Pablo Avenue, Albany, CA. Please review this document and consider this request for a site closure per the guidelines of Alameda County Department of Environmental Health.

If you have any questions, please call me at 714/279-6210.

RYAN-MURPHY, INCORPORATED

Jack Schmitz
California Operations

JS:mrq

Enclosures

cc: V. Willrich
K. Scheutzow

P. O. Box 16863
5867 Broadway
Denver, Colorado 80216
(303) 293-Fuel (3835)
Fax (303) 296-7911

211 Granite, Suite E
Corona, California 91719
(714) 279-6210
Fax (714) 279-6215

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SECTION 1

INTRODUCTION

This report summarizes site remediation activities at a former Firestone Tire & Rubber Company facility located at 969 San Pablo Boulevard, Albany, California (Figure 1-1).

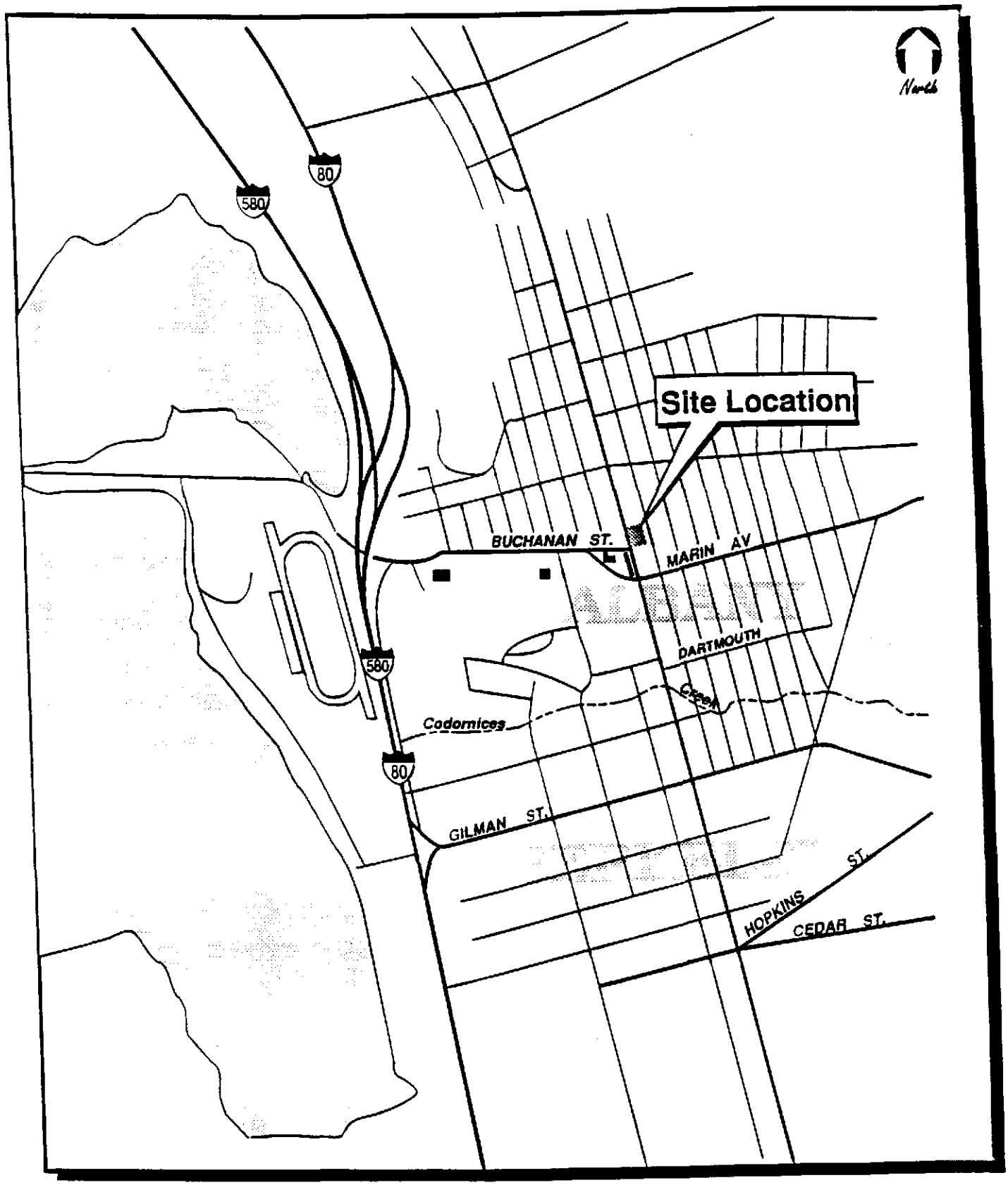
Prior Work

Remediation activities at the site centered on a 280-gallon waste oil tank site located immediately adjacent to the northwest corner of the former facility. The tank was excavated and removed from the site on May 1, 1990. Soil samples collected from the excavation indicated the presence of oil and grease, diesel fuel, volatile aromatic hydrocarbons, and volatile halocarbons. Following the removal of the tank, ERM-West, Inc. completed an investigation of the tank area in September 1990. The work identified the presence of the aforementioned compounds in the soils and groundwater under the tank site and defined their approximate lateral and depth extent. ERM-West recommended remediation of the site by limited excavation of the affected soils.

Present Work

The remediation work was conducted according to a work plan and work plan addendum (see Appendix A). Both work plans were prepared by ERM-West, Inc. on behalf of Ryan-Murphy, Inc. and Firestone Tire & Rubber Company. The addendum was specifically prepared following a meeting at the site between ERM-West personnel and a representative of the Alameda County Health Agency. Copies of the work plans are located in Appendix A.

The work plans discussed remediation of the tank site by limited excavation of affected soils and the removal of groundwater by pumping. Excavated soils were to be trucked from the site and landfilled. Groundwater would be disposed of either by a recycling facility or discharged to the sanitary sewer system. Site sampling/ environmental overview during excavation would be completed by ERM-West on behalf of Ryan-Murphy Inc. Excavation and trucking would be completed by Dillard Trucking on behalf of Ryan-Murphy, Inc.



Base From The
Thomas Guide,
Contra Costa County
Street Guide & Directory,1990

Figure 1-1
Location Map

1" = Approx. 2200'
0 2200'

ERM-West 10/90
1135/AMR/7.25.90

SECTION 2

SOIL EXCAVATION

This section describes the removal and replacement of impacted soils at the former waste oil tank site.

Goals

The goal of the remediation effort was to remove all impacted soils in the vicinity of the former waste oil tank that did not underlie an adjacent building. The gauge of success was to have all laboratory analyses reported with non-detectable constituents.

Field Identification

In the field ERM-West relied upon odor, appearance and a field screening instrument to identify impacted soils. Affected soils had a moderate to strong solvent odor and were stained a dark green color. Also noted in the stained soils were the presence of water filled cracks. Excavated soils were also screened by head space analysis using a HNU photoionization device (PID).

Methodology

Impacted soils were excavated by backhoe then temporarily stock piled on-site. The work was started on October 15, 1990 and was completed on the 22nd of the same month. Excavation started in a small pit left from the removal of the waste oil tank then moved outward and downward until apparently clean soil was encountered. The field criteria for clean soil was the lack of staining and a negligible head space analysis. The final pit outline is depicted in Figure 2-1. The irregular pit outline in the figure is the result of selective removal of impacted soils.

The soils stock piled on site were placed on heavy gauge plastic sheeting. At the end of each work day the pile was covered with additional sheeting and secured with heavy objects.

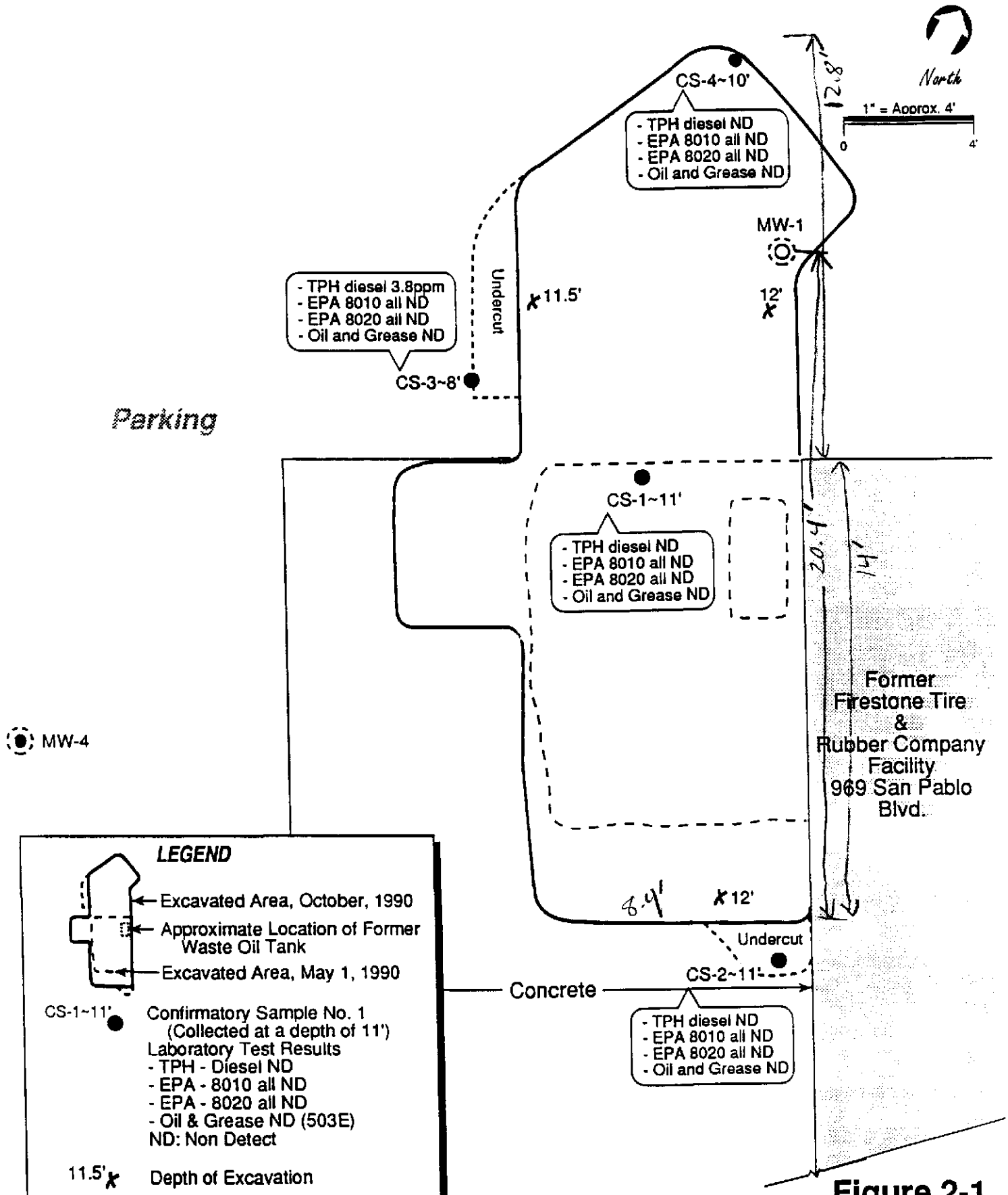


Figure 2-1

Soil Excavation & Sampling

Firestone, Albany, CA

ERM-West, Inc. 10'90
1135/AMR/7.25.90

TABLE 2-1

Hydrocarbons in Soil Samples

Sample No.	Depth (feet)	Extractable Petrol. Hydrocarbons (mg/kg)		Volatile Aromatic Hydrocarbons (mg/kg)					Volatile Halocarbons (mg/kg)	Petroleum Oil and Grease (mg/kg)
		Kerosene Range	Diesel Range	Benzene	Toluene	Xylenes (total)	Chloro-Benzene	Ethyl-Benzenes		
CS-1	11	ND	ND	These compounds were not detected.						
CS-2	11	ND	ND							
CS-3	8	ND	3.8							
CS-4	10	ND	ND							

Confirmatory Sampling

After the removal of the impacted soil, samples of the apparent clean soils in the pit were collected. The samples were collected from the walls and floor of the excavation by utilizing the backhoe then subsampling the contents of the bucket. A pre-cleaned brass tube was pushed into the soils in the backhoe bucket. The tube was then sealed with teflon film and secured with plastic caps. The tube was then labeled. The label stated a unique sample number (CS-1 through 4), date, time, job name and project number, and the samplers initials. The tube was then sealed in a zip-lock type plastic bag and placed on ice in a cooler.

Upon completion of sampling, the samples were delivered under chain-of-custody to Curtis & Tompkins Ltd., a California Department of Health Services certified laboratory, located in Berkeley, California. The samples were analyzed for:

- Total Petroleum Hydrocarbons-Diesel by EPA Method 8015-M
- Volatile Aromatic Hydrocarbons, EPA Method 8020
- Volatile Halocarbons, EPA Method 8010
- Oil and Grease, SMWW Method 503E

The results of the analyses are summarized in Table 2-1 and in Figure 2-1. Laboratory reports are located in Appendix B.

Disposal

Before remediation work started a sample of the affected soils was tested by GSX (Laidlaw Environmental Service) for acceptance at their facility. The sample was collected from a soil stockpile derived from the removal of the waste oil tank. The GSX laboratory, located in Martinez, California, tested the sample by the toxicity characteristic leaching procedure (TCLP) criteria and completed a material profile (Appendix C).

After the material was accepted by GSX, Dillard Trucking trucked the soils under manifest to Buttonwillow, California. Buttonwillow is a California Class 1 disposal facility. Copies of the manifest are located in Appendix D.

The amount of soils that were disposed of according to the manifests was [redacted]. The weight figure was checked by calculating the approximate volume of the excavation pit and multiplying that figure by an assumed in-place average density of 100 lbs/ft^3. The resultant value is 149 tons. The two values for tonnage are approximately the same.

Groundwater and Monitoring Wells

During excavation groundwater was encountered in the pit. Prior to backfilling, approximately 2 to 3 inches of water had accumulated in a low portion of the pit. The water was clear and free of floating product. The amount of water was insignificant and was not removed.

~~During remediation, monitoring well MW-1 was destroyed.~~ The well casing and associated filter pack, grout, etc. was dug out and placed in the stockpile. The other wells remain in-place. ↖ What other wells?

Backfilling

After the confirmation sample results were returned from the laboratory, the pit was backfilled. Dillard Trucking end-dumped clean Class III material in the excavation then used a small sheeps foot type roller for spreading and compacting. A geotextile was placed at a depth of approximately eight feet then additional fill material was placed to the original ground surface. Final work consisted of the replacement of a concrete slab over the former waste oil tank site.

SECTION 3

CONCLUSIONS AND RECOMMENDATIONS

Based on information obtained during remediation, ERM-West concludes the following:

- Soils in the vicinity of the former waste oil tank that were impacted by oil and grease, diesel fuel, volatile aromatic hydrocarbons and volatile halocarbons were remediated by excavation and backfilling with clean material.
- The excavated soils were disposed of by landfilling.
- The amount of groundwater that was encountered in the excavation was negligible. The lower than expected water table may be the result of the removal of the water saturated, stained soils.
- [redacted] soils remain but lie underneath an adjacent building, and therefore are inaccessible.
- Monitoring well MW-1 was removed during excavation. The well materials were disposed of by landfilling. The well was not replaced due to the lower than expected water levels in the excavation.

Recommendations:

- The remaining wells, according to a verbal request by Alameda County, should be monitored on a quarterly basis for one year. Constituents analyzed for should be through the following tests:
  - Total Petroleum Hydrocarbons-Diesel, EPA Method 8015-M;
  - Volatile Aromatic Hydrocarbons, EPA Method 8020; and
  - Volatile Halocarbons, EPA Method 8010.

APPENDIX A

ERM-West, Inc.

Suite 260 • 1777 Botelho Drive • Walnut Creek, California 94596-5042 • (415) 946-0455 • Telefax (415) 946-9968

October 11, 1990

Mr. Larry Seto
Alameda County Health Agency
80 Swan Way, Room 200
Oakland, CA 94621

Subject: Firestone Tire & Rubber Company, Albany Remediation Plan Addendum

Dear Larry:

On behalf of Firestone Tire & Rubber Company and Ryan-Murphy, Inc., we are enclosing an addendum to the original workplan - remediation plan submitted August 13, 1990. The addendum is based on our meeting at the site on October 10, 1990 with you. After your review and approval, remediation work will begin.

If you have any questions or require further information, please call.

Sincerely,

ERM-WEST, INC.

John Prall, RG
Project Manager

JP/lmm/1135.00

Enclosure: Noted

cc: Pat Ryan, Ryan-Murphy, Inc.

REMEDIATION ADDENDUM

An addendum to the original remediation plan (dated August 13, 1990) has been prepared as a result of new information available from a field investigation completed by ERM-West, Inc. and a meeting held at the site on October 10, 1990 with Larry Seto of Alameda County. Results from soil sampling (Table 1) has been used to estimate the lateral and depth extent of contaminated soil. Figure 1 depicts the projected lateral extent lying within an assumed oval shaped area that is partially covered by the northwest corner of a building. The shape and extent of the impacted soil is based on the analytical results, the clayey soils, and the potential migration paths. The highest chemical concentrations are within the immediate tank excavation. The projected depth extent is approximately ten feet.

Groundwater lies at a depth of approximately 8.5 to 10 feet within the tank area and appears to be slightly mounded (Figure 2). Sampling data (Table 2) indicates that the groundwater has been impacted by petroleum hydrocarbons, benzene and several chlorinated solvents.

Firestone proposes as discussed in the original plan to remediate the site by excavation with the following modifications:

- Remove contaminated material depicted in Figure 1 by the cross-hatched area to a depth of approximately 10 feet. Actual limits of the excavation may vary depending on the extent of visibly stained soil and the screening of the pit walls with a photoionization device. Groundwater encountered will be pumped from the excavation into a vacuum truck and removed from the site.

- Confirmatory soil samples will be collected from the final pit sidewalls and will be submitted and analyzed for:

  Total Petroleum Hydrocarbons - Diesel, EPA Method 8015-M
  Volatile Aromatic Hydrocarbons, EPA Method 8020
  Volatile Halocarbons, EPA Method 8010
  Oil & Grease, Method 503E.

- Remove any portion of Monitoring Well No. 1 that extends below the floor of the excavation and backfill with bentonite pellets.

- The pit floor of the excavation will be sloped away from the building then backfilled with clean gravel to a depth of approximately two feet above the water table. The top of the gravel will be covered with a suitable geotextile material then the remainder of the excavation will be filled with clean, compacted fill.

- As the gravel and fill material are placed, a monitoring well will be installed into the lowest point of the excavation. The well will be screened in the gravel layer. The well will be constructed of 4-inch diameter, flush-threaded, schedule 40 PVC casing and screen. At the surface the well will be covered with a steel traffic box with a removable steel lid.

- The remaining wells and the replacement well will be monitored on a quarterly basis for one year. Constituents analyzed for will be through the following tests:

  Total petroleum Hydrocarbons - Diesel, EPA Method 8015-M
  Volatile Aromatic Hydrocarbons, EPA Method 8020
  Volatile Halocarbons, EPA Method 8010.

Excavated material and accumulated water will be removed from the site and disposed of as discussed in the original plan. Firestone intends to perform the work as soon as practically possible given that the former Firestone facility is currently being remodeled by the new owner.

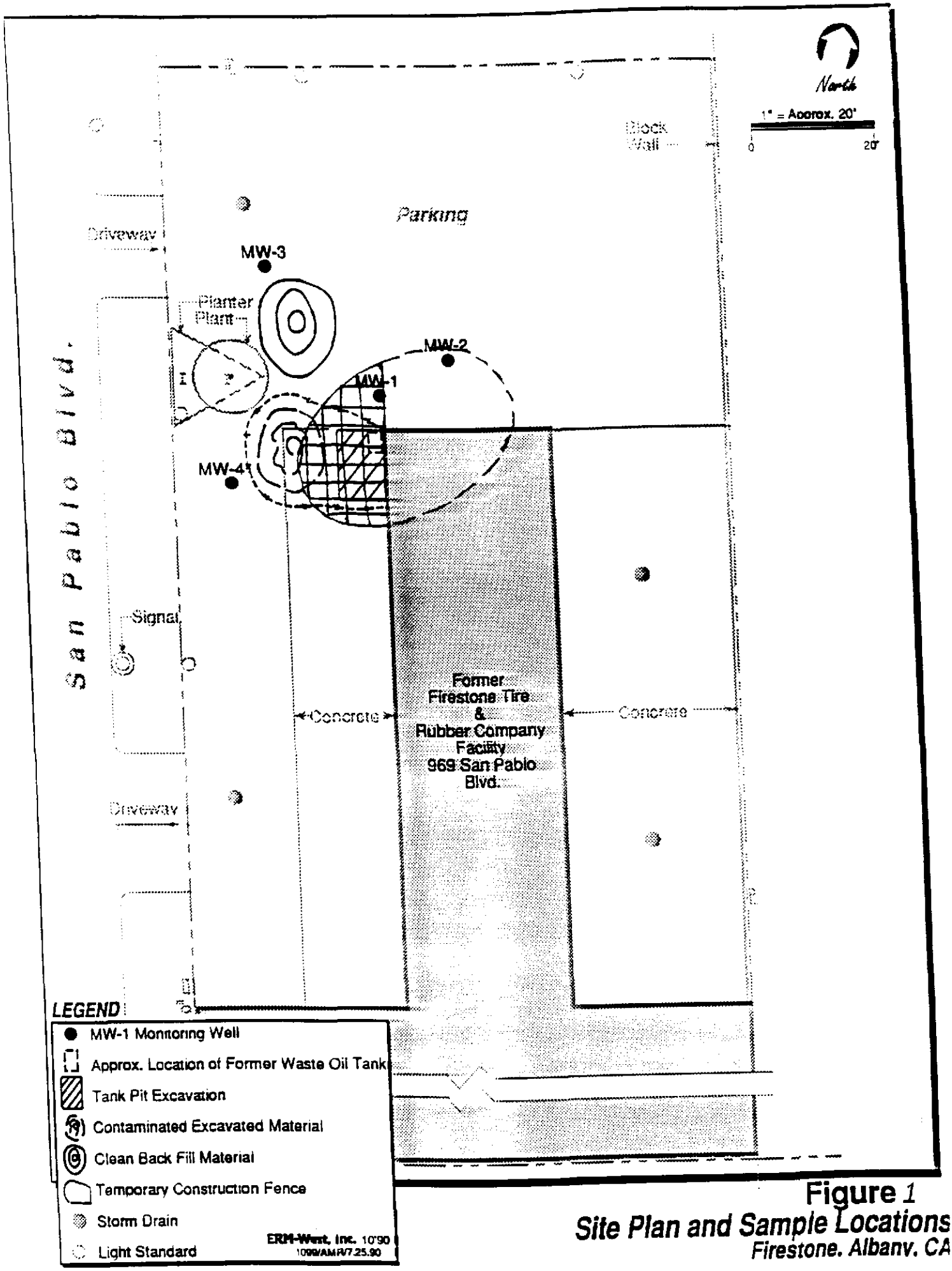


Figure 1
Site Plan and Sample Locations
Firestone, Albany, CA

TABLE 1

Hydrocarbons and Organic Lead in Soil Samples

Sample No.	Depth (feet)	Extractable Petrol. Hydrocarbons (mg/kg)		Volatile Aromatic Hydrocarbons (mg/kg)					Volatile Halocarbons (mg/kg)					Organic Lead (mg/kg)
		Kerosene Range	Diesel Range	Benzene	Toluene	Xylenes (total)	Chloro-benzene	Ethyl-benzenes (total)	1,1-dichloro-ethane	1,1-dichloro-ethane	Trichloro-ethylene	1,1,1-trichloro-ethane	tetrachloro-ethene	
Monitoring Well No. 1														
B-1-1	3.5	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
B-1-2	5.5	ND	2.7	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
B-1-3	8.2	ND	3.8	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
B-1-4	10.5	ND	[redacted]	[redacted]	ND	0.51	ND	ND	0.27	[redacted]	ND	0.47	[redacted]	ND
B-1-5	16	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Monitoring Well No. 2														
B-2-4	16	ND	ND	ND	ND	[redacted]	ND	[redacted]	ND	ND		ND	ND	ND
Monitoring Well No. 3														
B-3-4	11	ND	ND	ND	ND	ND	ND	ND	ND	ND		ND	ND	ND
Monitoring Well No. 4														
B-4-5	15.5	ND	ND	ND	ND	ND	ND	ND	ND	ND		ND	ND	ND

Notes: "ND" = Not Detected

Analyses were performed by Curtis & Tomkins, Berkeley, California.

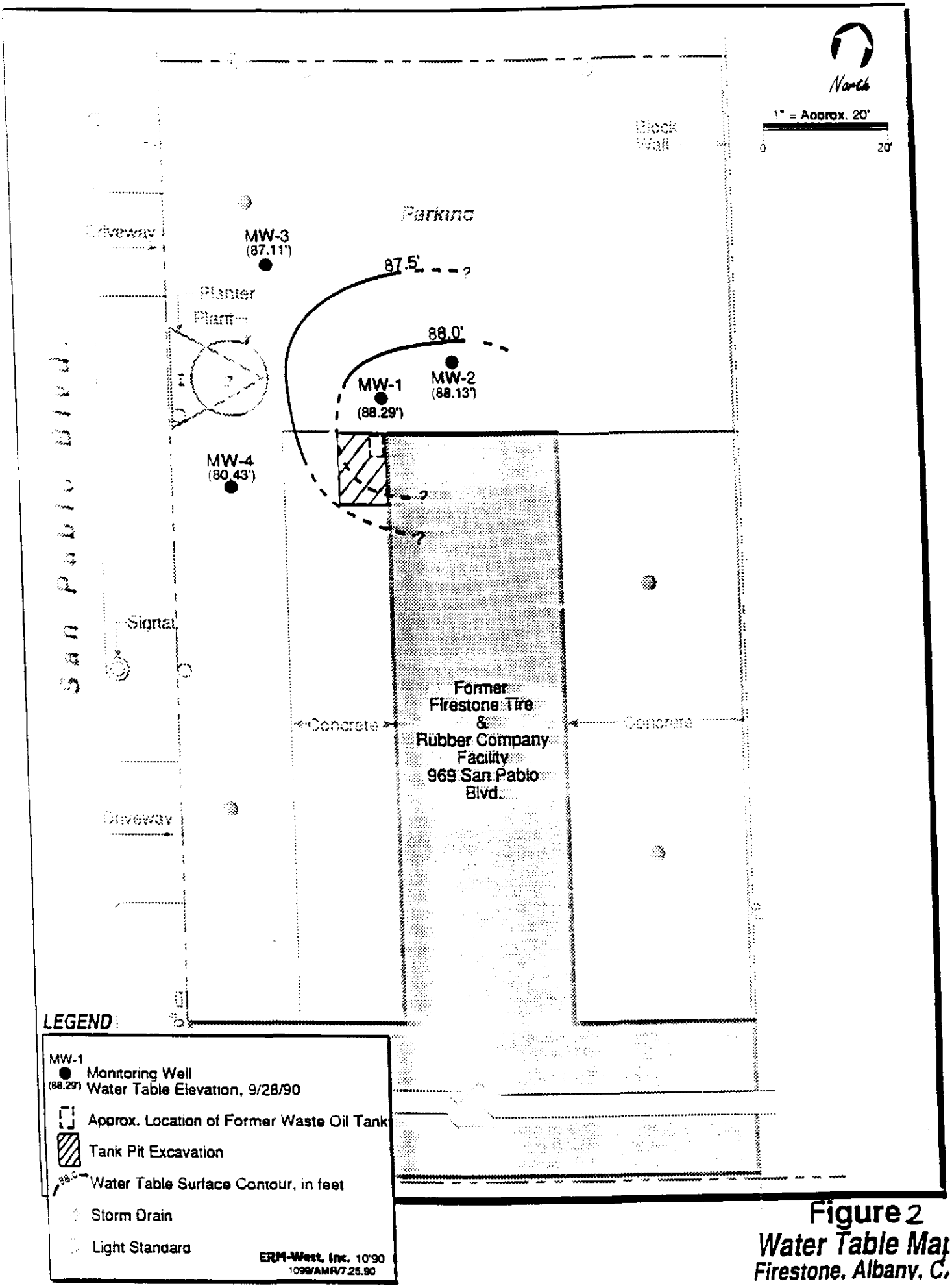


Figure 2
Water Table Map
Firestone, Albany, C.

TABLE 2

Hydrocarbons and Organic Lead in Groundwater Samples

Well No.	Sample No.*	Extractable Petrol. Hydrocarbons		Volatile Aromatic Hydrocarbons					Volatile Halocarbons					Organic Lead (mg/l)
		Kerosene Range	Diesel Range	Benzene	Toluene	Xylenes (total)	Chloro-benzene	Ethyl-benzenes (total)	1,1-dichloro-ethane	1,1-dichloro-ethane	1,1,1-trichloro-ethane	Trichloro-ethylene	Tetrachloro-ethene	
MW-1	WS-2	ND	ND	[illegible]	ND	ND	ND	ND	[illegible]	[illegible]	0.20 *	[illegible]	[illegible]	ND
MW-2	WS-1	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
MW-3	WS-4	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
MW-4	WS-3	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	0.0018	ND	ND
Trip Blank		ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND

Notes: "ND" - Not Detected
* = Samples were consectively numbered in the order collected.
Analyses were performed by Curtis & Tompkins, Berkeley, California.

ERM-West, Inc.

Suite 260 • 1777 Botelho Drive • Walnut Creek, California 94596-5042 • (415) 946-0455 • Telefax (415) 946-9968

August 13, 1990

Mr. Larry Seto
Alameda County Health Agency
80 Swan Way, Room 200
Oakland, CA. 94621

SUBJECT: Firestone Tire and Rubber Company
Albany, CA. - Workplan

Dear Mr. Seto:

On behalf of Firestone Tire and Rubber Company and Ryan Murphy, Inc., we are enclosing a workplan for the above subject project. After your review and approval, we will schedule and mobilize the drilling subcontractor to begin the site assessment tasks.

Please call if you have any questions or require further information.

Sincerely,

ERM-WEST

Dennis Miller

Dennis Miller
Principal Engineer

Enclosure

DGM/1099

cc: Pat Ryan, Ryan Murphy, Inc.

FIRESTONE TIRE AND RUBBER COMPANY
ALBANY, CALIFORNIA

SITE ASSESSMENT AND REMEDIATION WORKPLAN

On May 1, 1990 a 280 gallon waste oil tank was removed from the Firestone facility located at 969 San Pablo Blvd, Albany, California. A tank closure permit was issued by the Alameda County Department of Environmental Health, Hazardous Materials Division, to Ryan Murphy, Inc. prior to the tank removal.

Laboratory analysis of soils taken from the bottom of the tank excavation (from 5 to 7 feet below grade) at the time of removal are summarized in Table 1.

No water was reported in the excavation during the tank removal. However, conversations with an Alamedy County inspector noted that groundwater is reported to be about 10 feet below grade. This information was confirmed by Alameda County Flood Control. Monitoring wells at a Shell gas station (Marin and San Pablo Ave) just south and across San Pablo Blvd. from the site are reported with groundwater ranging from 7.5-8.0 and 6.0-6.5 feet below grade in February and April, 1990, respectively.

ASSESSMENT

The purpose of the site assessment work will be to determine the vertical and horizontal extent of contaminants, if any, in soil and groundwater. It is proposed to drill four borings to a minimum of 15 feet and convert the borings to groundwater monitoring wells. During the drilling work, soil samples will be retrieved at the following depths: 3, 7, 10, and 15 feet. The 10 foot depth sample is assumed to be at the soil/water interface.

Normal site assessment protocol will be used at the site. Health and safety considerations will follow Ryan Murphy's plan used during the tank removal work. The augers and equipment used for each boring will be decontaminated between borings. Each boring will be logged and soil cuttings will be retained for disposal with future excavated soils. Soil and groundwater samples will be preserved and transported to a California certified laboratory under chain-of-custody protocol. Monitoring wells will be appropriately screened and packed, and completed at the surface with a bentonite concrete surface seal and a well cover.

After installation of the monitoring wells, the wells will be developed and groundwater samples retrieved for analysis. After groundwater sampling, the wells will be allowed to stabilize and then levels in each well will be surveyed to establish, if possible, a site specific groundwater gradient.

Both soils and groundwater samples will be analyzed for the following constituents: TPH, BTX&E, and chlorinated hydrocarbons. This listing is based on the initial soil results reported in Table 1.

REMEDIATION

Because of the clayey fill in the area, it is assumed that the constituents detected in the soils have not spread laterally nor vertically to any great extent. Therefore, the proposed remediation alternative for this site is excavation of soils, once the site assessment work confirms the above assumptions.

Additionally, the monitoring wells will remain until Alameda County determines that the site is clean and the monitoring wells are no longer necessary.

For the excavation work, Firestone is proposing to perform the work as follows:

- EPA Generator Number: CAD 982005928
- Contractor: Ryan Murphy Inc., Corona, CA
  Contractors License: 516337(A, B, C61, D40, Hazardous)
- Site Sampling/Environmental overview: ERM-West, Walnut Creek, CA 94596
- Hazardous Waste Hauler: Dillard Trucking, Byron, CA 94514
- Disposal Site:
  Hazardous: GSX, 7004 Gas Company Rd., Taft, CA 93268
  Non-Haz: Gibson Oil, 3121 Standard St., Bakersfield, CA
- Certified Laboratory: Curtis and Thompkins, Berkeley, CA

After excavation of the soils, the side walls will be sampled and analyzed for the above noted constituents. Groundwater in the excavation, if present, will be pumped into a Baker tank for temporary storage and analysis. If hazardous, the water will be transferred and hauled off-site under a California hazardous waste manifest. If non-hazardous, consideration will be given to discharging the water into a local EBMUD sanitary sewer; but, only after permission is granted by the regulatory agencies.

SCHEDULE

The following schedule is based on time after approval of the workplan by Alameda County.

Task 1: Site Assessment: 7 weeks

3 week mobilization (depends on availability of driller)
1 week on-site
2 week sample analysis
1 week reporting

Task 2: Soil Excavation: 3 weeks

1 week mobilization
1 week excavation - assume 24-48 turnaround on soil/water analysis
1 week site finish

CLEAN-UP GOALS

Alameda County's clean-up goals are to have all laboratory analysis reported with non-detectable constituents. However, each site is handled on a case-by-case basis. It is expected that once the water and soil analysis have been reported, that future discussions will determine the site specific clean-up goals for this site.

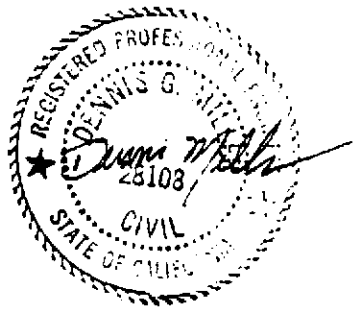


TABLE 1
SOIL SAMPLING RESULTS

FIRESTONE TIRE AND RUBBER COMPANY
ALBANY, CA

CONSTITUENT (1)	CONCENTRATION, mg/kg		
	Sample Location		
	N. End of Tank, 7' deep	S. End of Tank, 7' deep	N. Wall 5' deep
Hydrocarbons			
TPH (Diesel)	< 10	86	1070
Benzene	0.0161	0.150	2.3
Toluene	<0.005	0.770	4.46
Xylene	0.0051	8.59	16.9
Ethylbenzene	<0.005	0.820	3.25
Oil & Grease	40	2436	6548
Chorinated Compounds			
1,1 Dichlorethane	0.0156	0.0038	<0.0005
1,2 Dichloroethane	0.0007	<0.0005	<0.0005
Tetrachloroethylene	0.0012	1.83	7.23
1,1,1, Trichloroethane	<0.0005	0.9	4.3
Metals			
Cadium	<0.5	<0.5	<0.5
Chromium (Total)	<50	52	60
Molybdenum	<100	<100	<100
Zinc	<100	<100	<100
Lead	11	266	135
Nickel	42	40	52

(1) Summarized on this Table are only the detected constituents. See laboratory data sheets for complete listing of analysis.

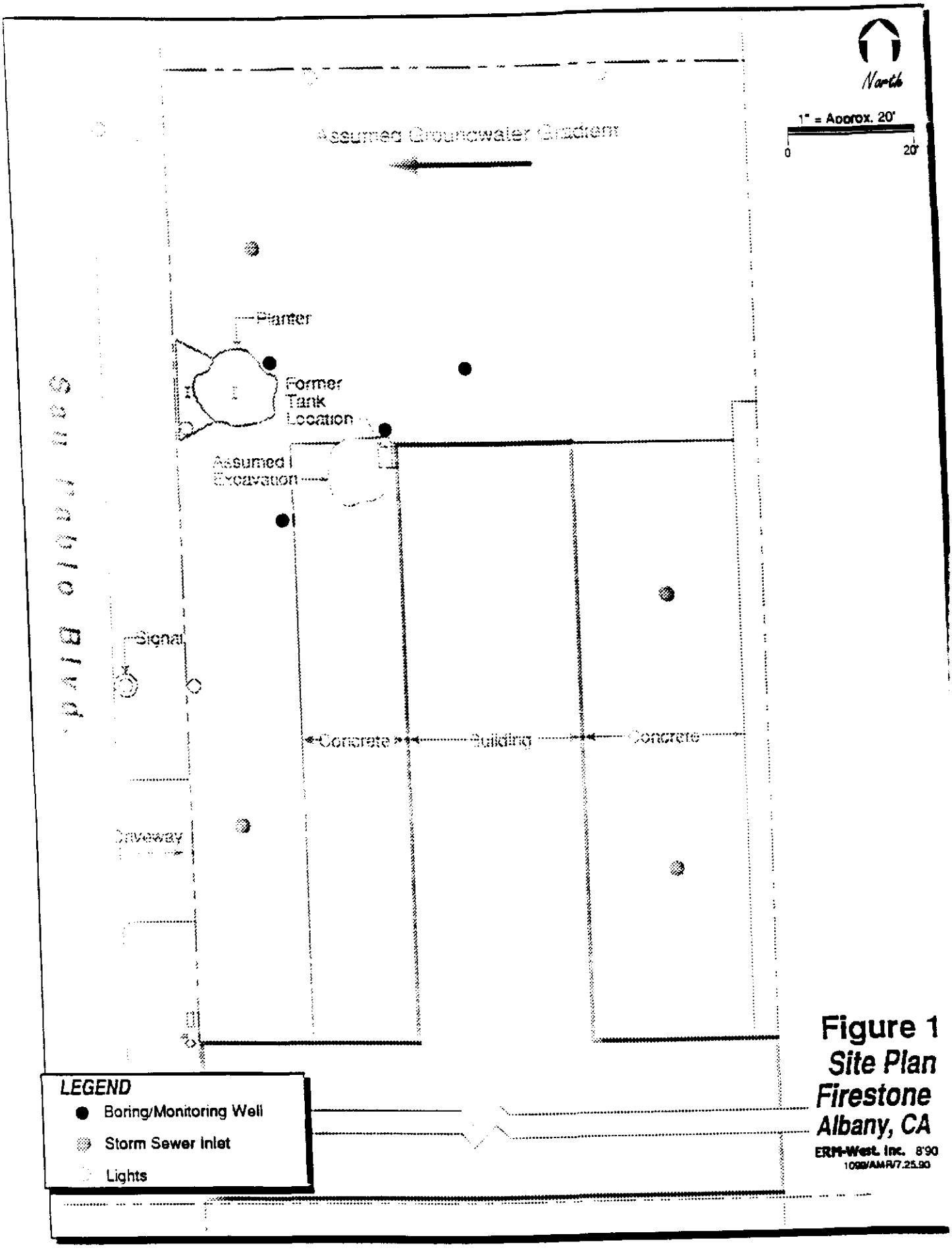


Figure 1
Site Plan
Firestone
Albany, CA

ERM-West, Inc. 8/90
1099/AMR/7.25.90

ALAMEDA COUNTY
HEALTH CARE SERVICES
AGENCY
DAVID J. KEARS, Agency Director

DEPARTMENT OF ENVIRONMENTAL HEALTH
Hazardous Materials Program
80 Swan Way, Rm. 200
Oakland, CA 94621
(415)

August 27, 1990

Mr. Vern Wilirch
Firestone
7857 Florence Ave., Suite 200
Downey, CA 90240

RE: Former Firestone Store, 969 San Pablo Ave., Albany, CA

Dear Mr. Wilirch:

I have reviewed your workplan dated August 13, 1990, that was prepared by ERM-West, Inc. for the above site. It is acceptable with the stipulation that soil and water samples be tested for the presence of lead.

If you have any questions, please contact me at 271-4320.

Sincerely,

Larry Seto, Senior
Hazardous Materials Specialist

LS:lp

cc: Albany Fire
Gil Jensen, Alameda County District Attorney, Consumer and Environmental Protection Agency
RWQCB
Charlene Williams, DHS
Rafat Shahid, Assistant Agency Director, Environmental Health
Richard Dow, Ryan Murphy
files

Curtis & Tompkins, Ltd., Analytical Laboratories. Since 1878
2323 Fifth Street, Berkeley, CA 94710, Phone (415) 486-0900

DATE RECEIVED: 10/16/90
DATE REPORTED: 10/18/90

RECEIVED
OCT 2 1 1990
ERM-WEST
WALNUT CREEK, CA

LAB NUMBER: 101958

CLIENT: ERM-WEST

REPORT ON: 4 SOIL SAMPLES

PROJECT #: 1135
LOCATION: ALBANY, CALIFORNIA

RESULTS: SEE ATTACHED

QA/QC Approval

Final Approval

Curtis & Tomkins, Ltd.

LABORATORY NUMBER: 101958
CLIENT: ERM-WEST
JOB #: 1135
LOCATION: ALBANY, CALIFORNIA

DATE RECEIVED: 10/16/90
DATE EXTRACTED: 10/17/90
DATE ANALYZED: 10/18/90
DATE REPORTED: 10/18/90

Extractable Petroleum Hydrocarbons in Soils & Wastes
California DOHS Method
LUFT Manual October 1989

LAB ID	CLIENT ID	KEROSENE RANGE (mg/Kg)	DIESEL RANGE (mg/Kg)	REPORTING LIMIT (mg/Kg)
101958-1	CS-1	ND	ND	1.0
101958-2	CS-2	ND	ND	1.0
101958-3	CS-3	ND	3.8	1.0
101958-4	CS-4	ND	ND	1.0

ND = Not Detected at or above reporting limit.

QA/QC SUMMARY

RPD, %	11
RECOVERY, %	97

Curtis & Tompkins, Ltd.

LABORATORY NUMBER: 101958-1
CLIENT: ERM-WEST
JOB #: 1135 - ALBANY, CALIFORNIA
SAMPLE ID: CS-1

DATE RECEIVED: 10/16/90
DATE ANALYZED: 10/17/90
DATE REPORTED: 10/18/90

EPA 8010: Volatile Halocarbons in Soil & Wastes
Extraction Method: EPA 5030 - Purge & Trap

Compound	RESULT ug/Kg	REPORTING LIMIT ug/Kg
chloromethane	ND	10
bromomethane	ND	10
vinyl chloride	ND	10
chloroethane	ND	10
methylene chloride	ND	5.0
trichlorofluoromethane	ND	5.0
1,1-dichloroethene	ND	5.0
1,1-dichloroethane	ND	5.0
1,2-dichloroethene (total)	ND	5.0
chloroform	ND	5.0
freon 113	ND	5.0
1,2-dichloroethane	ND	5.0
1,1,1-trichloroethane	ND	5.0
carbon tetrachloride	ND	5.0
bromodichloromethane	ND	5.0
1,2-dichloropropane	ND	5.0
cis-1,3-dichloropropene	ND	5.0
trichloroethylene	ND	5.0
1,1,2-trichloroethane	ND	5.0
trans-1,3-dichloropropene	ND	5.0
dibromochloromethane	ND	5.0
2-chloroethylvinyl ether	ND	10
bromoform	ND	5.0
tetrachloroethylene	ND	5.0
1,1,2,2-tetrachloroethane	ND	5.0
chlorobenzene	ND	5.0
1,3-dichlorobenzene	ND	5.0
1,2-dichlorobenzene	ND	5.0
1,4-dichlorobenzene	ND	5.0

ND = Not detected at or above reporting limit.

QA/QC SUMMARY

Duplicate: Relative % Difference	3
Spike: Average % Recovery	77

Curtis & Tompkins, Ltd.

LABORATORY NUMBER: 101958-2
CLIENT: ERM-WEST
JOB #: 1135 - ALBANY, CALIFORNIA
SAMPLE ID: CS-2

DATE RECEIVED: 10/16/90
DATE ANALYZED: 10/17/90
DATE REPORTED: 10/18/90

EPA 8010: Volatile Halocarbons in Soil & Wastes
Extraction Method: EPA 5030 - Purge & Trap

Compound	RESULT ug/Kg	REPORTING LIMIT ug/Kg
chloromethane	ND	10
bromomethane	ND	10
vinyl chloride	ND	10
chloroethane	ND	10
methylene chloride	ND	5.0
trichlorofluoromethane	ND	5.0
1,1-dichloroethene	ND	5.0
1,1-dichloroethane	ND	5.0
1,2-dichloroethene (total)	ND	5.0
chloroform	ND	5.0
freon 113	ND	5.0
1,2-dichloroethane	ND	5.0
1,1,1-trichloroethane	ND	5.0
carbon tetrachloride	ND	5.0
bromodichloromethane	ND	5.0
1,2-dichloropropane	ND	5.0
cis-1,3-dichloropropene	ND	5.0
trichloroethylene	ND	5.0
1,1,2-trichloroethane	ND	5.0
trans-1,3-dichloropropene	ND	5.0
dibromochloromethane	ND	5.0
2-chloroethylvinyl ether	ND	10
bromoform	ND	5.0
tetrachloroethylene	ND	5.0
1,1,2,2-tetrachloroethane	ND	5.0
chlorobenzene	ND	5.0
1,3-dichlorobenzene	ND	5.0
1,2-dichlorobenzene	ND	5.0
1,4-dichlorobenzene	ND	5.0

ND = Not detected at or above reporting limit.

QA/QC SUMMARY

Duplicate: Relative % Difference	3
Spike: Average % Recovery	77

Curtis & Tompkins, Ltd.

LABORATORY NUMBER: 101958-3
CLIENT: ERM-WEST
JOB #: 1135 - ALBANY, CALIFORNIA
SAMPLE ID: CS-3

DATE RECEIVED: 10/16/90
DATE ANALYZED: 10/17/90
DATE REPORTED: 10/18/90

EPA 8010: Volatile Halocarbons in Soil & Wastes
Extraction Method: EPA 5030 - Purge & Trap

Compound	RESULT ug/Kg	REPORTING LIMIT ug/Kg
chloromethane	ND	10
bromomethane	ND	10
vinyl chloride	ND	10
chloroethane	ND	10
methylene chloride	ND	5.0
trichlorofluoromethane	ND	5.0
1,1-dichloroethene	ND	5.0
1,1-dichloroethane	ND	5.0
1,2-dichloroethene (total)	ND	5.0
chloroform	ND	5.0
freon 113	ND	5.0
1,2-dichloroethane	ND	5.0
1,1,1-trichloroethane	ND	5.0
carbon tetrachloride	ND	5.0
bromodichloromethane	ND	5.0
1,2-dichloropropane	ND	5.0
cis-1,3-dichloropropene	ND	5.0
trichloroethylene	ND	5.0
1,1,2-trichloroethane	ND	5.0
trans-1,3-dichloropropene	ND	5.0
dibromochloromethane	ND	5.0
2-chloroethylvinyl ether	ND	10
bromoform	ND	5.0
tetrachloroethylene	ND	5.0
1,1,2,2-tetrachloroethane	ND	5.0
chlorobenzene	ND	5.0
1,3-dichlorobenzene	ND	5.0
1,2-dichlorobenzene	ND	5.0
1,4-dichlorobenzene	ND	5.0

ND = Not detected at or above reporting limit.

QA/QC SUMMARY

Duplicate: Relative % Difference	3
Spike: Average % Recovery	77

Curtis & Tompkins, Ltd.

LABORATORY NUMBER: 101958-4
CLIENT: ERM-WEST
JOB #: 1135 - ALBANY, CALIFORNIA
SAMPLE ID: CS-4

DATE RECEIVED: 10/16/90
DATE ANALYZED: 10/17/90
DATE REPORTED: 10/18/90

EPA 8010: Volatile Halocarbons in Soil & Wastes
Extraction Method: EPA 5030 - Purge & Trap

Compound	RESULT ug/Kg	REPORTING LIMIT ug/Kg
chloromethane	ND	10
bromomethane	ND	10
vinyl chloride	ND	10
chloroethane	ND	10
methylene chloride	ND	5.0
trichlorofluoromethane	ND	5.0
1,1-dichloroethene	ND	5.0
1,1-dichloroethane	ND	5.0
1,2-dichloroethene (total)	ND	5.0
chloroform	ND	5.0
freon 113	ND	5.0
1,2-dichloroethane	ND	5.0
1,1,1-trichloroethane	ND	5.0
carbon tetrachloride	ND	5.0
bromodichloromethane	ND	5.0
1,2-dichloropropane	ND	5.0
cis-1,3-dichloropropene	ND	5.0
trichloroethylene	ND	5.0
1,1,2-trichloroethane	ND	5.0
trans-1,3-dichloropropene	ND	5.0
dibromochloromethane	ND	5.0
2-chloroethylvinyl ether	ND	10
bromoform	ND	5.0
tetrachloroethylene	ND	5.0
1,1,2,2-tetrachloroethane	ND	5.0
chlorobenzene	ND	5.0
1,3-dichlorobenzene	ND	5.0
1,2-dichlorobenzene	ND	5.0
1,4-dichlorobenzene	ND	5.0

ND = Not detected at or above reporting limit.

QA/QC SUMMARY

	3
Duplicate: Relative % Difference	77
Spike: Average % Recovery	

Curtis & Tompkins, Ltd.

LABORATORY NUMBER: 101958-1
CLIENT: ERM-WEST
PROJECT: 1135
LOCATION: ALBANY, CALIFORNIA
SAMPLE ID: CS-1

DATE RECEIVED: 10/16/90
DATE ANALYZED: 10/17/90
DATE REPORTED: 10/18/90

EPA 8020: Volatile Aromatic Hydrocarbons in Soils & Wastes
Extraction Method: EPA 5030 - Purge & Trap

COMPOUND	Result ug/Kg	Reporting Limit ug/Kg
Benzene	ND	5.0
Toluene	ND	5.0
Ethyl Benzene	ND	5.0
Total Xylenes	ND	5.0
Chlorobenzene	ND	5.0
1,4-Dichlorobenzene	ND	5.0
1,3-Dichlorobenzene	ND	5.0
1,2-Dichlorobenzene	ND	5.0

ND = Not detected at or above reporting limit.

QA/QC SUMMARY

RPD, %	2
RECOVERY, %	104

Curtis & Tompkins, Ltd.

LABORATORY NUMBER: 101958-2
CLIENT: ERM-WEST
PROJECT: 1135
LOCATION: ALBANY, CALIFORNIA
SAMPLE ID: CS-2

DATE RECEIVED: 10/16/90
DATE ANALYZED: 10/17/90
DATE REPORTED: 10/18/90

EPA 8020: Volatile Aromatic Hydrocarbons in Soils & Wastes
Extraction Method: EPA 5030 - Purge & Trap

COMPOUND	Result ug/Kg	Reporting Limit ug/Kg
Benzene	ND	5.0
Toluene	ND	5.0
Ethyl Benzene	ND	5.0
Total Xylenes	ND	5.0
Chlorobenzene	ND	5.0
1,4-Dichlorobenzene	ND	5.0
1,3-Dichlorobenzene	ND	5.0
1,2-Dichlorobenzene	ND	5.0

ND = Not detected at or above reporting limit.

QA/QC SUMMARY

RPD, %	2
RECOVERY, %	104

Curtis & Tompkins, Ltd.

LABORATORY NUMBER: 101958-3
CLIENT: ERM-WEST
PROJECT: 1135
LOCATION: ALBANY, CALIFORNIA
SAMPLE ID: CS-3

DATE RECEIVED: 10/16/90
DATE ANALYZED: 10/17/90
DATE REPORTED: 10/18/90

EPA 8020: Volatile Aromatic Hydrocarbons in Soils & Wastes
Extraction Method: EPA 5030 - Purge & Trap

COMPOUND	Result ug/Kg	Reporting Limit ug/Kg
Benzene	ND	5.0
Toluene	ND	5.0
Ethyl Benzene	ND	5.0
Total Xylenes	ND	5.0
Chlorobenzene	ND	5.0
1,4-Dichlorobenzene	ND	5.0
1,3-Dichlorobenzene	ND	5.0
1,2-Dichlorobenzene	ND	5.0

ND = Not detected at or above reporting limit.

QA/QC SUMMARY

RPD, %	2
RECOVERY, %	104

Curtis & Tompkins, Ltd.

LABORATORY NUMBER: 101958-4
CLIENT: ERM-WEST
PROJECT: 1135
LOCATION: ALBANY, CALIFORNIA
SAMPLE ID: CS-4

DATE RECEIVED: 10/16/90
DATE ANALYZED: 10/17/90
DATE REPORTED: 10/18/90

EPA 8020: Volatile Aromatic Hydrocarbons in Soils & Wastes
Extraction Method: EPA 5030 - Purge & Trap

COMPOUND	Result ug/Kg	Reporting Limit ug/Kg
Benzene	ND	5.0
Toluene	ND	5.0
Ethyl Benzene	ND	5.0
Total Xylenes	ND	5.0
Chlorobenzene	ND	5.0
1,4-Dichlorobenzene	ND	5.0
1,3-Dichlorobenzene	ND	5.0
1,2-Dichlorobenzene	ND	5.0

ND = Not detected at or above reporting limit.

QA/QC SUMMARY

RPD, %	2
RECOVERY, %	104

Curtis & Tompkins, Ltd.

LAB NUMBER: 101958
CLIENT: ERM-WEST
PROJECT # : 1135
LOCATION: ALBANY, CALIFORNIA

DATE RECEIVED: 10/16/90
DATE ANALYZED: 10/18/90
DATE REPORTED: 10/18/90

ANALYSIS: HYDROCARBON OIL AND GREASE
METHOD: SMWW 17:5520 E&F

LAB ID	SAMPLE ID	RESULT	UNITS	REPORTING LIMIT
101958-1	CS-1	ND	mg/Kg	50
101958-2	CS-2	ND	mg/Kg	50
101958-3	CS-3	ND	mg/Kg	50
101958-4	CS-4	ND	mg/Kg	50

ND = Not detected at or above reporting limit

QA/QC SUMMARY

RPD, %	2
RECOVERY, %	88

101958

(24 hr TAT)

Date 10/16/90 Weather Clear

ERM-West

1777 Botelho Drive • Suite 260 • Walnut Creek, CA • 94596 • (415) 946-0455

Chain of Custody Record

Job # 1135

Job Location Albany, Calif.

Sampler (signature) John Prall

Printed name John Prall

Lab Report Recipient John Prall

Telephone No. (415) 946-0455

Receiving Lab Curtis & Tompkins

Address 2323 E. 5th Street
Berkeley, California 94710

Sample ID#	Time	W=water S=soil	C=comp G=grab	Volume	Collection: Container type	ICED	Preservative	Sampling method	GC: TPH-Extraction – Diesel	BTEX/Total Fuel HCs	601 / 8010 Halocarbons	602 / 8020 Aromatics	604 / 8040 Phenols	608 / 8080 Pest/PCBs	Oil&G waste/503E	GC/MS: 624-8240 Purgeables	625-8270 BNAs & Pest (SVs)	Dioxins	Inorg: Metals	Wet Chemistry	Other	Number of Containers	Remarks
CS-1	0955	S	G	2×6"	Brass	✓	No	Hand	✓		✓	✓			✓							1	
CS-2	1535	S	G	2×6"	Brass	✓	No	Hand	✓		✓	✓			✓							1	
CS-3	1545	S	G	2×6"	Brass	✓	No	Hand	✓		✓	✓			✓							1	
CS-4	1555	S	G	2×6"	Brass	✓	No	Hand	✓		✓	✓			✓							1	

Conc: ☒ Lo ☐ Med ☐ Hi | Ship Via | Total Number of Containers: 4

Precautions:

Sample Relinquished By	Date	Time	Received By	Date	Time	Reason for Transfer (List Shipping Bill Number)
John Prall, Company ERM-West	10/16	5 p.m.	[illegible signature], Company	10/16	5 pm	
Company			Company			

LABORATORY—Please Complete: ☐ Samples intact ☐ Samples at 4°C ☐ Samples not leaking ☐ # of containers matches C-of-C ☐ Container tags match C-of-C ☐ Cooler seals intact

Lab sample custodian ____ Signature ____ Date ____ Time ____

Sample Disposition: ☐ Return to Site ☐ Discard ☐ Hold ____ days

GSX

MATERIAL PROFILE

Name of Waste Stream

Generator: FIRESTONE TIRE AND RUBBER CO. #33695

Facility Address: 969 SAN PABLO AVE

City: ALBANY

State: CALIFORNIA

Zip Code: 94706

EPA ID #: CAD983602998 ... 10116360399

Technical Contact: MICHAEL ...

Telephone: [illegible]

Billing Address: [illegible]

City: [illegible] State: CA Zip: [illegible]

Process Generating Waste: EXCAVATION FROM UNDERGROUND TANK REMOVAL

Type of Generator: ONE TIME

Container Type/Size: BULK SOLID

1. Does this waste contain spent solvents (F001 through F005)? Y N ✓
2. Is this waste a product of the manufacture of pesticide/herbicide products? Y N ✓
3. Is this waste ... N ✓ EPA Code: ...

Expiration date of permit: n/a

4. If you answered yes to questions 1 or 2, ... contact your GSX Technical Representative

Chemical Constituents (Must Total 100%)

Soil

Waste Oil

Physical Characteristics of Waste

Physical State: Liquid ... Solid ✓

Layers: None ...

Free Liquids (%) ...

Viscosity: Low ...

Is Material Pumpable? ... N ✓

Specific Weight (lbs/gal) ... OR Specific Gravity (g/cc) ...

Physical Description ... Odor ...

Flash Point (cc): ... 100°F ... 200°F

... 140°F ... 141°F–200°F ...

BTU/lb ... Ash (%) ... Water (%)

pH (range) ... Range ...

Reactivity (Indicate ...)

(Please Attach Analytical (TCLP) Results if Available)

Metals (ppm) Total	TCLP		Total	TCLP		Total		Total
As		Cr (Total)			Cu		Se	
Ag		Cr (Hex)			Ni		V	
Cd		Hg			Sn		Ni	
Ba		...			...		Zn	
Pb					P		Org Pb	

Other (Specify in PPM)

Total Cyanide ... PCBs

Total Sulfide ... PPM

TOX ... PPM

Total Organic Halogens (%)

Bromine ... Chlorine

CERTIFICATION: I hereby certify that to the best of my knowledge the above information is complete and accurately characterizes the chemical and physical properties of the waste stream. The sample that is delivered is a representative sample per EPA SW 846. I understand that acceptability and price estimates based on this sample may change according to any comparison of actual waste received.

Generator's Signature: [illegible] Date: 10/25/88

WHITE — Waste Management CANARY — Marketing PINK — Generator

Reviewed and approved by: [illegible]

State of California—Health and Welfare Agency
Form Approved OMB No. 2050—0039 (Expires 9-30-91)

Department of Health Services
Toxic Substances Control Division
Sacramento, California

Please print or type. *(Form designed for use on elite (12-pitch typewriter).*

UNIFORM HAZARDOUS WASTE MANIFEST

1. Generator's US EPA ID No.: C A D 9 8 2 0 0 5 9 2 8 | Manifest Document No.: 0 0 0 0 1

2. Page 1 of 1

Information in the shaded areas is not required by Federal law.

3. Generator's Name and Mailing Address
Firestone Tire and Rubber
969 San Pablo Avenue
Albany, Ca. 94702
4. Generator's Phone (714) 279-6215

A. State Manifest Document Number: 90015345

B. State Generator's ID: H Y H Q 3 6 0 2 1 3 7 9

5. Transporter 1 Company Name: DILLARD TRUCKING. INC.
6. US EPA ID Number: C A D 9 8 1 6 9 2 8 0 9

C. State Transporter's ID: 100912

D. Transporter's Phone: 415-634-0567

7. Transporter 2 Company Name
8. US EPA ID Number

E. State Transporter's ID

F. Transporter's Phone

9. Designated Facility Name and Site Address
Laidlaw Environmental Services
2500 Lokern Road
Buttonwillow. California
10. US EPA ID Number: C A D 9 8 0 6 7 5 2 7 6

G. State Facility's ID: C A D 9 8 0 6 7 5 2 7 6

H. Facility's Phone: 805 762-7372

11. US DOT Description (Including Proper Shipping Name, Hazard Class, and ID Number)	12. Containers No.	12. Containers Type	13. Total Quantity	14. Unit Wt/Vol	I. Waste No.
a. Soil with Waste Oil Non RCRA Hazardous Waste Solid	0 0 1	D T	4 6 0 0 0	P	State 611 EPA/Other
b.					State EPA/Other
c.					State EPA/Other
d.					State EPA/Other

J. Additional Descriptions for Materials Listed Above

Soil 99%
Waste Oil <1%

K. Handling Codes for Wastes Listed Above
a. b. c. d.

15. Special Handling Instructions and Additional Information

Acceptance #M-783 B-14280
Store #23655
PROPER PROTECTIVE CLOTHING

16. GENERATOR'S CERTIFICATION: I hereby declare that the contents of this consignment are fully and accurately described above by proper shipping name and are classified, packed, marked, and labeled, and are in all respects in proper condition for transport by highway according to applicable international and national government regulations.

If I am a large quantity generator, I certify that I have a program in place to reduce the volume and toxicity of waste generated to the degree I have determined to be economically practicable and that I have selected the practicable method of treatment, storage, or disposal currently available to me which minimizes the present and future threat to human health and the environment; OR, if I am a small quantity generator, I have made a good faith effort to minimize my waste generation and select the best waste management method that is available to me and that I can afford.

GENERATOR

Printed/Typed Name: Ron Simmons for Firestone | Signature | Month Day Year: 10 22 91

TRANSPORTER

17. Transporter 1 Acknowledgement of Receipt of Materials

Printed/Typed Name: LEE NECKER | Signature | Month Day Year: 10 22 91

18. Transporter 2 Acknowledgement of Receipt of Materials

Printed/Typed Name | Signature | Month Day Year

FACILITY

19. Discrepancy Indication Space

20. Facility Owner or Operator Certification of receipt of hazardous materials covered by this manifest except as noted in Item 19.

Printed/Typed Name | Signature | Month Day Year

IN CASE OF AN EMERGENCY OR SPILL, CALL THE NATIONAL RESPONSE CENTER 1-800-424-8802; WITHIN CALIFORNIA CALL 1-800-852-7550

CHS 8022 A (1/88)
EPA 8700—22
(Rev. 9-88) Previous editions are obsolete.

Do Not Write Below This Line

Blue: GENERATOR SENDS THIS COPY TO DOHS WITHIN 30 D
To: P.O. Box 400, Sacramento, CA 95812-0400

State of California—Health and Welfare Agency
Form Approved OMB No. 2050—0039 (Expires 9-30-91)
Please print or type. *(Form designed for use on elite (12-pitch typewriter).*

Department of Health Services
Toxic Substances Control Division
Sacramento, California

UNIFORM HAZARDOUS WASTE MANIFEST

1. Generator's US EPA ID No.: C A D 9 8 2 0 0 5 9 2 8 | Manifest Document No.: 0 0 0 0 1

2. Page 1 of 1 | Information in the shaded areas is not required by Federal law.

3. Generator's Name and Mailing Address
Firestone Tire and Rubber
969 San Pablo Avenue
Albany, Ca. 94702
4. Generator's Phone (714) 279-6215

A. State Manifest Document Number: 90015346
B. State Generator's ID: H Y H Q 3 6 0 2 1 3 7 9
C. State Transporter's ID: 101291
D. Transporter's Phone: 415-634-0567
E. State Transporter's ID:
F. Transporter's Phone:

5. Transporter 1 Company Name: DILLARD TRUCKING, INC.
6. US EPA ID Number: C A D 9 8 1 6 9 2 8 0 9
7. Transporter 2 Company Name:
8. US EPA ID Number:

9. Designated Facility Name and Site Address
Laidlaw Environmental Services
2500 Lokern Road
Buttonwillow, California
10. US EPA ID Number: C A D 9 8 0 6 7 5 2 7 6

G. State Facility's ID: C A D 9 8 0 6 7 5 2 7 6
H. Facility's Phone: 805 762-7372

11. US DOT Description (Including Proper Shipping Name, Hazard Class, and ID Number)	12. Containers No.	Type	13. Total Quantity	14. Unit Wt/Vol	I. Waste No.
a. Soil with Waste Oil Non RCRA Hazardous Waste Solid	001	DT	46000	P	State 611 EPA/Other
b.					State EPA/Other
c.					State EPA/Other
d.					State EPA/Other

J. Additional Descriptions for Materials Listed Above
Soil 99%
Waste Oil <1%

K. Handling Codes for Wastes Listed Above
a. b. c. d.

15. Special Handling Instructions and Additional Information
Acceptance #M-783
B-14281
Store #23655
PROPER PROTECTIVE CLOTHING

16. GENERATOR'S CERTIFICATION: I hereby declare that the contents of this consignment are fully and accurately described above by proper shipping name and are classified, packed, marked, and labeled, and are in all respects in proper condition for transport by highway according to applicable international and national government regulations.

If I am a large quantity generator, I certify that I have a program in place to reduce the volume and toxicity of waste generated to the degree I have determined to be economically practicable and that I have selected the practicable method of treatment, storage, or disposal currently available to me which minimizes the present and future threat to human health and the environment; OR, if I am a small quantity generator, I have made a good faith effort to minimize my waste generation and select the best waste management method that is available to me and that I can afford.

GENERATOR
Printed/Typed Name: Ron Simmons for Firestone | Signature | Month Day Year: 10 29 89

TRANSPORTER
17. Transporter 1 Acknowledgement of Receipt of Materials
Printed/Typed Name: Douglas Stephens | Signature | Month Day Year: 10 29
18. Transporter 2 Acknowledgement of Receipt of Materials
Printed/Typed Name | Signature | Month Day Year

FACILITY
19. Discrepancy Indication Space

20. Facility Owner or Operator Certification of receipt of hazardous materials covered by this manifest except as noted in Item 19.
Printed/Typed Name | Signature | Month Day Year

IN CASE OF AN EMERGENCY OR SPILL, CALL THE NATIONAL RES[PONSE] CENTER 1 800 424 8802; WITHIN CALIFORNIA CALL 1 800 852 7550

CHS 8022 A (1/88)
EPA 8700—22
(Rev. 9-88) Previous editions are obsolete.

Do Not Write Below This Line

Blue: GENERATOR SENDS THIS COPY TO DOHS WITHIN 30 D[AYS]
To: P.O. Box 400, Sacramento, CA 95812-0400

State of California—Health and Welfare Agency
Form Approved OMB No. 2050—0039 (Expires 9-30-9)
Please print or type. *(Form designed for use on elite (12-pitch typewriter).*

Department of Health Services
Toxic Substances Control Division
Sacramento, California

UNIFORM HAZARDOUS WASTE MANIFEST

1. Generator's US EPA ID No.: C A D 9 8 2 0 0 5 9 2 8 | Manifest Document No.: 0 0 0 0 1

2. Page 1 of 1

Information in the shaded areas is not required by Federal law.

3. Generator's Name and Mailing Address
Firestone Tire and Rubber
969 San Pablo Avenue
Albany, Ca. 94702
4. Generator's Phone (714) 279-6215

A. State Manifest Document Number: 90015347

B. State Generator's ID: H Y H Q 3 6 0 2 1 3 7 9

5. Transporter 1 Company Name: DILLARD TRUCKING, INC.
6. US EPA ID Number: C A D 9 8 1 6 9 2 8 0 9

C. State Transporter's ID: 107289

D. Transporter's Phone: 415-634-0567

7. Transporter 2 Company Name
8. US EPA ID Number

E. State Transporter's ID
F. Transporter's Phone

9. Designated Facility Name and Site Address
Laidlaw Environmental Services
2500 Lokern Road
Buttonwillow, California
10. US EPA ID Number: C A D 9 8 0 6 7 5 2 7 6

G. State Facility's ID: C A D 9 8 0 6 7 5 2 7 6

H. Facility's Phone: 805 762-7372

11. US DOT Description (Including Proper Shipping Name, Hazard Class, and ID Number)	12. Containers No.	12. Containers Type	13. Total Quantity	14. Unit Wt/Vol	I. Waste No.
a. Soil with Waste Oil Non RCRA Hazardous Waste Solid	0 0 1	D T	00000	P	State 611 EPA/Other
b.					State EPA/Other
c.					State EPA/Other
d.					State EPA/Other

J. Additional Descriptions for Materials Listed Above
Soil 99%
Waste Oil <1%

K. Handling Codes for Wastes Listed Above
a. b. c. d.

15. Special Handling Instructions and Additional Information
Acceptance #M-783
B-14282
Store #23655
PROPER PROTECTIVE CLOTHING

16. GENERATOR'S CERTIFICATION: I hereby declare that the contents of this consignment are fully and accurately described above by proper shipping name and are classified, packed, marked, and labeled, and are in all respects in proper condition for transport by highway according to applicable international and national government regulations.

If I am a large quantity generator, I certify that I have a program in place to reduce the volume and toxicity of waste generated to the degree I have determined to be economically practicable and that I have selected the practicable method of treatment, storage, or disposal currently available to me which minimizes the present and future threat to human health and the environment; OR, if I am a small quantity generator, I have made a good faith effort to minimize my waste generation and select the best waste management method that is available to me and that I can afford.

GENERATOR — Printed/Typed Name: Ron Simmons for Firestone — Signature — Month Day Year: 10229

TRANSPORTER

17. Transporter 1 Acknowledgement of Receipt of Materials
Printed/Typed Name: Kenneth L. Ronsow — Signature — Month Day Year: 10229

18. Transporter 2 Acknowledgement of Receipt of Materials
Printed/Typed Name — Signature — Month Day Year

FACILITY

19. Discrepancy Indication Space

20. Facility Owner or Operator Certification of receipt of hazardous materials covered by this manifest except as noted in item 19.
Printed/Typed Name — Signature — Month Day Year

IN CASE OF AN EMERGENCY OR SPILL, CALL THE NATIONAL RES. CENTER 1-800-424-8802; WITHIN CALIFORNIA CALL 1-800-852-7550

90015347

DHS 8022 A (1/88)
EPA 8700—22
(Rev. 9-29) Previous editions are obsolete.

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Form Approved OMB No. 2050—0039 (Expires 9-30-91)
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Department of Health Services
Toxic Substances Control Division
Sacramento, California

UNIFORM HAZARDOUS WASTE MANIFEST

1. Generator's US EPA ID No.: CAD982005928 — Manifest Document No.: 000001

2. Page 1 of 1

Information in the shaded areas is not required by Federal law.

3. Generator's Name and Mailing Address
Firestone Tire and Rubber
969 San Pablo Avenue
Albany, Ca. 94702
4. Generator's Phone (714) 279-6215

A. State Manifest Document Number: 90015348

B. State Generator's ID: HYHQ360213791

5. Transporter 1 Company Name: DILLARD TRUCKING, INC.
6. US EPA ID Number: CAD981619280

C. State Transporter's ID: 100971

D. Transporter's Phone: 415-634-0567

7. Transporter 2 Company Name
8. US EPA ID Number

E. State Transporter's ID

F. Transporter's Phone

9. Designated Facility Name and Site Address
Laidlaw Environmental Services
2500 Lokern Road
Buttonwillow, California
10. US EPA ID Number: CAD980675276

G. State Facility's ID: CAD980675276

H. Facility's Phone: 805 762-7372

11. US DOT Description (Including Proper Shipping Name, Hazard Class, and ID Number)	12. Containers No.	12. Containers Type	13. Total Quantity	14. Unit Wt/Vol	I. Waste No.
a. Soil with Waste Oil Non RCRA Hazardous Waste Solid	001	DT	46000	P	State 611 EPA/Other
b.					State EPA/Other
c.					State EPA/Other
d.					State EPA/Other

J. Additional Descriptions for Materials Listed Above
Soil 99%
Waste Oil <1%

K. Handling Codes for Wastes Listed Above
a. b. c. d.

15. Special Handling Instructions and Additional Information
Acceptance #M-783 B-14283
Store #23655
PROPER PROTECTIVE CLOTHING

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GENERATOR

Printed/Typed Name: Ron Simmons for Firestone — Signature — Month Day Year: 10 22 90

TRANSPORTER

17. Transporter 1 Acknowledgement of Receipt of Materials
Printed/Typed Name: TED BRODSKY — Signature — Month Day Year: 10 22 90

18. Transporter 2 Acknowledgement of Receipt of Materials
Printed/Typed Name — Signature — Month Day Year

FACILITY

19. Discrepancy Indication Space

20. Facility Owner or Operator Certification of receipt of hazardous materials covered by this manifest except as noted in item 19.
Printed/Typed Name — Signature — Month Day Year

IN CASE OF AN EMERGENCY OR SPILL, CALL THE NATIONAL RESPONSE CENTER 1-800-424-8802; WITHIN CALIFORNIA CALL 1-800-852-7550

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Toxic Substances Control Division
Sacramento, California

UNIFORM HAZARDOUS WASTE MANIFEST

1. Generator's US EPA ID No. C A D 9 8 2 0 0 5 9 2 8 — Manifest Document No. 0 0 0 0 0 — 2. Page 1 of 1 — Information in the shaded areas is not required by Federal law.

3. Generator's Name and Mailing Address
Firestone Tire and Rubber
969 San Pablo Avenue
Albany, Ca. 94702
4. Generator's Phone (714) 279-6215

A. State Manifest Document Number: 90015349
B. State Generator's ID: H Y H 0 3 6 0 2 1 3 7 9
C. State Transporter's ID: 100963
D. Transporter's Phone: 415-634-0567
E. State Transporter's ID:
F. Transporter's Phone:
G. State Facility's ID: C A D 9 8 0 6 7 5 2 7 6
H. Facility's Phone: 805 762-7372

5. Transporter 1 Company Name: DILLARD TRUCKING, INC.
6. US EPA ID Number: C A D 9 8 1 1 6 9 2 8 0 9
7. Transporter 2 Company Name:
8. US EPA ID Number:
9. Designated Facility Name and Site Address
Laidlaw Environmental Services
2500 Lokern Road
Buttonwillow, California
10. US EPA ID Number: C A D 9 8 0 6 7 5 2 7 6

11. US DOT Description (Including Proper Shipping Name, Hazard Class, and ID Number)	12. Containers No.	Type	13. Total Quantity	14. Unit Wt/Vol	I. Waste No.
a. Soil with Waste Oil Non RCRA Hazardous Waste Solid	0 0 1	D, T	46000	P	State 611 EPA/Other
b.					State EPA/Other
c.					State EPA/Other
d.					State EPA/Other

J. Additional Descriptions for Materials Listed Above
Soil 99%
Waste Oil <1%

K. Handling Codes for Wastes Listed Above
a. b. c. d.

15. Special Handling Instructions and Additional Information
Acceptance #M-783 C-14284
Store #23655
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Printed/Typed Name: Ron Simmons for Firestone — Signature — Month Day Year: 10 29 9C

17. Transporter 1 Acknowledgement of Receipt of Materials
Printed/Typed Name: Mary Medeiros — Signature — Month Day Year: 10 29 9C

18. Transporter 2 Acknowledgement of Receipt of Materials
Printed/Typed Name — Signature — Month Day Year

19. Discrepancy Indication Space

20. Facility Owner or Operator Certification of receipt of hazardous materials covered by this manifest except as noted in Item 19.
Printed/Typed Name — Signature — Month Day Year

GENERATOR
TRANSPORTER
FACILITY

IN CASE OF AN EMERGENCY OR SPILL, CALL THE NATIONAL RES E CENTER 1-800-424-8802; WITHIN CALIFORNIA CALL 1-800-852-7550

90015349

DHS 8022 A (1/88)
EPA 8700—22
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Department of Health Services
Toxic Substances Control Division
Sacramento, California

UNIFORM HAZARDOUS WASTE MANIFEST

1. Generator's US EPA ID No.: C A D 9 8 2 0 0 5 9 2 8 | Manifest Document No.: 0 0 0 0 1
2. Page 1 of 1 | Information in the shaded areas is not required by Federal law.

3. Generator's Name and Mailing Address
Firestone Tire and Rubber
969 San Pablo Avenue
Albany, Ca. 94702
4. Generator's Phone (714) 279-6215

A. State Manifest Document Number: 90015350
B. State Generator's ID: H Y H Q 3 6 0 2 1 3 7 9
C. State Transporter's ID: 13602-13603
D. Transporter's Phone: 415-634-0567
E. State Transporter's ID:
F. Transporter's Phone:

5. Transporter 1 Company Name: DILLARD TRUCKING, INC.
6. US EPA ID Number: C A D 9 8 1 6 9 2 8 0 9
7. Transporter 2 Company Name:
8. US EPA ID Number:

9. Designated Facility Name and Site Address
Laidlaw Environmental Services
2500 Lokern Road
Buttonwillow, California
10. US EPA ID Number: C A D 9 8 0 6 7 5 2 7 6

G. State Facility's ID: C A D 9 8 0 6 7 5 2 7 6
H. Facility's Phone: 805 762-7372

11. US DOT Description (Including Proper Shipping Name, Hazard Class, and ID Number)	12. Containers No.	12. Containers Type	13. Total Quantity	14. Unit Wt/Vol	I. Waste No.
a. Soil with Waste Oil Non RCRA Hazardous Waste Solid	002	DT	43920 ~~+8~~	P	State 611 EPA/Other
b.					State EPA/Other
c.					State EPA/Other
d.					State EPA/Other

J. Additional Descriptions for Materials Listed Above
Soil 99%
Waste Oil [illegible]%

K. Handling Codes for Wastes Listed Above
a. b. c. d.

15. Special Handling Instructions and Additional Information
Acceptance #M-783
C-14285
Store #23655
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GENERATOR
Printed/Typed Name: Rai Simmons for Firestone
Signature:
Month Day Year: 10 22 90

TRANSPORTER
17. Transporter 1 Acknowledgement of Receipt of Materials
Printed/Typed Name: MIKE OBRIEN
Signature: Mike OBrien
Month Day Year: 10 22 90

18. Transporter 2 Acknowledgement of Receipt of Materials
Printed/Typed Name:
Signature:
Month Day Year:

FACILITY
19. Discrepancy Indication Space

20. Facility Owner or Operator Certification of receipt of hazardous materials covered by this manifest except as noted in item 19.
Printed/Typed Name:
Signature:
Month Day Year:

IN CASE OF AN EMERGENCY OR SPILL, CALL THE NATIONAL RESPONSE CENTER 1-800-424-8802, WITHIN CALIFORNIA CALL 1-800-852-7550

DHS 8022 A (1/88)
EPA 8700—22
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Toxic Substances Control Division
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UNIFORM HAZARDOUS WASTE MANIFEST

1. Generator's US EPA ID No.: C A D 9 8 2 0 0 5 9 2 8 | Manifest Document No.: 0 0 0 0 1

2. Page 1 of 1 | Information in the shaded areas is not required by Federal law.

3. Generator's Name and Mailing Address
Firestone Tire and Rubber
969 San Pablo Avenue
Albany, Ca. 94702

4. Generator's Phone (714) 279-6215

A. State Manifest Document Number: 90015351

B. State Generator's ID: H Y H Q 3 6 0 2 1 3 7 9

5. Transporter 1 Company Name: DILLARD TRUCKING, INC.

6. US EPA ID Number: C A D 9 8 1 6 9 2 8 0 9

C. State Transporter's ID: 106880-881

D. Transporter's Phone: 415-634-0567

7. Transporter 2 Company Name

8. US EPA ID Number

E. State Transporter's ID

F. Transporter's Phone

9. Designated Facility Name and Site Address
Laidlaw Environmental Services
2500 Lokern Road
Buttonwillow, California

10. US EPA ID Number: C A D 9 8 0 6 7 5 2 7 6

G. State Facility's ID: C A D 9 8 0 6 7 5 2 7 6

H. Facility's Phone: 805 762-7372

11. US DOT Description (Including Proper Shipping Name, Hazard Class, and ID Number)	12. Containers No.	12. Containers Type	13. Total Quantity	14. Unit Wt/Vol	I. Waste No.
a. Soil with Waste Oil Non RCRA Hazardous Waste Solid	0 0 2	D T	26000	P	State 611
					EPA/Other
b.					State
					EPA/Other
c.					State
					EPA/Other
d.					State
					EPA/Other

J. Additional Descriptions for Materials Listed Above
Soil 99%
Waste Oil <1%

K. Handling Codes for Wastes Listed Above
a. | b. | c. | d.

15. Special Handling Instructions and Additional Information
Acceptance #M-783
C-14286
Store #23655
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GENERATOR — Printed/Typed Name: Ron Simmons for Firestone | Signature | Month Day Year: 10 22 90

TRANSPORTER

17. Transporter 1 Acknowledgement of Receipt of Materials
Printed/Typed Name: Leon W Flanders | Signature | Month Day Year: 10 22 90

18. Transporter 2 Acknowledgement of Receipt of Materials
Printed/Typed Name | Signature | Month Day Year

FACILITY

19. Discrepancy Indication Space

20. Facility Owner or Operator Certification of receipt of hazardous materials covered by this manifest except as noted in item 19.
Printed/Typed Name | Signature | Month Day Year

IN CASE OF AN EMERGENCY OR SPILL, CALL THE NATIONAL RES E CENTER 1-800 424-8802; WITHIN CALIFORNIA CALL 1-800-852-7550

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Department of Health Services
Toxic Substances Control Division
Sacramento, California

UNIFORM HAZARDOUS WASTE MANIFEST

1. Generator's US EPA ID No.: C A D 9 8 2 0 0 5 9 2 8 | Manifest Document No.: 0 0 0 0 1
2. Page 1 of 1 | Information in the shaded areas is not required by Federal law.

3. Generator's Name and Mailing Address
Firestone Tire and Rubber
969 San Pablo Avenue
Albany, Ca. 94702
4. Generator's Phone (714) 279-6215

A. State Manifest Document Number: 90015352
B. State Generator's ID: H Y H Q 3 6 0 2 1 3 7 9

5. Transporter 1 Company Name: DILLARD TRUCKING, INC.
6. US EPA ID Number: C A D 9 8 1 6 9 2 8 0 9
C. State Transporter's ID: 107287
D. Transporter's Phone: 415-634-0567

7. Transporter 2 Company Name
8. US EPA ID Number
E. State Transporter's ID
F. Transporter's Phone

9. Designated Facility Name and Site Address
Laidlaw Environmental Services
2500 Lokern Road
Buttonwillow, California
10. US EPA ID Number: C A D 9 8 0 6 7 5 2 7 6
G. State Facility's ID: C A D 9 8 0 6 7 5 2 7 6
H. Facility's Phone: 805 762-7372

11. US DOT Description (Including Proper Shipping Name, Hazard Class, and ID Number)	12. Containers No.	Type	13. Total Quantity	14. Unit Wt/Vol	I. Waste No.
a. Soil with Waste Oil Non RCRA Hazardous Waste Solid	0 0 1	D T	03000	P	State 611 EPA/Other
b.					State EPA/Other
c.					State EPA/Other
d.					State EPA/Other

J. Additional Descriptions for Materials Listed Above
Soil 99%
Waste Oil <1%

K. Handling Codes for Wastes Listed Above
a. b. c. d.

15. Special Handling Instructions and Additional Information
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Store #23655
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GENERATOR — Printed/Typed Name: Ron Simmons for Firestone | Signature | Month Day Year: 10 02 89

TRANSPORTER
17. Transporter 1 Acknowledgement of Receipt of Materials
Printed/Typed Name: LARRY McGUIGAN | Signature | Month Day Year: 10 02 89
18. Transporter 2 Acknowledgement of Receipt of Materials
Printed/Typed Name | Signature | Month Day Year

FACILITY
19. Discrepancy Indication Space
20. Facility Owner or Operator Certification of receipt of hazardous materials covered by this manifest except as noted in item 19.
Printed/Typed Name | Signature | Month Day Year

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SECTION 1

INTRODUCTION

This report describes a soil and groundwater investigation at a former Firestone Tire and Rubber Company facility located at 969 San Pablo Boulevard, Albany, California (Figure 1-1). The objective of the investigation was to assess the impact of a release from an underground waste oil storage on the underlying soils and groundwater.

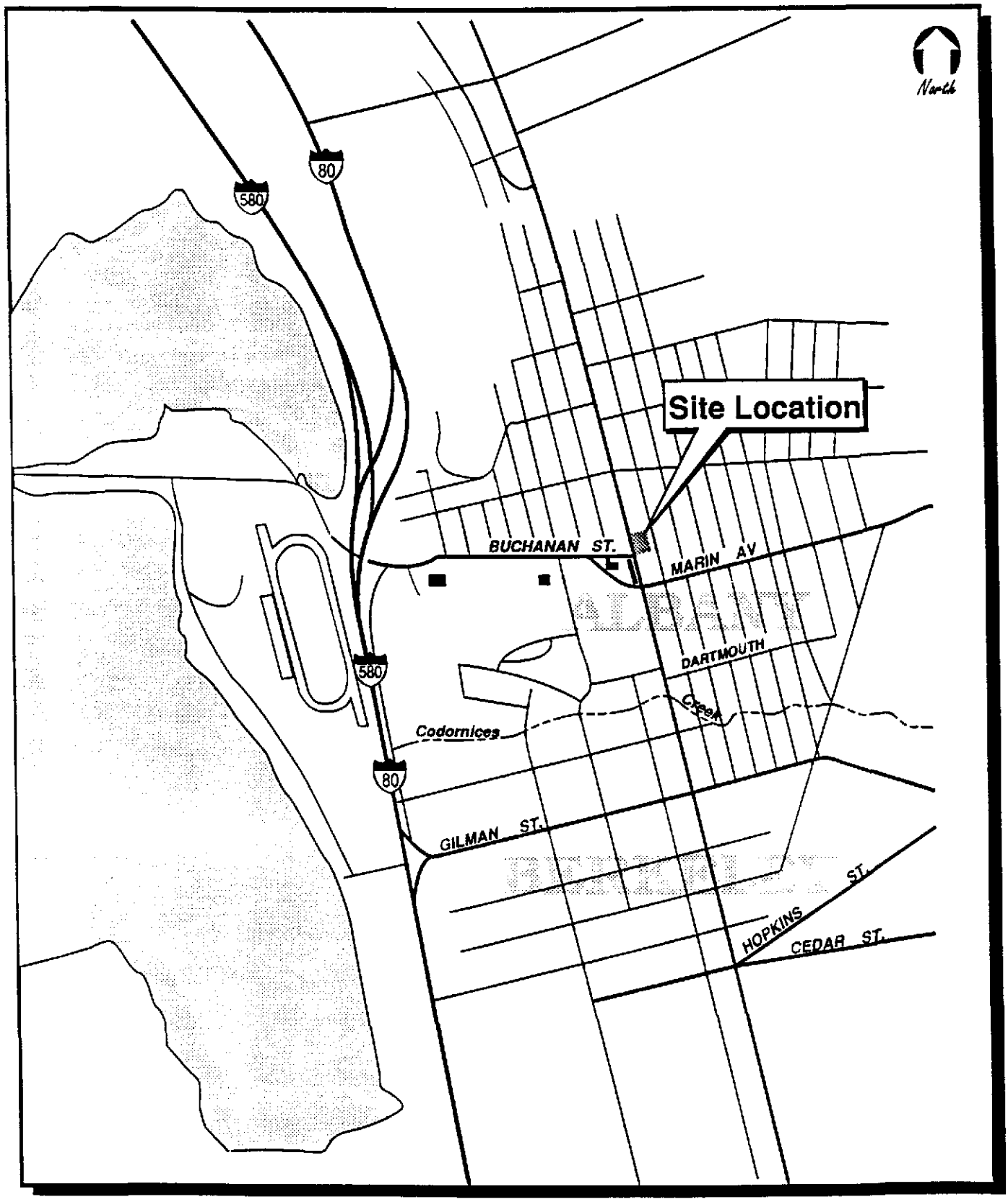
Tank History

According to information provided by Firestone, Firestone Tire & Rubber Company acquired the Albany site in 1969. The waste oil tank was installed at that time to a depth of seven feet. The tank was of single wall steel construction and had a capacity of 280 gallons. Precision tank integrity tests performed in 1987, 1988, and 1989 indicated that the tank passed the tests. Copies of the precision tank test results are located in Appendix A.

Tank Removal

According to records provided by Ryan-Murphy, Inc. the tank was removed from the ground and the site on May 1, 1990. The tank and tank contents were hauled from the site by H&H Ship Service Company under manifest to their facility. At H&H the tank was steam cleaned and disposed as scrap metal at Levin Metals Corporation. The soils removed from the tank removal effort were stockpiled on site and the excavation was left open and fenced by Ryan Murphy, Inc. Copies of the Alameda County Tank removal permit, manifests, and other tank closure related documents are provided in Appendix A.

A representative of Ryan-Murphy, Inc. under the direction of a representative of the Alameda County Health Agency sampled the soils in the excavation. Three soil samples were collected. One sample was collected respectively from underneath the north and south end of the tank at a depth of seven feet. An additional sample was collected at a depth of five feet from the north sidewall of the pit. The samples were shipped under chain-of-custody to FGL Environmental Laboratory. Test results are summarized in Table 1-1



Base From The
Thomas Guide,
Contra Costa County
Street Guide & Directory,1990

1" = Approx. 2200'
0 2200'

Figure 1-1
Location Map

and indicate the presence of petroleum products into the soils surrounding the tank. Copies of the laboratory reports and chain-of-custody are located in Appendix A.

Present Work

ERM-West, Inc. on the behalf of Ryan-Murphy, Inc. and Firestone Tire & Rubber Company subsequently prepared a workplan (Appendix B), dated August 13, 1990, to investigate the impact and extent of the release. The workplan proposed four borings to be placed in the vicinity of the tank excavation. The borings would then be completed as monitoring wells. Both soil and groundwater samples were to be collected during field work and subsequently analyzed for Total Petroleum Hydrocarbons, Diesel, Chlorinated Hydrocarbons and Extractable Aromatic Hydrocarbons.

Included in the workplan was a proposed remediation plan that recommended excavation of impacted soils after both the vertical and horizontal extent of petroleum products were determined by the drilling program. After excavation, the walls of the pit would be sampled to confirm that affected soils have been removed. Excavated material would be sampled and disposed of as non-hazardous or hazardous material depending on the results of laboratory analyses.

Alameda County Health Agency reviewed and accepted the workplan on August 27, 1990. The Agency requested further laboratory test on soil and water samples for organic lead. A copy of the acceptance letter from Alameda County is located in Appendix B.

TABLE 1-1

Hydrocarbons and Metals in Soil Samples From Underground Storage Tank Excavation

Sample No.	Depth (feet)	Total Petrol. Hydrocarbons - Diesel (mg/kg)	Volatile Aromatic Hydrocarbons (mg/kg)					Volatile Halocarbons (mg/kg)					Oil and Grease (mg/kg)
			Benzene	Toluene	Xylenes (total)	Chloro-benzene	Ethyl-benzenes (total)	1,2-dichloro-ethane	1,1-dichloro-ethane	Trichloro-ethylene	1,1,1-trichloro-ethane	Tetrachloro-ethene	
N. Wall	5	ND	2.2	4.46	16.9	ND	3.95	ND	ND	ND	4.80	7.23	6,548
N. End	7	1070	0.0161	ND	0.0051	ND	ND	0.0156	0.0007	ND	ND	0.0012	40
S. End	7	96	0.15	0.77	8.59	ND	ND	ND	0.0038	ND	0.98	1.83	2,436

Sample No.	Depth (feet)	Cadmium (mg/kg)	Chromium (mg/kg)	Molybdenum (mg/kg)	Zinc (mg/kg)	Lead (mg/kg)	Nickel (mg/kg)
N. Wall	5	ND	69	ND	ND	135	52
N. End	7	ND	ND	ND	ND	11	42
S. End	7	ND	52	ND	ND	266	40

Note: ND = Not Detected
Samples were collected by Ryan-Murphy, Inc.
Analyses were performed by FGL Environmental

TPHD
BTEX
VOCs
O&G
Metals
} Contam

SECTION 2

FIELD INVESTIGATION

The sampling procedures and analytical methods employed in the site investigation study are described in this section.

Soil Sampling

Four borings were situated in the vicinity of the former waste oil tank (Figure 2-1) and were located accordingly to investigate the horizontal and vertical extent of affected soil and the potential impact on groundwater. Boring 1/Monitoring Well No. 1 was placed adjacent to the tank excavation in an expected worse case situation for assessing depth extent. Boring 2, 3, and 4 were set back from the excavation and situated in a triangular pattern for determining groundwater flow gradients and assessing the horizontal extent of contaminant migration. The locations of the borings deviate slightly from locations discussed in the workplan due to constraints found during field work. Boring 3 was moved northward because of a pile of gravel. Boring 4 was moved northward because of a parked automobile.

A CME-55 truck-mounted drill rig equipped with 10-inch hollow-stem auger was used to complete the soil borings. The augers were decontaminated prior to drilling each boring by steam cleaning. Soil samples were collected at the approximate depths of 3, 5, 8, 10, and 15 feet using a California modified split-spoon sampler. The sampler was equipped with pre-cleaned 2 by 6-inch brass tube liners. At each sample interval, the sampler was driven by repeated blows of a 140 pound hammer to a depth of approximately 18-inches. Upon the removal of the sampler from the boring, the split -spoon was opened and the ends of the brass tubes were checked with a HNU photo-ionitation device and the soils visually classified according to the Unified Soil Classification System. Soil cuttings and excess sample material were placed in DOT-certified 55 gallon steel drums and labeled with the appropriate boring number.

Soil samples collected for subsequent analysis by the laboratory were sealed by placing Teflon film over the ends of the tube, then secured with tight fitting plastic caps. Each tube was then labeled. Entered on the label was a unique sample number, date, time, project name and number, and the samplers initials. After labeling the sample number, time, etc. were entered onto a chain-of-custody form. Each

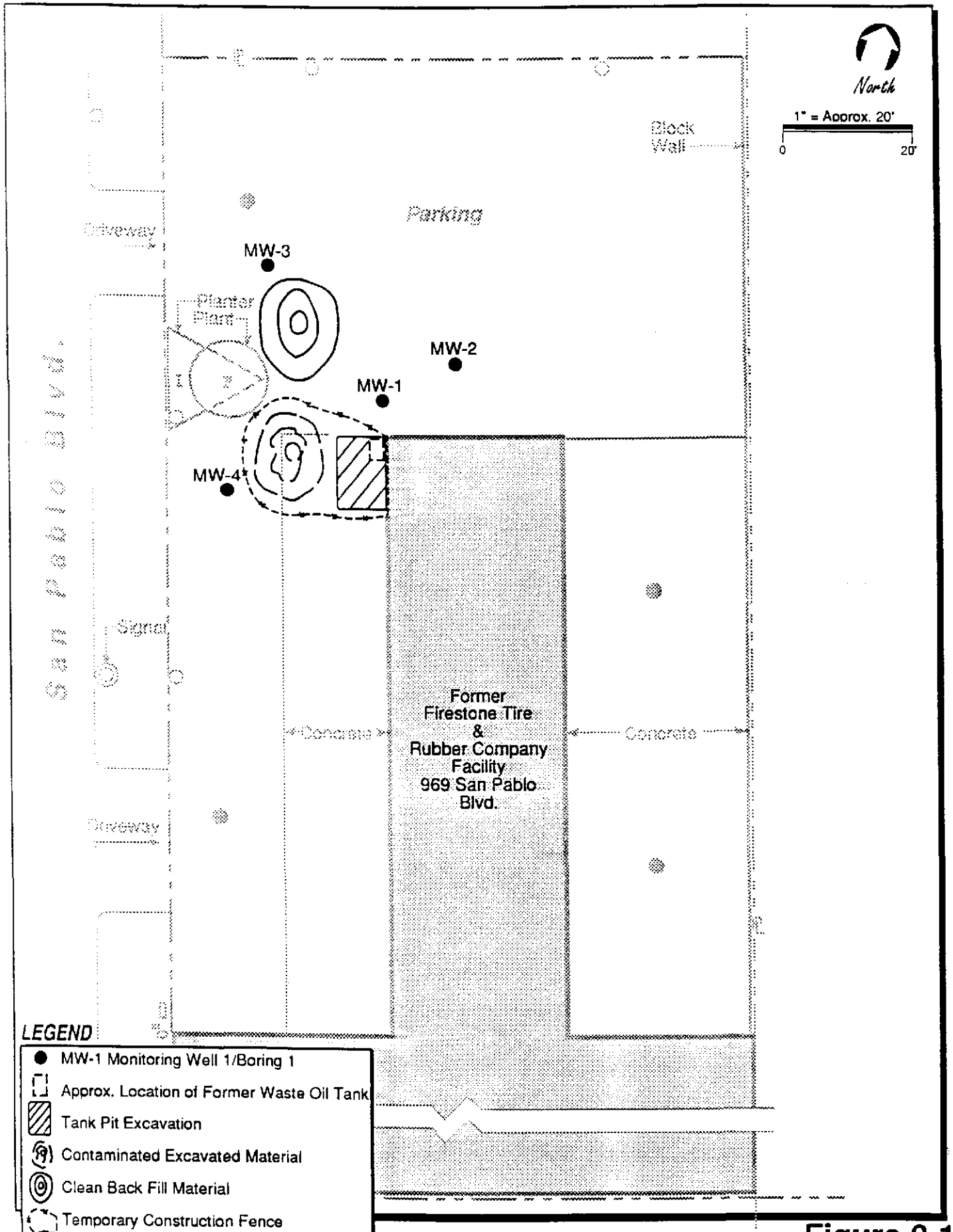


Figure 2-1
Site Plan and Sample Locations
Firestone, Albany, CA

labeled tube was then sealed in a zip-lock type plastic bag and placed on ice in a cooler for shipment to the laboratory. Copies of the boring logs are located in Appendix C.

Soil Analyses

In accordance with the workplan, the soil samples were analyzed for Total Petroleum Hydrocarbons - Diesel by EPA Method 8015-M; Purgeable Aromatic Hydrocarbons by EPA Method 8020; Purgeable Halocarbons by EPA Method 8010; and for Organic Lead by the 1988 LUFT Manual specification. All the samples collected from Boring 1 were submitted for analysis. One sample was submitted for analysis from each of the three remaining borings. Copies of the laboratory reports and chain-of-custody are located in Appendix E.

Monitoring Well Installation

Prior to the start of field work an application for a permit to construct monitoring wells was made to Alameda County Flood Control and Water Conservation District, Zone Seven. Acceptance of the permit was received September 24, 1990. A copy of the permit is located in Appendix D.

After the borings were drilled and sampled they were completed as monitoring wells. All wells were constructed with 4-inch, schedule 40 PVC, flush-threaded casing and screen. The well screen was five feet in length and had 0.01-inch machined slots. The bottom of the screen was closed with a 4-inch PVC, flush-threaded plug. All casing, screen, etc. were decontaminated prior to installation by steam cleaning.

The filter pack was constructed with Lonestar number 30 mesh sand and placed to approximately 1/2-foot above the top of the well screen. The sand was placed by slowly pouring the material into the annular space between the casing and borehole wall. The filter pack sand was pre-washed and kiln dried, and supplied to the job site in sealed paper sacks.

A nominal 2-foot bentonite seal was placed above the filter pack. The seal was constructed by slowly dropping 3/8-inch bentonite pellets into the annular space. The pellets were supplied to the job site in sealed 5-gallon capacity plastic buckets.

The remainder of the annular space was sealed with a cement-bentonite slurry to within approximately 1-foot of the ground surface. Due to the shallow depth to the top of the bentonite seal, the grout

slurry was poured into the annular space. At the surface the wells were covered with traffic boxes set flush with the ground surface then fixed in place with a sand-cement-bentonite slurry. The wells were secured with pre-cleaned expandable, gasketed PVC caps. Details of the well construction are noted on the boring logs (see Appendix C).

Monitoring Well Development

Before the wells were developed the relative elevations of the top of the well casings were determined by surveying from an arbitrary reference datum of 100.00 feet which consisted of the top of a fire hydrant located in front of 940 San Pablo Avenue to a reference mark placed on each well. The reference mark consists of a notch placed on the north side of the well casing. The depth to water in each well was then measured with a fiberglass tape to 0.01-foot. The tape was decontaminated prior to each measurement.

The wells were developed by bailing the equivalent of three water columns from each well. Due to the clayey soils encountered during drilling, the wells were bailed dry after the removal of one water column. Therefore, development was extended over three consecutive days. During development the purge water was checked for pH, temperature, and conductivity and a visual estimate of the clarity of the water was noted. Purged water, and wash and rinse water from decontamination procedures of the bailer was placed in DOT-certified 55-gallon drums, labeled, and stored on-site.

Water Sampling

The monitoring wells were sampled on the fourth day after the pH, conductivity, and temperature stabilized and the clarity increased which indicated that the water in the well was representative of water in the formation. Prior to sampling the depth to water in each well was measured and recorded (Table 2-1). Groundwater was sampled with a pre-cleaned Teflon bailer equipped with a removable petcock. The bailer was decontaminated prior to each sampling. Water was transferred from the bailer to appropriate laboratory provided bottles. After a bottle was filled, it was labeled. The label stated a unique sample number, and the samplers initials. The sample number, time, etc. was then entered on a chain-of-custody form. The labeled bottle was then sealed in a zip-lock type plastic bag and placed on ice in a cooler. After sampling was completed, the samples were delivered to the laboratory.

TABLE 2-1

Groundwater Levels

Well No.	Ref. Elev. (feet)	Depth to Water (feet)		Water Surface Elevation (feet)	
		*Sept. 25	**Sept. 28	*Sept. 25	**Sept. 28
MW-1	97.71	9.33	9.42	88.38	88.29
MW-2	98.27	10.13	10.14	88.14	88.13
MW-3	97.62	9.96	10.51	87.66	87.11
MW-4	97.27	10.42	10.84	86.85	86.43

Notes: * before development
** after development
Water surface levels are referenced to an arbitrary datum which is the top of a fire hydrant located in front of 940 San Pablo Boulevard. Assumed elevation was 100.00 feet.

Groundwater Analyses

Water samples were analyzed for constituents outlined in the workplan. The samples were analyzed for the same compounds analyzed for in the soils. Copies of the laboratory reports and the chain-of-custody forms are located in Appendix E.

SECTION 3

DISCUSSION

This section is a summary and interpretation of field observations and analytical results of the soil and groundwater sampling.

Soil Investigation Results

The rationale for selecting samples for analysis was based on the proximity to the location of the former waste oil tank or the zone screened in the wells. All of the samples from Boring 1 were submitted due to the elevated HNU values recorded during drilling (26 to 160 ppm) compared to the other borings (2 to 5 ppm). One sample from each of the remaining borings was submitted for analysis and was derived from a depth that was later screened during well construction.

Test results are summarized in Table 3-1. Constituents detected are similar to the constituents detected during tank removal and consisted of diesel, components of BTX&E, and some chlorinated solvents. Organic lead was not detected. The majority of the constituents and the highest concentrations detected were from boring 1 at a depth of 10.5 feet. The 10.5 foot depth approximately corresponds to the depth of the water table and may represent the downward limit of the majority of the organic constituents. No constituents were detected at 16 feet. Minor constituents were found in Boring 2 and no constituents were reported in Borings 3 and 4. Therefore, the lateral extent of affected soils is relatively small and Figure 3-1 depicts the projected limits.

Hydrogeologic Investigation Results

The project site is underlain to the depth explored by deeply weathered sedimentary rocks of the Franciscan formation. The rocks consist of flat lying repetitive thick bedded units that grade downward from siltstone to gravelly, coarse-grained sandstone. Weathering has altered the units to clayey soils. The soils encountered, therefore, during drilling consisted, from the surface to a depth of approximately 2 feet, of a tan to green, silty clay topsoil followed at depth by sandy clays, sandy pebbly clays, silty clay, etc. with minor non-clayey sands.

TABLE 3-1

Hydrocarbons and Organic Lead in Soil Samples

Sample No.	Depth (feet)	Extractable Petrol. Hydrocarbons (mg/kg) Kerosene Range	Extractable Petrol. Hydrocarbons (mg/kg) Diesel Range	Volatile Aromatic Hydrocarbons (mg/kg) Benzene	Toluene	Xylenes (total)	Chloro-benzene	Ethyl-benzenes (total)	Volatile Halocarbons (mg/kg) 1,1-dichloro-ethane	1,1-dichloro-ethane	Trichloro-ethylene	1,1,1-trichloro-ethane	tetrachloro-ethene	Organic Lead (mg/kg)
						Monitoring Well No. 1								
B-1-1	3.5	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
B-1-2	5.5	ND	2.7	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
B-1-3	8.2	ND	3.8	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
B-1-4	10.5	ND	72	0.043	ND	0.51	ND	ND	0.27	0.626	ND	0.47	0.97	ND
B-1-5	16	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
						Monitoring Well No. 2								
B-2-4	16	ND	ND	ND	ND	0.0051	ND	0.0059	ND	ND		ND	ND	ND
						Monitoring Well No. 3								
B-3-4	11	ND	ND	ND	ND	ND	ND	ND	ND	ND		ND	ND	ND
						Monitoring Well No. 4								
B-4-5	15.5	ND	ND	ND	ND	ND	ND	ND	ND	ND		ND	ND	ND

Notes: "ND" = Not Detected

Analyses were performed by Curtis & Tomkins, Berkeley, California.

Groundwater occurs at a depth of approximately 9.5 to 10 feet below the ground surface and appears to be slightly mounded under the northwest corner of the building on the site (Figure 3-2). The top of the mound coincides with the location of the former waste oil tank. During the tank removal, the contractor reported that soils around the tank were very wet. The mounding of the water table may be the result of surface water infiltrations through fill soils that surrounded the waste oil tank.

Table 3-2 lists the analytical results from groundwater sampling in well MW-1 through MW-4. Groundwater in the vicinity of the tank (MW-1) has been impacted by benzene and volatile halocarbons. The detection of a trace trichloroethylene in MW-4 suggests that this compound has traveled approximately 25 feet due to the flow of water. Assuming that the trichloroethylene just arrived at well MW-4 after a travel time of 21 years (the age of the tank), the compound was not retarded, the groundwater gradient maintained a constant slope throughout the years, and the groundwater flow velocity is approximately 3.3×10^{-3} ft/day.

To check the field derived flow velocity, the theoretical flow velocity for the site was derived using the following equation: flow velocity is equal to hydraulic conductivity multiplied by the hydraulic gradient, both terms are divided by the soil porosity. Soil types encountered during drilling ranged from clay to sand, but the soil types are weathering products characterized by an abundance of silt and clay. Assuming the average soil is a silt, an order of magnitude estimate of hydraulic conductivity for silt is 1×10^{-5} cm/sec. Porosity values for silt range from 35 to 50 percent. Further assuming a hydraulic gradient of 0.05 (from Figure 3-2), the calculated theoretical flow velocities range from 3 to 4×10^{-3} ft/day. Assuming no retardation, the theoretical range of flow from the tank site is estimated to be 21 to 31 feet.

The field data from monitoring well MW-2, MW-3, and MW-4 indicate limited aerial extent of impacted groundwater to the vicinity of the tank. Furthermore, the theoretical calculation based on information gathered from the site, suggests a similar conclusion.

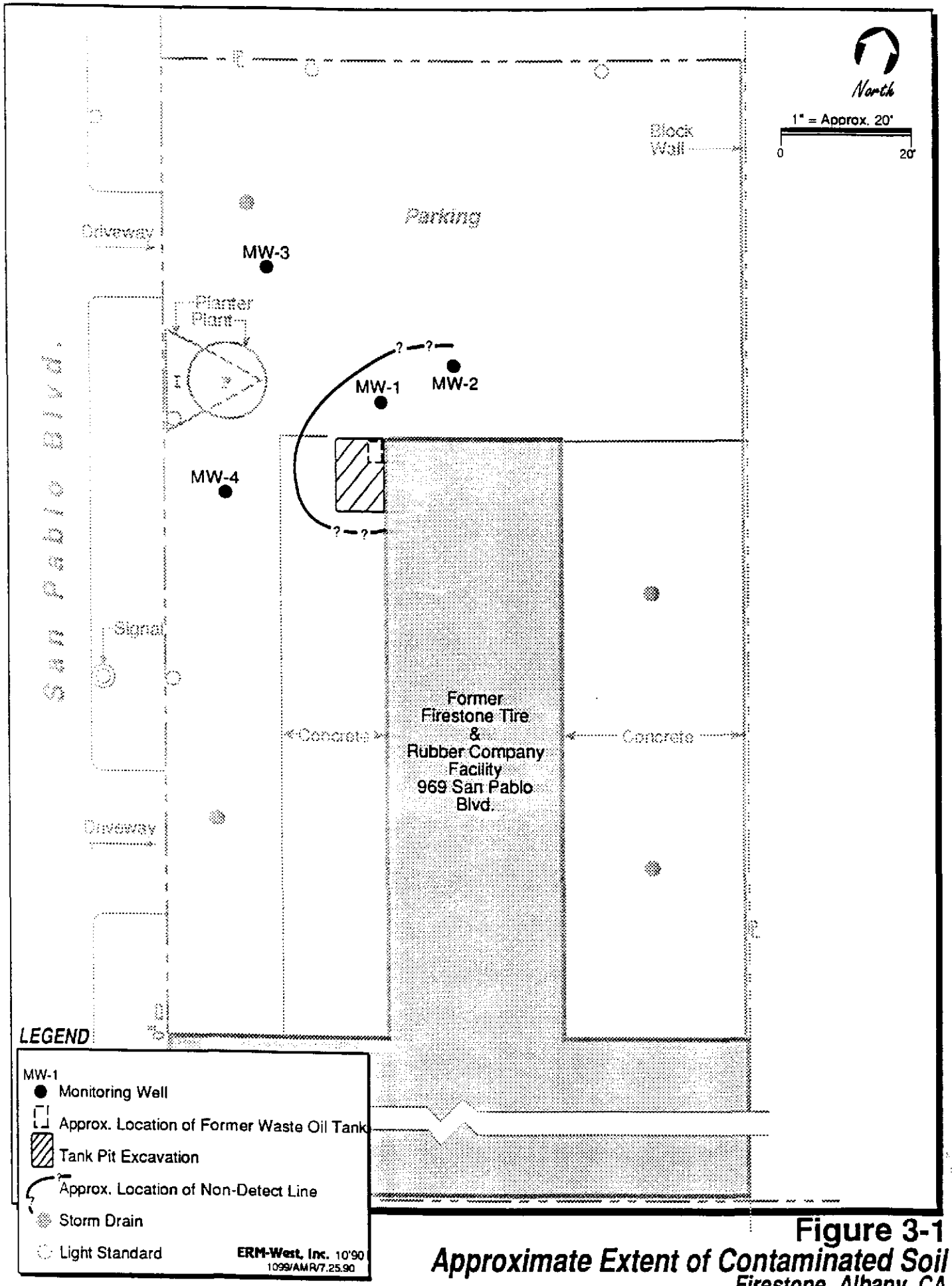


Figure 3-1
Approximate Extent of Contaminated Soil
Firestone, Albany, CA

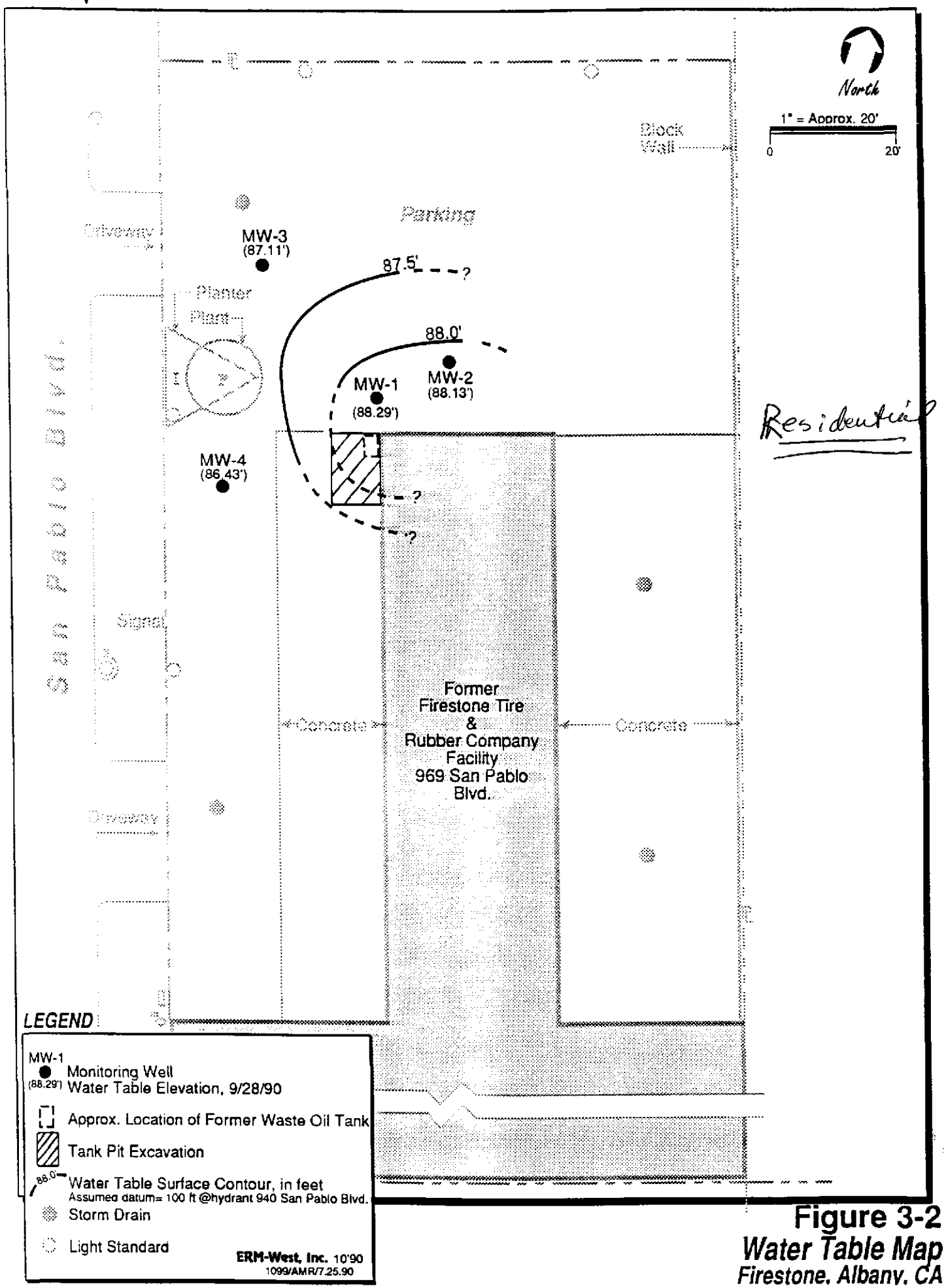


Figure 3-2
Water Table Map
Firestone, Albany, CA

TABLE 3-2

Hydrocarbons and Organic Lead in Groundwater Samples

Well No.	Sample No.*	Extractable Petrol. Hydrocarbons (mg/l)		Volatile Aromatic Hydrocarbons (mg/l)					Volatile Halocarbons (mg/l)					Organic Lead (mg/l)
		Kerosene Range	Diesel Range	Benzene	Toluene	Xylenes (total)	Chloro-benzene	Ethyl-benzenes (total)	1,1-dichloro-ethene	1,1-dichloro-ethane	1,1,1-trichloro-ethane	Trichloro-ethylene	Tetrachloro-ethene	
									12ppb	94ppb	200ppb	2.5ppb	71ppb	
MW-1	WS-2	ND	ND	10ppb	ND	ND	ND	ND	0.094	0.094	0.20	0.0025	0.071	ND
MW-2	WS-1	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
MW-3	WS-4	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
MW-4	WS-3	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	0.0018	ND	ND
												1.8		
Trip Blank		ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
PEGs (ppb)									.046	810	1,300	1.6	1.1	
MCLs (ppb)									6	5	200	5	5	

Notes: "ND" - Not Detected
* = Samples were consectively numbered in the order collected.
Analyses were performed by Curtis & Tompkins, Berkeley, California.

SECTION 4

CONCLUSIONS AND RECOMMENDATIONS

Conclusions:

- The site is underlain by silty and clayey soils to a depth of at least 16 feet.
- Based on testing completed, diesel fuel, some traces of benzene and xylenes, and chlorinated halocarbons (solvents) were detected and reported in the soils beneath the former waste oil tank.
- The extent of affected soils appears to be limited to about 11 feet vertically and 13 feet horizontally (radially from the center of the tank excavation) based on constituents detected in Boring 1 (nearest the tank) and the nearly 100 percent non-detected in soils beyond the radius of Boring 1 in the remaining three borings.
- Groundwater occurs at a depth of 9.5 to 10 feet and is apparently mounded immediately under the location of the former tank.
- Radial flow of groundwater is estimated to be 3.4×10^{-3} ft/day.
- Groundwater at the tank site has been impacted by benzene and chlorinated halocarbons.
- The extent of affected groundwater is limited to the immediate area of the tank excavation. Samples from monitoring wells outside a radius of approximately 20 feet report non-detect levels of hydrocarbons with the exception of MW-4 which reported a trace of trichloroethylene.

Recommendations:

- Limited excavation of affected soils is recommended to remediate the site. The actual extent of excavation should be determined in the field by a qualified geologist, engineer, or environmental scientist. If significant quantities of groundwater are encountered, the water should be removed from the excavation and properly disposed of.
- Retain the existing groundwater monitoring wells until the local regulatory agency allows the wells to be closed.

Firestone
SALES & SERVICE GROUP

RECEIVED
OCT 12 1990
ERM-WEST
WALNUT CREEK, CA

Bridgestone/Firestone, Inc.
Please reply to: 7857 E. Florence Ave. #200
Downey, CA 90240

FAR WEST REGION
Real Estate Office: (213) 927-7010

ERM West
1777 Botelho Drive, #260
Walnut Creek, CA. 94596
Att: John Prall

DATE: Oct. 11, 1990
JOB: Closed Store #3655
969 San Pablo
Albany, CA. 94702

We are sending you (X) herewith ( ) under separate cover:

( ) Arch. Drawings	( ) Letters	( ) Shop Drawings	( ) Invoice
( ) Specifications	( ) Survey	( ) Soil Test	(x) Leak Tests.
( ) Photos	( ) Proposal	( ) Contract	( ) _____

As you requested during our telecon. of this date, we have attached copies of the last 3 precision leak tests on the former 280 G. waste oil U.S.T. at this location.

Please expedite copies of your completed report to K.A. Scheutzow, Akron, Oh. and the undersigned.

K.J. LIND - CHICAGO/34230
K.A. SCHEUTZOW - AKRON/
CORP.ENVIR.AFFAIRS/5FW3

cc: _____

VMW/ems

Very truly yours,

THE FIRESTONE TIRE & RUBBER COMPANY

Real Estate Department

By: V. M. Willrich

V. M. Willrich, Proj. Coordinator

Firestone Tire & Rubber Co.
7857 E. Florence Ave. #200
Please reply Downey, CA 90240

Firestone

SALES & SERVICE GROUP

FAR WEST REGION

Real Estate Office: (213) 927-7010

Alameda Co., Dept of
Environmental Health Div.
470 - 27th. St. Rm. 324
Oakland, CA. 94612

DATE: Sept. 29, 1989
JOB: FIRESTONE STORE # 3655
969 San Pablo Ave.
Albany, CA. 94702

Gentlemen:

We are sending you (x) herewith ( ) under separate cover:

( ) Arch. Drawings	( ) Letters	( ) Shop Drawings	( ) Invoice
( ) Specifications	( ) Survey	( ) Soil Test	(x) PRECISION LEAK TEST
(x) Photos	( ) Proposal	( ) Contract	( )

AS OUTLINED IN SECTION 2641 (4.3c) OF THE CALIF. UNDERGROUND STORAGE TANK REGULATIONS, WE HAVE UTILIZED MONITORING ALTERNATIVE NO. 7 FOR TANK GAUGING AND TANK TESTING FOR THE EXISTING SMALL UNDERGROUND WASTE OIL STORAGE TANK AT THIS LOCATION. AS REQUIRED BY D.O.H.S., WE HAVE ATTACHED A COPY OF THE APPROVED CERTIFICATE OF PRECISION LEAK TEST AND TANK AND LINE TEST RESULTS AS PREPARED BY AES - ASSOCIATED ENVIRONMENTAL SYSTEMS, INC. WE BELIEVE YOU WILL FIND THESE RESULTS SATISFACTORY AND REQUEST THAT THIS STORE BE ISSUED A CERTIFICATE TO OPERATE. PLEASE CONTACT WRITER IF ADDITIONAL INFORMATION IS REQUIRED.

Very truly yours,

THE FIRESTONE TIRE & RUBBER COMPANY

Real Estate Department

By: V. M. Willrich

V. M. Willrich, Proj. Coordinator

cc: K.A. SCHEUTZOW - BK 62
K.J. LIND - CHICAGO/34230
M.E. DRAPCHO - BK 62
C.L. KRZYSIAK - BK 62
MARKET # 3600
STORE # 3655

VMW/ems A.E.S.

Associated Environmental Systems, Inc.

P.O. Box 80427
Bakersfield, CA 9338
(805) 393-2212

PRECISION TANK & LINE TEST RESULTS

Invoice Address:
FIRESTONE TIRE-RUBBER
7857 FLORANCE AVE. 200
DOWNEY,CA. 90240

Tank Location:
FIRESTONE # 3655
969 SAN PABLO
ALBANY,CA.

W.O.#: 9861
I.D. Number: 3655
Technician: KEM
Tech.#: 87129 Van#: 6106

Date: 09-21-89 Time Start: 16:45 End: 18:45 County: AL
Facility Phone#: 415 527 3200 Groundwater Depth: 15FT+ Blue Prints: N/A
Contact: D. ROBERTS Date;Time system was filled: 09-21 15:55

Tank	Tank Capacity	Product	Tank	Fill/Vent Vapor Lines	Product Line	Type Of Vapor Recovery	Inches of Water/Tank	Pump Type	Tank Material
1	~~500~~ 280	W/O	PASS	PASS	N/A	N/A	0	N/A	SWS
2									
3									
4									
5									
6									

Additional Information: CLEAR 70 DEGREES

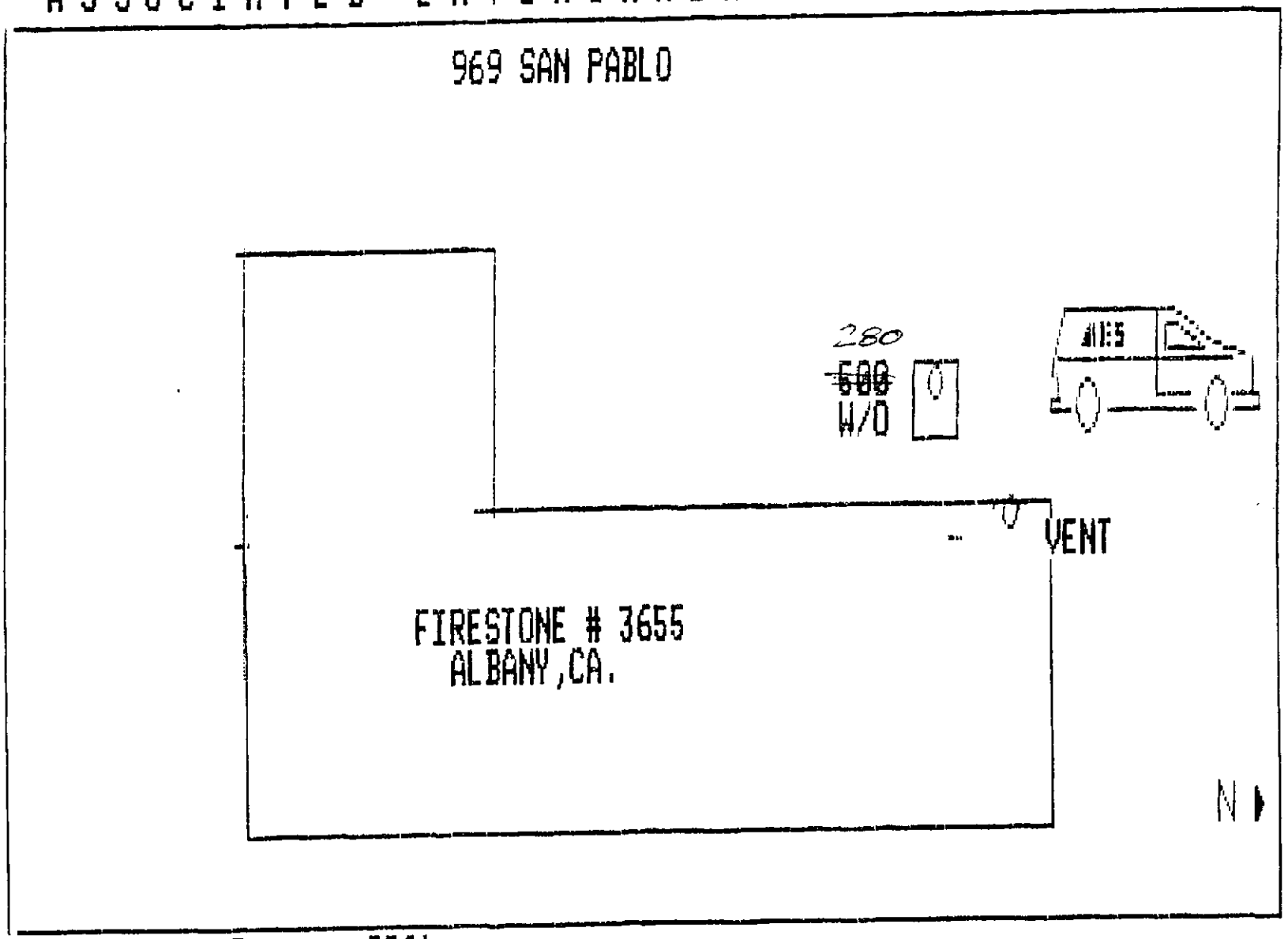
SITE LOG	TIME
Set Up Equip:	16:40
Bled Product Lines:	N/A
Bled Vapor Lines:	N/A
Bled Vent lines:	16:35
Bled Turbine:	N/A
Bled Suction Pump:	N/A
Risers Installed:	N/A

a) This system and method meets the criteria set forth in NFPA #329.
b) Any failure listed above may require further action, check with all regulatory agencies.

SEP 21 1989

Certified Technician Signature : _____ Date : 09.21.89

ASSOCIATED ENVIRONMENTAL SYSTEMS

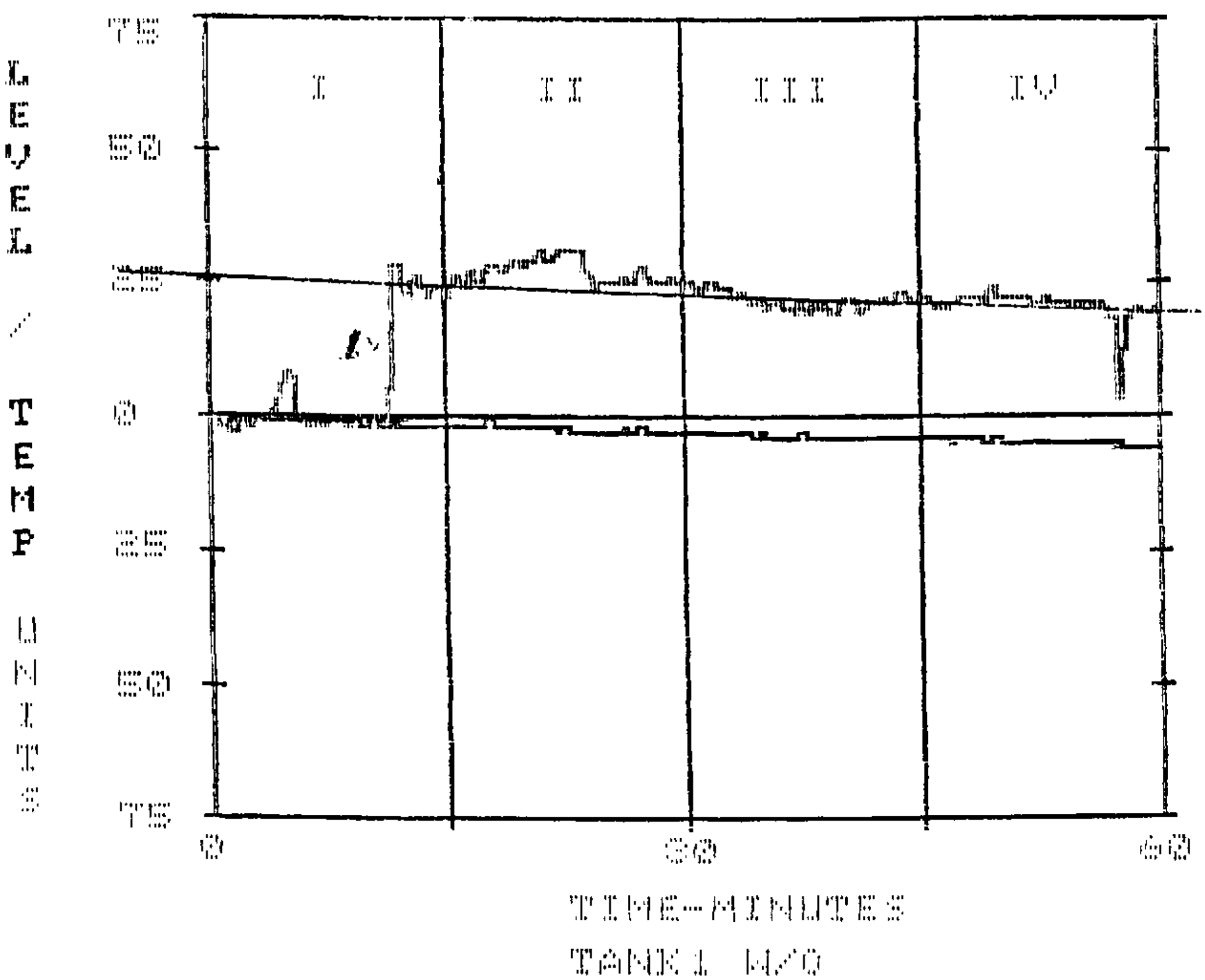


Site Layout For : 9861

AES/System II Precision Leak Test

P.O. Box 90427 Bakersfield, CA 93390 (805) 393-2212

Technician KEM	Calibration Value 25 UNITS	=.05 Gal.	
Date 9/21/89	System Variation	UNITS	GPH
Time Started 14:50	HIGH LEVEL (FULL SYSTEM)	6	-.012
Gallons ~~500~~ 280	LOW LEVEL( ) MID LEVEL( )		
Tank Diameter 45	PRODUCT LINE		
Ground Water 15 FT+	TEST IS (X)PASSED ( )FAILED ( )INCONCLUSIVE		
TEST CONDUCTED AT 78 INCHES	GRADE LEVEL AT 78 INCHES		



FOCUS 1.00 L/ 5.00 T **ORDER NO. 9861**

** Notes
FIRESTONE # 3655 969 SAN PABLO ALBANY, CA.
HIGH LEVEL TEST CALIB. = 1X
CLEAR 70 DEGREES

SEP 1989

Firestone

SALES & SERVICE GROUP

Please reply to: 6333 Telegraph Road
Los Angeles, CA 90040

FAR WEST REGION

Real Estate Office: (213) 720-1564

ALAMEDA CO. DEPT. OF ENVIRONMENTAL
HEALTH DIVISION
470 - 27TH. ST., RM. 324
OAKLAND, CA 94612

DATE: MAY 31, 1988
JOB: FIRESTONE STORE #3655
969 SAN PABLO AVE.
ALBANY, CA 94702

Gentlemen:

We are sending you (X) herewith ( ) under separate cover:

( ) Arch. Drawings	( ) Letters	( ) Shop Drawings	( ) Invoice
( ) Specifications	( ) Survey	( ) Soil Test	(X) Precision Leak Test
( ) Photos	( ) Proposal	( ) Contract	( ) _____

As outlined in Section 2641 (4.3c) of The Calif. Underground Storage Tank Regulations, we have utilized Monitoring Alternative No. 7 for tank gauging and tank testing for the existing small underground waste oil storage tank at this location. As required by D.O.H.S., we have attached

These are:

( ) For approval.
(X) For your use/information.
( ) For review and comments.
( ) Resubmit _____ copies for approval.
( ) Submit _____ copies for distribution.
( ) Return _____ corrected prints.

(.) Approved.
( ) Approved As Noted.
( ) Returned for corrections.

Remarks: a copy of the approved Certificate of Precision Leak Test and Tank and Line Test Results as prepared by AES - Associated Environmental Systems, Inc. We believe you will find these results satisfactory and request that this store be issued a Certificate to Operate. Please contact writer if additional information is required.

cc:
D.M. AUGENSTEIN BK 62
M.E. DRAPCHO BK 62
K.J. LIND BK 62
C.L. KRZYSIAK BK 62

MARKET # 3600
STORE # 3655

VMW/ems A.E.S.

Very truly yours,

THE FIRESTONE TIRE & RUBBER COMPANY

Real Estate Department

By: V. M. Willrich

V. M. Willrich, Proj. Coordinato

CERTIFICATE OF PRECISION LEAK TEST

Associated Environmental Systems, Inc. has tested and certifies the following:

Certification # 886517

DATE: 05/01/88 CERTIFIED TESTER: JKS # 87112

LOCATION: Firestone #3655 969 San Pablo Ave., Albany, CA

TANKS: 2	TANK	LINE	PROD/LINE
1. ~~550~~ W/O	PASS	PASS	N/A
2. XXXXXX	XXXX	XXXX	XXXX
3. XXXXXX	XXXX	XXXX	XXXX
4. XXXXXX	XXXX	XXXX	XXXX
5. XXXXXX	XXXX	XXXX	XXXX
6. XXXXXX	XXXX	XXXX	XXXX

ANY FAILURE LISTED MAY REQUIRE NOTIFICATION OF AGENCY.

Recertification Date Recommended: 05/89

AES TM
Associated Environmental Systems, Inc.

Home Office P.O. Box 80427, Bakersfield, CA 93380 • 805 / 393-2212

Associated Environmental Systems, Inc.

365
Bakersfield, CA 9338
805-393-2212

PRECISION TANK & LINE TEST RESULTS

Invoice Address:

FIRESTONE REAL EST.
6333 TELEGRAPH RD.
LOS ANGLES, CA.

Tank Location:

FIRESTONE
969 SAN PABLO AVE.
ALBANY, CA.

W.O.#: 6517

Technician: J. SCOTT

Tech.#: M001 Van#: M001

Date: 5/1/88 Time Start: 0755 End: 0910 Tech. Signature:
Facility Phone#: 415-527-6200 Groundwater Depth: 12+ Blue Prints: NA
Contact: DENNIS ROBANK Date;Time system was filled: 4/30/88 PM

Tank	Cap.	Prod.	Tank	Line	P/L	V/R	Water/Inch	Pump	Mat	Pdia
1	~~550~~	W/D	PASS	PASS	NA	NA	0	NA	SWS	2
2	280									
3										
4										
5										
6										

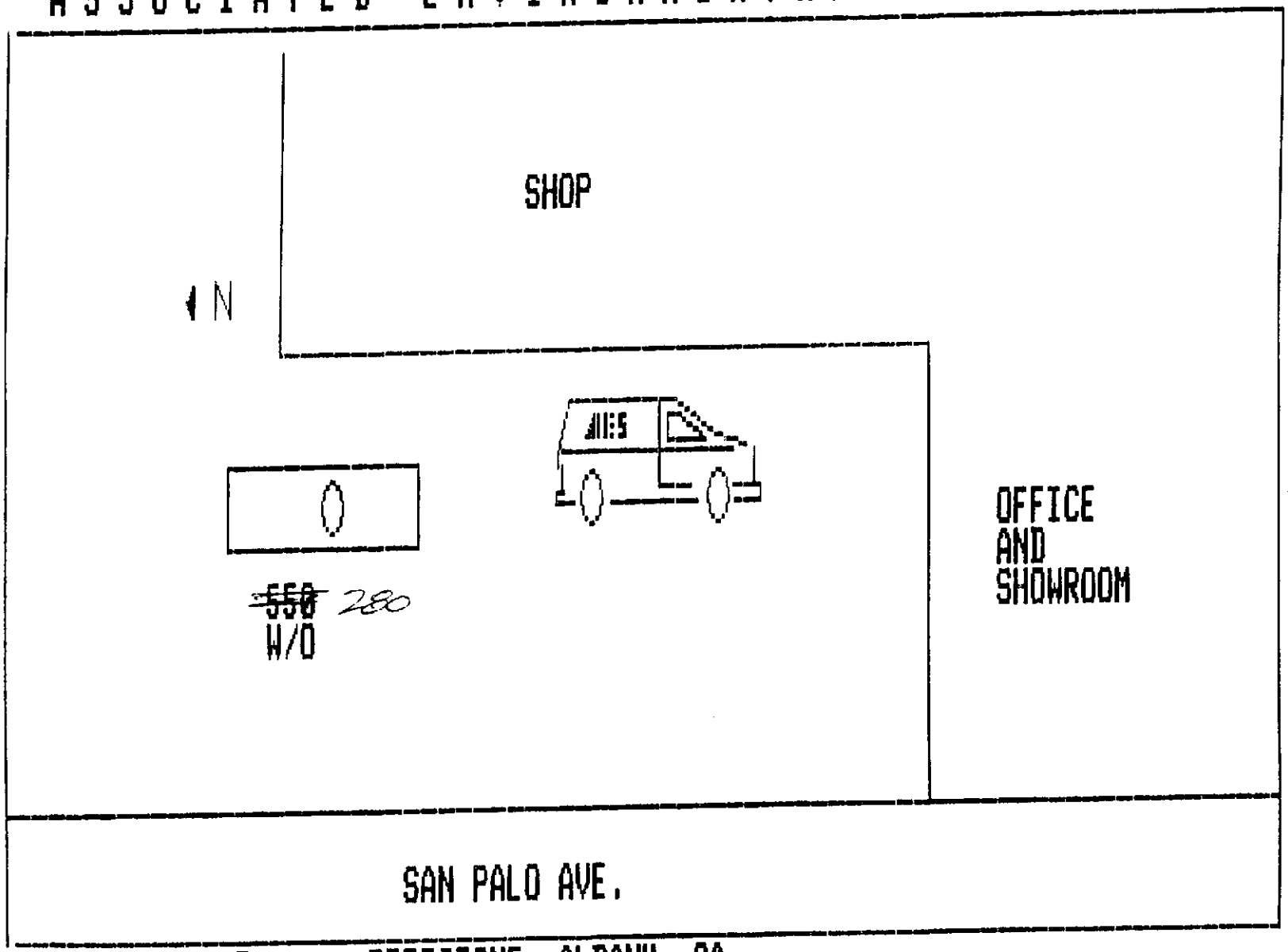
Additional Information:

SITE LOG	TIME
Set Up Equip:	0745
Bled Product Lines:	NA
Bled Vapor Lines:	NA
Bled Vent lines:	NA
Bled Turbine:	NA
Bled Suction Pump:	NA
Risers Installed:	NA

MAY [illegible]88

a) These results obtained using the patented A.E.S./Brockman system.
b) This system and method meets the criteria set forth in NFPA #329.
c) Any failure listed above may require further action, check with all regulatory agencies.

ASSOCIATED ENVIRONMENTAL SYSTEMS



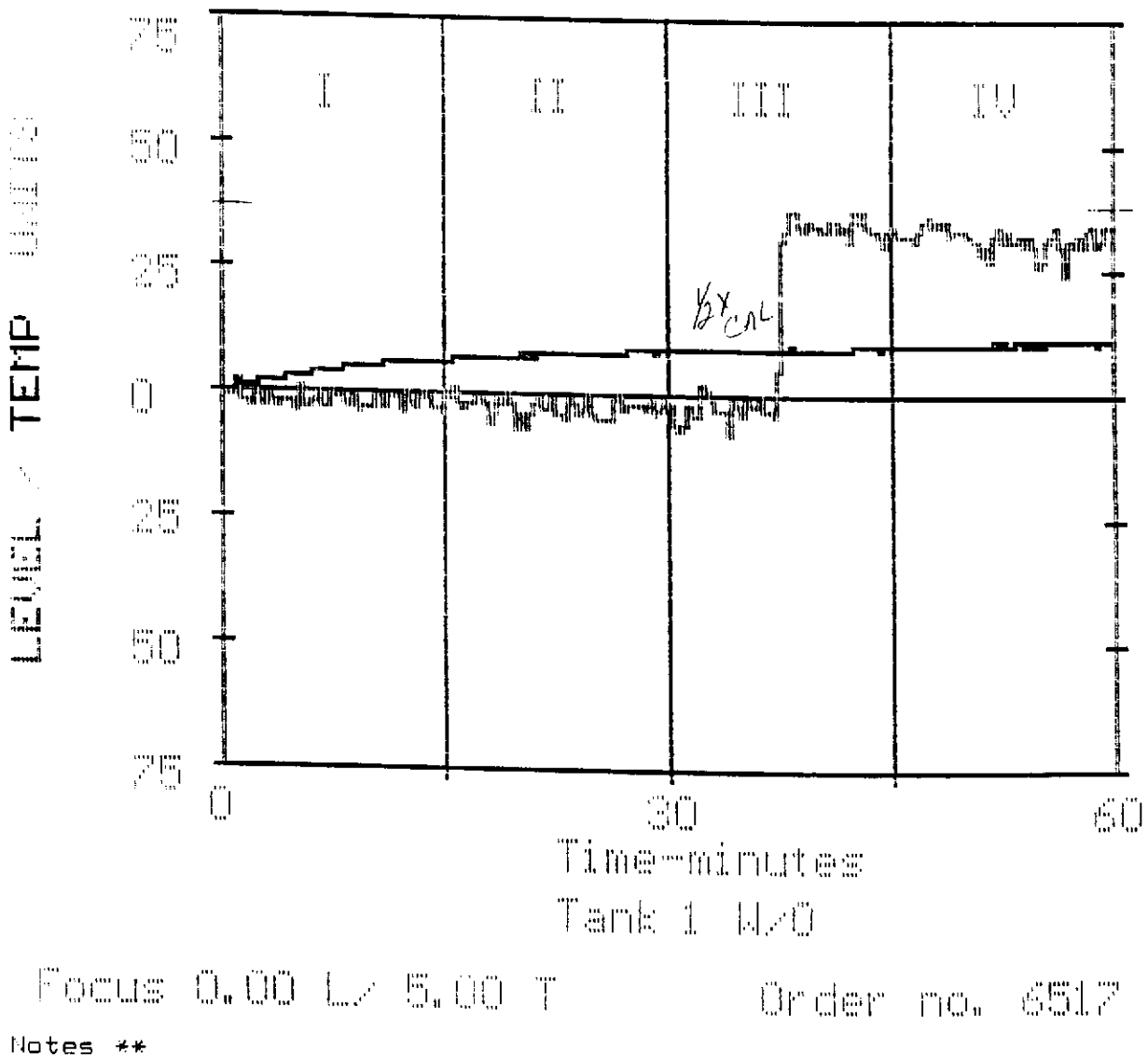
Site Layout For : FIRESTONE, ALBANY, CA.

MAY 23 1988

S/Brockman Precision Leak Test

P.O. Box 00422 Bakersfield, CA 93380 (805) 393-2212

Technician J. SCOTT	Calibration Value .10 UNITS = .05 Gal.		
Date 5/1/88	System Variation	UNITS	GPH
Time Started 7:56:45	HIGH LEVEL (FULL SYSTEM)	5	-.003
Gallons ~~550~~ 280	LOW LEVEL( ) MID LEVEL( )		
Tank Diameter 45	PRODUCT LINE		
Ground Water 12+	TEST IS (X) PASSED ( ) FAILED ( ) INCONCLUSIVE		
TEST CONDUCTED AT 117 INCHES	GRADE LEVEL AT 77 INCHES		



Tank 1 W/O

Focus 0.00 L/ 5.00 T Order no. 6517

** Notes **

FIRESTONE, 969 SAN PABLO AVE., ALBANY, CA.
THIS IS A HIGH LEVEL TEST WITH A 1/2X-CAL.

MAY 23 1988

PLS. NOTE CHANGE OF AGENCY - MARK YOUR FILE ACCORDINGLY

Firestone

SALES & SERVICE GROUP

Please reply to: 8333 Telegraph Road
Los Angeles, CA 90040

FAR WEST REGION

Real Estate Office: (213) 720-1564

ALAMEDA CO. DEPT. OF ENVIRONMENTAL
HEALTH DIVISION
470 - 27TH. ST., RM. 324
OAKLAND, CA 94612

DATE: MAY 5, 1987
JOB: FIRESTONE STORE # 3655
969 SAN PABLO AVE.
ALBANY, CA 94702

Gentlemen:

We are sending you (X) herewith ( ) under separate cover:

( ) Arch. Drawings	( ) Letters	( ) Shop Drawings	( ) Invoice
( ) Specifications	( ) Survey	( ) Soil Test	(X) Precision Leak Test
( ) Photos	( ) Proposal	( ) Contract	( )

As outlined in Section 2641 (4.2c) of The Calif. Underground Storage Tank Regulations, we have utilized Monitoring Alternative No. 5 for tank gauging and tank testing for the existing small underground waste oil storage tank at this location. As required by D.O.H.S., we have attached

These are:

( ) For approval.
(X) For your use/information.
( ) For review and comments.
( ) Resubmit _____ copies for approval.
( ) Submit _____ copies for distribution.
( ) Return _____ corrected prints.

( ) Approved.
( ) Approved As Noted.
( ) Returned for corrections.

Remarks: a copy of the approved Certificate of Precision Leak Test and Tank and Line Test Results as prepared by AES - Associated Environmental Systems, Inc. We believe you will find these results satisfactory and request that this store be issued a Certificate to Operate. Please contact writer if additional information is required.

cc: H.S.I.
D.M. AUGENSTEIN BK 62
M.E. DRAPCHO BK 62
K.J. LIND BK 62
C.L. KRZYSIAK BK 62
R.M.I.
MARKET # 3600
STORE # 3655

VMW/ems A.E.S.

Very truly yours,

THE FIRESTONE TIRE & RUBBER COMPANY

Real Estate Department

By: V. M. Wilirich

V. M. Wilirich, Proj. Coordinato

871744

CERTIFICATE

Associated Environmental Systems has tested the
this tank and line system Tight.

Date: 2-23-87

Certified Tester M. Wilson

: 86115

Location #3655 Firestone, 969 San Pablo Ave, Albany, CA, 94702

Tanks:

1. ~~550~~ 280 W/O ✓
2. XXXXXXXXX
3. XXXXXXXXX
4. XXXXXXXXX
5. XXXXXXXXX
6. XXXXXXXXX

Recertification Date Recommended

Febraury 1988

APR 6 1987

M. Boone

Associated Environmental Systems

Associated Environmental Systems, Inc.

P.O. Box 80427
Bakersfield, CA 93380
(805) 393-2212

PRECISION TANK & LINE TEST RESULTS

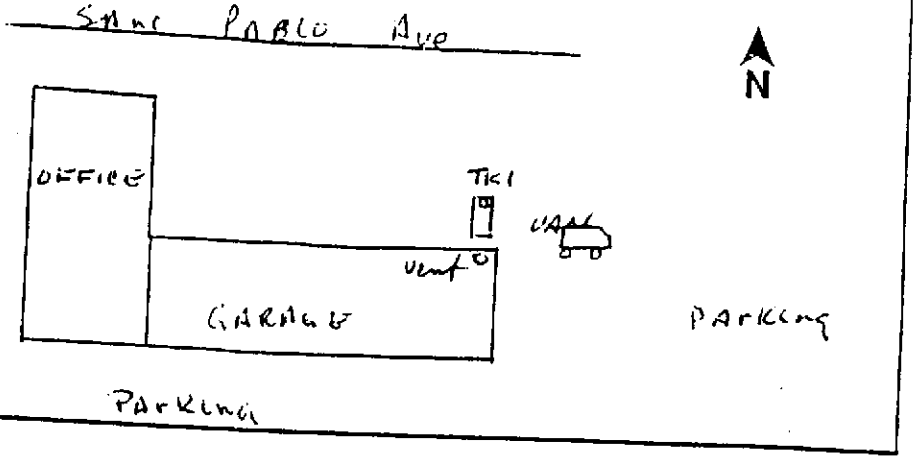
INVOICE ADDRESS:	TANK LOCATION: #F 3655 FIRESTONE 969 SAN PABLO AVE ALBANY, CA	W.O.#: 1744
		TECHNICIAN: Wilson
DATE: 2-25-87	TIME START: 08:00 END: 10:00	TECH. #: 86115 VAN #: 6105
FACILITY PHONE #:	GROUNDWATER DEPTH: N/A	TECH. SIGNATURE: mike Wilson
CONTACT:	DATE; TIME SYSTEM WAS FILLED FOR TESTING: 2-22-87 20:00	BLUE PRINTS: N/A

TANK	CAP.	PROD.	TANK	LINE	P/L	HIGH CAL	LOW CAL	V/R	PROD +	PUMP	MAT	P DIA.
1	~~550~~ 500 ~~280~~	w/o	P	P	N/A	3770	3745	/	125	/	ST	2"2"
2												
3												
4												
5												
6												

ADDITIONAL INFORMATION (i.e. WEATHER, TANKS UNCOVERED?, RE-TEST?)

UNABLE to INSTALL NEW CAP ON Fill - 2" Fill

SITE LOG	✓	TIME
SET UP EQUIP	✓	08:15
BLED PRODUCT LINES		
BLED VAPOR LINES		
BLED VENT LINES		
BLED TURBINE		
BLED SUCTION PUMP		
RISERS INSTALLED		
WATER IN TANKS		INCHES
TANK 1		
TANK 2		
TANK 3		



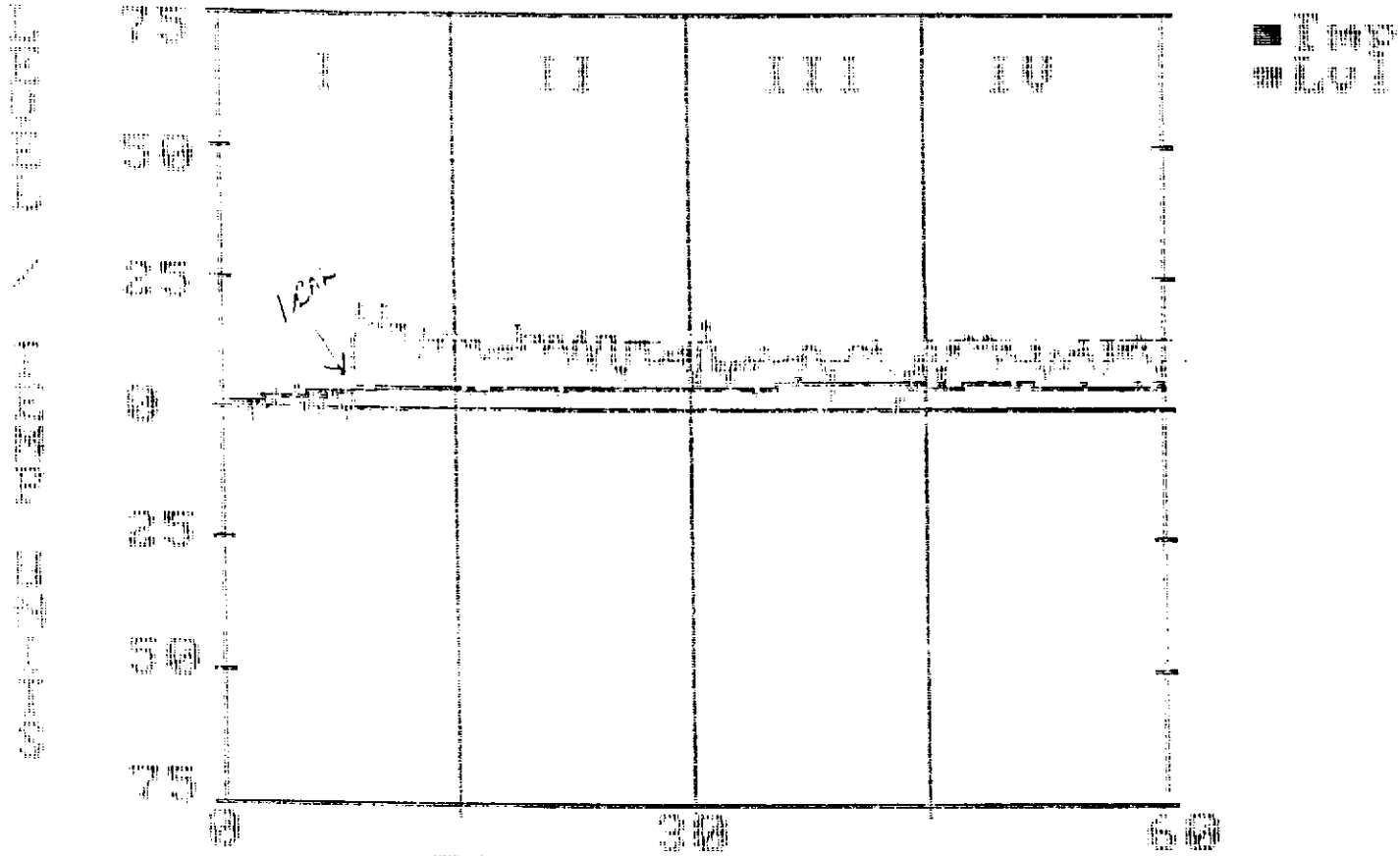
a) ABOVE RESULTS ARE PROVISIONAL. FINAL RESULTS ISSUED FROM A.E.S., BAKERSFIELD.
b) + or - 0.05 GPH IS USED TO CERTIFY TIGHTNESS.
c) THESE RESULTS OBTAINED USING THE PATENTED A.E.S./BROCKMAN SYSTEM.
d) THIS SYSTEM AND METHOD MEETS THE CRITERIA SET FORTH IN NFPA #329.

JLB1

MAR 2 0 1987

[illegible] Precision Leak Test

Technician NELSON	Calibration Value	18 ±.05 Cal.	
Date 2/23/07	System Variation	Scale	GPH
Time Started 08:00	Tank Only	-4	.01
Gallons ~~500~~ ~~550~~ 280	Product Line	N/A	
Gallons Added 220	Non Pressure Lines	-4	.01
Hrs Since Added 1	Notes		



Tank 1 - M/G

Feels 2L 4T Order no. 1744

** Notes

FIRESTONE TIRE CO 949 SAN PABLO AVE ALBANY CA.
HIGH LEVEL IKCAL. FILL NECK =27" ALL LINES INVOLVED IN TEST.

MAR [illegible] 1987

ALAMEDA COUNTY HEALTH CARE SERVICES AGENCY
DEPARTMENT OF ENVIRONMENTAL HEALTH
HAZARDOUS MATERIALS DIVISION
80 SWAN WAY, ROOM 200
OAKLAND, CA 94621
PHONE NO. 415/271-4320

Project # U5699815
Fee Paid $375.00
Date 3-23-96

UNDERGROUND TANK CLOSURE/MODIFICATION PLANS

1. Business Name Firestone store 3655
   Business Owner Vern Wellrick
2. Site Address 969 San Pablo
   City Albany Zip 94706 Phone 213-827-70
3. Mailing Address Firelog
   City 815 Superior Ave Cleveland Zip OH Phone 44114
4. Land Owner same as mailing
   Address _____ City, State _____ Zip _____
5. EPA I.D. No. CAD 982 005 928
6. Contractor Ryan Murphy Inc
   Address 211 Granite St Suite E
   City Corona Ca Phone 714-279-621
   License Type A,B,C-GRD-40 HAZ ID# 516377
7. Consultant CRM UST
   Address 117 Botelho Stite 260
   City Walnut creek Ca Phone 415 946-0455

8. Contact Person for Investigation

Name charles m Bentley Title operation Mang

Phone 714-279-6210

9. Total No. of Tanks at facility 1

10. Have permit applications for all tanks been submitted to this office? Yes [X] No [ ]

11. State Registered Hazardous Waste Transporters/Facilities

a) Product/Waste Tranporter

Name N/A EPA I.D. No. _____

Address _____

City _____ State ____ Zip _____

b) Rinsate Transporter

Name ~~N/A~~ EPA I.D. No. _____

Address _____

City _____ State ____ Zip _____

c) Tank Transporter

Name H&H ship Service EPA I.D. No. CAD 004771168

Address 220 china Basin

City San Francisco State ca Zip 94107

d) Tank Disposal Site

Name H&H ship Service EPA I.D. No. CAD-004771168

Address 220 china Basin

City San Francisco State ca Zip 94107

e) Contaminated Soil Transporter

Name H&H EPA I.D. No. CAD 004771168

Address 220 china Basin

City San Francisco State ca Zip 94107

12. Sample Collector

Name LaB Tech

Company Trace Analysis Lab

Address 3423 Investment Blvd # 8

City Hayward State CA Zip 94545 Phone 415-783-65

13. Sampling Information for each tank or area

Tank or Area		Material sampled	Location & Depth
Capacity	Historic Contents (past 5 years)		
280 G	Waste oil	Soil & ground water if posible	at soil/Backfill interface into 2' of nature soil

14. Have tanks or pipes leaked in the past? Yes [ ] No [X]

If yes, describe. _____

15. NFPA methods used for rendering tank inert? Yes [ ] No [ ]

If yes, describe. CO^2 15lbs /1000 gal min.

An explosion proof combustible gas meter shall be used to verify tank inertness.

16. Laboratories

Name Trace Analysis LaB

Address 3423 Investment Blvd. #8

City Hayward State Ca Zip 94545

State Certification No. 122

17. Chemical Methods to be used for Analyzing Samples

Contaminant Sought	EPA, DHS, or Other Sample Preparation Method Number	EPA, DHS, or Other Analysis Number
TPH Gas & Diesel	DHS method	
Oil grease	503 E	
BTXde and VOC	8020 m	
Chlorinated Hydrocarbons	8010	

18. Submit Site Safety Plan

19. Workman's Compensation: Yes [X] No [ ]

Copy of Certificate enclosed? Yes [ ] No [ ]

Name of Insurer A/G

20. Plot Plan submitted? Yes [X] No [ ]

21. Deposit enclosed? Yes [X] No [ ]

22. Please forward to this office the following information within 60 days after receipt of sample results.

a) Chain of Custody Sheets

b) Original Signed Laboratory Reports

c) TSD to Generator copies of wastes shipped and received

d) Attachment A summarizing laboratory results

I declare that to the best of my knowledge and belief the statements and information provided above are correct and true. I understand that information in addition to that provided above may be needed in order to obtain an approval from the Department of Environmental Health and that no work is to begin on this project until this plan is approved.

I understand that any changes in design, materials or equipment will void this plan if prior approval is not obtained.

I understand that all work performed during this project will be done in compliance with all applicable OSHA (Occupational Saftey and Health Administration) requirements concerning personnel and safety.

I will notify the Department of Environmental Health at least two (2) working days (48 hours) after approval of this closure plan in advance to schedule any required inspections. I understand that site and worker safety are solely the responsibility of the property owner or his agent and that this responsibility is not shared nor assumed by the County of Alameda.

Signature of Contractor

Name (please type) Michael Swartz

Signature M. Swartz

Date 3/23/90

Signature of Site Owner or Operator

Name (please type) Vern Willrich

Signature [illegible] for Vern Willrich

Date 3/23/90

NOTES:

1. Any changes in this document must be approved by this Department.

2. Any leaks discovered must be submitted to this office on an underground storage tank unauthorized leak/contamination site report form within 5 days of its discovery.

3. Three (3) copies of this plan must be submitted to this Department. One copy must be at the construction site at all times.

4. After approval of plan, notification of at least two (2) working days (48 hours) must be given to this Department prior to removal of tank(s).

5. A copy of your approved plan must be sent to the landowner.

6. Triple rinse means that:

   a) Final rinse must contain less than 100 ppm of Gasoline (EPA method 8020 for soil, or EPA method 602 for water) or Diesel (EPA method 418.1). Other methods for halogenated volatile organics (EPA method 8010 for soil, EPA method 601 for water) may be required. The composition of the final rinse must be demonstrated by an original or facsimile report from a laboratory certified for the above analyses.

   b) Tank interior is shown to be free from deposits or residues upon a visual examination of tank interior.

   c) Tank should be labelled as "tripled rinsed; laboratory certified analysis available upon request" with the name and address of the contractor.

If all the above requirements cannot be met, the tank must be transported as a hazardous waste.

7. Any cutting into tanks requires local fire department approval.

UNDERGROUND TANK CLOSURE/MODIFICATION PLANS

ATTACHMENT A

SAMPLING RESULTS

Tank or Area	Contaminant	Location & Depth	Results (specify units)

INSTRUCTIONS

2. SITE ADDRESS
Address at which closure or modification is taking place.

5. EPA I.D. NO.
This number may be obtained from the State Department of Health Services, 916/324-1781.

6. CONTRACTOR
Prime contractor for the project.

7. OTHER
List professional consultants here.

12. SAMPLE COLLECTOR
Persons who are collecting samples.

13. SAMPLING INFORMATION
Historic contents - the principal product(s) used in the last 5 years.

Material sampled - i.e., water, oil, sludge, soil, etc.

16. LABORATORIES
Laboratories used for chemical and geotechnical analyses.

17. CHEMICAL METHODS:
All sample collection methods and analyses should conform to EPA or DHS methods.

Contaminant - Specify the chemical to be analyzed.

Sample Preparation Method Number - The means used to prepare the sample prior to analyses - i.e., digestion techniques, solvent extraction, etc. Specify number of method and reference if not an EPA or DHS method.

Analysis Method Number - The means used to analyze the sample - i.e., GC, GC-MS, AA, etc. Specify number of method and reference if not a DHS or EPA method.

NOTE:
Method Numbers are available from certified laboratories.

18. SITE SAFETY PLAN
A plan outlining protective equipment and additional specialized personnel in the event that significant amount of hazardous materials are found. The plan should consider the availability of respirators, respirator cartridges, self-contained breathing apparatus (SCBA) and industrial hygienists.

19. ATTACH COPY OF WORKMAN'S COMPENSATION

20. PLOT PLAN

The plan should consists of a scaled view of the facility at which the tank(s) are located and should include the following information:

a) Scale

b) North Arrow

c) Property Line

d) Location of all Structures

e) Location of all relevant existing equipment including tanks and piping to be removed

f) Streets

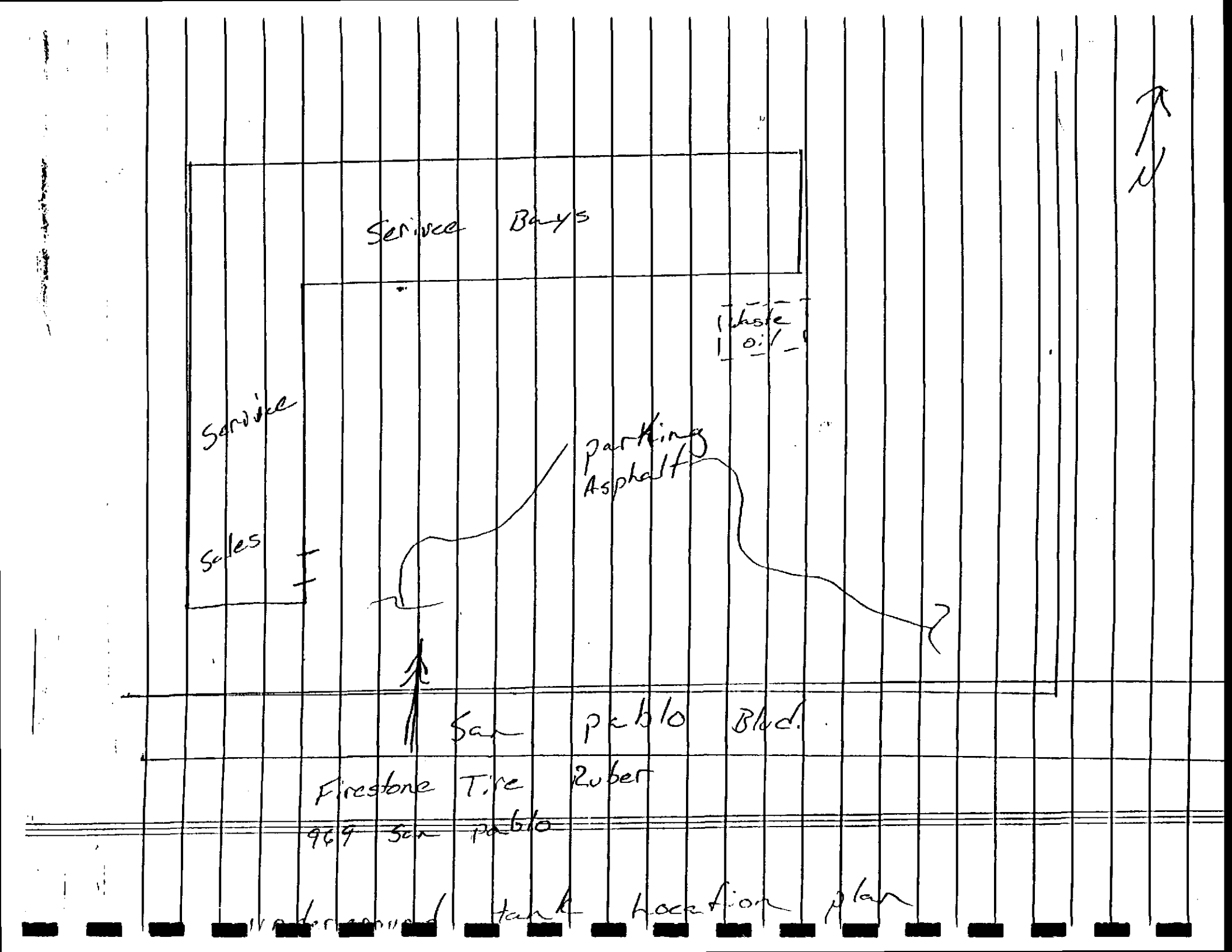
g) Underground conduits, sewers, water lines, utilities

h) Existing wells (drinking, monitoring, etc.)

i) Depth to ground water

j) All existing tanks in addition to the ones being pulled

rev. 9/88
mam


Service Bays
Service
Sales
parking
Asphalt
San pablo Blvd.
Firestone Tire
Zuber
969 San pablo
Underground tank location plan

HAZARDOUS WASTE MANIFEST/TANK

State of California—Health and Welfare Agency
Form Approved OMB No. 2050—0039 (Expires 9-30-9
Please print or type. (Form designed for use on elite (12-pitch typewriter).

Department of Health Services
Toxic Substances Control Division
Sacramento, California

UNIFORM HAZARDOUS WASTE MANIFEST

1. Generator's US EPA ID No. C A D 9 8 2 0 0 5 9 2 8 | Manifest Document No. 0 0 0 0 0 1

2. Page 1 of 1 | Information in the shaded areas is not required by Federal law

3. Generator's Name and Mailing Address
FIRESTONE TIRE & RUBBER COMPANY
6333 Telegraph Road Los Angeles CA. 90040
4. Generator's Phone (213) 447-4220

A. State Manifest Document Number 90004499
B. State Generator's ID

5. Transporter 1 Company Name: H & H Ship Service Company
6. US EPA ID Number: C A D 0 0 4 7 7 1 1 6 8
C. State Transporter's ID 103561
D. Transporter's Phone (415) 543-4835

7. Transporter 2 Company Name
8. US EPA ID Number
E. State Transporter's ID
F. Transporter's Phone

9. Designated Facility Name and Site Address
H & H Ship Service Company
220 China Basin Street
San Francisco, CA 94107
10. US EPA ID Number: C A D 0 0 4 7 7 1 1 6 8
G. State Facility's ID: C A D 0 0 4 7 7 1 1 6 8
H. Facility's Phone (415) 543-4835

11. US DOT Description (Including Proper Shipping Name, Hazard Class, and ID Number)	12. Containers No.	Type	13. Total Quantity	14. Unit Wt/Vol	I. Waste No.
a. RESIDUE WASTE OIL TANK (CALIFORNIA ONLY REGULATED WASTE)	0 0 1	T P	0 0 2 8 0	P	State 512 / EPA/Other
b. HAZARDOUS WASTE LIQUID N.O.S ORM-E NA 9189	0 0 1	D M	0 0 0 5 5	G	State 241 / EPA/Other
c.					State / EPA/Other
d.					State / EPA/Other

J. Additional Descriptions for Materials Listed Above
A)PUMPED OUT 280 gallon tank last containing waste oil. Tank inerted with dry ice for transport
B) One 55 gallon drum tank bottom waste

K. Handling Codes for Wastes Listed Above
a. 01 b. 01
c. d.

15. Special Handling Instructions and Additional Information
JOB SITE: FIRESTONE TIRE & RUBBER
969 San Pablo Ave
Albany, California
APPROPRIATE PROTECTIVE CLOTHING AND RESPIRATOR.

16. GENERATOR'S CERTIFICATION: I hereby declare that the contents of this consignment are fully and accurately described above by proper shipping name and are classified, packed, marked, and labeled, and are in all respects in proper condition for transport by highway according to applicable international and national government regulations.

If I am a large quantity generator, I certify that I have a program in place to reduce the volume and toxicity of waste generated to the degree I have determined to be economically practicable and that I have selected the practicable method of treatment, storage, or disposal currently available to me which minimizes the present and future threat to human health and the environment; OR, if I am a small quantity generator, I have made a good faith effort to minimize my waste generation and select the best waste management method that is available to me and that I can afford.

GENERATOR
Printed/Typed Name: [illegible] J [illegible]
Signature: [signature]
Month Day Year: 0 5 0 1 9 0

TRANSPORTER
17. Transporter 1 Acknowledgement of Receipt of Materials
Printed/Typed Name: JIM P. MACKALL
Signature: [signature]
Month Day Year: 0 5 0 1 9 0

18. Transporter 2 Acknowledgement of Receipt of Materials
Printed/Typed Name
Signature
Month Day Year

FACILITY
19. Discrepancy Indication Space

20. Facility Owner or Operator Certification of receipt of hazardous materials covered by this manifest except as noted in Item 19.
Printed/Typed Name
Signature
Month Day Year

IN CASE OF AN EMERGENCY OR SPILL, CALL THE NATIONAL RESPONSE CENTER 1-800-424-8802; WITHIN CALIFORNIA CALL 1-800-852-7550

DHS 8022 A (1/88)
EPA 8700—22
(Rev. 9-88) Previous editions are obsolete.

Do Not Write Below This Line

Blue: GENERATOR SENDS THIS COPY TO DOHS WITHIN 30 DAYS
To: P.O. Box 400, Sacramento, CA 95812-0400

HAZARDOUS WASTE MANIFEST/TANK CONTENTS

State of California—Health and Welfare Agency
Form Approved OMB No. 50—0039 (Expires 4-30-91)
Please print or type. (Form designed for use on elite (12-pitch typewriter))

23655B

Department of Health Services
Toxic Substances Control Division
Sacramento, California

UNIFORM HAZARDOUS WASTE MANIFEST

1. Generator's US EPA ID No.: C A D 9 8 2 0 0 5 9 2 8
Manifest Document No.: 0 0 0 0 2

Page 1 of 1

Information in the shaded areas is not required by Federal law.

3. Generator's Name and Mailing Address
FIRESTONE TIRE & RUBBER COMPANY
6333 Telegraph Road, Los Angeles, CA 90040

4. Generator's Phone (213) 927-7010

A. State Manifest Document Number: 90004500

B. State Generator's ID:

5. Transporter 1 Company Name: H & H Ship Service Company

6. US EPA ID Number: C A D 0 0 4 7 7 1 1 6 8

C. State Transporter's ID: 103578

D. Transporter's Phone: (415) 543-4835

7. Transporter 2 Company Name:

8. US EPA ID Number:

E. State Transporter's ID:

F. Transporter's Phone:

9. Designated Facility Name and Site Address
H & H Ship Service Company
220 China Basin Street
San Francisco, CA 94107

10. US EPA ID Number: C A D 0 0 4 7 7 1 1 6 8

G. State Facility's ID: C A D 0 0 4 7 7 1 1 6 8

H. Facility's Phone: (415) 543-4835

11. US DOT Description (Including Proper Shipping Name, Hazard Class, and ID Number)	12. Containers No.	Type	13. Total Quantity	14. Unit Wt/Vol	I. Waste No.
a. HAZARDOUS WASTE LIQUID, N.O.S. ORM-E NA 9189	0 0 1	T T	09/09	G	State 241 / EPA/Other
b.					State / EPA/Other
c.					State / EPA/Other
d.					State / EPA/Other

J. Additional Descriptions for Materials Listed Above
FUEL, OIL AND WATER

K. Handling Codes for Wastes Listed Above
a. 01 b. c. d.

15. Special Handling Instructions and Additional Information
JOB SITE: FIRESTONE TIRE & RUBBER
969 San Pablo Avenue
Albany, California
APPROPRIATE PROTECTIVE CLOTHING AND RESPIRATOR.

16. GENERATOR'S CERTIFICATION: I hereby declare that the contents of this consignment are fully and accurately described above by proper shipping name and are classified, packed, marked, and labeled, and are in all respects in proper condition for transport by highway according to applicable international and national government regulations.

If I am a large quantity generator, I certify that I have a program in place to reduce the volume and toxicity of waste generated to the degree I have determined to be economically practicable and that I have selected the practicable method of treatment, storage, or disposal currently available to me which minimizes the present and future threat to human health and the environment; OR, if I am a small quantity generator, I have made a good faith effort to minimize my waste generation and select the best waste management method that is available to me and that I can afford.

Printed/Typed Name: Richard J. Dow
Signature: Richard J. Dow
Month Day Year: 0 5 0 1 9 0

17. Transporter 1 Acknowledgement of Receipt of Materials

Printed/Typed Name: ROBERT V. PETRUCCI
Signature: Robert V. Petrucci
Month Day Year: 0 5 0 1 9 0

18. Transporter 2 Acknowledgement of Receipt of Materials

Printed/Typed Name:
Signature:
Month Day Year:

19. Discrepancy Indication Space

20. Facility Owner or Operator Certification of receipt of hazardous materials covered by this manifest except as noted in Item 19.

Printed/Typed Name: Roshan Bhadkamkar
Signature:
Month Day Year: 0 5 0 1 9 0

GENERATOR

TRANSPORTER

FACILITY

IN CASE OF AN EMERGENCY OR SPILL, CALL THE NATIONAL RESPONSE CENTER 1 800 424 8802; WITHIN CALIFORNIA CALL 1 800 852-7550

DHS 8022 A (1/88)
EPA 8700—22
(Rev. 9-88) Previous editions are obsolete.

Do Not Write Below This Line

[illegible] RETURNS THIS COPY TO DOHS WITHIN 30 DAYS

CERTIFICATE OF TANK DISPOSAL

ENVIRONMENTAL SERVICES
(DIVISION OF H&H SHIP SERVICE CO., INC.)

CERTIFICATE OF DISPOSAL

MAY 04, 1990

H & H Ship Service Company hereby certifies to RYAN-MURPHY that:

1. The storage tank(s), size(s) ONE (1) 280 GALS.

   removed from the FIRESTONE TIRE & RUBBER

   facility at 969 SAN PABLO AVENUE
   ALBANY, CALIFORNIA

   were transported to H & H Ship Service Company, 220 China Basin St., San Francisco, California 94107.

2. The following tank(s), H & H Job Number 4229

   have been steamed cleaned, cut with approximately 2' X 2' holes, rendered harmless and disposed of as scrap metal.

3. Disposal site: LEVIN METALS CORPORATION, RICHMOND, CALIFORNIA.

4. The foregoing method of destruction/disposal is suitable for the materials involved, and fully complies with all applicable regulatory and permit requirements.

5. Should you require further information, please call (415) 543-4835.

Very Truly Yours,

Cleveland Valrey
Operations Coordinator

220 CHINA BASIN, SAN FRANCISCO, CA 94107 • DAY AND NIGHT: 543-4835

LABORATORY REPORTS AND CHAIN-OF-CUSTODY FORMS

FGL ENVIRONMENTAL

RECEIVED MAY 2 2 1990

ANALYTICAL CHEMISTS

May 16, 1990

Lab No. 30899-1
Acct No. 03-9254
Ryan Murphy Inc.
5351 Lincoln
Denver, CO 80216

Sample Description: N. End of Tank
Sampled by: Rick Dow
Date Sampled: 05/03/90
Date Received: 05/08/90

PURGEABLE AROMATICS - EPA METHOD 8020

Parameter	Test Results ug/kg	Detection Limit ug/kg
Benzene	16.1	5
Toluene	ND	5
Total Xylenes	5.1	5
Chlorobenzene	ND	5
Ethylbenzene	ND	5
1,2-Dichlorobenzene	ND	5
1,3-Dichlorobenzene	ND	5
1,4-Dichlorobenzene	ND	5

ND = Not detected at or above the concentration of the detection limit.

ug/kg = ppb

Sincerely,

John F. Quinn

John F. Quinn, Ph.D.
Laboratory Director

JFQ: sjb

MAIN OFFICE – & LABORATORY 853 CORPORATION STREET – P.O. BOX 272 SANTA PAULA, CALIFORNIA 93060-0272 (805) 525-3824 -- (805) 659-0910 FAX (805) 525-4172

BRANCH OFFICE – & LABORATORY 2500 STAGECOACH ROAD STOCKTON, CALIFORNIA 95205 (209) 942-0181 FAX (209) 942-0423

FGL ENVIRONMENTAL

RECEIVED MAY 2 2 1990

ANALYTICAL CHEMISTS

May 16, 1990

Lab No. 30899-2
Acct No. 03-9254
Ryan Murphy, Inc.
5351 Lincoln
Denver, CO 80216

Sample Description: S. End of Tank
Sampled by: Rick Dow
Date Sampled: 05/03/90
Date Received: 05/08/90

PURGEABLE AROMATICS - EPA METHOD 8020

Parameter	Test Results ug/kg	Detection Limit ug/kg
Benzene	150	5
Toluene	770	5
Total Xylenes	8590	5
Chlorobenzene	ND	5
Ethylbenzene	820	5
1,2-Dichlorobenzene	ND	5
1,3-Dichlorobenzene	ND	5
1,4-Dichlorobenzene	ND	5

ND = Not detected at or above the concentration of the detection limit.

ug/kg = ppb

Sincerely,

John F. Ouinn

John F. Ouinn, Ph.D.
Laboratory Director

JFQ: sjb

MAIN OFFICE – & LABORATORY 853 CORPORATION STREET – P.O. BOX 272 SANTA PAULA, CALIFORNIA 93060-0272 (805) 525-3824 -- (805) 659-0910 FAX (805) 525-4172

BRANCH OFFICE – & LABORATORY 2500 STAGECOACH ROAD STOCKTON, CALIFORNIA 95205 (209) 942-0181

FGL ENVIRONMENTAL

ANALYTICAL CHEMISTS

RECEIVED MAY 2 2 1990

May 16, 1990

Lab No. 30899-3
Acct No. 03-9254
Ryan Murphy, Inc.
5351 Lincoln
Denver, CO 80216

Sample Description: N. Wall of Exc.
Sampled by: Rick Dow
Date Sampled: 05/03/90
Date Received: 05/08/90

PURGEABLE AROMATICS - EPA METHOD 8020

Parameter	Test Results ug/kg	Detection Limit ug/kg
Benzene	2300	5
Toluene	4460	5
Total Xylenes	16900	5
Chlorobenzene	ND	5
Ethylbenzene	3250	5
1,2-Dichlorobenzene	ND	5
1,3-Dichlorobenzene	ND	5
1,4-Dichlorobenzene	ND	5

ND = Not detected at or above the concentration of the detection limit.

ug/kg = ppb

Sincerely,

John F. Quinn

John F. Quinn, Ph.D.
Laboratory Director

JFQ: sjb

MAIN OFFICE – & LABORATORY 853 CORPORATION STREET – P.O. BOX 272 SANTA PAULA, CALIFORNIA 93060-0272 (805) 525-3824 -- (805) 659-0910 FAX (805) 525-4173

BRANCH OFFICE – & LABORATORY 2500 STAGECOACH ROAD STOCKTON, CALIFORNIA 95205 (209) 942-0181 FAX (209) 942-0423

FGL ENVIRONMENTAL

ANALYTICAL CHEMISTS

RECEIVED MAY 2 2 1990

May 16, 1990

ab #: 30899-1
cct #: 03-9254
van-Murphy, Inc.
351 Lincoln
enver, CO 80216

ample Description: N. End of Tank
ampled by: Rick Dow
ate Sampled: 05/03/90

Chlorinated Hydrocarbons
EPA Method 8010

Compound	ug/kg	Detection Limit mg/kg	Compound	ug/kg	Detection Limit mg/
Benzyl chloride	ND	0.5	Dichlorodifluoromethane	ND	0.5
Bis(2-chloroisopropyl)ether	ND	0.5	1,1-Dichloroethane	15.6	0.5
Bromobenzene	ND	0.5	1,2-Dichloroethane	0.7	0.5
Bromodichloromethane	ND	0.5	1,1-Dichloroethylene	ND	0.5
Bromoform	ND	0.5	trans-1,2-Dichloroethylene	ND	0.5
Bromomethane	ND	0.5	Dichloromethane	ND	0.5
Carbon tetrachloride	ND	0.5	1,2-Dichloropropane	ND	0.5
Chlorobenzene	ND	0.5	cis-1,3-Dichloropropylene	ND	0.5
Chloroethane	ND	0.5	trans-1,3-Dichloropropylene	ND	0.5
Chloroform	ND	0.5	1,1,2,2-Tetrachloroethane	ND	0.5
1-Chlorohexane	ND	0.5	1,1,1,2-Tetrachloroethane	ND	0.5
2-Chloroethyl vinyl ether	ND	0.5	Tetrachloroethylene	1.2	0.5
Chloromethane	ND	0.5	1,1,1-Trichloroethane	ND	0.5
Chlorotoluene	ND	0.5	1,1,2-Trichloroethane	ND	0.5
Dibromochloromethane	ND	0.5	Trichloroethylene	ND	0.5
Dibromomethane	ND	0.5	Trichlorofluoromethane	ND	0.5
1,2-Dichlorobenzene	ND	0.5	Trichloropropane	ND	0.5
1,3-Dichlorobenzene	ND	0.5	Vinyl chloride	ND	0.5
1,4-Dichlorobenzene	ND	0.5			

ND = Not detected at or above the concentration of the detection limit.

ug/kg = ppb

If there are questions, please call or write.

John F. Quinn, Ph.D.
Laboratory Director

Tie Kang Huang
Chemist

JFQ: sjh

MAIN OFFICE & LABORATORY – 853 CORPORATION STREET – P.O. BOX 272 SANTA PAULA, CALIFORNIA 93060-0272 (805) 525-3824 – (805) 659-0910 FAX (805) 525-4172
BRANCH OFFICE & LABORATORY – 2500 STAGECOACH ROAD STOCKTON, CALIFORNIA 95205 (209) 942-0181 FAX (209) 942-0423

FGL ENVIRONMENTAL

ANALYTICAL CHEMISTS

RECEIVED MAY 2 2 1990

May 16, 1990

Lab #: 30899-2
Acct #: 03-9254
Ryan Murphy, Inc.
3351 Lincoln
Denver, CO 80216

Sample Description: S. End of Tank
Sampled by: Rick Dow
Date Sampled: 05/03/90

Chlorinated Hydrocarbons
EPA Method 8010

Compound	ug/kg	Detection Limit mg/kg		ug/kg	Detectic Limit mg
Benzyl chloride	ND	0.5	Dichlorodifluoromethane	ND	0.5
Bis(2-chloroisopropyl)ether	ND	0.5	1,1-Dichloroethane	3.8	0.5
Bromobenzene	ND	0.5	1,2-Dichloroethane	ND	0.5
Bromodichloromethane	ND	0.5	1,1-Dichloroethylene	ND	0.5
Bromoform	ND	0.5	trans-1,2-Dichloroethylene	ND	0.5
Bromomethane	ND	0.5	Dichloromethane	ND	0.5
Carbon tetrachloride	ND	0.5	1,2-Dichloropropane	ND	0.5
Chlorobenzene	ND	0.5	cis-1,3-Dichloropropylene	ND	0.5
Chloroethane	ND	0.5	trans-1,3-Dichloropropylene	ND	0.5
Chloroform	ND	0.5	1,1,2,2-Tetrachloroethane	ND	0.5
1-Chlorohexane	ND	0.5	1,1,1,2-Tetrachloroethane	ND	0.5
2-Chloroethyl vinyl ether	ND	0.5	Tetrachloroethylene	1830	0.5
Chloromethane	ND	0.5	1,1,1-Trichloroethane	900	0.5
Chlorotoluene	ND	0.5	1,1,2-Trichloroethane	ND	0.5
Dibromochloromethane	ND	0.5	Trichloroethylene	ND	0.5
Dibromomethane	ND	0.5	Trichlorofluoromethane	ND	0.5
1,2-Dichlorobenzene	ND	0.5	Trichloropropane	ND	0.5
1,3-Dichlorobenzene	ND	0.5	Vinyl chloride	ND	0.5
1,4-Dichlorobenzene	ND	0.5			

ND = Not detected at or above the concentration of the detection limit.

ug/kg = ppb

If there are questions, please call or write.

John F. Quinn, Ph.D.
Laboratory Director

Tie Kang Huang
Chemist

JFQ: sjb

MAIN OFFICE & LABORATORY – 853 CORPORATION STREET – P.O. BOX 272, SANTA PAULA, CALIFORNIA 93060-0272
(805) 525-3824 -- (805) 659-0910
FAX (805) 525-4172

BRANCH OFFICE & LABORATORY – 2500 STAGECOACH ROAD, STOCKTON, CALIFORNIA 95205
(209) 942-0181
FAX (209) 942-0423

FGL ENVIRONMENTAL

ANALYTICAL CHEMISTS

RECEIVED MAY 2 2 1990

May 16, 1990

b #: 30899-3
ct #: 03-9254
an Murphy, Inc.
51 Lincoln
nver, CO 80216

mple Description: N. Wall of Exc.
mpled by: Rick Dow
te Sampled: 05/03/90

Chlorinated Hydrocarbons
EPA Method 8010

Compound	ug/kg	Detection Limit mg/kg	Compound	ug/kg	Detection Limit mg/k
Benzyl chloride	ND	0.5	Dichlorodifluoromethane	ND	0.5
Bis(2-chloroisopropyl)ether	ND	0.5	1,1-Dichloroethane	ND	0.5
Bromobenzene	ND	0.5	1,2-Dichloroethane	ND	0.5
Bromodichloromethane	ND	0.5	1,1-Dichloroethylene	ND	0.5
Bromoform	ND	0.5	trans-1,2-Dichloroethylene	ND	0.5
Bromomethane	ND	0.5	Dichloromethane	ND	0.5
Carbon tetrachloride	ND	0.5	1,2-Dichloropropane	ND	0.5
Chlorobenzene	ND	0.5	cis-1,3-Dichloropropylene	ND	0.5
Chloroethane	ND	0.5	trans-1,3-Dichloropropylene	ND	0.5
Chloroform	ND	0.5	1,1,2,2-Tetrachloroethane	ND	0.5
1-Chlorohexane	ND	0.5	1,1,1,2-Tetrachloroethane	ND	0.5
2-Chloroethyl vinyl ether	ND	0.5	Tetrachloroethylene	7230	0.5
Chloromethane	ND	0.5	1,1,1-Trichloroethane	4300	0.5
Chlorotoluene	ND	0.5	1,1,2-Trichloroethane	ND	0.5
Dibromochloromethane	ND	0.5	Trichloroethylene	ND	0.5
Dibromomethane	ND	0.5	Trichlorofluoromethane	ND	0.5
1,2-Dichlorobenzene	ND	0.5	Trichloropropane	ND	0.5
1,3-Dichlorobenzene	ND	0.5	Vinyl chloride	ND	0.5
1,4-Dichlorobenzene	ND	0.5			

ND = Not detected at or above the concentration of the detection limit.

ug/kg = ppb

If there are questions, please call or write.

John F. Quinn, Ph.D.
Laboratory Director

Tie Kang Huang
Chemist

JFQ: sjb

MAIN OFFICE – & LABORATORY 853 CORPORATION STREET – P.O. BOX 272 SANTA PAULA, CALIFORNIA 93060-0272 (805) 525-3824 -- (805) 659-0910 FAX (805) 525-4172

BRANCH OFFICE – & LABORATORY 2500 STAGECOACH ROAD STOCKTON, CALIFORNIA 95205 (209) 942-0181 FAX (209) 942-0423

RECEIVED MAY 2 2 1990

FGL ENVIRONMENTAL

ANALYTICAL CHEMISTS

May 16, 1990

Lab No.: 30899-1
Acct #: 03-9254
Ryan Murphy, Inc.
5351 Lincoln
Denver, CO 80216

Sample Description: N. End of Tank
Sampled by: Rick Dow
Date Sampled: 05/03/90
Date Received: 05/08/90

RE: UNDERGROUND STORAGE TANK ANALYSIS - SOIL

Tests Required	Test Results	Reporting Unit	DLR
TPH (8015M-Diesel)	ND	mg/kg	10

ND = Not detected at or above the concentration of the detection limit.

ug/kg = ppb
mg/kg = ppm

If you have any questions please call.

Very truly yours,
FGL ENVIRONMENTAL, INC.

John F. Quinn, Ph.D.
Laboratory Director

Tie Kang Huang
Chemist

JFQ: sjb

FGL ENVIRONMENTAL

RECEIVED MAY 2 2 1990

ANALYTICAL CHEMISTS

May 16, 1990

Lab No.: 30899-2
Acct #: 03-9254
Ryan Murphy, Inc.
5351 Lincoln
Denver, CO 80216

Sample Description: S. End of Tank
Sampled by: Rick Dow
Date Sampled: 05/03/90
Date Received: 05/08/90

RE: UNDERGROUND STORAGE TANK ANALYSIS - SOIL

Tests Required	Test Results	Reporting Unit	DLR
TPH (8015M-Diesel)	86	mg/kg	10

ND = Not detected at or above the concentration of the detection limit.

ug/kg = ppb
mg/kg = ppm

If you have any questions please call.

Very truly yours,
FGL ENVIRONMENTAL, INC.

John F. Quinn, Ph.D.
Laboratory Director

Tie Kang Huang
Chemist

JFQ: sjb

MAIN OFFICE & LABORATORY – 853 CORPORATION STREET – P.O. BOX 272 SANTA PAULA, CALIFORNIA 93060-0272 (805) 525-3824 -- (805) 659-0910 FAX (805) 525-4172
BRANCH OFFICE & LABORATORY – 2500 STAGECOACH ROAD STOCKTON, CALIFORNIA 95205 (209) 942-0181 FAX (209) 942-0423

FGL ENVIRONMENTAL

RECEIVED MAY 2 2 1990

ANALYTICAL CHEMISTS

May 16, 1990

Lab No.: 30899-3
Acct #: 03-9254
Ryan Murphy, Inc.
5351 Lincoln
Denver, CO 80216

Sample Description: N. Wall of Exc.
Sampled by: Rick Dow
Date Sampled: 05/03/90
Date Received: 05/08/90

RE: UNDERGROUND STORAGE TANK ANALYSIS - SOIL

Tests Required	Test Results	Reporting Unit	DLR
TPH (8015M-Diesel)	[redacted]	mg/kg	10

ND = Not detected at or above the concentration of the detection limit.

ug/kg = ppb
mg/kg = ppm

If you have any questions please call.

Very truly yours,
FGL ENVIRONMENTAL, INC.

John F. Quinn, Ph.D.
Laboratory Director

Tie Kang Huang
Chemist

JFQ: sjb

MAIN OFFICE – & LABORATORY 853 CORPORATION STREET – P.O. BOX 272 SANTA PAULA, CALIFORNIA 93060-0272 (805) 525-3824 -- (805) 659-0910 FAX (805) 525-4172

BRANCH OFFICE – & LABORATORY 2500 STAGECOACH ROAD STOCKTON, CALIFORNIA 95205 (209) 942-0181 FAX (209) 942-0423

FGL ENVIRONMENTAL

ANALYTICAL CHEMISTS

RECEIVED MAY 2 2 1990

May 16, 1990

Lab. No. 30899

03-9254
Ryan Murphy, Inc.
5351 Lincoln
Denver, CO 80216

Sampled By: Rick Dow

RE: WATER ANALYSIS

Presenting results of analysis performed on your sample received May 05, 1990. The sample has been described, as received, along with the data.

DATA	Constituent	Results	
30899-1 N. End of Tank	Oil & Grease (503E)	[redacted]	mg/kg
30899-2 S. End of Tank	Oil & Grease (503E)	[redacted]	mg/kg
30899-3 N. Wall of Exc	Oil & Grease (503E)	[redacted]	mg/kg

* = Less Than

If there are questions, please call or write.

Very truly yours,

John Quinn

John Quinn, Ph.D.
Laboratory Director

JFQ:sjb

MAIN OFFICE – & LABORATORY 853 CORPORATION STREET – P.O. BOX 272 SANTA PAULA, CALIFORNIA 93060-0272 (805) 525-3824 – (805) 659-0910
FAX (805) 525-4172

BRANCH OFFICE – & LABORATORY 2500 STAGECOACH ROAD STOCKTON, CALIFORNIA 95205 (209) 942-0181
FAX (209) 942-0423

FGL ENVIRONMENTAL

RECEIVED MAY 2 2 1990

ANALYTICAL CHEMISTS

May 16, 1990

Lab No. 30899-1
Acct No. 03-9254
Ryan Murphy, Inc.
5351 Lincoln
Denver, CO 80216

Sample Description: N. End of Tank
Sampled by: Rick Dow
Date Sampled: 05/03/90
Date Received: 05/08/90

HAZARDOUS WASTE CHARACTERIZATION
(TTLC)

Parameter	Test Results mg/kg	TTLC mg/kg	Detection Limit mg/kg	Parameter	Test Results mg/kg	TTLC mg/kg	Detectic Limit mg/kg
Cadmium	ND	100	0.5	Zinc	ND	5,000	100
Chromium (Total)	ND	2,500	50	Lead	11	1,000	4
Molybdenum	ND	3,500	100	Nickel	42	2,000	10

ND = Not detected at or above the concentration of the detection limit.

mg/kg = ppm

Sincerely,

John F. Quinn

John F. Quinn, Ph.D.
Laboratory Director

JFQ: sjb

MAIN OFFICE – & LABORATORY 853 CORPORATION STREET – P.O. BOX 272 SANTA PAULA, CALIFORNIA 93060-0272 (805) 525-3824 -- (805) 659-0910 FAX
BRANCH OFFICE – & LABORATORY 2500 STAGECOACH ROAD STOCKTON, CALIFORNIA 95205 (209) 942-0181 FAX (209) 942-0423

FGL ENVIRONMENTAL

RECEIVED MAY 2 2 1990

ANALYTICAL CHEMISTS

May 16, 1990

Lab No. 30899-2
Acct No. 03-9254
Ryan Murphy, Inc.
5351 Lincoln
Denver, CO 80216

Sample Description: S. End of Tank
Sampled by: Rick Dow
Date Sampled: 05/03/90
Date Received: 05/08/90

HAZARDOUS WASTE CHARACTERIZATION
(TTLC)

Parameter	Test Results mg/kg	TTLC mg/kg	Detection Limit mg/kg	Parameter	Test Results mg/kg	TTLC mg/kg	Detection Limit mg/kg
Cadmium	ND	100	0.5	Zinc	ND	5,000	100
Chromium (Total)	52	2,500	50	Lead	[redacted]	1,000	4
Molybdenum	ND	3,500	100	Nickel	40	2,000	10

ND = Not detected at or above the concentration of the detection limit.

mg/kg = ppm

Sincerely,

John F. Quinn, Ph.D.
Laboratory Director

JFQ: sjb

MAIN OFFICE & LABORATORY – 853 CORPORATION STREET – P.O. BOX 272 SANTA PAULA, CALIFORNIA 93060-0272
(805) 525-3824 – (805) 659-0910
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BRANCH OFFICE & LABORATORY – 2500 STAGECOACH ROAD STOCKTON, CALIFORNIA 95205
(209) 942-0181
FAX (209) 942-0423

FGL ENVIRONMENTAL

RECEIVED MAY 2 2 1990

ANALYTICAL CHEMISTS

May 16, 1990

Lab No. 30899-3
Acct No. 03-9254
Ryan Murphy, Inc.
5351 Lincoln
Denver, CO 80216

Sample Description: N. Wall of Exc
Sampled by: Rick Dow
Date Sampled: 05/03/90
Date Received: 05/08/90

HAZARDOUS WASTE CHARACTERIZATION
(TTLC)

Parameter	Test Results mg/kg	TTLC mg/kg	Detection Limit mg/kg	Parameter	Test Results mg/kg	TTLC mg/kg	Detect Limi mg/l
Cadmium	ND	100	0.5	Zinc	ND	5,000	100
Chromium (Total)	60	2,500	50	Lead	[redacted]	1,000	4
Molybdenum	ND	3,500	100	Nickel	52	2,000	10

ND = Not detected at or above the concentration of the detection limit.

mg/kg = ppm

Sincerely,

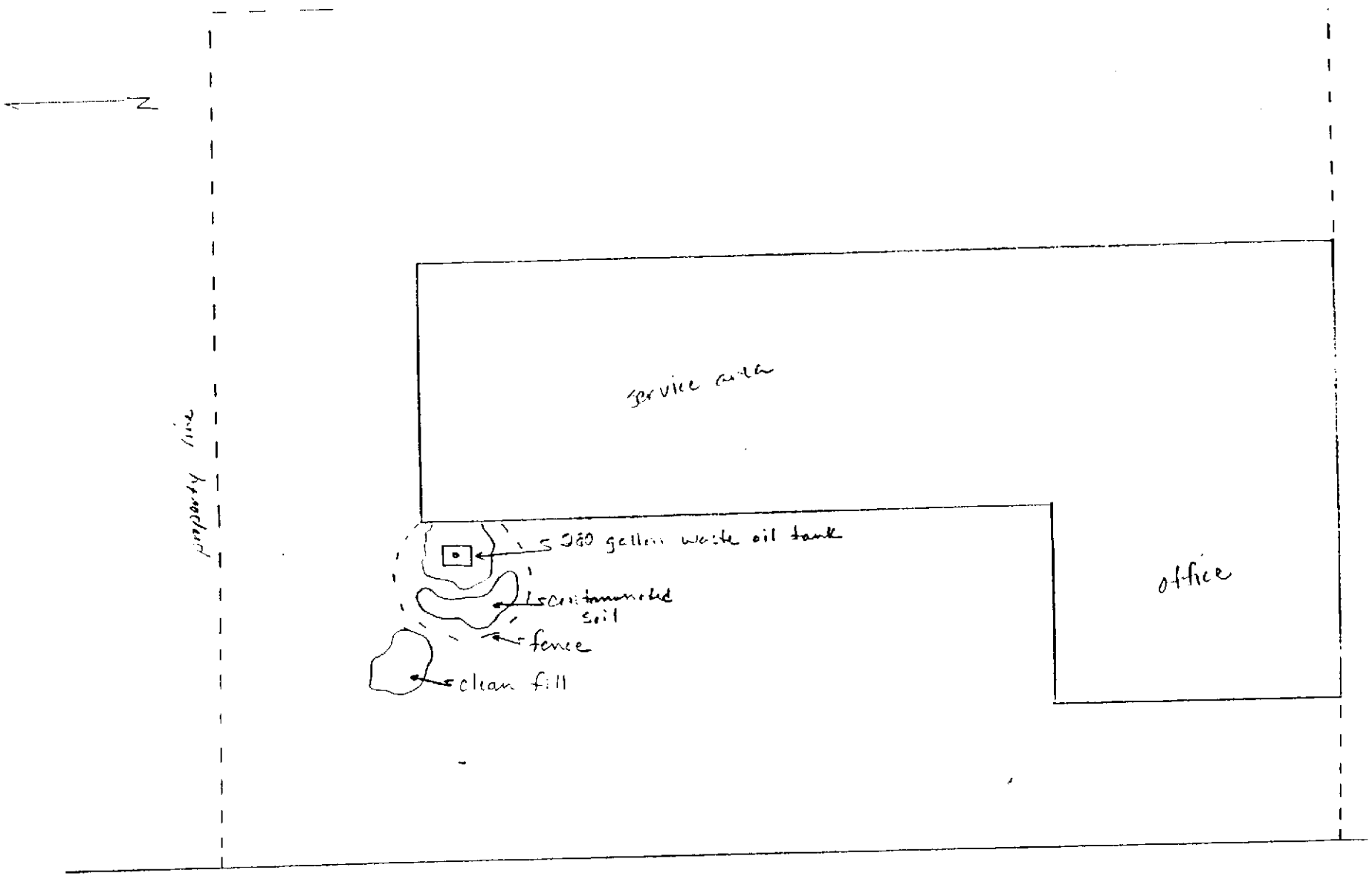
John F. Quinn

John F. Quinn, Ph.D.
Laboratory Director

JFQ: sjb

MAIN OFFICE & LABORATORY – 853 CORPORATION STREET – P.O. BOX 272, SANTA PAULA, CALIFORNIA 93060-0272
(805) 525-3824 -- (805) 659-0910
FAX (805) 525-4172

BRANCH OFFICE & LABORATORY – 2500 STAGECOACH ROAD, STOCKTON, CALIFORNIA 95205
(209) 942-0181
FAX (209) 942-0423



Firestone Service Center

969 San Pablo

Albany, CA

APPENDIX B

WORKPLAN AND REMEDIATION PLAN, PREPARED BY ERM-WEST, INC.

ERM-West, Inc.

Suite 260 • 1777 Botelho Drive • Walnut Creek, California 94596-5042 • (415) 946-0455 • Telefax (415) 946-9968

August 13, 1990

Mr. Larry Seto
Alameda County Health Agency
80 Swan Way, Room 200
Oakland, CA. 94621

SUBJECT: Firestone Tire and Rubber Company
Albany, CA. - Workplan

Dear Mr. Seto:

On behalf of Firestone Tire and Rubber Company and Ryan Murphy, Inc. , we are enclosing a workplan for the above subject project. After your review and approval, we will schedule and mobilize the drilling subcontractor to begin the site assessment tasks.

Please call if you have any questions or require further information.

Sincerely,

ERM-WEST

Dennis Miller

Dennis Miller
Principal Engineer

Enclosure

DGM/1099

cc: Pat Ryan, Ryan Murphy, Inc.

Both soils and groundwater samples will be analyzed for the following constituents: TPH, BTX&E, and chlorinated hydrocarbons. This listing is based on the initial soil results reported in Table 1.

REMEDIATION

Because of the clayey fill in the area, it is assumed that the constituents detected in the soils have not spread laterally nor vertically to any great extent. Therefore, the proposed remediation alternative for this site is excavation of soils, once the site assessment work confirms the above assumptions.

Additionally, the monitoring wells will remain until Alameda County determines that the site is clean and the monitoring wells are no longer necessary.

For the excavation work, Firestone is proposing to perform the work as follows:

- EPA Generator Number: CAD 982005928
- Contractor: Ryan Murphy Inc., Corona, CA
  Contractors License: 516337(A, B, C61, D40, Hazardous)
- Site Sampling/Environmental overview: ERM-West, Walnut Creek, CA 94596
- Hazardous Waste Hauler: Dillard Trucking, Byron, CA 94514
- Disposal Site:
  Hazardous: GSX, 7004 Gas Company Rd., Taft, CA 93268
  Non-Haz: Gibson Oil, 3121 Standard St., Bakersfield, CA
- Certified Laboratory: Curtis and Thompkins, Berkeley, CA

After excavation of the soils, the side walls will be sampled and analyzed for the above noted constituents. Groundwater in the excavation, if present, will be pumped into a Baker tank for temporary storage and analysis. If hazardous, the water will be transferred and hauled off-site under a California hazardous waste manifest. If non-hazardous, consideration will be given to discharging the water into a local EBMUD sanitary sewer; but, only after permission is granted by the regulatory agencies.

SCHEDULE

The following schedule is based on time after approval of the workplan by Alameda County.

Task 1: Site Assessment: 7 weeks

3 week mobilization (depends on availability of driller)
1 week on-site
2 week sample analysis
1 week reporting

TABLE 1
SOIL SAMPLING RESULTS

FIRESTONE TIRE AND RUBBER COMPANY
ALBANY, CA

CONSTITUENT (1)	CONCENTRATION, mg/kg		
	Sample Location		
	N. End of Tank, 7' deep	S. End of Tank, 7' deep	N. Wall 5' deep
Hydrocarbons			
TPH (Diesel)	< 10	86	1070
Benzene	0.0161	0.150	2.3
Toluene	<0.005	0.770	4.46
Xylene	0.0051	8.59	16.9
Ethylbenzene	<0.005	0.820	3.25
Oil & Grease	40	2436	6548
Chorinated Compounds			
1,1 Dichlorethane	0.0156	0.0038	<0.0005
1,2 Dichloroethane	0.0007	<0.0005	<0.0005
Tetrachloroethylene	0.0012	1.83	7.23
1,1,1, Trichloroethane	<0.0005	0.9	4.3
Metals			
Cadium	<0.5	<0.5	<0.5
Chromium (Total)	<50	52	60
Molybdenum	<100	<100	<100
Zinc	<100	<100	<100
Lead	11	266	135
Nickel	42	40	52

(1) Summarized on this Table are only the detected constituents. See laboratory data sheets for complete listing of analysis.

FIRESTONE TIRE AND RUBBER COMPANY
ALBANY, CALIFORNIA

SITE ASSESSMENT AND REMEDIATION WORKPLAN

On May 1, 1990 a 280 gallon waste oil tank was removed from the Firestone facility located at 969 San Pablo Blvd, Albany, California. A tank closure permit was issued by the Alameda County Department of Environmental Health, Hazardous Materials Division, to Ryan Murphy, Inc. prior to the tank removal.

Laboratory analysis of soils taken from the bottom of the tank excavation (from 5 to 7 feet below grade) at the time of removal are summarized in Table 1.

No water was reported in the excavation during the tank removal. However, conversations with an Alamedy County inspector noted that groundwater is reported to be about 10 feet below grade. This information was confirmed by Alameda County Flood Control. Monitoring wells at a Shell gas station (Marin and San Pablo Ave) just south and across San Pablo Blvd. from the site are reported with groundwater ranging from 7.5-8.0 and 6.0-6.5 feet below grade in February and April, 1990, respectively.

ASSESSMENT

The purpose of the site assessment work will be to determine the vertical and horizontal extent of contaminants, if any, in soil and groundwater. It is proposed to drill four borings to a minimum of 15 feet and convert the borings to groundwater monitoring wells. During the drilling work, soil samples will be retrieved at the following depths: 3, 7, 10, and 15 feet. The 10 foot depth sample is assumed to be at the soil/water interface.

Normal site assessment protocol will be used at the site. Health and safety considerations will follow Ryan Murphy's plan used during the tank removal work. The augers and equipment used for each boring will be decontaminated between borings. Each boring will be logged and soil cuttings will be retained for disposal with future excavated soils. Soil and groundwater samples will be preserved and transported to a California certified laboratory under chain-of-custody protocol. Monitoring wells will be appropriately screened and packed, and completed at the surface with a bentonite concrete surface seal and a well cover.

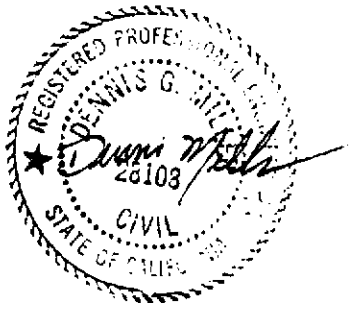
After installation of the monitoring wells, the wells will be developed and groundwater samples retrieved for analysis. After groundwater sampling, the wells will be allowed to stabilize and then levels in each well will be surveyed to establish, if possible, a site specific groundwater gradient.

Task 2: Soil Excavation: 3 weeks

1 week mobilization
1 week excavation - assume 24-48 turnaround on soil/water analysis
1 week site finish

CLEAN-UP GOALS

Alameda County's clean-up goals are to have all laboratory analysis reported with non-detectable constituents. However, each site is handled on a case-by-case basis. It is expected that once the water and soil analysis have been reported, that future discussions will determine the site specific clean-up goals for this site.



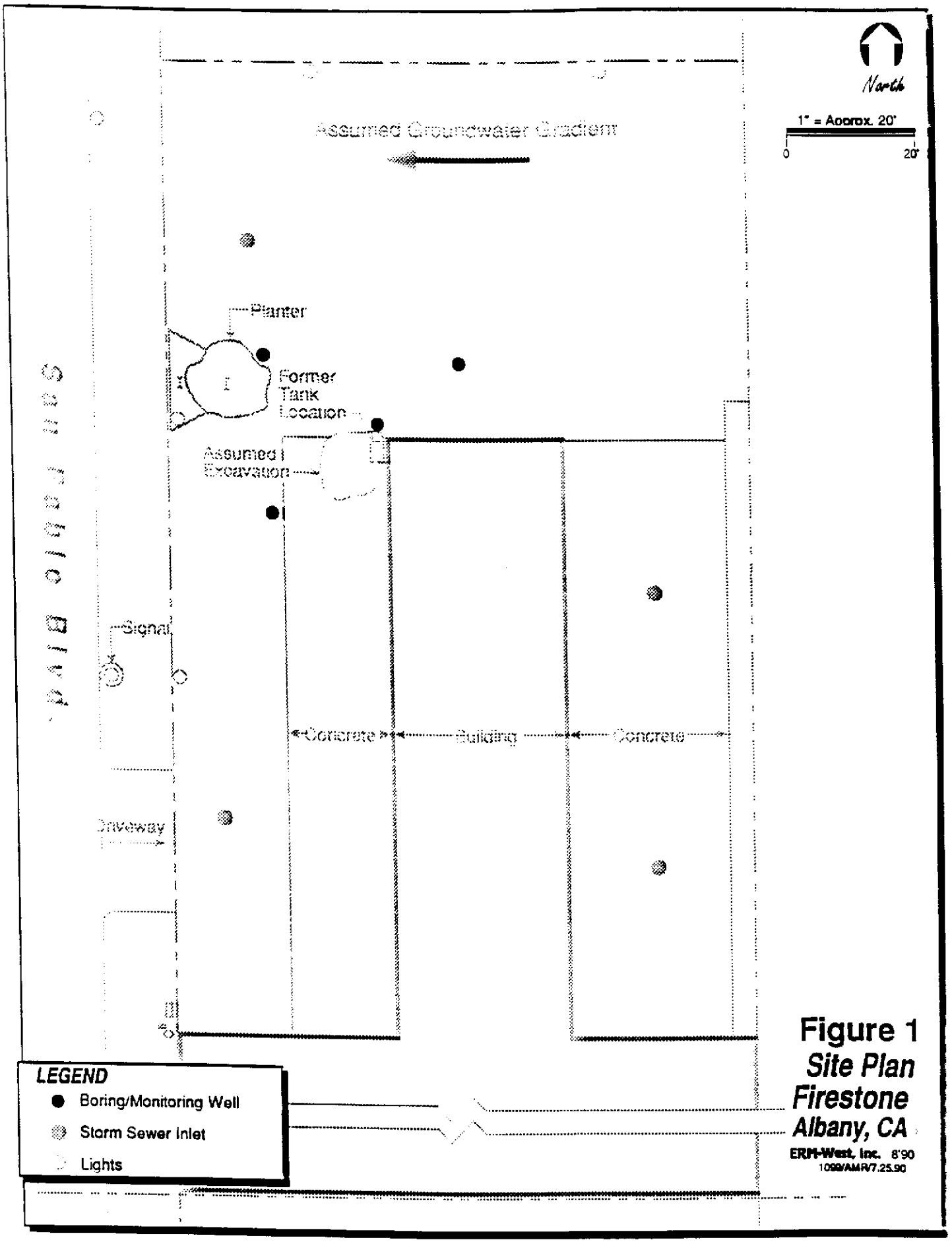


Figure 1
Site Plan
Firestone
Albany, CA

ERM-West, Inc. 8'90
1099/AMR/7.25.90

ALAMEDA COUNTY
HEALTH CARE SERVICES
AGENCY
DAVID J. KEARS, Agency Director

DEPARTMENT OF ENVIRONMENTAL HEALTH
Hazardous Materials Program
80 Swan Way, Rm. 200
Oakland, CA 94621
(415)

August 27, 1990

Mr. Vern Wilirch
Firestone
7857 Florence Ave., Suite 200
Downey, CA 90240

RE: Former Firestone Store, 969 San Pablo Ave., Albany, CA

Dear Mr. Wilirch:

I have reviewed your workplan dated August 13, 1990, that was prepared by ERM-West, Inc. for the above site. It is acceptable with the stipulation that soil and water samples be tested for the presence of lead.

If you have any questions, please contact me at 271-4320.

Sincerely,

Larry Seto, Senior
Hazardous Materials Specialist

LS:lp

cc: Albany Fire
Gil Jensen, Alameda County District Attorney, Consumer and Environmental Protection Agency
RWQCB
Charlene Williams, DHS
Rafat Shahid, Assistant Agency Director, Environmental Health
Richard Dow, Ryan Murphy
files

APPENDIX C

BORING LOGS

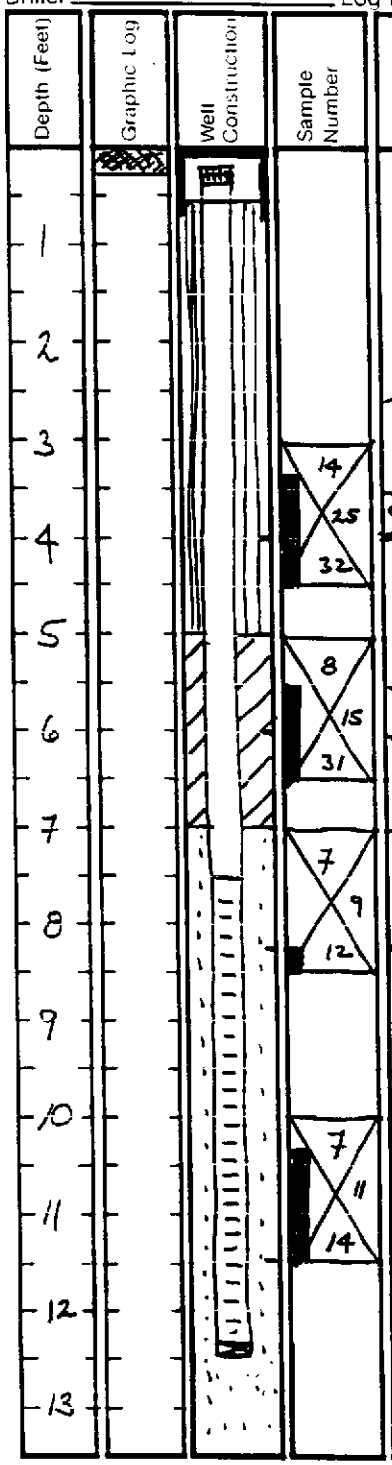
Environmental Resources Management

Drilling Log

Project: Albany II — Owner:
Location: Albany, Ca. — W.O. Number: 1135
Well Number: MW-1 — Total Depth: 16½' — Diameter: 10"
Surface Elevation: — Water Level: Initial 9.33' — 24-hrs.:
Screen: Dia. 4" — Length 5' — Slot Size 0.01"
Casing: Dia. 4" — Length 7½' — Type Sch 40 PVC
Drilling Company: Spectrum — Drilling Method: HSA
Driller: Ted — Log By: JRP — Date Drilled: 9/21/90

Sketch Map

Notes: CME-55



Description/Soil Classification
(Color, Texture, Structures)

0850 start

Surface ~3" of asphaltic concrete

cuttings - tan, moist clay Topsoil

becomes - green moist silty clay

Weathered Franciscan Silts & Sands

B-1-1 Tan, damp, silty coarse-grained sandy clay
160 PID

B-1-2 Tan, damp, pebbly clay
52 PID

24 PID B-1-3 Tan, moist, silty clayey fine-grained sand - silty, sandy clay

B-1-4 Tan, saturated, pebbly coarse-grained sand
52 PID

Environmental Resources Management

Drilling Log

Project Albany II Owner

Location Albany, Ca. W.O. Number 1135

Well Number MW-1 Total Depth Diameter

Surface Elevation Water Level: Initial 24-hrs.

Screen: Dia. Length Slot Size

Casing: Dia. Length Type

Drilling Company Drilling Method

Driller Log By JRP Date Drilled 9/21/90

Sketch Map

Notes

Depth (Feet)	Graphic Log	Well Construction	Sample Number	Description/Soil Classification (Color, Texture, Structures)
14				
15			7	
16			9	26 PID
17			11	B-1-5 Lt. tan, damp-moist, silty clay
				stopped @ 16½'

Drilling Log

vironmental Resources Management

Project: Albany II — Owner:
Location: Albany, Ca. — W.O. Number: 1135
Boil Number: MW-2 — Total Depth: 16 1/2' — Diameter: 10"
Surface Elevation: — Water Level: Initial 10.13' — 24-hrs.:
Screen: Dia. 4" — Length 5' — Slot Size 0.01"
Casing: Dia. 4" — Length 9.8' — Type Sch 40 PVC
Drilling Company: Spectrum — Drilling Method: HSA
Driller: Ted — Log By: JRP — Date Drilled: 9/21/90

Sketch Map

Notes

Depth (feet)	Graphic Log	Well Construction	Sample Number	Description/Soil Classification (Color, Texture, Structures)
				1115 start
				Surface ~ 3" of asphaltic concrete
				cuttings - grey-green, moist, silty clay
				becomes - tan
				Topsoil
				becomes - damp
				Weathered Franciscan Silts & Sands
			13, 26, 33	2 PID B-2-1 Tan, damp pebbly clay
			13, 27, 23	5 PID B-2-2 Tan, damp - moist pebbly clay
			4, 7, 9	1 PID B-2-3 Tan, moist silt
			13, 5, 8	No Sample 3 PID
				gravel - reported by driller

Page 1 of 2

Environmental Resources Management

Drilling Log

Project: Albany II — Owner:

Location: Albany, Ca. — W.O. Number: 1135

Well Number: MW-2 — Total Depth: — Diameter:

Surface Elevation: — Water Level: Initial: — 24-hrs.:

Screen: Dia.: — Length: — Slot Size:

Casing: Dia.: — Length: — Type:

Drilling Company: — Drilling Method:

Driller: — Log By: JRP — Date Drilled: 9/21/90

Sketch Map

Notes

Depth (Feet)	Graphic Log	Well Construction	Sample Number	Description/Soil Classification (Color, Texture, Structures)
14				gravel - reported by driller
				cuttings - Lt. Tan, moist silt
15		Slough	4 / 8 / 12	
16			B-2-4	2 PID — Lt. Tan, moist clayey med.-gr. sand
17				Stopped @ 16½'

Environmental Resources Management

Drilling Log

Project Albany II Owner

Location Albany, Ca. W.O. Number 1135

Well Number MW-3 Total Depth 16½' Diameter 10"

Surface Elevation Water Level: Initial 9.96' 24-hrs.

Screen: Dia. 4" Length 5' Slot Size 0.01"

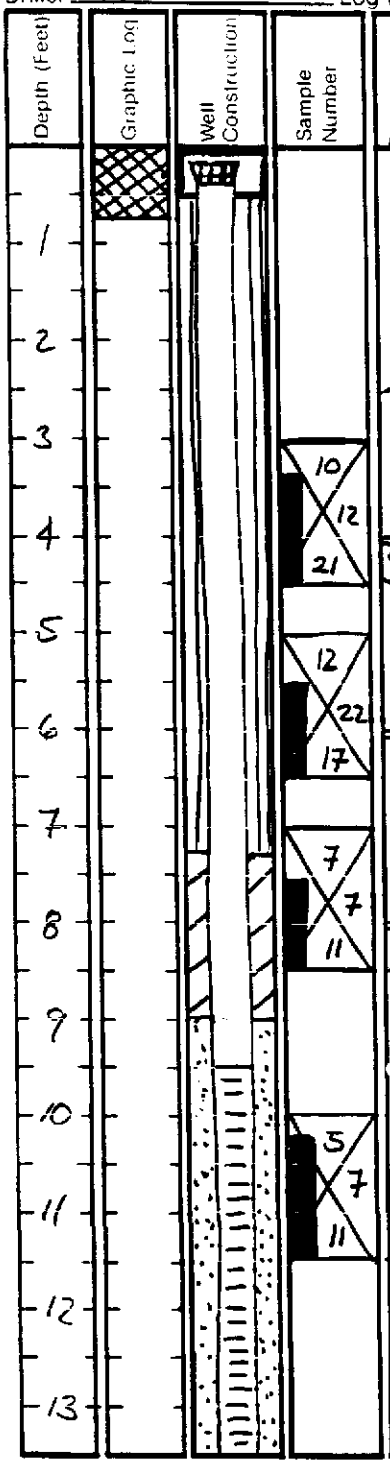
Casing: Dia. 4" Length 9½' Type Sch 40 PVC

Drilling Company Spectrum Drilling Method HSA

Driller Ted Log By JRP Date Drilled 9/21/90

Sketch Map

Notes



Description/Soil Classification
(Color, Texture, Structures)

1255 start

Surface ~ 9" of asphaltic concrete

Cuttings - brown, moist clay Topsoil

becomes - tan; damp

Weathered Franciscan Silts & Sands

5 PID

B-3-1 Tan, damp, silty, pebbly clay

4 PID

B-3-2 Tan, damp; silty; pebbly clay

2 PID

B-3-3 Tan; damp; silty; pebbly clay

Tan, moist, clayey coarse-gr. Sand

2 PID

B-3-4 Lt. Tan, moist, clayey, sandy silt

Environmental Resources Management

Drilling Log

Project Albany II Owner

Location Albany, Ca. W.O. Number 1135

Well Number MW-3 Total Depth Diameter

Surface Elevation Water Level: Initial 24-hrs.

Screen: Dia. Length Slot Size

Casing: Dia. Length Type

Drilling Company Drilling Method

Driller Log By JRP Date Drilled 9/21/90

Sketch Map

Notes

Depth (Feet)	Graphic Log	Well Construction	Sample Number	Description/Soil Classification (Color, Texture, Structures)
14				
15		Slough	4 / 12 / 13	2 PID } B-3-5 Lt. Tan, moist clayey, silty medium-gr. sand
16				
17				Stopped @ 16½'

esources Management

Drilling Log

ng II — Owner

ing, Ca. — W.O. Number 1135

2-4 — Total Depth 16½' — Diameter 10"

Water Level: Initial 10.42' — 24-hrs.

" — Length 5' — Slot Size 0.01"

' — Length 10' — Type Sch 40 PVC

Spectrum — Drilling Method HSA

Log By JRP — Date Drilled 9/21/90

Sketch Map

Notes

Well Construction | Sample Number | Description/Soil Classification (Color, Texture, Structures)

1415 start

Surface ~ 3" of asphaltic concrete

cuttings - brown, moist silty clay Topsoil

becomes tan silty clay

Weathered Franciscan Silts + Sands

10 / 14 / 25 — 56 PID

B-4-1 Tan, damp, silty, pebbly clay

14 / 21 / 21 — 6 PID

B-4-2 Lt. Tan, damp-moist silt

7 / 21 / 23 — 7 PID

B-4-3 Tan, damp-moist, silty, pebbly clay

Lt. Tan, damp-moist silt

7 / 14 / 19 — 2 PID

B-4-4 Tan, silty, pebbly clay

(damp-moist)

Environmental Resources Management

Drilling Log

Project Albany II Owner

Location Albany, Ca. W.O. Number 1135

Well Number MW-4 Total Depth Diameter

Surface Elevation Water Level: Initial 24-hrs.

Screen: Dia. Length Slot Size

Casing: Dia. Length Type

Drilling Company Drilling Method

Driller Log By JRP Date Drilled 9/21/90

Sketch Map

Notes

Depth (Feet)	Graphic Log	Well Construction	Sample Number	Description/Soil Classification (Color, Texture, Structures)
14				
15				
16		Slough	6 10 14	3 PID } B-4-5 Lt. Tan, moist s.Lty, fine-gr. Sandy Clay
17				Stopped @ 16½'

APPENDIX D

WELL CONSTRUCTION PERMIT

ALAMEDA COUNTY FLOOD CONTROL AND WATER CONSERVATION DISTRICT
5997 PARKSIDE DRIVE • PLEASANTON, CALIFORNIA 94566 • (415) 484-2600

21 September 1990

ERM-West
1777 Botelho Drive, Suite 260
Walnut Creek, CA 94596-5022

Gentlemen:

Enclosed is Groundwater Protection Ordinance permit 90575 for a monitoring well construction project at 969 San Pablo Boulevard in Albany for Firestone Tire & Rubber.

Please note that permit condition A-3 requires that a well construction report be submitted after completion of the work. The report should include drilling and completion logs, location sketch, and permit number.

If you have any questions, please contact Todd Wendler or Craig Mayfield at 484-2600.

Very truly yours,

Jim Dixon
General Manager

By
J. Killingstad, Chief
Water Resources Engineering

TW:mm
Enc.

ALAMEDA COUNTY FLOOD CONTROL AND WATER CONSERVATION DISTRICT
5997 PARKSIDE DRIVE • PLEASANTON, CALIFORNIA 94566 • (415) 484-2600

GROUNDWATER PROTECTION ORDINANCE PERMIT APPLICATION

FOR APPLICANT TO COMPLETE

(1) LOCATION OF PROJECT 969 San Pablo Blvd. Albany, California

(2) CLIENT
Name Firestone Tire & Rubber Co.
Address 1200 Firestone Parkway Phone (216) 379-3737
City 45 Wing 3 Zip 44317
Akron, Ohio Attn. Kathleen Schaffner

(3) APPLICANT
Name ERM-West, Inc.
1777 Botelho Drive
Address Suite 260 Phone (415) 946-0455
City Walnut Creek, Ca. Zip 94596

(4) DESCRIPTION OF PROJECT
Water Well Construction X Geotechnical ___
Cathodic Protection ___ Well Destruction ___

(5) PROPOSED WATER WELL USE
Domestic ___ Industrial ___ Irrigation ___
Municipal ___ Monitoring X Other ___

(6) PROPOSED CONSTRUCTION
Drilling Method:
Mud Rotary ___ Air Rotary ___ Auger X
Cable ___ Other ___

WELL PROJECTS
Drill Hole Diameter 10 in. Depth 15 ft.
Casing Diameter 4 in. Number 4
Surface Seal Depth 10 ft.
Driller's License No. Ca. 512268

GEOTECHNICAL PROJECTS
Number ___
Diameter ___ in. Maximum Depth ___ ft.

(7) ESTIMATED STARTING DATE Sept. 21, 1990
ESTIMATED COMPLETION DATE Sept 21, 1990

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

APPLICANT'S SIGNATURE John Prall Date 9/18/90

FOR OFFICE USE

PERMIT NUMBER 90575
LOCATION NUMBER ___

Approved Todd N. Wendler Date 19 Sep 90
Todd N. Wendler

PERMIT CONDITIONS

Circled Permit Requirements Apply

(A.) GENERAL
1. A permit application should be submitted so as to arrive at the Zone 7 office five days prior to proposed starting date.
2. Notify this office (484-2600) at least one day prior to starting work on permitted work and before placing well seals.
3. Submit to Zone 7 within 60 days after completion of permitted work the original Department of Water Resources Water Well Drillers Report or equivalent for well projects, or bore hole logs and location sketch for geotechnical projects. Permitted work is completed when the last surface seal is placed or the last boring is completed.
4. Permit is void if project not begun within 90 days of approval date.

(B.) WATER WELLS, INCLUDING PIEZOMETERS
1. Minimum surface seal thickness is two inches of cement grout placed by tremie, or equivalent.
2. Minimum seal depth is 50 feet for municipal and industrial wells or 20 feet for domestic, irrigation, and monitoring wells unless a lesser depth is specially approved.

C. GEOTECHNICAL. Backfill bore hole with compacted cuttings or heavy bentonite and upper two feet with compacted material.

D. CATHODIC. Fill hole above anode zone with concrete placed by tremie, or equivalent.

E. WELL DESTRUCTION. See attached.

CONFIDENTIAL

STATE OF CALIFORNIA DWR
WELL COMPLETION REPORT
(WELL LOGS)

REMOVED

CONFIDENTIAL

STATE OF CALIFORNIA DWR
WELL COMPLETION REPORT
(WELL LOGS)

REMOVED

CONFIDENTIAL

STATE OF CALIFORNIA DWR
WELL COMPLETION REPORT
(WELL LOGS)

REMOVED

CONFIDENTIAL

STATE OF CALIFORNIA DWR
WELL COMPLETION REPORT
(WELL LOGS)

REMOVED

APPENDIX E

LABORATORY REPORTS AND CHAIN-OF-CUSTODY FORMS

Curtis & Tompkins, Ltd., Analytical Laboratories. Since 1878
2323 Fifth Street, Berkeley, CA 94710. Phone (415) 486-0900

DATE RECEIVED: 09/24/90
DATE REPORTED: 10/03/90

LAB NUMBER: 101724

CLIENT: ERM - WEST

REPORT ON: 8 SOIL SAMPLES

PROJECT #: 1135
LOCATION: ALBANY, CALIFORNIA

RESULTS: SEE ATTACHED

QA/QC Approval

Final Approval

Curtis & Tompkins, Ltd.

LABORATORY NUMBER: 101724
CLIENT: ERM - WEST
JOB #: 1135
LOCATION: ALBANY, CALIFORNIA

DATE RECEIVED: 09/24/90
DATE EXTRACTED: 09/27/90
DATE ANALYZED: 10/01/90
DATE REPORTED: 10/02/90

Extractable Petroleum Hydrocarbons in Soils & Wastes
California DOHS Method
LUFT Manual October 1989

LAB ID	CLIENT ID	KEROSENE RANGE (mg/Kg)	DIESEL RANGE (mg/Kg)	REPORTING LIMIT (mg/Kg)
101724-1	B-1-1	ND	ND	1.0
101724-2	B-1-2	ND	2.7	1.0
101724-3	B-1-3	ND	3.8	1.0
101724-4	B-1-4	ND	72	1.0
101724-5	B-1-5	ND	ND	1.0
101724-9	B-2-4	ND	ND	1.0
101724-13	B-3-4	ND	ND	1.0
101724-19	B-4-5	ND	ND	1.0

ND = Not Detected at or above reporting limit.

QA/QC SUMMARY

RPD, %	17
RECOVERY, %	108

Curtis & Tompkins, Ltd.

LABORATORY NUMBER: 101724
CLIENT: ERM - WEST
PROJECT #: 1135
LOCATION: ALBANY, CALIFORNIA

DATE RECEIVED: 09/24/90
DATE ANALYZED: 09/26/90
DATE REPORTED: 10/02/90

ANALYSIS: ORGANIC LEAD
METHOD: CA DHS METHOD, LUFT MANUAL OCT 1989

LAB ID	CLIENT ID	RESULT	UNITS	REPORTING LIMIT
101724-1	B-1-1	ND	mg/Kg	0.5
101724-2	B-1-2	ND	mg/Kg	0.5
101724-3	B-1-3	ND	mg/Kg	0.5
101724-4	B-1-4	ND	mg/Kg	0.5
101724-5	B-1-5	ND	mg/Kg	0.5
101724-9	B-2-4	ND	mg/Kg	0.5
101724-13	B-3-4	ND	mg/Kg	0.5
101724-19	B-4-5	ND	mg/Kg	0.5

ND = Not detected at or above reporting limit.

QA/QC SUMMARY

RPD, %	<1
RECOVERY, %	107

Curtis & Tompkins, Ltd

LABORATORY NUMBER: 101724-1
CLIENT: ERM - WEST
JOB #: 1135
SAMPLE ID: B-1-1

DATE RECEIVED: 09/24/90
DATE ANALYZED: 09/24/90
DATE REPORTED: 10/03/90

EPA 8010: Volatile Halocarbons in Soil & Wastes
Extraction Method: EPA 5030 - Purge & Trap

Compound	RESULT ug/Kg	REPORTING LIMIT ug/Kg
chloromethane	ND	10
bromomethane	ND	10
vinyl chloride	ND	10
chloroethane	ND	10
methylene chloride	ND	5.0
trichlorofluoromethane	ND	5.0
1,1-dichloroethene	ND	5.0
1,1-dichloroethane	ND	5.0
1,2-dichloroethene (total)	ND	5.0
chloroform	ND	5.0
freon 113	ND	5.0
1,2-dichloroethane	ND	5.0
1,1,1-trichloroethane	ND	5.0
carbon tetrachloride	ND	5.0
bromodichloromethane	ND	5.0
1,2-dichloropropane	ND	5.0
cis-1,3-dichloropropene	ND	5.0
trichloroethylene	ND	5.0
1,1,2-trichloroethane	ND	5.0
trans-1,3-dichloropropene	ND	5.0
dibromochloromethane	ND	5.0
2-chloroethylvinyl ether	ND	10
bromoform	ND	5.0
tetrachloroethylene	ND	5.0
1,1,2,2-tetrachloroethane	ND	5.0
chlorobenzene	ND	5.0
1,3-dichlorobenzene	ND	5.0
1,2-dichlorobenzene	ND	5.0
1,4-dichlorobenzene	ND	5.0

ND = Not detected at or above reporting limit.

QA/QC SUMMARY

Duplicate: Relative % Difference	5
Spike: Average % Recovery	83

Curtis & Tompkins, Ltd.

LABORATORY NUMBER: 101724-1
CLIENT: ERM - WEST
PROJECT: 1135
LOCATION: ALBANY, CALIFORNIA
SAMPLE ID: B-1-1

DATE RECEIVED: 09/24/90
DATE ANALYZED: 09/24/90
DATE REPORTED: 10/03/90

EPA 8020: Volatile Aromatic Hydrocarbons in Soils & Wastes
Extraction Method: EPA 5030 - Purge & Trap

COMPOUND	Result ug/Kg	Reporting Limit ug/Kg
Benzene	ND	5.0
Toluene	ND	5.0
Ethyl Benzene	ND	5.0
Total Xylenes	ND	5.0
Chlorobenzene	ND	5.0
1,4-Dichlorobenzene	ND	5.0
1,3-Dichlorobenzene	ND	5.0
1,2-Dichlorobenzene	ND	5.0

ND = Not detected at or above reporting limit.

QA/QC SUMMARY

RPD, %	7
RECOVERY, %	104

Curtis & Tompkins, Ltd.

LABORATORY NUMBER: 101724-2
CLIENT: ERM - WEST
JOB #: 1135
SAMPLE ID: B-1-2

DATE RECEIVED: 09/24/90
DATE ANALYZED: 09/24/90
DATE REPORTED: 10/03/90

EPA 8010: Volatile Halocarbons in Soil & Wastes
Extraction Method: EPA 5030 - Purge & Trap

Compound	RESULT ug/Kg	REPORTING LIMIT ug/Kg
chloromethane	ND	10
bromomethane	ND	10
vinyl chloride	ND	10
chloroethane	ND	10
methylene chloride	ND	5.0
trichlorofluoromethane	ND	5.0
1,1-dichloroethene	ND	5.0
1,1-dichloroethane	ND	5.0
1,2-dichloroethene (total)	ND	5.0
chloroform	ND	5.0
freon 113	ND	5.0
1,2-dichloroethane	ND	5.0
1,1,1-trichloroethane	ND	5.0
carbon tetrachloride	ND	5.0
bromodichloromethane	ND	5.0
1,2-dichloropropane	ND	5.0
cis-1,3-dichloropropene	ND	5.0
trichloroethylene	ND	5.0
1,1,2-trichloroethane	ND	5.0
trans-1,3-dichloropropene	ND	5.0
dibromochloromethane	ND	5.0
2-chloroethylvinyl ether	ND	10
bromoform	ND	5.0
tetrachloroethylene	ND	5.0
1,1,2,2-tetrachloroethane	ND	5.0
chlorobenzene	ND	5.0
1,3-dichlorobenzene	ND	5.0
1,2-dichlorobenzene	ND	5.0
1,4-dichlorobenzene	ND	5.0

ND = Not detected at or above reporting limit.

QA/QC SUMMARY

Duplicate: Relative % Difference	5
Spike: Average % Recovery	83

Curtis & Tompkins, Ltd.

LABORATORY NUMBER: 101724-2
CLIENT: ERM - WEST
PROJECT: 1135
LOCATION: ALBANY, CALIFORNIA
SAMPLE ID: B-1-2

DATE RECEIVED: 09/24/90
DATE ANALYZED: 09/24/90
DATE REPORTED: 10/03/90

EPA 8020: Volatile Aromatic Hydrocarbons in Soils & Wastes
Extraction Method: EPA 5030 - Purge & Trap

COMPOUND	Result ug/Kg	Reporting Limit ug/Kg
Benzene	ND	5.0
Toluene	ND	5.0
Ethyl Benzene	ND	5.0
Total Xylenes	ND	5.0
Chlorobenzene	ND	5.0
1,4-Dichlorobenzene	ND	5.0
1,3-Dichlorobenzene	ND	5.0
1,2-Dichlorobenzene	ND	5.0

ND = Not detected at or above reporting limit.

QA/QC SUMMARY

RPD, %	7
RECOVERY, %	104

Curtis & Tompkins, Ltd.

LABORATORY NUMBER: 101724-3
CLIENT: ERM - WEST
JOB #: 1135
SAMPLE ID: B-1-3

DATE RECEIVED: 09/24/90
DATE ANALYZED: 09/24/90
DATE REPORTED: 10/03/90

EPA 8010: Volatile Halocarbons in Soil & Wastes
Extraction Method: EPA 5030 - Purge & Trap

Compound	RESULT ug/Kg	REPORTING LIMIT ug/Kg
chloromethane	ND	10
bromomethane	ND	10
vinyl chloride	ND	10
chloroethane	ND	10
methylene chloride	ND	5.0
trichlorofluoromethane	ND	5.0
1,1-dichloroethene	ND	5.0
1,1-dichloroethane	ND	5.0
1,2-dichloroethene (total)	ND	5.0
chloroform	ND	5.0
freon 113	ND	5.0
1,2-dichloroethane	ND	5.0
1,1,1-trichloroethane	ND	5.0
carbon tetrachloride	ND	5.0
bromodichloromethane	ND	5.0
1,2-dichloropropane	ND	5.0
cis-1,3-dichloropropene	ND	5.0
trichloroethylene	ND	5.0
1,1,2-trichloroethane	ND	5.0
trans-1,3-dichloropropene	ND	5.0
dibromochloromethane	ND	5.0
2-chloroethylvinyl ether	ND	10
bromoform	ND	5.0
tetrachloroethylene	ND	5.0
1,1,2,2-tetrachloroethane	ND	5.0
chlorobenzene	ND	5.0
1,3-dichlorobenzene	ND	5.0
1,2-dichlorobenzene	ND	5.0
1,4-dichlorobenzene	ND	5.0

ND = Not detected at or above reporting limit.

QA/QC SUMMARY

Duplicate: Relative % Difference	5
Spike: Average % Recovery	83

Curtis & Tompkins, Ltd.

LABORATORY NUMBER: 101724-3
CLIENT: ERM - WEST
PROJECT: 1135
LOCATION: ALBANY, CALIFORNIA
SAMPLE ID: B-1-3

DATE RECEIVED: 09/24/90
DATE ANALYZED: 09/24/90
DATE REPORTED: 10/03/90

EPA 8020: Volatile Aromatic Hydrocarbons in Soils & Wastes
Extraction Method: EPA 5030 - Purge & Trap

COMPOUND	Result ug/Kg	Reporting Limit ug/Kg
Benzene	ND	5.0
Toluene	ND	5.0
Ethyl Benzene	ND	5.0
Total Xylenes	ND	5.0
Chlorobenzene	ND	5.0
1,4-Dichlorobenzene	ND	5.0
1,3-Dichlorobenzene	ND	5.0
1,2-Dichlorobenzene	ND	5.0

ND = Not detected at or above reporting limit.

QA/QC SUMMARY

RPD, %	7
RECOVERY, %	104

Curtis & Tompkins, Ltd.

LABORATORY NUMBER: 101724-4
CLIENT: ERM - WEST
JOB #: 1135
SAMPLE ID: B-1-4

DATE RECEIVED: 09/24/90
DATE ANALYZED: 9/24/90-10/3/90
DATE REPORTED: 10/04/90

EPA 8010: Volatile Halocarbons in Soil & Wastes
Extraction Method: EPA 5030 - Purge & Trap

Compound	RESULT ug/Kg	REPORTING LIMIT ug/Kg
chloromethane	ND	10
bromomethane	ND	10
vinyl chloride	ND	10
chloroethane	ND	10
methylene chloride	ND	5.0
trichlorofluoromethane	ND	5.0
1,1-dichloroethene	270	5.0
1,1-dichloroethane	26	5.0
1,2-dichloroethene (total)	ND	5.0
chloroform	ND	5.0
freon 113	ND	5.0
1,2-dichloroethane	ND	5.0
1,1,1-trichloroethane	470	5.0
carbon tetrachloride	ND	5.0
bromodichloromethane	ND	5.0
1,2-dichloropropane	ND	5.0
cis-1,3-dichloropropene	ND	5.0
trichloroethylene	ND	5.0
1,1,2-trichloroethane	ND	5.0
trans-1,3-dichloropropene	ND	5.0
dibromochloromethane	ND	5.0
2-chloroethylvinyl ether	ND	10
bromoform	ND	5.0
tetrachloroethylene	970	5.0
1,1,2,2-tetrachloroethane	ND	5.0
chlorobenzene	ND	5.0
1,3-dichlorobenzene	ND	5.0
1,2-dichlorobenzene	ND	5.0
1,4-dichlorobenzene	ND	5.0

ND = Not detected at or above reporting limit.

QA/QC SUMMARY

Duplicate: Relative % Difference	5
Spike: Average % Recovery	83

Curtis & Tompkins, Ltd.

LABORATORY NUMBER: 101724-4
CLIENT: ERM - WEST
PROJECT: 1135
LOCATION: ALBANY, CALIFORNIA
SAMPLE ID: B-1-4

DATE RECEIVED: 09/24/90
DATE ANALYZED: 09/24/90-10/3/90
DATE REPORTED: 10/03/90

EPA 8020: Volatile Aromatic Hydrocarbons in Soils & Wastes
Extraction Method: EPA 5030 - Purge & Trap

COMPOUND	Result ug/Kg	Reporting Limit ug/Kg
Benzene	43	5.0
Toluene	ND	5.0
Ethyl Benzene	ND	5.0
Total Xylenes	510	5.0
Chlorobenzene	ND	5.0
1,4-Dichlorobenzene	ND	5.0
1,3-Dichlorobenzene	ND	5.0
1,2-Dichlorobenzene	ND	5.0

ND = Not detected at or above reporting limit.

QA/QC SUMMARY

RPD, %	7
RECOVERY, %	104

Curtis & Tompkins, Ltd.

LABORATORY NUMBER: 101724-5
CLIENT: ERM - WEST
JOB #: 1135
SAMPLE ID: B-1-5

DATE RECEIVED: 09/24/90
DATE ANALYZED: 09/28/90
DATE REPORTED: 10/03/90

EPA 8010: Volatile Halocarbons in Soil & Wastes
Extraction Method: EPA 5030 - Purge & Trap

Compound	RESULT ug/Kg	REPORTING LIMIT ug/Kg
chloromethane	ND	10
bromomethane	ND	10
vinyl chloride	ND	10
chloroethane	ND	10
methylene chloride	ND	5.0
trichlorofluoromethane	ND	5.0
1,1-dichloroethene	ND	5.0
1,1-dichloroethane	ND	5.0
1,2-dichloroethene (total)	ND	5.0
chloroform	ND	5.0
freon 113	ND	5.0
1,2-dichloroethane	ND	5.0
1,1,1-trichloroethane	ND	5.0
carbon tetrachloride	ND	5.0
bromodichloromethane	ND	5.0
1,2-dichloropropane	ND	5.0
cis-1,3-dichloropropene	ND	5.0
trichloroethylene	ND	5.0
1,1,2-trichloroethane	ND	5.0
trans-1,3-dichloropropene	ND	5.0
dibromochloromethane	ND	5.0
2-chloroethylvinyl ether	ND	10
bromoform	ND	5.0
tetrachloroethylene	ND	5.0
1,1,2,2-tetrachloroethane	ND	5.0
chlorobenzene	ND	5.0
1,3-dichlorobenzene	ND	5.0
1,2-dichlorobenzene	ND	5.0
1,4-dichlorobenzene	ND	5.0

ND = Not detected at or above reporting limit.

QA/QC SUMMARY

Duplicate: Relative % Difference	13
Spike: Average % Recovery	92

Curtis & Tompkins, Ltd.

LABORATORY NUMBER: 101724-5
CLIENT: ERM - WEST
PROJECT: 1135
LOCATION: ALBANY, CALIFORNIA
SAMPLE ID: B-1-5

DATE RECEIVED: 09/24/90
DATE ANALYZED: 09/28/90
DATE REPORTED: 10/03/90

EPA 8020: Volatile Aromatic Hydrocarbons in Soils & Wastes
Extraction Method: EPA 5030 - Purge & Trap

COMPOUND	Result ug/Kg	Reporting Limit ug/Kg
Benzene	ND	5.0
Toluene	ND	5.0
Ethyl Benzene	ND	5.0
Total Xylenes	ND	5.0
Chlorobenzene	ND	5.0
1,4-Dichlorobenzene	ND	5.0
1,3-Dichlorobenzene	ND	5.0
1,2-Dichlorobenzene	ND	5.0

ND = Not detected at or above reporting limit.

QA/QC SUMMARY

RPD, %	11
RECOVERY, %	108

Curtis & Tompkins, Ltd.

LABORATORY NUMBER: 101724-9
CLIENT: ERM - WEST
JOB #: 1135
SAMPLE ID: B-2-4

DATE RECEIVED: 09/24/90
DATE ANALYZED: 09/28/90
DATE REPORTED: 10/03/90

EPA 8010: Volatile Halocarbons in Soil & Wastes
Extraction Method: EPA 5030 - Purge & Trap

Compound	RESULT ug/Kg	REPORTING LIMIT ug/Kg
chloromethane	ND	10
bromomethane	ND	10
vinyl chloride	ND	10
chloroethane	ND	10
methylene chloride	ND	5.0
trichlorofluoromethane	ND	5.0
1,1-dichloroethene	ND	5.0
1,1-dichloroethane	ND	5.0
1,2-dichloroethene (total)	ND	5.0
chloroform	ND	5.0
freon 113	ND	5.0
1,2-dichloroethane	ND	5.0
1,1,1-trichloroethane	ND	5.0
carbon tetrachloride	ND	5.0
bromodichloromethane	ND	5.0
1,2-dichloropropane	ND	5.0
cis-1,3-dichloropropene	ND	5.0
trichloroethylene	ND	5.0
1,1,2-trichloroethane	ND	5.0
trans-1,3-dichloropropene	ND	5.0
dibromochloromethane	ND	5.0
2-chloroethylvinyl ether	ND	10
bromoform	ND	5.0
tetrachloroethylene	ND	5.0
1,1,2,2-tetrachloroethane	ND	5.0
chlorobenzene	ND	5.0
1,3-dichlorobenzene	ND	5.0
1,2-dichlorobenzene	ND	5.0
1,4-dichlorobenzene	ND	5.0

ND = Not detected at or above reporting limit.

QA/QC SUMMARY

Duplicate: Relative % Difference	13
Spike: Average % Recovery	92

Curtis & Tompkins, Ltd.

LABORATORY NUMBER: 101724-9
CLIENT: ERM - WEST
PROJECT: 1135
LOCATION: ALBANY, CALIFORNIA
SAMPLE ID: B-2-4

DATE RECEIVED: 09/24/90
DATE ANALYZED: 09/28/90
DATE REPORTED: 10/03/90

EPA 8020: Volatile Aromatic Hydrocarbons in Soils & Wastes
Extraction Method: EPA 5030 - Purge & Trap

COMPOUND	Result ug/Kg	Reporting Limit ug/Kg
Benzene	ND	5.0
Toluene	ND	5.0
Ethyl Benzene	5.9	5.0
Total Xylenes	5.1	5.0
Chlorobenzene	ND	5.0
1,4-Dichlorobenzene	ND	5.0
1,3-Dichlorobenzene	ND	5.0
1,2-Dichlorobenzene	ND	5.0

ND = Not detected at or above reporting limit.

QA/QC SUMMARY

RPD, %	11
RECOVERY, %	108

Curtis & Tompkins, Ltd.

LABORATORY NUMBER: 101724-13
CLIENT: ERM - WEST
JOB #: 1135
SAMPLE ID: B-3-4

DATE RECEIVED: 09/24/90
DATE ANALYZED: 09/28/90
DATE REPORTED: 10/03/90

EPA 8010: Volatile Halocarbons in Soil & Wastes
Extraction Method: EPA 5030 - Purge & Trap

Compound	RESULT ug/Kg	REPORTING LIMIT ug/Kg
chloromethane	ND	10
bromomethane	ND	10
vinyl chloride	ND	10
chloroethane	ND	10
methylene chloride	ND	5.0
trichlorofluoromethane	ND	5.0
1,1-dichloroethene	ND	5.0
1,1-dichloroethane	ND	5.0
1,2-dichloroethene (total)	ND	5.0
chloroform	ND	5.0
freon 113	ND	5.0
1,2-dichloroethane	ND	5.0
1,1,1-trichloroethane	ND	5.0
carbon tetrachloride	ND	5.0
bromodichloromethane	ND	5.0
1,2-dichloropropane	ND	5.0
cis-1,3-dichloropropene	ND	5.0
trichloroethylene	ND	5.0
1,1,2-trichloroethane	ND	5.0
trans-1,3-dichloropropene	ND	5.0
dibromochloromethane	ND	5.0
2-chloroethylvinyl ether	ND	10
bromoform	ND	5.0
tetrachloroethylene	ND	5.0
1,1,2,2-tetrachloroethane	ND	5.0
chlorobenzene	ND	5.0
1,3-dichlorobenzene	ND	5.0
1,2-dichlorobenzene	ND	5.0
1,4-dichlorobenzene	ND	5.0

ND = Not detected at or above reporting limit.

QA/QC SUMMARY

Duplicate: Relative % Difference	13
Spike: Average % Recovery	92

Curtis & Tomkins, Ltd.

LABORATORY NUMBER: 101724-13
CLIENT: ERM - WEST
PROJECT: 1135
LOCATION: ALBANY, CALIFORNIA
SAMPLE ID: B-3-4

DATE RECEIVED: 09/24/90
DATE ANALYZED: 09/28/90
DATE REPORTED: 10/03/90

EPA 8020: Volatile Aromatic Hydrocarbons in Soils & Wastes
Extraction Method: EPA 5030 - Purge & Trap

COMPOUND	Result ug/Kg	Reporting Limit ug/Kg
Benzene	ND	5.0
Toluene	ND	5.0
Ethyl Benzene	ND	5.0
Total Xylenes	ND	5.0
Chlorobenzene	ND	5.0
1,4-Dichlorobenzene	ND	5.0
1,3-Dichlorobenzene	ND	5.0
1,2-Dichlorobenzene	ND	5.0

ND = Not detected at or above reporting limit.

QA/QC SUMMARY

RPD, %	11
RECOVERY, %	108

Curtis & Tompkins, Ltd.

LABORATORY NUMBER: 101724-19
CLIENT: ERM - WEST
JOB #: 1135
SAMPLE ID: B-4-5

DATE RECEIVED: 09/24/90
DATE ANALYZED: 09/28/90
DATE REPORTED: 10/03/90

EPA 8010: Volatile Halocarbons in Soil & Wastes
Extraction Method: EPA 5030 - Purge & Trap

Compound	RESULT ug/Kg	REPORTING LIMIT ug/Kg
chloromethane	ND	10
bromomethane	ND	10
vinyl chloride	ND	10
chloroethane	ND	10
methylene chloride	ND	5.0
trichlorofluoromethane	ND	5.0
1,1-dichloroethene	ND	5.0
1,1-dichloroethane	ND	5.0
1,2-dichloroethene (total)	ND	5.0
chloroform	ND	5.0
freon 113	ND	5.0
1,2-dichloroethane	ND	5.0
1,1,1-trichloroethane	ND	5.0
carbon tetrachloride	ND	5.0
bromodichloromethane	ND	5.0
1,2-dichloropropane	ND	5.0
cis-1,3-dichloropropene	ND	5.0
trichloroethylene	ND	5.0
1,1,2-trichloroethane	ND	5.0
trans-1,3-dichloropropene	ND	5.0
dibromochloromethane	ND	5.0
2-chloroethylvinyl ether	ND	10
bromoform	ND	5.0
tetrachloroethylene	ND	5.0
1,1,2,2-tetrachloroethane	ND	5.0
chlorobenzene	ND	5.0
1,3-dichlorobenzene	ND	5.0
1,2-dichlorobenzene	ND	5.0
1,4-dichlorobenzene	ND	5.0

ND = Not detected at or above reporting limit.

QA/QC SUMMARY

Duplicate: Relative % Difference	13
Spike: Average % Recovery	92

Curtis & Tompkins, Ltd.

LABORATORY NUMBER: 101724-19
CLIENT: ERM - WEST
PROJECT: 1135
LOCATION: ALBANY, CALIFORNIA
SAMPLE ID: B-4-5

DATE RECEIVED: 09/24/90
DATE ANALYZED: 09/28/90
DATE REPORTED: 10/03/90

EPA 8020: Volatile Aromatic Hydrocarbons in Soils & Wastes
Extraction Method: EPA 5030 - Purge & Trap

COMPOUND	Result ug/Kg	Reporting Limit ug/Kg
Benzene	ND	5.0
Toluene	ND	5.0
Ethyl Benzene	ND	5.0
Total Xylenes	ND	5.0
Chlorobenzene	ND	5.0
1,4-Dichlorobenzene	ND	5.0
1,3-Dichlorobenzene	ND	5.0
1,2-Dichlorobenzene	ND	5.0

ND = Not detected at or above reporting limit.

QA/QC SUMMARY

RPD, %	11
RECOVERY, %	108

Date 9/21/90 Weather Clear Page 1 of 3

ERM-West

1777 Botelho Drive • Suite 260 • Walnut Creek, CA • 94596 • (415) 946-0455

Chain of Custody Record

Job # 1135

Job Location Albany, California

Sampler (signature)

Printed name John Pratt

Lab Report Recipient John Pratt

Telephone No. (415) 946-0455

Receiving Lab Curtis & Tompkins

Address 2323 Fifth St.

Berkeley, California 94710

Sample ID#	Time	W-water S-soil	C-comp G-grab	Volume	Container type	ICED	Preservative	Sampling method	GC: TPH-Extraction	GC: BTEX/Total Fuel HCs	GC: 601 / 8010 Halocarbons	GC: 602 / 8020 Aromatics	GC: 604 / 8040 Phenols	GC: 608 / 8080 Pest/PCBs	GC/MS: 624-8240 Purgeables	GC/MS: 625-8270 BNAs & Pest (SVs)	GC/MS: Dioxins	Inorg: Metals	Inorg: Wet Chemistry	Other: Organic Lead	Number of Containers	Remarks
B-1-1	0915	S	G	6" Brass	Brass	✓	No	HSA	✓		✓	✓								✓	1	
B-1-2	0930	S	G	"	"	✓	"	"	✓		✓	✓								✓	1	
B-1-3	0940	S	G	"	"	✓	"	"	✓		✓	✓								✓	1	
B-1-4	0945	S	G	"	"	✓	"	"	✓		✓	✓								✓	1	
B-1-5	1000	S	G	"	"	✓	"	"	✓		✓	✓								✓	1	
B-2-1	1135	S	G	"	"	✓	"	"													1	
B-2-2	1145	S	G	"	"	✓	"	"													1	
B-2-3	1155	S	G	"	"	✓	"	"													1	
B-2-4	1200	S	G	"	"	✓	"	"	✓		✓	✓								✓	1	

Precautions: Conc: ☒ Lo ☐ Med ☐ Hi Ship Via

Total Number of Containers: 9

Sample Relinquished By	Date	Time	Received By	Date	Time
John Pratt	9/21	1030	[illegible]		
Company ERM-West			Company [illegible]	9/21/90	1630
[illegible]			Norma Quinn		
Company ERM-West	9/24	1120	Company CT Labs	9/24/90	11:20

Reason for Transfer (List Shipping Bill Number)

LABORATORY—Please Complete: ☐ Samples Intact ☐ Samples at 4°C ☐ Samples not leaking ☐ # of containers matches C-of-C ☐ Container tags match C-of-C ☐ Cooler seals Intact

Lab sample custodian Signature Date Time

Sample Disposition: ☐ Return to Site ☐ Discard ☐ Hold ___ days

2.21.91 QA

PO 9134

Date 9/21/90 Weather Clear Page 2 of 3

ERM-West

1777 Botelho Drive • Suite 260 • Walnut Creek, CA • 94596 • (415) 946-0455

Chain of Custody Record

Job # 1135

Job Location Alameda, California

Sampler (signature)

Printed name John Prall

Lab Report Recipient John Prall

Telephone No. (415) 946-0455

Receiving Lab Curtis & Tompkins

Address 2323 Fifth St.

Berkeley, California

Sample ID#	Time	W-water S-soil	C-comp G-grab	Volume	Container type	ICED	Preservative	Sampling method	GC: TPH-Extraction	GC: BTEX/Total Fuel HCs	GC: 601 / 8010 Halocarbons	GC: 602 / 8020 Aromatics	GC: 604 / 8040 Phenols	GC: 608 / 8080 Pest/PCBs	GC/MS: 624-8240 Purgeables	GC/MS: 625-8270 BNAs & Pest (SVs)	GC/MS: Dioxins	Inorg: Metals	Inorg: Wet Chemistry	Other: Organics (Gas)	Number of Containers	Remarks
B-3-1	1305	S	G	6"	Brass	✓	None	HSA	/	Hold											1	
B-3-2	1310	S	G	"	"	✓	"	"	/												1	
B-3-3	1325	S	G	"	"	✓	"	"	/												1	
B-3-4	1330	S	G	"	"	✓	"	"	✓	✓		✓								✓	1	
B-3-5	1335	S	G	"	"	✓	"	"	Hold	Hold		Hold									1	
B-4-1	1430	S	G	"	"	✓	"	"	{												1	
B-4-2	1435	S	G	"	"	✓	"	"	{	Hold											1	
B-4-3	1445	S	G	"	"	✓	"	"	{												1	
B-4-4	1450	S	G	"	"	✓	"	"	{												1	

Total Number of Containers: 9

Precautions: Conc: ☒ Lo ☐ Med ☐ Hi Ship Via

Reason for Transfer (List Shipping Bill Number)

Sample Relinquished By	Company	Date	Time	Received By	Company	Date	Time
John Prall	Erm-West	9/24/90	1050	[illegible]	[illegible]	9/24/90	
[illegible]	Erm-West	9/24/90	1124	[illegible]	C.T. Lab	9/24/90	11:20

LABORATORY—Please Complete: ☐ Samples Intact ☐ Samples at 4°C ☐ Samples not leaking ☐ # of containers matches C-of-C ☐ Container tags match C-of-C ☐ Cooler seals Intact

Lab sample custodian — Signature — Date — Time

Sample Disposition: ☐ Return to Site ☐ Discard ☐ Hold ____ days

Date 9/21/92 Weather Clear Page 3 of 3

ERM-West

1777 Botelho Drive • Suite 260 • Walnut Creek, CA • 94596 • (415) 946-0455

Chain of Custody Record

Job # 1135

Job Location Albany, California

Sampler (signature)

Printed name John Prall

Lab Report Recipient John Prall

Telephone No. (415) 946-0455

Receiving Lab Curtis & Tompkins

Address 2323 Fifth St.

Berkeley, California

Sample ID#	Time	W-water S-soil	C-comp G-grab	Volume	Container type	ICED	Preservative	Sampling method	Collection	TPH-Extraction	BTEX/Total Fuel HCs	601 / 8010 Halocarbons	602 / 8020 Aromatics	604 / 8040 Phenols	608 / 8080 Pest/PCBs	GC	624-8240 Purgeables	625-8270 BNAs & Pest (SVs)	Dioxins	GC/MS	Metals	Wet Chemistry	Inorg	Other	Number of Containers	Remarks
B-4-5	1500	S	G	6"	Brass	✓	No	HSA		✓		✓	✓											✓	1	

Precautions:

Conc: ☒ Lo ☐ Med ☐ Hi

Ship Via

Total Number of Containers: 1

Sample Relinquished By	Date	Time	Received By	Date	Time
John Prall	9/24/92	1030			
Company ERM-West			Company		
	9/24/92	1700		9/24/92	1030
Company ERM West			Company C&T Lab	9/24/92	1430

Reason for Transfer (List Shipping Bill Number)

LABORATORY—Please Complete: ☐ Samples Intact ☐ Samples at 4°C ☐ Samples not leaking ☐ # of containers matches C-of-C ☐ Container tags match C-of-C ☐ Cooler seals intact

Lab sample custodian Signature Date Time

Sample Disposition: ☐ Return to Site ☐ Discard ☐ Hold ___ days

VERBAL ADDITIONS / CANCELLATIONS TO ANALYSIS REQUEST SHEET

CLIENT: ETIM-WEST DATE: 9/25

REQUESTED BY: John Prall TIME: 1:30 am (pm)

RECORDED BY: NJW

Current Lab ID (~~Previous Lab ID~~)	Client ID	Circle matrix	Specify add or cancel	Analysis	NEW Due date
101724 (-)	All except HOLDS	(soil) water other	Change of due DATE	8010/8020 TEH ORGPB	10/1 — please
(-)		soil water other			
(-)		soil water other			
(-)		soil water other			
(-)		soil water other			
(-)		soil water other			
(-)		soil water other			
(-)		soil water other			
(-)		soil water other			

Original in job jacket. Copies to analytical departments.

Curtis & Tompkins, Ltd., Analytical Laboratories, Since 1878
2323 Fifth Street, Berkeley, CA 94710, Phone (415) 486-0900

DATE RECEIVED: 09/28/90
DATE REPORTED: 10/09/90

LAB NUMBER: 101791

CLIENT: ERM-WEST

REPORT ON: 22 WATER SAMPLES

PROJECT #: 1135
LOCATION: ALBANY, CALIFORNIA

RESULTS: SEE ATTACHED

QA/QC Approval

Final Approval

Curtis & Tompkins, Ltd.

LABORATORY NUMBER: 101791
CLIENT: ERM-WEST
PROJECT #: 1135
LOCATION: ALBANY, CALIFORNIA

DATE RECEIVED: 09/28/90
DATE ANALYZED: 10/04/90
DATE REPORTED: 10/09/90

ANALYSIS: ORGANIC LEAD
ANALYSIS METHOD: EPA 7420
METHOD: CA DHS METHOD, LUFT MANUAL OCT 1989

LAB ID	CLIENT ID	RESULT	UNITS	REPORTING LIMIT
101791-5	WS-1-5	ND	mg/L	0.1
101791-10	WS-2-4	ND	mg/L	0.1
101791-15	WS-3-4	ND	mg/L	0.1
101791-18	WS-4-2	ND	mg/L	0.1

ND = Not detected at or above reporting limit.

QA/QC SUMMARY

RPD, %	2
RECOVERY, %	102

Curtis & Tompkins Ltd

LABORATORY NUMBER: 101791
CLIENT: ERM-WEST
JOB #: 1135
LOCATION: ALBANY, CALIFORNIA

DATE RECEIVED: 09/28/90
DATE EXTRACTED: 10/05/90
DATE ANALYZED: 10/08/90
DATE REPORTED: 10/09/90

Extractable Petroleum Hydrocarbons in Aqueous Solutions
California DOHS Method
LUFT Manual October 1989

LAB ID	CLIENT ID	KEROSENE RANGE (ug/L)	DIESEL RANGE (ug/L)	REPORTING LIMIT (ug/L)
101791-6	WS-1-6	ND	ND	50
101791-11	WS-2-5	ND	ND	50
101791-16	WS-3-5	ND	ND	50
101791-17	WS-4-1	ND	ND	50
101791-22	TRIP BLANK	ND	ND	50

ND = Not detected at or above reporting limit.

QA/QC SUMMARY

RPD, %	<1
RECOVERY, %	95

Curtis & Tompkins, Ltd.

LABORATORY NUMBER: 101791-1
CLIENT: ERM-WEST
PROJECT #: 1135
SAMPLE ID: WS-1-1

DATE RECEIVED: 09/28/90
DATE ANALYZED: 10/02/90
DATE REPORTED: 10/09/90

EPA 8010
Purgeable Halocarbons in Water

Compound	Result ug/L	Reporting Limit ug/L
chloromethane	ND	2.0
bromomethane	ND	2.0
vinyl chloride	ND	2.0
chloroethane	ND	2.0
methylene chloride	ND	1.0
trichlorofluoromethane	ND	1.0
1,1-dichloroethene	ND	1.0
1,1-dichloroethane	ND	1.0
1,2-dichloroethene (total)	ND	1.0
chloroform	ND	1.0
freon 113	ND	1.0
1,2-dichloroethane	ND	1.0
1,1,1-trichloroethane	ND	1.0
carbon tetrachloride	ND	1.0
bromodichloromethane	ND	1.0
1,2-dichloropropane	ND	1.0
cis-1,3-dichloropropene	ND	1.0
trichloroethylene	ND	1.0
1,1,2-trichloroethane	ND	1.0
trans-1,3-dichloropropene	ND	1.0
dibromochloromethane	ND	1.0
2-chloroethyl vinyl ether	ND	2.0
bromoform	ND	1.0
tetrachloroethene	ND	1.0
1,1,2,2-tetrachloroethane	ND	1.0
chlorobenzene	ND	1.0
1,3-dichlorobenzene	ND	1.0
1,2-dichlorobenzene	ND	1.0
1,4-dichlorobenzene	ND	1.0

ND = Not detected at or above reporting limit.

QA/QC SUMMARY

RPD, %	5
RECOVERY, %	88

Curtis & Tompkins, Ltd.

LABORATORY NUMBER: 101791-1
CLIENT: ERM-WEST
JOB #: 1135
SAMPLE ID: WS-1-1

DATE RECEIVED: 09/28/90
DATE ANALYZED: 10/02/90
DATE REPORTED: 10/09/90

EPA 8020: Volatile Aromatic Hydrocarbons in Water

COMPOUND	RESULT ug/L	REPORTING LIMIT ug/L
Benzene	ND	1.0
Toluene	ND	1.0
Ethyl Benzene	ND	1.0
Total Xylenes	ND	1.0
Chlorobenzene	ND	1.0
1,4-Dichlorobenzene	ND	1.0
1,3-Dichlorobenzene	ND	1.0
1,2-Dichlorobenzene	ND	1.0

ND = Not detected at or above reporting limit.

QA/QC SUMMARY

RPD, %	5
RECOVERY, %	100

Curtis & Tompkins, Ltd.

LABORATORY NUMBER: 101791-7
CLIENT: ERM-WEST
PROJECT #: 1135
SAMPLE ID: WS-2-1

DATE RECEIVED: 09/28/90
DATE ANALYZED: 10/02/90
DATE REPORTED: 10/09/90

EPA 8010
Purgeable Halocarbons in Water

Compound	Result ug/L	Reporting Limit ug/L
chloromethane	ND	2.0
bromomethane	ND	2.0
vinyl chloride	ND	2.0
chloroethane	ND	2.0
methylene chloride	ND	1.0
trichlorofluoromethane	ND	1.0
1,1-dichloroethene	12	1.0
1,1-dichloroethane	94	1.0
1,2-dichloroethene (total)	ND	1.0
chloroform	ND	1.0
freon 113	ND	1.0
1,2-dichloroethane	ND	1.0
1,1,1-trichloroethane	200	1.0
carbon tetrachloride	ND	1.0
bromodichloromethane	ND	1.0
1,2-dichloropropane	ND	1.0
cis-1,3-dichloropropene	ND	1.0
trichloroethylene	2.5	1.0
1,1,2-trichloroethane	ND	1.0
trans-1,3-dichloropropene	ND	1.0
dibromochloromethane	ND	1.0
2-chloroethyl vinyl ether	ND	2.0
bromoform	ND	1.0
tetrachloroethene	71	1.0
1,1,2,2-tetrachloroethane	ND	1.0
chlorobenzene	ND	1.0
1,3-dichlorobenzene	ND	1.0
1,2-dichlorobenzene	ND	1.0
1,4-dichlorobenzene	ND	1.0

ND = Not detected at or above reporting limit.

QA/QC SUMMARY

RPD, %	5
RECOVERY, %	88

Curtis & Tompkins, Ltd.

LABORATORY NUMBER: 101791-7
CLIENT: ERM-WEST
JOB #: 1135
SAMPLE ID: WS-2-1

DATE RECEIVED: 09/28/90
DATE ANALYZED: 10/02/90
DATE REPORTED: 10/09/90

EPA 8020: Volatile Aromatic Hydrocarbons in Water

COMPOUND	RESULT ug/L	REPORTING LIMIT ug/L
Benzene	10	1.0
Toluene	ND	1.0
Ethyl Benzene	ND	1.0
Total Xylenes	ND	1.0
Chlorobenzene	ND	1.0
1,4-Dichlorobenzene	ND	1.0
1,3-Dichlorobenzene	ND	1.0
1,2-Dichlorobenzene	ND	1.0

ND = Not detected at or above reporting limit.

QA/QC SUMMARY

RPD, %	5
RECOVERY, %	100

Curtis & Tompkins, Ltd.

LABORATORY NUMBER: 101791-12
CLIENT: ERM-WEST
PROJECT #: 1135
SAMPLE ID: WS-3-1

DATE RECEIVED: 09/28/90
DATE ANALYZED: 10/02/90
DATE REPORTED: 10/09/90

EPA 8010
Purgeable Halocarbons in Water

Compound	Result ug/L	Reporting Limit ug/L
chloromethane	ND	2.0
bromomethane	ND	2.0
vinyl chloride	ND	2.0
chloroethane	ND	2.0
methylene chloride	ND	1.0
trichlorofluoromethane	ND	1.0
1,1-dichloroethene	ND	1.0
1,1-dichloroethane	ND	1.0
1,2-dichloroethene (total)	ND	1.0
chloroform	ND	1.0
freon 113	ND	1.0
1,2-dichloroethane	ND	1.0
1,1,1-trichloroethane	ND	1.0
carbon tetrachloride	ND	1.0
bromodichloromethane	ND	1.0
1,2-dichloropropane	ND	1.0
cis-1,3-dichloropropene	ND	1.0
trichloroethylene	1.8	1.0
1,1,2-trichloroethane	ND	1.0
trans-1,3-dichloropropene	ND	1.0
dibromochloromethane	ND	1.0
2-chloroethyl vinyl ether	ND	2.0
bromoform	ND	1.0
tetrachloroethene	ND	1.0
1,1,2,2-tetrachloroethane	ND	1.0
chlorobenzene	ND	1.0
1,3-dichlorobenzene	ND	1.0
1,2-dichlorobenzene	ND	1.0
1,4-dichlorobenzene	ND	1.0

ND = Not detected at or above reporting limit.

QA/QC SUMMARY

RPD, %	5
RECOVERY, %	88

Curtis & Tompkins, Ltd.

LABORATORY NUMBER: 101791-12
CLIENT: ERM-WEST
JOB #: 1135
SAMPLE ID: WS-3-1

DATE RECEIVED: 09/28/90
DATE ANALYZED: 10/02/90
DATE REPORTED: 10/09/90

EPA 8020: Volatile Aromatic Hydrocarbons in Water

COMPOUND	RESULT ug/L	REPORTING LIMIT ug/L
Benzene	ND	1.0
Toluene	ND	1.0
Ethyl Benzene	ND	1.0
Total Xylenes	ND	1.0
Chlorobenzene	ND	1.0
1,4-Dichlorobenzene	ND	1.0
1,3-Dichlorobenzene	ND	1.0
1,2-Dichlorobenzene	ND	1.0

ND = Not detected at or above reporting limit.

QA/QC SUMMARY

RPD, %	5
RECOVERY, %	100

Curtis & Tompkins, Ltd.

LABORATORY NUMBER: 101791-19
CLIENT: ERM-WEST
PROJECT #: 1135
SAMPLE ID: WS-4-3

DATE RECEIVED: 09/28/90
DATE ANALYZED: 10/02/90
DATE REPORTED: 10/09/90

EPA 8010
Purgeable Halocarbons in Water

Compound	Result ug/L	Reporting Limit ug/L
chloromethane	ND	2.0
bromomethane	ND	2.0
vinyl chloride	ND	2.0
chloroethane	ND	2.0
methylene chloride	ND	1.0
trichlorofluoromethane	ND	1.0
1,1-dichloroethene	ND	1.0
1,1-dichloroethane	ND	1.0
1,2-dichloroethene (total)	ND	1.0
chloroform	ND	1.0
freon 113	ND	1.0
1,2-dichloroethane	ND	1.0
1,1,1-trichloroethane	ND	1.0
carbon tetrachloride	ND	1.0
bromodichloromethane	ND	1.0
1,2-dichloropropane	ND	1.0
cis-1,3-dichloropropene	ND	1.0
trichloroethylene	ND	1.0
1,1,2-trichloroethane	ND	1.0
trans-1,3-dichloropropene	ND	1.0
dibromochloromethane	ND	1.0
2-chloroethyl vinyl ether	ND	2.0
bromoform	ND	1.0
tetrachloroethene	ND	1.0
1,1,2,2-tetrachloroethane	ND	1.0
chlorobenzene	ND	1.0
1,3-dichlorobenzene	ND	1.0
1,2-dichlorobenzene	ND	1.0
1,4-dichlorobenzene	ND	1.0

ND = Not detected at or above reporting limit.

QA/QC SUMMARY

RPD, %	5
RECOVERY, %	88

Curtis & Tompkins, Ltd.

LABORATORY NUMBER: 101791-19
CLIENT: ERM-WEST
JOB #: 1135
SAMPLE ID: WS-4-3

DATE RECEIVED: 09/28/90
DATE ANALYZED: 10/02/90
DATE REPORTED: 10/09/90

EPA 8020: Volatile Aromatic Hydrocarbons in Water

COMPOUND	RESULT ug/L	REPORTING LIMIT ug/L
Benzene	ND	1.0
Toluene	ND	1.0
Ethyl Benzene	ND	1.0
Total Xylenes	ND	1.0
Chlorobenzene	ND	1.0
1,4-Dichlorobenzene	ND	1.0
1,3-Dichlorobenzene	ND	1.0
1,2-Dichlorobenzene	ND	1.0

ND = Not detected at or above reporting limit.

QA/QC SUMMARY

RPD, %	5
RECOVERY, %	100

Curtis & Tompkins, Ltd.

LABORATORY NUMBER: 101791-22
CLIENT: ERM-WEST
PROJECT #: 1135
SAMPLE ID: TRIP BLANK

DATE RECEIVED: 09/28/90
DATE ANALYZED: 10/02/90
DATE REPORTED: 10/09/90

EPA 8010
Purgeable Halocarbons in Water

Compound	Result ug/L	Reporting Limit ug/L
chloromethane	ND	2.0
bromomethane	ND	2.0
vinyl chloride	ND	2.0
chloroethane	ND	2.0
methylene chloride	ND	1.0
trichlorofluoromethane	ND	1.0
1,1-dichloroethene	ND	1.0
1,1-dichloroethane	ND	1.0
1,2-dichloroethene (total)	ND	1.0
chloroform	ND	1.0
freon 113	ND	1.0
1,2-dichloroethane	ND	1.0
1,1,1-trichloroethane	ND	1.0
carbon tetrachloride	ND	1.0
bromodichloromethane	ND	1.0
1,2-dichloropropane	ND	1.0
cis-1,3-dichloropropene	ND	1.0
trichloroethylene	ND	1.0
1,1,2-trichloroethane	ND	1.0
trans-1,3-dichloropropene	ND	1.0
dibromochloromethane	ND	1.0
2-chloroethyl vinyl ether	ND	1.0
bromoform	ND	2.0
tetrachloroethene	ND	1.0
1,1,2,2-tetrachloroethane	ND	1.0
chlorobenzene	ND	1.0
1,3-dichlorobenzene	ND	1.0
1,2-dichlorobenzene	ND	1.0
1,4-dichlorobenzene	ND	1.0

ND = Not detected at or above reporting limit.

QA/QC SUMMARY

RPD, %	5
RECOVERY, %	88

Curtis & Tompkins, Ltd.

LABORATORY NUMBER: 101791-22
CLIENT: ERM-WEST
JOB #: 1135
SAMPLE ID: TRIP BLANK

DATE RECEIVED: 09/28/90
DATE ANALYZED: 10/02/90
DATE REPORTED: 10/09/90

EPA 8020: Volatile Aromatic Hydrocarbons in Water

COMPOUND	RESULT ug/L	REPORTING LIMIT ug/L
Benzene	ND	1.0
Toluene	ND	1.0
Ethyl Benzene	ND	1.0
Total Xylenes	ND	1.0
Chlorobenzene	ND	1.0
1,4-Dichlorobenzene	ND	1.0
1,3-Dichlorobenzene	ND	1.0
1,2-Dichlorobenzene	ND	1.0

ND = Not detected at or above reporting limit.

QA/QC SUMMARY

RPD, %	5
RECOVERY, %	100

10179.1

Date 11/28/95 Weather Clear Page 1 of 2

ERM-West

1777 Botelho Drive • Suite 260 • Walnut Creek, CA • 94596 • (415) 946-0455

Chain of Custody Record

Job # 1135

Job Location Albany, Ca.

Sampler (signature)

Printed name John Druill

Lab Report Recipient John Druill

Telephone No. (415) 946-0455

Receiving Lab Curtis & Tompkins

Address 2323 Fifth St.

Berkeley, California 94710

Sample ID#	Time	W=water S=soil	C=comp G=grab	Volume	Container type	ICED	Preservative	Sampling method	TPH-Extraction	BTEX/Total Fuel HCs	601 / 8010 Halocarbons	602 / 8020 Aromatics	604 / 8040 Phenols	608 / 8080 Pest/PCBs	624-8240 Purgeables	625-8270 BNAs & Pest (SVs)	Diesine	Metals	Wet Chemistry	Oxygenates Only	Number of Containers	Remarks
1 WS-1-1	1115	W	G	40ml	G	✓		bailer			✓	✓									1	
2 WS-1-2	1115	W	G	40ml	G	✓		"													1	
3 WS-1-3	1115	W	G	40ml	G	✓		"													1	
4 WS-1-4	~~1142~~ 1115	W	G	40ml	G	✓		"													1	
5 WS-1-5	1115	W	G	100ml	P	✓		"												✓	1	
6 WS-1-6	1115	W	G	1 Liter	P/G	✓		"	✓												1	
7 WS-2-1	1200	W	G	40	G	✓		"			✓	✓									1	
8 WS-2-2	1200	W	G	40	G	✓		"													1	
9 WS-2-3	1200	W	G	40	G	✓		"													1	

GC | GC/MS | Inorg | Other

Total Number of Containers: 9

Conc: ☒ Lo ☐ Med ☐ Hi

Ship Via

Precautions:

Reason for Transfer (List Shipping Bill Number)

Notes: Trip Blank was not on COC. It was analyzed for 8010/8020 and TEH.

Sample Relinquished By	Date	Time	Received By	Date	Time
John Druill	9/28/95	1415	Company	9/28/95	1415
Company ERM-West					
Company			Company		

LABORATORY— Please Complete

☐ Samples Intact ☐ Samples at 4°C ☐ Samples not leaking ☐ # of containers matches C-of-C ☐ Container tags match C-of-C ☐ Cooler seals intact

Lab sample custodian Signature Date Time

Sample Disposition ☐ Return to Site ☐ Discard ☐ Hold ___ days

Date 9/28/92 Weather Clear Page 2 of 2

ERM-West

1777 Botelho Drive • Suite 260 • Walnut Creek, CA • 94596 • (415) 946-0455

Chain of Custody Record

Job # 1135

Job Location Albany, Calif.

Sampler (signature)

Printed name John Brett

Lab Report Recipient John Brett

Telephone No. (415) 946-0455

Receiving Lab Curtis & Tompkins

Address 2323 Fifth St.

Berkeley, California 94710

Sample ID#	Time	W=water S=soil	C=comp G=grab	Volume	Container type	ICED	Preservative	Sampling method	GC: TPH-Extraction	GC: BTEX/Total Fuel HCs	GC: 601 / 8010 Halocarbons	GC: 602 / 8020 Aromatics	GC: 604 / 8040 Phenols	GC: 608 / 8080 Pest/PCBs	GC/MS: 624-8240 Purgeables	GC/MS: 625-8270 BNAs & Pest (SVs)	GC/MS: Dioxins	Inorg: Metals	Inorg: Wet Chemistry	Other: Oxygenate Lead	Number of Containers	Remarks
WS-2-4	1200	W	G	1000ml	P	✓		Tedlar Bag												✓	1	
WS-2-5	1200	W	G	1 Liter	VOA	✓		"	✓												1	
WS-3-1	1235	W	G	40	G	✓		"			✓	✓									1	
WS-3-2	1235	W	G	40	G	✓		"													1	
WS-3-3	1235	W	G	40	G	✓		"												✓	1	
WS-3-4	1235	W	G	100	P	✓		"													1	
WS-3-5	1242	W	G	1 Liter	VOA	✓		"	✓												1	
WS-4-1	1315	W	G	1 Liter	G	✓		"	✓												1	
WS-4-2	1315	W	G	100ml	P	✓		"												✓	1	

Total Number of Containers: 9

Conc: ☒ Lo ☐ Med ☐ Hi

Ship Via

Precautions:

Reason for Transfer (List Shipping Bill Number)

Sample Relinquished By	Date	Time	Received By	Date	Time
John Brett	9/28/92	1415	Company	9/28/92	1415
Company ERM-West					
Company			Company		

LABORATORY—Please Complete

Lab sample custodian ☐ Samples Intact ☐ Samples at 4°C ☐ Samples not leaking ☐ # of containers matches C-of-C ☐ Container tags match C-of-C ☐ Cooler seals Intact

Signature Date Time

Sample Disposition ☐ Return to Site ☐ Discard ☐ Hold ___ days

221.02 D/L

Date 9/28/9[illegible] Weather Cl[illegible] Page 1 of 1

ERM-West

Chain of Custody Record

1777 Botelho Drive • Suite 260 • Walnut Creek, CA • 94596 • (415) 946-0455

Job # 1135

Job Location Albany

Sampler (signature)

Printed name John Br[illegible]

Lab Report Recipient John Br[illegible]

Telephone No. (415) 946-0455

Receiving Lab [illegible]

Address 2323 Fifth St

Berkeley, California

Sample ID#	Time	W=water S=soil	C=comp G=grab	Volume	Container type	ICED	Preservative	Sampling method	TPH-Extraction	BTEX/Total Fuel HCs	601 / 8010 Halocarbons	602 / 8020 Aromatics	604 / 8040 Phenols	608 / 8080 Pest/PCBs	624-8240 Purgeables	625-8270 BNAs & Pest (SVs)	Dioxins	Metals	Wet Chemistry	Number of Containers	Remarks
WS-4-3	1510	W	G	40	G	✓		Teflon Bailer			✓	✓								1	
WS-4-4	1520	W	G	40	G	✓		"												1	
WS-4-5	1530	W	G	40	G	✓		"												1	

Conc: [X] Lo [ ] Med [ ] Hi

Ship Via

Total Number of Containers: 3

Precautions:

Sample Relinquished By	Date	Time	Received By	Date	Time	Reason for Transfer (List Shipping Bill Number)
[signature] Company ERM-West	9/28/9[illegible]	1350	[signature] Company [illegible]	9/28/9[illegible]	1350	
Company			Company			

LABORATORY— Please Complete [ ] Samples intact [ ] Samples at 4°C [ ] Samples not leaking [ ] # of containers matches C-of-C [ ] Container tags match C-of-C [ ] Cooler seals intact

Lab sample custodian Signature Date Time

Sample Disposition [ ] Return to Site [ ] Discard [ ] Hold ____ days