SANTA MONICA MALIBU UNIFIED SCHOOL DISTRICT
ADMINISTRATION OFFICE

REMOVAL OF UNDERGROUND STORAGE TANKS

FOR:

MALIBU HIGH SCHOOL
30215 MORNING VIEW DRIVE
MALIBU, CA. 90026

RECEIVED
DEC 15 1992
DEPARTMENT OF PUBLIC WORKS
WASTE MANAGEMENT DIVISION

OCTOBER 14, 1992

Hamid Reza Assadi, R.E.A.
Project Manager

REGISTERED ENVIRONMENTAL ASSOCIATE
HAMID REZA ASSADI
No. 01076
Expires: 6 93
STATE OF CALIFORNIA

Richard Hadsall, R.G.
Registered Geologist

REGISTERED GEOLOGIST
RICHARD HADSALL
NO 1017
CERTIFIED
ENGINEERING
GEOLOGIST
EXP June 24
STATE OF CALIFORNIA

5701 W. SLAUSON AVE., SUITE #140, CULVER CITY, CA 90230 (310) 568-8290 · (800) 660-TTMS

REMOVAL OF UNDERGROUND STORAGE TANK

MALIBU HIGH SCHOOL
30215 MORNING VIEW DRIVE
MALIBU, CA. 90026

Prepared For

Santa Monica Malibu
Unified School District
Administration Office
1651 Sixteenth Street
Santa Monica, CA. 90404

Prepared By

TTMS INC.
5701 W. Slauson Ave., Ste 140
Culver City, California 90230
Phone: (213) 568-8290

AUGUST 1992

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APPENDICES

1. EXECUTIVE SUMMARY

TTMS, Inc was retained by Santa Monica Malibu Unified School District to remove two 10,000 gallon underground storage tanks which were located at Malibu High School 30215 Morning View Dr., Malibu, CA. 90265. The tanks had previously contained diesel fuel. See Appendix A for all related maps and plans.

Permits were obtained from the County of Los Angeles, Department of Public Works/ Underground storage tank Unit (Permit #9285) (see Appendix B for the copies). Once the appropriate permits were obtained Dig Alert (Reference #366-741) and South Coast Air Quality Management District S.C.A.Q.M.D. (Reference #92-1383) were notified. The excavation area was clearly marked, the surface was saw-cut and prepared. Barricades were placed around the excavation area to insure safety. Excavation began on August 21, 1992.

Fuel lines were removed and the tanks were exposed. During excavation, the hydrocarbon emission levels were continuously monitored and logged in every 15 minutes during excavation.(See Table 2).

On August 26, 1992, the tanks were decontaminated by pressure washing and LEL readings of zero(0) were obtained. The associated fluids were pumped and transported to an approved T.S.D.F. (Industrial Service Company) by American Oil Company . The tanks were certified "non-hazardous" by an industrial hygienist (CTL Environmental Services). The tanks were removed under the supervision of Inspector Dyer of the County of Los Angeles, Fire Department. The tanks were transported to D.W. Russel Co. for destruction on August 26, 1992. (Manifests, Certificates and Supporting Documents are in Appendix D).

After the removal of the tanks, eleven (11) soil samples were taken from two (2) feet underneath tanks and the diesel dispensers, and the stockpiled soil. The sampling process were under the supervision of Inspector Dyer. Samples were sent to American Analytical Testing Laboratories. The samples were analyzed using EPA methods 8015M(Diesel) and 8020(BTEX). All samples analyzed displayed above action levels for TPH(Total Petroleum Hydrocarbons). See Appendix C. for Laboratories Results.

All excavated contaminated soil which is remaining on the west side of the excavation has been stockpiled with visqueen sheeting and covered by the same. The contaminated soil will be transported to a disposal facility at a later date. The site and excavation area were secured by using a 6' chain link fence to assure safety.
It is recommended to excavate and stockpile the contaminated soil on the site until the contamination level fall below the action level.

2. SITE DESCRIPTION

The site is a school maintenance yard that is located at Malibu High School, 30215 Morning View Dr. Malibu, CA. The two(2) 10,000 gallon storage tanks were located outside the school maintenance building. The tanks were used to fuel vehicles in the past. The location of site and tanks are shown in Appendix A, Figure 1 and 2. The top of the tank was 4 feet below the surface.

3. LOCAL HYDROLOGY

Table 1 shows the nearest wells to the site. The records (Table 1) were made available by the Los Angeles County, Department of Public Works, Groundwater Recharge and Water Quality Section, Hydraulic Water Conservation Division.

Table 1: Groundwater Information

WELL NUMBER	MEASUREMENT DATE	GROUND SURFACE ELEVATION	WATER SURFACE ELEVATION	GROUND SURFACE TO WATER SURFACE (feet)
2156	04-24-1978	14.1	25	10.9
2186	04-24-1978	79.8	90	10.2
2187B	04-24-1978	38.3	54.0	15.7

4. FIELD OPERATIONS AND OBSERVATIONS

On August 24, 1992, the tanks were exposed. During the excavation work, emission levels were monitored for levels of volatile hydrocarbon contamination. An OVA (Gastech 1314) was used during excavation.

The results of soil monitoring during the excavation at different depths are shown in Table 2.

On August 24, 1992, windows measuring approximately 2' by 2' were cut on the top of the tanks. The tanks were degassed and pressure washed according to L.A. County Fire Department requirements.

All associated fluids were transported by A.O.C to a recycling facility (Industrial Service Company). See Appendix D for certificate of disposal. The tanks were transported to D.W. Russell Co. as scrap metal for recycling or destruction. The tanks were certified for removal & transportation by Stuart E. Salot, Ph.d. CIH/ Industrial Hygienist.

A hand auger was used to drill to the depth of two (2) feet beneath the bottom of excavation. Eleven (11) soil samples retrieved from underneath the dispenser, the product lines and the tanks and stockpiled soil. (see table 3 for location of soil samples and results of field monitoring.) Undisturbed soil samples were extracted inside sampling tubes (3" long and 2" OD) and placed inside a steel spoon sampler. A steel spoon sampler was placed inside each borehole created by the hand auger. After sampling operations, the sampling tubes were removed from sampler and were prepared for shipment to the laboratory (see appendix B for Chain of Custody and laboratory results). The ends of the sampling tubes were then wrapped with plastic tape to reduce the possibility of volatilization. See Appendix G for Standard Soil Sampling Procedure. Duplicate soil samples extracted were field monitored. The results of the field monitoring of duplicated soil samples are shown in Table 3.

Table 3: Results of field monitoring of duplicate soil samples.

SAMPLE NUMBER	LOCATION OF SAMPLE	OVA READING (ppm)
SST1AW	WEST OF 10,000 GALLON DIESEL TANK # 1A	64
SST1BE	EAST OF 10,000 GALLON DIESEL TANK # 1B	82
SST2AW	WEST OF 10,000 GALLON DIESEL TANK # 2A	94
SST2BE	EAST OF 10,000 GALLON DIESEL TANL # 2B	ND
SSD1C	CENTER OF THE DIESEL DISPENSER # 1	10
SSD2C	CENTER OF THE DIESEL DISPNESER # 2	74
SSSP1N	NORTH SIDE OF STOCKPILE # 1	ND
SSSP1E	EAST SIDE OF STOCKPILE # 1	43
SSSP1S	SOUTH SIDE OF STOCKPILE # 1	N.D.
SSSP1W	WEST SIDE OF STOCKPILE # 1	N.D.
SSSP1SE	SOUTHEAST SIDE OF STOCKPILE # 1	5

ND: Not Detected

Table 2 : The Results of Field Monitoring

TIME	LOCATION OF READING	OVA READING (ppm)
	(8/21/92, TANK # 1)	
11:15	3" Above the Soil at Stockpile	ND
11:30	" " " " " "	ND
11:45	" " " " " "	ND
12:00	" " " " " "	ND
12:15	" " " " " "	ND
12:30	" " " " " "	20
12:45	" " " " " "	ND
13:00	" " " " " "	ND
13:15	" " " " " "	ND
13:30	" " " " " "	ND
	(TANK # 2)	
13:45	3" Above the Soil at Stockpile	ND
14:00	" " " " " "	ND
14:15	" " " " " "	ND
14:30	" " " " " "	ND
	(8/24/92, Tank # 2)	
8:00	3" Above the Soil at Stockpile	ND
8:15	" " " " " "	ND
8:45	" " " " " "	ND
9:00	" " " " " "	ND
9:15	" " " " " "	ND
9:30	" " " " " "	ND
9:45	" " " " " "	ND
10:00	" " " " " "	

ND Not Detected

Following the sampling process, the samples were placed in an ice chest with blue ice and sent to American Analytics (state certified environmental laboratory).

Monitoring of duplicate soil samples did not indicate presence of any contamination at the tank excavation site.

5. LABORATORY ANALYSES

The samples were analyzed by the EPA methods 8015M(DIESEL), 8020(BTXE)(Benzene, Toluene, Xylene and Ethylbenzene).

Table 4: Results of Laboratory Analysis of Soil Samples.

SAMPLE NO.	TPH (DIESEL) (ppm)	BENZENE (ppb)	TOLUENE (ppb)	XYLENE (ppb)	ETHYL BENZENE (ppb)
SST1AW	2400	ND	68	500	64
SST1BE	5400	ND	38	300	26
SST2AW	5800	ND	10,000	130,000	15,000
SST2BE	11	ND	32	320	32
SSD1C	450	ND	ND	ND	ND
SSD2C	2700	ND	16	36	ND
SSSP1N	ND	ND	ND	ND	ND
SSSP1E	1200	ND	6.2	880	ND
SSSP1S	ND	ND	ND	ND	ND
SSSP1W	16	ND	ND	ND	ND
SSSP1SE	180	ND	ND	430	ND

ND Not Detected

6. Conclusions

Based upon laboratory analysis, visual, olfactory and field monitoring results, there are elevated levels of contamination at this site due to unauthorized releases from the tank or the appurtenant piping.

The excavated contaminated soil was stockpiled on visqueen sheeting and covered with the same on-site. The site and excavation area were secured by using 6' chain link fence to assure safety.

7. RECOMMENDATIONS

Based upon laboratory analyses and field observations unauthorized releases from the storage tanks or the apparent piping had occurred, and remedial action is recommended.

It is further recommended to drill boreholes at the site to determine extent of the contamination. It is also recommended to dispose the stockpile soils at a recycling facility.

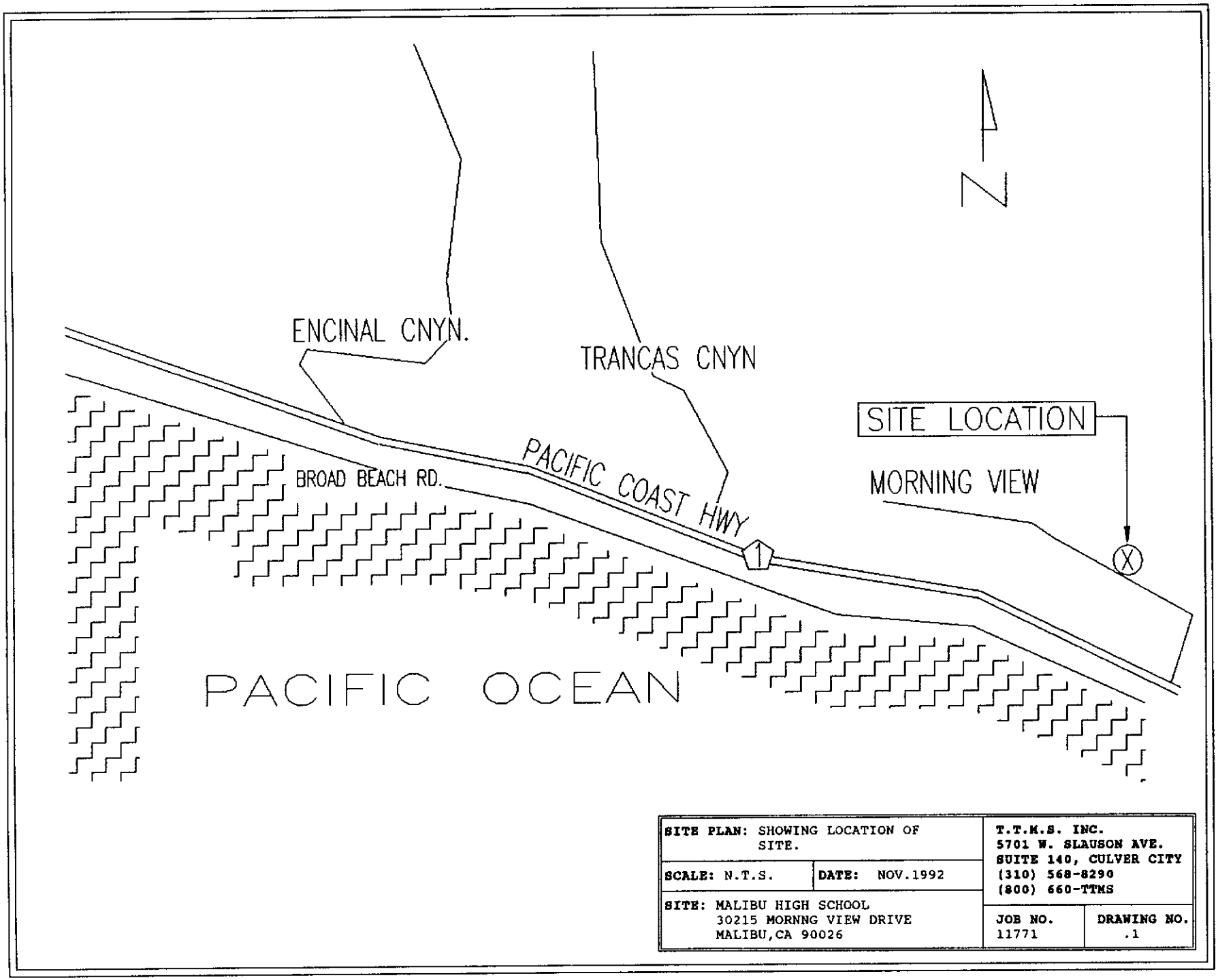
8. DISCLAIMER

All properties are subject to some environmental risks. These risks cannot be eliminated completely. Many commercial and industrial properties that were developed prior to the enactment of modern environmental laws are particularly prone to risks associated with environmental hazards which include, but are not limited to materials or wastes which might be toxic, ignitable, corrosive or reactive. The identification or mitigation of the potential environmental hazards from the work that has been performed or prior to the development or redevelopment of the property can lead to the reduction or elimination of the impact of the environmental hazards on the use of the property. In some cases, it is not possible to ascertain that hazardous materials/ wastes are present on the property prior to development.

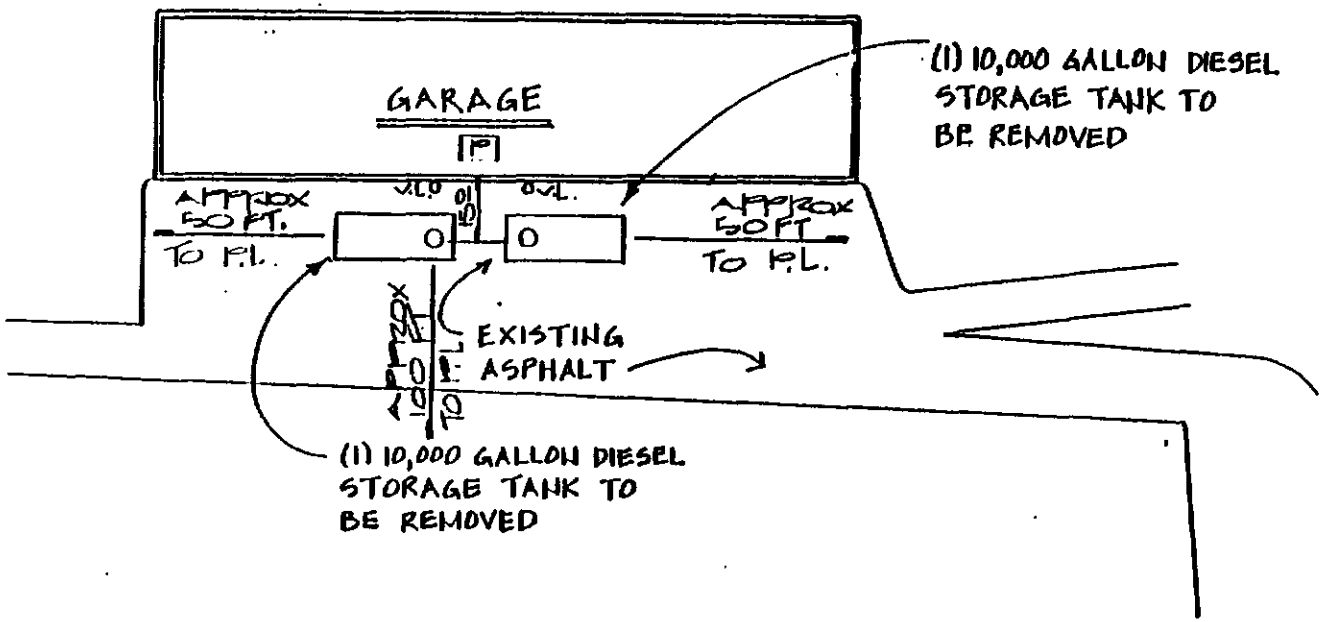
No warranty, expressed or implied, of any kind is made or intended in connection with this report, or by any other oral or written statement.

Bijan Ronagh-Langroodi
Project Engineer

APPENDIX A



SITE PLAN: SHOWING LOCATION OF SITE.		**T.T.M.S. INC.** **5701 W. SLAUSON AVE.** **SUITE 140, CULVER CITY** **(310) 568-8290** **(800) 660-TTMS**
SCALE: N.T.S.	**DATE:** NOV.1992	
SITE: MALIBU HIGH SCHOOL 30215 MORNNG VIEW DRIVE MALIBU,CA 90026	**JOB NO.** 11771	**DRAWING NO.** .1



**** NOTES ****

V.L.	VENT LINE
F.P.	FILL PORT
P	FUEL PUMP

TANK CLEANED ON SITE AND TRANSPORTED AS NON-HAZARDOUS

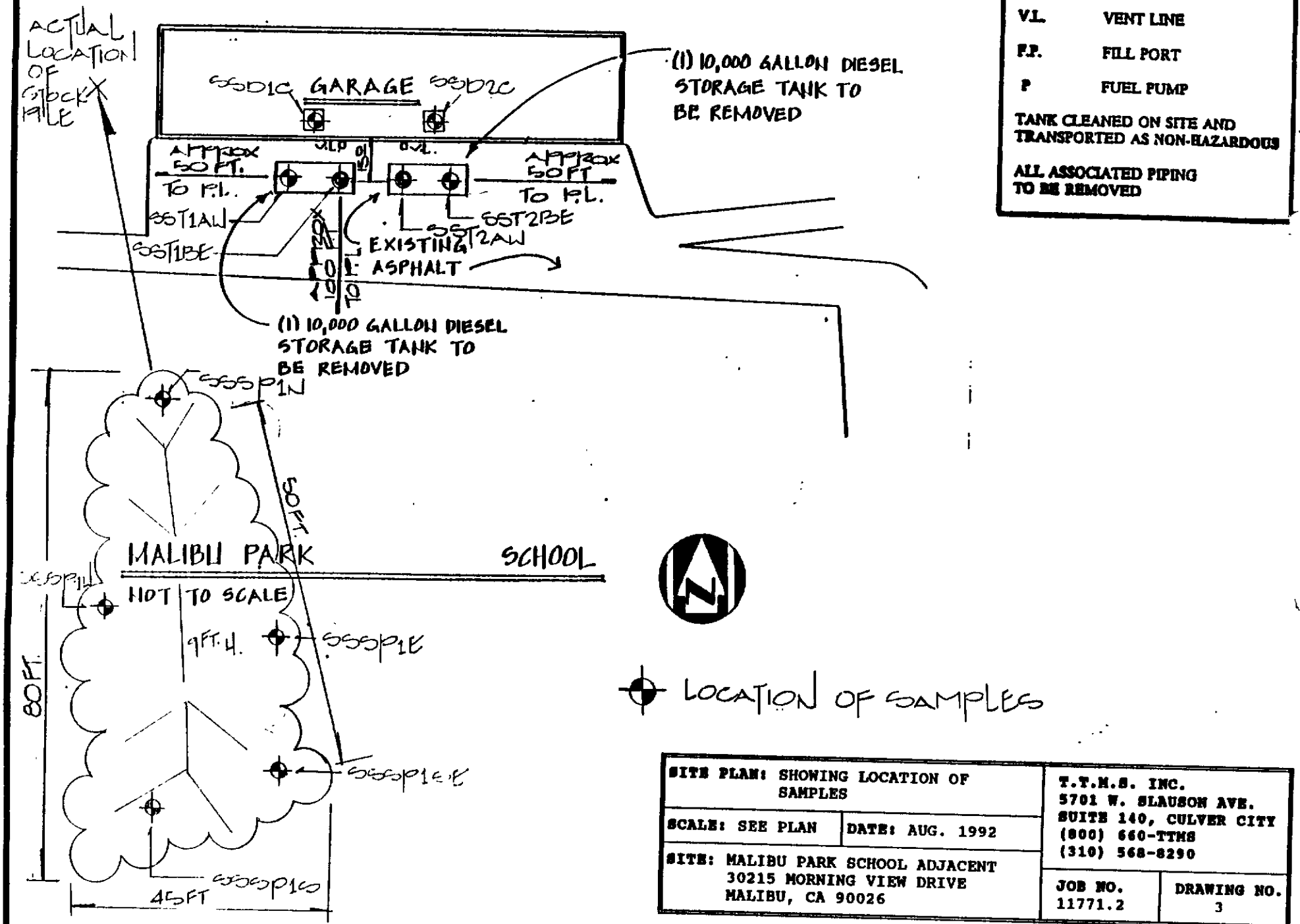
ALL ASSOCIATED PIPING TO BE REMOVED

MALIBU PARK SCHOOL

NOT TO SCALE

NORTH

SITE PLAN: SHOWING LOCATION OF TANKS TO BE REMOVED.		T.T.M.S. INC. 5601 W. SLAUSON AVE. SUITE 187, CULVER CITY (800) 660-TTMS (310) 410-4011
SCALE: SEE PLAN	**DATE:** JULY 1992	
SITE: MALIBU PARK SCHOOL ADJACENT 30215 MORNING VIEW DRIVE MALIBU, CA. 90026		**JOB NO.** 11642. / **DRAWING NO.** 2



**** NOTES ****

V.L.	VENT LINE
F.P.	FILL PORT
P	FUEL PUMP

TANK CLEANED ON SITE AND TRANSPORTED AS NON-HAZARDOUS

ALL ASSOCIATED PIPING TO BE REMOVED

SITE PLAN: SHOWING LOCATION OF SAMPLES		T.T.M.S. INC. 5701 W. SLAUSON AVE. SUITE 140, CULVER CITY (800) 660-TTMS (310) 568-8290
SCALE: SEE PLAN	**DATE:** AUG. 1992	
SITE: MALIBU PARK SCHOOL ADJACENT 30215 MORNING VIEW DRIVE MALIBU, CA 90026		**JOB NO.** 11771.2 **DRAWING NO.** 3

APPENDIX B

APPLICATION FOR CLOSURE
HAZARDOUS MATERIALS UNDERGROUND STORAGE
COUNTY OF LOS ANGELES-DEPARTMENT OF PUBLIC WORKS
WASTE MANAGEMENT DIVISION
900 S. FREMONT AVENUE
ALHAMBRA, CALIFORNIA 91803-1331

Permit 9285 B
File 132/C R/C 09
Fee $ 264
Check [X] Cash [ ]

OWNER: Name SANTA MONICA MALIBU School DISTRICT. Phone 310-450-8351
Mailing Address 1651 16th St. City SANTA MONICA State CA Zip 90404

FACILITY:
Occupant Name MALIBU HIGH SCHOOL Phone N/A
Site Address 30215 MORNINGVIEW DR. City MALIBU Zip 90265
Mailing Address SEE ABOVE City ____ State ____ Zip ____
Contact Person MITCHELL STARR Title PROJECT MANAGER

CONTRACTOR [X] complete below: OWNER/OPERATOR AS CONTRACTOR [ ]
Name T.T.M.S. INC. Phone 310-562-2292
State License No. 579579 Class A

CLOSURE REQUESTED:
[ ] PERMANENT, TANK REMOVAL (See Conditions A and C Attached)
How many underground tanks will remain after this closure? Ø
[ ] PERMANENT, CLOSURE IN PLACE (See Conditions A and D Attached)
[ ] TEMPORARY (See Conditions A and B Attached)

TANK DESCRIPTION: PLOT PLAN ATTACHED [ ] EXISTING HMUSP NO. ____

Tank No.	Tank Mat'l	Age	Capacity	Materials Stored (Past/Present)
Ø1	STEEL	+20	10,000 GAL	DIESEL
Ø2	STEEL	+20	10,000 GAL	DIESEL

COMPLETE THE FOLLOWING:

	YES	NO
Has an unauthorized release ever occurred at this site?	[ ]	[X]
Have structural repairs ever been made to these tanks?	[ ]	[X]
Will new underground tanks be installed after closure?	[ ]	[X]
Will any wells, including monitoring wells, be abandoned?	[ ]	[X]

NOTICE: CONTAMINATED TANKS AND RESIDUES THAT MAY BE LEFT IN TANKS TO BE CLOSED MAY BE A HAZARDOUS WASTE WHICH MUST BE TRANSPORTED AND DISPOSED OF PURSUANT TO CHAPTER 6.5, CALIFORNIA HEALTH & SAFETY CODE. FAILURE TO COMPLY MAY BE PROSECUTED AS A FELONY VIOLATION.

By signature below the applicant certifies that all statements and disclosures above are true and correct and that they have read and agree to abide by this permit and all conditions and limitations attached.

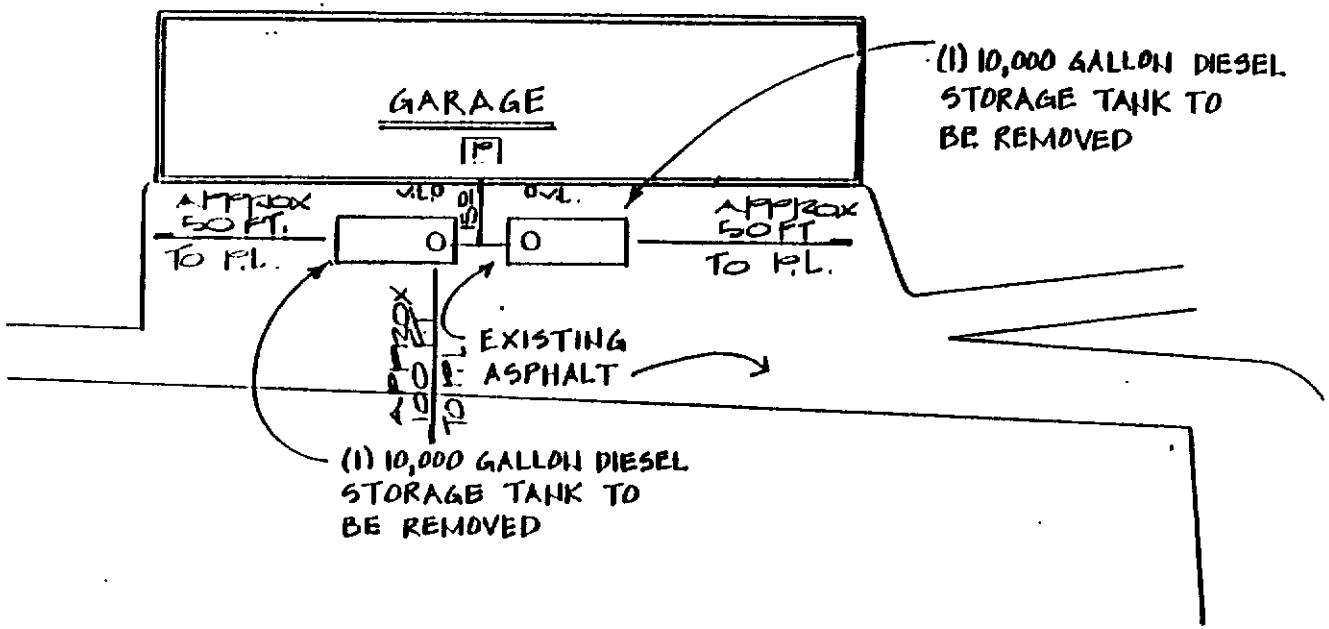
Applicant's Signature [signature] Date 8-3-92
(Print Name) CHRISTOPHER R. THIXTON Phone 310-562-2292
Owner [ ] Operator [ ] Contractor [X]

TO BE COMPLETED BY THE DEPARTMENT OF PUBLIC WORKS

PURSUANT TO SECTION 11.80.070B, LOS ANGELES COUNTY CODE, PERMISSION IS HEREBY GRANTED TO PROCEED WITH THE CLOSURE DESCRIBED ABOVE SUBJECT TO THE ATTACHED CONDITIONS AND LIMITATIONS [X]. THIS PERMIT EXPIRES 180 DAYS FROM THE DATE BELOW.

T.A. TIDEMANSON
Director of Public Works

By ____ Date ____



**** NOTES ****

V.L.	VENT LINE
F.P.	FILL PORT
P	FUEL PUMP

TANK CLEANED ON SITE AND TRANSPORTED AS NON-HAZARDOUS

ALL ASSOCIATED PIPING TO BE REMOVED

MALIBU PARK SCHOOL

NOT TO SCALE

NORTH

SITE PLAN: SHOWING LOCATION OF TANKS TO BE REMOVED.		T.T.M.S. INC. 5601 W. SLAUSON AVE. SUITE 187, CULVER CITY (800) 660-TTMS (310) 410-4011
SCALE: SEE PLAN	DATE: JULY 1992	
SITE: MALIBU PARK SCHOOL ADJACENT 30215 MORNING VIEW DRIVE MALIBU, CA. 90026	JOB NO. 11642.	DRAWING NO. 2

CLOSURE PERMIT SUPPLEMENT
HAZARDOUS MATERIALS UNDERGROUND STORAGE
LOS ANGELES COUNTY
DEPARTMENT OF PUBLIC WORKS
WASTE MANAGEMENT DIVISION
900 S. FREMONT AVENUE
ALHAMBRA, CA 91803

Closure Permit No.: _____ B
File No.
I- 13216-57

PART 1 OF 2

To satisfy the permanent closure requirements for underground storage tanks previously storing hazardous materials, site integrity must be demonstrated by the analysis of soil samples and, if applicable, groundwater samples as outlined below. These requirements are in addition to the conditions listed on the Application for Closure or contained in an approved Closure Plan.

1. Samples shall be obtained at the sampling points (SP) indicated on the attached plot plan.

2. For each SP, samples shall be obtained at the following depths:

SP	Depth(s)	Compounds	Analysis Method
1A, 1B 2A, 2B	2-4' below tank invert	TPH, BTXE	8015M, 8020
one sample below dispenser		"	"
one sample every 20' along product piping beginning at dispenser		"	"

dn4/FPERMIT Rev. 3/90

Cont'd on Page 2

3. All soil samples obtained shall be discrete, undisturbed and unexposed prior to analysis. The method used to obtain the samples and the date of sampling shall be included in the final report.

4. If groundwater is encountered during sampling, a groundwater monitoring well shall be established at the most downgradient sampling point. The well shall be developed by removing a minimum of four well volumes and a groundwater sample shall be obtained and analyzed.

5. The analytical results for all soil samples shall be expressed milligrams per kilogram (mg/kg), or micrograms per kilogram (ug/kg) as appropriate. Practical quantitation limits of 5-10 ug/kg (ppb) for volatile organics and 1 mg/kg (ppm) for the petroleum hydrocarbons must be achieved by the laboratory. Analytical results for groundwater samples shall be expressed in ug/l (ppb) and practical quantitation limits of .5-5 ug/l (ppb) for volatile organics, and 1 mg/l (ppm) for petroleum hydrocarbons must be achieved by the laboratory.

6. Analytical results shall be reported on laboratory letterhead and shall include the following information: a) The date the analysis was conducted; b) The method of extraction (if applicable); c) Detection limits for each analytical procedure and determiantion; d) The method of analysis; e) Signature of chemist certifying results.

7. All soil/groundwater samples obtained shall be handled and transported to laboratory in strict accordance with applicable EPA regulations utilizing chain-of-custody procedures. Chain-of-custody documentation shall be included in the final report.

8. If the soil/groundwater analysis indicates undefined contamination at the facility, additional sampling shall be required to define the vertical and lateral extent present.

9. A final report that contains all of the above required information shall be submitted to the office above within one (1) month from the sampling date or 180 days from the date of this permit, whichever is earlier.

APPENDIX C

ANALYTICS

LABORATORY ANALYSIS RESULTS

Client: TTMS
Project No.: 11771.2
Project Name: Morning View Drive
Sample Matrix: Soil
Method: EPA 8015M (Diesel)

AA Project No.: A10766
Date Sampled: 8/26/92
Date Received: 8/26/92
Date Analyzed: 8/27/92
Units: mg/Kg
Date Reported: 8/31/92

AA ID No.	Client ID	Total Petroleum Hydrocarbon Results	Detection Limits
10611	SST1AW	2400	200
10612	SST1BE	5400	2000
10613	SST2AW	5800	2000
10614	SST2BE	11	10
10615	SSD1C	450	100
10616	SSD2C	2700	500
10617	SSSP1N	ND	10
10618	SSSP1E	1200	500
10619	SSSP1S	ND	10
10620	SSSP1W	16	10
10621	SSSP1SE	180	10

ND: Not detected at or above the concentration of the detection limits

Larry L. Schaleger, Ph.D.
Laboratory Director

tjm

ANALYTICS

LABORATORY ANALYSIS RESULTS

Client: TTMS
Project No.:11771.2
Project Name: Morning View Drive
Sample Matrix: Soil
Method: EPA 8020 (BTEX)

AA Project No.: A10766
Date Sampled: 8/26/92
Date Received: 8/26/92
Date Analyzed: 8/27/92
Units: µg/Kg
Date Reported: 8/31/92

AA I.D.#	Client I.D.	Results Benzene	Ethylbenzene	Toluene	Xylenes
10611	SST1AW	ND	64	68	500
10612	SST1BE	ND	26	38	300
Detection Limits:		5.0	5.0	5.0	5.0
10613	SST2AW	ND	15,000	10,000	130,000
Detection Limits:		1000	1000	1000	1000
10614	SST2BE	ND	32	32	320
10615	SSD1C	ND	ND	ND	ND
10616	SSD2C	ND	ND	16	36
Detection Limits:		5.0	5.0	5.0	5.0

ND: Not detected at or above the concentration of the detection limits

Larry L. Schaleger, Ph. D.
Laboratory Director

tjm

AMERICAN ANALYTICS

LABORATORY ANALYSIS RESULTS

Client: TTMS
Project No.:11771.2
Project Name: Morning View Drive
Sample Matrix: Soil
Method: EPA 8020 (BTEX)

AA Project No.: A10766
Date Sampled: 8/26/92
Date Received: 8/26/92
Date Analyzed: 8/27/92
Units: µg/Kg
Date Reported: 8/31/92

AA I.D.#	Client I.D.	Results Benzene	Ethylbenzene	Toluene	Xylenes
10617	SSSP1N	ND	ND	ND	ND
10618	SSSP1E	ND	ND	6.2	880
10619	SSSP1S	ND	ND	ND	ND
10620	SSSP1W	ND	ND	ND	ND
10621	SSSP1SE	ND	ND	ND	430
Detection Limits:		5.0	5.0	5.0	5.0

ND: Not detected at or above the concentration of the detection limits

Larry L. Schaleger, PH. D.
Laboratory Director

tjm

ANALYTICS

LABORATORY QA/QC REPORT

Client: TTMS
Method: 8015M (Diesel), QC, Spike
A.A. Project No.: A10766

Sample Matrix: Soil
Date Analyzed: 8/27/92
Date Reported: 8/31/92

Spike Recovery (%)	Spike/Duplicate Recovery (%)	RPD (%)
163	162	0.6

RPD = Relative Percent Difference, $100[(x_1 - x_2)/\{(x_1 + x_2)/2\}]$

Larry L. Schaleger, Ph.D.
Laboratory Director

tjm

ANALYTICS

LABORATORY QA/QC REPORT

Client: T.T.M.S.
Method: EPA 8020(BTEX), QC, Spike
AA Project No.: A10766

Sample Matrix: Soil
Date Analyzed: 8/27/92
Date Reported: 8/31/92

Compound	Spike Recovery (%)	Spike/Duplicate Recovery (%)	RPD (%)
Benzene	115	100	14
Toluene	UTD	UTD	N/A
Ethyl Benzene	UTD	UTD	N/A
Total Xylenes	UTD	UTD	N/A

RPD = Relative Percent Difference, $100[(x_1 - x_2)/\{(x_1 + x_2)/2\}]$

UTD: Unable to determine.

Note: Quality Control Check Standard (QCCS) recoveries were within laboratory control limits.

Larry L. Schaleger, Ph.D.
Laboratory Director

tjm

T.T.M.S. INC.

5701 W. SLAUSON AVE. • SUITE # 140 • CULVER CITY, CA 90230
PHONE: (213) 568-8288 • (800) 568-TTMS • FAX: (213) 568-8290

A10766

CHAIN OF CUSTODY RECORD

Date 03-26-92

Page 2 of 2

PROJECT NAME / NUMBER
30215 MARSHALL [redacted] VIEW DR / 11771.2

PROJECT MANAGER
HAMID R. ASSADI

SAMPLERS: (SIGNATURE)
JOZSEF ALMAI

SAMPLE NUMBER	LOCATION DESCRIPTION	SAMPLING DATE	SAMPLING TIME	SAMPLE TYPE WATER COMP.	SAMPLE TYPE WATER GRAB	SAMPLE TYPE AIR COMP.	SAMPLE TYPE AIR GRAB	SOLID/ SOIL	NO. OF CONTAINER	TESTS REQUIRED
SS1AW	WEST SIDE OF TANK (1)	03-26-92	11:30	10611				X	1	EPA 8015 → (DIESEL 8020 BTEX
SS1AE	EAST SIDE OF TANK (1)	"	11:40	10612				X	1	" "
SS2AW	WEST SIDE OF TANK (2)	"	11:50	10613				X	1	" "
SS2AE	EAST SIDE OF TANK (2)	"	12:00	10614				X	1	" "

Relinquished by: (signature) Jozsef Almai	Received by: (Signature)	Date: 3/26/92	Time: 3:40 PM
Relinquished by: (signature)	Received by: (Signature)	Date:	Time:
Relinquished by: (signature)	Received by: (Signature)	Date:	Time:
Shipment Method:	After Analysis, Samples to be: ☐ Disposed of ☐ Saved for Storage (90 days max.)		
Special Instructions:			
Special Instructions:			

P. 5

8.31.1992 12:44

FROM (818) 998-7258

T.T.M.S. INC.
5701 W. SLAUSON AVE. - SUITE # 149 - CULVER CITY, CA 90230
PHONE: (213) 568-6288 - (800) 660-TTMS - FAX: (213) 568-6299

A10766

CHAIN OF CUSTODY RECORD

Date 08-26-92

Page 1 of 2

PROJECT NAME / NUMBER
3025 MORNING VIEW DR / 11771.2

PROJECT MANAGER
HAMID R. ASSADI

SAMPLERS: (SIGNATURE)
JOSEF ASSADI

SAMPLE NUMBER	LOCATION DESCRIPTION	SAMPLING DATE	SAMPLING TIME	SAMPLE TYPE WATER COMP.	WATER GRAB	AIR COMP.	AIR GRAB	SOLID/ SOIL	NO. OF CONTAINER	TESTS REQUIRED
SSDIC	CENTER OF DISPENSER(1)	08-26-92	10:10	10615				X	1	EPA 8015 M (DIESEL) 8020 BTEX
SSDIC	CENTER OF DISPENSER(2)	08-26-92	10:20	10616				X	1	" "
				10617						
SSSPIN	NORTH SIDE OF STOCKPILE(1)	" "	10:30	10618	10617			X	1	" "
SSSPIE	EAST SIDE OF STOCKPILE(1)	" "	10:40	10618				X	1	" "
SSSPIS	SOUTH SIDE OF STOCKPILE(1)	" "	10:50	10619				X	1	" "
SSSPIW	WEST SIDE OF STOCKPILE(1)	" "	11:00	10620				X	1	" "
SSSPIE	SOUTHEAST OF STOCKPILE(1)	" "	11:20	10621				X	1	" "

Relinquished by: (signature)	Received by: (Signature)	Date: 8/26/92	Time: 3:40 PM
Relinquished by: (signature)	Received by: (Signature)	Date:	Time:
Relinquished by: (signature)	Received by: (Signature)	Date:	Time:
Shipment Method:	After Analysis, Samples to be: ☐ Disposed of ☐ Saved for Storage (90 days max.)		
Special instructions:			
Special instructions:			

APPENDIX D

TANK CERTIFICATION REPORT

[redacted]

TANK REMOVAL CERTIFICATE #: 02757

Date: 8/26/92

Permit #: 9285

Site: Malibu High School

Address of tank: 30215 Morning View Drive
Malibu CA

Client: T.T.M.J.

U.G. Steel	10000 gallon	02757-1	diesel fuel	LEL 0% 9:50 A
U.G. Steel	10000 gallon	02757-2	diesel fuel	LEL 0% 10:32 A

The tank(s) described above has/have been inspected and found to be gas free based on readings obtained with an MSA type 2A Explosivity Meter (LEL of zero percent). A visual inspection has been made of the interior of the tank(s) and no visible contamination has been observed except as noted below.

EXCEPTION: None

THE AMERICAN BOARD OF INDUSTRIAL HYGIENE INCORPORATED CERT. NO. #1973 1433

INSPECTED BY: [signature]

CERTIFIED BY: STUART E. SALOT, Ph.D., C.I.H.
CERTIFIED INDUSTRIAL HYGIENIST (#1973 & 1433)

CLIENT COPY White | CTL COPY Green | FIRE DEPARTMENT COPY Canary | TRANSPORTERS COPY Pink | TRANSPORTERS COPY Goldenrod

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

See Instructions on Back of Page 6 and Front of Page 7

Department of Health Services
Toxic Substances Control Division
Sacramento, California

UNIFORM HAZARDOUS WASTE MANIFEST

1. Generator's US EPA ID No.	[illegible]
Manifest Document No.	3 9 1 2 5
2. Page 1 of 1	
Information in the shaded areas is not required by Federal law	
3. Generator's Name and Mailing Address	Malibu Highschool 30215 Morning View Dr. Malibu, CA 90026
4. Generator's Phone	(310) 548-8290
A. State Manifest Document Number	90839125
B. State Generator's ID	
5. Transporter 1 Company Name	American Oil Company
6. US EPA ID Number	C A D 9 8 1 4 2 7 6 6 9
C. State Transporter's ID	315815
D. Transporter's Phone	(818) 700-8297
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	Industrial Service Oil Co.Inc, 1700 S. Soto St. Los Angeles, CA 90023
10. US EPA ID Number	C A D 0 9 9 4 5 2 7 0 3
G. State Facility's ID	C A D 0 9 9 4 5 2 7 0 8
H. Facility's Phone	(213) 267-9747

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	001	TT	460	G	State 222 EPA/Other
b.					State EPA/Other
c.					State EPA/Other
d.					State EPA/Other

J. Additional Descriptions for Materials Listed Above

[illegible]

K. Handling Codes for Wastes Listed Above

a. 01 b. c. d.

15. Special Handling Instructions and Additional Information

Gloves

Emergency Response: Bill Gomelsky (818) 700-8297

24 Hours

Guide(s): 31-33

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	Signature	Month Day Year
Dean Carlow	[signature]	06 26 02

17. Transporter 1 Acknowledgement of Receipt of Materials

Printed/Typed Name	Signature	Month Day Year
Steven Taylor	[signature]	06 26 02

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 RESPONSE CENTER 1-800-424-8802; WITHIN CALIFORNIA, CALL 1-800-852-7550

90839125

DHS 8022 A
EPA 8700—22
(Rev. 6-89) Previous editions are obsolete.

Do Not Write Below This Line

YELLOW: GENERATOR RETAINS

D. W. RUSSELL CO.

412 West "B" Street
Wilmington, CA 90744

(213) 775-1855 (213) 651-4220

Tank Disposal Form. Date: August 27, 1992
Contractor: T.T. Inc.
Address:
Generator: Malibu High School
Address: 30215 Morning View Drive Malibu, Ca.
Destination: D.W. Russell Co. 412 W. B St. Wilmington, Ca. 90744

Date Received August 26 1992 Projected Tanks: 7

Tanks Received

QTY.	GALLONS	TYPE	NET. TONS.
	280		.14
	500		.21
	550		.24
	1,000 -12'		.61
	1,000 - 6'		.61
	1,500		.87
	2,000		.97
	2,500		1.14
	3,000		1.32
	4,000		1.64
	5,000		2.42
	6,000		2.84
	7,500		3.20
	8,000		3.44
	9,000		3.82
1	10,000	Diesel fuel	4.33
	12,000		4.93
	15,000		6.71
	20,000		8.44
	25,000		10.16
	30,000		26.19

Certifiace of Tank Disposal

This is to certify the receipt and acceptance of the tank(s) as specified above.
All materials specified have been completely destroyed for scrap purposes only.

Authorized Rep

August 27, 1992
Date.

APPENDIX E

APPENDIX F

South Coast
AIR QUALITY MANAGEMENT DISTRICT
21865 E. Copley Drive, Diamond Bar, CA 91765-4182 (714) 396-2000

July 29, 1992

T. T. M. S. Incorporated
5701 West Slauson Ave. # 140
Culver City, CA 90230

Attention: Hamid Reza Assadi

(310) 568-8290
APPLICATION NO. 271039
COMPANY ID 65291

RULE 1166 CONTAMINATED SOIL MITIGATION PLAN

Reference is made to your Application (A/N 271039) received on July 27, 1992, for the excavation and handling of VOC-contaminated soil at various locations within the South Coast Air Quality Management District.

Your excavation and mitigation plan has been approved under the provisions of Rule 1166 of the Rules and Regulations of the SCAQMD and is subject to the following conditions.

PLAN CONDITIONS:

PROPERTY OWNER'S INITIALS

1. AT LEAST 24 HOURS PRIOR TO COMMENCING EXCAVATION OF UNDERGROUND TANKS WHICH HAVE STORED VOLATILE ORGANIC COMPOUNDS (VOC), THE EXECUTIVE OFFICER SHALL BE NOTIFIED OF ALL INFORMATION ITEMS LISTED IN **RULE 1166(c)(1)(A)** AND THE NAME OF THE COMPANY PERFORMING THE EXCAVATION. #92-1383 [ ]

   IF VOC-CONTAMINATED SOIL IS DETECTED, THE EXECUTIVE OFFICER SHALL BE NOTIFIED AGAIN WITHIN 24 HOURS. BOTH NOTIFICATIONS SHALL BE MADE BY CALLING (310) 403-6000, MONDAY THROUGH FRIDAY, BETWEEN 8 A.M. AND 5 P.M.

2. THIS PLAN IS VALID ONLY FOR THE EXCAVATION AND HANDLING OF A MAXIMUM OF **2000 CUBIC YARDS** OF VOC-CONTAMINATED SOIL AT EACH SITE. EXCAVATION OF A GREATER AMOUNT REQUIRES SUBMITTAL OF A SITE SPECIFIC RULE 1166 EXCAVATION PLAN. [ ]

3. ALL VOC-CONTAMINATED SOIL SHALL BE DISPOSED, BACKFILLED, OR REMOVED FROM THE SITE WITHIN **90 DAYS** AFTER IT HAS BEEN EXCAVATED FROM THE AFFECTED AREAS. [DLC]

   RECORDS OF DISPOSAL OR TREATMENT OF VOC-CONTAMINATED SOIL SHALL BE MAINTAINED FOR A PERIOD OF TWO (2) YEARS AND MADE AVAILABLE TO DISTRICT PERSONNEL UPON REQUEST.

4. THE OWNER OR OPERATOR SHALL PREPARE A WRITTEN PLAN WHICH INCLUDES METHODS TO TREAT THE VOC-CONTAMINATED SOIL, SCHEDULES TO HAUL THE SOIL AWAY, BACKFILL THE SOIL, OR OTHER MEANS OF DISPOSAL. THE PLAN SHALL ALSO INDICATE THAT THE NECESSARY PERMITS HAVE BEEN OBTAINED OR ARE IN THE PROCESS OF BEING OBTAINED. SUCH A PLAN SHALL BE PREPARED NO LATER THAN 5 DAYS AFTER THE COMPLETION OF THE EXCAVATION, AND SHALL BE MADE AVAILABLE TO DISTRICT PERSONNEL UPON REQUEST. [DLC]

5. THE EXCAVATION SHALL BE CONDUCTED IN 50 FT. X 50 FT. OR SMALLER SECTIONS TO MINIMIZE EXPOSURE OF SOIL POTENTIALLY CONTAMINATED WITH VOC TO THE ATMOSPHERE. [DLC]

6. THE EXCAVATION OPERATOR SHALL HAVE ON SITE AN ORGANIC VAPOR ANALYZER (OVA) USING FLAME IONIZATION OR PHOTO IONIZATION OR OTHER ANALYTICAL METHODS COMPLYING WITH 40 CFR PART 60 APPENDIX A, EPA METHOD 21 SECTION 3.1.1.a., "DETERMINATION OF VOLATILE ORGANIC COMPOUND LEAKS, MONITORING INSTRUMENT SPECIFICATIONS". [DLC]

7. THE OVA SHALL BE CAPABLE OF BEING CALIBRATED USING HEXANE AT A RANGE OF 0 PARTS PER MILLION BY VOLUME (PPMV) TO 50 PPMV AND AT A DETECTION RANGE OF AT LEAST 30 PPMV TO 1100 PPMV. THE OVA SHALL BE INITIALLY CALIBRATED USING HEXANE BY THE MANUFACTURER AND CALIBRATED AT LEAST ONCE AT THE BEGINNING OF EACH WORKING DAY WITH THE PROCEDURES SPECIFIED BY THE MANUFACTURER. [DLC]

8. DURING EXCAVATION, MONITORING SHALL BE CONDUCTED TO MEASURE VOC'S AT A DISTANCE NO MORE THAN 3 INCHES ABOVE THE FRESHLY DUG SOIL BY USING AN ORGANIC VAPOR ANALYZER (OVA) DESCRIBED UNDER CONDITION 7. THIS MEASUREMENT SHALL BE MADE FOR EVERY LOAD OF SOIL AND SHALL BE TAKEN NO LONGER THAN THREE (3) MINUTES AFTER EACH LOAD OF SOIL IS EXCAVATED. [DLC]

9. WRITTEN RECORDS OF OVA MONITORING AND CALIBRATIONS REQUIRED ABOVE SHALL BE KEPT IN A FORMAT APPROVED BY THE DISTRICT. A TYPICAL FORMAT IS ATTACHED WITH THIS PLAN. [DLC]

10. VOC-CONTAMINATED SOIL IS A SOIL WHICH REGISTERS 50 PPMV OR MORE WHEN MEASURED WITH AN ORGANIC VAPOR ANALYZER (CALIBRATED USING HEXANE) AT A DISTANCE OF NO MORE THAN THREE INCHES ABOVE EXCAVATED AND EXPOSED SOIL. [DLC]

11. IF THE OVA MEASUREMENT IS BETWEEN 50 PPMV AND 1000 PPMV, [DVC] N/A

A) THE WORKING AREA SHALL BE IMMEDIATELY SPRAYED WITH WATER, OR COVERED WITH CLEAN SOIL OR TREATED WITH A DISTRICT APPROVED SUPPRESSANT, AND

B) EACH VOC-CONTAMINATED LOAD OF SOIL SHALL BE SPRAYED WITH WATER OR TREATED WITH A DISTRICT APPROVED VAPOR SUPPRESSANT AND BE STOCKPILED SEPARATELY.

12. IF THE OVA MEASUREMENT EQUALS OR IS GREATER THAN 1000 PPMV, [DVC] N/A

A) THE WORKING AREA SHALL BE SPRAYED WITH WATER OR DISTRICT APPROVED VAPOR SUPPRESSANTS OR COVERED WITH AT LEAST 4 INCHES OF CLEAN SOIL, AND

B) THE SOIL DUG UNDER THE ABOVE CONDITIONS SHALL BE STORED IN DISTRICT APPROVED CONTAINERS, AND

C) IN LIEU OF CONTAINERS, OTHER MITIGATION MEASURES MAY BE SUBSTITUTED WITH PRIOR WRITTEN APPROVAL OF THE EXECUTIVE OFFICER, IF THE OWNER OR OPERATOR CAN DEMONSTRATE THAT AN ALTERNATIVE MEASURE IS EQUALLY OR MORE EFFECTIVE IN REDUCING VOC EMISSIONS. PRIOR TO THE EXECUTIVE OFFICER'S APPROVAL, THE OWNER OR OPERATOR SHALL SUBMIT A COMPREHENSIVE WRITTEN STUDY WHICH COMPARES QUANTITATIVELY THE ESTIMATED VOC EMISSIONS DIFFERENCE BETWEEN THE ALTERNATIVE MITIGATION MEASURES.

13. ALL VOC-CONTAMINATED SOIL SHALL BE STOCKPILED SEPARATELY FROM NON VOC-CONTAMINATED SOIL AND KEPT MOIST, COVERED OR SPRAYED WITH WATER OR WITH A FUME SUPPRESSANT TO PREVENT EMISSIONS OF PARTICULATES OR VOC. [DVC] N/A

14. AT THE END OF EACH WORKING DAY, ALL STOCKPILES SHALL BE COVERED WITH A HEAVY DUTY CONTINUOUS PLASTIC SHEET(S), JOINED AT THE SEAMS, AND SECURELY ANCHORED TO PREVENT ANY EXPOSURE OF SOIL TO THE ATMOSPHERE. [DVC]

15. A STOCKPILE SHALL NOT CONTAIN MORE THAN 450 CUBIC YARDS OF SOIL. [DVC]

16. WITHIN 5 DAYS AFTER THE EXCAVATION IS COMPLETED AT EACH SITE, THE WRITTEN RECORDS UNDER CONDITIONS 4 AND 9 SHALL BE SUBMITTED TO THE DISTRICT AT THE FOLLOWING ADDRESS. [DVC]

SCAQMD
OFFICE OF STATIONARY COMPLIANCE,
NEIGHBORHOOD COMMERCIAL OPERATIONS
21865 E. COPLEY DR.
DIAMOND BAR, CA. 91765-4182

17. VOC-CONTAMINATED SOIL SHALL NOT BE SPREAD ON-SITE OR OFF-SITE TO CAUSE THE EVAPORATION OF UNCONTROLLED VOC TO THE ATMOSPHERE. [DVC]

18. THIS PLAN IS NOT VALID FOR EXCAVATING VOC-CONTAMINATED SOILS AT LANDFILLS OR SITES USED FOR DISPOSAL OF REFUSE OR OTHER TYPES OF WASTE. [DVC]

19. THIS PLAN DOES NOT ALLOW ANY TREATMENT OF VOC-CONTAMINATED SOIL. [DVC]

20. A COPY OF THIS PLAN SHALL BE PRESENT AT EACH EXCAVATION SITE DURING ALL SOIL HANDLING AND STORAGE PROCESSES. [DVC]

21. THIS PLAN IS NOT VALID UNTIL THE VERIFICATION BELOW IS SIGNED. [DVC]

I Don Carlow, AM THE OWNER's representative OF THE PROPERTY LOCATED AT 3215 Morning View Dr. (SITE OF THE EXCAVATION). I VERIFY THAT I HAVE READ, UNDERSTOOD, AND INITIALED EACH CONDITION OF THIS PLAN.

D C

SIGNED

8-21-92

DATE

NOTE - observed excavation of tank #1 soil & partial excavation of tank #2 on 8-21-92.

Other governmental agencies may require approval before any excavation begins. It shall be the responsibility of the applicant to obtain that approval. The South Coast Air Quality Management District shall not be responsible or liable for any losses because of measures required or taken pursuant to the requirements of this approved 1166 Contaminated Soil Mitigation Plan.

If you have any questions concerning this plan, please call Ms. Nirmal Jain at (714) 396-2630.

Very truly yours,

Fred Del Rosario
A.Q.A.C. Supervisor

NJ R1166VXE
cc: Rudy Eden, Senior Manager

APPENDIX G

SITE SAFETY PLAN (SSP)
EXCAVATION OF PETROLEUM CONTAMINATED SOILS

PREPARED FOR:

SANTA MONICA MALIBU UNIFIED SCHOOL DISTRICT
30215 MORNING VIEW DRIVE.
MALIBU, CA.

PREPARED BY:

T.T.M.S. INC.
5710 WEST SLAUSON AVENUE
CULVER CITY, CA 90230

JULY 1992

SITE SAFETY PLAN (SSP)

SITE SAFETY PLAN (SSP)
REMOVAL OF TWO (2) 10000 GAL. DIESEL TANK

TABLE OF CONTENTS

TABLE OF CONTENTS (Continued)

1.0 INTRODUCTION

This Site Safety Plan (SSP) has been developed for work activities associated with the excavation and removal of petroleum hydrocarbon (contaminated soil if encountered). Soils containing petroleum hydrocarbons will be excavated and brought to ground surface for remediation purposes (this particular SSP addresses hazards of handling petroleum hydrocarbon contaminated soil and the general hazards associated with soil excavation operations).

2.0 SITE DESCRIPTION AND SCOPE OF WORK

The work scope which relates to this SSP is the excavation and handling of the contaminated soils as a part of their ultimate remediation. Specific remediation methods (e.g. above-ground vacuum extraction or chemical treatment) are not addressed. The contaminated soil will be excavated during this phase of the project, stockpiled at the site on visqueen sheeting and covered by the same until such time as the School District has decided the fate of the excavated soil.

Backfilling of the excavation with clean new fill will proceed to a depth of approximately 4 to 6 inches below ground surface at 30215 Morning View Drive. Ca., 90265. The source of contamination at this site is possible leakage from two diesel tanks. All contaminated soil will be stockpiled on site for transportation to a TDSF or any other remediation method approved by the County of Angeles.

3.0 SAFETY PROGRAM ADMINISTRATION

This SSP shall be implemented under the direct supervision of a Site Safety Officer (SSO) or his representative. The SSO will implement the program in coordination with the project Manager. During the implementation of the SSP a Certified Industrial Hygienist shall be accessible for the SSO in case of questions. A Certified Hygienist from CTL Environmental Services will be consulted: - (Phone: 213 530-5006)

The project manager has the primary responsibility for implementing this SSP. The project manager shall supervise the SSO and project technician. The project manager will also be responsible for the technical implementation of the SSP.

A pre-start meeting with the excavation crew and the SSO shall be conducted prior to the excavation activities. This meeting will serve to acquaint the workers with the SSP requirements and answer any questions they may have.

The SSO shall be on site during excavation operations and he will report directly to the project manager. The SSO will be responsible for implementing the SSP during all field activities and will coordinate all matters dealing with health and safety between the site contractors and visitors.

The SSO shall also be responsible for contacting local Emergency Medical Technicians (EMT) to initiate and activate medical assistance and ambulance services.

TTMS, Inc. performing excavation and remedial activities is licensed by the State in hazardous waste operations and they will be responsible for ensuring that all personnel in their employment, including subcontractors, adhere to applicable requirements in this SSP. In addition, contractors will be responsible for adhering to all federal, state and local requirements applicable to their operation not specifically addressed within the SSP. The Rule 1166 permit from the South Coast Air Quality Management District (SCAQMD) shall be kept on site.

All state, county, or local government personnel and their contractors will be expected to comply with the some requirements as stated above, for contractors.

4.0 HAZARD ASSESSMENT AND CONTROL

4.1 Chemical Hazard and Control

Diesel Fuel is the primary contaminant that may be encountered during excavation operations. Exposure during excavation operations may occur primarily through inhalation of volatile vapors. The major constituents include benzene, toluene, xylene, ethybenzene. Skin contact with contaminated soil is another potential exposure pathway. Material safety data sheets (MSDS) for diesel oil vapor and gasoline vapor outline the following as potential health hazards: Vapors or mists from this material can irritate the nose, throat, and lungs, and can cause signs and symptoms of central nervous system depression, depending on the concentration and duration of exposure. Inhalation of vapors of airborne concentration exceeding 1000 ppm can cause headache, dizziness, weakness and loss of coordination.

Diesel fuel is not expected to present a respiratory hazard because of its low vapor pressure but, if excessive mist or vapors result from method of remediation, workers will wear proper NIOSH-MSHA approved respiratory equipment. Therefore, site workers involved in excavation operations shall utilize

respiratory protection to ensure maximal protection. Details of respiratory protection are represented in Section 6.0, Personnel Protective Equipment (PPE).

4.2 Physical Hazards and Control

The most prominent physical hazards which may be encountered during excavation may include: cave-ins; hazards related to ruptures or cutting of underground utilities; heat stress; irritation due to excessive noise; slip, trip or fall hazards; striking injuries related to overhead obstacles; fire or explosion hazards; and entry hazards during sampling of the excavation.

Specific physical hazard precautions are as follows:

- No worker or technician shall be allowed inside an excavation that is deeper than 5 feet unless such excavation is properly benched or sloped.
- The location of the underground utilities shall be identified Digalert prior to excavation from existing utilities drawings and by field inspection.
- All workers operating or working near any equipment that creates noise levels above 90 dBA shall wear either foam earplugs or muff-type protectors.
- Personnel shall wear appropriate head, eye and foot protection as described herein.
- The possibility of a flammable or explosive atmosphere warrants the imposition of a **NO SMOKING** policy on the job site for all phases of soil excavation operations.
- SSO will dictate when such protective measures should be taken.

5.0 SITE CONTROL AND WORK ZONES

The purpose of site control is to minimize the transportation of harmful chemicals from the work area and to prevent inadvertent contact with site hazards. This section will discuss the physical barriers to be used on site control as well as explain the administrative procedures which will be enforced.

5.1 Physical Barriers

The work area shall be completely fenced or barricaded (flashing where necessary) and shall be used when required by the SSO. This may be accomplished with orange construction safety fence.

5.2 Visitor Control

Two work areas will be established during the excavation as shown in Figure 1. These areas are excavation area (1) and the staging, storage and loading area (2). Area (1) will consist of exclusion zone and area (2) will be divided into three areas: entry control, decontamination, and support. The support area will serve two functions. First, it will help to minimize the potential for spreading contamination to clean areas. Secondly, it will physically delineate high hazard areas where dermal and respiratory protection may be required. The "exclusion zone" will include areas where active handling activities of contaminated soil are occurring. The zone will also include areas adjacent to any excavation/placement activities which, according to the SSO, may require specific dermal or respiratory protection., The actual boundaries of these zones will vary somewhat as the work progresses. The following factors shall be used by the SSO in the actual determination of the boundaries:

- Physical and topographic features of the site;
- Weather conditions;
- Perimeter air sampling results;
- Physical and chemical characteristics of the chemical of concern;
- Activities occurring within the exclusion zone;
- Results of real-time monitoring with photoionization and/or combustible gas detectors.

As with the exclusion zone boundaries, the "decontamination zone" boundaries will vary. The zone will encompass site areas between the exclusion zone and the gate and adjacent to the support zone. In order to control the flow of people and equipment in the decontamination zone, access control points shall be established. All entrance and exit shall be through these points.

The "support zone" will include site facilities and site maintenance areas that are kept free of contaminated equipment and clothing. No entrance of equipment or personnel into the support zone shall be permitted until full decontamination procedures have been implemented. Personnel in this area may wear normal clothing (Level D protective clothing).

Prior to the initiation of any on site activities, all work zones will be physically identified by the SSO. The method used to identify these areas will include either surveyors tape, pin flags, site landmarker, or other visually identifiable methods.

6.0 PERSONNEL PROTECTIVE EQUIPMENT (PPE)

The purpose of personnel protective equipment (PPE) is to shield individuals from chemical and physical hazards which may be encountered during site work. All site workers who are in direct contact with contamination shall have undergone a minimum of 40 hours of training under 29 CFR 1910.120, Hazardous Waste Operation and Emergency Response.

6.1 Selection of PPE

PPE selection will depend on the type of task being performed and its associated chemical or physical hazard potential. The task in which the greatest possibility of prolonged exposure to volatile organics is the operation of soil handling equipment during excavation of petroleum contaminated soils. Therefore, all equipment operators handling petroleum contaminated soil and all personnel who will be working near the excavation or contaminated soils (the exclusion zone) shall be equipped in EPA level D PPE with respirator protection available. The respirators will not be used unless air monitoring results at the site indicate the presence of volatile organics at above 50 pp (3 inches above the soil). Other site personnel, not working for prolonged periods near or at the soil excavation (the exclusion zone) will be outfitted in EPA level D PPE.

EPA level D PPE will consist of the following:

- Tyvek suits or coveralls.
- Gloves.
- Boots with skid-resistant soles.
- OSHA/NIOSH-approved hard hat.

- Safety glasses as chemical splash goggles.

- Use of equipment shall be at the determination of the SSO.

6.2 Respiratory protection

Work activities around the excavation does not require air purifying respirators in accordance with 29 CFR 1910.34 and ANSI 288.2 (1980) air purifying respirators shall be fitted with organic vapor cartridges and dust filters, and may be either full-face or half face.

6.2.1 Respiratory Fitting

Facial hair which interferes with the sealing surface of the respirator shall be fit tested prior to implementation of site excavation activities and each worker shall be responsible for performing a negative/positive pressure fit test each time he/she sons their respirator.

6.2.2 Cartridge Type and Changes

Cartridge type shall be combination cartridges that are NIOSH and MSHA-approved for respiratory protection against organic vapors and dusts. All cartridges shall be changed a minimum of once daily (if used). Overly dusty conditions may necessitate more frequent changes.

6.2.3 Inspection and Cleaning

Respirators shall be checked periodically by qualified personnel and before each use by the wearer. All respirators and associated equipment shall be decontaminated and hygienically cleaned, by qualified personnel, after each use.

7.0 AIR MONITORING PROCEDURES

The following air monitoring procedures are required:

7.1 Lower Explosive Limit/Oxygen (LEL/02) Meter

Prior to beginning daily operation and after lunch, a survey of the work site shall be conducted with an LEL/02 meter (combined combustible gas/oxygen meter). If any areas show airborne concentrations of 20 percent or greater of LEL, no work shall take place until the source of the emission has been identified and control measures taken.

If air monitoring readings exceed 50 ppm measured at 3 inches above the soil then respiratory protection will be used and water conditioned with inhibitors will be used (e.g. water spray and Bio-solve).

7.2 Air Monitoring Report

An air monitoring report shall be prepared form information obtained during all aspects of the site air monitoring system. Information presented in the report shall be derived from data generated by an air monitoring form.

7.3 Air Sampling Log Book

All LEL/20 readings shall be logged in a notebook along with site conditions and operations taking place during the sampling. This information shall be available at the site.

8.0 VAPOR EMISSION RESPONSE PLAN

8.1 Definitions:

- Any organic vapor reading greater than 25ppm, as measured with an OVA or a photoionization detector or flame ionization detector, taken along the perimeter of a site at zero wind conditions will be defined as a potential condition;

- Any organic vapor reading greater than 50 ppm, as measured with an OVA or a photoionization detector or flame ionization detector, taken along the perimeter of a site at zero wind conditions will be defined as a substantial condition;

- Using a Gastech 1314 meter, any reading greater than 10 percent LEL (calibrated with hexane) will be defined as a potentially hazardous situation;

- Using a Gastech 1314 meter, any reading greater than 20 percent LEL (calibrated with hexane) will be defined as a potentially critical situation;

8.2 Organic Vapor Emissions Monitoring

8.2.1 Potential Conditions

Organic vapors shall be monitored by the SSO in all work areas throughout the excavation activities. Refer to Section 7.0 for air monitoring procedures. If, during excavation any vapors are found above the allowable levels, Vapor Emission Control Methods outlined in Section 8.3 shall be implemented.

8.2.2 Substantial Condition

Any substantial condition (as determined by PID reading during the routine perimeter monitoring shall result in the following action:

- Immediate notice will be given by the SSO to the Project Manager to stop any excavation and/or placement of waste which is causing the condition. The SSO will also give orders for any work stoppage required to protect affected workers;

- The SSO will characterize the emissions so that an assessment can be made as to the actual concentration of specific contaminants;

- During the characterization, the SSO will instruct the Project Manager to mobilize all vapor emission control equipment for immediate use as necessary;

- If the characterization shows any compound present at the perimeter above current TLVs, vapor emission control methods will be implemented immediately;

- If no compounds are present above the current TLVs at the downwind perimeter location, the organic vapor monitoring will continue. However, the situations will be monitored very closely until normal background levels are reached.

8.3 Organic Vapor Control Methods

There shall be three basic vapor control methods available during excavation. They will include the use of foam barriers, clean fill barriers, and water barriers. The SSO will direct which method shall be implemented.

8.3.1 Water

Water proves to be an effective vapor barrier for gasoline/diesel contaminated soil. Therefore, if the source is in contained area, water could be a viable control method. However, it will be the least desired method because of its potential to generate excess waste. If enhanced by emission inhibitors such as Bio-solve the quantity of the water used is reduced .

8.3.2 Soil Cover

By covering a source with soil, it will be possible to considerably decrease the volatilization of the organic compounds within the waste. This could involve either spreading soil from the immediate vicinity of the affected area or hauling soil from some nearby source to the affected area.

8.3.3 Foam Vapor Barriers

Commercially available solutions are available to enable the use of this control method during excavation., However, this control method is generally only used for temporary control. The foam will degrade and eventually allow vapor concentrations to build-up if no other controls are instituted.

8.4 Flammable Vapor/Gas Monitoring

During all excavation/handling of waste material the potential for creating a flammable atmosphere shall be monitored. This procedure shall incorporate the use of a combustible gas indicator (CGI) calibrated for hexane. This will produce readings calibrated in percent of a calibrated Lower Explosive Limit (LEL). Any sustained reading greater than 10 percent of the LEL of hexane will be considered a potentially hazardous situation whereas readings above 20 percent LEL of hexane will be considered potentially critical situations.

8.4.1. Potentially Hazardous Situations

All sustained CGI readings above 10 percent of the LEL of hexane shall invoke the following procedure:

- All excavation/placement activity which could be affected by the release will stop until the SSO can establish the source of the readings;
- The SSO will discuss the findings with the Project Manager to determine if work can proceed;
- If indications are that the CGI readings are only temporary, work will resume when monitoring results fall below 10 percent of the LEL of hexane;
- If indications are that the readings will increase over time, corrective actions must be taken to increase natural ventilation before the work can resume.

8.4.2 Potentially Critical Situations

Any readings above 20 percent of the LEL of hexane shall invoke the following procedures:

- All work which could have caused or could be affected by the release will stop immediately;
- No vehicles or other sources of ignition within the affected work area will be operated until corrective actions are invoked;
- Corrective actions may include the covering of the waste to reduce emissions. Once the atmosphere surrounding the affected area is found to be below 10 percent of the LEL of hexane, heavy equipment can be utilized to increase natural ventilation (i.e., alter the face of an excavation);
- If natural ventilation is not dissipating the explosive gas, such as might be the case in an excavation, commercial air movers may be used to introduce fresh air into the excavation. Any source of ignition (i.e., motors) must be located in areas with an atmosphere containing less than 10 percent of the LEL of methane. Equipment capable

of producing foam and a commercial air mover will be located at the site during activities involving soil excavation;

- Work will not resume in the affected area until the corrective actions bring the LEL reading for methane within the excavation below 10 percent.

9.0 FIRE/EXPLOSION RESPONSE PLAN

9.1 Definition

A minor fire is one that can be readily extinguished by the use of one 20 pound fire extinguisher. All other fires/explosives will be considered to be major and the local fire department shall be contacted. All fires shall be reported to the SSO immediately.

9.2 Protective Clothing and Equipment

Project personnel are normally not equipped or trained to fight major chemical fires. Evacuation of project personnel to designated assembly areas by the SSO if required during a major fire. The SSO shall defer to the emergency response personnel as to the selection of protective clothing and equipment as well as the use of proper fire fighting techniques.

9.3 Immediate Fire/Explosion Response Actions

The air downwind from any fire/explosion shall be monitored immediately in order to protect workers and the nearby community. If required by the air monitoring results, the Vapor Emission Response Plan (Section 8.0) shall be placed into effect. If personal injuries result from the fire or explosion, the procedures outlined in the personal Injury Response Plan (Section 13.2) are also to be followed.

10.0 DECONTAMINATION PROCEDURES

Some personnel protective equipment or construction equipment may come in contact with material or substances which require those pieces of equipment to be decontaminated.

Decontamination is accomplished in order to ensure the material which personnel or equipment may have contacted are removed. Because exposure to chemical is considered low during site activities, decontamination is not expected to be a major requirement. When required, as determined by the SSO, decontamination shall be in accordance with the following:

10.1 Decontamination of Personnel

Decontamination will follow these steps in the order listed:

- Personnel and equipment which are suspected of being contaminated will be brushed or wiped to remove any adhered soil particulates or residue;
- Boots will be scrubbed with a detergent and water solution. The boots will then be removed and stacked for drying;
- Hard hats will be removed, scrubbed with a detergent and water solution., They will then be removed and stacked for drying;
- Chemical-resistant suits, if used, (including gloves) will be scrubbed with a detergent and water solution, removed and hung to dry, or disposed of;
- Respirators will be removed and prepared for reuse. Respirators will be cleaned with MSA cleaner-sanitizer or an equivalent;
- Tyvek suits will be discarded;
- Outer gloves will be removed and cleaned or discarded, based upon condition;

10.1.1 Showers

Portable eyewash/showers are not required in this case and will not be provided during site activities. Any employee suspected of sustaining skin contact with contaminated material will be thoroughly rinsed under a shower. Following this, the workers will remove all clothing, shower out, and don clean clothes.

10.1.2 Personal Hygiene

Before any eating, smoking, or drinking, personnel will wash hands, and other exposed areas.

10.2 Other Decontamination Procedures

All disposable clothing and wash water will be treated as waste and disposed properly by drumming or placing in appropriate disposal bins.

10.3 Decontamination of Construction Equipment

Major contamination of construction equipment is not expected for this project. Construction equipment used to excavate contaminated soil will be decontaminated within the boundaries of the exclusion zone by sweeping or scraping off the residual traces of contaminated soil.

11.0 MEDICAL REQUIREMENTS

11.1 Emergency Medical Care

Before interim remedial action begins at this site, the nearest medical facility shall be contacted and alerted to potential medical emergencies and chemicals of concern.

11.2 Job Related Illness

If an employee develops an illness or sustains an injury at the site which results in lost time, the worker shall be evaluated by a physician. The physician shall provide a written statement prior to allowing the employee to return to work. A copy shall then notify an officer of the firm. If the illness or injury is job related and requires hospitalization, them the SSO shall notify Cal-OSHA.

12.0 GENERAL SAFETY PRACTICES

General safety requirements for this project are as follows:

- All personnel who will be working in the exclusion zone are required to undergo an industrial hygiene baseline medical examination before commencing work. This requirement does not apply to individuals who have taken the examination during the past 12 months;
- The same personnel must be fitted and fully instructed on the use of respirators prior to starting the work;
- Eating, drinking, chewing gum or tobacco,smoking or any practice that increases the probability of hand-to-mouth transfer and ingestion of material is prohibited in any area of excavation;
- Hands must be thoroughly washed upon leaving the work area and before eating, drinking, or any other activities.

- No excessive facial hair, which interferes with the satisfactory fit of the mask-to-face seal, is allowed on personnel wearing respiratory protective equipment;

- Contact with contaminated or suspected contaminated surfaces shall be avoided. Whenever possible, personnel shall not walk through puddles, mud or other discolored surfaces; kneel on ground; lean, sit or place equipment on drums, containers, vehicles, or the ground;

- Medicine and alcohol can aggravate the effects from exposure to toxic chemicals. Prescribed drugs shall not be taken by personnel where the potential for absorption, inhalation, or ingestion of toxic substances exists unless specifically approved by a qualified physician;

- The number of individuals involved in the field operations shall be kept to a minimum. Observers shall stand a safe distance upwind of the excavation/soil handling operations. No observers are allowed on the site unless they are wearing OSHA/NIOSH approved hard-hats, appropriate safety glasses and appropriate protective clothing/equipment;

- Non-disposable safety gear, sampling equipment, and demolition equipment shall be cleaned before being taken offsite. Equipment which comes in contact with contaminated soil or liquids shall be cleaned. Washing with detergent solution, followed by rinsing, is preferred for safety gear and sampling equipment;

- Contractors shall follow safety procedures outlined in 29CFR 1926, Subparts P and T, for the excavation and demolition;

- Before any machinery or electrical equipment is placed in use, it shall be inspected by a competent person and found to be in a safe operating condition. If the machinery or electrical device is not found to be in a safe operating condition or develops a problem, it shall be tagged "Out of Service" and not used until the problem,(s) is/are corrected;

- Any subcontractor at the site shall abide by applicable safety standards for that work phase as denoted in this document;

- The Contractor shall perform daily safety inspections at the job site to insure compliance with this SSP.

13.0 EMERGENCY ACTION PLAN

Because of the nature of the work being conducted it is impossible to foresee and establish rigid procedures for all types of emergency situations. The risks associated with this work are considered generally low and therefore this emergency action plan will be primarily based on general information and will focus on personal injury.

13.1 Emergency Equipment

An emergency equipment station will be established which shall consist of the following; as a medium:

- Eye-wash station.
- First aid kit.
- Fire extinguisher.

13.2 Personnel Injury

In the event of physical injury or illness due to interim remedial activities, the procedures listed below shall be followed:

- Depending on the seriousness of the injury, first aid treatment may be given by the SSO, or on-site personnel trained in first aid/CPR.
- For serious injuries, the SSO shall contact the paramedics at 911.
- Decontamination of affected personnel, if needed, shall be performed before rendering first aid. If decontamination is not feasible, the injured person shall be wrapped in blankets for transportation to a hospital.

- The following personnel shall be notified in the listed sequence:

Responsible Person	Contact
Injured Person and Supervisor (Foreman)	Site Safety Officer
Site Safety Officer	Ambulance/Fire Dept.
Site Safety Officer	Project Manager

The following emergency telephone numbers shall be prominently posted in the site vicinity.

L.A. County Sheriff Department	911/(310) 456-6652
L.A. County Fire Department	911/(310) 202-5800
Ambulance	911
Hospital-Malibu Emergency Room	(310) 456-5551
Southern Calif. Gas Company	(800) 367-2691
Southern Calif. Edison Company	(310) 204-4030
Poison Control Center	(800) 662-9886
Digalert	(800) 422-4133

A complete written report of the accident shall be submitted to the Project Manager within 24 hours. If the injury requires hospitalization, then Cal-OSHA shall be notified within 24 hours.

APPENDIX H

STANDARD SAMPLING PROCEDURE

1. SAMPLING PROCEDURES DURING SUBSURFACE INVESTIGATIONS USING A HAND AUGER

A hand auger is used to drill to the required depths. Normally a sample is extracted every five feet. A sampler driven by a twenty pounds hammer is used to extract the soil samples. The sampler is lined with 2 inch OD stainless steel rings. The rings are filled with the sampled soil as the sampler is driven into soil at the bottom of the borehole. The sampler is removed from the borehole at completion of the drive and the two rings containing the samples removed from it.

2. SAMPLING PROCEDURES DURING SUBSURFACE INVESTIGATIONS USING A MOBILE OR TRANSPORTABLE DRILL

A mobile or transportable drill is used to drill to the required depths. Normally a sample is extracted every five feet. A modified California spilt spoon sampler is used to extract the soil samples. The sampler is lined with brass or stainless steel rings. The rings are filled with the sampled soil as the sampler is driven into soil at the bottom of the borehole. The sampler is removed from the borehole at completion of the drive and two of the rings containing the samples removed from it.

3. PREPARATION AND MONITORING OF SAMPLES

The upper ring is used to monitor the soil conditions (determine if contaminants detectable by the instrument in use are present in the soil). The lower ring is prepared for shipment to the laboratory. The sample is prepared by lining its ends with aluminum foil or teflon and capped with plastic end caps.

4. SAMPLING PROCEDURES FROM A SOIL PILE, BACKHOE BUCKET OR SURFACE.

A stainless steel spoon or a tongue depressant (sampler) is used to fill the sampler. The sample container may be a glass jar with a teflon lined cap or stainless steel ring lined with teflon or aluminum foil and plastic end caps. The sample is extracted by the sampler and placed in the container and compressed to reduce the voids. The container is then lined and capped.

5. SAMPLE LABELLING, HANDLING AND CARE

Following sample collection, it is labelled and placed on blue ice in an ice chest. The chain of custody forms are filled in accordance with DOHS guidelines. The sample is then transported to an approved environmental laboratory for analysis.

6. STANDARD CLEANING PROCEDURE

The following steps are followed during the cleaning and decontamination procedure:

1. The rings and/or samplers are cleaned and all dirt removed from them.
2. The rings and/or samplers are initially washed with tab water.
3. They are then washed in a solution of TSP and water.
4. They are finally rinsed in distilled water and placed on paper towels to dry.