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

StID 4125

ENVIRONMENTAL HEALTH SERVICES
1131 Harbor Bay Parkway, Suite 250
Alameda, CA 94502-6577
(510) 567-6700
(510) 337-9335 (FAX)

June 1, 1998

Mr. Ken Ross
City of Livermore
3589 Pacific Ave
Livermore, CA 94550

Re: Fuel Leak Site Case Closure for Springtown Golf Course at 1968 Bluebell Dr, Livermore, CA

Dear Mr.Ross:

This letter transmits the enclosed underground storage tank (UST) case closure letter in accordance with Chapter 6.75 (Article 4, Section 25299.37[h]). The State Water Resources Control Board adopted this letter on February 20, 1997. As of March 1, 1997, the Alameda County Environmental Protection Division is required to use this case closure letter for all UST leak sites. We are also transmitting to you the enclosed case closure summary. These documents confirm the completion of the investigation and cleanup of the reported release at the subject site. The subject fuel leak case is closed.

SITE INVESTIGATION AND CLEANUP SUMMARY

Please be advised that the following conditions exist at the site:

- up to 0.41ppm benzene exists in soil beneath the site, and
- up to 200 ppb TPH as gasoline and 3.5 ppb benzene exists in groundwater beneath the site.

If you have any questions, please contact me at (510) 567-6762.

eva chu
Hazardous Materials Specialist

enlosure:
1. Case Closure Letter
2. Case Closure Summary

c: Dave Clemens
City of Livermore, Planning Div
1052 S. Livermore Ave
Livermore, CA 94550

sprngtwn-5

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REMEDIAL ACTION COMPLETION CERTIFICATION

StID 4125 - 1968 Bluebell, Livermore, CA
(1-500 gallon gasoline tank removed in July 7, 1993)

June 1, 1998

Mr. Ken Ross
City of Livermore
3589 Pacific Ave
Livermore, CA 94550

Dear Mr. Ross:

This letter confirms the completion of site investigation and remedial action for the underground storage tank formerly located at the above-described location. Thank you for your cooperation throughout this investigation. Your willingness and promptness in responding to our inquiries concerning the former underground storage tank are greatly appreciated.

Based on information in the above-referenced file and with the provision that the information provided to this agency was accurate and representative of site conditions, no further action related to the underground tank release is required.

This notice is issued pursuant to a regulation contained in Title 23, Section 2721(e) of the California Code of Regulations.

Please contact our office if you have any questions regarding this matter.

Sincerely,

Mee Ling Tung, Director

cc: Richard Pantages, Chief of Division of Environmental Protection
Chuck Headlee, RWQCB
Dave Deaner, SWRCB
Danielle Stefani, Livermore-Pleasanton Fire Dept
files-ec (sprngtwn-5)

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CASE CLOSURE SUMMARY
Leaking Underground Fuel Storage Tank Program

I. AGENCY INFORMATION Date: October 22, 1996

Agency name: **Alameda County-HazMat** Address: **1131 Harbor Bay Pkwy**
City/State/Zip: **Alameda, CA 94502** Phone: **(510) 567-6700**
Responsible staff person: **Eva Chu** Title: **Hazardous Materials Spec.**

II. CASE INFORMATION

Site facility name: **Springtown Golf Course**
Site facility address: **1968 Bluebell Dr, Livermore, CA 94550**
RB LUSTIS Case No: **N/A** Local Case No./LOP Case No.: **4125**
URF filing date: **7/14/93** SWEEPS No: **N/A**

Responsible Parties:	Addresses:	Phone Numbers:
Ken Ross City of Livermore	3589 Pacific Ave Livermore, CA 94550	510/373-5253

Tank No:	Size in gal.:	Contents:	Closed in-place or removed?:	Date:
1	500	Gasoline	Removed	7/7/93

III. RELEASE AND SITE CHARACTERIZATION INFORMATION

Cause and type of release: **Unknown**
Site characterization complete? **YES**
Date approved by oversight agency: **6/17/96**
Monitoring Wells installed? **Yes** Number: **1**
Proper screened interval? **Yes**
Highest GW depth below ground surface: **5.70'** Lowest depth: **8.10'**
Flow direction: **Unknown, but regional flow direction is to the SW.**
Most sensitive current use: **Golf course.**
Are drinking water wells affected? **No** Aquifer name: **Spring Subbasin**
Is surface water affected? **No** Nearest affected SW name: **NA**
Off-site beneficial use impacts (addresses/locations): **None**

Report(s) on file? **YES** Where is report(s) filed? **Alameda County**
1131 Harbor Bay Pkwy
Alameda, CA 94502

Treatment and Disposal of Affected Material:

Material	Amount (include units)	Action (Treatment or Disposal w/destination)	Date
Tank	1 UST	H & H, in San Francisco	7/7/93
Piping			
Soil	~2 cy	Aerated and re-used onsite	

Maximum Documented Contaminant Concentrations - - Before and After Cleanup

Contaminant		Soil (ppm) Before[1]	Soil (ppm) After[2]	Water (ppb) Before[3]	Water (ppb) After[4]
TPH (Gas)		400	1.0	3,600	200
Benzene		0.8	0.41	410	3.5
Toluene		2.0	0.017	31	1.6
Ethylbenzene		0.07	0.042	240	ND
Xylenes		29	0.027	180	ND
Heavy metals	Total Pb	7.9			
Other					

NOTE: 1 soil sample from pit bottom at ~10.5' bgs, after minor excavation
2 soil sample from soil borings advanced in and adjacent to pit (10/26/96)
3 grab water samples from boil borings (10/26/96)
4 water sample from well MW-1 (8/6/96)

Comments (Depth of Remediation, etc.):

See Section VII, Additional Comments, etc...

IV. CLOSURE

Does completed corrective action protect existing beneficial uses per the Regional Board Basin Plan? **Undetermined**
Does completed corrective action protect potential beneficial uses per the Regional Board Basin Plan? **Undetermined**
Does corrective action protect public health for current land use? **YES**
Site management requirements: **None**

Should corrective action be reviewed if land use changes? **YES**
Monitoring wells Decommissioned: **No, pending site closure**
Number Decommissioned: **0** Number Retained: **1**
List enforcement actions taken: **None**

List enforcement actions rescinded: **NA**

V. LOCAL AGENCY REPRESENTATIVE DATA

Name: **Eva Chu** Title: **Haz Mat Specialist**

Signature: Eva Chu Date: 12/3/96

Reviewed by

Name: **Amy Leech** Title: **Haz Mat Specialist**

Signature: A Leech Date: 10/22/96

Name: **Thomas Peacock** Title: **Supervisor**

Signature: Thomas Peacock Date: 12-2-96

VI. RWQCB NOTIFICATION

Date Submitted to RB: 12/4/96 RB Response: Approved

RWQCB Staff Name: **Kevin Graves** Title: **AWRCE**

Signature: K Graves Date: 12/12/96

VII. ADDITIONAL COMMENTS, DATA, ETC.

On July 7, 1993 a 500 gallon steel gasoline UST located north of and adjacent to the maintenance equipment building at Springtown Golf Course was removed. Strong hydrocarbon odors and slight soil staining were noted in the soil. A soil sample was collected from the bottom of the excavation at ~10' bgs, and analyzed for TPHg, BTEX, and total lead. Low levels of all constituents were identified. (See Fig 1, 2 and Table 1)

At the request of this agency, additional overexcavation was conducted on July 13, 1993 and another soil sample was collected from the bottom of the excavation at ~10.5' bgs. This sample contained 400 ppm TPHg and 0.8, 2, ND, and 29 ppm BTEX, respectively.

To further delineate the vertical and lateral extent of soil and possible groundwater contamination, four investigative borings (IB-1 through IB-4) were drilled through and adjacent to the former UST excavation to ~ 15' bgs. A groundwater monitoring well, MW-1, was also drilled and installed ~10' SSW of the excavation. Groundwater was encountered at ~9' bgs. Soil samples collected from each boring at ~5', 10' and 15' bgs contained low to non-detectable levels of TPHg and BTEX. It appears that most of the hydrocarbon-impacted soils were removed during past overexcavation activities. (See Fig 3, Table 2)

Groundwater flow direction cannot be determined with only one well. However, grab groundwater samples identified maximum contaminant levels at 2,600 ppb TPHg and 410, 31, 240, and 160 ppb BTEX, respectively, from

boring IB-3 which is southwest of the tank excavation. This suggests that groundwater at this site flows southwest. Regional groundwater flow direction is also to the southwest, based on water contour maps provided by Zone 7.

Well MW-1 has been sampled for four consecutive quarters (11/95 through 8/96). A maximum of 280 ppb TPHg and 5.0, 2.4, ND, and 6 ppb BTEX, respectively, have been identified. It appears that the fuel release has not significantly impacted groundwater quality beneath this site. And, the plume concentrations appear to have rapidly decreased in the southerly direction from the former UST pit. (See Table 3)

In summary, case closure is recommended because:

- the leak and ongoing sources have been removed;
- the site has been adequately characterized;
- the dissolved plume is not migrating;
- no water wells, surface water, or other sensitive receptors are likely to be impacted; and,
- the site presents no significant risk to human health or the environment.

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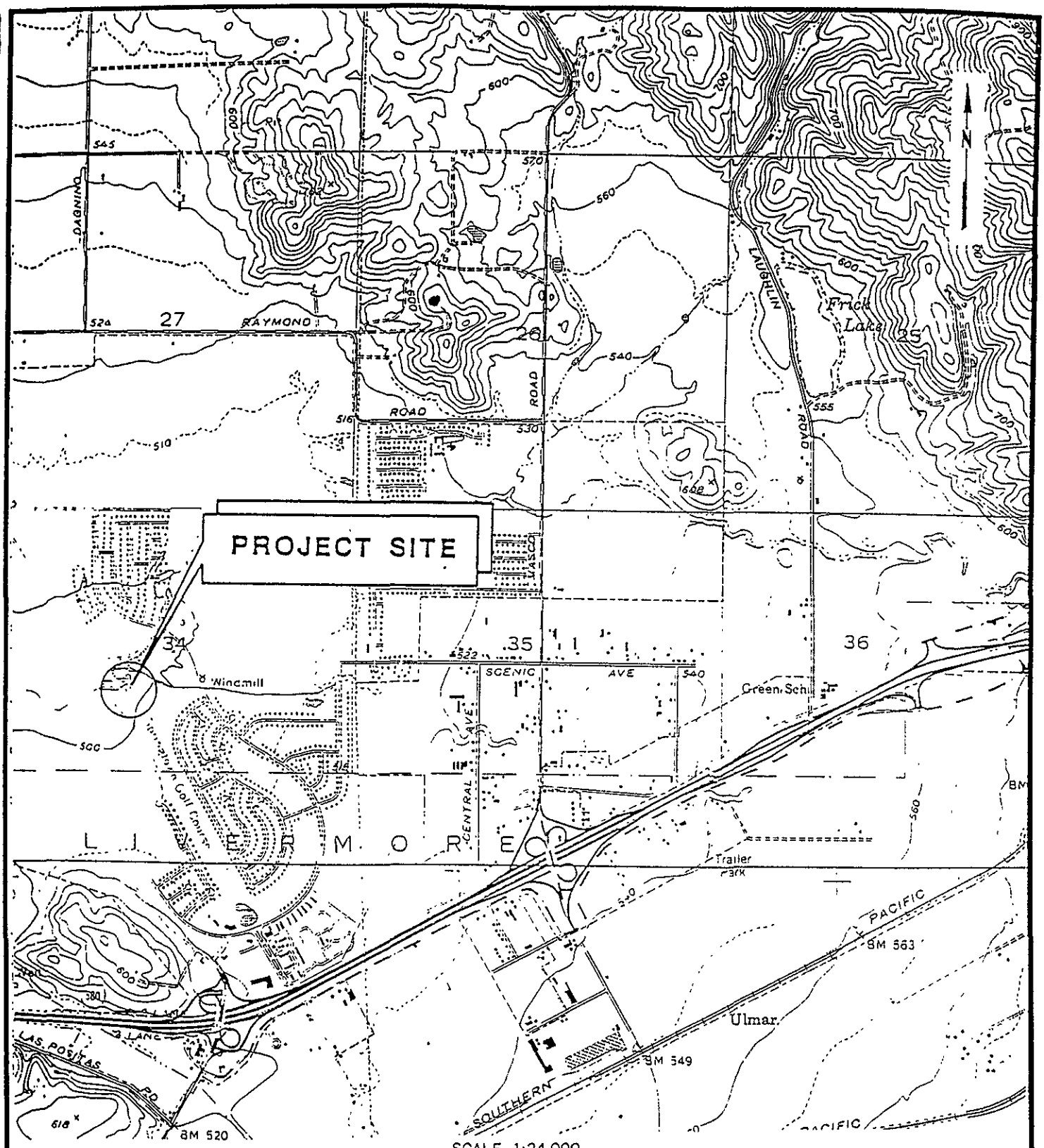


SCALE 1:24 000

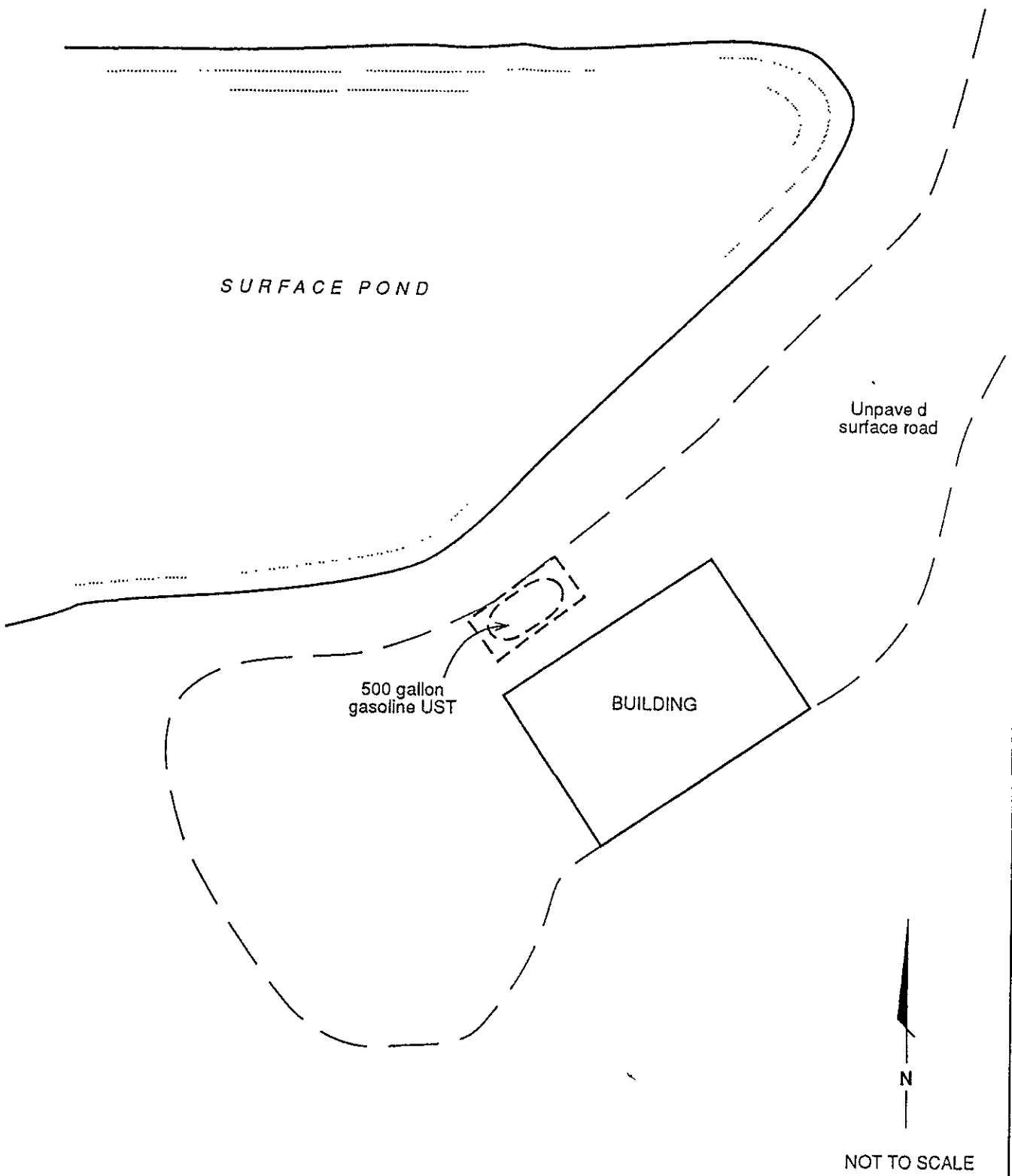
1 0 1 MILE

1000 0 1000 2000 3000 4000 5000 6000 7000 FEET

1 .5 0 1 KILOMETER

DESIGNED BY:	CHECKED BY:	FIGURE 1	DATE:	FIGURE: 1
DRAWN BY:	SCALE:	SITE VICINITY MAP CWEC: 20549-001-01	CENTURY WEST ENGINEERING	
DWG. NO.:				

SPRINGTOWN GOLF COURSE

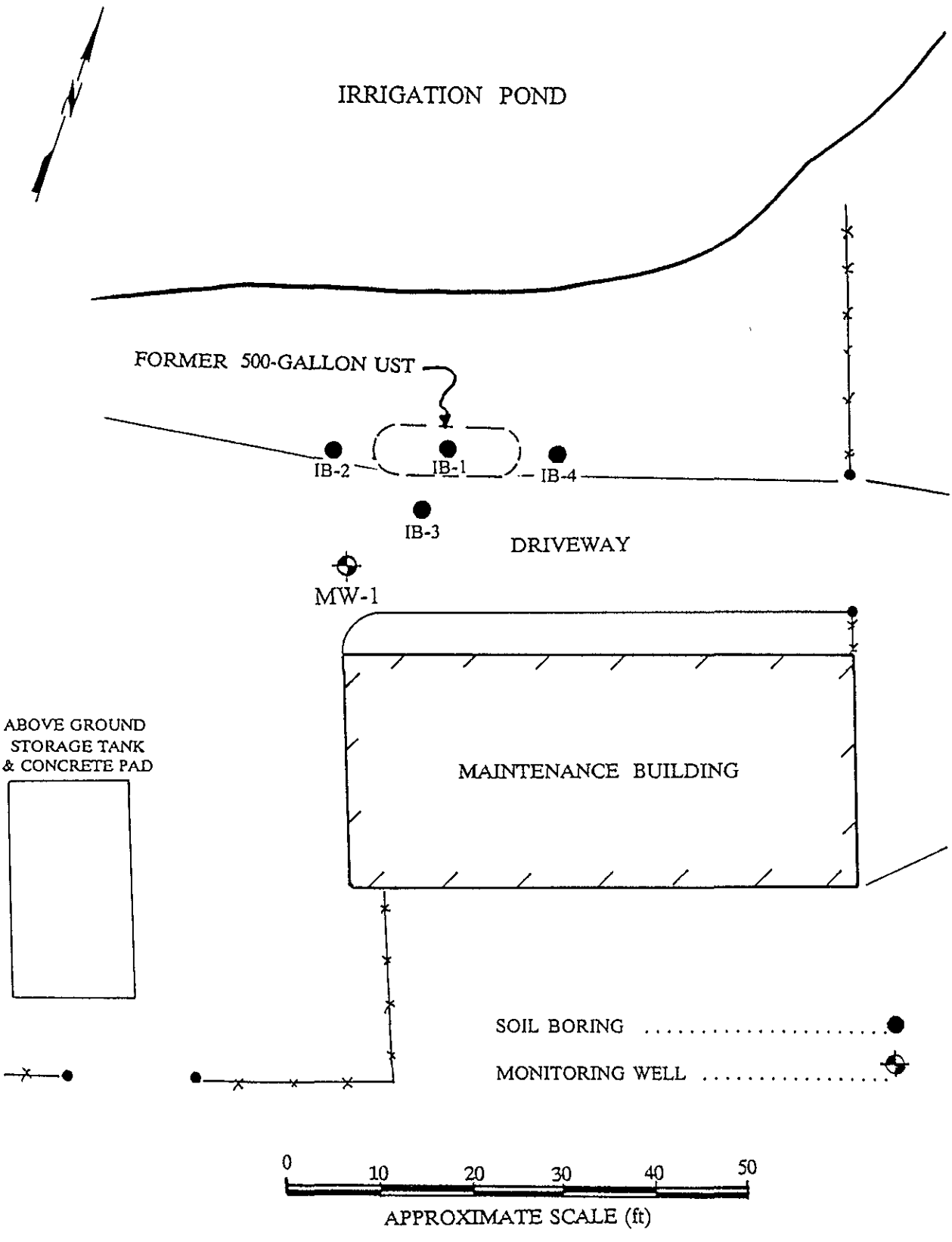


Harding Lawson Associates
Engineering and
Environmental Services

Site Plan
Las Positas and Springtown
Golf Courses
Livermore, California

PLATE
2

DRAWN	PROJECT NUMBER	APPROVED	DATE	REVISED DATE
RK	25248.999		10/30/93	



DESIGNED BY:	CHECKED BY:	~~FIGURE 2~~	DATE:	FIGURE: 3
DRAWN BY:	SCALE:	SITE PLAN CWEC: 20549-001-01	CENTURY WEST ENGINEERING	
DWG. NO.:				

Table 1. Results of Chemical Analyses on Soil Samples Las Positas Golf Course and Springtown Golf Course Livermore, California

Golf Course ID	Sample I.D	Depth of Sample (feet)	TPH as Gasoline (ppm)	Diesel Fuel (ppm)	Benzene (ppm)	Toluene (ppm)	Ethyl-benzene (ppm)	Xylenes (ppm)	Total Lead (ppm)
Las Positas	250 - Diesel	10.0	NA	1,370	ND	0.08	0.1	0.6	NA
Las Positas	250 - Gas/Oil	10.5	ND	ND	ND	ND	ND	ND	ND
Las Positas	1,000 - South	11.0	2,110	NA	11	110	45	215	10.2
Las Positas	1,000 - North	11.0	30	NA	0.12	0.5	0.06	0.43	9.86
Springtown	250* - Springtown	9.0	11	NA	0.2	0.05	0.07	0.34	7.90
Detection Limits			5	10	0.005	0.005	0.005	0.015	5.0

ND = Not detected
NA = Not analyzed
ppm = Parts per million

* Sample ID on chain-of-custody identified this as a 250-gallon tank when actually the tank volume was approximately 500 gallons

Table 4-2

SUMMARY OF SOIL AND GROUND WATER ANALYTICAL RESULTS
Springtown Golf Course UST Site

Sample ID	Sample Date	Sample Depth[1]	Concentration (ppm) TPH-G	Benzene	Toluene	Ethylbenzene	Xylenes	Lead
Soil Samples								
IB-1.2	10/26/96	10.0 ft	ND(1.0)[2]	ND(0.005)	0.006	ND(0.005)	0.009	--[3]
IB-1.3	"	15.0 ft	ND(1.0)	ND(0.005)	ND(0.005)	ND(0.005)	ND(0.005)	--
IB-2.1	"	5.0 ft	ND(1.0)	0.016	ND(0.005)	0.008	0.014	--
IB-2.2	"	9.0 ft	1.0	ND(0.005)	0.010	ND(0.005)	0.016	--
IB-3.1	"	5.0 ft	ND(1.0)	0.41	ND(0.005)	0.042	0.015	--
IB-3.2	"	10.0 ft	ND(1.0)	0.007	0.009	0.008	0.022	--
IB-3.3	"	15.0 ft	ND(1.0)	ND(0.005)	0.009	0.006	0.027	--
IB-4.2	"	10.0 ft	ND(1.0)	ND(0.005)	0.009	ND(0.005)	0.015	--
MW-1.1	11/03/96	5.0 ft	ND(1.0)	ND(0.005)	ND(0.005)	ND(0.005)	ND(0.005)	--
MW-1.2	"	9.0 ft	1.0	ND(0.005)	0.017	0.005	0.008	5.4
Ground Water Samples								
IB-1W	10/26/96	--	0.058	0.0009	0.0006	0.0005	0.002	--
IB-2W	"	--	ND(0.05)	ND(.0005)	0.0008	ND(.0005)	0.002	--
IB-3W	"	--	2.6	0.410	0.031	0.240	0.160	--
IB-4W	"	--	2.3	0.015	0.011	0.030	0.180	--
MW-1	11/10/95	8.2[4]	0.120	0.0005	ND(.0005)	ND(.0005)	0.0006	--
MW-1	02/26/96	5.70[4]	0.170	ND(.0005)	0.0024	ND(.0005)	0.0014	--

1 - Depth of sample from surface grade.
2 - Not detected above the levels indicated in the parentheses.
3 - Not tested for this analyte.
4 - Depth to ground water from ground surface.

Table 3
Summary of Current and Historical Groundwater Monitoring Results
Springtown Golf Course UST Site
939 Larkspur Drive
Livermore, California

Monitoring Well Number	Date Sampled	Depth to Groundwater (feet)	Chemical Concentrations (mg/l)				
			TPH-G	Benzene	Toluene	Ethylbenzene	Xylenes
MW-1	11/10/95	8.10	0.12	0.0050	ND(.0005)	ND(.0005)	0.0060
MW-1	02/26/96	5.70	0.17	ND(.0005)	0.0024	ND(.0005)	0.0014
MW-1	05/03/96	7.01	0.28	0.0047	ND(.0005)	ND(.0005)	ND(.0005)
MW-1	08/06/96	7.83	0.20	0.0035	0.0016	ND(.0005)	ND(.0005)

Legend:
TPH-G = Total Petroleum Hydrocarbon Compounds quantified as gasoline
mg/l = Milligrams per liter
ND(.0005) = Not detected above the laboratory detection limit shown in parenthesis

SOIL BORING LOG IB-1

CENTURY WEST ENGINEERING

Drilling Date:	October 26, 1995	Boring ID: IB-1	Logged by: Bob Bogar
Site Location:	Springtown Golf Course	Boring Location:	Inside backfilled excavation
Purpose:	Soil and ground water investigation	Consulting Firm:	Century West Engineering
Project Number:	20549-005-01	Drilling Contractor:	Kvilhaug Well Drilling
Drilling Method:	*Hollow Stem Auger*	*Total Depth: 20.0 ft*	*Initial GW Depth: 9.0 ft*

Depth	Sample Interval	Sample ID	Blow Counts	Soil TPH-G (ppm)	Soil Description		Remarks
01 02 03 04 05					0.0 - 7.0 ft	Dark brown clayey SILT; moist, soft; no hydrocarbon odor or discoloration.	
06 07 08 09 10	T ⊥	IB-1.1	1 5 4	– ▽	7.0 - 9.0 ft	Brown silty CLAY; moist, soft; no hydrocarbon odor or discoloration.	Note: IB-1.1 was not analyzed.
11 12 13 14 15	T ⊥	IB-1.2	2 5 7	ND(1)	9.0 - 20.0 ft	Brown to grey clayey SILT; saturated, soft; no hydrocarbon odor or discoloration.	
16 17 18 19 20	T ⊥	IB-1.3	7 12 12	ND(1)			
21 22	T ⊥	IB-1.4	6 8 15		*Final Auger Depth - 20 ft* Ground Water Depth - 9 ft		

SOIL BORING LOG IB-2

CENTURY WEST ENGINEERING

Drilling Date:	October 26, 1995	Boring ID: IB-2	Logged by: Bob Bogar
Site Location:	Springtown Golf Course	Boring Location:	West from excavation
Purpose:	Soil and ground water investigation	Consulting Firm:	Century West Engineering
Project Number:	20549-005-01	Drilling Contractor:	Kvilhaug Well Drilling
Drilling Method:	Hollow Stem Auger	Total Depth: 15.0 ft	Initial GW Depth: 9.0 ft

Depth	Sample Interval	Sample ID	Blow Counts	Soil TPH-G (ppm)	Soil Description		Remarks
01 02 03 04 05					0.0 - 3.0 ft	Dark brown silty CLAY; moist, soft; no hydrocarbon odor or discoloration.	
06 07 08 09 10	T ⊥	IB-2.1	6 11 16	ND(1) ▽	3.0 - 7.0 ft	Grey to greenish clayey SILT; moist, soft; moderate hydrocarbon odor.	
11 12 13 14 15	T ⊥	IB-2.2	3 4 5	1.0	7.0 - 13.0 ft 13.0 - 15.0 ft	Brown silty CLAY; moist, soft; possible slight hydrocarbon odor, minor grey green discoloration. Brown silty CLAY; moist, soft; no hydrocarbon odor or discoloration.	
16 17	T ⊥	IB-2.3	4 3 5	--	Final Auger Depth - 15 ft Ground Water Depth - 9 ft		Note: IB-2.3 was not analyzed.