Pit area
Maintenance Yard

Clayton Environmental Consultants, Inc.

P.O. Box 9019 • 1252 Quarry Lane • Pleasanton, CA 94566 • (415) 426-2600

#40517-70 (090)

September 8, 1987

RECEIVED
SEP 14 1987
W. TSAI
FILE: _____
CC: _____

Mr. Ted Gerow
Public Health Engineer
Alameda County Health Department
470 - 27th Street, Room 324
Oakland, CA 94612

RE: Site Investigation Project Report
San Francisco Water Department
505 Paloma Way
Sunol, California

Dear Mr. Gerow:

As discussed in our August 18, 1987 telephone conversation, enclosed is the Site Investigation Project Report documenting the activities and findings conducted at 505 Paloma Way, Sunol, California.

Clayton Environmental Consultants, Inc. (Clayton) performed the site investigation over a four-month duration. The soil contamination was assessed to be very localized and isolated to an area approximately 2 cubic yards. Subsequently, the site has been cleaned up.

The gasoline contaminated soil was removed, and the lateral and vertical extent was defined. The results of laboratory analysis indicate that existing intact soil contains nondetectable gasoline levels.

The Photo Ionization Detector (PID) meter readings indicate less than 100 ppm THC as gasoline in the excavated soil, which has been hauled offsite. The hole was backfilled with pea gravel, and the area was repaved.

Since the contaminated soil has been removed, we believe that no further cleanup is necessary. We will be looking forward to receiving your response to complete our file.

If there are any questions or comments, please feel free to contact me at (415) 426-2600.

Sincerely,

Cherie D'Andrea
Associate Geologist

Richard Fehler
Project Manager

CD/jm
Attachment

cc: Willy Tsai, City of San Francisco

el244

TABLE OF CONTENTS

SITE INVESTIGATION REPORT
SAN FRANCISCO WATER DEPARTMENT
505 PALOMA WAY
SUNOL, CALIFORNIA
PROJECT NO. 40517-70 (090)
SEPTEMBER 8, 1987

Clayton Environmental Consultants, Inc.

1252 Quarry Lane • Pleasanton, California 94566 • (415) 426-2600

1.0 INTRODUCTION

The City and County of San Francisco authorized Clayton Environmental Consultants, Inc. (Clayton) to bring San Francisco's Water Department, 505 Paloma Way, Sunol, California, into compliance with new state laws governing the storage of hazardous materials in underground tanks.

There are currently three underground tanks on-site that store unleaded gasoline, regular gasoline, and diesel (see Figure 1).

To assess the integrity of the tanks, Clayton conducted hydrostatic tank testing using the Horner "EZY-CHEK" system. The unleaded gasoline and diesel tanks tested "tight"; however, the regular gasoline tank was found to be leaking at high level (i.e., above the tank top). The tank testing reports are included as Appendix A.

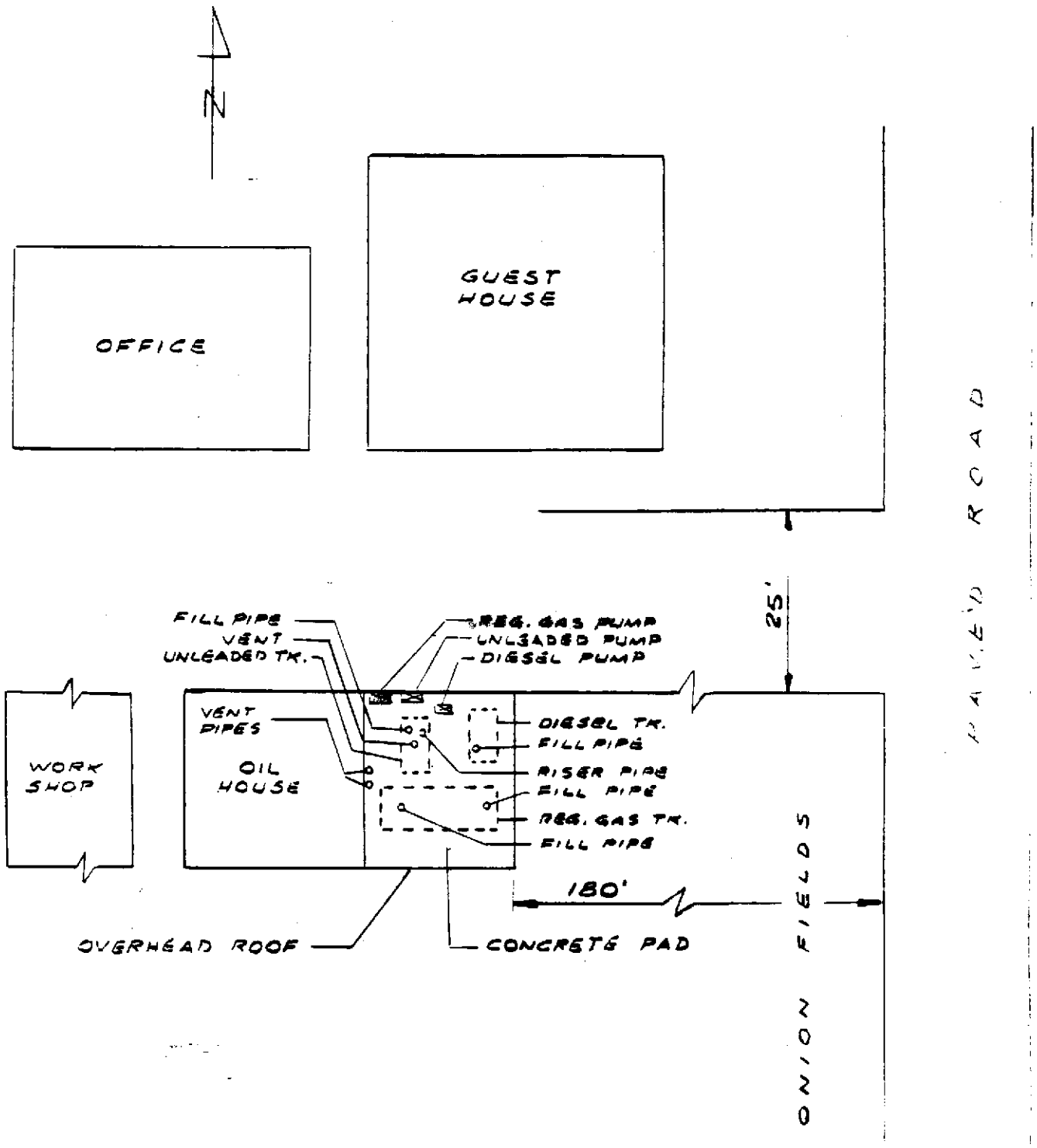
The tanks tested are shown below:

S.F. ID#	Year	Tank Size	Product	Test Results	Date
#177	1968	550	Unleaded Gasoline	Product Tight	03/06/86
#178	1975	1000	Regular Gasoline	High level leak	11/12/86
#179	1971	550	Diesel	Product Tight	11/12/86

Clayton was authorized to locate and repair the piping leak on tank no. 178. The repairs were conducted by R. W. Johnston and Son (subcontractor) on February 6, 7, and 9, 1987. The piping leak in tank no. 178 was found to be at the coupling where the product line elbows upward to the suction pump.

To determine if an unauthorized release effects the subsurface, a soil sample was taken three feet below grade level (bgl), (1-1/2 feet below the piping). Laboratory results for the site indicated 810 ppm total hydrocarbons as gasoline in the soil. A copy of the Chain of Custody and the laboratory report are included as Appendix B.

Because the soil contamination was significant, a site investigation was conducted to determine the lateral and vertical extent of the contamination.



Scale: 1"=20'

Clayton Environmental Consultants, Inc. A Marsh & McLennan Company

FIGURE 1

SAN FRANCISCO WATER DEPARTMENT
505 Paloma Way
Sunol, California

2.0 INVESTIGATIVE TECHNIQUE

The investigative activities were conducted under the supervision of a geologist registered in the State of California.

On March 30, 1987, to initially investigate the extent of contamination, using a shovel, the subcontractor removed a 3 foot diameter area of soil directly below the suction pump. At 4 feet bgl, the Photo Ionization Detector (PID) meter readings indicated approximately 1,500 - 2,000 ppm hydrocarbon vapors in the soil (see Figure 2). Subsequently, a slant boring investigation was conducted to assess if the groundwater was affected.

On June 1, 1987, using a hand driven percussion hammer, Clayton established two slant borings (SB-1, and SB-2) (see Figure 3). The borings were slanted at 15° from vertical. SB-1 and SB-2 extended into and terminated at the capillary fringe at 12 feet and 13 feet bgl (the zone directly above the water table) and intersected at a point below the pump.

Using the unified soil classification system, the soil characteristics were logged in the field by a Clayton geologist. Samples from SB-1 were taken at slanted depths of 3, 5, 7, 9, 11, and 13 feet bgl. Samples from SB-2 were taken at 2-1/2, 5-1/2, 8-1/2, and 11-1/2 feet bgl (see Figures 4 and 5).

The materials encountered were primarily comprised of sandy silts and silty sands. No gasoline odors were detected in the cuttings. The samples were collected in 1" x 6" brass tubes, capped and taped to preserve air tightness, and immediately placed in an iced cooler prior to transporting to Clayton's state certified laboratory for analysis.

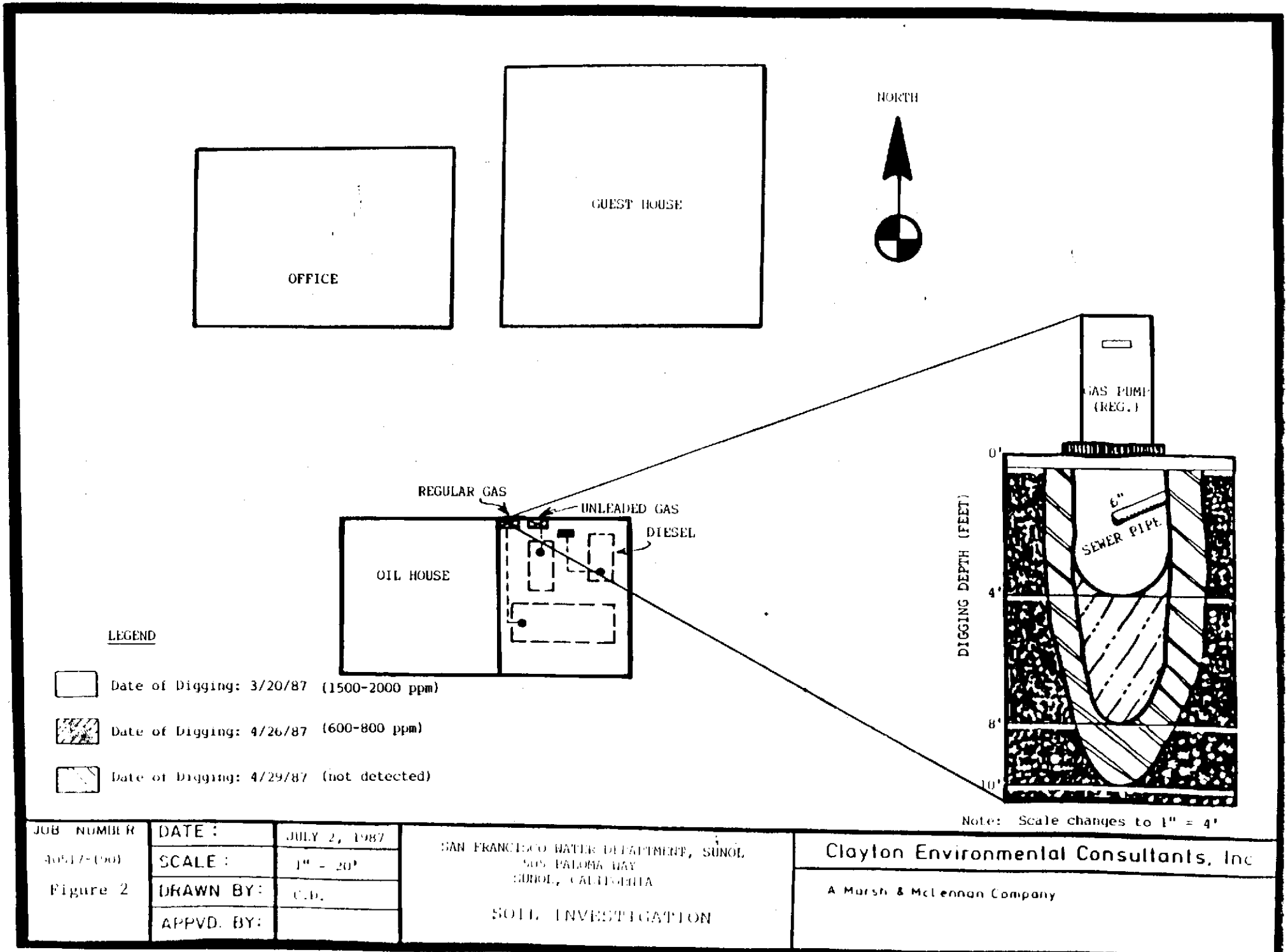
All SB-1 samples were analyzed for total hydrocarbons of gasoline by EPA modified Method 8015. The laboratory results indicated nondetectable levels of gasoline in the soil (Appendix C). Samples from SB-2 were not analyzed at this time; these samples were placed on hold and stored in the laboratory freezer.

Because the SB-1 samples were "clean," the soil contamination was inferred to be localized to a small area directly below the pump. Additional soil removal began on June 26, 1987. The subcontractor continued removing the contaminated soil using a shovel and a clam shell post hole digger. As the subcontractor reached a depth of 8 feet* and a diameter of 2-1/2 feet, Clayton obtained PID meter readings indicating hydrocarbon vapors between 600 and 800 ppm (see Figure 2).

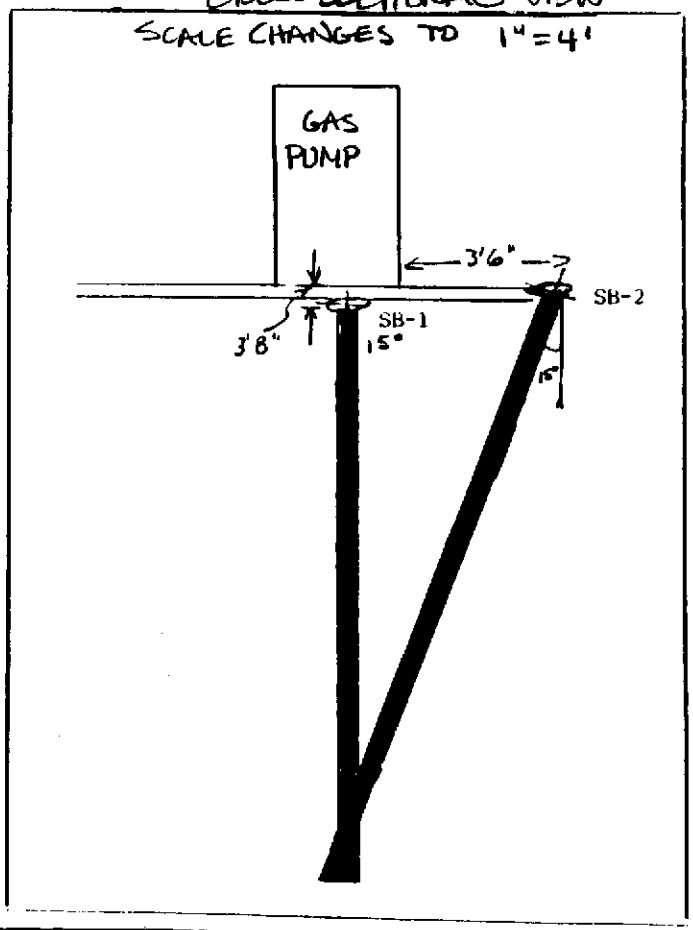
Clayton requested analysis of SB-2 at 11-1/2, to determine if SB 1 may have just missed the contaminated zone. The analytical results of this sample indicated nondetectable levels of gasoline (Appendix D).

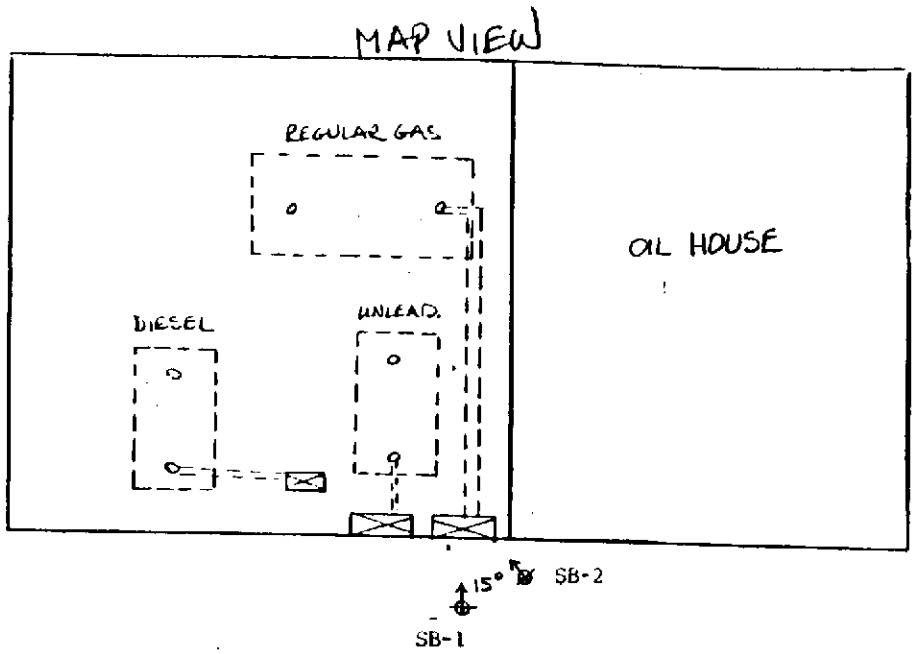
The final soil removal was conducted on June 29, 1987. At 9-1/2 feet bgl the soil became extremely clean, and no gasoline odors were detected using the PID. A sample was obtained in a squat jar, and the laboratory results indicate no gasoline in the soil (Appendix E). A summary of the analytical results and PID meter readings are shown in Table 1.

*NOTE: Shoring was not required because the subcontractor built a standing pad at 4 feet below grade, which enabled him to continue digging, but prevented him from digging deeper than 5 feet bgl.



JOB NUMBER	DATE:	JULY 2, 1987	SAN FRANCISCO WATER DEPARTMENT, SUNOL 505 PALOMA WAY SUNOL, CALIFORNIA SOIL INVESTIGATION	Clayton Environmental Consultants, Inc A Marsh & McLennan Company
4051-(90)	SCALE:	1" = 20'		
Figure 2	DRAWN BY:	C.D.		
	APPVD. BY:			





JOB NUMBER	DATE :	July 2, 1987
Figure 3	SCALE :	1" = 10'
	DRAWN BY:	C.C.D.
	APPVD. BY:	

SAN FRANCISCO WATER DEPT., SUNOL
505 PALOMA WAY
SUNOL, CALIFORNIA

Clayton Environmental Consultants, Inc.

A Marsh & McLennan Company

SAMPLE	USCS	LITHOLOGIC DESCRIPTION	WELL DIAGRAM
	ML	Dusky brown, slightly sandy, clayey SILT. Less than 1% pebbles.	
	ML	Dusky brown, slightly clayey, sandy SILT.	
	ML	Moderate yellowish brown, slightly clayey, sandy SILT.	
	SM	Moderate yellowish brown, silty SAND.	
	SM	Dark yellowish brown, silty SAND.	
	ML	Moderate yellowish brown, light gray mottling, clayey sandy SILT. Iron oxide staining and organics rich. 0-2% gravels.	
	SP	Salt and pepper color, slightly silty, well sorted, medium grained SAND. Moist. Less than 1% pebbles.	
		End of boring at 13 feet. Groundwater not encountered.	

DEPTH IN FEET (SLANTED)

0 2 4 6 8 10 12 14 16 18 20

LEGEND:

- WATER LEVEL
- SOIL TUBE SAMPLE
- BENTONITE
- CEMENT-GROUT
- PVC WELL SCREEN ( )
- PVC WELL CASING ( )

Clayton Environmental Consultants

A Marsh & McLennan Company

San Francisco Water Dept., Sunol
505 Paloma Way, Sunol, California

BOREHOLE NO. 1

FIGURE

DATE: June 1, 1987

PROJECT NO. 7825-EF (090)

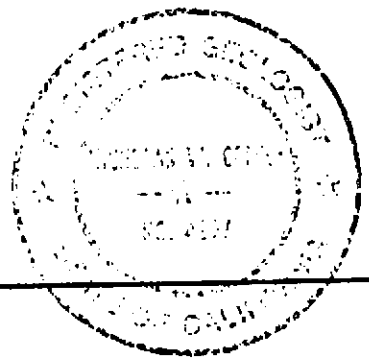
TOC ELEVATION:

EQUIPMENT: Hand held, gas powered hammer.

SAMPLE	USCS	LITHOLOGIC DESCRIPTION	WELL DIAGRAM
	ML	Dusky brown, slightly sandy, clayey SILT. Less than 1% pebbles.	
	ML	Dusky yellowish brown, slightly clayey, SILT. 1-2% pebbles.	
	ML	Dusky yellowish brown, slightly clayey, SILT. 3-4% pebbles.	
	SM	Moderate yellowish brown, silty SAND.	
	SM	Dark yellowish brown, slightly clayey, silty SAND.	
	ML	Moderate yellowish brown, with light gray mottling, clayey sandy SILT. Iron oxide staining and organics rich. 2% gravels.	
	SP	Salt and pepper color, slightly silty, well sorted, medium grained SAND. Moist. Less than 1% pebbles.	
		End of boring at 12 feet. Groundwater not encountered.	

DEPTH IN FEET (SLANTED)

0 2 4 6 8 10 12 14 16 18 20



LEGEND:

- WATER LEVEL
- SOIL TUBE SAMPLE
- BENTONITE
- CEMENT GROUT
- PVC WELL SCREEN ( )
- PVC WELL CASING ( )

Clayton Environmental Consultants A Marsh & McLennan Company	San Francisco Water Dept., Sunol 505 Paloma Way, Sunol, California BOREHOLE NO. 2	FIGURE 5
DATE: June 1, 1987	PROJECT NO. 7825-EF(090)	
TOC ELEVATION:	EQUIPMENT: Hand held, gas powered hammer.	

3.0 CONCLUSION

Clayton assessed the extent of soil contamination on the site. The groundwater was found to be unaffected. The contamination was isolated to the area directly below the pump. Clayton removed approximately 2 cubic yards of contaminated soil, vertically defining a dirty/clean boundary at 9 to 9-1/2 feet. Horizontally, no significant contamination was encountered at areas greater than 2 1/2 feet in diameter.

The subcontractor backfilled the hole with peagravel and resurfaced the area to restore the site to its original condition.

Clayton considers the project closed, and no further cleanup is necessary.

el204r.rep

TABLE 1

SUMMARY OF ANALYTICAL FINDINGS AND PID METER READINGS

Date	Feet BGL Depth	Concentration (ppm)	EPA Method	Detection Limit (ppm)
03/02/87	3	810 ppm	8015	0.3
03/20/87	4	1500-2000 ppm	PID Meter	---
06/08/87	3 (SB-1)	ND	8015 Modified	10
06/08/87	5 (SB-1)	ND	8015 Modified	10
06/08/87	7 (SB-1)	ND	8015 Modified	10
06/08/87	9 (SB-1)	ND	8015 Modified	10
06/08/87	11 (SB-1)	ND	8015 Modified	10
06/08/87	13 (SB-1)	ND	8015 Modified	10
06/26/87	8	600-800 ppm	PID Meter	---
06/29/87	9-1/2	ND	PID Meter	---
06/29/87	11-1/2 (SB-2)	ND	8015 Modified	10

APPENDIX A

TANK INTEGRITY TEST RESULTS

Outside CA 800 227 1316

McKesson

7802-EF (090)

December 1, 1986

Mr. Willy Tsai
Project Manager
City and County of San Francisco
45 Hyde Street
Room 214
San Francisco, CA 94102

Dear Mr. Tsai:

This report describes the results and observations of the tank integrity tests recently completed at:

San Francisco Water Company
Sunol Street
San Francisco, California

One (1) 1,000 gallon regular gasoline tank, and one (1) 550 gallon diesel tank were tested on November 12, 1986, by Scott Wald, using the Horner "EZY-CHEK" tank testing system.

The results of the tests are as follows:

SFID Tank#	Capacity in Gallons	Product	Test Level	Results Gal/Hour
178	1,000	Regular Gasoline	High	-.089
			Low	-.018
179	550	Diesel	High	-.008
177	-	-	-	-

Tank #179 was shown to be "product tight". A Certificate of Compliance has been issued for this tank and accompanies this report.

Tank #178 was not "product tight" at the high level test, but was "product tight" at the low level test. This indicates a leak in the piping and it is recommended that the tank top be excavated and the piping tightened. Tank #177 could not be tested due to the presence of a permanent drop tube.

Please let me know if you need any additional information.

Sincerely,

Richard Fehler
Project Manager

RF/jm

Enclosure: Data sheet (4)
Chart recorder graph (2)
271 Certificate of Compliance (1)

Page 1 of 2

.05 gal
44
95
443 Gals

EZY-CHECK WORK SHEET

Tank # 3 Test level Low Product Reg Gas Capacity 4,000 Chart cal. .050 gal - 44.3 = .0011
(30 in. above/below grade)

Measured gravity _____ Product temp 65 Coefficient .00068 Temp. cal 1.000 x .00068 = .68

Tank Filled 11/10 With 142 Gal. Tank 46.5 Dia. Fill Pipe 30.5 Length Start Time 13:30

test #	level start		level end		gain + loss −		x (A) x (A)		level result	temp. start		temp. end		gain + loss −		x (B) x (B)		temp. result	final result
1	37	−	80	=	+43	x	.0011	=	+.047	65 .951	−	.946	=	−.005	x	.68	=	−.003	= +.050
2	19	−	60	=	+41	x	"	=	+.045	.946	−	.938	=	−.008	x	"	=	−.005	= +.050
3	25	−	64	=	+39	x	"	=	+.042	.938	−	.934	=	−.004	x	"	=	−.002	= +.044
4	15	−	54	=	+39	x	"	=	+.042	.934	−	.939	=	+.005	x	"	=	+.003	= +.039
5	19	−	56	=	+37	x	"	=	+.040	.939	−	.934	=	−.005	x	"	=	−.002	= +.043
6	19	−	55	=	+36	x	"	=	+.039	.934	−	.930	=	−.004	x	"	=	−.002	= +.041
7	23	−	56	=	+33	x	"	=	+.036	.930	−	.928	=	−.002	x	"	=	−.001	= +.037
8	19	−	39	=	+20	x		=	+.022	.928	−	.933	=	+.005	x	"	=	+.008	= +.019

Average _____

Station location SF White Dgr

Address Sand

City State _____

Certified tight _____

Leak rate per hour _____

Operator _____ Date 11/12

NOTES: (OVER)

102 in 33
30
28
30.3 Lines

11 Pickpoint

EZY-CHEK WORK SHEET

Tank # 3 Test level High Product Reg Conv Capacity 1000 Chart cal. .0269 gal - 30.3 = .00088 (A)
(10 in. above/below grade)

Measured gravity ____ Product temp 65° Coefficient .00068 Temp. cal 1,000 x .00068 = .68 (B)

Tank Filled 11-10 With 162 Gal. Tank 45.5 Dia. Fill Pipe 30.5 Length Start Time 10:50
76

test #	level start		level end		gain + loss −		x (A)		level result	temp. start		temp. end		gain + loss −		x (B)		temp. result	final result
1	86	−	52	=	−34	x	.00088	=	−.029	63 .975	−	.980	=	+.005	x	.68	=	+.003	= −.032
2	52	−	16	=	−36	x	"	=	−.031	.980	−	.979	=	−.001	x	"	=	0	= −.031
3	194	−	66	=	−28	x	"	=	−.024	.979	−	.968	=	−.011	x	"	=	−.007	= −.017
4	66	−	43	=	−23	x	"	=	−.020	.968	−	.965	=	−.003	x	"	=	−.002	= −.018
5	190	−	60	=	−30	x	"	=	−.026	.965	−	.961	=	−.004	x	"	=	−.002	= −.024
6	60	−	30	=	−30	x	"	=	−.026	.961	−	.953	=	−.008	x	"	=	−.005	= −.021
7	181	−	68	=	−19	x	"	=	−.016	.953	−	.950	=	−.003	x	"	=	−.002	= −.018
8	68	−	38	=	−30	x	"	=	−.026	.950	−	.951	=	+.001	x	"	=	0	= −.026

Station location SF Water Co

Address Canal

City State

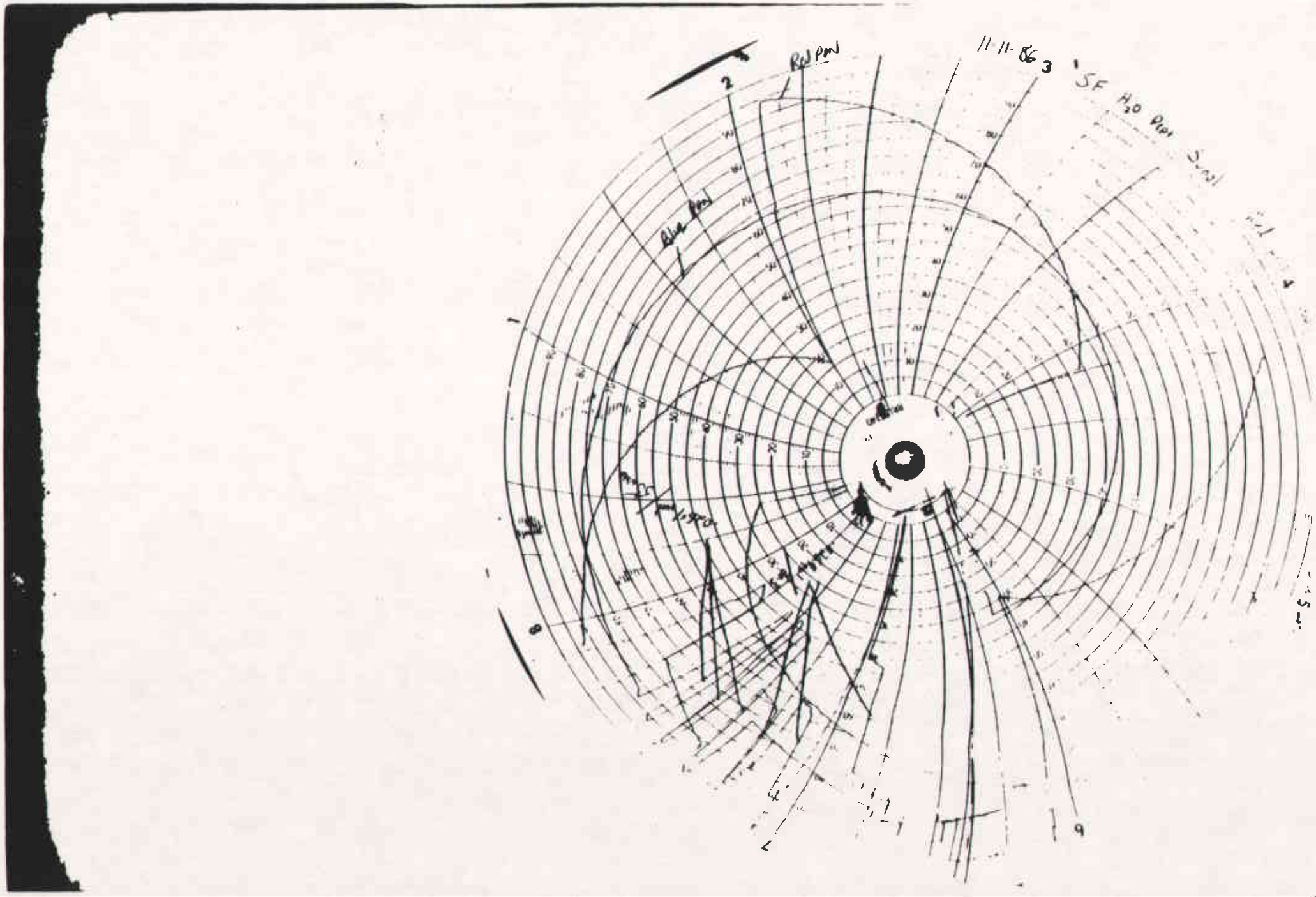
Average

Certified tight NO

Leak rate per hour −.089

Operator J Wall Date

NOTES: (OVER)


Red Pen
Blue Pen
11-11-86
SF H2O Pen
1
2
3
4
5
6
7
8
9

McKESSON ENVIRONMENTAL SERVICES

CERTIFICATE OF COMPLIANCE

This is to certify that Tank No. (SFID #179) 550 gallon Diesel and associated piping system, located at San Francisco Water Company Sunol Street, San Francisco, CA, was leak tested, on November 12, 1986 by the Horner "EZY-CHEK" method, in compliance with CAC Title 23, Chapter 3, Subchapter 16, Article 4, Section 2643, Subsection b., and the system was found to be non-leaking.

Tester Signature Scott M Wald Date 11/12/86

Supervisor Signature Rudolf Fabela Date 12-8-86

P.O. Box 9019 ● Pleasanton, California 94566 ● 415/426-2600

Clayton Environmental Consultants, Inc.

1252 Quarry Lane • Pleasanton, California 94566 • (415) 426-2600

April 15, 1987 7820-EF(090)

Mr. Willy Tsai
Project Manager
City and County of San Francisco
45 Hyde Street, Room 214
San Francisco, CA 94102

Dear Mr. Tsai:

This report describes the results and observations of the tank integrity tests recently completed at:

San Francisco Water Department
Calavaras Boulevard
Sunol, California

One (1) 550 gallon unleaded gasoline tank, and one (1) 1,000 gallon regular gasoline tank were tested on March 6, 1987, by John Renner, using the Horner "EZY-CHEK" tank testing system.

The results of the tests are as follows:

Tank ID#	Capacity In Gallons	Product	Test Level	Results Gal/Hour
177	550	Unleaded Gasoline	High	-.008
178	1,000	Regular Gasoline	High	-.021

The tanks were shown to be "product tight". Certificates of Compliance have been issued for these tanks and accompany this report.

Sincerely,

Richard Fehler
Project Manager

Enclosure: Data sheet (2)
Chart recorder graph (1)
Certificate of Compliance (2)

RF/jm

b:e767rf.mge

CLAYTON ENVIRONMENTAL CONSULTANTS, INC.

CERTIFICATE OF COMPLIANCE

This is to certify that Tank No. 550 Gallon SFID #177 Unleaded Gasoline and associated piping system, located at San Francisco Water Department Calavaras Blvd., Sunol, California, was leak tested, on March 6, 1987 by the Horner "EZY-CHEK" method, in compliance with CAC Title 23, Chapter 3, Subchapter 16, Article 4, Section 2643, Subsection b., and the system was found to be non-leaking.

Tester Signature John Benner Date 4-15-87

Supervisor Signature Rick Fehler Date 4-17-87

P.O. Box 9019 ● Pleasanton, California 94566 ● 415/426-2600

CLAYTON ENVIRONMENTAL CONSULTANTS, INC.

CERTIFICATE OF COMPLIANCE

This is to certify that Tank No. 1,000 Gallon SFID #178 Regular Gasoline and associated piping system, located at San Francisco Water Department Calavaras Blvd., Sunol, California, was leak tested, on March 6, 1987 by the Horner "EZY-CHEK" method, in compliance with CAC Title 23, Chapter 3, Subchapter 16, Article 4, Section 2643, Subsection b., and the system was found to be non-leaking.

Tester Signature John Renne Date 4-15-87

Supervisor Signature Robert Fahlen Date 4-17-87

P.O. Box 9019 ● Pleasanton, California 94566 ● 415/426-2600

) Rob Fox

54 43 45

EZY-CHEK WORK SHEET

Tank # 177 Test level Stand Pipe Product Unleaded Capacity 5 [illegible] Chart cal. .[illegible] - 47.[illegible] = .00057 (A)
(76 in. above/below grade)
Measured gravity 59.1 Product temp. 59°F Coefficient .0060 Temp. cal. 550 x .0060 = .33 (B)
Tank Filled 3-4 With _____ Gal. Tank 45 in Dia. Fill Pipe 2 in Length Start Time 9:10

test #	level start	level end	gain + loss −	x (A)	level result	temp. start	temp. end	gain + loss −	x (B)	temp. result	final result	time
1	88	-90	= +2	x .00057	= +.001	55 .775	- .760	= +.015	x .33	= +.004	= +.005	9:25
2	91	-97	= -3	x .00057	= -.001	[illegible]	- .931	= +.011	x .33	= +.003	= +.004	9:40
3	87	-86	= -1	x .00057	= .000	.801	- .809	= +.009	x .33	= +.002	= +.002	9:55
4	86	-86	= 0	x .00057	= .000	.809	- .814	= +.005	x .33	= +.001	= +.001	10:10
5	86	-83	= -3	x .00057	= -.001	.814	- .870	= +.056	x .33	= +.001	= +.002	10:25
6	83	-79	= -4	x .00057	= -.002	.870	- .825	= +.005	x .33	= +.001	= -.003	10:40
7		-	=	x .00057	=		-	=	x .33	=	=	10:55
8		-	=	x .00057	=		-	=	x .33	=	=	11:10

Station location S.F.W.D. MES #090
Address [illegible] Farms
City State Shaftsbury, Vt

Average _____
Certified tight 100
Leak rate per hour -.009
Operator [illegible] Date [illegible]

NOTES: (OVER)

Clear Film

EZY-C .EK WORK SHEET

36 41 42
40 36 57
44 45 45

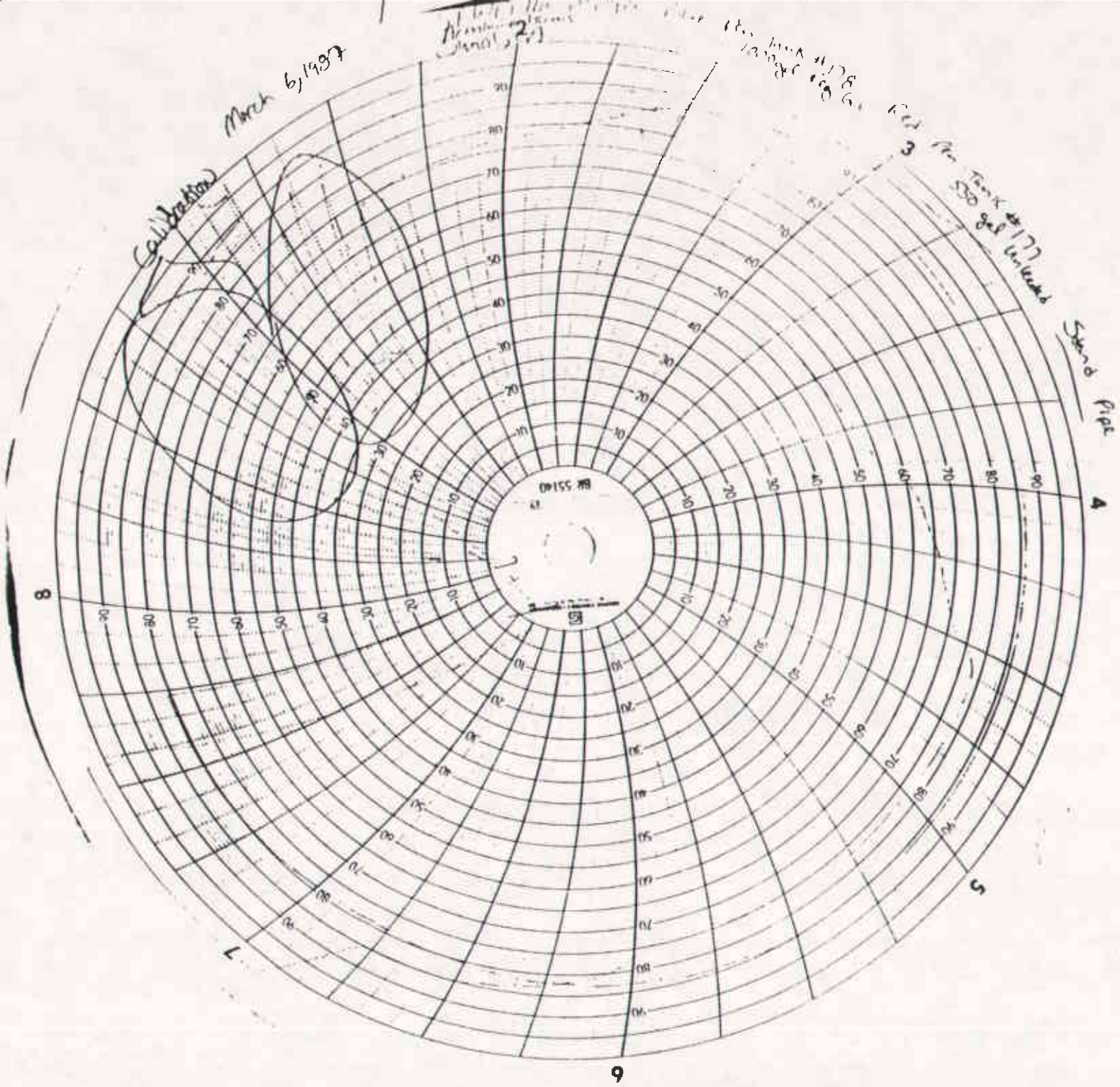
Tank # 178 Test level High level Product Regular Gas Capacity 1000 gal Chart cal. .05 gal - 44.6 in = .0011 (A)
(3 in. above/below grade)
Measured gravity 59.5 Product temp 53° Coefficient .000 Temp. cal. 1.000 x .0001 = .001 (B)
Tank Filled 3-4 Mfch Cal. Tank 45 in Dia. Fill Pipe 4 in Length Start Time 9:20

test #	level start	level end	gain + loss −	x(A)	level result	temp. start	temp. end	gain + loss −	x(B)	temp. result	final result	time
1	75	-89	-+14	x.0011	-+015	57 .952	-.980	-+028	x .1	-+.017	=.002	9:35
2	89	-103	-+14	x.0011	-+015	58 .024	-.076	-+076	x .1	-+.015	=.000	9:50
3	50	-75	-+25	x.0011	-+027	.026	-.053	-+047	x .1	-+.028	=.001	10:05
4	75	-77	-+2	x.0011	-+.002	.053	-.079	-+026	x .1	-+.015	=.013	10:20
5	77	-85	-+8	x.0011	-+.008	.079	-.103	-+024	x .1	-+.014	=.006	10:35
6	85	-105	-+20	x.0011	-+.022	.103	-.141	-+038	x .1	-+.023	=.001	10:50
7		-	-	x.0011	-		-	-	x .1	-	-	11:05
8		-	-	x.0011	-		-	-	x .1	-	-	11:20

Station location S.F.W.D. MFC #350
Address Almond Farms
City State Empire, CA.

Average
Certified tight yes → .021
Leak rate per hour
Operator Date 3-6-87

NOTES: (OVER)


March 6, 1987
Calibration
Tank #177
550 gal Unleaded
Sound Pipe
1
2
3
4
5
6
7
8
9

APPENDIX B

ANALYTICAL RESULTS, 03/02/87
CHAIN OF CUSTODY

Clayton Environmental Consultants, Inc.
1252 Quarry Lane • Pleasanton, California 94566 • (415) 426-2600

0171

MEMORANDUM

To: Rick Fehler

From: Warren Steele WCS.

Re: Analytical Results: San Francisco Project

Date: March 2, 1987

Attached are results of analysis of the following samples from your San Francisco project.

Date	Batch No.	Site	Analysis
02/11	870239	Sunol (S.E. Water)	1 Soil - Gasoline

WCS/hmk
Attachment

L0220.REP

Analytical data reviewed by: Michael Larson
Chromatography Lab Supervisor

N Buntalasso
Inorganic Lab Supervisor

LAYTON ENVIRONMENTAL CONSULTANTS, INC.

TOTAL HYDROCARBON ANALYSIS

EPA 8015 MODIFIED
MICROEXTRACTION WITH GC/FID ANALYSIS

Sample I.D.: #178 Product ~~Zone~~ Line 3ft Lab # 870239-1

Samples Received: 02/11/87

Samples Analyzed: 02/17/87

Matrix: Soil

Extraction: 5g - 5mL Purge & Trap

Total Hydrocarbons as	Concentration Milligrams/kg (ppm)	Detection Limits (ppm)
Gasoline	810	0.3
Diesel	----	----
Oil	----	----
Other Hydrocarbons*	----	----

ND = Not Detected

* Other hydrocarbons are defined as

---- = Not Analyzed

CHAIN OF CUSTODY RECORD

Clayton Environmental Consultants

RICK'S SAN FRANCISCO PROJECT

SAMPLERS: (Signature)
CHERIE D'ANDREA

Phone: 426-2629

870239

SHIP TO:
Clayton Environmental Consultants

SHIPPING INFORMATION:

Shipper SF. Water Co., Sunol

Address

Date Shipped

Shipment Service

Airbill No. Cooler No.

ATTENTION: Warren Steel

Phone No.

Relinquished by: (Signature)	Received by: (Signature)	Date	Time
Cherie D'Andrea	Tonya Black	2-11-87	9:[illegible] AM
Relinquished by: (Signature)	Received by: (Signature)	Date	Time
Relinquished by: (Signature)	Received by: (Signature)	Date	Time
Relinquished by: (Signature)	Received for laboratory by*: (Signature)	Date	Time

*Analysis laboratory should complete "Sample Condition Upon Receipt", section below, sign and return top copy to Clayton Environmental Consultants, Inc., P.O. Box 9019, Pleasanton, California 94566

Sample Number	Site/Sample Identification	Date Sampled	Analysis Requested	Sample Condition Upon Receipt
	~~Sump~~ # 178, PRODUCT LINE, 3'	2/10/87	THC as Gasoline	BRASS TUBES
	TRIP BLANK	011387		

WHITE—Sampler CANARY— CLAYTON ENVIRONMENTAL CONSULTANTS PINK—Lab Courtesy Copy

APPENDIX C

ANALYTICAL RESULTS, 06/08/87
CHAIN OF CUSTODY

Clayton Environmental Consultants, Inc.

1252 Quarry Lane • Pleasanton, California 94566 • (415) 426-2600

0171

MEMORANDUM

To: Rick Fehler

From: H.T. Su

Re: San Francisco Water Department, 505 Paloma Way, Sunol - Soil Samples

Date: June 11, 1987

The analytical, Chain of Custody and Billing information for the soil samples received by the Lab on June 1, 1987, for THC as gasoline analysis, are attached.

Chromatography Lab Supervisor

Enclosure
L0766.REP

L0766.REP

CHAIN OF CUSTODY RECORD

Clayton Environmental Consultants

SAMPLERS: (Signature) Chris D'Andrea

Phone: 426-2629

SHIP TO: Clayton Laboratory

ATTENTION: Hon Sun

Phone No.

Rick's San Francisco Project 870602

SHIPPING INFORMATION:

Shipper SF Water Dept, Sunol

Address 505 Paloma Way, Sunol, CA

Date Shipped 6-1-87

Shipment Service

Airbill No. Cooler No.

Relinquished by: (Signature)	Received by: (Signature)	Date	Time
Chris D'Andrea	Tonya Black	6-1-87	
Relinquished by: (Signature)	Received by: (Signature)	Date	Time
Relinquished by: (Signature)	Received by: (Signature)	Date	Time
Relinquished by: (Signature)	Received for laboratory by*: (Signature)	Date	Time

Analysis laboratory should complete "Sample Condition Upon Receipt", section below, sign and return top copy to Clayton Environmental Consultants, Inc., P.O. Box 9019, Pleasanton, California 94566

Sample Number	Site/Sample Identification	Date Sampled	Analysis Requested	Sample Condition Upon Receipt
-01	SB-1 -3'	6-1-87		1"x6" brass tube
-02	SB-1 -5'			
-03	SB-1 -7'			
-04	SB-1 -9'			
-05	SB-1 -11'			
-06	SB-1 -13'			
-07	SB-2 -2½'		HOLD	
-08	SB-2 -5½'		HOLD	
-09	SB-2 -8½'		HOLD	
-10	SB-2 -11½'		HOLD	

WHITE - Sampler CANARY - CLAYTON ENVIRONMENTAL CONSULTANTS PINK - Lab Courtesy Copy

CLAYTON ENVIRONMENTAL CONSULTANTS, INC.

TOTAL HYDROCARBON ANALYSIS

EPA 8015 MODIFIED
MICROEXTRACTION WITH GC/FID ANALYSIS

Sample I.D.: SB-1-3' Lab No.: 870602-01

Samples Received: 06/01/87

Samples Analyzed: 06/08/87

Matrix: Soil

Total Hydrocarbons as	Concentration Milligrams/kg (ppm)	Detection Limits (ppm)
Gasoline	ND	10
Diesel	NA	NA
Oil	NA	NA
Other Hydrocarbons*	NA	NA

ND = Not Detected

*Other hydrocarbons are defined as

CLAYTON ENVIRONMENTAL CONSULTANTS, INC.

TOTAL HYDROCARBON ANALYSIS

EPA 8015 MODIFIED
MICROEXTRACTION WITH GC/FID ANALYSIS

Sample I.D.: SB 1-5' Lab No.: 870602-02

Samples Received: 06/01/87

Samples Analyzed: 06/08/87

Matrix: Soil

Total Hydrocarbons as	Concentration Milligrams/kg (ppm)	Detection Limits (ppm)
Gasoline	ND	10
Diesel	NA	NA
Oil	NA	NA
Other Hydrocarbons*	NA	NA

ND = Not Detected

*Other hydrocarbons are defined as

CLAYTON ENVIRONMENTAL CONSULTANTS, INC.

TOTAL HYDROCARBON ANALYSIS

EPA 8015 MODIFIED
MICROEXTRACTION WITH GC/FID ANALYSIS

Sample I.D.: SB-1-7' Lab No.: 870602-03

Samples Received: 06/01/87

Samples Analyzed: 06/08/87

Matrix: Soil

Total Hydrocarbons as	Concentration Milligrams/kg (ppm)	Detection Limits (ppm)
Gasoline	ND	10
Diesel	ND	NA
Oil	ND	NA
Other Hydrocarbons*	ND	NA

ND = Not Detected

*Other hydrocarbons are defined as

L0766.REP

CLAYTON ENVIRONMENTAL CONSULTANTS, INC.

TOTAL HYDROCARBON ANALYSIS

EPA 8015 MODIFIED
MICROEXTRACTION WITH GC/FID ANALYSIS

Sample I.D.: SB-1-9' Lab No.: 870602-04

Samples Received: 06/01/87

Samples Analyzed: 06/08/87

Matrix: Soil

Total Hydrocarbons as	Concentration Milligrams/kg (ppm)	Detection Limits (ppm)
Gasoline	ND	10
Diesel	NA	NA
Oil	NA	NA
Other Hydrocarbons*	NA	NA

ND = Not Detected

*Other hydrocarbons are defined as

L0766.REP

CLAYTON ENVIRONMENTAL CONSULTANTS, INC.

TOTAL HYDROCARBON ANALYSIS

EPA 8015 MODIFIED
MICROEXTRACTION WITH GC/FID ANALYSIS

Sample I.D.: SB-1-11' Lab No.: 870602-05

Samples Received: 06/01/87

Samples Analyzed: 06/08/87

Matrix: Soil

Total Hydrocarbons as	Concentration Milligrams/kg (ppm)	Detection Limits (ppm)
Gasoline	ND	10
Diesel	NA	NA
Oil	NA	NA
Other Hydrocarbons*	NA	NA

ND = Not Detected

*Other hydrocarbons are defined as

L0766.REP

CLAYTON ENVIRONMENTAL CONSULTANTS, INC.

TOTAL HYDROCARBON ANALYSIS

EPA 8015 MODIFIED
MICROEXTRACTION WITH GC/FID ANALYSIS

Sample I.D.: SB-1-13' Lab No.: 870602-06

Samples Received: 06/01/87

Samples Analyzed: 06/08/87

Matrix: Soil

Total Hydrocarbons as	Concentration Milligrams/kg (ppm)	Detection Limits (ppm)
Gasoline	ND	10
Diesel	NA	NA
Oil	NA	NA
Other Hydrocarbons*	NA	NA

ND = Not Detected

*Other hydrocarbons are defined as

CLAYTON ENVIRONMENTAL CONSULTANTS, INC.

TOTAL HYDROCARBON ANALYSIS

EPA 8015 MODIFIED
MICROEXTRACTION WITH GC/FID ANALYSIS

Sample I.D.: Duplicate Lab No.: 870602-01

Samples Received: 06/01/87

Samples Analyzed: 06/08/87

Matrix: Soil

Total Hydrocarbons as	Concentration Milligrams/kg (ppm)	Detection Limits (ppm)
Gasoline	ND	10
Diesel	NA	NA
Oil	NA	NA
Other Hydrocarbons*	NA	NA

ND = Not Detected

*Other hydrocarbons are defined as

APPENDIX D

ANALYTICAL RESULTS, 06/29/87
CHAIN OF CUSTODY

Clayton Environmental Consultants, Inc.

P.O. Box 9019 • 1252 Quarry Lane • Pleasanton, CA 94566 • (415) 426-2600

#0171

MEMORANDUM

To: Rick Fehler

From: Hon-Tsing Su

Re: San Francisco Water Department

Date: July 8, 1987

The results of the following samples are enclosed. Sample and analysis information is as follows:

Date Received	Clayton Lab Batch No.	Sample I.D.	Matrix	Analysis/ Method No.
06/01/87	870602	SB-2-11 1/2'	Soil	Gasoline EPA 8.15

This samples was received on June 1, 1987, and was put on hold for analysis. An additional request for analysis of this sample was made on June 26, 1987.

A copy of the Chain of Custody is attached for your information. If you have any questions regarding this report, please do not hesitate to call.

Enclosure
L0994.REP

Approved by: Mary Beck
Mary Beck, QC Manager

CHAIN OF CUSTODY RECORD

Clayton Environmental Consultants

APLERS: (Signature)
Jim D'Ordan
ne: 426-2629
TO:
Clayton Laboratory
NTION: Hon Su
ne No.

Rick's San Francisco Project 870502

SHIPPING INFORMATION:
Shipper SF Water Dept Supply
Address 505 Paloma Way, Suite F
Date Shipped 6-1-87
Shipment Service
Airbill No. Cooler No.

		Date	Time
quished by: (Signature) Jim D'Ordan	Received by: (Signature) Tanya Black	6-1-87	
inquished by: (Signature)	Received by: (Signature)	Date	Time
inquished by: (Signature)	Received by: (Signature)	Date	Time
quished by: (Signature)	Received for laboratory by": (Signature)	Date	Time

sis laboratory should complete "Sample Condition Upon Receipt", section below, sign and return copy to Clayton Environmental Consultants, Inc., P.O. Box 9019, Pleasanton, California 94566

Sample mber	Site/Sample Identification	Date Sampled	Analysis Requested	Sample Condition Upon Receipt
-01	~~SB-1 -3'~~	6-1-87	TPH as Gas	1"x6" Invastion
02	~~SB-1 -5'~~			
03	~~SB-1 -7'~~			
04	~~SB-1 -9'~~			
05	~~SB-1 -11'~~			
-06	~~SB-1 -13'~~			
-07	~~SB-2 -2½'~~		HOLD	
-08	~~SB-2 -5½'~~		HOLD	
-09	~~SB-2 -8½'~~		HOLD	
-10	~~SB-2 -11½'~~		HOLD	

Tanya, please pull ~~this~~ sample and analyze TPH as Gas 24 hour - 48 hour ~~turn~~ turn-around.
TX Cheria

CLAYTON ENVIRONMENTAL CONSULTANTS — PINK—Lab Copy / Con

CLAYTON ENVIRONMENTAL CONSULTANTS, INC.

EPA METHOD 8015 - TOTAL PETROLEUM HYDROCARBONS BY MICRO EXTRACTION

Sample I.D.: BH-2-11 1/2' Lab No. 870602

Samples Received: 06/01/87

Samples Analyzed: 06/29/87

Matrix: Soil

Total Hydrocarbons as	Concentration Milligrams/kg (ppm)	Detection Limits (ppm)
Gasoline (8015)	ND	10
Diesel (8015)	NA	
Oil (8015)	NA	
Other Hydrocarbons*		

ND = Not Detected
NA = Not Analyzed

*Other hydrocarbons are defined as

L0994.REP

APPENDIX E

ANALYTICAL RESULTS, 06/29/87
CHAIN OF CUSTODY

Clayton Environmental Consultants, Inc.

P.O. Box 9019 • 1252 Quarry Lane • Pleasanton, CA 94566 • (415) 426-2600

MEMORANDUM

To: Rick Fehler

From: Hon-Tsing Su

Re: San Francisco Water Project

Date: July 8, 1987

The results of the following samples are enclosed. Sample and analysis information is as follows:

Date Received	Clayton Lab Batch No.	Sample I.D.	Matrix	Analysis/ Method No.
06/29/87	8706205	9-1/2' (H.D.)	Soil	Total Hydrocarbons as Gasoline/ EPA 8015

A copy of the Chain of Custody is attached for your information. If you have any questions regarding this report, please do not hesitate to call.

Attachment
L0946.REP

Approved by: Mary Beck
Mary Beck, QC Manager

Other Locations: Novi, MI • Edison, NJ • Atlanta, GA • Commerce, CA • Toronto, Ontario • Windsor, Ontario • London, U.K.
A Marsh & McLennan Company

Clayton Environmental Consultants

8706205

SAMPLERS: (Signature) Irene D'Andrea

Phone: 426-2629

SHIP TO: Clayton Lab

ATTENTION: Hon Sue

Phone No.

RICKS SAN FRANCISCO PROJECT

SHIPPING INFORMATION:

Shipper SFWATER DEPT., SUNOL

Address 505 POLONA WAY

Date Shipped JUNE 29, 1987

Shipment Service

Airbill No. Cooler No.

Relinquished by: (Signature)	Received by: (Signature)	Date	Time
Irene D'Andrea	Tonya Black	6/29/87	10:00am
Relinquished by: (Signature)	Received by: (Signature)	Date	Time
Relinquished by: (Signature)	Received by: (Signature)	Date	Time
Relinquished by: (Signature)	Received for laboratory by*: (Signature)	Date	Time

*Analysis laboratory should complete "Sample Condition Upon Receipt", section below, sign and return top copy to Clayton Environmental Consultants, Inc., P.O. Box 9019, Pleasanton, California 94566

Sample Number	Site/Sample Identification	Date Sampled	Analysis Requested	Sample Condition Upon Receipt
	9½' (H.D)	6/29/87	THC AS GAS	SQUAT JAR
			24 HOUR. RUSH.	

WHITE—Sampler CANARY—CLAYTON ENVIRONMENTAL CONSULTANTS PINK—Lab Courtesy Copy

CLAYTON ENVIRONMENTAL CONSULTANTS, INC.

EPA METHOD 8015 - TOTAL PETROLEUM HYDROCARBONS BY MICRO EXTRACTION

Sample I.D.: 9-1/2' (H.D.) Lab No. 8706205

Samples Received: 06-29-87

Samples Analyzed: 06-29-87

Matrix: Soil

Total Hydrocarbons as	Concentration Milligrams/kg (ppm)	Detection Limits (ppm)
Gasoline (8015)	ND	10
Diesel (8015)	NA	
Oil (8015)	NA	
Other Hydrocarbons*	NA	

NA = Not Analyzed
ND = Not Detected

*Other hydrocarbons are defined as

L0946.REP