GROUND WATER SAMPLING REPORT
DECEMBER, 1990
FOR
MILLS COLLEGE CORPORATION YARD
OAKLAND, CALIFORNIA

MILLS COLLEGE

5000
MacArthur
Boulevard
Oakland
California
94613-1399

January 18, 1991 91 JAN 22 PM 1:12

Mr. Lester Feldman, Environmental Specialist
California Regional Water Quality Control Board
San Francisco Bay Region
1800 Harrison Street, Rm. 700
Oakland, CA 94612

Dear Mr. Feldman:

Yesterday David Johnson, Director of Campus Facilities at Mills College, and myself met with Paul Smith and Lawrence Seto of the Alameda County Health Agency Division of Hazardous Materials regarding site remediation efforts on the Mills College campus. I have enclosed two reports which update the status of these efforts. I will ensure you receive documentation of further progress on these projects.

Sincerely,

Thomas F. Biddle

Thomas F. Biddle
Assistant Director of Campus Facilities

2/2:/91
Phone conv. w/
Kendall Harrison
will send letter to
[illegible] re: 3 sites
put on cc list
Crosby, Heafey Roach & May
[illegible]
Oakland, 94612

cc: Paul Smith, Hazardous Materials Specialist-Alameda County Health Agency

Lawrence Seto, Senior Hazardous Materials Specialist-Alameda County Health Agency

Kaldveer Associates
Geoscience Consultants

Oakland, CA • San Jose, CA • Bellevue, WA • Tacoma, WA

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Robert E. Johnston, P.E., G.E.

January 17, 1991
KE1025-7A-509, 17788

Mills College
5000 MacArthur Boulevard
Oakland, California 94621

Attention: Mr. David Johnson

RE: GROUND WATER SAMPLING
REPORT - DECEMBER, 1990
MILLS COLLEGE CORPORATION
YARD
OAKLAND, CALIFORNIA

Dear Mr. Johnson:

Enclosed is our December, 1990 ground water sampling report for the Mills College Corporation Yard. We appreciate the opportunity to provide services to you on this project and trust this report meets your needs at this time. If you have any questions, or require additional information, please do not hesitate to call.

Very truly yours,

KALDVEER ASSOCIATES, INC.

Dennis Laduzinsky, C.E.G.
Senior Engineering Geologist

John R. Sutton, P.E./G.E.
Manger, Environmental/Hazardous
Waste Services
Associate

DL/JRS:pv
Copies: Addressee (4)

☐ 425 Roland Way, Oakland, CA 94621 (415) 568-4001 FAX: 415-568-2205
☐ 1737 North First Street, Suite 300, San Jose, CA 95112 (408) 436-5703 FAX: 408-436-5735

GROUND WATER SAMPLING REPORT
DECEMBER, 1990

For
MILLS COLLEGE CORPORATION YARD
OAKLAND, CALIFORNIA

To
Mills College
5000 MacArthur Boulevard
Oakland, California 94621

January, 1991

Dennis Laduzinsky, C.E.G.
Senior Engineering Geologist

John R. Sutton, P.E./G.E.
Manager, Environmental/Hazardous
Waste Services
Associate

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GROUND WATER SAMPLING REPORT
DECEMBER, 1990
MILLS COLLEGE CORPORATION YARD
OAKLAND, CALIFORNIA

I. INTRODUCTION

This report presents the results of a ground water sampling study at the Mills College Corporation Yard in Oakland, California. The project location is shown on the Site Location Map, Figure 1. The scope of services provided during this investigation consisted of collecting and analyzing ground water samples from three monitoring wells. Ground water samples were analyzed for total petroleum hydrocarbons as gasoline and purgeable aromatic compounds. Well locations are shown on the Site Plan, Figure 2.

II. FIELD INVESTIGATION

A. Well Sampling

Three ground water monitoring wells were sampled on December 20, 1990. Following an initial ground water level measurement, a minimum of four well-casing volumes of water was purged from each well using a teflon bailer. Purging consisted of the rapid removal of water from the well until physical parameters such as pH, temperature and specific conductivity had stabilized. Following purging, samples were collected using the teflon bailer, placed in appropriate sample containers, labeled, and placed in refrigerated storage for transport to the laboratory under chain-of-custody control. All sampling equipment was thoroughly cleaned with trisodium phosphate detergent and rinsed with distilled water prior to sampling each well. Monitoring well sampling logs are attached to this report as Appendix A.

B. Ground Water Gradient

Well-top elevations were surveyed by our firm during a previous investigation at the site. Well-top elevations, depth to water measured during this investigation, and calculated water-surface elevations are presented in Table 1. These data are used to generate the Ground Water Elevation Contour map presented on Figure 3. Ground water elevation data collected during this investigation indicate a general southwesterly flow of ground water at an approximate gradient of 0.0025 ft/ft.

III. ANALYTICAL RESULTS

A. Laboratory Procedures

Ground water samples were analyzed by Med-Tox Associates of Pleasant Hill, California. Samples from each well were analyzed for total petroleum hydrocarbons as gasoline using EPA Method 8015, and for purgeable aromatic compounds using EPA Method 8020.

B. Analytical Results

The results of the chemical analyses are presented on Table 2 and laboratory certificates are attached to this report as Appendix B. Hydrocarbons as gasoline were measured in the water sampled from Well MW-1 at a concentration of 2.5 parts per million (ppm). Benzene, toluene, ethylbenzene, and xylenes (BTEX) concentrations were measured at 0.40, 0.21, 0.056, and 0.31 ppm, respectively. This well also contained a slight hydrocarbon film on the water surface when first bailed.

The water sample collected from Well MW-2 did not contain hydrocarbons in detectable quantities. The sample collected from Well MW-3 contained 0.05 ppm hydrocarbons as gasoline and 0.011 ppm benzene; other purgeable aromatic compounds were not detected.

The results indicate a reduction of hydrocarbon levels in Well MW-1 from the 11 ppm last measured in July, 1989. Monitoring Well MW-3 showed an increase of hydrocarbon levels from non-detectable in July, 1989 to 0.05 ppm measured during this sampling round. Water sampled from well MW-2 remained the same at non-detect for petroleum hydrocarbons.

IV. LIMITATIONS

This report has been prepared according to generally accepted geologic and environmental practices. No other warranty, either expressed or implied is made. The analysis, conclusions and recommendations contained in this report are based on site conditions as they existed at the time of our investigation; review of previous reports relevant to the site conditions; and laboratory results from an outside analytical laboratory.

Changes in the information or data gained from any of these sources could result in changes in our conclusions or recommendations. If such changes do occur, we should be advised so that we can review our report in light of these changes.

* * * * * * * * * * * * * * * * * *

TABLE 1

GROUND WATER ELEVATION DATA
(All Measurements in Feet)

Well Number	Well-Top Elevation (1)	Depth to Water	Relative Ground Water Elevation
MW-1	100.00	22.05	77.95
MW-2	99.98	21.96	78.02
MW-3	100.01	22.00	78.01

Note:

(1) Relative well-top elevation based on an arbitrary datum of 100.00 feet at MW-1.

TABLE 2

SUMMARY OF GROUND WATER SAMPLE ANALYSES
(reported in parts per million, mg/l)

Constituent	MW-1	MW-2	MW-3	Detection Limit
TPH Gasoline	2.5	ND	0.05	0.05
Benzene	0.40	ND	0.011	0.0003
Toluene	0.21	ND	ND	0.0003
Ethylbenzene	0.056	ND	ND	0.0003
Xylenes	0.31	ND	ND	0.001

Base: Provided by Thomas Brothers Maps, Dated 1988

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Geoscience Consultants
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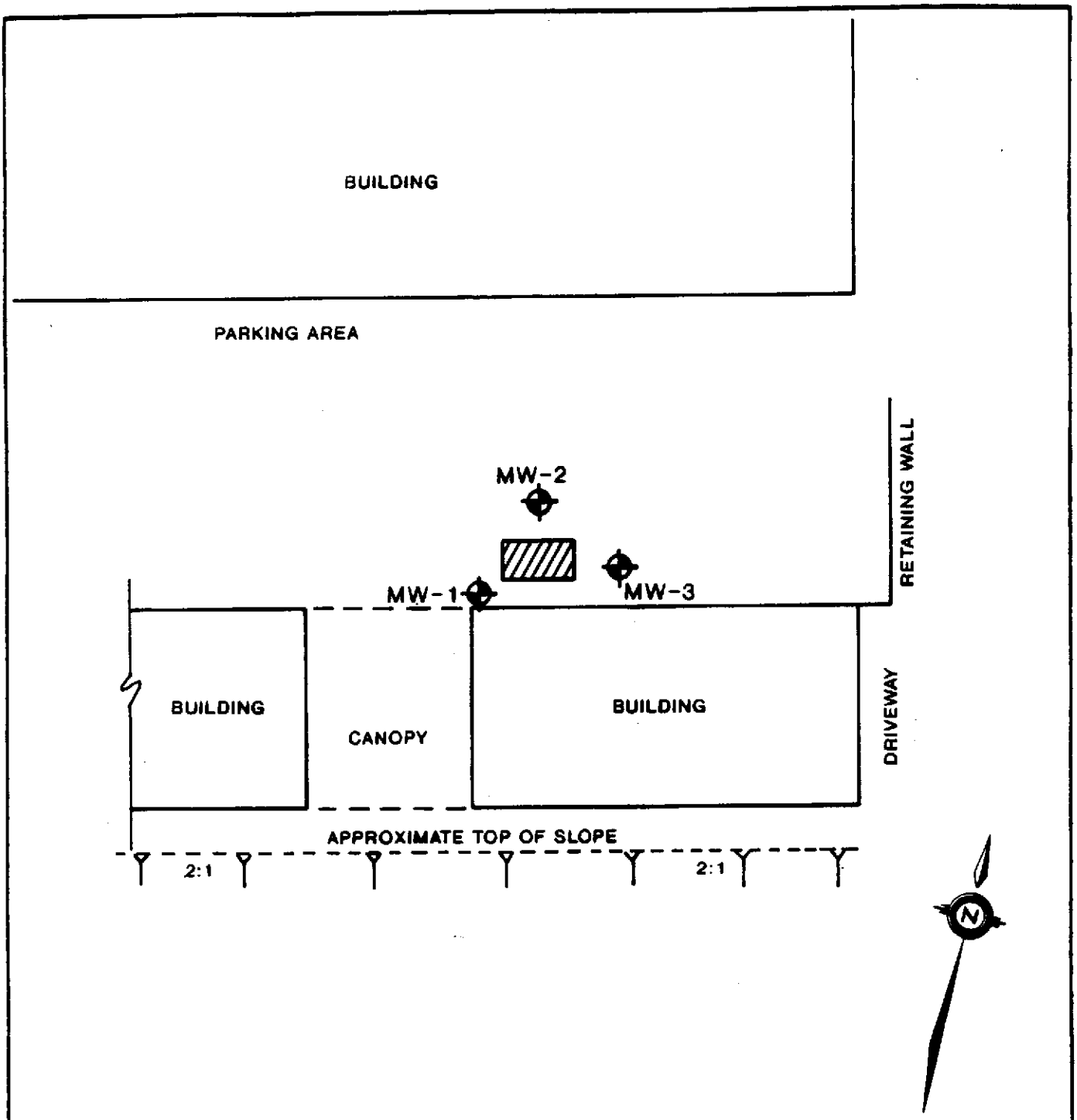
SITE VICINITY MAP

MILLS COLLEGE
CORPORATION YARD FACILITY
Oakland, California

PROJECT NO.	DATE	
KE1025-7A-509	January 1991	Figure 1



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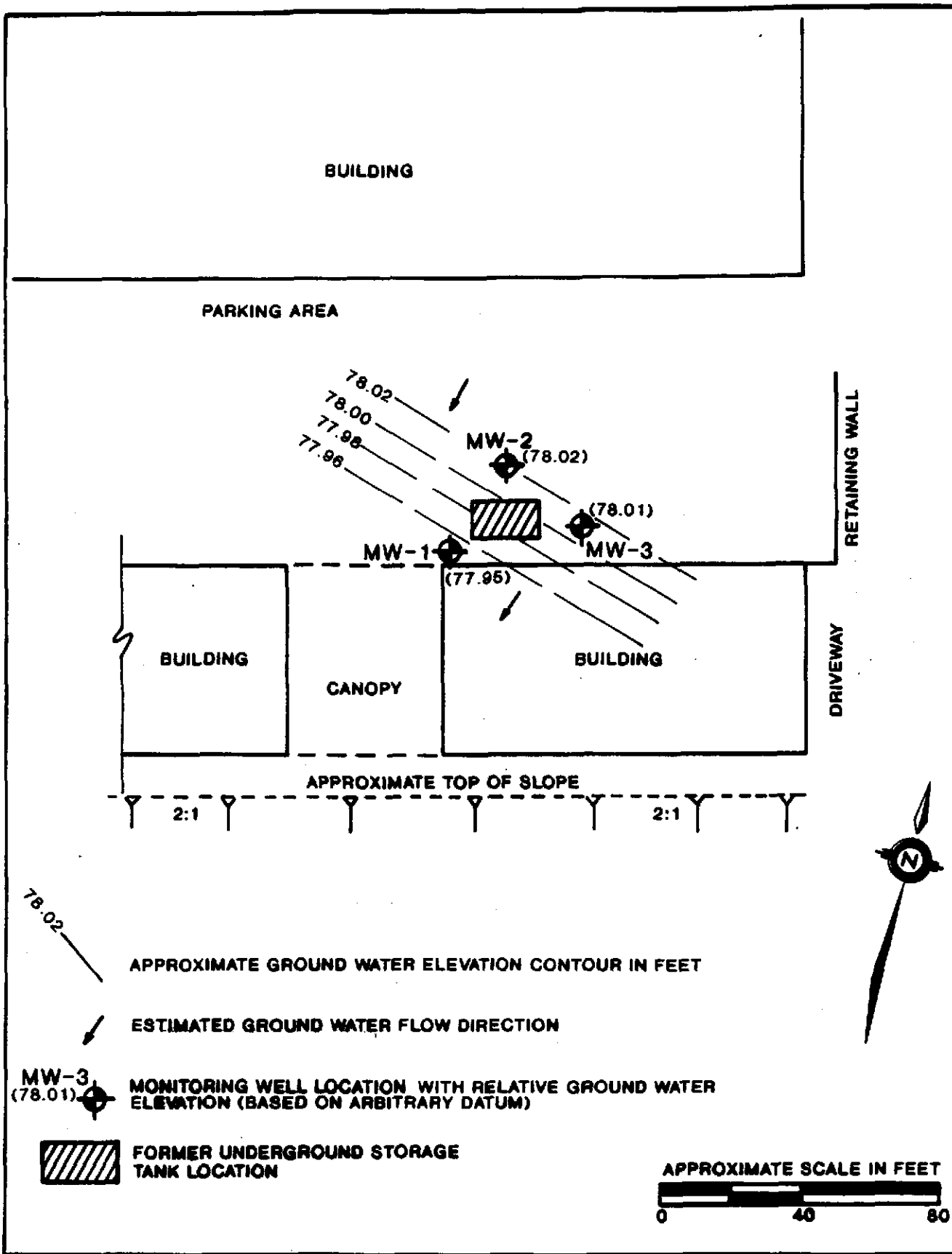
SITE PLAN

MILLS COLLEGE
CORPORATION YARD FACILITY
Oakland, California

PROJECT NO.	DATE	
KE1025-7A-509	January 1991	Figure 2



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GROUND WATER ELEVATION CONTOURS

MILLS COLLEGE
CORPORATION YARD FACILITY
Oakland, California

PROJECT NO.	DATE	
KE1025-7A-509	January 1991	Figure 3

WATER SAMPLE LOG

Project Name: Mills Corporation Yard Date: 12/20/90
Project Number: KE1025-7-509 Sampler: JF
Well Number: MW-1 Weather: Cold
Well Location: Adjacent to building - West of MW-2 and MW-3

Well Construction:

Date Completed: 6-1-89
Total Depth of Well: 34 feet
Diameter: 2 inches
Well Elevation & Reference: 100.00 (arbitrary datum)

Groundwater Levels:

Initial:
Final:
Reference Point: Top of PVC
Well Volume of Water: 14(.17) = 2.4g

Sampling Equipment & Cleaning

Sampler Type: Teflon Bailer
Method of Cleaning: Liquinox/Rinse
Pump or Bailer Type: N/A
Method of Cleaning: N/A
pH Meter: Hydac
Conductivity Meter: Hydac
Comments:

SAMPLING MEASUREMENTS

Time	Discharge (gal.) Per Time Period	Discharge (gal.) Cummulative	pH	Temp (°C)	Spec. Conductance (umhos/cm) Field	Spec. Conductance (umhos/cm) @ 25°C	Color/ Turbidity	Odor
0930								
0943		2.5	6.73	59.7	912			Gas
0954		5.0	6.50	63.8	920			
1010		10.0	6.55	63.0	925			
1015	Sample							

Total Discharge: 10 gallons
Casing Volumes Removed: 4
Method of Disposal: pavement surface

Comments: *Only product on water sample surface

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A California Corporation

WATER SAMPLE LOG MW-1

MILLS COLLEGE
Oakland, California

PROJECT NO.	DATE	Figure
KE1025-7A-509	January 1991	B-1

WATER SAMPLE LOG

Project Name: Mills Corporation Yard Date: 12/20/90
Project Number: KE1025-7-509 Sampler: JF
Well Number: MW-2 Weather: Clear Cool Calm
Well Location: North of former tank

Well Construction:

Date Completed: 6-2-89
Total Depth of Well: 35
Diameter: 2 inches
Well Elevation & Reference: 99.98' (arbitrary datum)

Groundwater Levels:

Initial: NA
Final: NA
Reference Point:
Well Volume of Water: 10(.17) = 1.7g

Sampling Equipment & Cleaning

Sampler Type: Bailer
Method of Cleaning:
Pump or Bailer Type: Teflon
Method of Cleaning: Liquinox/Water
pH Meter: Hydac
Conductivity Meter: Hydac
Comments:

SAMPLING MEASUREMENTS

Time	Discharge (gal.) Per Time Period	Discharge (gal.) Cummulative	pH	Temp (°C)	Spec. Conductance (umhos/cm) Field	Spec. Conductance (umhos/cm) @ 25°C	Color/ Turbidity	Odor
1040	Begin							
1048		2.5	8.00	65.1	494		light brown/ Slight	None
1055		5.0	7.74	67.0	517		"	"
1110		10.0	7.71	67.7	491		"	"

Total Discharge: 10 gallons
Casing Volumes Removed: 5
Method of Disposal: pavement surface

Comments:

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WATER SAMPLE LOG MW-2

MILLS COLLEGE
Oakland, California

PROJECT NO.	DATE	Figure
KE1025-7A-509	January 1991	B-2

WATER SAMPLE LOG

Project Name: Mills Corporation Yard Date: 12/20/90
Project Number: KE1025-7-509 Sampler: JE
Well Number: MW-3 Weather: Clear/Cold
Well Location: East of former tank

Well Construction:

Date Completed: 6/2/90
Total Depth of Well: 34 feet
Diameter: 2 inches
Well Elevation & Reference:
100.01 (arbitraty datum)

Groundwater Levels:

Initial: NA
Final: NA
Reference Point:
Well Volume of Water: 9 (.17) = 1.5 gal

Sampling Equipment & Cleaning

Sampler Type: Bailer
Method of Cleaning:
Pump or Bailer Type: Teflon
Method of Cleaning: Liquinox/Water
pH Meter: Hydac
Conductivity Meter: Hydac
Comments:

SAMPLING MEASUREMENTS

Time	Discharge (gal.) Per Time Period	Discharge (gal.) Cummulative	pH	Temp (°C)	Spec. Conductance (umhos/cm) Field	Spec. Conductance (umhos/cm) @ 25°C	Color/ Turbidity	Odor
1130	Begin							
1143		3	7.32	68.8	354		Gray-Green Silty	None
1153		6	7.43	66.5	355		Gray-Brown Silty	None
1210		12	7.49	66.2	366		Gray-Brown Cloudy	None
1215	Sampled							

Total Discharge: 12 gallons
Casing Volumes Removed: 8
Method of Disposal: pavement surface

Comments:

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Geoscience Consultants
A California Corporation

WATER SAMPLE LOG MW-3

MILLS COLLEGE
Oakland, California

PROJECT NO.	DATE	Figure
KE1025-7A-509	January 1991	B-3

APPENDIX B

LABORATORY REPORTS,
MED-TOX ASSOCIATES,
PLEASANT HILL, CALIFORNIA

MED-TOX ASSOCIATES, INC.

ENVIRONMENTAL & OCCUPATIONAL HEALTH SERVICES
3440 Vincent Road Pleasant Hill, CA 94523 • (415) 930-9090 • FAX# (415) 930-0256

LABORATORY ANALYSIS REPORT

KALDVEER ASSOCIATES, INC.
425 ROLAND WAY
OAKLAND, CA 94621

ATTN: DENNIS LADUZINSKY

CLIENT REF.: KE1025-7

REPORT DATE: 01/14/91

DATE SAMPLED: 12/20/90

DATE RECEIVED: 12/20/90

MED-TOX JOB NO: 9012134

ANALYSIS OF: WATER SAMPLES

See attached for results

Andrew Bradeen

Andrew Bradeen, Manager
Organic Laboratory

Results FAXed to Dennis Laduzinsky 01/09/91

KALDVEER ASSOCIATES, INC.

CLIENT ID: MW-1
CLIENT JOB NO: KE1025-7
DATE SAMPLED: 12/20/90
DATE RECEIVED: 12/20/90
REPORT DATE: 01/14/91

MED-TOX LAB NO: 9012134-01A
MED-TOX JOB NO: 9012134
DATE ANALYZED: 12/27/90-01/2/91
INSTRUMENT: F

BTEX AND HYDROCARBONS

METHOD: EPA 8020, 5030 GCFID

	CONCENTRATION (ug/L)	DETECTION LIMIT (ug/L)
Benzene	400	0.3
Toluene	210	0.3
Ethylbenzene.	56	0.3
Xylenes, Total.	310	1
PURGEABLE HYDROCARBONS AS:		
Gasoline	2.5 mg/L	0.05 mg/L

ND = Not Detected

KALDVEER ASSOCIATES, INC.

CLIENT ID: MW-3
CLIENT JOB NO: KE1025-7
DATE SAMPLED: 12/20/90
DATE RECEIVED: 12/20/90
REPORT DATE: 01/14/91

MED-TOX LAB NO: 9012134-03A
MED-TOX JOB NO: 9012134
DATE ANALYZED: 12/27/90
INSTRUMENT: F

BTEX AND HYDROCARBONS

METHOD: EPA 8020, 5030 GCFID

	CONCENTRATION (ug/L)	DETECTION LIMIT (ug/L)
Benzene	11	0.3
Toluene	ND	0.3
Ethylbenzene	ND	0.3
Xylenes, Total	ND	1
PURGEABLE HYDROCARBONS AS:		
Gasoline	0.05 mg/L	0.05 mg/L

ND = Not Detected

MED-TOX ASSOCIATES, INC

QUALITY CONTROL DATA

KALDVEER ASSOCIATES, INC.

CLIENT JOB NO: KE1025-7

MED-TOX JOB NO: 9012134

Page 1 of 1

R-3, S-4

Lab Job # 9012134

CHAIN-OF-CUSTODY RECORD

Project Number	Project Name / Location
KE1025-7	CORP. YARD / MILLS

Sampler's Name (printed): JEFF FIEDLER

KA Sample I.D. Number	Lab Sample I.D. Number	Date	Soil	Water	Number/Type of Container	Analytical Tests: Method 8015 - TPH as Gasoline	Method 8015 - TPH as Diesel	Method 8240 - Volatile Organics	Method 8270 - Semi-Volatile Organics	Method 8010 - Halogenated Volatile Organics	Method 8080 - Organochlorine Pesticides & PCB's	Waste Oil -	Metals -	Method 8020 BTEX	Remarks
MW-1	01A, B	12/20		X	2x40ml	X							X	X	SAMPLES PRESERVED W/HCl
MW-2	02A, B	↓		X	↓	X							X	X	
MW-3	03A, B	↓		X	↓	X							X	X	

Relinquished by: (Signature)	Date/Time	Received by: (Signature)
	12/21/90 15:20	
Relinquished by: (Signature)	Date/Time	Received by: (Signature)
Relinquished by: (Signature)	Date/Time	Received for Laboratory by: (Signature)
	12/21/90 1620	Denise Harrington

Ship To: Med-Tox, Pleasant Hill

Attention:

Phone No:

Requested Turnaround Time: Standard

Kaldveer Assoc. Contact: DENNIS LADZINSKI

Remarks:

Please address correspondence and return cooler # _____ to:

Kaldveer Associates, Inc.
425 Roland Way
Oakland, California 94621
(415) 568-4001

Kaldveer Associates
Geoscience Consultants
A California Corporation