



2200 Powell Street, Ste. 880 • Emeryville, CA 94608
(510) 547-3886 • FAX: (510) 547-3631

FACSIMILE TRANSMITTAL SHEET

Date: 9/29/92 Time: _____
 To: EVA CHU FAX #: _____
 Location: _____ Phone #: _____
 From: KARL NOVAK
 Location: SF/Emeryville

NUMBER OF PAGES THIS TRANSMISSION 7 INCLUDING THIS PAGE

COMMENTS: MW-16 data

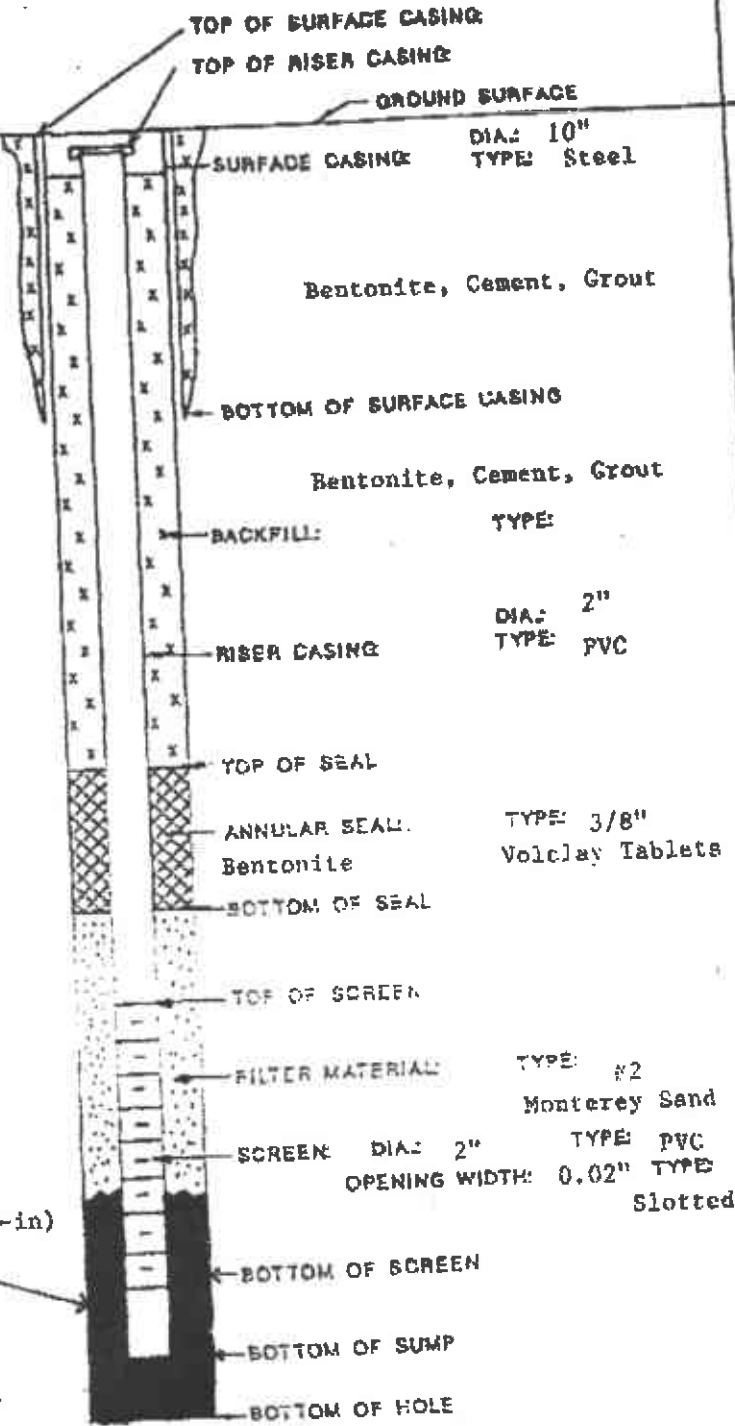
Original will follow in the mail? (yes/no)
(circle one)

IF THERE ARE ANY PROBLEMS WITH THIS TRANSMISSION, PLEASE CALL THE SENDER AT
(510) 547-3886

GROUND WATER MONITOR WELL INSTALLATION		PROJECT: Livermore Arcade 48016, 10 1
DRILLING CONTRACTOR: Layne Environ.		COORDINATES:
REQ# 6/11/91	SUPERVISOR: Karl Novak	WELL SITE: SPB
FINISHED: 6/12	DRILLER: Tim/ Dana	WATER LEV. DEPTH/ELEV. 47' est.

REFERENCE POINT & ELEVATION:

GENERALIZED GEOLOGIC LOG



DEPTH IN	ELEV. IN
1'	
35'	
39'	
44'	
G.W.T. 47'	
51'	
63.5'	
64'	

METHOD DRILLED: Hollow Stem Auger
 METHOD DEVELOPED:
 TIME DEVELOPED:

HOLE DIAMETER 8" COMMENTS: 2" Casing



Hygienetics/GCL
 Industrial Hygienists
 Architects / Engineers
 Environmental Consultants

Test Boring Log No: MW-16 Page 1

Location of boring: See Well Location Diagram	Project Name: Livermore Arcade	Total Depth: 65'
	Project Number: 48016.10	Diameter: 8"
	Project Manager: Mike Wright	Logged By: Karl Novak
	Drilling contractor: Layne / Hollow Stem Auger	Inspector:
	Drill rig type:	Date: 6/12/91
	Drillers name: Tim / Dana	Date: 6/13/91
	Start time: 08:10 to 15:00	Date:
	Complete time: 07:10 to 10:00	Date:
Boring depth: 65'	Date:	
Caslog depth:	Date:	
Water depth: 54' approximately	Date:	
Backfilled time:	Date:	

Samples		Blows per 6"	Depth	Graphic Log	Soil Identification remarks include color, gradation, type of soil/rock, condition, particle size, moisture, odor, hardness, etc.
Pen.	Rec. Type				
			1		3' Asphalt Pavement (Drum 1 = 0' to 20' soil, no odor, non-hazard)
			2		Silty, Clayey, Gravel
			3		
			4		
			5		
			6		
			7		Silty Gravel w/ clay, Brown, Dry
			8		
			9		
			10		
			11		Gravel, w/ Trace Silt, Brown
			12		
			13		
			14		
			15		Fine Gravel, Grey, Dry
			16		
			17		Rounded
			18		
			19		Gravel, little clay, Grey
			20		

Proportions Used	140 lb. wt. X 30" fall on 2" O.D. sampler		Graphic Legend		
	COHESIONLESS DENSITY	COHESIVE CONSISTENCY			
Trace 0 to 10 %	0 to 4	very loose	0 to 2	VERY SOFT	
Little 10 to 20 %	4 to 10	loose	2 to 4	SOFT	
Some 20 to 35 %	10 to 30	med dense	4 to 8	MED. STIFF	
And 35 to 50 %	30 to 50	dense	8 to 15	STIFF	
	50+	very dense	15 to 30	VERY STIFF	
			30 +	HARD	



Test Boring Log No: MW-16

Page 2

Project Number: 48016.10 Project Name: Livermore Arcade

Samples				Blows per 6"	Depth	Graphic Log	Soil Identification remarks include color, gradation, type of soil/rock, condition, particle size, moisture, odor, hardness, etc. (Drum 2 = 20' to 40', No odor, Non-hazardous)
Pen.	Rec.	Type	Depth				
					21		
					22		
					23		Dry, Medium Gravel, Little Clay Silt (light)
					24		
					25		Drilling very slow
					26		
					27		
					28		
					29		Brown, Gravelly Clay, Moist
					30		
					31		
					32		
					33		Gravelly Clay, Brown, Moist
					34		(W/ Medium Gravel)
					35		
					36		
					37		
					38		
					39		
					40		(Drum 3 = 40' to 55', no odor, non-hazard)
					41		
					42		
					43		
					44		Clayey Gravel, Moist, Brown
					45		
					46		
					47		

Proportions Used	140 lb. wt. X 30" fall on 2" O.D. sampler		COHESIVE CONSISTENCY		Graphic Legend	
	COHESIONLESS DENSITY					
Trace 0 to 10 %	0 to 4	very loose	0 to 2	VERY SOFT		clay
Little 10 to 20 %	4 to 10	loose	2 to 4	SOFT		silt
Some 20 to 35 %	10 to 30	med dense	4 to 8	MED. STIFF		sand
And 35 to 50 %	30 to 50	dense	8 to 15	STIFF		gravel
	50+	very dense	15 to 30	VERY STIFF		
			30 +	HARD		

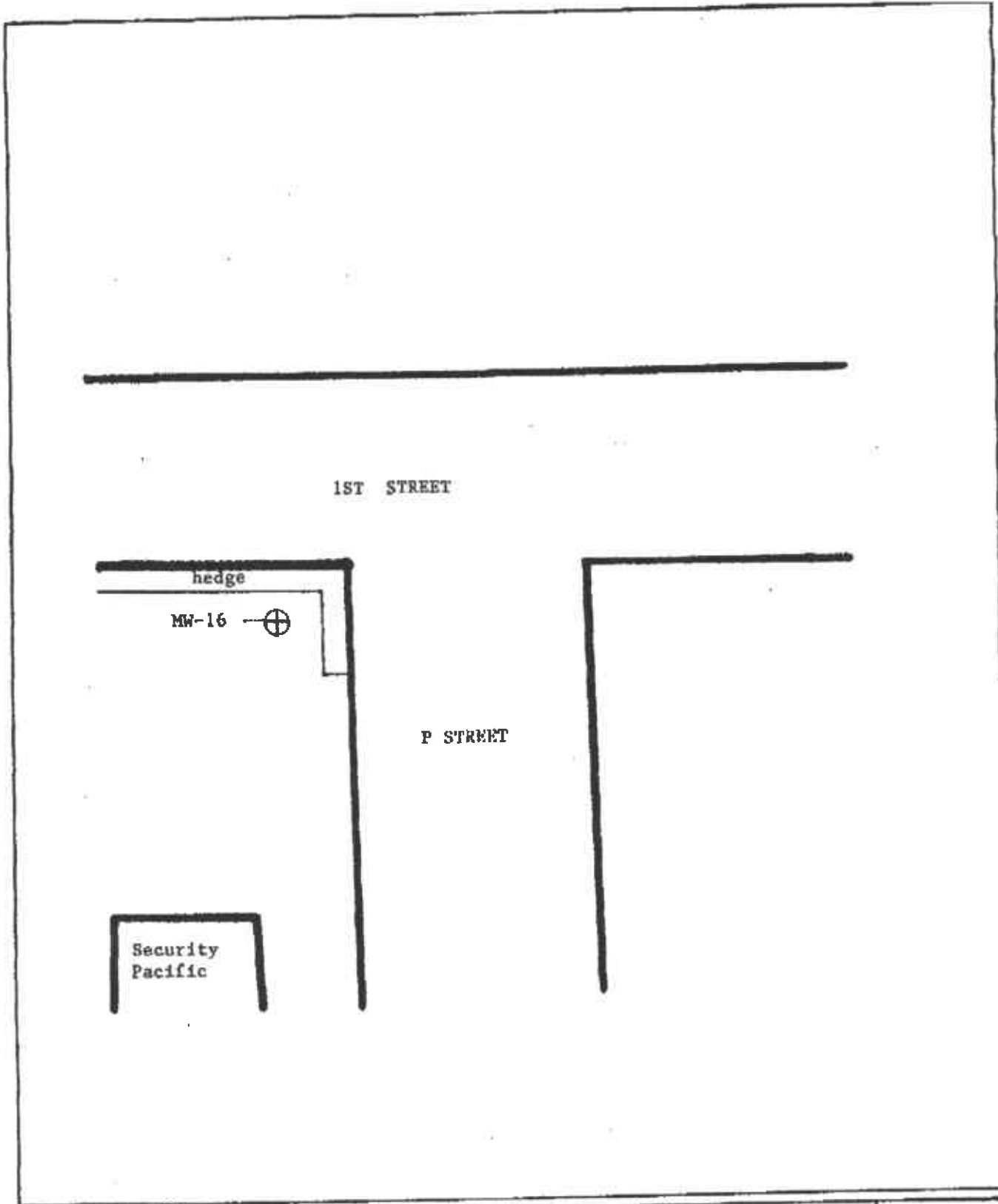



Test Boring Log No: MW-16

Project Number: 48016.10 Project Name: Livermore Arcade

Samples		Blows per 6"	Depth	Graphic Log	Soil Identification remarks include color, gradation, type of soil/rock, condition, particle size, moisture, odor, hardness, etc.
Pen.	Rec. Type				
			47		Clayey Gravel, Moist, Brown
			48		
			49		
			50		
			51		
			52		
			53		
			54		
			55		
			56		
			57		Estimated Ground Water Table
			58		
			59		
			60		
			61		
			62		
			63		
			64		
			65		
			66		
					Bottom of hole, 65'
					Auger removal very slowly. Hole caved to 47' upon removal of augers.
					Work stopped 15:00
					Work resumed 07:10 5/12/91 Redrilled to 65'
					Odor of gasoline on removal of last 10' of augers.

Proportions Used	145 lb. wt. X 30" fall on 2" O.D. sampler		Graphic Legend	
	COHESIONLESS DENSITY	COHESIVE CONSISTENCY		
Trace 0 to 10 %	0 to 4 very loose	0 to 2 VERY SOFT		clay
Little 10 to 20 %	4 to 10 loose	2 to 4 SOFT		silt
Some 20 to 35 %	10 to 30 med dense	4 to 8 MED. STIFF		sand
And 35 to 50 %	30 to 50 dense	8 to 15 STIFF		gravel
	50+ very dense	15 to 30 VERY STIFF		
		30 + HARD		



 Hygienetics, Inc. <small>2500 Powell Street Emeryville, CA 94608 (415) 447-0300 Telex: (415) 947-0301</small>	Livermore Arcade Shopping Center August 21, 1991	Monitor Well
		Location
		Diagram MW-16

Analytical Report

LOG NO: E91-06-341

Received: 17 JUN 91

Mailed : 25 JUN 91

Mr. Karl Novak
Hygienetics
2200 Powell Street Suite 800
Emeryville, California 94608

Project: Arcade (SPB)

REPORT OF ANALYTICAL RESULTS

Page 1

LOG NO	SAMPLE DESCRIPTION, GROUND WATER SAMPLES	DATE SAMPLED	
06-341-1	SPB-1 (MW-16)	[REDACTED] JUN 91	
06-341-2	MW-1	[REDACTED]	
PARAMETER		06-341-1	06-341-2
TPH-Volatile/BTEX			
Date Analyzed		06.18.91	06.19.91
Dilution Factor, Times		100	100
Benzene, ug/L		2200	2000
Ethylbenzene, ug/L		2600	320
Toluene, ug/L		5300	1300
Total Xylene Isomers, ug/L		20000	3400
C4 to C12 Hydrocarbons, ug/L		64000	14000



Sim D. Lessley, Ph.D., Laboratory Director

