Environmental Bio-Systems, Inc.
Innovative Solutions for a Better Environment
Contractor's License A-Haz 687236

9 March 2000

Karl Royer
East Bay Dischargers Authority
2651 Grant Avenue
San Lorenzo, CA 94580-1841

4081

RE: Subsurface Exploration II Letter Report

Dear Mr. Royer:

Environmental Bio-Systems, Inc. (EBS) presents this letter report as documentation of the recent subsurface exploration conducted at you facility, located at 2651 Grant Avenue in San Lorenzo, California. This letter report was prepared pursuant to a signed contract between East Bay Dischargers Authority (the Client) and EBS (Contract #P00001B-R1).

The scope of ground water sampling described below was requested by the Alameda County Health Care Services Agency (ACHCSA) following their review of our letter report dated 15 October 1999. That report described initial soil and ground water sampling performed following the reported release of 555 gallons of diesel fuel at the Site in February 1999. The ACHCSA approved EBS Work Plan #157-544B in their correspondence dated 2 February 2000 to perform the work documented in this letter report. A Site Location Map and Site Map are included as Figures 1 and 2, respectively in Attachment A.

FIELD WORK

2/15/00

EBS directed the collection of two soil cores at the site by Fast-Tek Engineering Support Services (Fast-Tek) of San Rafael, California on 9 September 1999. Fast-Tek is a California licensed drilling contractor (C-57 #589008). The cores were designated as SC4 and SC5. Locations of all sample locations advanced to date by EBS are shown on Figure 2 in Attachment A.

Continuous soil cores were collected at each of the two locations using a Geoprobe direct push technology (DPT) rig (Model 5400). All field activities were carried out under the direct supervision of an EBS California Registered Geologist. First ground water was encountered at approximately 13 feet below ground surface (bgs). Soil cores SC4 and SC5 were completed to a total depth of 20 feet bgs.

Continuous soil cores were collected at each sampling location using a 2-inch barrel sampler driven by the Geoprobe. Core samples were collected in 4-foot intervals inside clear acetate sleeves held within the barrel sampler. Core intervals selected for laboratory analysis were marked immediately upon removal from the sampler to designate the depths from which they were collected.

Soil samples from approximate 4-foot intervals were screened in the field using a portable organic vapor meter (OVM). The Thermo Environmental Instruments, Co. Model 580D OVM used for this purpose was calibrated at the beginning of the project to a 100 part per million (ppm) isobutylene standard. Approximately 50 to 100 grams of soil were removed from the cores at approximate 4 foot intervals and subjected to OVM screening. Additional subsamples were also screened from significant changes in lithology and or where obvious staining or odor was encountered. Sub-samples were immediately sealed

within plastic bags, labeled with a unique designation to the project and allowed to remain undisturbed for approximately 20 minutes. The OVM was then used to measure the resulting accumulation of vapor in the headspace within the bag. The maximum value attained for each such sample was recorded in the field. None of the soil samples screened during this project were found to contain measurable concentrations of ionizable compounds (expressed as isobutylene equivalents).

Distinguishing features of the soil samples and field screening results were recorded on borehole logs according to the Unified Soil Classification System. Petroleum hydrocarbon odor and soil discolorations were not observed in any of the soil cores. Logs of soil borings SC4 and SC5 are included in Attachment B.

New, factory slotted and threaded (0.020 inch slot size) one-inch nominal diameter schedule 40 polyvinyl chloride (PVC) pipe was placed within each of the completed cores. The depth to water was then measured from the top of each core using an electronic water level indicator. A clean Teflon™ bailer was subsequently lowered through the slotted casing and used to collect samples of water contained within the temporary wells. Water collected from the wells in this manner was decanted into factory pre-cleaned amber 1 liter bottles and 40 milliliter volatile organic analysis (VOA) vials containing hydrochloric acid as a preservative.

Unique labels were affixed to each sample tube and bottle identifying Site and sample designations. All samples selected for laboratory analysis were then placed into a cooler on top of crushed ice and transported to Analytical Sciences of Petaluma, California. Chain of custody documentation was initiated in the field and accompanied all samples to the laboratory.

LABORATORY ANALYSES AND RESULTS

All submitted ground water samples were analyzed for total petroleum hydrocarbons calculated as diesel (TPHd) using the Environmental Protection Agency (EPA) Methods 3550 and 8015 (modified) for benzene, toluene, ethylbenzene and total xylenes (BTEX) and methyl t-butyl ether (MTBE) using the EPA Methods 5030 and 8020. All of the ground water samples were subjected to a silica gel cleanup prior to analyses.

Ground water sample SC4-H_20 was found to contain 330 micrograms per Liter (µg/L) TPHd and 8.1 µg/L total xylenes. A footnote on the laboratory report states that "the hydrocarbons present in the chromatogram are primarily in the chromatographic region where weathered diesel would be observed..." A copy of this chromatogram is included in Attachment C. This sample was not found to contain reportable concentrations of any of the other chosen analytes.

Ground water sample SC5-H_20 was not found to contain reportable concentrations of any of the chosen analytes. A copy of the laboratory report is included as Attachment C.

DISCUSSION

Based on the accumulated data, EBS believes that the diesel spill reported at the Site in February 1999 has locally impacted ground water near the locations of soil cores SC1, SC2 and SC3. The residual diesel fuel found in ground water samples collected from SC1, SC2 and SC3 is likely to be naturally degraded prior to its migration to sensitive receptors due to the low hydraulic conductivity of the soil (Bay Mud), the lack of observed preferential pathways, and the distance to San Francisco Bay (approximately 500 feet to the west).

Ground water gradient has been determined to flow to the west southwest at an adjacent site. Down-gradient water sample SC5-H_20 (as determined using the adjacent site data) was not found to contain

reportable concentrations of any of the chosen analytes. Cross to down-gradient water sample SC4-H_20 was found to contain reportable concentrations in the TPHd range, however, the laboratory states this result is due to an aged petroleum hydrocarbon. Whereas the petroleum release which occurred in February of 1999 could not be expected to have aged to the extent found in this sample, the source of this positive result is not known.

EBS recommends that the Client request case closure from the ACHCSA. We base this recommendation upon the expected natural attenuation of residual diesel fuel impact to ground water near the February spill area; and the lack of evidence that the Client's handling of petroleum fuel at the Site is related to the aged TPHd found in a ground water sample collected down-gradient from the February 1999 release location.

LIMITATIONS

This report was developed in accordance with generally accepted standards of current environmental practice in California. This report is time-dependent and should not be considered valid after a 1-year period from the issue of this report. After 1 year from the issue of this report, site conditions and recommendations contained within this report should be reviewed.

This study was performed solely for the purpose of evaluating environmental conditions of the site subsurface relative to hydrocarbon impact at the subject Site. No engineering or geotechnical references are implied or should be inferred.

Evaluation of the condition of the Site, for the purpose of this study, was made from a limited number of observation points. Subsurface conditions may deviate away from these points. Additional work, including further study of the subsurface, can reduce the inherent uncertainties associated with this type of work.

The project was performed, and the report was prepared for the sole use of our client, East Bay Dischargers Authority. The report and the findings contained herein shall not be disclosed to nor used by any other party, other than East Bay Dischargers Authority without the prior written consent of Environmental Bio-Systems, Inc. It is also the responsibility of the Client to convey all data, conclusions and recommendations to regulatory agencies and other parties, as appropriate.

The recommendations herein are professional opinions that our firm has endeavored to provide with competence and reasonable care. We are not able to eliminate the risks associated with environmental work. No guarantees or warrants, express or implied, are provided regarding our recommendations. It is the responsibility of the client to convey any and all recommendations to governmental agencies and other parties, as appropriate.

EBS appreciates this opportunity to provide you with our services. Should you have any questions, please contact the undersigned at (408) 979-8600.

ENVIRONMENTAL BIO-SYSTEMS, INC

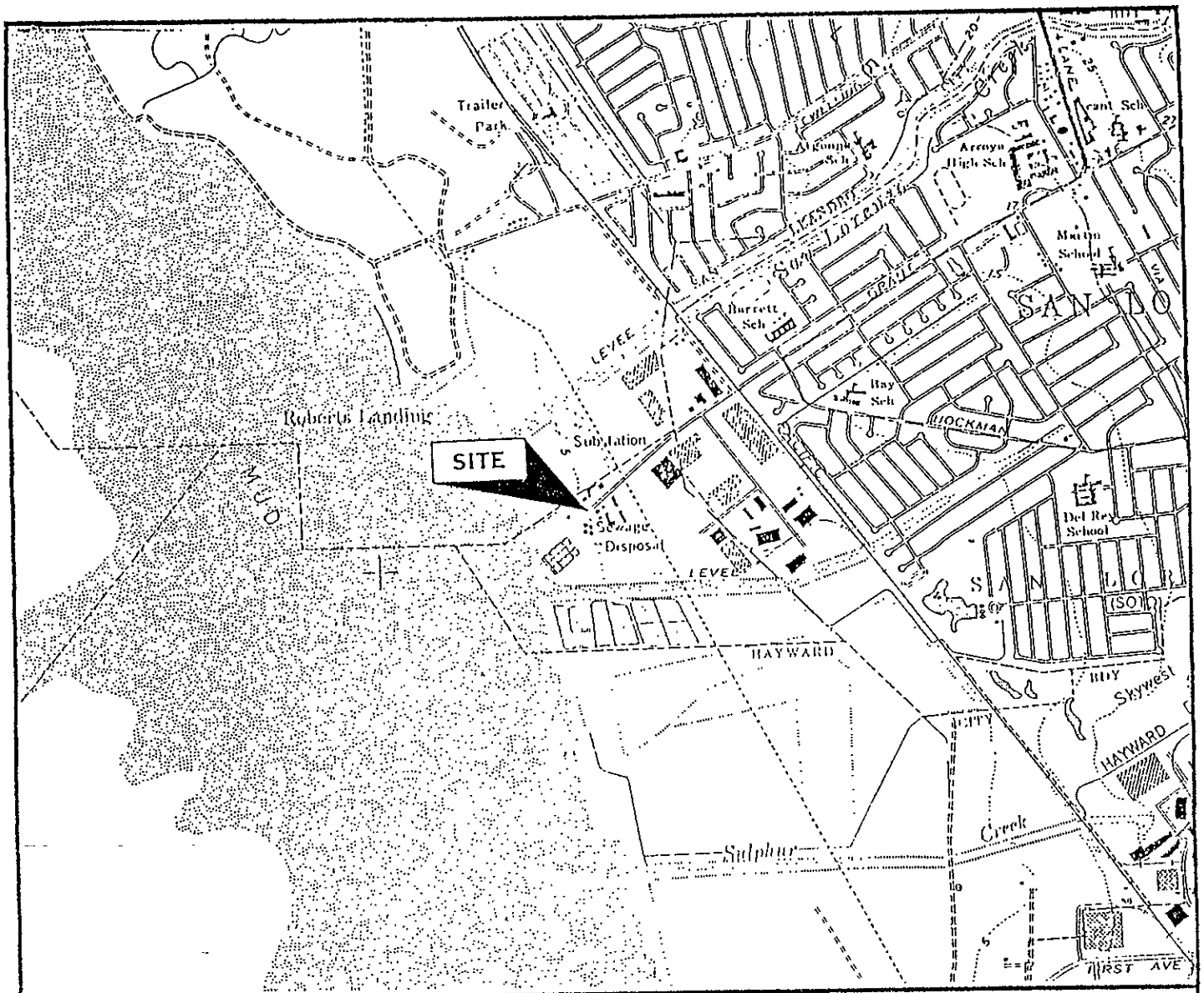
Dave A Sadoff
Project Geologist, R G C P G R E A

REGISTERED GEOLOGIST
DAVE A. SADOFF
No. 6264
STATE OF CALIFORNIA

Attach Attachment A Figures (Site Figures 1 and 2)
Attachment B Soil Core Lithologic Logs (Cores SC4 and SC5)
Attachment C Laboratory Reports & Chain of Custody

ATTACHMENT A

FIGURES



SCALE 1:24000

1 MILE
0 1/2 1

7000 FEET
6000 5000 4000 3000 2000 1000 0 1000

1 KILOMETER
0 5 1

CONTOUR INTERVAL 20 FEET
DOTTED LINES REPRESENT 5-FOOT CONTOURS
NATIONAL GEODETIC VERTICAL DATUM OF 1929
DEPTH CURVES IN FEET—DATUM IS MEAN LOWER LOW WATER
SHORELINE SHOWN REPRESENTS THE APPROXIMATE LINE OF MEAN HIGH WATER
THE MEAN RANGE OF TIDE IS APPROXIMATELY 5 FEET

Source: USGS San Leandro, California 7.5-Minute Quadrangle Map

ENVIRONMENTAL BIO-SYSTEMS, INC

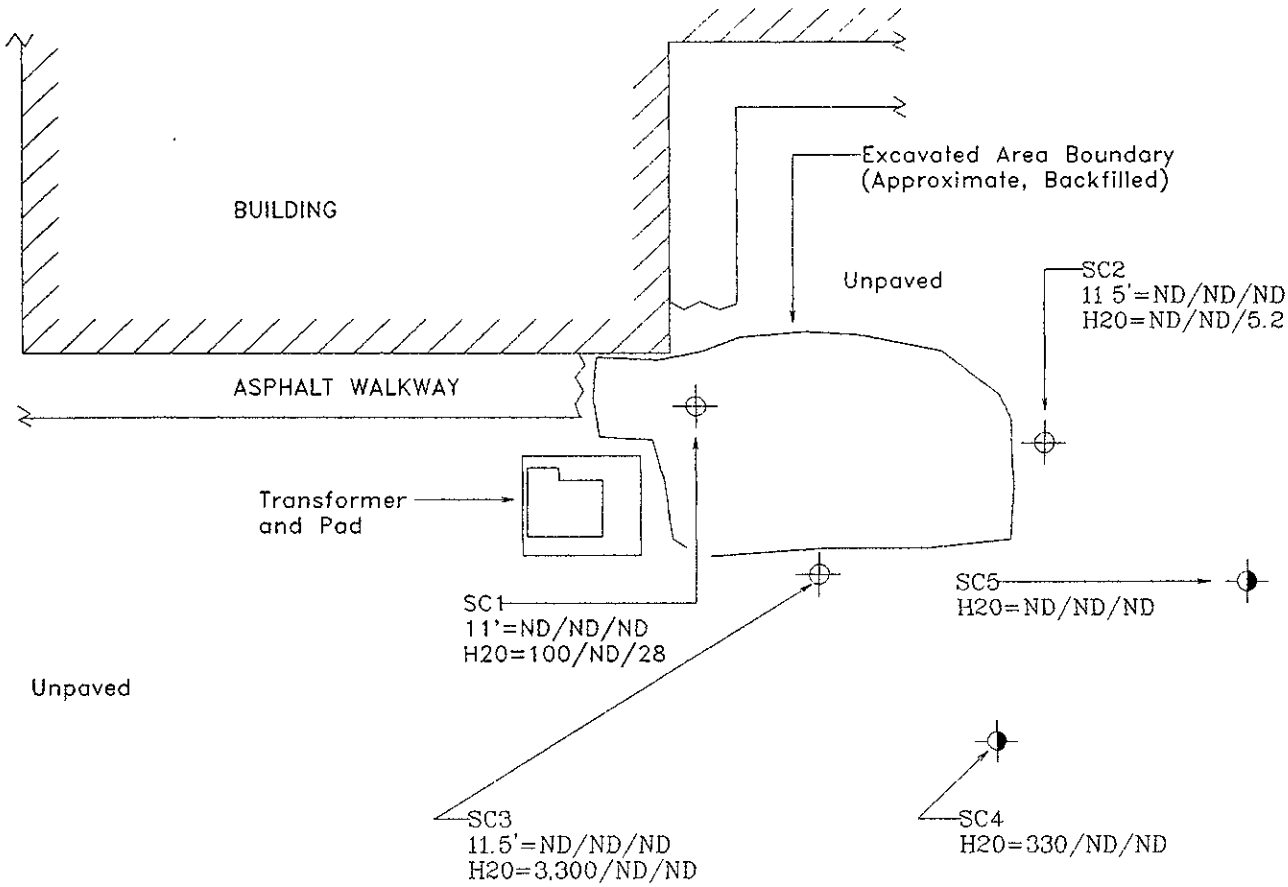
DATE 8/9/99

DRAWN BY DAS

SCALE 1"=2,000'

FIGURE 1:
SITE LOCATION MAP

E BAY DISCHARGERS AUTH
2651 GRANT AVENUE
SAN LORENZO, CALIFORNIA



NOTES

SC3
11.5'=ND/ND/ND
H20=3,300/ND/ND

CORE LOCATION AND DESIGNATION (9/99)
SOIL SAMPLE DEPTH TPHd/BENZENE/MTBE
WATER SAMPLE TPHd/BENZENE/MTBE

CORE LOCATION AND DESIGNATION (2/00)

ALL RESULTS IN uG/L (WATER) OR uG/KG (SOIL)

0 10 20

SCALE IN FEET

ENVIRONMENTAL BIO-SYSTEMS, INC.

DATE: 3/9/00

PROJECT # 157-5448

SCALE: AS SHOWN

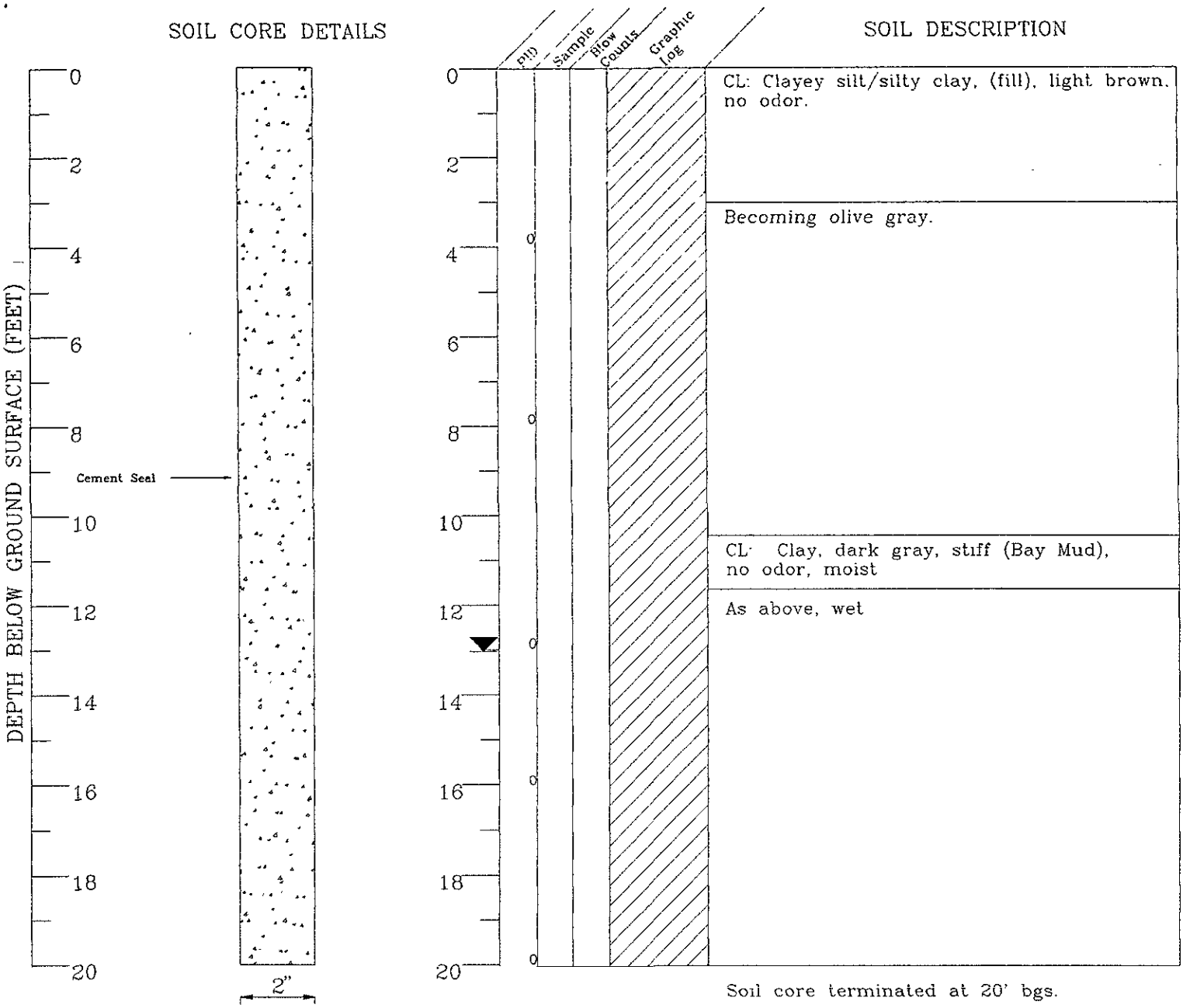
FIGURE 2: CORE LOCATIONS AND ANALYTICAL RESULTS

E. BAY DISCHARGERS AUTH.
2651 GRANT AVENUE
SAN LORENZO, CALIFORNIA

ATTACHMENT B

SOIL CORE LITHOLOGIC LOGS

LOG OF SOIL BORING SC4



Logged by: DAS	Drilling Contractor: Fast-Tek	Sanitary Seal/Backfill: Cement
Inspector: N/A	Drilling Method. DPT	Sampler Type: Acetate Sleave
Date: 2/15/00	Driller: Eric	Total Boring Depth: 20 feet

ENVIRONMENTAL BIO-SYSTEMS, INC.

EXPLANATION

SITE:
E. BAY DISCH. AUTH.
2651 GRANT AVENUE
SAN LORENZO, CA
PROJECT #157-51B

CLIENT
E. BAY DISCHARGERS AUTH
2651 GRANT AVENUE
SAN LORENZO, CALIFORNIA

LOG OF SOIL BORING SC5

SOIL CORE DETAILS

DEPTH BELOW GROUND SURFACE (FEET): 0 – 20

Cement Seal

2"

SOIL DESCRIPTION

Depth (ft)	PID	Sample	Blow Counts	Graphic Log	Soil Description
0–3					CL: Clayey silt/silty clay, (fill), light brown, no odor.
3–10.5	0 (4 ft); 0 (8 ft)				Becoming olive gray.
10.5–13	0 (13 ft)				CL. Clay, dark gray, stiff (Bay Mud), no odor, moist.
13–20	0 (16 ft); 0 (20 ft)				As above, wet.

Water level during drilling: approx. 14 ft.

Soil core terminated at 20' bgs.

Logged by: DAS	Drilling Contractor: Fast-Tek	Sanitary Seal/Backfill: Cement
Inspector: N/A	Drilling Method: DPT	Sampler Type: Acetate Sleave
Date: 2/15/00	Driller: Eric	Total Boring Depth: 20 feet

ENVIRONMENTAL BIO-SYSTEMS, INC.

EXPLANATION

- water level during drilling
- gradational

SITE:
E. BAY DISCH. AUTH.
2651 GRANT AVENUE
SAN LORENZO CA
PROJECT #157-51UB

CLIENT
E. BAY DISCHARGERS AUTH
2651 GRANT AVENUE
SAN LORENZO CALIFORNIA

ATTACHMENT C

LABORATORY ANALYTICAL REPORTS, CHAIN OF CUSTODY DOCUMENTATION AND SC4-H_20 CHROMATOGRAM

Analytical Sciences

March 7, 2000

Dave Sadoff
Environmental Bio-Systems, Inc.
P.O. Box 7171
San Jose, CA 95150-7171

Dear Dave,

Enclosed you will find Analytical Sciences' final report 0021602 for your East Bay Dischargers project site. An invoice for this work has been sent to Tim Babcock.

Should you or your client have any questions regarding this report please contact me at your convenience. We appreciate you selecting Analytical Sciences for this work and look forward to serving your analytical chemistry needs on projects in the future.

Sincerely,

Analytical Sciences

Mark A. Valentini

PO Box 750336
Petaluma, CA 94975-0336
Telephone (707) 769-3128

110 Liberty Street
Petaluma CA 94952
Fax (707) 769-8093

Analytical Sciences

Report Date: March 7, 2000

Environmental Bio-Systems, Inc.
P.O. Box 7171
San Jose, CA 95150-7171
ATTN: Dave Sadoff

LABORATORY REPORT

Project Name: **East Bay Dischargers 157-544B**

Lab Project Number: **0021602**

This 5 page report of analytical data has been reviewed and approved for release.

Mark A. Valentini, Ph.D.
Laboratory Director

PO Box 750336
Petaluma, CA 94975-0336
Telephone (707) 769-3128

110 Liberty Street
Petaluma CA 94952
Fax (707) 769-8093

TPH Diesel in Water

Lab #	Sample ID	Analysis	Result (ug/L)	RDL (ug/L)
5681	SC4-H_2O	TPH/Diesel	330 ①	50

Date Sampled: 02/15/00 Date Extracted: 02/23/00 QC Batch #: 1099
Date Received: 0216/00 Date Analyzed: 02/23/0 Method: EPA 3510/8015M
Holding Time Met: Yes ✓ No ____

Lab #	Sample ID	Analysis	Result (ug/L)	RDL (ug/L)
5682	SC5-H_2O	TPH/Diesel	ND ①	50

Date Sampled: 02/15/00 Date Extracted: 02/23/00 QC Batch #: 1099
Date Received: 0216/00 Date Analyzed: 02/23/0 Method: EPA 3510/8015M
Holding Time Met: Yes ✓ No ____

① The extract was treated with silica gel prior to analysis to remove non-petroleum based polar hydrocarbons. The hydrocarbons present in the chromatogram are primarily in the chromatographic region where weathered diesel would be observed (see enclosed chromatograms A, B & C). There also appears to be some hydrocarbons present with a slightly higher boiling point than diesel. It should be considered that Silica Gel may not completely remove all naturally occurring hydrocarbons in a complex water collected very near the edge of the San Francisco Bay.

CA Lab Accreditation #: 2118 / 2303

TPH Gasoline in Water

Lab #	Sample ID	Analysis	Result (ug/L)	RDL (ug/L)
5681	SC4-H_2O	MTBE	ND	2.5
		Benzene	ND	0.5
		Toluene	8.1	0.5
		Ethyl Benzene	ND	0.5
		Xylenes	ND	1.5

Date Sampled: 02/15/00 Date Analyzed: 02/17/00 QC Batch #: 1080
Date Received: 02/16/00 Method: EPA 5030/8015M/8020
Holding Time Met: Yes ✓ No ____

Lab #	Sample ID	Analysis	Result (ug/L)	RDL (ug/L)
5682	SC5-H_2O	MTBE	ND	2.5
		Benzene	ND	0.5
		Toluene	ND	0.5
		Ethyl Benzene	ND	0.5
		Xylenes	ND	1.5

Date Sampled: 02/15/00 Date Analyzed: 02/17/00 QC Batch #: 1080
Date Received: 02/16/00 Method: EPA 5030/8015M/8020
Holding Time Met: Yes ✓ No ____

LABORATORY
QUALITY ASSURANCE REPORT

QC Batch #: 1080 **Lab Project #:** 0021602

Sample ID	Compound	Result (ug/L)
MB	TPH/Gas	ND
MB	MTBE	ND
MB	Benzene	ND
MB	Toluene	ND
MB	Ethyl Benzene	ND
MB	Xylenes	ND

Sample #	Sample ID	Compound	Result (ug/L)	Spike Level	% Recv.
5663	CMS	TPH/Gas		NS	
	CMS	Benzene	9.17	8.00	115
	CMS	Toluene	8.67	8.00	108
	CMS	Ethyl Benzene	8.29	8.00	104
	CMS	Xylenes	25.4	24.0	106

Sample #	Sample ID	Compound	Result (ug/L)	Spike Level	% Recv.	RPD
5663	CMSD	TPH/Gas		NS		
	CMSD	Benzene	9.37	8.00	117	2.2
	CMSD	Toluene	8.82	8.00	110	1.7
	CMSD	Ethyl Benzene	8.34	8.00	104	0.60
	CMSD	Xylenes	25.7	24.0	107	1.2

MB = Method Blank; LCS = Laboratory Control Sample; CMS = Client Matrix Spike; CMSD = Client Matrix Spike Duplicate
NS = Not Spiked; OR = Over Calibration Range

CA Lab Accreditation # 2118 / 2303

QC Batch #: 1099 **Lab Project #:** 0021602

Sample ID	Compound	Result (ug/L)
MB	TPH/Diesel	ND

Sample ID	Compound	Result (ug/L)	Spike Level	% Recv.
LCS	TPH/Diesel	3,240	2,730	119

Sample ID	Compound	Result (ug/L)	Spike Level	% Recv.	RPD
LCSD	TPH/Diesel	3,260	2,730	119	0.62

MB = Method Blank; LCS = Laboratory Control Sample; CMS = Client Matrix Spike; CMSD = Client Matrix Spike Duplicate
NS = Not Spiked; OR = Over Calibration Range

CA Lab Accreditation # 2118 / 2303

ENVIRONMENTAL BIO-SYSTEMS, INC.
Innovative Solutions for a Better Environment
P.O Box 7171
San Jose, CA 95150-7171
(408) 979-8600

CHAIN OF CUSTODY

ADDITIONAL INSTRUCTIONS:

1) PERFORM SILICA GEL CLEANUP PRIOR TO ANALYSES

LAB PROJECT # 0021602

PROJECT NUMBER: 157-544B
CLIENT: E. BAY DISCHARGERS
SITE: 2651 GRANT AVE. SAN LORENZO, CA

SAMPLE I D	MATRIX	NUMBER OF CONTAINERS	COMPOSITE	ANALYSES: TPHd	ANALYSES: BTEX + MTBE	TIME COLLECTED	TURNAROUND	LAB SAMPLE #
SC4-H_2O	H_2O	2		X	X	10:05	STANDARD	5681
SC5-H_2O	"	2		X	X	11:48	"	5682
SC6-H_2O	"	2				12:24	HOLD	5683

DATE SAMPLING COMPLETED: 2/15/00
SAMPLING PERFORMED BY: DAVE A. SADOFF

	DATE	TIME		DATE	TIME
RELEASED BY: Dave A. Sadoff	2/15/00	1410	RECEIVED BY: Heather A. Allen	2/16/00	1000
RELEASED BY	DATE	TIME	RECEIVED BY	DATE	TIME
RELEASED BY	DATE	TIME	RECEIVED BY	DATE	TIME

SHIPPED VIA	DATE SENT	TIME SENT	COOLER #
CALIFORNIA OVERNIGHT	2/15/00		

Lab name: Analytical Sciences
Analysis date: 02/23/2000 16:55:14
Method: EPA 8015M
Description: HP5890a
Column: J&W 30m DB-5
Carrier:
Data file: Diesel1624.chr ()
Sample: 5ul 5682 660-2 S.G.
Operator: AMH
QC batch: ~~1080~~ 1099

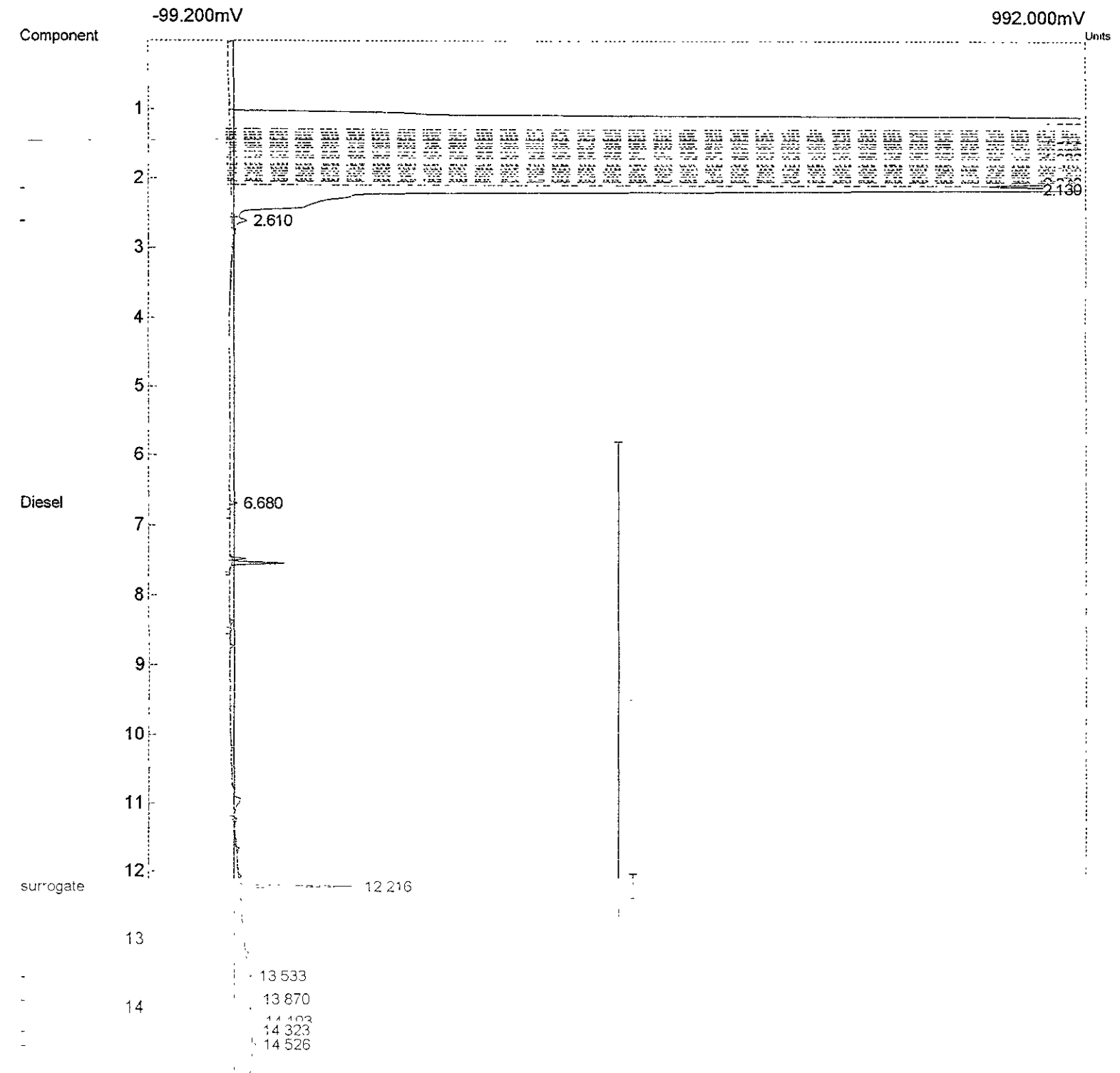
B

5682

SC5 - H_2O

Silica gel cleanup

ND



Component	Retention	Area	External
-	1.256	12629.348	0.00
-	1.323	2577.778	0.00
-	1.353	2379.293	0.00
-	1.386	2379.104	0.00
-	1.423	1387.720	0.00
-	1.433	396.479	0.00
-	1.450	2576.989	0.00
-	1.506	2576.764	0.00
-	1.526	1981.973	0.00
-	1.593	3369.055	0.00
-	1.626	3170.535	0.00
-	1.693	1981.416	0.00
-	1.776	5151.075	0.00
-	1.793	990.493	0.00
-	1.813	1980.895	0.00
-	1.840	1386.546	0.00
-	1.876	1782.609	0.00
-	1.900	1980.545	0.00
-	1.950	2178.446	0.00
-	1.983	2772.340	0.00
-	2.016	1188.066	0.00
-	2.033	594.013	0.00
-	2.040	3035.768	0.00
-	2.130	7327.616	0.00
-	2.610	116.773	0.00
Diesel	6.680	452.261	19.87
surrogate	12.216	227.857	12.17
-	13.533	11.411	0.00
-	13.870	15.775	0.00
-	14.193	15.566	0.00
-	14.323	26.891	0.00
-	14.526	11.890	0.00
-	15.780	79.114	0.00
		68732.403	32.04

452-227, ~ ND.

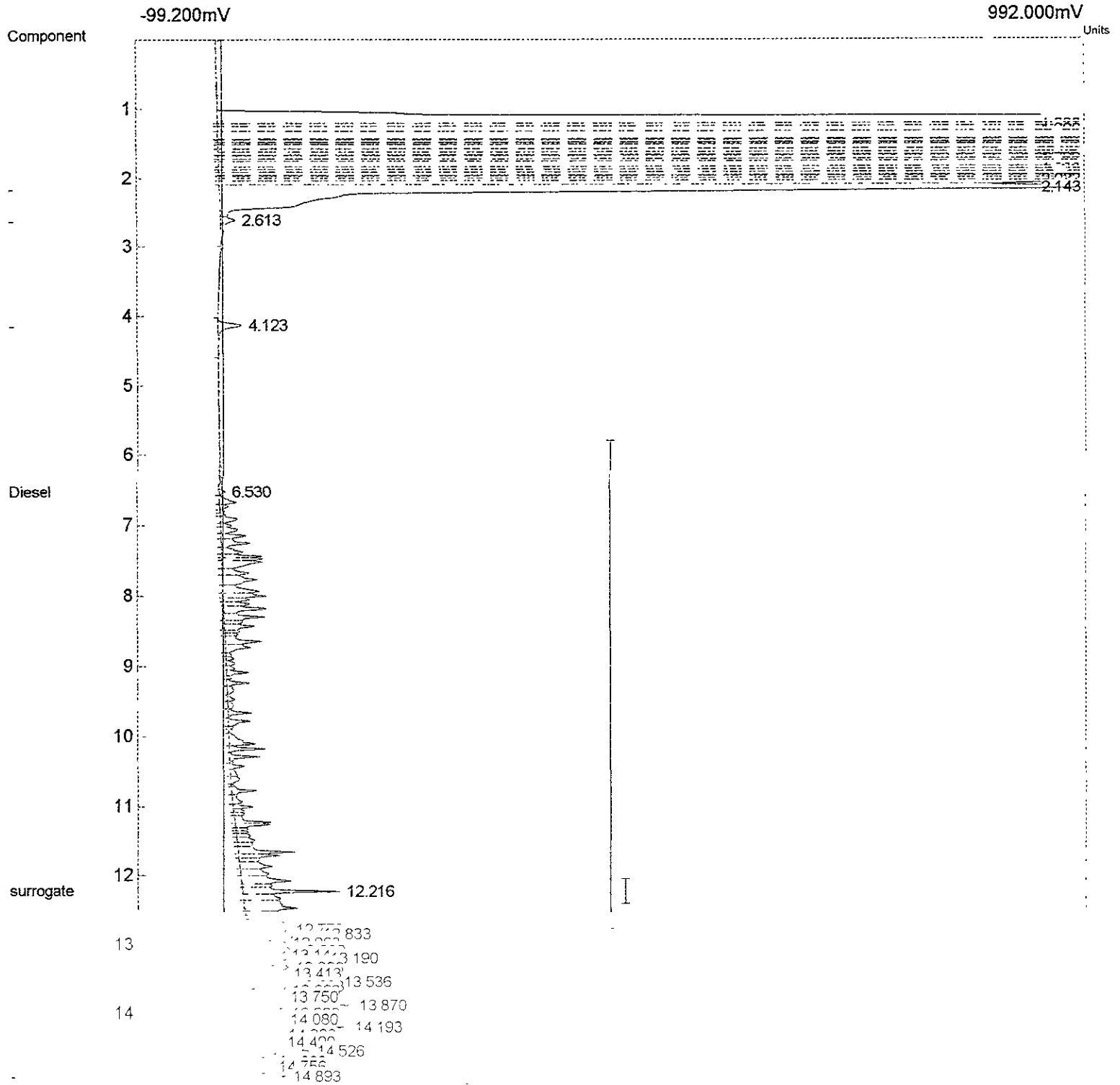
Lab name: Analytical Sciences
Analysis date: 02/23/2000 16:29:14
Method: EPA 8015M
Description: HP5890a
Column: J&W 30m DB-5
Carrier:
Data file: Diesel1623.chr ()
Sample: 5ul 5681 850-2 S.G. clean
Operator: AMH

A

5681

SC4 - H_2O

10:19 After Silica Gel



Component	Retention	Area	External
-	1.183	7517.987	0.00
-	1.230	2578.077	0.00
-	1.300	4362.441	0.00
-	1.403	6146.067	0.00
-	1.423	991.186	0.00
-	1.463	1784.060	0.00
-	1.470	594.662	0.00
-	1.480	991.079	0.00
-	1.496	594.630	0.00
-	1.540	3963.907	0.00
-	1.583	2774.440	0.00
-	1.636	2179.737	0.00
-	1.660	792.591	0.00
-	1.680	2575.784	0.00
-	1.723	1981.224	0.00
-	1.810	4754.416	0.00
-	1.830	2574.998	0.00
-	1.880	2178.674	0.00
-	1.936	2772.624	0.00
-	1.963	990.164	0.00
-	1.970	1386.170	0.00
-	2.003	2376.137	0.00
-	2.033	3632.949	0.00
-	2.143	7284.974	0.00
-	2.613	114.844	0.00
-	4.123	129.682	0.00
Diesel	6.530	6996.590	149.16
surrogate window	12.216	324.662	17.34
-	12.770	222.459	0.00
-	12.833	313.518	0.00
-	12.923	92.776	0.00
-	12.963	177.456	0.00
-	13.080	266.942	0.00
-	13.140	93.180	0.00
-	13.190	226.667	0.00
-	13.283	191.875	0.00
-	13.326	144.697	0.00
-	13.413	269.941	0.00
-	13.536	277.458	0.00
-	13.603	146.881	0.00
-	13.663	169.141	0.00
-	13.750	184.989	0.00
-	13.870	330.409	0.00
-	13.990	205.246	0.00
-	14.080	177.202	0.00
-	14.193	338.970	0.00
-	14.303	99.541	0.00
-	14.400	145.232	0.00
-	14.526	199.691	0.00
-	14.680	52.190	0.00
-	14.756	45.301	0.00
-	14.893	60.505	0.00
-	15.246	98.975	0.00
-	15 306	111 577	0 00
-	15 523	111 950	0 00
-	15 670	36 727	0 00
-	15 776	98 651	0 00
-	15.860	140 467	0 00
-	16 086	668 522	0 00
		81043 890	166 51

6.5-

Conc std. surrogate

Conc ~~surrogate~~ Sample + surrogate in ppm

ppm

surrogate

$$\frac{(6996 - 324)}{6996} \times 149.16 = 142 \text{ mg/l}$$

850/2 ml Conc.

$$142 \times \left(\frac{2}{850}\right) = 0.33 \text{ mg/l}$$

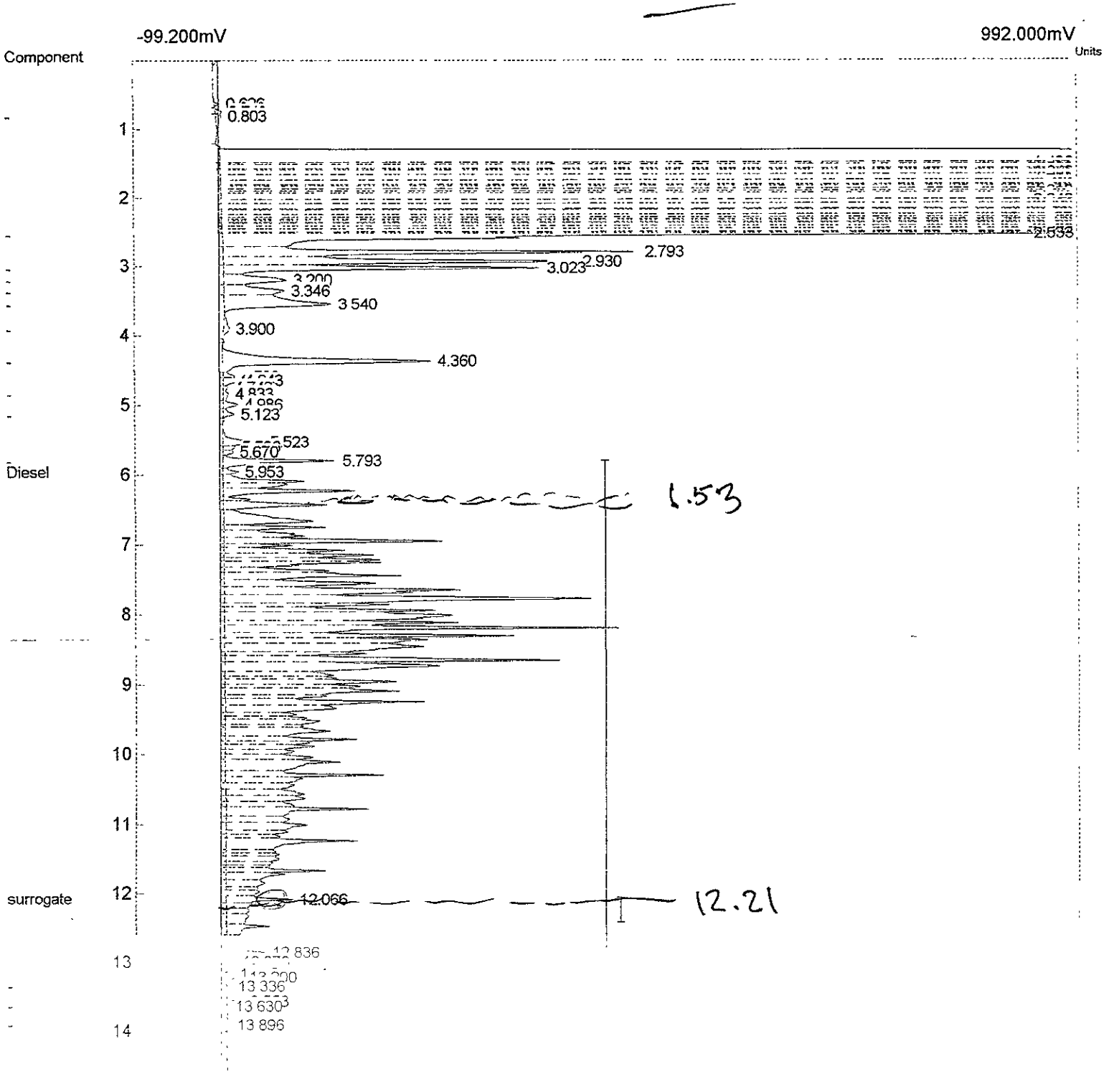
330 µg/l

Conc df

Lab name: Analytical Sciences
Analysis date: 02/23/2000 13:28:55
Method: EPA 8015M
Description: HP5890a
Column: J&W 30m DB-5
Carrier:
Data file: Diesel1616.chr ()
Sample: 5ul 820ppm diesel
Operator: AMH

C

Diesel STD
for Reference



Component	Retention	Area	External
-	0.626	12.583	0.00
-	0.743	27.367	0.00
-	0.803	51.182	0.00
-	1.456	10966.941	0.00
-	1.496	1574.681	0.00
-	1.560	3739.524	0.00
-	1.580	1180.799	0.00
-	1.640	3935.653	0.00
-	1.713	4722.085	0.00
-	1.753	3737.760	0.00
-	1.810	1180.238	0.00
-	1.850	2360.345	0.00
-	1.866	2163.482	0.00
-	1.913	1573.336	0.00
-	1.996	5899.262	0.00
-	2.040	3538.969	0.00
-	2.120	4717.959	0.00
-	2.173	589.688	0.00
-	2.206	3734.422	0.00
-	2.250	2358.325	0.00
-	2.290	1572.114	0.00
-	2.310	1375.523	0.00
-	2.340	1571.942	0.00
-	2.360	785.936	0.00
-	2.403	2554.148	0.00
-	2.436	2357.475	0.00
-	2.476	2946.566	0.00
-	2.506	1178.539	0.00
-	2.533	3660.972	0.00
-	2.793	1711.130	0.00
-	2.930	1607.995	0.00
-	3.023	1256.621	0.00
-	3.200	425.833	0.00
-	3.346	420.818	0.00
-	3.540	1012.145	0.00
-	3.900	60.317	0.00
-	4.360	1260.299	0.00
-	4.583	48.013	0.00
-	4.643	80.637	0.00
-	4.743	18.247	0.00
-	4.833	35.512	0.00
-	4.986	63.851	0.00
-	5.123	48.993	0.00
-	5.523	209.052	0.00
-	5.596	44.507	0.00
-	5.670	41.555	0.00
-	5.793	423.934	0.00
Diesel	5.953	40658.661	814.22
surrogate	12.066	276.753	14.79
-	12.836	155.099	0.00
-	12.976	54.075	0.00
-	13.063	17.903	0.00
-	13.100	21.969	0.00
-	13 150	17 567	0 00
-	13 200	60 888	0 00
-	13 336	44.153	0 00
-	13.553	28 523	0 00
-	13 630	12 323	0 00
-	13 896	11 341	0 00
-	16 000	32 296	0 00
		126228 825	829 00