URS

4/5/01

June 16, 2000

Mr. Mike Kincaid
Winzler and Kelly Consulting Engineers
200 Pine Street, Suite 600
San Francisco, CA 94104-2709

Subject: **Glen Echo Creek Concrete Arch Culvert**
Supplement To October 11, 1999 Geotechnical Data Report
Project No. 51951273NB00

Dear Mr. Kincaid,

URS is pleased to present this letter report discussing the results of our field exploration and laboratory testing for the above referenced project. This text is a supplement to our October 11, 1999 Geotechnical Data Report that was prepared for the culvert relining and CMP replacement project.

PROJECT DESCRIPTION

It is our understanding that the Alameda County Public Works Agency plans to reconstruct, at a lower elevation, a portion of the invert of the Glen Echo Creek concrete arch culvert that is present beneath and west of 30th Street about two blocks south of Broadway in Oakland. The culvert is approximately 300 feet long, and 8.3 feet high by 7 feet wide.

SCOPE OF WORK

URS performed a geotechnical exploration for the proposed culvert modification project. It is our understanding that the information provided herein will be used to develop a ground stabilization grouting program that will be implemented prior to excavating and lowering the culvert invert. Our scope of work included obtaining soil samples from under the existing culvert invert and from behind the walls, and performing laboratory tests on each of the samples.

During our geotechnical exploration, a dark "oily substance" was encountered on the water surface on one boring, therefore, and in accordance with work plan dated May 23, 2000, URS performed an additional environmental investigation in order to assess the potential environmental impact to the project. The scope of work included collection and analysis of one groundwater and one soil sample from the boring where the oily substance was observed and collection and laboratory analysis of one groundwater and one soil sample from an existing geotechnical boring upgradient from the location of the observed oily substance.

URS Corporation
500 12th Street, Suite 200
Oakland, CA 94607-4014
Tel: 510.893.3600
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GEOTECHNICAL FIELD EXPLORATION AND LABORATORY TESTING PROGRAMS

Thirteen soil samples were obtained at locations listed in Table 1. The concrete walls and invert of the culvert were cored by the Penhall Company, Oakland on May 15th and 16th, 2000 under the supervision of Mr. David Simpson, a senior geologist with our firm. The coring was performed with an electric drill so as not to produce any hazardous gases within the confines of the culvert. Air within the culvert was constantly monitored for potentially hazardous gases such as methane, hydrogen sulfide, and carbon monoxide as well as for oxygen content. No unsafe gas concentrations were detected on the monitoring equipment. The concrete cores were saved, and the soil cuttings were placed into 5-gallon buckets to prevent sedimentation in Glen Echo Creek. A hand-auger was used to advance the borings to the desired depths before sampling. Soil samples, 2-inch diameter by 6-inch long, were retrieved in thin-walled brass tubes within a drive sampler attached to a hand-operated slide hammer. Typically, one soil sample was collected from each of three borings at each sampling location: one soil sample from behind the south culvert wall (Sample A), one from beneath the invert (Sample B), and one from behind the north culvert wall (Sample C). (The westernmost two invert samples could not be collected due to standing water in the culvert.) The maximum depth of the borings was 48 inches. The thickness of the concrete, depth of sample, and total depth of borehole was measured in each boring. The boreholes were backfilled with concrete.

The soil samples were classified in the field according to the Unified Soil Classification System and were transported to our geotechnical laboratory in Pleasant Hill, California. The laboratory testing program consisted of full gradation analysis on the sandy soils and No. 200 sieve wash analysis on the finer clayey soils.

SUBSURFACE CONDITIONS

The concrete in the walls was found to range from 15 to 25 inches in thickness and was found to be thinner at the locations higher up above the invert. This upward thinning of the walls can also be observed at the portal on the east end of the project reach. The concrete was found to be 7- to 8-inches thick in the invert. Table 1 lists the sample locations, thickness of concrete, and the subsurface soil conditions encountered in each boring. Some of the concrete in the cores retrieved contained voids between aggregate fragments and contained aggregate up to about 2 to 2-1/2 inches in diameter.

The soils encountered behind the culvert walls generally consist of medium stiff to very stiff, but generally medium stiff, moist sandy clays and loose to medium dense silty sands. The soils underlying the invert consisted of apparently native alluvial silty sand with gravel. The invert soils were saturated and unconsolidated which made penetration difficult due to caving of the borehole walls upon removal of the sampler.

Gradation tests were performed on the samples at the URS Pleasant Hill Laboratory in accordance with ASTM Test Method D-422. This information was used to determine the particle sizes and percentages within the soil and to classify the soils in accordance with AASHTO methods. The Laboratory Test Data Sheets are included in Appendix A.

ENVIRONMENTAL SAMPLING AND ANALYSIS

During the process of sampling at Station 25+34 in the invert, an unidentified substance with a hydrocarbon odor and oily sheen was encountered flowing from the sample hole with the groundwater. The hole was capped with clay and concrete immediately after removing a sample for geotechnical testing. URS returned to the location on May 30, 2000 to take a sample of soil and groundwater from this boring and also from the nearest invert boring located upstream at Station 25+89. Soil samples were collected using a hand auger after removing the concrete. Groundwater samples were collected directly from the hole using an empty sample bottle decontaminated prior to use. The two groundwater and two soil samples were sent under chain of custody to Curtis and Tompkins laboratory, Berkeley, certified in California and analyzed for gasoline and BTEX (EPA Method 8015/8020M), Total Extractable Hydrocarbons (EPA Method 8015M) and Title 22 Metals.

ENVIRONMENTAL RESULTS AND EVALUATION

Results are presented in Table 2 and 3. The laboratory analytical report is presented in Appendix B. Results have been evaluated in terms of potential impact to the environment during the construction phase of the project. Therefore, the soil results for TPH, BTEX and metals have been compared to the Total Threshold Limit Concentration (TTLC), and the USEPA Preliminary Remediation Goals. There are no established regulatory guidelines for TPH gasoline, diesel and motor oil for groundwater or soil. Usually these products are regulated by their constituent compounds such as: benzene, toluene, ethylbenzene, xylenes. Since none of these constituents (BTEX) were detected (see below), URS compared the soil results for TPH gas, diesel and motor to the RWQCB target level of 1,000 mg/kg and generally accepted by the Alameda County.

Groundwater concentrations of compounds were compared to the USEPA PRG's for tap water, and to the California MCL's.

Groundwater results are presented in Table 2. No BTEX were detected. Metals were detected in both samples. Concentrations of arsenic, barium, beryllium, cadmium, chromium, lead, nickel, thallium, and vanadium exceeded either the PRG for tap water or the California MCL's in both groundwater samples. Gasoline and TPH-diesel were detected only in sample GW02 (Station 25+34) at a concentration of 1,400 μg/L and 63,000 μg/L, respectively. TPH-motor oil was detected in both samples at a concentration of 390 μg/L in sample GW01 (Station 25+89) and 180,000 μg/L in sample GW02 (Station 25+34).

Soil analytical results are presented in Table 3. No BTEX were detected and none of the metal concentrations detected in both samples were above the TTLCs. Only arsenic slightly exceeded the PRG for Industrial Soil. Gasoline was detected in sample SS02 (Station 25+34) at a concentration of 7.6 mg/kg below the Alameda County guidance of 1000 mg/kg. Diesel and motor oil were detected at a concentration of 2.4 and 9.4 mg/kg in SS01 (Station 25+89). In SSO2 (Station 25+34), diesel was detected at a concentration of 1,300 mg/kg and motor oil 2,100 mg/kg. Both concentrations slightly exceeded the Alameda County guidance of 1,000 mg/kg.

CONCLUSIONS

Groundwater and soils appeared to have been slightly impacted by diesel and motor oil at station 25+34 at levels that need, for the future planned development of the site, communication with regulators and possibly mitigation risk to human health and environment from the exposure to residual chemicals during earthwork construction. These could include establishment of health and safety procedures, implementation of construction impact mitigation measures like management of water extracted from the excavation and management of soil removal during construction, including testing of soils, stockpiling of impacted soils and eventual disposal at a waste management facility. These activities will affect the future project in terms of cost, and schedule and have to be taken into account in further development of the project.

LIMITATIONS

The scope of this investigation was limited by time constraints and expense. A limited number of soil and groundwater samples were taken at locations at the site in the study area and a limited number of laboratory chemical analyses were performed for those samples. It would be prohibitively expensive and time consuming to sample all locations in the study area and analyze

the samples for all substances which are now, or in future might be considered hazardous. Therefore, URS cannot be held responsible should the investigation fail to detect the presence or quantity of all hazardous substances at all locations. This report was prepared in accordance with generally accepted engineering practice in Northern California at the time this report was prepared. No other warranty is either expressed or implied. Any reliance on this report by third parties shall be at such party's sole risk.

CLOSURE

We are pleased to have been able to provide our services for this project. Feel free to contact David Young if you have any questions or if we may be of further service (510) 874-3277.

Sincerely yours,

URS Corporation

Dave Simpson

David T. Simpson, C.E.G.
Project Geologist

Dave Simpson for

David Young, P.E.
Project Manager

Attachments:

	Table 1	Summary of Geotechnical Field Exploration
	Table 2	Groundwater Analytical Results
	Table 3	Soil Analytical Results
	Appendix A	Laboratory Test Data Sheets
	Appendix B	Laboratory Analytical Report

Table 1: Summary of Geotechnical Field Exploration

Location			Concrete Thickness (Inches)	Sample Depth (inches)	Total Boring Depth (inches)	Soil Type (AASHTO Group Name)	Soil Description	Other Comments
Sample[1]	Station[2]	Height above invert (inches)						
A	26+55	44	23	24-30	48	Silty Soils	Brown Sandy Clay	
B	26+55	0	8	20-26	27	Stone Fragments, Gravel and Sand	Brown Sand w/ Gravel	
C	26+55	39	25	25-31	42	Silty Soils	Orange Brown Sandy Clay	
A	25+89	62	16	20-26	26	Silty Soils	Mottled Gray-Rusty Brown Sandy Clay	
B	25+89	0	8	12-18	18	Stone Fragments, Gravel and Sand	Grayish Brown Silty Sand	Environmental sample collected
C	25+89	61	18	18-24	45	Stone Fragments, Gravel and Sand	Brown Silty Sand	
A	25+34	57	19.5	28-34	34	Silty Soils	Brownish Gray Silty Clay w/ Trace Fine Sand	
B	25+34	0	7	14-20	20	Stone Fragments, Gravel and Sand	Brownish Gray Silty Sand w/ Gravel	Hydrocarbon(?) odor, environmental sample collected
C	25+34	58	19.5	25-31	31	Silty Soils	Brownish Gray Silty Clay w/ Trace Fine Sand	
A	24+79	58	16	24-30	48	Stone Fragments, Gravel and Sand	Rusty Brown Silty Sand	
C	24+79	57	18	38-44	48	Stone Fragments, Gravel and Sand	Rusty Brown Silty Sand	
A	24+14	58	16	30-36	36	Silty Gravel and Sand	Mottled lt.-Dk. Brown Clayey Silty Sand w/ Gravel	
C	24+14	59	15	32-38	38	Silty Gravel and Sand	Brown Clayey Silty Sand	6-inches of brick (fill?) behind concrete

Notes:

[1] A = Left wall (looking downstream)
B = Invert
C = Right wall (looking downstream)

[2] Culvert portal located at Station 26+75

Table 2: Groundwater Analytical Results (μg/L)

Station location	25+89	25+34	Regulatory Levels	
Sample ID	GW01	GW02	USEPA PRG Region 9 Tap Water	Californian MCL
Sampling Date	5/30	5/30		
Gasoline C7-C12 (EPA Method 8015M)	<50	1,400	na	na
Total Extractable Hydrocarbons (EPA Method 8015M)				
Diesel (C10-C24)	<50	63,000	na	na
Motor Oil (C24-C36)	390	180,000	na	na
BTEX (EPA method 8021B)				
Benzene	<0.5	<0.5	0.386	1
Toluene	<0.5	<0.5	723	150
Ethylbenzene	<0.5	<0.5	1,340	700
Total Xylenes	<0.5	<0.5	1,430	1750
Title 26 Metals (EPA Method 6010B and 7470)				
Antimony	<60	<60	14,6	6
Arsenic	**43 (1)**	**140 (1,2)**	0.0448	50
Barium	**2300 (2)**	**5700 (1,2)**	2,560	1,000
Beryllium	3.5	**7.6 (2)**	73	4
Cadmium	**12 (2)**	**37 (1,2)**	18.3	5
Chromium	**140 (2)**	**400 (1,2)**	18.3	50
Cobalt	180	290	2,190	na
Copper	140	330	1,360	1,000
Lead	**260 (1,2)**	**500 (1,2)**	4	15
Mercury	<0.2	<0.2	11	2
Molybdenum	<20	<20	183	na
Nickel	**250 (2)**	**680 (2)**	730	100
Selenium	<5	<5	183	50
Silver	<5	<5	183	100
Thallium	**8.4 (1,2)**	**11 (1,2)**	3.29	2
Vanadium	180	**460 (1)**	256	na
Zinc	560	1000	11,000	5,000

Notes

1=exceeds USEPA PRG Region 9, Tap Water

2=exceeds Californian Maximum Contaminant Level (MCL)

Table 3: Soil Analytical Results (µg/L)

Station location		25+89	25+34	Regulatory Level	
Sample ID		SS01	SS02	TTLC	USEPA Industrial PRG
Sampling Date	Units	5/30	5/30		
Gasoline C7-C12 (EPA Method 8015M)	mg/kg	<1	7.6	na	na
Total Extractable Hydrocarbons (EPA Method 8015M)					
Diesel (C10-C24)	mg/kg	2.4	**1300 (2)**	na	1000(1)
Motor Oil (C24-C36)	mg/kg	9.4	**2100 (2)**	na	1000(1)
BTEX (EPA method 8021B)					
Benzene	µg/kg	<5.1	<5.1	na	1.36
Toluene	µg/kg	<5.1	<5.1	na	520
Ethylbenzene	µg/kg	<5.1	<5.1	na	230
Total Xylenes	µg/kg	<5.1	<5.1	na	370
Title 26 Metals (EPA Method 6010B and 7470)					
Antimony	mg/kg	<3	<3	500	749
Arsenic	mg/kg	**3.5 (3)**	2.7	500	2.99
Barium	mg/kg	67	84	1.00E+04	1.00E+05
Beryllium	mg/kg	0.35	0.33	75	3.40E+03
Cadmium	mg/kg	1.4	1.2	100	934
Chromium	mg/kg	27	26	500	4.48E+02
Cobalt	mg/kg	14	14	8.00E+03	2.86E+04
Copper	mg/kg	13	11	2.50E+03	6.96E+04
Lead	mg/kg	21	19	1.00E+03	1.00E+03
Mercury	mg/kg	0.082	0.059	20	5.62E+02
Molybdenum	mg/kg	<1	<0.99	3.50E+03	9.37E+03
Nickel	mg/kg	43	35	2.00E+03	3.75E+04
Selenium	mg/kg	0.32	<0.25	1.00E+02	9.37E+03
Silver	mg/kg	<0.25	<0.25	5.00E+02	9.37E+03
Thallium	mg/kg	0.44	0.35	700	1.69E+02
Vanadium	mg/kg	27	21	2.40E+03	1.31E+04
Zinc	mg/kg	29	27	5.00E+03	1.00E+05

Notes

TTLC= Total Threshold Limit Concentration above which the material is a hazardous waste

Industrial PRG= USEPA Region 9 Preliminary Remediation Goal for soil for an industrial exposure scenario

(1) Alameda County Health Services requires management of soil containing greater than 1,000 mg/kg TPH as motor oil, or Diesel

(2) Exceeds Alameda target level

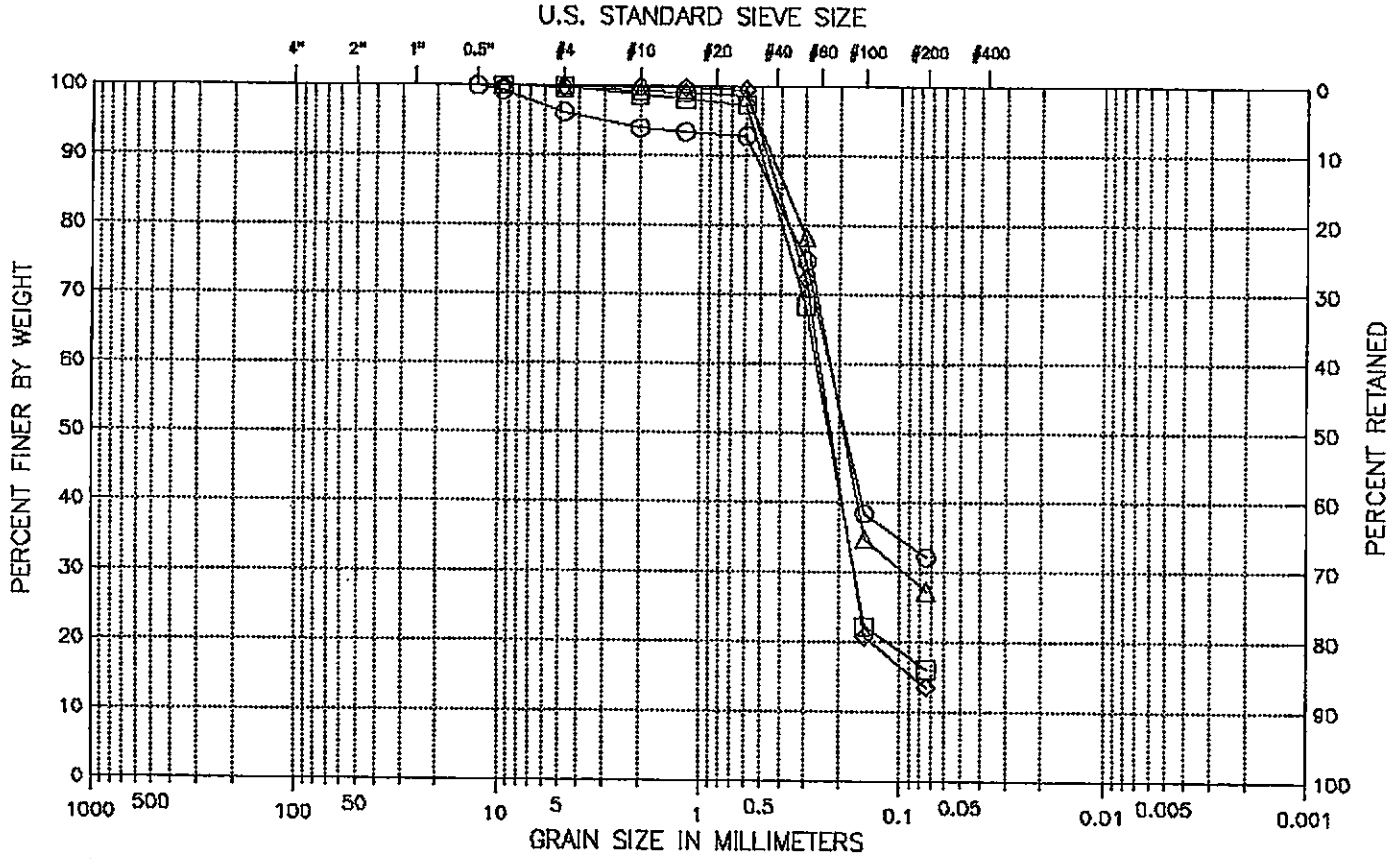
(3) Exceeds PRG

Appendix A

Laboratory Test Data Sheets

URS

Project : GLEN ECHO CREEK
Project No.: 51-951273NB.00
Location: Oakland, CA
Date : Tue Jun 06 2000

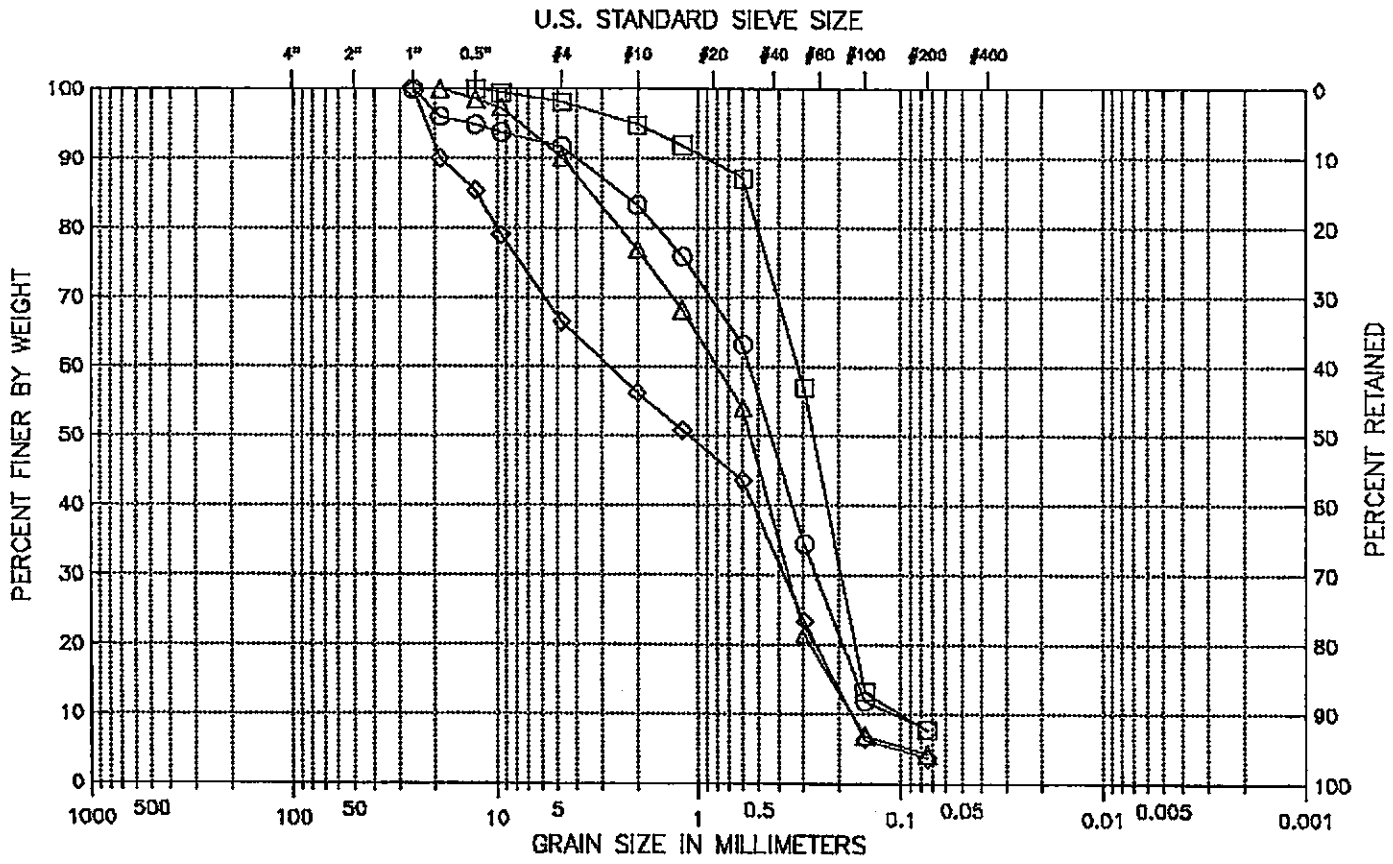


Symbol	Boring No.	Sample No.	Depth	Filename	Classification / Description
⊖	24+14	A	30-36 inches	24-14A	Mottled Lt.-Dk. Brown Clayey Silty Sand w/Gravel
△	24+14	C	32-38 inches	24-14C	Brown Clayey Silty Sand
⊟	24+79	A	24-30 inches	24-79A	Rusty Brown Silty Sand
◇	24+79	C	38-44 inches	24-79C	Rusty Brown Silty Sand

Figure 1

URS

Project : GLEN ECHO CREEK
Project No.: 51-951273NB.00
Location: Oakland, CA
Date : Tue Jun 06 2000



Symbol	Boring No.	Sample No.	Depth	Filename	Classification / Description
⊖	25+34	B	14–20 inches	25–34B	Brownish Gray Silty Sand w/ Gravel (Petro Odor)
△	25+89	B	12–18 inches	25–89B	SP Poorly graded sand
□	25+89	C	18–24 inches	25–89C	Brown Silty Sand
◇	26+55	B	20–26 inches	26–55B	SP Poorly graded sand with gravel

Figure 2

URS

GEOTECHNICAL LABORATORY TEST DATA

Project : GLEN ECHO CREEK
Project No. : 51-951273NB.00
Boring No. : 25+34
Sample No. : A
Location : Oakland, CA
Soil Description : Brownish Gray Silty Clay w/ Traces of Fine Sand
Remarks :

Depth : 28-34 inches
Test Date : 06/06/00
Test Method : ASTM D1140

Filename : 25-34A
Elevation :
Tested by : J. Nebel
Checked by : S. Capps

COARSE SIEVE SET

Sieve Mesh	Sieve Openings Inches	Millimeters	Weight Retained (gm)	Cumulative Weight Retained (gm)	Percent Finer (%)
#200	0.003	0.07	40.51	40.51	85

Total Dry Weight of Sample = 262.1

D85 : N/A
D60 : N/A
D50 : N/A
D30 : N/A
D15 : N/A
D10 : N/A

Soil Classification
ASTM Group Symbol : N/A
ASTM Group Name : N/A
AASHTO Group Symbol : A-4(0)
AASHTO Group Name : Silty Soils

URS

Tue Jun 06 11:52:23 2000

GEOTECHNICAL LABORATORY TEST DATA

Project : GLEN ECHO CREEK
Project No. : 51-951273NB.00
Boring No. : 25+34
Sample No. : C
Location : Oakland, CA
Soil Description : Brownish Gray Silty Clay w/ Traces of Fine Sand
Remarks :

Depth : 25-31 inches
Test Date : 06/06/00
Test Method : ASTM D1140

Filename : 25-34C
Elevation :
Tested by : J. Hebel
Checked by : S. Capps

COARSE SIEVE SET

Sieve Mesh	Sieve Openings Inches	Millimeters	Weight Retained (gm)	Cumulative Weight Retained (gm)	Percent Finer (%)
#200	0.003	0.07	41.94	41.94	82

Total Dry Weight of Sample = 232.1

D85 : N/A
D60 : N/A
D50 : N/A
D30 : N/A
D15 : N/A
D10 : N/A

Soil Classification
ASTM Group Symbol : N/A
ASTM Group Name : N/A
AASHTO Group Symbol : A-4(0)
AASHTO Group Name : Silty Soils

URS

Tue Jun 06 11:52:24 2000

GEOTECHNICAL LABORATORY TEST DATA

Project : GLEN ECHO CREEK
Project No. : 51-951273NB.00
Boring No. : 25+89
Sample No. : A
Location : Oakland, CA
Soil Description : Mottled Grey/Rusty/Brown Sandy Clay
Remarks :

Depth : 20-26 inches
Test Date : 06/06/00
Test Method : ASTM D1140

Filename : 25-89A
Elevation :
Tested by : J. Hebel
Checked by : S. Capps

COARSE SIEVE SET

Sieve Mesh	Sieve Openings Inches	Millimeters	Weight Retained (gm)	Cumulative Weight Retained (gm)	Percent Finer (%)
#200	0.003	0.07	57.46	57.46	77

Total Dry Weight of Sample = 249

D85 : N/A
D60 : N/A
D50 : N/A
D30 : N/A
D15 : N/A
D10 : N/A

Soil Classification
ASTM Group Symbol : N/A
ASTM Group Name : N/A
AASHTO Group Symbol : A-4(0)
AASHTO Group Name : Silty Soils

URS

Tue Jun 06 11:52:51 2000

GEOTECHNICAL LABORATORY TEST DATA

Project : GLEN ECHO CREEK
Project No. : 51-951273NB.00
Boring No. : 26+55
Sample No. : A
Location : Oakland, CA
Soil Description : Brown Sandy Clay
Remarks :

Depth : 24-30 inches
Test Date : 06/06/00
Test Method : ASTM D1140

Filename : 26-55A
Elevation :
Tested by : J. Hebel
Checked by : S. Capps

COARSE SIEVE SET

Sieve Mesh	Sieve Openings Inches	Millimeters	Weight Retained (gm)	Cumulative Weight Retained (gm)	Percent Finer (%)
#200	0.003	0.07	98.99	98.99	70

Total Dry Weight of Sample = 327.8

D85 : N/A
D60 : N/A
D50 : N/A
D30 : N/A
D15 : N/A
D10 : N/A

Soil Classification
ASTM Group Symbol : N/A
ASTM Group Name : N/A
AASHTO Group Symbol : A-4(0)
AASHTO Group Name : Silty Soils

URS

Tue Jun 06 11:53:05 2000

GEOTECHNICAL LABORATORY TEST DATA

Project : GLEN ECHO CREEK
Project No. : 51-951273NB.00
Boring No. : 26+55
Sample No. : C
Location : Oakland, CA
Soil Description : Orange Brown Sandy Clay
Remarks :

Depth : 25-31 inches
Test Date : 06/06/00
Test Method : ASTM D1140

Filename : 26-55C
Elevation :
Tested by : J. Hebel
Checked by : S. Capps

COARSE SIEVE SET

Sieve Mesh	Sieve Openings Inches	Millimeters	Weight Retained (gm)	Cumulative Weight Retained (gm)	Percent Finer (%)
#200	0.003	0.07	81.11	81.11	67

Total Dry Weight of Sample = 245.1

D85 : N/A
D60 : N/A
D50 : N/A
D30 : N/A
D15 : N/A
D10 : N/A

Soil Classification
ASTM Group Symbol : N/A
ASTM Group Name : N/A
AASHTO Group Symbol : A-4(0)
AASHTO Group Name : Silty Soils

Appendix B

Laboratory Analytical Report

Curtis & Tompkins, Ltd., Analytical Laboratories, Since 1878
2323 Fifth Street, Berkeley, CA 94710, Phone (510) 486-0900

ANALYTICAL REPORT

Prepared for:

URS Greiner Woodward Clyde
500 12th Street
Suite 200
Oakland, CA 94607

Date: 20-JUN-00
Lab Job Number: 145865
Project ID: 51951273NB.00
Location: Glenn Echo Creek

This data package has been reviewed for technical correctness and completeness. Release of this data has been authorized by the Laboratory Manager or the Manager's designee, as verified by the following signatures. The results contained in this report meet all requirements of NELAC and pertain only to those samples which were submitted for analysis.

Reviewed by: Trad Babjo
Project Manager

Reviewed by:
Operations Manager

Curtis & Tompkins, Ltd.

Laboratory Numbers: **145865**
Client: **URS Greiner Woodward Clyde**
Project #: **51951273NB.00**
Location: **Glenn Echo Creek**

Sampled Date: **05/30/00**
Received Date: **05/30/00**

CASE NARRATIVE

This hardcopy data package contains sample and QC results for two water samples and two soil samples which were received from the site referenced above on May 30, 2000. The samples were received cold and intact.

TPH (EPA 8015M):
Caltest Analytical Laboratory in Napa performed the water analysis.
The matrix spike duplicate recovery failed low for the soil analysis. The laboratory control sample for this batch meets all QC criteria, therefore this outlier does not affect the quality of the data. No other analytical problems were encountered.

TVH/BTXE:
High trifluorotoluene surrogate recovery was observed for the blank spike in soil analysis, due to hydrocarbons coeluting with the surrogate peak. No other analytical problems were encountered.

Metals:
No analytical problems were encountered.

CHAIN OF COUSTODY FORM

Page ____ of ____

Curtis & Tompkins, Ltd.
Analytical Laboratory Since 1878
2323 Fifth Street
Berkeley, CA 94710
(510)486-0900 Phone
(510)486-0532 Fax

C&T LOGIN # 145865

Project No: 51951273NB 00
Project Name: [illegible] Creek
Project P.O.:
Turnaround Time: Normal

Sampler: L. Perez
Report To: Laura Perez
Company : VRS
Telephone: 510 874 3224
Fax: 510 874 3268

Analyses

Laboratory Number	Sample ID.	Sampling Date Time	Matrix: Soil	Matrix: Water	Matrix: Waste		# of Containers	Preservative: HCL	Preservative: H_2SO	Preservative: HNO_3	Preservative: ICE		Field Notes	TPH gas + BTEX (EPA 8015/8020)	TPH diesel (EPA 8015 [illegible])	22 Metals Dissolved only								
-1	W-01	5/30/00 9:20		X							X		Water for metals not filtered	X	X	X								
-2	W-02	9:30		X							X			X	X	X								
-3	S-01	5/30 9:00	X								X			X	X	X								
-4	S-02	9:30	X								X			X	X	X								

For Laboratory Use

Ret LP 5/31/00

Notes:
Run total metals per Tracy. [illegible] 5/30/00

RELINQUISHED BY:		RECEIVED BY:	
	DATE/TIME		DATE/TIME
	DATE/TIME		DATE/TIME
	DATE/TIME	[signature]	5/30/00 1600 DATE/TIME

Signature

Metals containers arrived preserved. [illegible] 5/30/00

A060612

Curtis & Tompkins, Ltd.
Analytical Laboratories, Since 1878
2323 Fifth Street
Berkeley, CA 94710
(510)486-0900 ph
(510)486-0532 fx

Project Number: 145865

Subcontract Lab:

CalTest Analytical Laboratory
1855 N. Kelly Rd
Napa, CA 94558
(707) 258-4000

Please send report to: Tracy Babjar

Turnaround Time: Standard

Report Level: II

Sample ID	Date Sampled	Matrix	Analysis	C&T Lab #
SW01	30-MAY-00	Water	TEH	145865-001
SW02	30-MAY-00	Water	TEH	145865-002

***Please report using Sample ID instead of C&T Lab #.

Notes:	RELINQUISHED BY:	RECEIVED BY:
	Tracy Babjar 6/5/00 Date/Time	Date/Time 6/5 1830
	Date/Time 6/5 1730	Date/Time 6-6-00 1530

Signature on this form constitutes a firm Purchase Order for the services requested above.

Caltest
ANALYTICAL LABORATORY
ENVIRONMENTAL ANALYSES

LAB ORDER No.: A060112

REPORT of ANALYTICAL RESULTS

Report Date: 08 JUN 2000
Received Date: 05 JUN 2000

Client: Tracy Babjar
Curtis & Tompkins
2323 5th Street
Berkeley, CA 94710

Project: 145865

Sampled by: CLIENT

Lab Number	Sample Identification	Matrix	Sampled Date/Time
A060112-1	SW01	AQUEOUS	30 MAY 00
A060112-2	SW02	AQUEOUS	30 MAY 00

William Lindsay
Project Manager

CAHorn
Christine Horn
Laboratory Director

Results are specific to the sample as submitted and only to the parameters reported.
All analyses performed by EPA Methods or Standard Methods (SM) 18th Ed. except where noted.
Results of 'ND' mean not detected at or above the listed Reporting Limit (R.L.).
'D.F.' means Dilution Factor and has been used to adjust the listed Reporting Limit (R.L.).
Acceptance Criteria for all Surrogate recoveries are defined in the QC Spike Data Reports.

1885 North Kelly Road • Napa, California 94558
(707) 258-4000 • Fax: (707) 226-1001 • e-mail: caltest@caltestlab.com

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ANALYTICAL LABORATORY
ENVIRONMENTAL ANALYSES

ORGANIC ANALYTICAL RESULTS

LAB ORDER No.: A060112

ANALYTE	RESULT	R.L.	UNITS	D.F.	ANALYZED	QC BATCH	NOTES
LAB NUMBER: A060112-1 SAMPLE ID: SW01 SAMPLED: 30 MAY 00 METHOD: EPA 8015M							
TOTAL SEMI-VOLATILE PETROLEUM HYDROCARBONS				1	06.06.00	T000165TPH	1,2
Diesel Fuel	ND	50.	ug/L				
TPH-Extractable, quantitated as diesel	ND	50.	ug/L				
Motor Oil	ND	200.	ug/L				
TPH-Extractable, quantitated as Motor Oil	390.	200.	ug/L				
Surrogate o-Terphenyl	89.		%				
LAB NUMBER: A060112-2 SAMPLE ID: SW02 SAMPLED: 30 MAY 00 METHOD: EPA 8015M							
TOTAL SEMI-VOLATILE PETROLEUM HYDROCARBONS						T000165TPH	1-5
Diesel Fuel	ND	2000.	ug/L	20	06.07.00		
TPH-Extractable, quantitated as diesel	63000.	2000.	ug/L	20	06.07.00		
Motor Oil	ND	8000.	ug/L	20	06.07.00		
TPH-Extractable, quantitated as Motor Oil	180000.	8000.	ug/L	20	06.07.00		
Surrogate o-Terphenyl	111.		%	1	06.06.00		

1) Sample Preparation on 06-05-00 using EPA 3510
2) An unidentified petroleum hydrocarbon mixture was present in the sample. An approximate concentration has been calculated based on motor oil standards.
3) The final volume of the sample extract was higher than the nominal amount, resulting in (a) higher reporting limit(s).
4) Sample diluted to bring concentration of target analyte(s) within the working range of the instrument, resulting in increased reporting limits.
5) An unidentified petroleum hydrocarbon was present in the sample. An approximate concentration has been calculated based on Diesel #2 standards.

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ENVIRONMENTAL ANALYSES

LAB ORDER No.: A060112

SUPPLEMENTAL QUALITY CONTROL (QC) DATA REPORT

Report Date: 08 JUN 2000
Received Date: 05 JUN 2000

Client: Tracy Babjar
Curtis & Tompkins
2323 5th Street
Berkeley, CA 94710

Project: 145865

QC Batch ID	Method	Matrix
T000165TPH	8015M	AQUEOUS

William Lentsch
Project Manager

CAHorn
Christine Horn
Laboratory Director

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Results are specific to the sample as submitted and only to the parameters reported.
All analyses performed by EPA Methods or Standard Methods (SM) 18th Ed. except where noted.
Results of 'ND' mean not detected at or above the listed Reporting Limit (R.L.).
Analyte Spike Amounts reported as 'NS' mean not spiked and will not have recoveries reported.
'RPD' means Relative Percent Difference and RPD Acceptance Criteria is stated as a maximum.
'NC' means not calculated for RPD or Spike Recoveries.

METHOD BLANK ANALYTICAL RESULTS

LAB ORDER No.: A060112

ANALYTE	RESULT	R.L.	UNITS	ANALYZED	NOTES
QC BATCH: T000165TPH					
TOTAL SEMI-VOLATILE PETROLEUM HYDROCARBONS				06.05.00	
Diesel Fuel	ND	50.	ug/L		
TPH-Extractable, quantitated as diesel	ND	50.	ug/L		
Motor Oil	ND	200.	ug/L		
TPH-Extractable, quantitated as Motor Oil	ND	200.	ug/L		
Surrogate o-Terphenyl	80.		%		

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LABORATORY CONTROL SAMPLE ANALYTICAL RESULTS

LAB ORDER No.: A060112

ANALYTE	SPIKE AMOUNT	SPIKE\DUP RESULT	SPK\DUP %REC	ACCEPTANCE %REC \RPD	REL% DIFF	ANALYZED	NOTES
QC BATCH: T000165TPH							
TOTAL SEMI-VOLATILE PETROLEUM HYDROCARBONS						06.05.00	
Diesel Fuel	1000	912.\	91\	36-102\			
Surrogate o-Terphenyl	100	86.6\	87\	40-140\			

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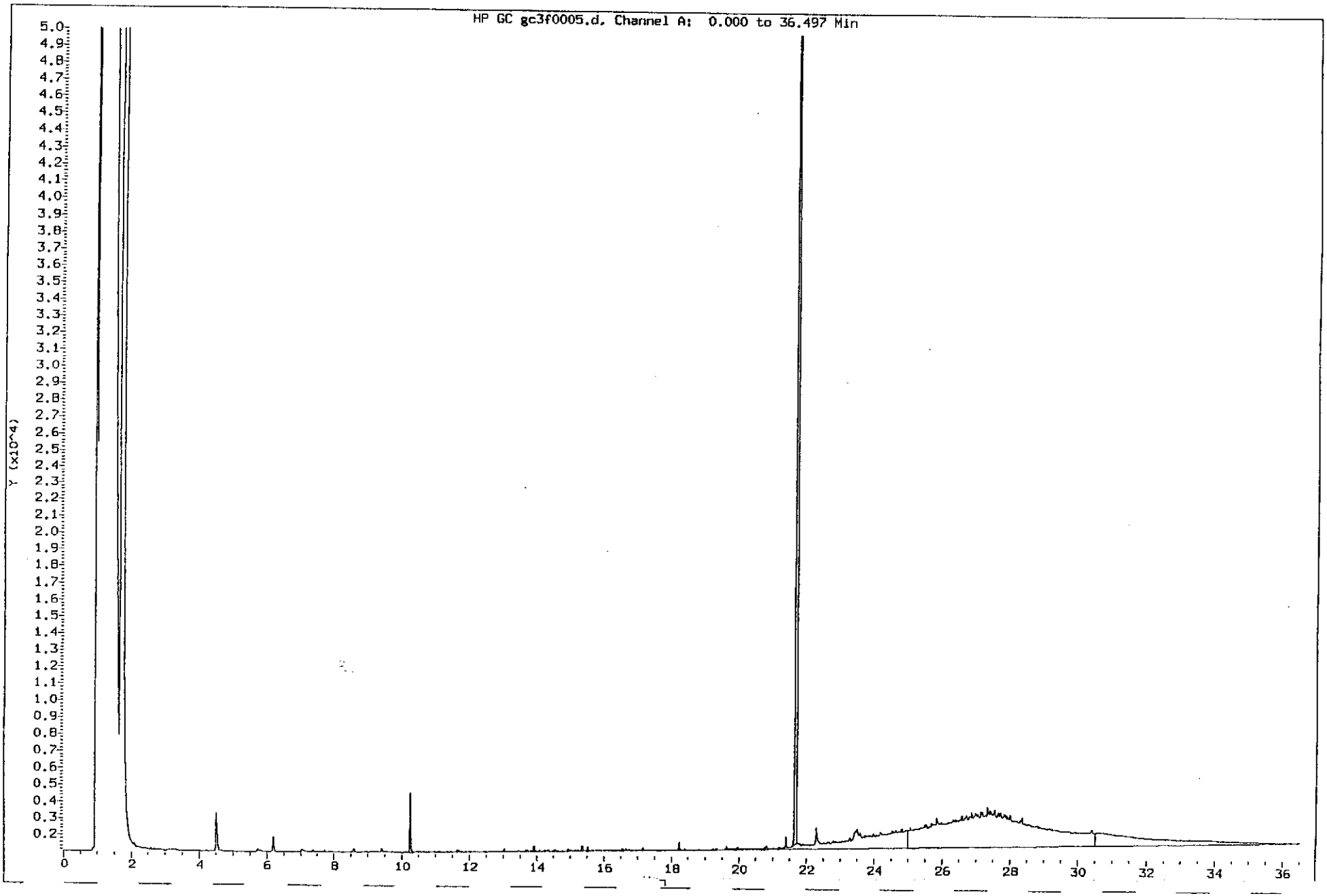
Data File: /var/chem/GC3.i/0606d.b/gc3f0005.d
Injection Date: 06-JUN-2000 18:15
Instrument: GC3.i
Client Sample ID:

SW01

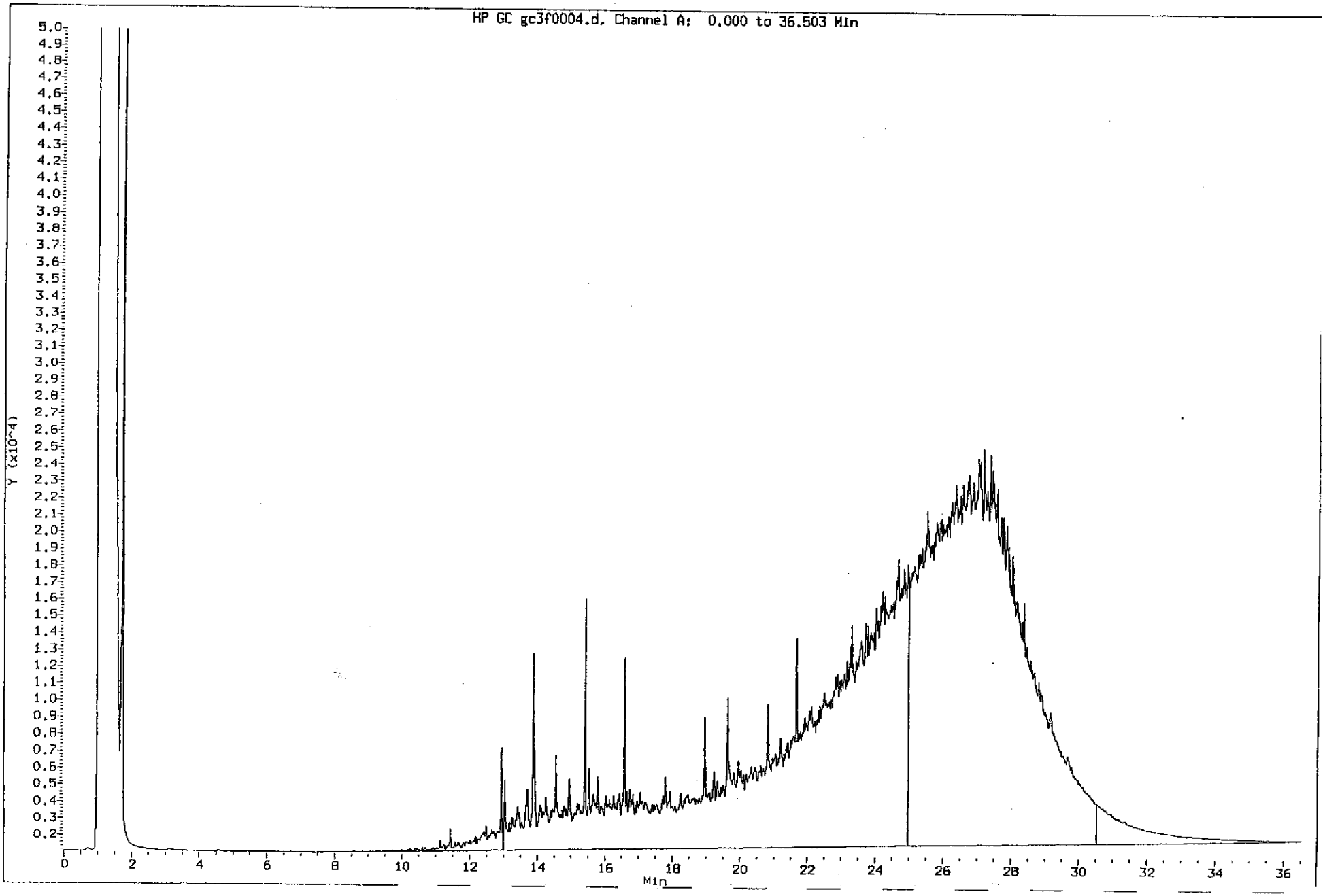
A060112-1



Data File: /var/chem/GC3,1/0607d,b/gc3f0004.d
Injection Date: 07-JUN-2000 15:54
Instrument: GC3,i
Client Sample ID:

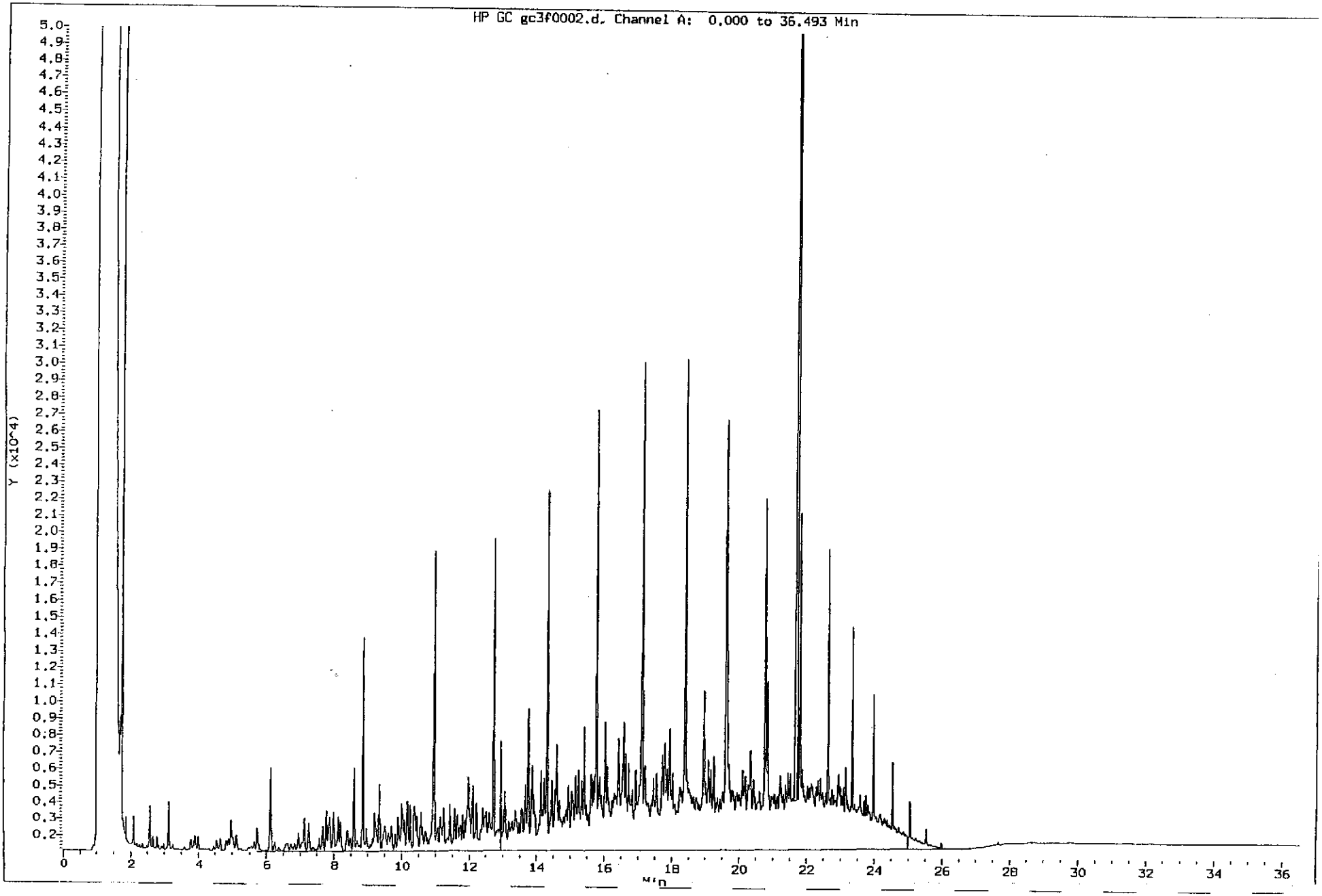
SW02

A060112-2



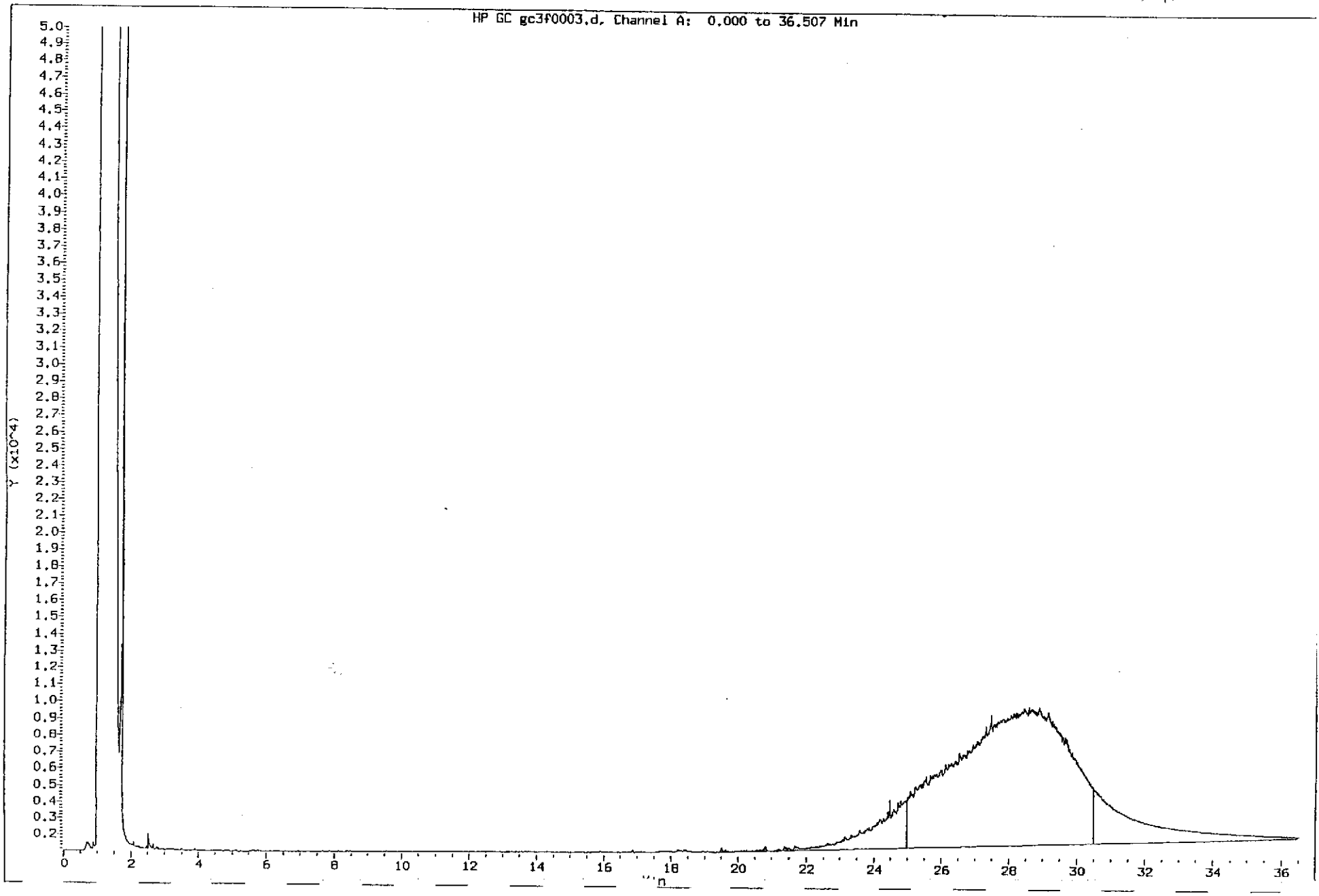
Data File: /var/chem/GC3.1/0607d.b/gc3f0002.d
Injection Date: 07-JUN-2000 14:16
Instrument: GC3.1
Client Sample ID:

Diesel Std



Data File: /var/chem/GC3.1/0607d.b/gc3f0003.d
Injection Date: 07-JUN-2000 15:03
Instrument: GC3.1
Client Sample ID:

Motor Oil Std.



Curtis & Tompkins, Ltd.

Total Extractable Hydrocarbons

Lab #:	145865	Location:	Glenn Echo Creek
Client:	URS Greiner Woodward Clyde	Prep:	SHAKER TABLE
Project#:	51951273NB.00	Analysis:	EPA 8015M
Matrix:	Soil	Sampled:	05/30/00
Units:	mg/Kg	Received:	05/30/00
Basis:	wet	Prepared:	05/31/00
Batch#:	56220		

Field ID:	SS01	Diln Fac:	1.000
Type:	SAMPLE	Analyzed:	06/07/00
Lab ID:	145865-003		

Analyte	Result	RL
Diesel C10-C24	2.4 H Y	1.0
Motor Oil C24-C36	9.4	5.0

Surrogate	%REC	Limits
Hexacosane	101	60-136

Field ID:	SS02	Diln Fac:	10.00
Type:	SAMPLE	Analyzed:	06/08/00
Lab ID:	145865-004		

Analyte	Result	RL
Diesel C10-C24	1,300 H	10
Motor Oil C24-C36	2,100 L	50

Surrogate	%REC	Limits
Hexacosane	DO	60-136

Type:	BLANK	Diln Fac:	1.000
Lab ID:	QC117123	Analyzed:	06/05/00

Analyte	Result	RL
Diesel C10-C24	ND	1.0
Motor Oil C24-C36	ND	5.0

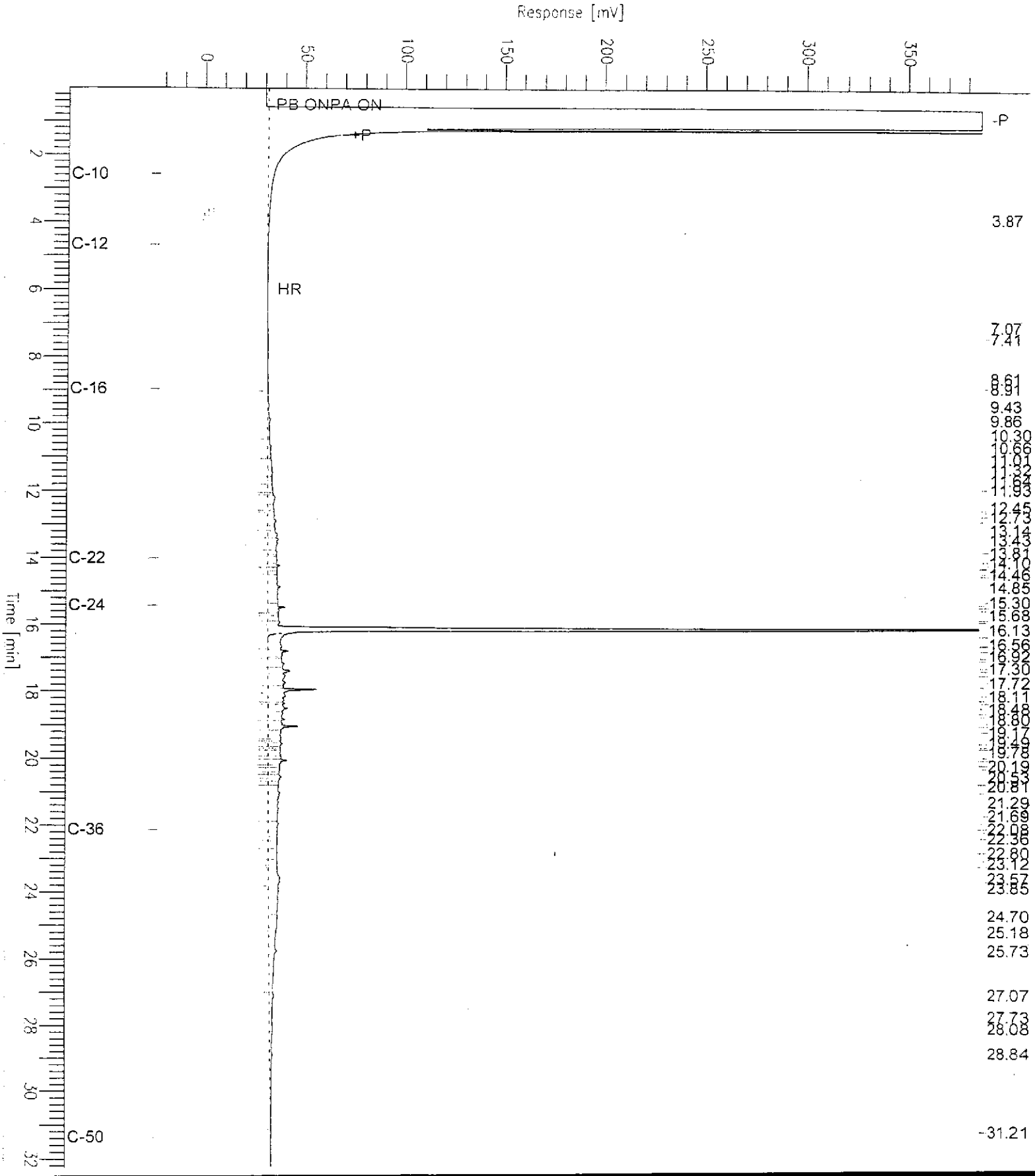
Surrogate	%REC	Limits
Hexacosane	105	60-136

H = Heavier hydrocarbons contributed to the quantitation
L = Lighter hydrocarbons contributed to the quantitation
Y = Sample exhibits fuel pattern which does not resemble standard
DO = Diluted Out
ND = Not Detected
RL = Reporting Limit

Chromatogram

Sample Name : 145865-003,56220
FileName : G:\GC11\CHA\158A011.RAW
Method : ATEH156.MTH
Start Time : 0.01 min End Time : 32.41 min
Scale Factor: 0.0 Plot Offset: -22 mV

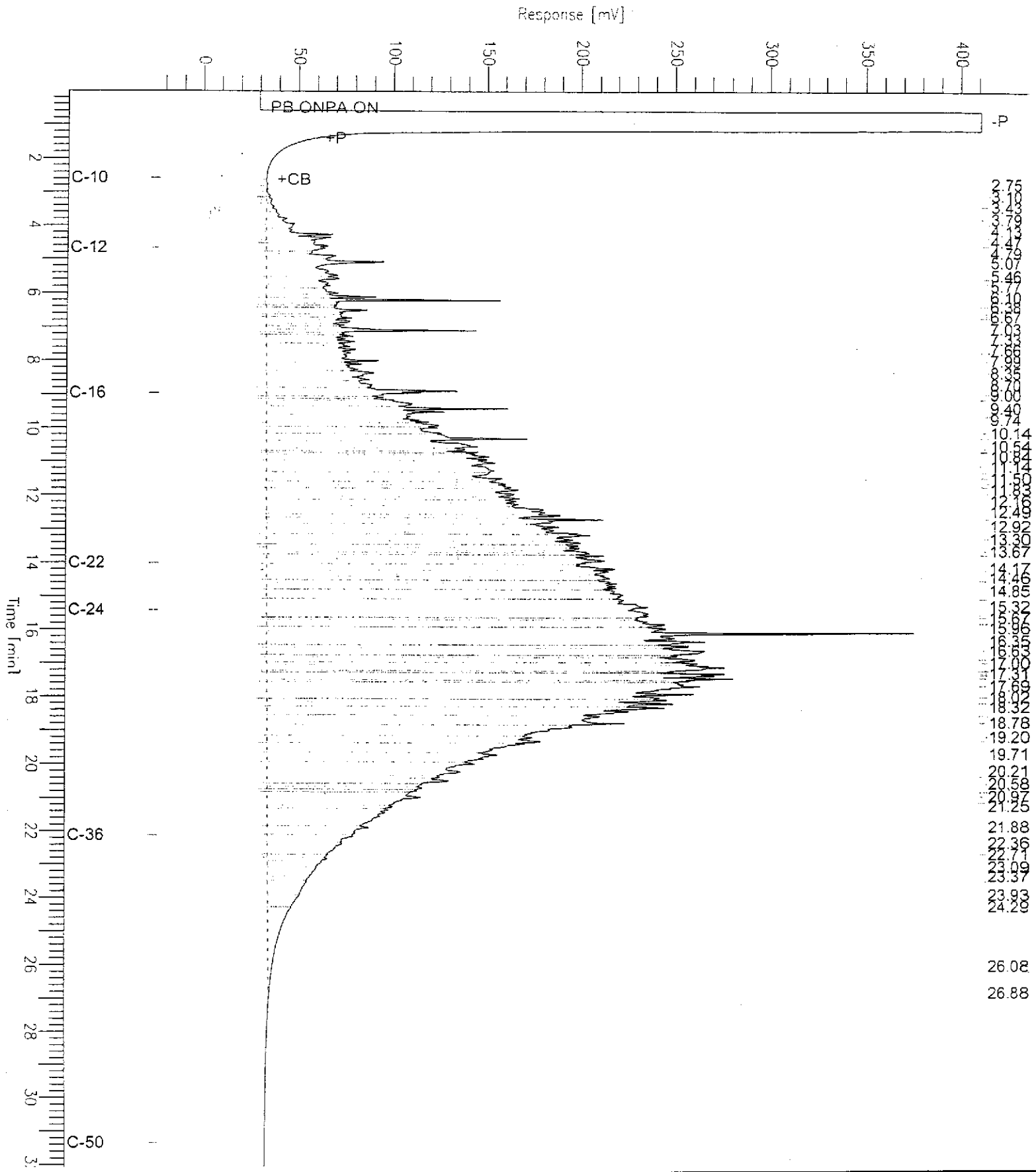
Sample #: 56220 Page 1 of 1
Date : 6/7/00 07:24 AM
Time of Injection: 6/7/00 01:25 AM
Low Point : -22.31 mV High Point : 386.32 mV
Plot Scale: 408.6 mV



Chromatogram

Sample Name : 145865-004,56220
FileName : G:\GC11\CHA\160A005.RAW
Method : ATEH160.MTH
Start Time : 0.01 min End Time : 32.41 min
Scale Factor: 0.0 Plot Offset: -23 mV

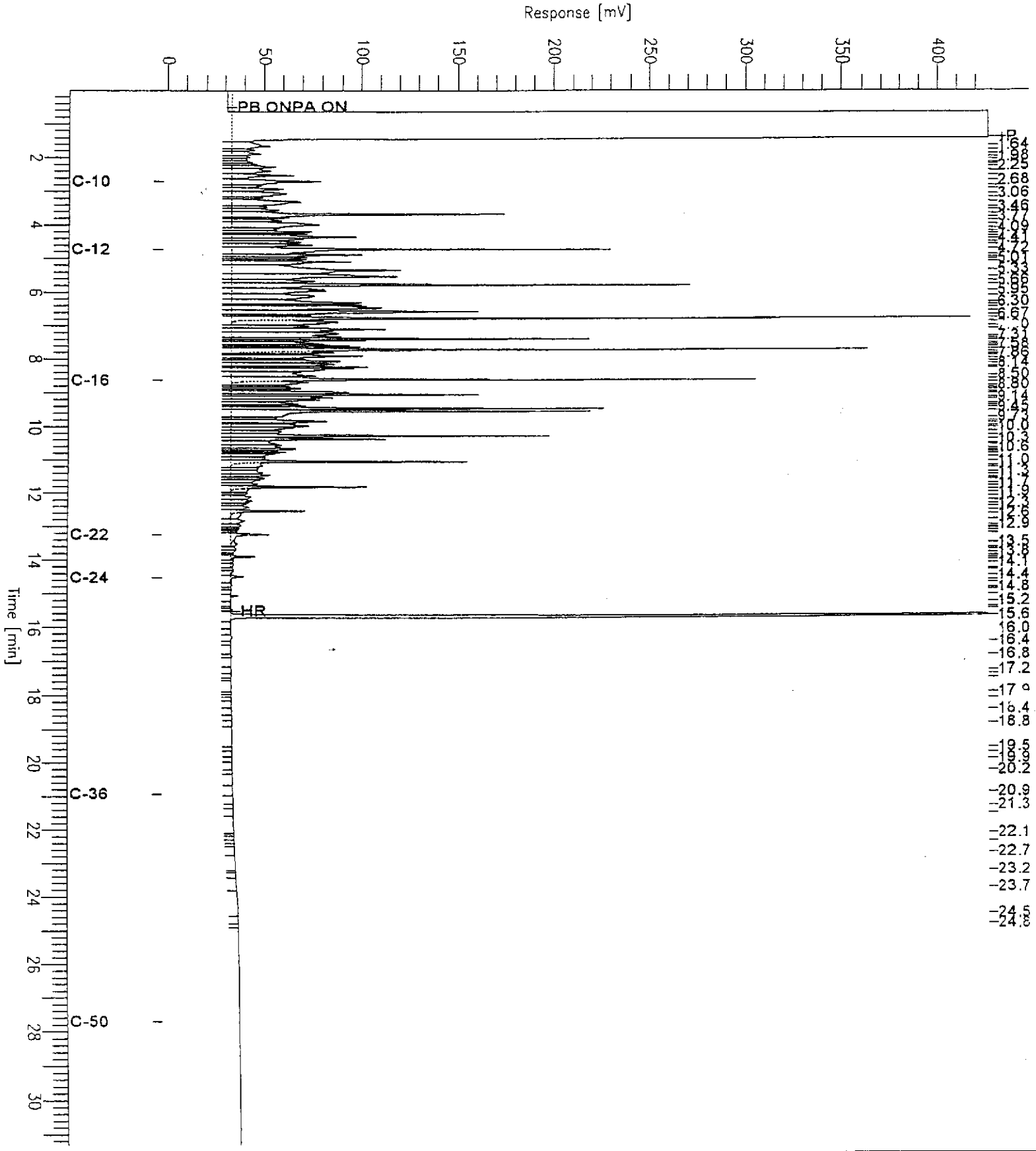
Sample #: 56220 Page 1 of 1
Date : 6/9/00 07:20 AM
Time of Injection: 6/8/00 09:25 PM
Low Point : -22.82 mV High Point : 410.79 mV
Plot Scale: 433.6 mV



Chromatogram

Sample Name : ccv,00ws9255,dsl
FileName : G:\GC15\CHB\156B001.RAW
Method : BTEH154.MTH
Start Time : 0.01 min End Time : 31.91 min
Scale Factor: 0.0 Plot Offset: -2 mV

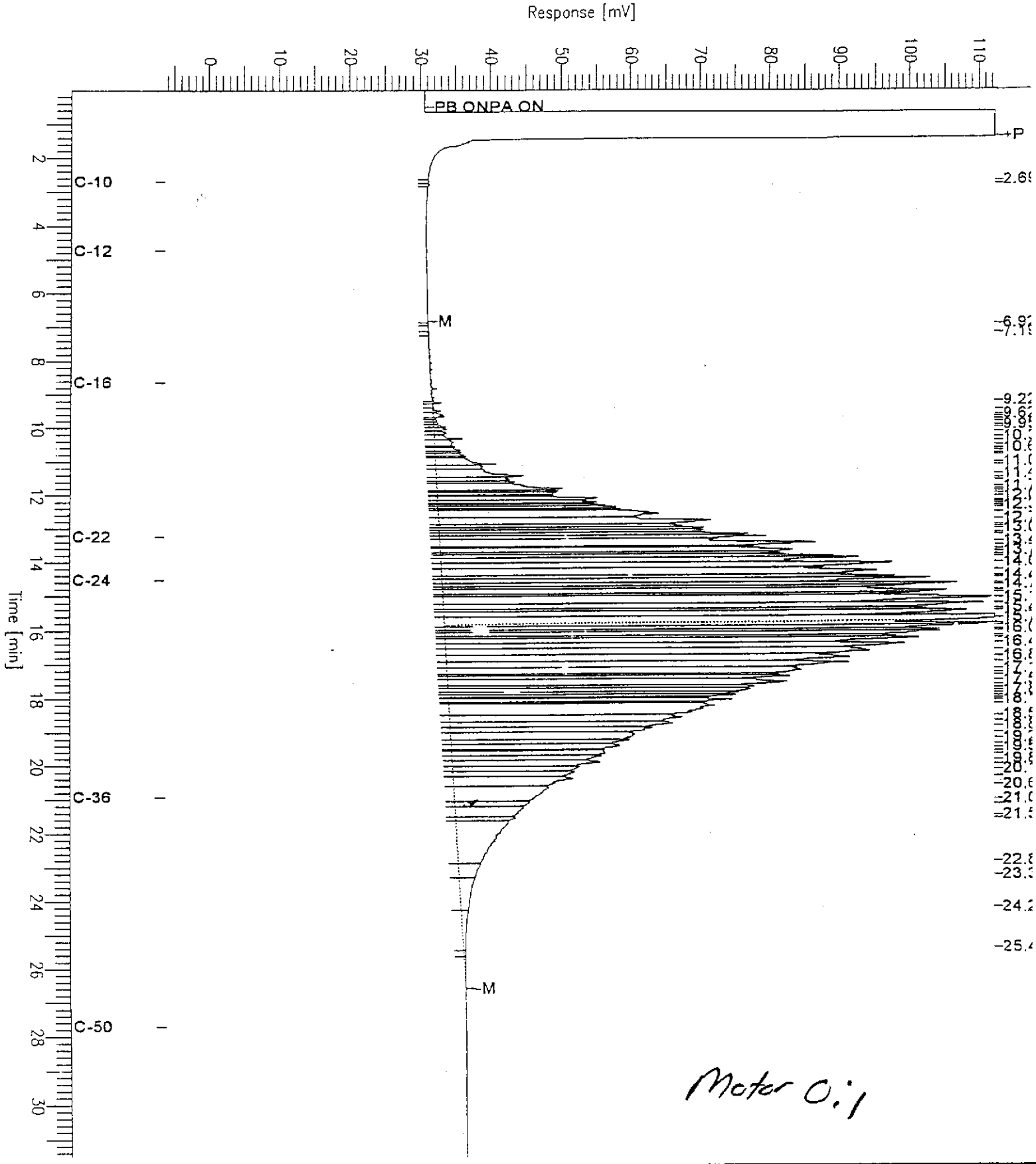
Sample #: Page 1 of 1
Date : 06/04/2000 03:28 PM
Time of Injection: 06/04/2000 02:46 PM
Low Point : -2.36 mV High Point : 426.66 mV
Plot Scale: 429.0 mV



Chromatogram

Sample Name : ccv,00ws9261,mo
FileName : G:\GC15\CHB\156B002.RAW
Method : BTEH154.MTH
Start Time : 0.01 min End Time : 31.91 min
Scale Factor: 0.0 Plot Offset: -6 mV

Sample #: Page 1 of 1
Date : 06/04/2000 04:12 PM
Time of Injection: 06/04/2000 03:29 PM
Low Point : -6.40 mV High Point : 112.28 mV
Plot Scale: 118.7 mV



Motor Oil

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Total Extractable Hydrocarbons

Lab #:	145865	Location:	Glenn Echo Creek
Client:	URS Greiner Woodward Clyde	Prep:	SHAKER TABLE
Project#:	51951273NB.00	Analysis:	EPA 8015M
Type:	LCS	Diln Fac:	1.000
Lab ID:	QC117124	Batch#:	56220
Matrix:	Soil	Prepared:	05/31/00
Units:	mg/Kg	Analyzed:	06/06/00
Basis:	wet		

Analyte	Spiked	Result	%REC	Limits
Diesel C10-C24	46.79	46.09	99	67-121

Surrogate	%REC	Limits
Hexacosane	111	60-136

Curtis & Tompkins, Ltd.

Total Extractable Hydrocarbons

Lab #:	145865	Location:	Glenn Echo Creek
Client:	URS Greiner Woodward Clyde	Prep:	SHAKER TABLE
Project#:	51951273NB.00	Analysis:	EPA 8015M
Field ID:	ZZZZZZZZZZ	Batch#:	56220
MSS Lab ID:	145855-001	Sampled:	05/30/00
Matrix:	Soil	Received:	05/30/00
Units:	mg/Kg	Prepared:	05/31/00
Basis:	wet	Analyzed:	06/08/00
Diln Fac:	1.000		

Type: MS Lab ID: QC117125

Analyte	MSS Result	Spiked	Result	%REC	Limits
Diesel C10-C24	33.03	46.50	58.22	54	35-146

Surrogate	%REC	Limits
Hexacosane	102	60-136

Type: MSD Lab ID: QC117126

Analyte	Spiked	Result	%REC	Limits	RPD	Lim
Diesel C10-C24	46.67	35.64	6 *	35-146	48	48

Surrogate	%REC	Limits
Hexacosane	76	60-136

* = Value outside of QC limits; see narrative
RPD= Relative Percent Difference

Curtis & Tompkins, Ltd.

Curtis & Tompkins Laboratories Analytical Report

Lab #:	145865	Location:	Glenn Echo Creek
Client:	URS Greiner Woodward Clyde	Prep:	EPA 5030
Project#:	51951273NB.00		
Matrix:	Soil	Batch#:	56236
Basis:	wet	Sampled:	05/30/00
Diln Fac:	1.000	Received:	05/30/00

Field ID: SS01 Lab ID: 145865-003
Type: SAMPLE Analyzed: 05/31/00

Analyte	Result	RL	Units	Analysis
Gasoline C7-C12	ND	1.0	mg/Kg	EPA 8015M
Benzene	ND	5.1	ug/Kg	EPA 8021B
Toluene	ND	5.1	ug/Kg	EPA 8021B
Ethylbenzene	ND	5.1	ug/Kg	EPA 8021B
m,p-Xylenes	ND	5.1	ug/Kg	EPA 8021B
o-Xylene	ND	5.1	ug/Kg	EPA 8021B

Surrogate	%REC	Limits	Analysis
Trifluorotoluene (FID)	112	62-138	EPA 8015M
Bromofluorobenzene (FID)	111	46-150	EPA 8015M
Trifluorotoluene (PID)	102	65-134	EPA 8021B
Bromofluorobenzene (PID)	98	55-138	EPA 8021B

Field ID: SS02 Lab ID: 145865-004
Type: SAMPLE Analyzed: 06/01/00

Analyte	Result	RL	Units	Analysis
Gasoline C7-C12	7.6 H Y	1.0	mg/Kg	EPA 8015M
Benzene	ND	5.2	ug/Kg	EPA 8021B
Toluene	ND	5.2	ug/Kg	EPA 8021B
Ethylbenzene	ND	5.2	ug/Kg	EPA 8021B
m,p-Xylenes	ND	5.2	ug/Kg	EPA 8021B
o-Xylene	ND	5.2	ug/Kg	EPA 8021B

Surrogate	%REC	Limits	Analysis
Trifluorotoluene (FID)	88	62-138	EPA 8015M
Bromofluorobenzene (FID)	85	46-150	EPA 8015M
Trifluorotoluene (PID)	80	65-134	EPA 8021B
Bromofluorobenzene (PID)	76	55-138	EPA 8021B

Type: BLANK Analyzed: 05/31/00
Lab ID: QC117187

Analyte	Result	RL	Units	Analysis
Gasoline C7-C12	ND	1.0	mg/Kg	EPA 8015M
Benzene	ND	5.0	ug/Kg	EPA 8021B
Toluene	ND	5.0	ug/Kg	EPA 8021B
Ethylbenzene	ND	5.0	ug/Kg	EPA 8021B
m,p-Xylenes	ND	5.0	ug/Kg	EPA 8021B
o-Xylene	ND	5.0	ug/Kg	EPA 8021B

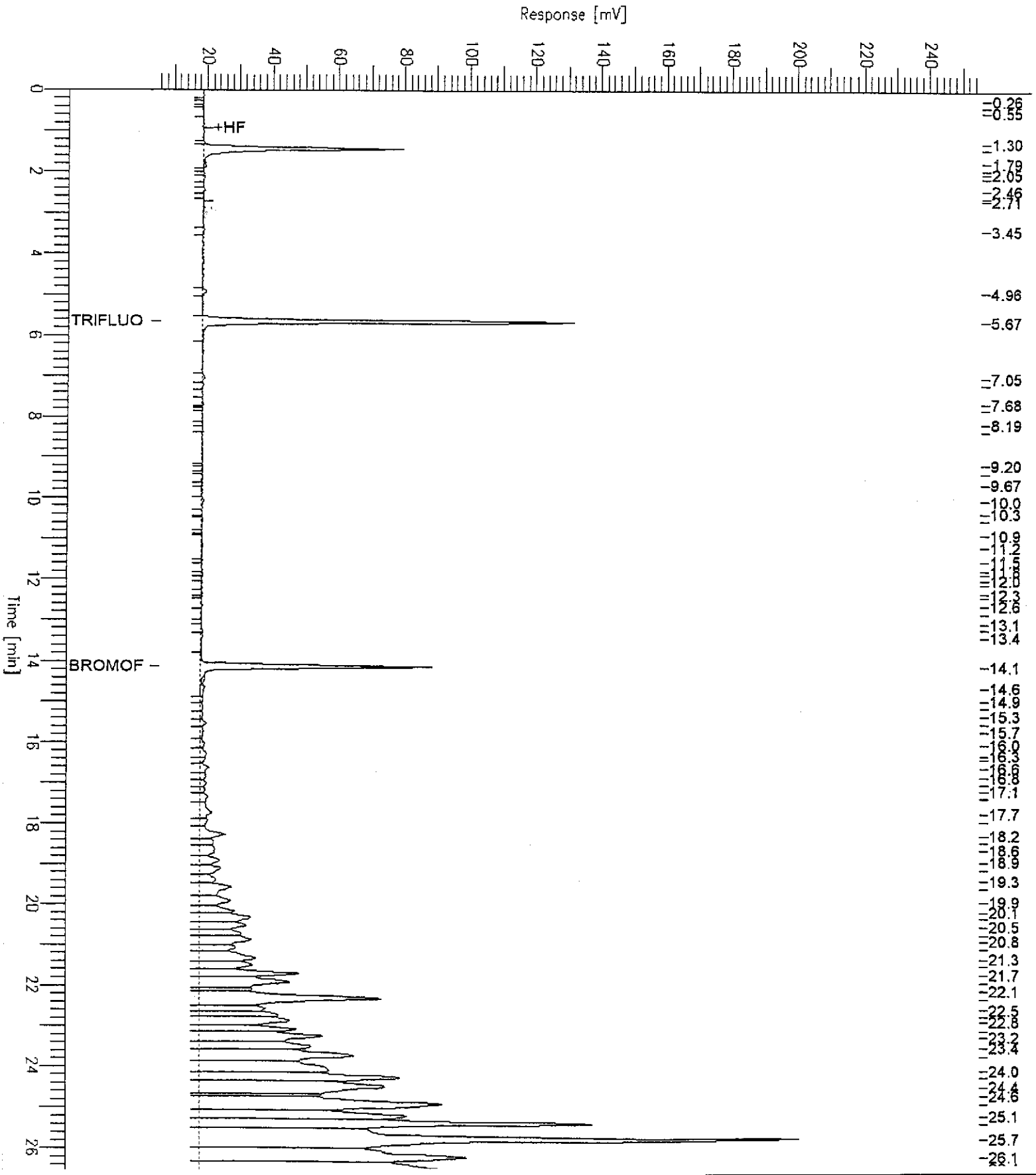
Surrogate	%REC	Limits	Analysis
Trifluorotoluene (FID)	116	62-138	EPA 8015M
Bromofluorobenzene (FID)	114	46-150	EPA 8015M
Trifluorotoluene (PID)	106	65-134	EPA 8021B
Bromofluorobenzene (PID)	104	55-138	EPA 8021B

H = Heavier hydrocarbons contributed to the quantitation
Y = Sample exhibits fuel pattern which does not resemble standard
ND = Not Detected
RL = Reporting Limit

GC19 TVH 'X' Data File (FID)

Sample Name : 145865-004,56236
FileName : G:\GC19\DATA\152X038.raw
Method : TVHBTXE
Start Time : 0.00 min End Time : 26.80 min
Scale Factor: -1.0 Plot Offset: 6 mV

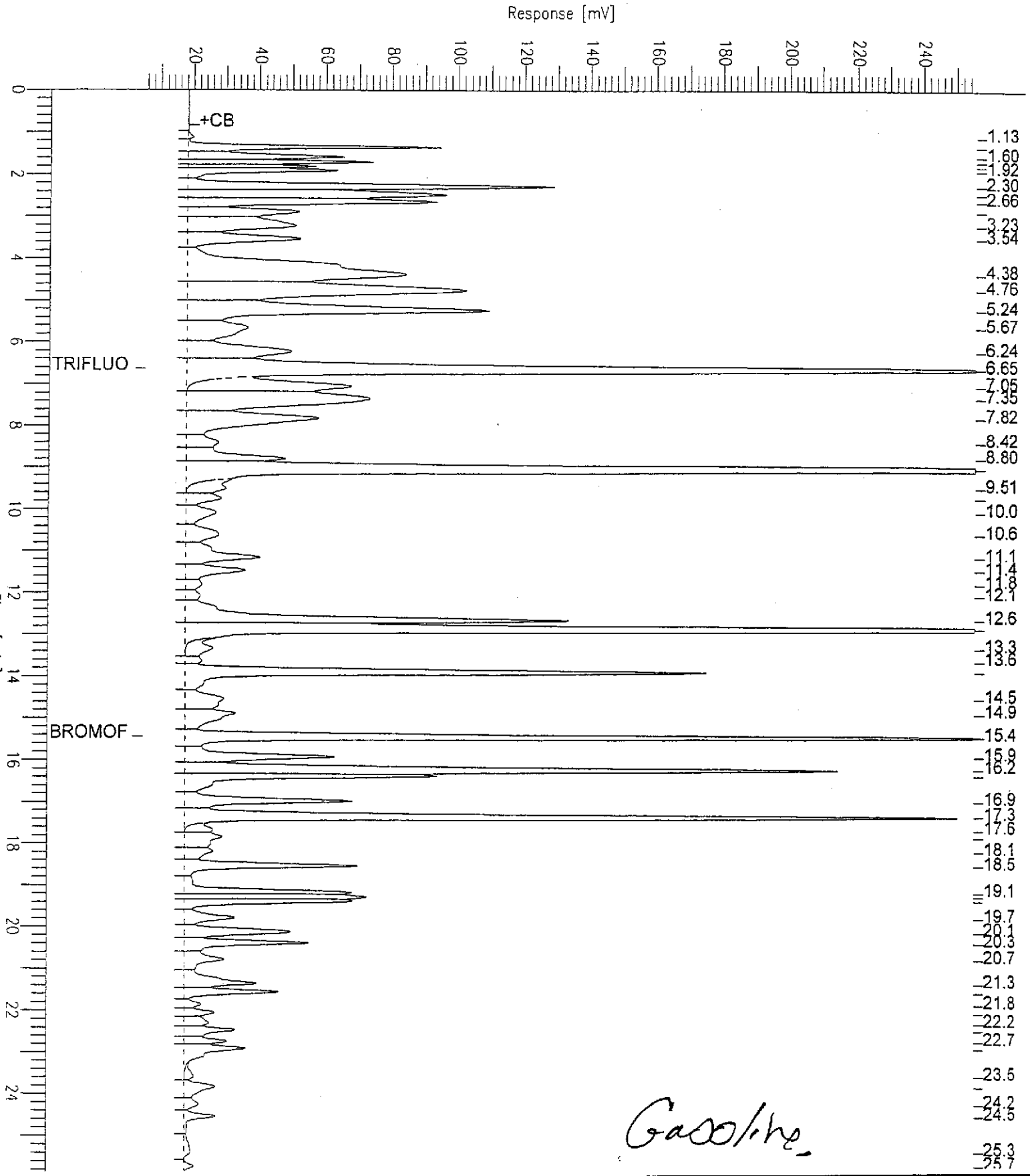
Sample #: a Page 1 of 1
Date : 6/2/00 12:50 PM
Time of Injection: 6/1/00 05:30 PM
Low Point : 5.98 mV High Point : 255.98 mV
Plot Scale: 250.0 mV



GC07 TVH 'A' Data File RTX 502

Sample Name : CCV/BS,QC117168,56231,00WS9032,5/5000
FileName : G:\GC07\DATA\152A004.raw
Method : TVHBTXE
Start Time : 0.00 min End Time : 26.00 min
Scale Factor: -1.0 Plot Offset: 6 mV

Sample #: GAS
Date : 5/31/00 09:02 PM
Time of Injection: 5/31/00 08:37 PM
Low Point : 5.64 mV High Point : 255.64 mV
Plot Scale: 250.0 mV



Gasoline

Curtis & Tompkins, Ltd.

Curtis & Tompkins Laboratories Analytical Report

Lab #:	145865	Location:	Glenn Echo Creek
Client:	URS Greiner Woodward Clyde	Prep:	EPA 5030
Project#:	51951273NB.00		
Matrix:	Soil	Diln Fac:	1.000
Units:	mg/Kg	Batch#:	56236
Basis:	wet	Analyzed:	05/31/00

Type: BS Lab ID: QC117188

Analyte	Spiked	Result	%REC	Limits	Analysis
Gasoline C7-C12	10.00	10.40	104	75-123	EPA 8015M
Benzene		NA			
Toluene		NA			
Ethylbenzene		NA			
m,p-Xylenes		NA			
o-Xylene		NA			

Surrogate	%REC	Limits	Analysis
Trifluorotoluene (FID)	137	62-138	EPA 8015M
Bromofluorobenzene (FID)	142	46-150	EPA 8015M
Trifluorotoluene (PID)	137 *	65-134	EPA 8021B
Bromofluorobenzene (PID)	116	55-138	EPA 8021B

Type: BSD Lab ID: QC117189

Analyte	Spiked	Result	%REC	Limits	RPD	Lim	Analysis
Gasoline C7-C12	10.00	11.16	112	75-123	7	20	EPA 8015M
Benzene		NA					
Toluene		NA					
Ethylbenzene		NA					
m,p-Xylenes		NA					
o-Xylene		NA					

Surrogate	%REC	Limits	Analysis
Trifluorotoluene (FID)	132	62-138	EPA 8015M
Bromofluorobenzene (FID)	135	46-150	EPA 8015M
Trifluorotoluene (PID)	101	65-134	EPA 8021B
Bromofluorobenzene (PID)	108	55-138	EPA 8021B

* = Value outside of QC limits; see narrative
NA= Not Analyzed
RPD= Relative Percent Difference

Curtis & Tompkins, Ltd.

Curtis & Tompkins Laboratories Analytical Report

Lab #:	145865	Location:	Glenn Echo Creek
Client:	URS Greiner Woodward Clyde	Prep:	EPA 5030
Project#:	51951273NB.00		
Type:	LCS	Basis:	wet
Lab ID:	QC117190	Diln Fac:	1.000
Matrix:	Soil	Batch#:	56236
Units:	ug/Kg	Analyzed:	05/31/00

Analyte	Spiked	Result	%REC	Limits	Analysis
Gasoline C7-C12		NA			
Benzene	100.0	96.76	97	68-117	EPA 8021B
Toluene	100.0	101.3	101	70-120	EPA 8021B
Ethylbenzene	100.0	104.7	105	67-124	EPA 8021B
m,p-Xylenes	200.0	218.5	109	72-124	EPA 8021B
o-Xylene	100.0	103.0	103	72-123	EPA 8021B

Surrogate	%REC	Limits	Analysis
Trifluorotoluene (FID)	117	62-138	EPA 8015M
Bromofluorobenzene (FID)	120	46-150	EPA 8015M
Trifluorotoluene (PID)	104	65-134	EPA 8021B
Bromofluorobenzene (PID)	107	55-138	EPA 8021B

NA= Not Analyzed

Curtis & Tompkins, Ltd.

Curtis & Tompkins Laboratories Analytical Report

Lab #:	145865	Location:	Glenn Echo Creek
Client:	URS Greiner Woodward Clyde	Prep:	EPA 5030
Project#:	51951273NB.00		
Field ID:	SS01	Diln Fac:	1.000
MSS Lab ID:	145865-003	Batch#:	56236
Matrix:	Soil	Sampled:	05/30/00
Units:	ug/Kg	Received:	05/30/00
Basis:	wet	Analyzed:	06/01/00

Type: MS Lab ID: QC117191

Analyte	MSS Result	Spiked	Result	%REC	Limits	Analysis
Gasoline C7-C12		NA				
Benzene	ND	102.0	101.9	100	62-117	EPA 8021B
Toluene	ND	102.0	103.4	101	55-121	EPA 8021B
Ethylbenzene	ND	102.0	105.7	104	46-128	EPA 8021B
m,p-Xylenes	ND	204.1	219.1	107	33-141	EPA 8021B
o-Xylene	ND	102.0	108.3	106	40-136	EPA 8021B

Surrogate	%REC	Limits	Analysis
Trifluorotoluene (FID)	114	62-138	EPA 8015M
Bromofluorobenzene (FID)	119	46-150	EPA 8015M
Trifluorotoluene (PID)	102	65-134	EPA 8021B
Bromofluorobenzene (PID)	104	55-138	EPA 8021B

Type: MSD Lab ID: QC117192

Analyte	Spiked	Result	%REC	Limits	RPD	Lim	Analysis
Gasoline C7-C12	NA						
Benzene	102.0	100.4	98	62-117	1	20	EPA 8021B
Toluene	102.0	103.3	101	55-121	0	20	EPA 8021B
Ethylbenzene	102.0	105.0	103	46-128	1	20	EPA 8021B
m,p-Xylenes	204.1	218.7	107	33-141	0	20	EPA 8021B
o-Xylene	102.0	105.8	104	40-136	2	20	EPA 8021B

Surrogate	%REC	Limits	Analysis
Trifluorotoluene (FID)	114	62-138	EPA 8015M
Bromofluorobenzene (FID)	116	46-150	EPA 8015M
Trifluorotoluene (PID)	101	65-134	EPA 8021B
Bromofluorobenzene (PID)	104	55-138	EPA 8021B

ND = Not Detected
NA= Not Analyzed
RPD= Relative Percent Difference

Curtis & Tompkins, Ltd.

Gasoline by GC/FID CA LUFT

Lab #:	145865	Location:	Glenn Echo Creek
Client:	URS Greiner Woodward Clyde	Prep:	EPA 5030
Project#:	51951273NB.00	Analysis:	EPA 8015M
Matrix:	Water	Batch#:	56231
Units:	ug/L	Sampled:	05/30/00
Diln Fac:	1.000	Received:	05/30/00

Field ID: SW01 Lab ID: 145865-001
Type: SAMPLE Analyzed: 06/01/00

Analyte	Result	RL
Gasoline C7-C12	ND	50

Surrogate	%REC	Limits
Trifluorotoluene (FID)	112	59-135
Bromofluorobenzene (FID)	119	60-140

Field ID: SW02 Lab ID: 145865-002
Type: SAMPLE Analyzed: 06/01/00

Analyte	Result	RL
Gasoline C7-C12	1,400 H Y	50

Surrogate	%REC	Limits
Trifluorotoluene (FID)	109	59-135
Bromofluorobenzene (FID)	114	60-140

Type: BLANK Analyzed: 05/31/00
Lab ID: QC117170

Analyte	Result	RL
Gasoline C7-C12	ND	50

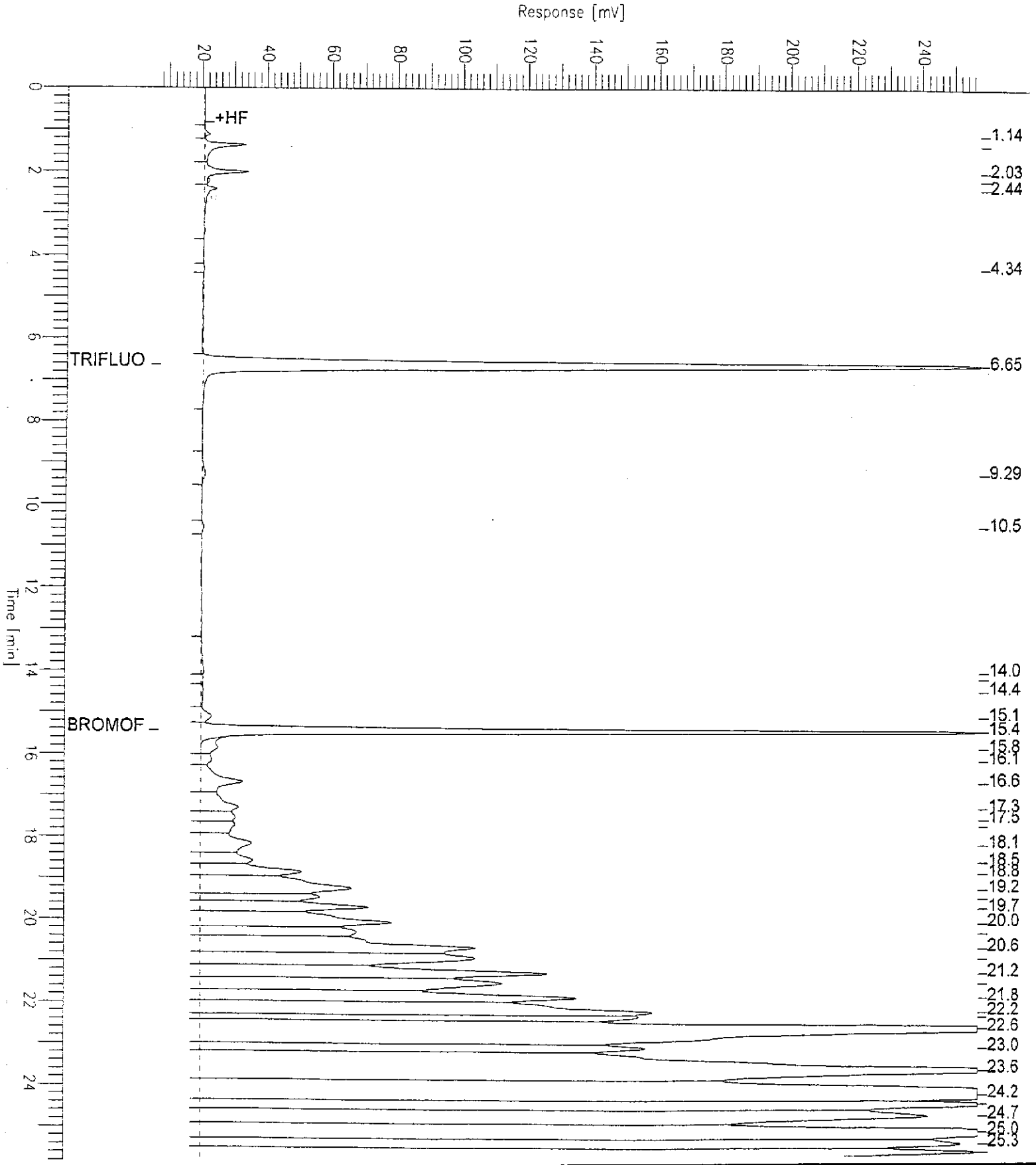
Surrogate	%REC	Limits
Trifluorotoluene (FID)	105	59-135
Bromofluorobenzene (FID)	104	60-140

H = Heavier hydrocarbons contributed to the quantitation
Y = Sample exhibits fuel pattern which does not resemble standard
ND = Not Detected
RL = Reporting Limit

GC07 TVH 'A' Data File RTX 502

Sample Name : 145865-002,56231
FileName : G:\GC07\DATA\152A025.raw
Method : TVHBTXE
Start Time : 0.00 min End Time : 26.00 min
Scale Factor: -1.0 Plot Offset: 8 mV

Sample #:
Date : 6/2/00 01:39 PM
Time of Injection: 6/1/00 09:40 AM
Low Point : 7.68 mV High Point : 257.68 mV
Plot Scale: 250.0 mV



Curtis & Tompkins, Ltd.

Benzene, Toluene, Ethylbenzene, Xylenes

Lab #:	145865	Location:	Glenn Echo Creek
Client:	URS Greiner Woodward Clyde	Prep:	EPA 5030
Project#:	51951273NB.00	Analysis:	EPA 8021B
Matrix:	Water	Batch#:	56231
Units:	ug/L	Sampled:	05/30/00
Diln Fac:	1.000	Received:	05/30/00

Field ID: SW01 Lab ID: 145865-001
Type: SAMPLE Analyzed: 06/01/00

Analyte	Result	RL
Benzene	ND	0.50
Toluene	ND	0.50
Ethylbenzene	ND	0.50
m,p-Xylenes	ND	0.50
o-Xylene	ND	0.50

Surrogate	%REC	Limits
Trifluorotoluene (PID)	112	56-142
Bromofluorobenzene (PID)	117	55-149

Field ID: SW02 Lab ID: 145865-002
Type: SAMPLE Analyzed: 06/01/00

Analyte	Result	RL
Benzene	ND	0.50
Toluene	ND	0.50
Ethylbenzene	ND	0.50
m,p-Xylenes	ND	0.50
o-Xylene	ND	0.50

Surrogate	%REC	Limits
Trifluorotoluene (PID)	111	56-142
Bromofluorobenzene (PID)	112	55-149

Type: BLANK Analyzed: 05/31/00
Lab ID: QC117170

Analyte	Result	RL
Benzene	ND	0.50
Toluene	ND	0.50
Ethylbenzene	ND	0.50
m,p-Xylenes	ND	0.50
o-Xylene	ND	0.50

Surrogate	%REC	Limits
Trifluorotoluene (PID)	107	56-142
Bromofluorobenzene (PID)	107	55-149

ND = Not Detected
RL = Reporting Limit

Curtis & Tompkins, Ltd.

Gasoline by GC/FID CA LUFT

Lab #:	145865	Location:	Glenn Echo Creek
Client:	URS Greiner Woodward Clyde	Prep:	EPA 5030
Project#:	51951273NB.00	Analysis:	EPA 8015M
Type:	BS	Diln Fac:	1.000
Lab ID:	QC117168	Batch#:	56231
Matrix:	Water	Analyzed:	05/31/00
Units:	ug/L		

Analyte	Spiked	Result	%REC	Limits
Gasoline C7-C12	2,000	2,046	102	73-121

Surrogate	%REC	Limits
Trifluorotoluene (FID)	126	59-135
Bromofluorobenzene (FID)	115	60-140

Curtis & Tompkins, Ltd.

Gasoline by GC/FID CA LUFT

Lab #:	145865	Location:	Glenn Echo Creek
Client:	URS Greiner Woodward Clyde	Prep:	EPA 5030
Project#:	51951273NB.00	Analysis:	EPA 8015M
Type:	BSD	Diln Fac:	1.000
Lab ID:	QC117173	Batch#:	56231
Matrix:	Water	Analyzed:	05/31/00
Units:	ug/L		

Analyte	Spiked	Result	%REC	Limits	RPD	Lim
Gasoline C7-C12	2,000	2,060	103	73-121	1	20

Surrogate	%REC	Limits
Trifluorotoluene (FID)	127	59-135
Bromofluorobenzene (FID)	115	60-140

RPD= Relative Percent Difference

Curtis & Tompkins, Ltd.

Benzene, Toluene, Ethylbenzene, Xylenes

Lab #:	145865	Location:	Glenn Echo Creek
Client:	URS Greiner Woodward Clyde	Prep:	EPA 5030
Project#:	51951273NB.00	Analysis:	EPA 8021B
Type:	LCS	Diln Fac:	1.000
Lab ID:	QC117169	Batch#:	56231
Matrix:	Water	Analyzed:	05/31/00
Units:	ug/L		

Analyte	Spiked	Result	%REC	Limits
Benzene	20.00	19.91	100	67-117
Toluene	20.00	20.71	104	69-117
Ethylbenzene	20.00	20.48	102	68-124
m,p-Xylenes	40.00	41.07	103	70-125
o-Xylene	20.00	20.33	102	65-129

Surrogate	%REC	Limits
Trifluorotoluene (PID)	111	56-142
Bromofluorobenzene (PID)	112	55-149

Curtis & Tompkins, Ltd.

Benzene, Toluene, Ethylbenzene, Xylenes

Lab #:	145865	Location:	Glenn Echo Creek
Client:	URS Greiner Woodward Clyde	Prep:	EPA 5030
Project#:	51951273NB.00	Analysis:	EPA 8021B
Field ID:	SW01	Batch#:	56231
MSS Lab ID:	145865-001	Sampled:	05/30/00
Matrix:	Water	Received:	05/30/00
Units:	ug/L	Analyzed:	06/01/00
Diln Fac:	1.000		

Type: MS Lab ID: QC117171

Analyte	MSS Result	Spiked	Result	%REC	Limits
Benzene	ND	20.00	18.88	94	65-123
Toluene	ND	20.00	19.73	99	73-122
Ethylbenzene	ND	20.00	18.61	93	59-137
m,p-Xylenes	ND	40.00	39.57	99	68-132
o-Xylene	ND	20.00	19.49	97	61-140

Surrogate	%REC	Limits
Trifluorotoluene (PID)	112	56-142
Bromofluorobenzene (PID)	115	55-149

Type: MSD Lab ID: QC117172

Analyte	Spiked	Result	%REC	Limits	RPD	Lim
Benzene	20.00	19.92	100	65-123	5	20
Toluene	20.00	20.78	104	73-122	5	20
Ethylbenzene	20.00	20.09	100	59-137	8	20
m,p-Xylenes	40.00	41.06	103	68-132	4	20
o-Xylene	20.00	20.65	103	61-140	6	20

Surrogate	%REC	Limits
Trifluorotoluene (PID)	115	56-142
Bromofluorobenzene (PID)	123	55-149

ND = Not Detected
RPD= Relative Percent Difference

Curtis & Tompkins, Ltd.

California Title 26 Metals

Lab #:	145865	Project#:	51951273NB.00
Client:	URS Greiner Woodward Clyde	Location:	Glenn Echo Creek
Field ID:	SS01	Basis:	wet
Lab ID:	145865-003	Diln Fac:	1.000
Matrix:	Soil	Sampled:	05/30/00
Units:	mg/Kg	Received:	05/30/00

Analyte	Result	RL	Batch#	Prepared	Analyzed	Prep	Analysis
Antimony	ND	3.0	56262	06/01/00	06/02/00	EPA 3050	EPA 6010B
Arsenic	2.5	0.25	56262	06/01/00	06/02/00	EPA 3050	EPA 6010B
Barium	67	0.50	56262	06/01/00	06/02/00	EPA 3050	EPA 6010B
Beryllium	0.35	0.10	56262	06/01/00	06/02/00	EPA 3050	EPA 6010B
Cadmium	1.4	0.25	56262	06/01/00	06/02/00	EPA 3050	EPA 6010B
Chromium	27	0.50	56262	06/01/00	06/02/00	EPA 3050	EPA 6010B
Cobalt	14	1.0	56262	06/01/00	06/02/00	EPA 3050	EPA 6010B
Copper	13	0.50	56262	06/01/00	06/02/00	EPA 3050	EPA 6010B
Lead	21	0.15	56262	06/01/00	06/02/00	EPA 3050	EPA 6010B
Mercury	0.082	0.038	56226	05/31/00	06/01/00	METHOD	EPA 7471
Molybdenum	ND	1.0	56262	06/01/00	06/02/00	EPA 3050	EPA 6010B
Nickel	43	1.0	56262	06/01/00	06/02/00	EPA 3050	EPA 6010B
Selenium	0.32	0.25	56262	06/01/00	06/02/00	EPA 3050	EPA 6010B
Silver	ND	0.25	56262	06/01/00	06/02/00	EPA 3050	EPA 6010B
Thallium	0.44	0.25	56262	06/01/00	06/02/00	EPA 3050	EPA 6010B
Vanadium	27	0.50	56262	06/01/00	06/02/00	EPA 3050	EPA 6010B
Zinc	29	1.0	56262	06/01/00	06/02/00	EPA 3050	EPA 6010B

ND = Not Detected
RL = Reporting Limit

Curtis & Tompkins, Ltd.

California Title 26 Metals

Lab #:	145865	Project#:	51951273NB.00
Client:	URS Greiner Woodward Clyde	Location:	Glenn Echo Creek
Field ID:	SS02	Basis:	wet
Lab ID:	145865-004	Diln Fac:	1.000
Matrix:	Soil	Sampled:	05/30/00
Units:	mg/Kg	Received:	05/30/00

Analyte	Result	RL	Batch#	Prepared	Analyzed	Prep	Analysis
Antimony	ND	3.0	56262	06/01/00	06/02/00	EPA 3050	EPA 6010B
Arsenic	2.7	0.25	56262	06/01/00	06/02/00	EPA 3050	EPA 6010B
Barium	84	0.49	56262	06/01/00	06/02/00	EPA 3050	EPA 6010B
Beryllium	0.33	0.099	56262	06/01/00	06/02/00	EPA 3050	EPA 6010B
Cadmium	1.2	0.25	56262	06/01/00	06/02/00	EPA 3050	EPA 6010B
Chromium	26	0.49	56262	06/01/00	06/02/00	EPA 3050	EPA 6010B
Cobalt	14	0.99	56262	06/01/00	06/02/00	EPA 3050	EPA 6010B
Copper	11	0.49	56262	06/01/00	06/02/00	EPA 3050	EPA 6010B
Lead	19	0.15	56262	06/01/00	06/02/00	EPA 3050	EPA 6010B
Mercury	0.059	0.037	56226	05/31/00	06/01/00	METHOD	EPA 7471
Molybdenum	ND	0.99	56262	06/01/00	06/02/00	EPA 3050	EPA 6010B
Nickel	35	0.99	56262	06/01/00	06/02/00	EPA 3050	EPA 6010B
Selenium	ND	0.25	56262	06/01/00	06/02/00	EPA 3050	EPA 6010B
Silver	ND	0.25	56262	06/01/00	06/02/00	EPA 3050	EPA 6010B
Thallium	0.35	0.25	56262	06/01/00	06/02/00	EPA 3050	EPA 6010B
Vanadium	21	0.49	56262	06/01/00	06/02/00	EPA 3050	EPA 6010B
Zinc	27	0.99	56262	06/01/00	06/02/00	EPA 3050	EPA 6010B

ND = Not Detected
RL = Reporting Limit

Curtis & Tompkins, Ltd.

California Title 26 Metals

Lab #:	145865	Location:	Glenn Echo Creek
Client:	URS Greiner Woodward Clyde	Prep:	METHOD
Project#:	51951273NB.00	Analysis:	EPA 7471
Analyte:	Mercury	Basis:	wet
Type:	BLANK	Diln Fac:	1.000
Lab ID:	QC117149	Batch#:	56226
Matrix:	Soil	Prepared:	05/31/00
Units:	mg/Kg	Analyzed:	06/01/00

Result	RL
ND	0.040

ND = Not Detected
RL = Reporting Limit

Curtis & Tompkins, Ltd.

California Title 26 Metals

Lab #:	145865	Location:	Glenn Echo Creek
Client:	URS Greiner Woodward Clyde	Prep:	EPA 3050
Project#:	51951273NB.00	Analysis:	EPA 6010B
Type:	BLANK	Diln Fac:	1.000
Lab ID:	QC117300	Batch#:	56262
Matrix:	Soil	Prepared:	06/01/00
Units:	mg/Kg	Analyzed:	06/02/00
Basis:	wet		

Analyte	Result	RL
Antimony	ND	3.0
Arsenic	ND	0.25
Barium	ND	0.50
Beryllium	ND	0.10
Cadmium	ND	0.25
Chromium	ND	0.50
Cobalt	ND	1.0
Copper	ND	0.50
Lead	ND	0.15
Molybdenum	ND	1.0
Nickel	ND	1.0
Selenium	ND	0.25
Silver	ND	0.25
Thallium	ND	0.25
Vanadium	ND	0.50
Zinc	ND	1.0

ND = Not Detected
RL = Reporting Limit

Curtis & Tompkins, Ltd.

California Title 26 Metals

Lab #:	145865	Location:	Glenn Echo Creek
Client:	URS Greiner Woodward Clyde	Prep:	METHOD
Project#:	51951273NB.00	Analysis:	EPA 7471
Analyte:	Mercury	Diln Fac:	1.000
Matrix:	Soil	Batch#:	56226
Units:	mg/Kg	Prepared:	05/31/00
Basis:	wet	Analyzed:	06/01/00

Type	Lab ID	Spiked	Result	%REC	Limits	RPD	Lim
BS	QC117150	1.000	0.9900	99	80-120		
BSD	QC117151	1.000	1.016	102	80-120	3	35

RPD= Relative Percent Difference

Curtis & Tompkins, Ltd.

California Title 26 Metals

Lab #:	145865	Location:	Glenn Echo Creek
Client:	URS Greiner Woodward Clyde	Prep:	METHOD
Project#:	51951273NB.00	Analysis:	EPA 7471
Analyte:	Mercury	Basis:	wet
Field ID:	ZZZZZZZZZZ	Diln Fac:	1.000
Type:	SDUP	Batch#:	56226
MSS Lab ID:	145859-021	Sampled:	05/27/00
Lab ID:	QC117152	Received:	05/30/00
Matrix:	Soil	Prepared:	05/31/00
Units:	mg/Kg	Analyzed:	06/01/00

MSS Result	Result	RL	RPD	Lim
<0.03704	0.05291	0.036	NC	35

NC = Not Calculated
RL = Reporting Limit
RPD= Relative Percent Difference

California Title 26 Metals

Lab #:	145865	Location:	Glenn Echo Creek
Client:	URS Greiner Woodward Clyde	Prep:	METHOD
Project#:	51951273NB.00	Analysis:	EPA 7471
Analyte:	Mercury	Diln Fac:	1.000
Field ID:	ZZZZZZZZZZ	Batch#:	56226
MSS Lab ID:	145859-021	Sampled:	05/27/00
Matrix:	Soil	Received:	05/30/00
Units:	mg/Kg	Prepared:	05/31/00
Basis:	wet	Analyzed:	06/01/00

Type	Lab ID	MSS Result	Spiked	Result	%REC	Limits	RPD	Lim
MS	QC117153	0.002407	0.9804	0.9569	97	65-135		
MSD	QC117154		0.9091	0.8927	98	65-135	1	35

RPD= Relative Percent Difference

Curtis & Tompkins, Ltd.

Curtis & Tompkins, Ltd.

California Title 26 Metals

Lab #:	145865	Location:	Glenn Echo Creek
Client:	URS Greiner Woodward Clyde	Prep:	EPA 3050
Project#:	51951273NB.00	Analysis:	EPA 6010B
Matrix:	Soil	Batch#:	56262
Units:	mg/Kg	Prepared:	06/01/00
Basis:	wet	Analyzed:	06/02/00
Diln Fac:	1.000		

Type: BS Lab ID: QC117301

Analyte	Spiked	Result	%REC	Limits
Antimony	100.0	97.00	97	73-111
Arsenic	50.00	43.10	86	74-110
Barium	100.0	87.00	87	76-110
Beryllium	2.500	2.260	90	77-110
Cadmium	10.00	8.400	84	75-112
Chromium	100.0	87.00	87	73-111
Cobalt	25.00	21.35	85	74-110
Copper	12.50	11.05	88	75-111
Lead	100.0	84.00	84	70-110
Molybdenum	20.00	17.95	90	75-110
Nickel	25.00	21.55	86	74-111
Selenium	50.00	41.80	84	73-111
Silver	10.00	8.700	87	70-115
Thallium	50.00	41.85	84	75-110
Vanadium	25.00	22.05	88	74-110
Zinc	25.00	21.00	84	68-110

Type: BSD Lab ID: QC117302

Analyte	Spiked	Result	%REC	Limits	RPD	Lim
Antimony	100.0	99.00	99	73-111	2	20
Arsenic	50.00	44.85	90	74-110	4	20
Barium	100.0	88.50	89	76-110	2	23
Beryllium	2.500	2.335	93	77-110	3	20
Cadmium	10.00	8.750	88	75-112	4	20
Chromium	100.0	89.50	90	73-111	3	23
Cobalt	25.00	22.05	88	74-110	3	24
Copper	12.50	11.20	90	75-111	1	22
Lead	100.0	87.00	87	70-110	4	20
Molybdenum	20.00	18.50	93	75-110	3	20
Nickel	25.00	22.25	89	74-111	3	21
Selenium	50.00	42.95	86	73-111	3	20
Silver	10.00	8.900	89	70-115	2	39
Thallium	50.00	43.50	87	75-110	4	20
Vanadium	25.00	22.65	91	74-110	3	20
Zinc	25.00	21.60	86	68-110	3	22

RPD= Relative Percent Difference

Curtis & Tompkins, Ltd.

California Title 26 Metals

Lab #:	145865	Project#:	51951273NB.00
Client:	URS Greiner Woodward Clyde	Location:	Glenn Echo Creek
Field ID:	SW01	Diln Fac:	1.000
Lab ID:	145865-001	Sampled:	05/30/00
Matrix:	Water	Received:	05/30/00
Units:	ug/L		

Analyte	Result	RL	Batch#	Prepared	Analyzed	Prep	Analysis
Antimony	ND	60	56199	05/30/00	05/31/00	EPA 3010	EPA 6010B
Arsenic	43	5.0	56199	05/30/00	05/31/00	EPA 3010	EPA 6010B
Barium	2,300	10	56199	05/30/00	05/31/00	EPA 3010	EPA 6010B
Beryllium	3.5	2.0	56199	05/30/00	05/31/00	EPA 3010	EPA 6010B
Cadmium	12	5.0	56199	05/30/00	05/31/00	EPA 3010	EPA 6010B
Chromium	140	10	56199	05/30/00	05/31/00	EPA 3010	EPA 6010B
Cobalt	180	20	56199	05/30/00	05/31/00	EPA 3010	EPA 6010B
Copper	140	10	56199	05/30/00	05/31/00	EPA 3010	EPA 6010B
Lead	260	3.0	56199	05/30/00	05/31/00	EPA 3010	EPA 6010B
Mercury	ND	0.20	56246	06/01/00	06/01/00	METHOD	EPA 7470
Molybdenum	ND	20	56199	05/30/00	05/31/00	EPA 3010	EPA 6010B
Nickel	250	20	56199	05/30/00	05/31/00	EPA 3010	EPA 6010B
Selenium	ND	5.0	56199	05/30/00	05/31/00	EPA 3010	EPA 6010B
Silver	ND	5.0	56199	05/30/00	05/31/00	EPA 3010	EPA 6010B
Thallium	8.4	5.0	56199	05/30/00	05/31/00	EPA 3010	EPA 6010B
Vanadium	180	10	56199	05/30/00	05/31/00	EPA 3010	EPA 6010B
Zinc	560	20	56199	05/30/00	05/31/00	EPA 3010	EPA 6010B

ND = Not Detected
RL = Reporting Limit

Curtis & Tompkins, Ltd.

California Title 26 Metals

Lab #:	145865	Project#:	51951273NB.00
Client:	URS Greiner Woodward Clyde	Location:	Glenn Echo Creek
Field ID:	SW02	Units:	ug/L
Lab ID:	145865-002	Sampled:	05/30/00
Matrix:	Water	Received:	05/30/00

Analyte	Result	RL	Diln Fac	Batch#	Prepared	Analyzed	Prep	Analysis
Antimony	ND	60	1.000	56199	05/30/00	05/31/00	EPA 3010	EPA 6010B
Arsenic	140	5.0	1.000	56199	05/30/00	05/31/00	EPA 3010	EPA 6010B
Barium	5,700	100	10.00	56199	05/30/00	06/01/00	EPA 3010	EPA 6010B
Beryllium	7.6	2.0	1.000	56199	05/30/00	05/31/00	EPA 3010	EPA 6010B
Cadmium	37	5.0	1.000	56199	05/30/00	05/31/00	EPA 3010	EPA 6010B
Chromium	400	10	1.000	56199	05/30/00	05/31/00	EPA 3010	EPA 6010B
Cobalt	290	20	1.000	56199	05/30/00	05/31/00	EPA 3010	EPA 6010B
Copper	330	10	1.000	56199	05/30/00	05/31/00	EPA 3010	EPA 6010B
Lead	500	3.0	1.000	56199	05/30/00	05/31/00	EPA 3010	EPA 6010B
Mercury	ND	0.20	1.000	56246	06/01/00	06/01/00	METHOD	EPA 7470
Molybdenum	ND	20	1.000	56199	05/30/00	05/31/00	EPA 3010	EPA 6010B
Nickel	680	20	1.000	56199	05/30/00	05/31/00	EPA 3010	EPA 6010B
Selenium	ND	5.0	1.000	56199	05/30/00	05/31/00	EPA 3010	EPA 6010B
Silver	ND	5.0	1.000	56199	05/30/00	05/31/00	EPA 3010	EPA 6010B
Thallium	11	5.0	1.000	56199	05/30/00	05/31/00	EPA 3010	EPA 6010B
Vanadium	460	10	1.000	56199	05/30/00	05/31/00	EPA 3010	EPA 6010B
Zinc	1,000	20	1.000	56199	05/30/00	05/31/00	EPA 3010	EPA 6010B

ND = Not Detected
RL = Reporting Limit

Curtis & Tompkins, Ltd.

California Title 26 Metals

Lab #:	145865	Location:	Glenn Echo Creek
Client:	URS Greiner Woodward Clyde	Prep:	EPA 3010
Project#:	51951273NB.00	Analysis:	EPA 6010B
Type:	BLANK	Diln Fac:	1.000
Lab ID:	QC117063	Batch#:	56199
Matrix:	Water	Prepared:	05/30/00
Units:	ug/L	Analyzed:	05/31/00

Analyte	Result	RL
Antimony	ND	60
Arsenic	ND	5.0
Barium	ND	10
Beryllium	ND	2.0
Cadmium	ND	5.0
Chromium	ND	10
Cobalt	ND	20
Copper	ND	10
Lead	ND	3.0
Molybdenum	ND	20
Nickel	ND	20
Selenium	ND	5.0
Silver	ND	5.0
Thallium	ND	5.0
Vanadium	ND	10
Zinc	ND	20

ND = Not Detected
RL = Reporting Limit

Curtis & Tompkins, Ltd.

California Title 26 Metals

Lab #:	145865	Location:	Glenn Echo Creek
Client:	URS Greiner Woodward Clyde	Prep:	METHOD
Project#:	51951273NB.00	Analysis:	EPA 7470
Analyte:	Mercury	Diln Fac:	1.000
Type:	BLANK	Batch#:	56246
Lab ID:	QC117229	Prepared:	06/01/00
Matrix:	Water	Analyzed:	06/01/00
Units:	ug/L		

Result	RL
ND	0.20

ND = Not Detected
RL = Reporting Limit

Curtis & Tompkins, Ltd.

California Title 26 Metals

Lab #:	145865	Location:	Glenn Echo Creek
Client:	URS Greiner Woodward Clyde	Prep:	METHOD
Project#:	51951273NB.00	Analysis:	EPA 7470
Analyte:	Mercury	Diln Fac:	1.000
Type:	BLANK	Batch#:	56246
Lab ID:	QC117235	Prepared:	06/01/00
Matrix:	TCLP Leachate	Analyzed:	06/01/00
Units:	ug/L		

Result	RL
ND	2.0

ND = Not Detected
RL = Reporting Limit

Curtis & Tompkins, Ltd.

California Title 26 Metals

Lab #:	145865	Location:	Glenn Echo Creek
Client:	URS Greiner Woodward Clyde	Prep:	EPA 3010
Project#:	51951273NB.00	Analysis:	EPA 6010B
Matrix:	Water	Batch#:	56199
Units:	ug/L	Prepared:	05/30/00
Diln Fac:	1.000	Analyzed:	05/31/00

Type: BS Lab ID: QC117064

Analyte	Spiked	Result	%REC	Limits
Antimony	500.0	554.0	111	75-123
Arsenic	100.0	99.00	99	80-120
Barium	2,000	1,970	99	80-116
Beryllium	50.00	50.80	102	80-116
Cadmium	50.00	47.80	96	80-126
Chromium	2,000	1,930	97	80-113
Cobalt	500.0	475.0	95	80-112
Copper	250.0	244.0	98	80-114
Lead	100.0	95.60	96	78-120
Molybdenum	400.0	404.0	101	80-114
Nickel	500.0	475.0	95	80-116
Selenium	100.0	96.20	96	79-120
Silver	50.00	48.60	97	80-120
Thallium	100.0	94.60	95	80-119
Vanadium	500.0	489.0	98	80-111
Zinc	500.0	471.0	94	72-126

Type: BSD Lab ID: QC117065

Analyte	Spiked	Result	%REC	Limits	RPD	Lim
Antimony	500.0	570.0	114	75-123	3	21
Arsenic	100.0	101.0	101	80-120	2	20
Barium	2,000	2,000	100	80-116	2	21
Beryllium	50.00	52.10	104	80-116	3	20
Cadmium	50.00	49.20	98	80-126	3	20
Chromium	2,000	1,960	98	80-113	2	21
Cobalt	500.0	485.0	97	80-112	2	25
Copper	250.0	245.0	98	80-114	0	24
Lead	100.0	98.80	99	78-120	3	20
Molybdenum	400.0	413.0	103	80-114	2	22
Nickel	500.0	486.0	97	80-116	2	23
Selenium	100.0	102.0	102	79-120	6	20
Silver	50.00	49.70	99	80-120	2	26
Thallium	100.0	98.10	98	80-119	4	20
Vanadium	500.0	495.0	99	80-111	1	20
Zinc	500.0	487.0	97	72-126	3	26

RPD= Relative Percent Difference

Curtis & Tompkins, Ltd.

California Title 26 Metals

Lab #:	145865	Location:	Glenn Echo Creek
Client:	URS Greiner Woodward Clyde	Prep:	EPA 3010
Project#:	51951273NB.00	Analysis:	EPA 6010B
Field ID:	ZZZZZZZZZZ	Batch#:	56199
MSS Lab ID:	145858-001	Sampled:	05/26/00
Matrix:	Water	Received:	05/30/00
Units:	ug/L	Prepared:	05/30/00
Diln Fac:	1.000	Analyzed:	05/31/00

Type: MS Lab ID: QC117066

Analyte	MSS Result	Spiked	Result	%REC	Limits
Antimony	ND	500.0	552.0	110	64-128
Arsenic	ND	100.0	101.0	101	65-131
Barium	5.820	2,000	1,960	98	75-120
Beryllium	0.5540	50.00	50.70	100	71-124
Cadmium	0.2070	50.00	48.40	96	70-127
Chromium	1.770	2,000	1,940	97	70-124
Cobalt	ND	500.0	477.0	95	73-122
Copper	4.910	250.0	249.0	98	74-122
Lead	22.00	100.0	117.0	95	66-128
Molybdenum	1.710	400.0	404.0	101	72-122
Nickel	0.8630	500.0	480.0	96	70-126
Selenium	ND	100.0	95.70	96	65-132
Silver	0.3870	50.00	48.60	96	72-125
Thallium	ND	100.0	94.40	94	58-134
Vanadium	0.4830	500.0	489.0	98	58-134
Zinc	11.20	500.0	483.0	94	69-129

Type: MSD Lab ID: QC117067

Analyte	Spiked	Result	%REC	Limits	RPD	Lim
Antimony	500.0	543.0	109	64-128	2	29
Arsenic	100.0	95.50	96	65-131	6	42
Barium	2,000	1,950	97	75-120	1	20
Beryllium	50.00	48.70	96	71-124	4	20
Cadmium	50.00	46.40	92	70-127	4	25
Chromium	2,000	1,860	93	70-124	4	20
Cobalt	500.0	458.0	92	73-122	4	20
Copper	250.0	242.0	95	74-122	3	20
Lead	100.0	113.0	91	66-128	3	29
Molybdenum	400.0	393.0	98	72-122	3	20
Nickel	500.0	461.0	92	70-126	4	20
Selenium	100.0	93.60	94	65-132	2	40
Silver	50.00	47.20	94	72-125	3	30
Thallium	100.0	94.00	94	58-134	0	41
Vanadium	500.0	474.0	95	58-134	3	41
Zinc	500.0	470.0	92	69-129	3	33

ND = Not Detected
RPD= Relative Percent Difference

Curtis & Tompkins, Ltd.

California Title 26 Metals

Lab #:	145865	Location:	Glenn Echo Creek
Client:	URS Greiner Woodward Clyde	Prep:	METHOD
Project#:	51951273NB.00	Analysis:	EPA 7470
Analyte:	Mercury	Batch#:	56246
Matrix:	Water	Prepared:	06/01/00
Units:	ug/L	Analyzed:	06/01/00
Diln Fac:	1.000		

Type	Lab ID	Spiked	Result	%REC	Limits	RPD	Lim
BS	QC117230	5.000	4.730	95	80-116		
BSD	QC117231	5.000	4.740	95	80-116	0	20

RPD= Relative Percent Difference

Curtis & Tompkins, Ltd.

California Title 26 Metals

Lab #:	145865	Location:	Glenn Echo Creek
Client:	URS Greiner Woodward Clyde	Prep:	METHOD
Project#:	51951273NB.00	Analysis:	EPA 7470
Analyte:	Mercury	Diln Fac:	1.000
Field ID:	ZZZZZZZZZZ	Batch#:	56246
Type:	SDUP	Sampled:	05/21/00
MSS Lab ID:	145861-002	Received:	05/30/00
Lab ID:	QC117232	Prepared:	06/01/00
Matrix:	Water	Analyzed:	06/01/00
Units:	ug/L		

MSS Result	Result	RL	RPD	Lim
<0.2000	ND	0.20	NC	22

NC = Not Calculated
ND = Not Detected
RL = Reporting Limit
RPD= Relative Percent Difference

California Title 26 Metals

Lab #:	145865	Location:	Glenn Echo Creek
Client:	URS Greiner Woodward Clyde	Prep:	METHOD
Project#:	51951273NB.00	Analysis:	EPA 7470
Analyte:	Mercury	Batch#:	56246
Field ID:	ZZZZZZZZZZ	Sampled:	05/26/00
MSS Lab ID:	145858-001	Received:	05/30/00
Matrix:	Water	Prepared:	06/01/00
Units:	ug/L	Analyzed:	06/01/00
Diln Fac:	1.000		

Type	Lab ID	MSS Result	Spiked	Result	%REC	Limits	RPD	Lim
MS	QC117233	ND	5.000	4.740	95	80-114		
MSD	QC117234		5.000	4.240	85	80-114	11	22

ND = Not Detected
RPD= Relative Percent Difference

Curtis & Tompkins, Ltd.

California Title 26 Metals

Lab #:	145865	Location:	Glenn Echo Creek
Client:	URS Greiner Woodward Clyde	Prep:	METHOD
Project#:	51951273NB.00	Analysis:	EPA 7470
Analyte:	Mercury	Batch#:	56246
Matrix:	TCLP Leachate	Prepared:	06/01/00
Units:	ug/L	Analyzed:	06/01/00
Diln Fac:	1.000		

Type	Lab ID	Spiked	Result	%REC	Limits	RPD	Lim
BS	QC117236	5.000	4.220	84	80-116		
BSD	QC117237	5.000	4.680	94	80-116	10	20

RPD= Relative Percent Difference

Curtis & Tompkins, Ltd.

California Title 26 Metals

Lab #:	145865	Location:	Glenn Echo Creek
Client:	URS Greiner Woodward Clyde	Prep:	METHOD
Project#:	51951273NB.00	Analysis:	EPA 7470
Analyte:	Mercury	Diln Fac:	1.000
Field ID:	ZZZZZZZZZZ	Batch#:	56246
Type:	SDUP	Sampled:	05/25/00
MSS Lab ID:	145821-001	Received:	05/26/00
Lab ID:	QC117238	Prepared:	06/01/00
Matrix:	TCLP Leachate	Analyzed:	06/01/00
Units:	ug/L		

MSS Result	Result	RL	RPD	Lim
<2.000	ND	2.0	NC	22

NC = Not Calculated
ND = Not Detected
RL = Reporting Limit
RPD= Relative Percent Difference

Curtis & Tompkins, Ltd.

California Title 26 Metals

Lab #:	145865	Location:	Glenn Echo Creek
Client:	URS Greiner Woodward Clyde	Prep:	METHOD
Project#:	51951273NB.00	Analysis:	EPA 7470
Analyte:	Mercury	Diln Fac:	1.000
Field ID:	ZZZZZZZZZZ	Batch#:	56246
Type:	SSPIKE	Sampled:	05/25/00
MSS Lab ID:	145821-001	Received:	05/26/00
Lab ID:	QC117239	Prepared:	06/01/00
Matrix:	TCLP Leachate	Analyzed:	06/01/00
Units:	ug/L		

MSS Result	Spiked	Result	%REC	Limits
ND	50.00	42.30	85	80-114

ND = Not Detected

MATCH LINE STA 24+50 SEE SHEET No. 3

(E) 7'x8.3' CONCRETE ARCH CULVERT TO REMAIN

APPLY (N) 5-1/2" THICK REINFORCED CONCRETE LINING IN (E) CONCRETE ARCH CULVERT (C/7)

STA 25+85.83 (E) CATCH BASIN TO REMAIN

STA 25+85.83± CONNECT (E) 12" CLAY PIPE INTO (N) CONCRETE LINING (E/7)

STA 26+02.34 (E) MANHOLE TO REMAIN

STA 26+06± (E) 8" SANITARY SEWER TO REMAIN

STA 26+02.34± (E) 12" STORM DRAIN TO REMAIN

STA 26+02.34± CONNECT (E) 21" RCP INTO (N) CONCRETE LINING (E/7)

APPROXIMATE EXISTING GROUND PROFILE

ROUND EDGE SIMILAR TO (E/7)

STA 26+76 TO STA 26+84 PLACE 12" DIA RIVER RUN ROCK METHOD B

STA 26+76.05 END (E) 7'x8.3' CONCRETE ARCH CULVERT INV. ELEV. 15.11±

25+34

25+90

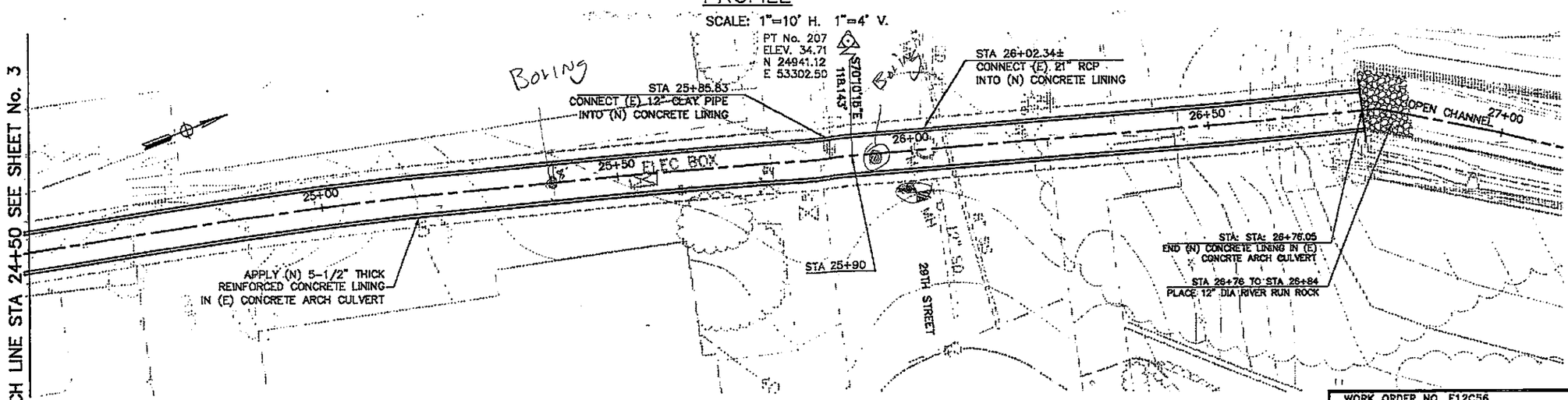
NOTE:

ELEVATIONS DATUM: 1929 NGVD

24+50 25+00 25+50 26+00 26+50 27+00

PROFILE

SCALE: 1"=10' H. 1"=4' V.



PLAN

SCALE: 1"=10'

90% REVIEW INCOMPLETE PLAN

PROJECT DESIGN ENGINEER

REVIEWED BY: DATE

WINZLER & KELLY
CONSULTING ENGINEERS
200 PINE STREET, SUITE 600, SAN FRANCISCO, CA 94104-2709
TEL 415.283.4970 FAX 415.283.4980 sfo@w-andk.com www.w-and-k.com

WORK JOB NO.	DESIGNED	DRAWN	CHECKED

WORK ORDER NO. F12C56 SPECIFICATION NO. FC12-143

COUNTY OF ALAMEDA ☆ PUBLIC WORKS AGENCY

DONALD J. LABELLE - DIRECTOR

REVIEWED	ZONE No. 12 PROJECT LINE B
APPROVAL RECOMMENDED	PLAN & PROFILE
APPROVED RALPH JOHNSON	
DATE	SCALE
FILE NO.	SHEET NO. OF

REMOVE (E) CHAIN LINK FENCE AS NECESSARY. RESTORE OR REPLACE IN KIND AFTER CONSTRUCTION AS DIRECTED BY ENGINEER

STA 22+80 TO STA 22+90
REMOVE (E) CONCRETE TRANSITION SECTION

STA 22+86±
EXTEND (E) 8" CMP INTO (N) TRANSITION SECTION
3/6

REMOVE (E) AC PAVEMENT AND REPLACE WITH 2.5" AC PAVEMENT AS DIRECTED BY ENGINEER

STA 22+13.11 LT 3'±
(E) DRAINAGE INLET TO REMAIN

STA 22+78.5±
(E) 3" CI

(E) 6'x12' RCB TO REMAIN

STA 22+80
BEGIN (N) CONCRETE TRANSITION SECTION
11/6

(E) 54"ø TREE TO REMAIN

APPROXIMATE EXISTING GROUND PROFILE

APPROXIMATE FINISH GROUND PROFILE

STA 22+91
REMOVE (E) 1'-0" THICK CONCRETE COLLAR ON (E) 84" CMP

STA 22+92.33
END (N) TRANSITION SECTION
INV. ELEV. 9.80

REMOVE (E) 84"ø CMP

(N) 10' I.D. TUNNEL
8/7

3.00%

STA 23+95 TO STA 24+03
ZONE OF JET GROUTING
TOP OF ZONE ELEV. 27.00

STA 23+92 TO STA 24+00±
REMOVE (E) CONCRETE TRANSITION SECTION

STA 23+95.74
BEGIN (N) CONCRETE TRANSITION SECTION
INV. ELEV. 13.00

STA 23+99.74
END (N) CONCRETE TRANSITION SECTION

(E) 7'x8.3' CONCRETE ARCH CULVERT TO REMAIN

APPLY (N) 5-1/2" THICK REINFORCED CONCRETE LINING IN (E) CONCRETE ARCH CULVERT
C/7

STA 23+98.71
BEGIN (N) REINFORCED CONCRETE LINING
INV. ELEV. 13.95±

BOTTOM OF JET GROUTING ZONE
ELEV. 12.00

MATCH LINE STA 24+50 SEE SHEET No.4

NOTE:

ELEVATIONS DATUM:
1929 NGVD

22+00 22+50 23+00 23+50 24+00 24+50

PROFILE
SCALE: 1"=10' H 1"=4' V.

STA 22+09.32
ANGLE POINT

STA 22+13.11 LT 3'±
(E) DRAINAGE INLET TO REMAIN

(E) 6'x12' CONCRETE BOX CULVERT TO REMAIN

PT No.208
FOUND PK NAIL & SHINER
ELEV. 31.41
N 24670.67
E 53239.41

PT No.209
PK NAIL
ELEV. 18.69
N 24499.87
E 53248.46

N09°14'08"E
52.245'

N35°25'49"E
9.319'

TO 28th STREET

N39°18'43"E
40.681'

CONSTRUCTION ℄

N39°18'43"E
38.671'

22+00

22+50

23+00

LIMIT OF AC REPLACEMENT
DO NOT DISTURB (E) CARPORT

STA 22+80.00
BEGIN (N) CONCRETE TRANSITION SECTION
STA 22+90
REMOVE (E) CONCRETE TRANSITION SECTION

PROVIDE EXCAVATION PROTECTION

REMOVE (E) CHAIN LINK FENCE AS NECESSARY. RESTORE OR REPLACE IN KIND AFTER CONSTRUCTION AS DIRECTED BY ENGINEER

CONSTRUCT (N) CONCRETE TRANSITION SECTION
1/6

(E) 3" CI TO REMAIN

PROVIDE EXCAVATION PROTECTION
STA 22+92.33 ANGLE POINT
END (N) CONCRETE TRANSITION SECTION, BEGIN (N) 10'ø TUNNEL

DO NOT DISTURB (E) 54" TREES

23+00

N29°56'53"E
106.91'

23+50

LIMIT OF STRUCTURE EXCAVATION

STA 22+91
REMOVE (E) 1'-0" THICK CONCRETE COLLAR ON (E) 84"ø CMP

DO NOT DISTURB (E) TREES

STA 22+86±
EXTEND (E) 8" CMP INTO (N) TRANSITION SECTION

℄ (E) 84"ø CMP

REMOVE (E) 84"ø CMP
(LENGTH=100'±)

CONSTRUCT (N) CONCRETE TRANSITION SECTION
2/6

DO NOT DISTURB (E) TREE

STA 23+95.74
BEGIN (N) CONCRETE TRANSITION SECTION

STA 23+95
BEGIN (N) ZONE OF JET GROUTING

STA 23+91± TO STA 24+00±
REMOVE (E) CONCRETE TRANSITION SECTION

24+00

STA 23+82.34
END (E) 84"ø CMP

STA 23+87.5±
END TUNNEL SHIELD

3.50' (TYP) EACH SIDE

3.00' (TYP) EACH SIDE

STA 23+99.24
ANGLE POINT

STA 23+99.74
END (N) CONCRETE TRANSITION SECTION

STA 24+03
END (N) ZONE OF JET GROUTING

24+50

MATCH LINE STA 24+50 SEE SHEET No.4

PLAN

BENCHMARK: STATION 31/D-OAKLAND

TOP OF A BRONZE CITY OF OAKLAND DISC STAMPED "SEC 31 STA D", IN THE TOP OF A CONCRETE POST ABOUT ONE (1) FOOT BELOW THE SURFACE OF THE SIDEWALK, AT THE NORTHEAST CORNER OF THE INTERSECTION OF BROADWAY AND 29TH STREET, 11.4 FEET NORTH OF THE PROLONGATION OF THE NORTH CURB OF THE STREET, AND 4.7 FEET EAST OF THE EAST CURB OF BROADWAY.

ELEVATION = 40.085 (DATUM: 1929 NGVD 1959 ADJUSTMENT)

BENCHMARK: STATION 53/A-OAKLAND

TOP OF A BRONZE CITY OF OAKLAND DISC WITH DRILLED HOLE, IN THE TOP OF A CONCRETE POST, ABOUT ONE (1) FOOT BELOW THE SURFACE OF THE SIDEWALK,600 FEET, MORE OR LESS, EASTERLY OF THE CENTERLINE BROADWAY, AND 6 FEET NORTHERLY OF THE NORTH CURB OF 29TH STREET.

ELEVATION = 38.22 (DATUM: 1929 NGVD)

90% REVIEW
INCOMPLETE PLAN

PROJECT DESIGN ENGINEER

REVIEWED BY

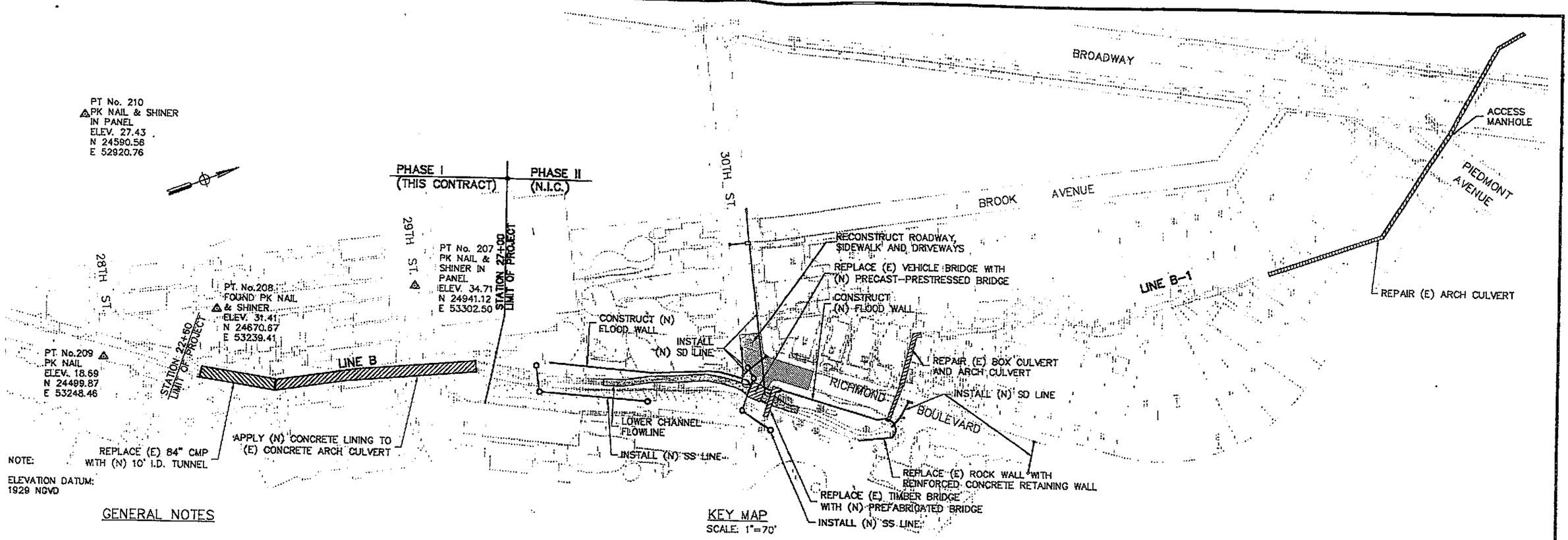
WINZLER & KE
CONSULTING ENGIN
200 PINE STREET, SUITE 600, SAN FRANCISCO, CA 94104-
TEL 415.283.4970 FAX 415.283.4980 sfo@w-andk.com ww

WORK ORDER NO. F12C56 SPECIFICATION NO. FC12-143

COUNTY OF ALAMEDA ☆ PUBLIC WORKS AGENCY
D.J. LABELLE - DIRECTOR

ZONE No. 12 PROJECT
LINE B

PLAN AND PROFILE



NOTE:

ELEVATION DATUM:
1929 NGVD

KEY MAP
SCALE: 1"=70'

GENERAL NOTES

1. ALL WORK IS TO BE DONE UNDER THE DIRECTION OF THE ENGINEER.
2. CALTRANS STANDARD SPECIFICATIONS AND STANDARD PLANS, JULY 1992 EDITION, ARE PART OF THESE PLANS.
3. IN ACCORDANCE WITH GENERALLY ACCEPTED CONSTRUCTION PRACTICES, THE CONTRACTOR SHALL BE SOLELY AND COMPLETELY RESPONSIBLE FOR THE CONDITIONS OF THE JOB SITE INCLUDING SAFETY OF ALL PERSONS AND PROPERTY DURING PERFORMANCE OF THE WORK. THIS REQUIREMENT WILL APPLY CONTINUOUSLY AND NOT BE LIMITED TO NORMAL WORK HOURS. THE CONTRACTOR SHALL BE RESPONSIBLE FOR DESIGN AND CONSTRUCTION OF PROPER SHORING OF TRENCHES IN ACCORDANCE WITH OCCUPATIONAL SAFETY LAWS. THE DUTIES OF THE ENGINEER DO NOT INCLUDE REVIEW OF THE ADEQUACY OF THE CONTRACTOR'S SAFETY IN, ON, OR NEAR THE CONSTRUCTION SITE.
4. CONTRACTOR SHALL BE HELD RESPONSIBLE FOR ANY AND ALL DAMAGE TO EXISTING STRUCTURES AND/OR UTILITIES DURING CONSTRUCTION. PROPER REPAIR SHALL BE DONE TO THE SATISFACTION OF THE ENGINEER AND THE RESPECTIVE UTILITY COMPANY.
5. ALL PIPELINES AND OTHER UNDERGROUND FACILITIES MAY NOT BE SHOWN. EXISTING UNDERGROUND FACILITIES AS SHOWN ARE APPROXIMATE ONLY AND WERE OBTAINED FROM AVAILABLE UTILITY RECORDS. HOWEVER, THE COUNTY ASSUMES NO RESPONSIBILITY FOR THEIR ACCURACY OR COMPLETENESS. IT SHALL BE THE CONTRACTOR'S RESPONSIBILITY TO CONTACT ALL UTILITIES AND TO HAVE ALL FACILITIES LOCATED IN THE FIELD PRIOR TO THE START OF ANY CONSTRUCTION. THE CONTRACTOR SHALL CONTACT UNDERGROUND SERVICE ALERT AT 1-800-642-2444 AT LEAST TWO WORKING DAYS PRIOR TO EXCAVATION.
6. EROSION CONTROL SHALL BE PERFORMED ON ALL DISTURBED AREAS.
7. LIMITS OF NEW STRUCTURAL SECTION SHOWN ARE FOR ESTIMATING PURPOSES ONLY. EXACT LOCATION SHALL BE AS DETERMINED IN THE FIELD BY THE ENGINEER DURING EXCAVATION.
8. ALL ELEVATIONS SHOWN ARE FINISHED ELEVATIONS UNLESS STATED OTHERWISE.
9. THE CONTRACTOR SHALL NOT PERFORM WORK OUTSIDE THE RIGHT OF WAY UNLESS SHOWN ON THE PLANS, OR AS DIRECTED BY THE ENGINEER.
10. FOR PAVEMENT STRUCTURAL SECTION:
    A.C. = ASPHALT CONCRETE, TYPE A
    A.B. = AGGREGATE BASE, CLASS II
11. THE INFORMATION CONCERNING EXISITING UTILITIES IS NOT GUARANTEED SEE "INFORMATION TO BIDDERS" SECTION OF SPECIFICATIONS.
12. THE CONTRACTOR SHALL OBTAIN WRITTEN PERMISSION FROM THE APPROPIATE PROPERTY OWNERS PRIOR TO REMOVING ANY EXISTING FENCES, OR ENTERING ANY PROPERTY OUTSIDE THE DISTRICT'S PERMANENT EASEMENT OR TEMPORARY CONSTRUCTION EASEMENT. ALL FENCES, SHEDS OR OTHER PERMANENT IMPROVEMENTS REMOVED OR DAMAGED BY THE CONTRACTOR WITHIN THE EASEMENT OR CONSTRUCTION EASEMENT SHALL BE RESTORED TO THEIR ORIGINAL LOCATION AND CONDITION BY CONTRACTOR USING NEW MATERIALS AS DIRECTED BY THE ENGINEER. THE CONTRACTOR SHALL PROVIDE TEMPORARY FENCING AND GATES WHENEVER AND WHEREVER EXISTING FENCING OR GATES ARE REMOVED FOR CONSTRUCTION PURPOSES.
13. ACCESS TO THE CONSTRUCTION SITE FROM "A" STREET THROUGH THE FENCED AND LOCKED ALAMEDA COUNTY CORPORATION YARD IS AVAILABLE BY PERMIT FROM ALAMEDA COUNTY PUBLIC WORKS AT 399 ELMHURST STREET, HAYWARD, AT NO COST TO THE CONTRACTOR. THE CONTRACTOR CAN USE THIS PROPERTY AS A TEMPORARY STAGING AREA FOR HIS EQUIPMENT AND MATERIALS. THE CONTRACTOR SHALL SECURE THE FENCE AND LOCK THE GATE AT THE END OF EACH WORKING DAY.
14. WHERE REFERENCE IS MADE TO THIS NOTE, PAYMENT FOR ALL NECESSARY LABOR, EQUIPMENT AND MATERIALS REQUIRED FOR THE COMPLETE WORK SHALL BE DEEMED INCLUDED IN THE LUMP SUM PRICE BID FOR "CLEARING AND GRUBBING" AND/OR "MISCELLANEOUS WORK". SEE SECTIONS 14.17 AND 14.26 OF THE SPECIFICATIONS.
15. THE CONTRACTOR SHALL EXERCISE STRICT DUST CONTROL TO PREVENT DAMAGE TO ADJACENT AREAS. SEE GENERAL NOTE NO. 1.
16. WHERE STATIONING OF THE STRUCTURES IS SHOWN TO THE NEAREST FOOT, THE LOCATION MAY BE ADJUSTED BY THE ENGINEER TO SUIT SITE CONDITIONS.
17. THE CONTRACTOR SHALL PROTECT ALL EXISTING TREES AND SHRUBBERIES UNLESS OTHERWISE NOTED ON THE DRAWINGS. THE CONTRACTOR SHALL NOT ENTER UPON NOR DISTURB THE NATIVE VEGETATION UNLESS OTHERWISE INDICATED ON THE DRAWINGS.
18. REMOVE BRUSH AND VEGETATION BETWEEN THE EXISTING TOP OF BANK ON THE LEFT SIDE AND CONSTRUCTION CENTER LINE ONLY AS NECESSARY TO PLACE STRUCTURAL FILL. SEE GENERAL NOTE NO. 5.
19. THE CONTRACTOR SHALL CONSTRUCT THE TEMPORARY LOW-FLOW BYPASS, DEWATER THE WORK AREAS, AND CONTROL THE GROUNDWATER TO PERMIT THE CONSTRUCTION IN AN EFFICIENT AND EFFECTIVE MANNER. THE CONTRACTOR SHALL PROTECT THE STREAM FLOW FROM POLLUTION AS WELL AS PROTECT THE CONSTRUCTION AREA FROM WATER DAMAGE. SEE TEMPORARY WATER CONTROL, SHEET NO. 9. SEE SECTION 14.29 OF THE SPECIFICATIONS.
20. STRUCTURE EXCAVATION WILL NOT BE PERMITTED UNTIL LOW-FLOW BYPASS SYSTEM HAS BEEN INSTALLED TO THE SATISFACTION OF THE ENGINEER. SEE SECTION 14.29 OF THE SPECIFICATIONS. SEE DETAIL SHEET NO. 9.
21. SHORING AND EXCAVATION PROTECTION WILL BE REQUIRED ALONG CONSTRUCTION C.L. STATION 22+73 TO STATION 22+98. THE CONTRACTOR SHALL SUBMIT A DETAILED PLAN SHOWING THE DESIGN OF THE SHORING, BRACING, SHEETING AND SLOPING FOR THIS REQUIRED PROTECTION PRIOR TO ANY EXCAVATION. THE SHORING AND EXCAVATION PROTECTION SHALL COMPLY WITH THE PROVISIONS OF THE CONSTRUCTION SAFETY ORDERS AND THE LABOR CODE. SEE SECTIONS 14.31 AND 14.32 OF THE SPECIFICATIONS.
22. THE CONTRACTOR'S ACCESS TO THE CONSTRUCTION SITE FROM THE ALAMEDA COUNTY CORPORATION YARD IS CONSIDERED RESTRICTIVE, BUT ADEQUATE TO COMPLETE THE REQUIRED CONSTRUCTION. THE CONTRACTOR SHALL CAREFULLY PLAN AND CONSTRUCT HIS MEANS IN SUCH A WAY THAT TREES, SHRUBBERIES, AND PERMANENT IMPROVEMENTS SHALL BE PROTECTED AND SHALL NOT BE DAMAGED. UNLESS OTHERWISE DESIGNATED ON THE DRAWINGS OR AUTHORIZED IN WRITING BY THE ENGINEER.
23. THE CONTRCTOR SHALL CONNECT AND EXTEND ALL SIDE DRAINS ENCOUNTERED WITHIN THE PROJECT LIMITS. SEE SECTION 14.17 OF THE SPECIFICATIONS, AND GENERAL NOTE NO. 5.
24. THE CONTRACTOR SHALL MAINTAIN ADEQUATE ACCESS TO PRIVATE PROPERTIES, DRIVEWAYS, AND DWELLINGS AT ALL TIMES.
25. QUANTITIES AND TOPOGRAPHIC INFORMATION PROVIDED ON THE DRAWINGS ARE BASED ON FIELED DATA OBTAINED IN NOVEMBER 1994. FINAL QUANTITIES FOR BASIS OF PAYMENT WILL BE BASED ON FIELED SURVEY DATA OBTAINED AFTER CLEARING AND GRUBBUNG.
26. THE DISTRICT IS IN THE PROCESS OF SECURING THE RIGHT-OF-WAY SHOWN ON SHEET 9. IT IS ANTICIPATED THAT THE ACQUISITION WILL BE COMPLETED BY MAY 31, 1999. SHOULD THE DISTRICT BE UNABLE TO SECURE THE RIGHT-OF-WAY DUE TO SOME UNFORSEEN CIRCUMSTANCE, THE DISTRICT MAY ELECT TO CANCEL THIS CONTRACT. SUCH CANCELLATION SHALL NOT CONSTITUTE A BASIS FOR CLAIM BY THE CONTRACTOR FOR PAYMENT OR DAMAGES.
27. THE CONTRACTOR AGREES THAT THE COUNTY IS NOT RESPONSIBLE FOR ANY THEFT OR DAMAGE TO THE CONTRACTOR'S EQUIPMENT OR MATERIALS STORED AT THE CONSTRUCTION STAGING AREA.

90% REVIEW
INCOMPLETE PLAN

PROJECT DESIGN ENGINEER

REVIEWED BY: DATE

WINZLER & KELLY
CONSULTING ENGINEERS
200 PINE STREET, SUITE 600, SAN FRANCISCO, CA 94104-2708
TEL 415.283.4970 FAX 415.283.4980 sfo@w-and-k.com www.w-and-k.com

WORK ORDER NO. F12C56 SPECIFICATION NO. FC12-143

COUNTY OF ALAMEDA ☆ PUBLIC WORKS AGENCY
DONALD J. LABELLE - DIRECTOR

REVIEWED

APPROVAL RECOMMENDED

APPROVED

ZONE No. 12 PROJECT
LINE B

KEY MAP AND GENERAL NOTES

INDEX OF SHEETS

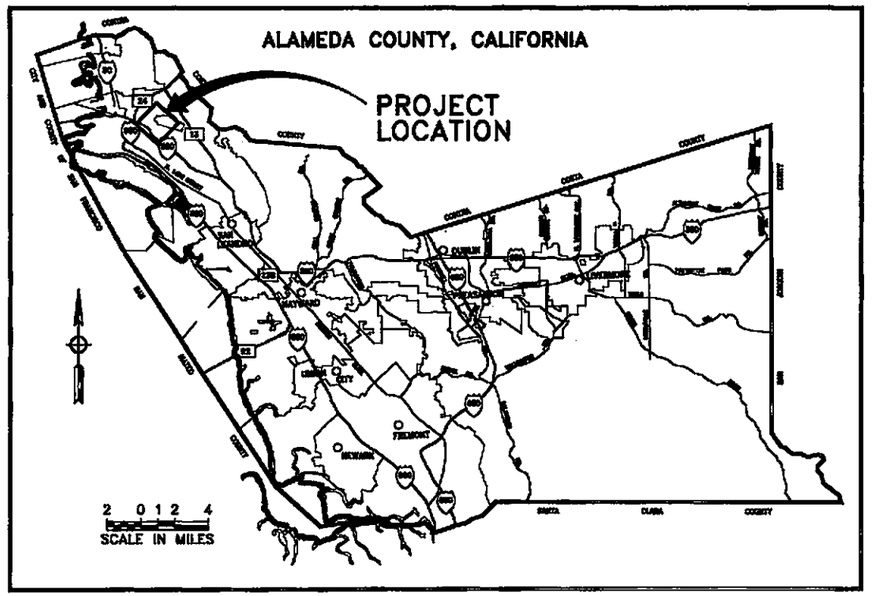
SHEET No.	DESCRIPTION
1	TITLE SHEET
2	KEY MAP AND GENERAL NOTES
3	TUNNEL PLAN & PROFILE
4	TUNNEL PLAN & PROFILE
5	TYPICAL SECTIONS
6	STRUCTURAL DETAIL
7	STRUCTURAL DETAIL
8	LANDS AND EASEMENTS
9	TEMPORARY WATER CONTROL
10	TRAFFIC CONTROL, GENERAL NOTES
11	TRAFFIC CONTROL ~~PHASE 1~~

- THE CONTRACTOR SHALL POSSESS A CLASS "A" LICENSE AT THE TIME THIS CONTRACT IS AWARDED.
- THIS PROJECT HAS A DELAYED STARTING DATE AND SPECIAL REQUIREMENTS FOR CONSTRUCTION SCHEDULE. REFER TO SECTION 13.3 OF THE SPECIFICATIONS FOR DETAILS.

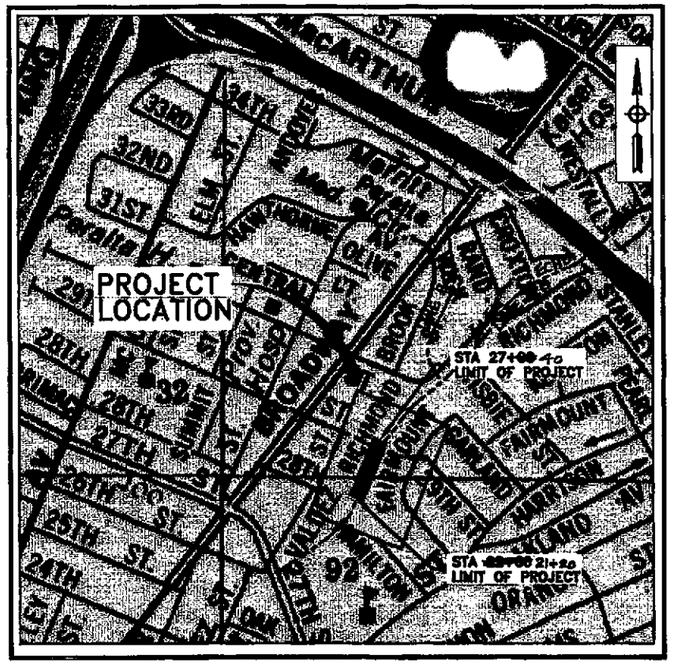
ZONE NO. 12 PROJECT
ALAMEDA COUNTY FLOOD CONTROL AND WATER CONSERVATION DISTRICT
ALAMEDA COUNTY, CALIFORNIA

2000

IMPROVEMENT PLANS FOR A PORTION OF LINE B ~~AND LINE B-1~~ ~~(PHASE ONE)~~ FROM 28TH STREET TO 29TH STREET OAKLAND



VICINITY MAP



LOCATION MAP

500 0 500 1000

1 INCH = 500 FT.

CONVENTIONAL SYMBOLS

PROPERTY, RIGHT OF WAY AND EASEMENT LINES OTHER THAN THOSE FOR PROJECT

PROJECT RIGHT OF WAY AND EASEMENT LINES

CONSTRUCTION CENTER LINE 10 11

TRAVERSE OR SURVEY LINE AND MONUMENT

CENTER LINE

CENTER LINE OF CHANNEL, CREEK, OR DITCH

TOE OF FILL OR SLOPE

TOP OF CUT OR BANK

CONCRETE CHANNEL

ROAD

EDGE OF PAVEMENT EP

PCC EXTRUDED CURB OR AC BERM

PCC SIDEWALK, CURB GUTTER & DRIVEWAY

GUARD RAIL OR BARRICADE

FENCE (SPECIFY TYPE)

CHAIN-LINK FENCE

RAILROAD

BUILDING

SHRUBBERY

MAIL BOX

TREE

TREE TO BE REMOVED

CHANNEL SLOPE

EXISTING UTILITIES:

WATER —W—

GAS —G—

SANITARY SEWER —SS—

OIL —O—

GASOLINE —GS—

STORM DRAIN —SD—

ELECTRICAL —E—

ELECTRICAL UNDERGROUND —UE—

TELEPHONE —T—

TELEPHONE UNDERGROUND —UT—

CABLE TV —CTV—

CABLE TV UNDERGROUND —UCTV—

TRANSMISSION LINE AND TOWER

DROP INLET DI

ELECTROLIER

FIRE HYDRANT

MANHOLE MH

MONUMENT EXISTING PROPOSED

POLE:
JOINT POLE JP
POWER POLE PP
TELEPHONE POLE TP
GUY POLE GP

RIGHT OF WAY MARKER

ROADWAY SIGN

STREET NAME SIGN

WATER METER WM

WATER VALVE WV

CONSTRUCTION AREA SIGNS

TYPE	QUANTITY	DESCRIPTION	DIMENSION
C13	#	END CONSTRUCTION	60" x 24"
C18	#	ROAD CONSTRUCTION AHEAD	48" x 48"
C30	1 (MIN.)	LANE CLOSED	60" x 30"

ABBREVIATIONS

CI	CAST IRON
AB	AGGREGATE BASE
AC	ASPHALT CONCRETE
ACP	ASBESTOS CEMENT PIPE
AS	AGGREGATE SUBBASE
PT	ANGLE POINT
BC	BEGINNING OF CURVE
BVC	BEGINNING OF VERTICAL CURVE
BW	BACK OF SIDEWALK
C-C	CENTER TO CENTER
C&G	CURB AND GUTTER
℄	CENTER LINE
CMP	CORRUGATED METAL PIPE
DET	DETAIL
E	ELECTRIC
Δ	DELTA (ANGLE OF CURVATURE)
DI	DROP INLET
ø	DIAMETER OR SIGNAL PHASE
DWG	DRAWING
EBMUD	EAST BAY MUNICIPAL UTILITY DISTRICT
EC	END OF CURVE
ELEV	ELEVATION
EP	EDGE OF PAVEMENT
EVC	END OF VERTICAL CURVE
EX	EXIST
(E)	EXISTING
FC	FACE OF CURB
FL	FLOW LINE
G	GAS LINE
GALV	GALVANIZED
INV	INVERT GRADE ELEVATION
L	LENGTH OF CURVE
LC	LENGTH OF CHORD
LF	LINEAR FEET
LT	LEFT
MAX	MAXIMUM
MH	MANHOLE
MIN	MINIMUM
MON	MONUMENT
(N)	NEW
N.I.C	NOT IN CONTRACT
NTS	NOT TO SCALE
OC	ON CENTER
PCC	PORTLAND CEMENT CONCRETE
PED	PEDESTRIAN
PG&E	PACIFIC GAS & ELECTRIC CO.
P/L	PROPERTY LINE
POC	POINT ON CURVE
POT	POINT OF TANGENCY
PRC	POINT OF REVERSE CURVE
PVMT	PAVEMENT
R	RADIUS
RCB	REINFORCED CONCRETE BOX
RCP	REINFORCED CONCRETE PIPE
RR	RAILROAD
RSP	ROCK SLOPE PROTECTION
RT	RIGHT
R/W	RIGHT-OF-WAY
S	SLOPE
SD	STORM DRAIN
SS	SANITARY SEWER
STA	STATION
STD	STANDARD
SYM	SYMMETRIC
T	TANGENT LENGTH
TC	TOP OF CURB
TYP	TYPICAL
VC	VERTICAL CURVE
W	WATER
WSEL	WATER SURFACE ELEVATION

OUSAMA H. KAWAR, P.E.
COUNTY ENGINEER
Civil Engineer Certificate No. 18499
Expiration June 30, 2001

Plan Approval Date

90% REVIEW INCOMPLETE PLAN

PROJECT DESIGN ENGINEER

REVIEWED BY: DATE

DEPARTMENT

WORK ORDER NO. F12C56 SPECIFICATION NO. FC12-143

COUNTY OF ALAMEDA ☆ PUBLIC WORKS AGENCY
DONALD J. LABELLE - DIRECTOR

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WORK JOB NO.	DESIGNED	DRAWN	CHECKED
97307802	FR	MLK	MDK

REVISED

APPROVAL RECOMMENDED

APPROVED
RALPH JOHNSON

DATE	SCALE	FILE NO.	SHEET NO.	OF
	AS SHOWN	CB-779	1	11

ZONE No. 12 PROJECT
LINE B

TITLE SHEET

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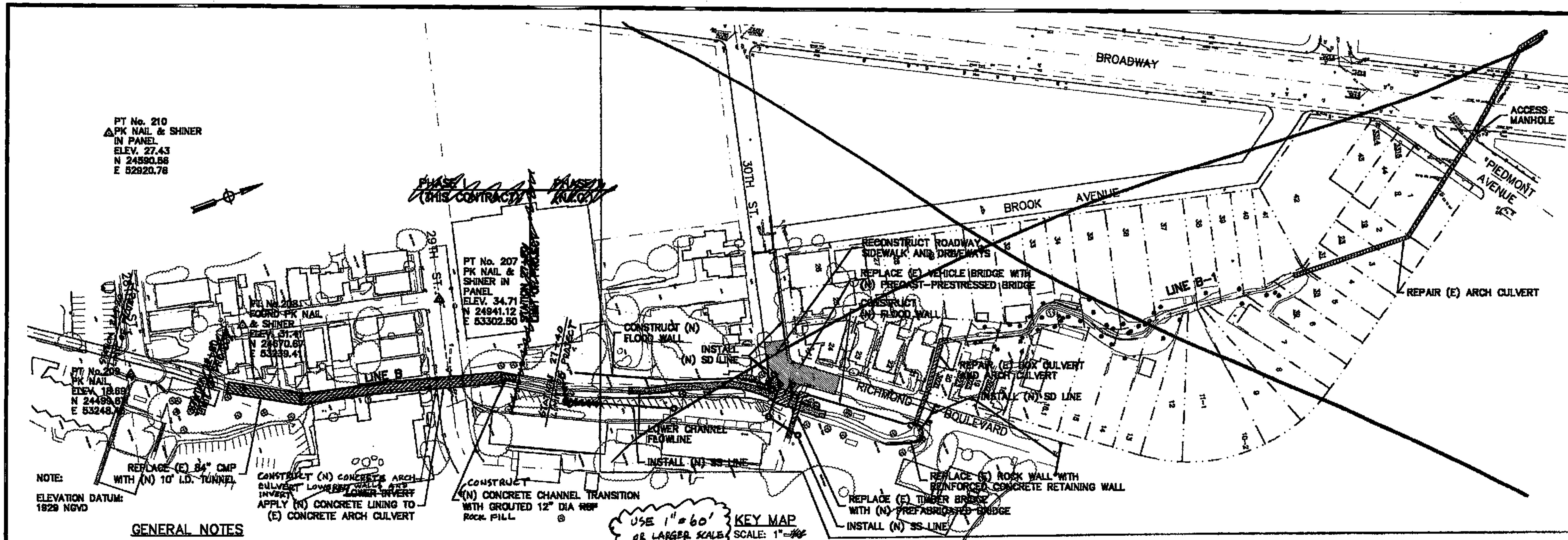

GENERAL NOTES

1. ALL WORK ~~IS TO~~ SHALL BE DONE UNDER THE DIRECTION OF THE ENGINEER.

2. CALTRANS STANDARD SPECIFICATIONS AND STANDARD PLANS, JULY 1992 EDITION, ARE PART OF THESE PLANS AND SPECIFICATIONS.

3. IN ACCORDANCE WITH GENERALLY ACCEPTED CONSTRUCTION PRACTICES, THE CONTRACTOR SHALL BE SOLELY AND COMPLETELY RESPONSIBLE FOR THE CONDITIONS OF THE JOB SITE INCLUDING SAFETY OF ALL PERSONS AND PROPERTY DURING PERFORMANCE OF THE WORK. THIS REQUIREMENT WILL APPLY CONTINUOUSLY AND NOT BE LIMITED TO NORMAL WORK HOURS. THE CONTRACTOR SHALL BE RESPONSIBLE FOR DESIGN AND CONSTRUCTION OF PROPER SHORING OF TRENCHES IN ACCORDANCE WITH ~~OCCUPATIONAL SAFETY LAWS.~~ THE CONSTRUCTION SAFETY ORDERS OF THE DIVISION OF OCCUPATIONAL SAFETY AND HEALTH. THE DUTIES OF THE ENGINEER DO NOT INCLUDE REVIEW OF THE ADEQUACY OF THE CONTRACTOR'S SAFETY IN, ON, OR NEAR THE CONSTRUCTION SITE.

4. CONTRACTOR SHALL BE HELD RESPONSIBLE FOR ANY AND ALL DAMAGE TO EXISTING STRUCTURES AND/OR UTILITIES DURING CONSTRUCTION. PROPER REPAIR SHALL BE DONE TO THE SATISFACTION OF THE ENGINEER AND THE RESPECTIVE UTILITY COMPANY. SEE SECTION 14.6 OF THE SPECIFICATIONS.

5. ALL PIPELINES AND OTHER UNDERGROUND FACILITIES MAY NOT BE COMPLETELY SHOWN. EXISTING UNDERGROUND FACILITIES AS SHOWN ARE APPROXIMATE ONLY AND WERE OBTAINED FROM AVAILABLE UTILITY RECORDS. HOWEVER, THE COUNTY ASSUMES NO RESPONSIBILITY FOR THEIR ACCURACY OR COMPLETENESS. IT SHALL BE THE CONTRACTOR'S RESPONSIBILITY TO CONTACT ALL UTILITIES AND TO HAVE ALL FACILITIES LOCATED IN THE FIELD PRIOR TO THE START OF ANY CONSTRUCTION. THE CONTRACTOR SHALL CONTACT UNDERGROUND SERVICE ALERT AT 1-800-642-2444 AT LEAST TWO WORKING DAYS PRIOR TO EXCAVATION.

6. EROSION CONTROL SHALL BE PERFORMED ON ALL DISTURBED AREAS. PAYMENT FOR EROSION CONTROL SHALL BE INCLUDED IN THE LUMP SUM PRICE BID FOR DE-WATERING. SEE SECTION 13.10 OF THE SPECIFICATIONS.

7. LIMITS OF NEW STRUCTURAL SECTION SHOWN ARE FOR ESTIMATING PURPOSES ONLY. EXACT LOCATION SHALL BE AS DETERMINED ~~IN THE FIELD~~ BY THE ENGINEER DURING EXCAVATION. AT THE SITE

8. ALL ELEVATIONS SHOWN ARE FINISHED ELEVATIONS UNLESS STATED OTHERWISE.

9. THE CONTRACTOR SHALL NOT PERFORM WORK OUTSIDE THE RIGHT OF WAY UNLESS SHOWN ON THE PLANS, OR AS DIRECTED BY THE ENGINEER.

10. USE THE FOLLOWING MATERIALS FOR PAVEMENT STRUCTURAL SECTION:
    A.C. = ASPHALT CONCRETE, TYPE ~~#~~ B
    A.B. = AGGREGATE BASE, CLASS II

11. THE INFORMATION CONCERNING EXISITING UTILITIES IS NOT GUARANTEED SEE "INFORMATION TO BIDDERS" SECTION OF SPECIFICATIONS.

12. THE CONTRACTOR SHALL OBTAIN WRITTEN PERMISSION FROM THE APPROPRIATE PROPERTY OWNERS PRIOR TO REMOVING ANY EXISTING FENCES, OR ENTERING ANY PROPERTY OUTSIDE THE DISTRICT'S PERMANENT EASEMENT OR TEMPORARY CONSTRUCTION EASEMENT. ALL FENCES, SHEDS OR OTHER PERMANENT IMPROVEMENTS REMOVED OR DAMAGED BY THE CONTRACTOR WITHIN THE EASEMENT OR CONSTRUCTION EASEMENT SHALL BE RESTORED TO THEIR ORIGINAL LOCATION AND CONDITION BY CONTRACTOR USING NEW MATERIALS AS DIRECTED BY THE ENGINEER. THE CONTRACTOR SHALL PROVIDE TEMPORARY FENCING AND GATES WHENEVER AND WHEREVER EXISTING FENCING OR GATES ARE REMOVED FOR CONSTRUCTION PURPOSES.

~~13. ACCESS TO THE CONSTRUCTION SITE FROM "A" STREET THROUGH THE FENCED AND LOCKED ALAMEDA COUNTY CORPORATION YARD IS AVAILABLE BY PERMIT FROM ALAMEDA COUNTY PUBLIC WORKS AT 399 ELMHURST STREET, HAYWARD, AT NO COST TO THE CONTRACTOR. THE CONTRACTOR CAN USE THIS PROPERTY AS A TEMPORARY STAGING AREA FOR HIS EQUIPMENT AND MATERIALS. THE CONTRACTOR SHALL SECURE THE FENCE AND LOCK THE GATE AT THE END OF EACH WORKING DAY.~~

~~14.~~ 13. WHERE REFERENCE IS MADE TO THIS NOTE, PAYMENT FOR ALL NECESSARY LABOR, EQUIPMENT AND MATERIALS REQUIRED FOR THE COMPLETE WORK SHALL BE DEEMED INCLUDED IN THE LUMP SUM PRICE BID FOR "CLEARING AND GRUBBING" AND/OR "MISCELLANEOUS WORK". SEE SECTIONS 14.17 AND 14.26 OF THE SPECIFICATIONS.

~~15.~~ 14. THE CONTRACTOR SHALL EXERCISE STRICT DUST CONTROL TO PREVENT DAMAGE TO ADJACENT AREAS. SEE GENERAL NOTE NO. ~~6~~ 13 AND SECTION 5.17 OF THE SPECIFICATIONS.

~~16.~~ 15. WHERE STATIONING OF THE STRUCTURES IS SHOWN TO THE NEAREST FOOT, THE LOCATION MAY BE ADJUSTED BY THE ENGINEER TO SUIT SITE CONDITIONS.

~~17.~~ 16. THE CONTRACTOR SHALL PROTECT ALL EXISTING TREES AND SHRUBBERIES UNLESS OTHERWISE NOTED ON THE DRAWINGS. THE CONTRACTOR SHALL NOT ENTER UPON NOR DISTURB THE NATIVE VEGETATION UNLESS OTHERWISE INDICATED ON THE DRAWINGS.

~~18. REMOVE BRUSH AND VEGETATION BETWEEN THE EXISTING TOP OF BANK ON THE LEFT SIDE AND CONSTRUCTION CENTER LINE ONLY AS NECESSARY TO PLACE STRUCTURAL FILL. SEE GENERAL NOTE NO. 5.~~

~~19.~~ 17. THE CONTRACTOR SHALL CONSTRUCT THE TEMPORARY LOW-FLOW BYPASS, DEWATER THE WORK AREAS, AND CONTROL THE GROUNDWATER TO PERMIT THE CONSTRUCTION IN AN EFFICIENT AND EFFECTIVE MANNER. THE CONTRACTOR SHALL PROTECT THE STREAM FLOW FROM POLLUTION AS WELL AS PROTECT THE CONSTRUCTION AREA FROM WATER DAMAGE. SEE TEMPORARY WATER CONTROL, SHEET NO. 9. SEE SECTION 14.29 OF THE SPECIFICATIONS.

~~20.~~ 18. STRUCTURE EXCAVATION WILL NOT BE PERMITTED UNTIL LOW-FLOW BYPASS SYSTEM HAS BEEN INSTALLED TO THE SATISFACTION OF THE ENGINEER. SEE SECTION 14.29 OF THE SPECIFICATIONS. SEE DETAIL SHEET NO. 9.

~~21.~~ 19. ~~SHORING~~ TRENCH AND EXCAVATION PROTECTION WILL BE REQUIRED ALONG CONSTRUCTION C.L. STATION 22+73 TO STATION 22+98 AND STATION 23+99 TO STATION 27+02. THE CONTRACTOR SHALL SUBMIT A DETAILED PLAN SHOWING THE DESIGN OF THE SHORING, BRACING, SHEETING AND SLOPING FOR THIS REQUIRED PROTECTION PRIOR TO ANY EXCAVATION. THE ~~SHORING~~ TRENCH AND EXCAVATION PROTECTION SHALL COMPLY WITH THE PROVISIONS OF THE CONSTRUCTION SAFETY ORDERS AND THE LABOR CODE. SEE SECTIONS 14.31 AND 14.32 OF THE SPECIFICATIONS.

*20. TUNNELING PROTECTION WILL BE REQUIRED ALONG CONSTRUCTION C.L. STATION 22+92 TO STATION 23+98. CONTRACTOR'S ATTENTION IS DIRECTED TO THE PROVISIONS OF SECTION 1950-1964.5 OF THE LABOR CODE CONCERNING TUNNEL SAFETY. THE CONTRACTOR SHALL BE RESPONSIBLE FOR THE SAFETY OF ALL PERSONS ENGAGED IN THE TUNNELING OPERATIONS IN ACCORDANCE WITH THE TUNNEL SAFETY ORDERS OF THE DIVISION OF OCCUPATIONAL SAFETY AND HEALTH.

~~22.~~ 21. THE CONTRACTOR'S ACCESS TO THE CONSTRUCTION SITE FROM ~~THE ALAMEDA COUNTY CORPORATION YARD~~ IS CONSIDERED RESTRICTIVE, BUT ADEQUATE TO COMPLETE THE REQUIRED CONSTRUCTION. THE CONTRACTOR SHALL CAREFULLY PLAN AND CONSTRUCT HIS MEANS IN SUCH A WAY THAT TREES, SHRUBBERIES, AND PERMANENT IMPROVEMENTS SHALL BE PROTECTED AND SHALL NOT BE DAMAGED, UNLESS OTHERWISE DESIGNATED ON THE DRAWINGS OR AUTHORIZED IN WRITING BY THE ENGINEER.

~~23.~~ 22. THE CONTRACTOR SHALL CONNECT AND EXTEND ALL SIDE DRAINS ENCOUNTERED WITHIN THE PROJECT LIMITS. SEE SECTION 14.17 OF THE SPECIFICATIONS, AND GENERAL NOTE NO. ~~8~~ 13

~~24.~~ 23. THE CONTRACTOR SHALL MAINTAIN ADEQUATE ACCESS TO PRIVATE PROPERTIES, DRIVEWAYS, AND DWELLINGS AT ALL TIMES.

~~25.~~ 24. QUANTITIES AND TOPOGRAPHIC INFORMATION PROVIDED ON THE DRAWINGS ARE BASED ON FIELD DATA OBTAINED IN ~~NOVEMBER~~ AUGUST ~~1994~~ 1996. FINAL QUANTITIES FOR BASIS OF PAYMENT WILL BE BASED ON FIELD SURVEY DATA OBTAINED AFTER CLEARING AND GRUBBUNG.

~~26. THE DISTRICT IS IN THE PROCESS OF SECURING THE RIGHT-OF-WAY SHOWN ON SHEET 9. IT IS ANTICIPATED THAT THE ACQUISITION WILL BE COMPLETED BY MAY 31, 1999. SHOULD THE DISTRICT BE UNABLE TO SECURE THE RIGHT-OF-WAY DUE TO SOME UNFORSEEN CIRCUMSTANCE, THE DISTRICT MAY ELECT TO CANCEL THIS CONTRACT. SUCH CANCELLATION SHALL NOT CONSTITUTE A BASIS FOR CLAIM BY THE CONTRACTOR FOR PAYMENT OR DAMAGES.~~

~~27.~~ 25. THE CONTRACTOR AGREES THAT THE COUNTY IS NOT RESPONSIBLE FOR ANY THEFT OR DAMAGE TO THE CONTRACTOR'S EQUIPMENT OR MATERIALS STORED AT THE CONSTRUCTION STAGING AREA.

90% REVIEW
INCOMPLETE PLAN

PROJECT DESIGN ENGINEER	
REVIEWED BY:	DATE
DEPARTMENT	

WINZLER & KELLY
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W&K JOB NO.	DESIGNED	DRAWN	CHECKED
97307502	FR	MLK	FR

WORK ORDER NO. F12C56 — SPECIFICATION NO. FC12-143

COUNTY OF ALAMEDA ☆ PUBLIC WORKS AGENCY
DONALD J. LABELLE - DIRECTOR

REVIEWED
APPROVAL RECOMMENDED
APPROVED

ZONE No. 12 PROJECT
LINE B

KEY MAP AND GENERAL NOTES

DATE	SCALE	FILE NO.	SHEET NO.	OF
	AS SHOWN	CB-779	2	11

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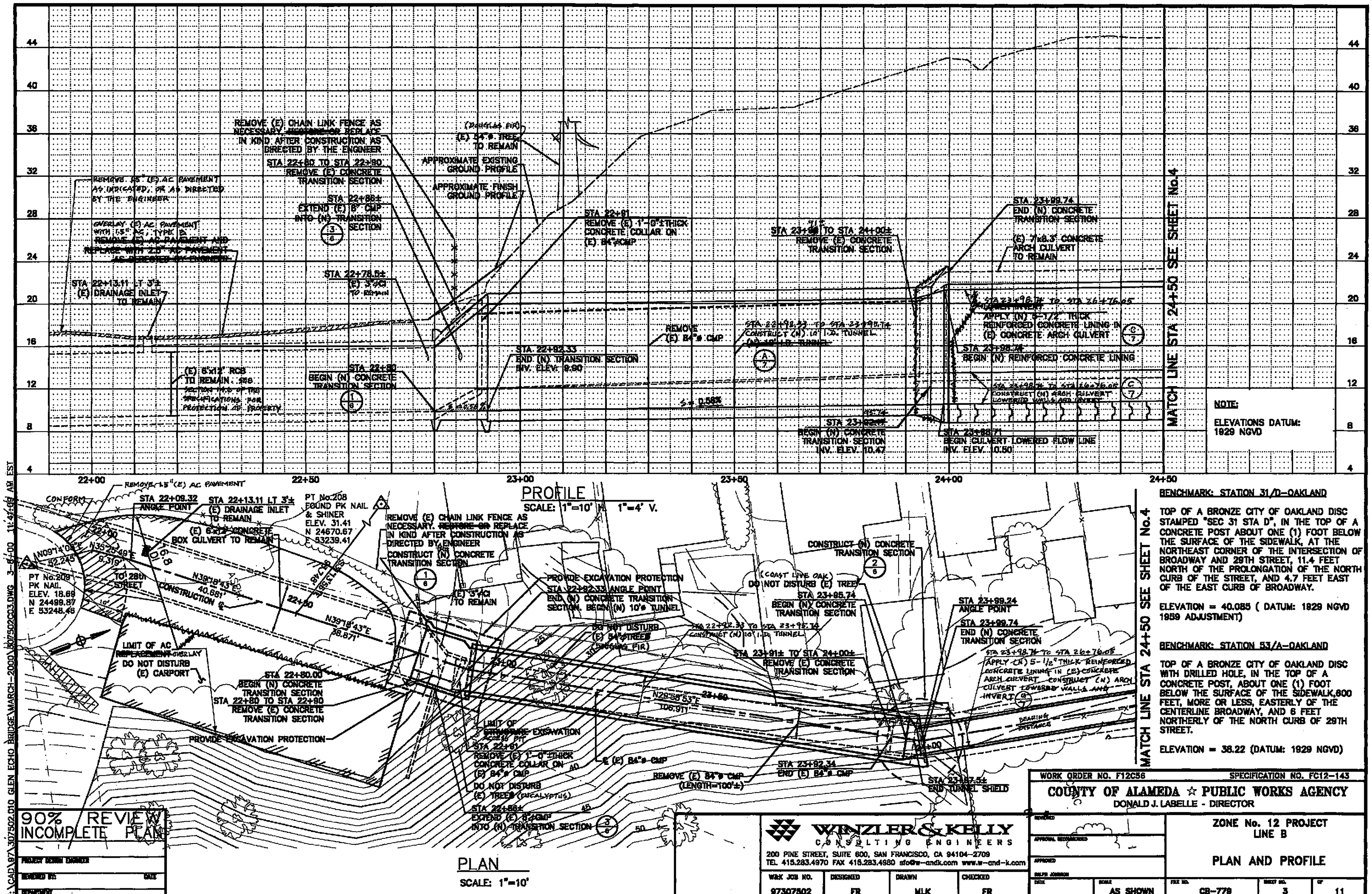
PROFILE
SCALE: 1"=10' H. 1"=4' V.
PLAN
SCALE: 1"=10'
MATCH LINE STA 24+50 SEE SHEET No.4
NOTE:
ELEVATIONS DATUM: 1929 NGVD
REMOVE (E) CHAIN LINK FENCE AS NECESSARY. RESTORE OR REPLACE IN KIND AFTER CONSTRUCTION AS DIRECTED BY THE ENGINEER
STA 22+80 TO STA 22+80 REMOVE (E) CONCRETE TRANSITION SECTION
STA 22+88± EXTEND (E) 8" CMP INTO (N) TRANSITION SECTION
STA 22+78.8± (E) 3"ACI TO REMAIN
STA 22+13.11 LT 3'± (E) DRAINAGE INLET TO REMAIN
STA 22+80 BEGIN (N) CONCRETE TRANSITION SECTION
(E) 6'x12' RCB TO REMAIN. SEE SECTION 11.6 OF THE SPECIFICATIONS FOR PROTECTION OF PROPERTY
(DOUGLAS FIR) (E) 54"ø TREE TO REMAIN
APPROXIMATE EXISTING GROUND PROFILE
APPROXIMATE FINISH GROUND PROFILE
STA 22+91 REMOVE (E) 1'-0"±THICK CONCRETE COLLAR ON (E) 84"ø CMP
STA 22+92.33 END (N) TRANSITION SECTION INV. ELEV. 9.90
REMOVE (E) 84"ø CMP
STA 22+92.33 TO STA 23+95.74 CONSTRUCT (N) 10' I.D. TUNNEL
S=0.58%
STA 23+91± TO STA 24+00± REMOVE (E) CONCRETE TRANSITION SECTION
STA 23+95.74 BEGIN (N) CONCRETE TRANSITION SECTION INV. ELEV. 10.47
STA 23+99.74 END (N) CONCRETE TRANSITION SECTION
(E) 7'x8.3' CONCRETE ARCH CULVERT TO REMAIN
STA 23+98.74 TO STA 26+76.65 APPLY (N) 5-1/2" THICK REINFORCED CONCRETE LINING IN (E) CONCRETE ARCH CULVERT
STA 23+98.74 BEGIN (N) REINFORCED CONCRETE LINING
STA 23+98.74 TO STA 26+76.65 CONSTRUCT (N) ARCH CULVERT LOWERED WALLS AND INVERT
STA 23+98.71 BEGIN CULVERT LOWERED FLOW LINE INV. ELEV. 10.50
22+00
22+50
23+00
23+50
24+00
24+50
REMOVE 1.5" (E) AC PAVEMENT
CONFORM
STA 22+09.32 ANGLE POINT
PT No.208 FOUND PK NAIL & SHINER ELEV. 31.41 N 24670.67 E 53239.41
PT No.209 PK NAIL ELEV. 18.69 N 24499.87 E 53248.46
TO 28th STREET
CONSTRUCTION ℄
N39°18'43"E 40.881'
N39°18'43"E 36.871'
N28°38'53"E 106.911'
(E) 6'x12' CONCRETE BOX CULVERT TO REMAIN
LIMIT OF AC REPLACEMENT OVERLAY
DO NOT DISTURB (E) CARPORT
STA 22+80.00 BEGIN (N) CONCRETE TRANSITION SECTION
STA 22+80 TO STA 22+80 REMOVE (E) CONCRETE TRANSITION SECTION
PROVIDE EXCAVATION PROTECTION
CONSTRUCT (N) CONCRETE TRANSITION SECTION
STA 22+92.33 ANGLE POINT END (N) CONCRETE TRANSITION SECTION, BEGIN (N) 10'ø TUNNEL
DO NOT DISTURB (E) 54"ø TREE (DOUGLAS FIR)
(COAST LIVE OAK) DO NOT DISTURB (E) TREE
STA 23+95.74 BEGIN (N) CONCRETE TRANSITION SECTION
STA 23+99.24 ANGLE POINT
LIMIT OF STRUCTURE EXCAVATION
(E) 84"ø CMP
REMOVE (E) 84"ø CMP (LENGTH=100'±)
STA 23+92.34 END (E) 84"ø CMP
STA 23+97.5± END TUNNEL SHIELD
DO NOT DISTURB (E) TREES (EUCALYPTUS)
90% REVIEW INCOMPLETE PLAN

BENCHMARK: STATION 31/D-OAKLAND

TOP OF A BRONZE CITY OF OAKLAND DISC STAMPED "SEC 31 STA D", IN THE TOP OF A CONCRETE POST ABOUT ONE (1) FOOT BELOW THE SURFACE OF THE SIDEWALK, AT THE NORTHEAST CORNER OF THE INTERSECTION OF BROADWAY AND 29TH STREET, 11.4 FEET NORTH OF THE PROLONGATION OF THE NORTH CURB OF THE STREET, AND 4.7 FEET EAST OF THE EAST CURB OF BROADWAY.

ELEVATION = 40.085 (DATUM: 1929 NGVD 1959 ADJUSTMENT)

BENCHMARK: STATION 53/A-OAKLAND

TOP OF A BRONZE CITY OF OAKLAND DISC WITH DRILLED HOLE, IN THE TOP OF A CONCRETE POST, ABOUT ONE (1) FOOT BELOW THE SURFACE OF THE SIDEWALK,600 FEET, MORE OR LESS, EASTERLY OF THE CENTERLINE BROADWAY, AND 6 FEET NORTHERLY OF THE NORTH CURB OF 29TH STREET.

ELEVATION = 38.22 (DATUM: 1929 NGVD)

WORK ORDER NO. F12C56 SPECIFICATION NO. FC12-143

COUNTY OF ALAMEDA ☆ PUBLIC WORKS AGENCY
DONALD J. LABELLE - DIRECTOR

ZONE No. 12 PROJECT LINE B

PLAN AND PROFILE

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W&K JOB NO.	DESIGNED	DRAWN	CHECKED	SCALE	FILE NO.	SHEET NO.	OF
97307502	FR	MLK	FR	AS SHOWN	CB-779	3	11

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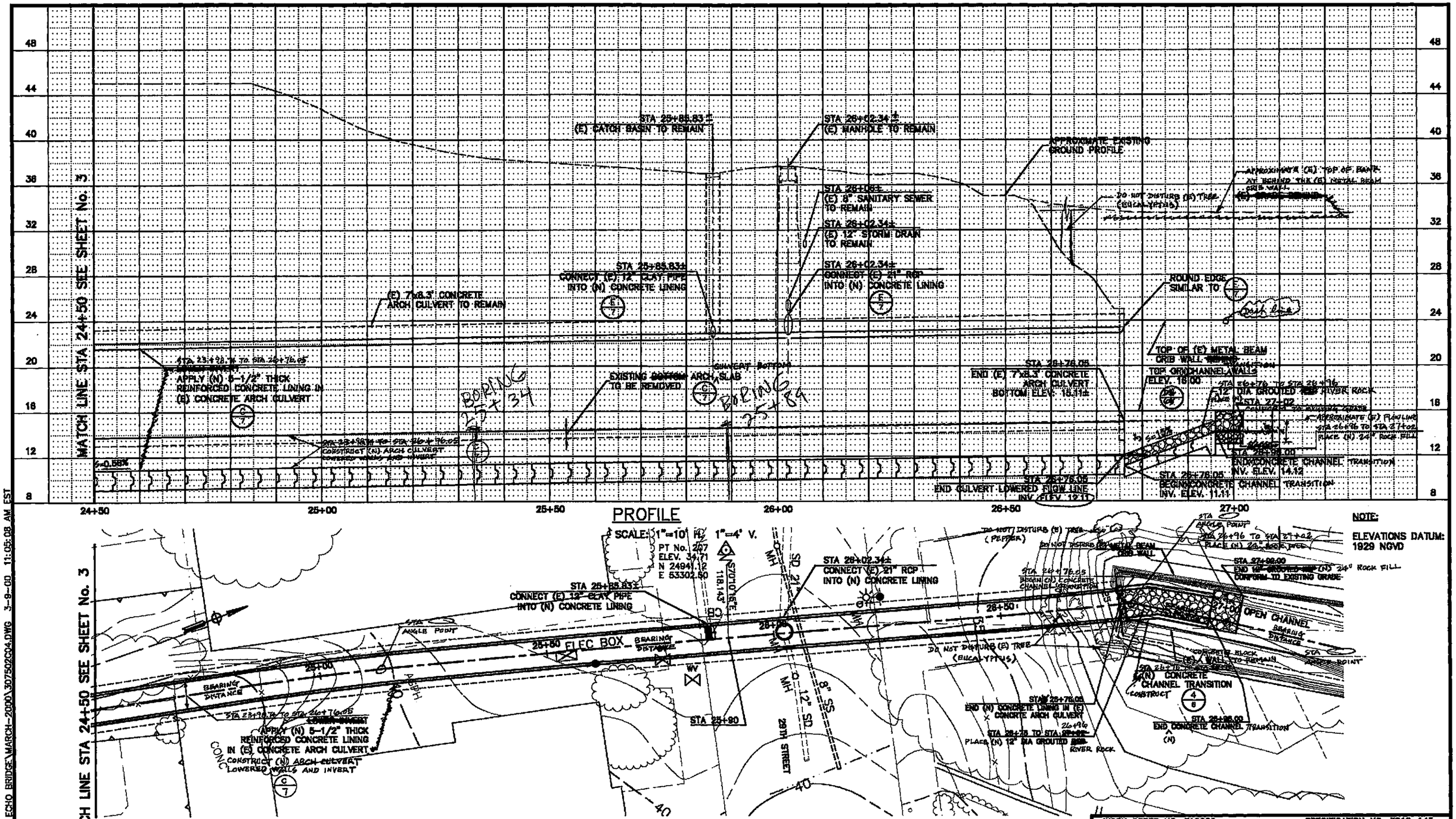

90% REVIEW
INCOMPLETE PLAN

PROJECT DESIGN ENGINEER

REVIEWED BY: DATE

DEPARTMENT

WORK ORDER NO. F12C56 SPECIFICATION NO. FC12-143

COUNTY OF ALAMEDA ☆ PUBLIC WORKS AGENCY
DONALD J. LABELLE - DIRECTOR

REVISED

APPROVAL RECOMMENDED

APPROVED
RALPH JOHNSON
DATE

ZONE No. 12 PROJECT
LINE B

PLAN & PROFILE

WINZLER & KELLY
CONSULTING ENGINEERS
200 PINE STREET, SUITE 600, SAN FRANCISCO, CA 94104-2709
TEL 415.283.4970 FAX 415.283.4980 sfo@w-and-k.com www.w-and-k.com

WORK JOB NO.	DESIGNED	DRAWN	CHECKED
97307502	-	MLK	-

SCALE	FILE NO.	SHEET NO.	OF
AS SHOWN	CB-779	4	11

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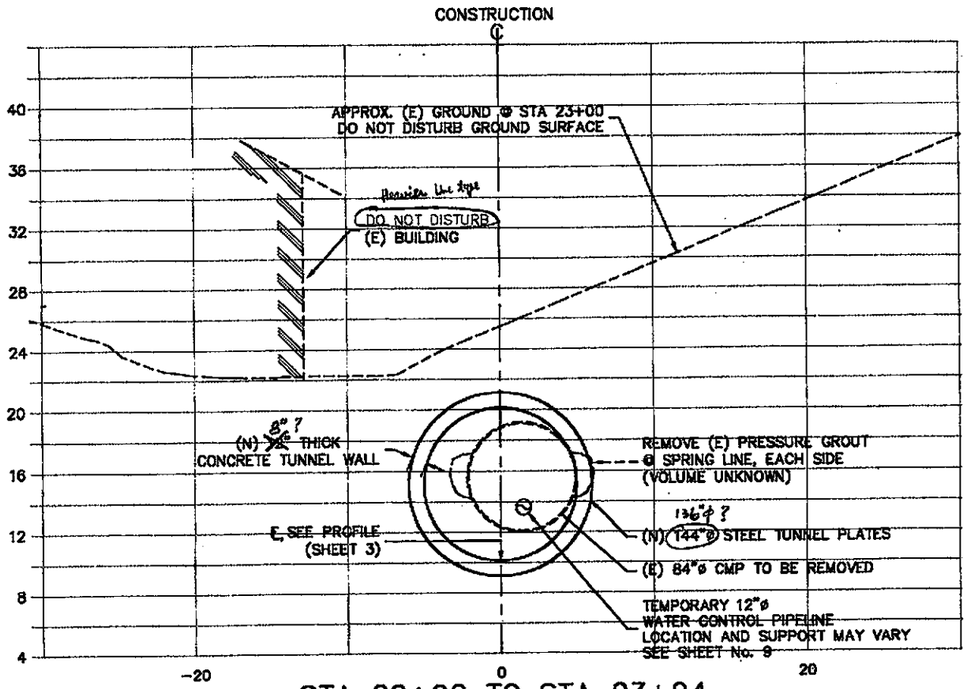
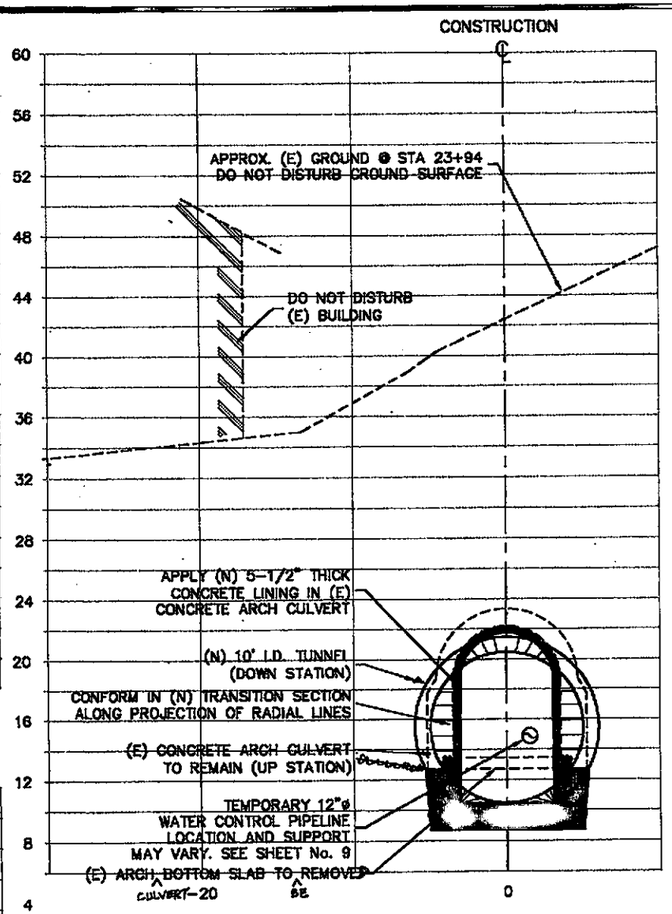
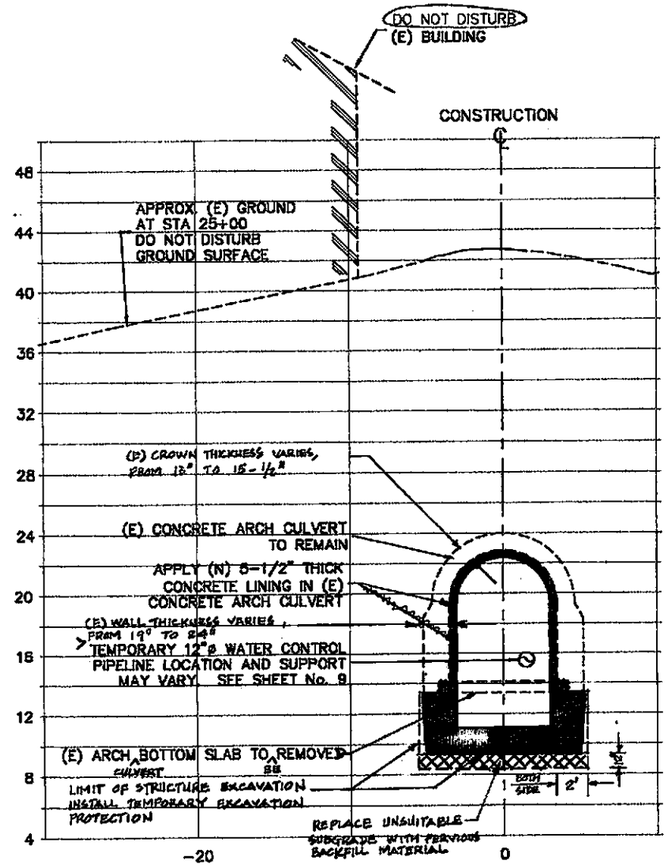


STA 22+92 TO STA 23+94

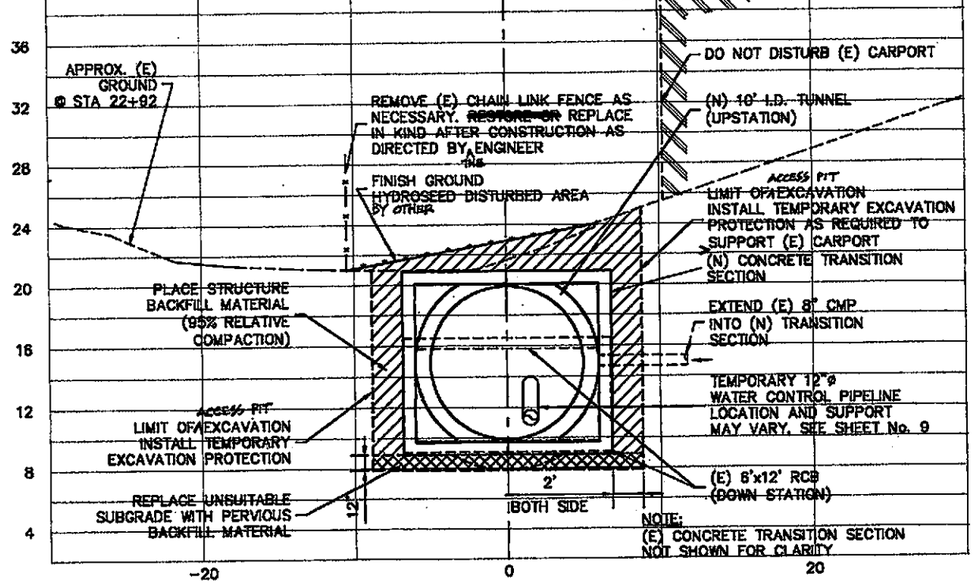


NOTE:
(E) CONCRETE TRANSITION STRUCTURE
NOT SHOWN FOR CLARITY

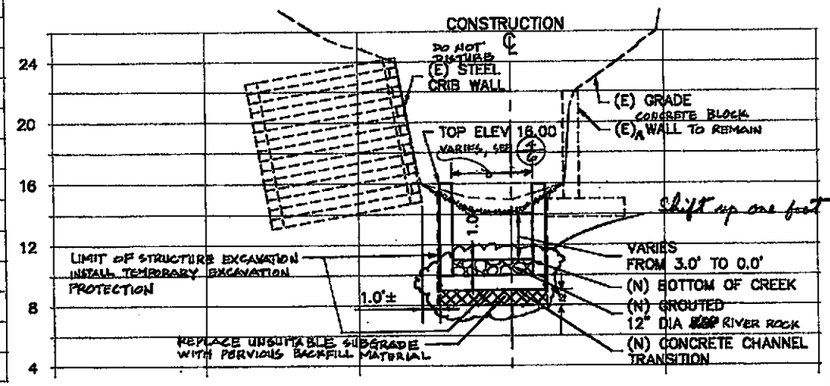
STA 23+94 TO STA 24+00



STA 24+00 TO STA 26+76



STA 22+80 TO STA 22+92.33



STA 26+76 TO STA 26+96

90% REVIEW
INCOMPLETE PLAN

PROJECT DESIGN ENGINEER
REVIEWED BY DATE
DEPARTMENT

WORK ORDER NO. F12C56 SPECIFICATION NO. FC12-143

COUNTY OF ALAMEDA ☆ PUBLIC WORKS AGENCY
DONALD J. LABELLE - DIRECTOR

REVIEWED
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RALPH JOHNSON
DATE

ZONE No. 12 PROJECT
LINE B

TYPICAL SECTIONS

SCALE 1"=5'
FILE NO. CB-778
SHEET NO. 5
OF 11

WINZLER & KELLY
CONSULTING ENGINEERS
200 PINE STREET, SUITE 800, SAN FRANCISCO, CA 94104-2709
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WRK JOB NO.	DESIGNED	DRAWN	CHECKED
97307502	FR	PB/MLK	MDK

FOR REDUCED PLANS 0 1 2 3

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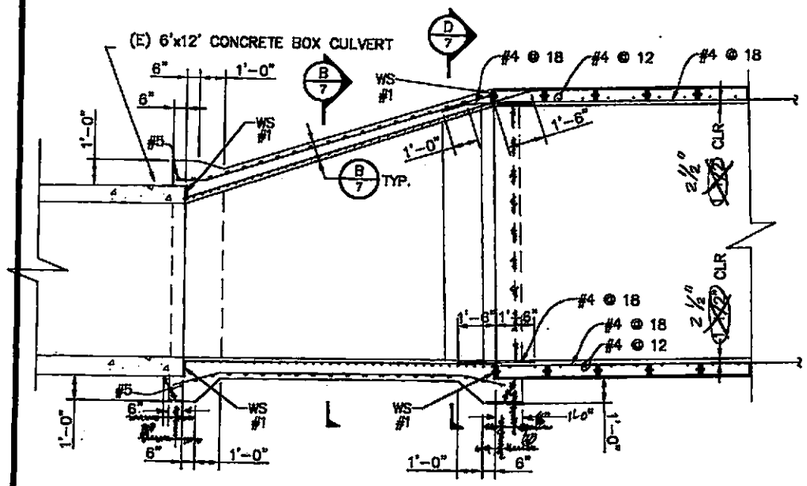
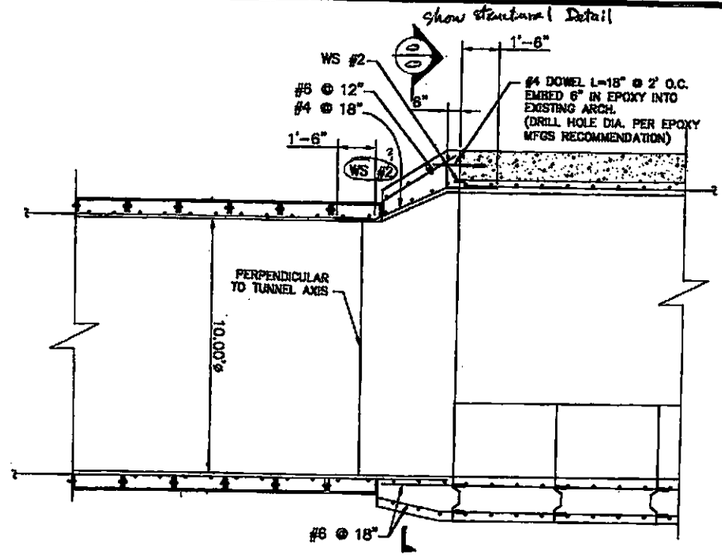
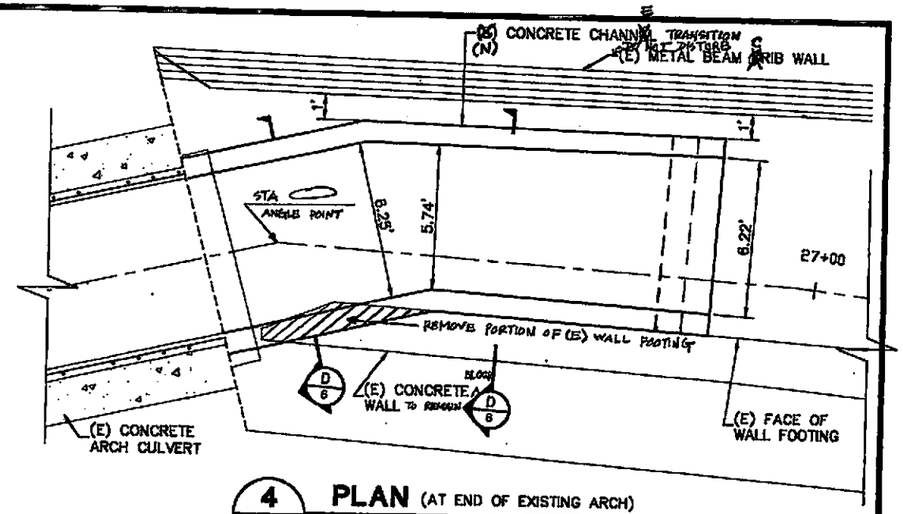


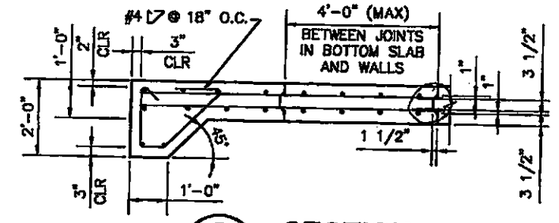
A — SECTION
SCALE: 1" = 3'



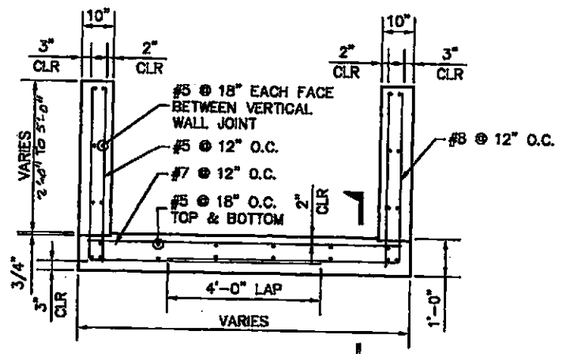
B — SECTION
SCALE: 1" = 3'



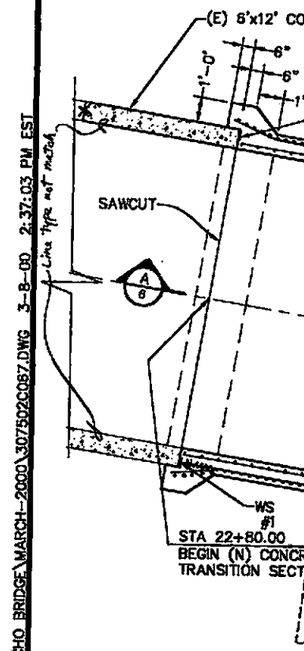
4 — PLAN (AT END OF EXISTING ARCH)
SCALE: 1" = 3'



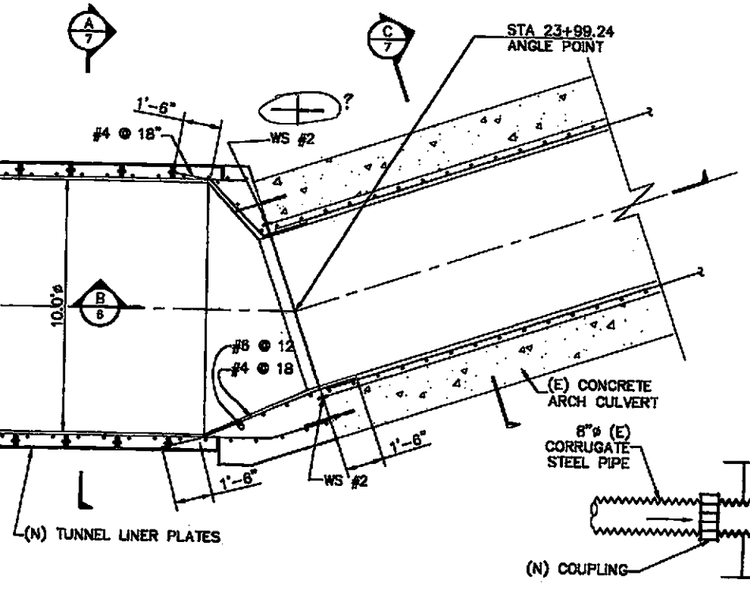
C — SECTION
6 — SCALE: 1" = 2'



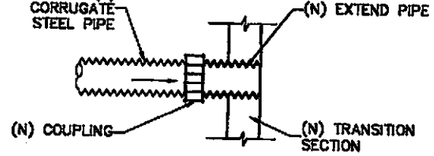
D — SECTION
— — SCALE: 1" = 2'
C 6



1 — PLAN (AT TUNNEL MID-HEIGHT)
SCALE: 1" = 3'



2 — PLAN (AT TUNNEL MID-HEIGHT)
SCALE: 1" = 3'



3 — EXTEND (E) CMP INTO (N) SECTION
SCALE: 1" = 2'

NOTE:

WATERSTOP (WS)

WS #1 PRECOMPRESSED SELF-EXPANDING POLYURETHANE FROM JOINT SEALANT WATERSTOP.

WS #2 THERMOPLASTIC ELASTOMERIC RUBBER WATERSTOP – 4" LONG (2" EA. SIDE OR CONSTRUCTION JOINT)

90% REVIEW
INCOMPLETE PLAN

PROJECT ENGINEER
REVIEWED BY: DATE
DEPARTMENT

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CONSULTING ENGINEERS
200 PINE STREET, SUITE 600, SAN FRANCISCO, CA 94104-2709
TEL 415.283.4970 FAX 415.283.4980 sfo@w-andk.com www.w-and-k.com

WORK JOB NO.	DESIGNED	DRAWN	CHECKED
97307502	FR	MLK	FR

WORK ORDER NO. F12C86 — SPECIFICATION NO. FC12-143

COUNTY OF ALAMEDA ☆ PUBLIC WORKS AGENCY
DONALD J. LABELLE - DIRECTOR

REVIEWED
APPROVAL RECOMMENDED
APPROVED
DATE
SCALE: AS SHOWN

ZONE No. 12 PROJECT
LINE B

STRUCTURAL DETAILS

FILE NO. CB-779 — SHEET NO. 8 — OF 11

FOR REDUCED PLANS 0 1 2 5

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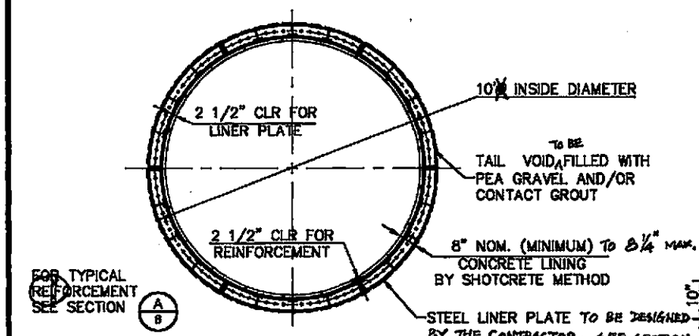
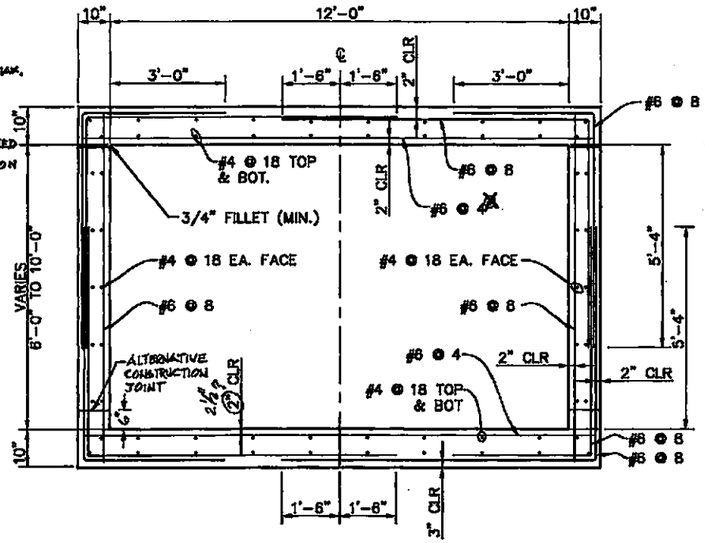
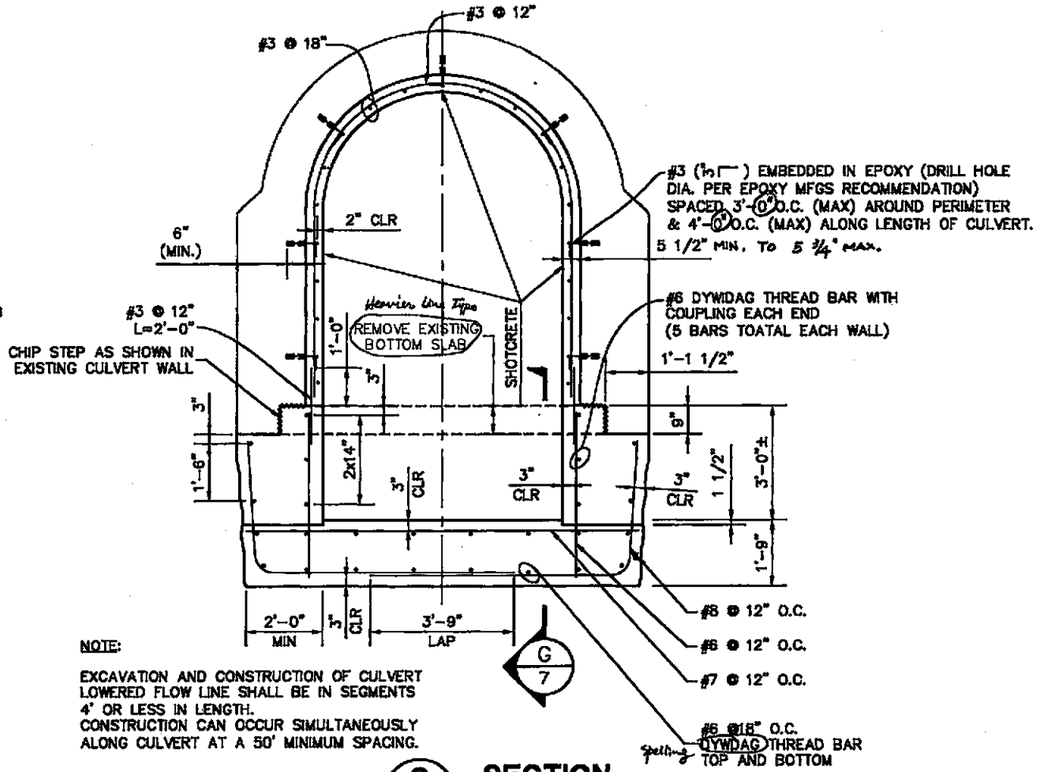


A — SECTION
SCALE: 1" = 3'



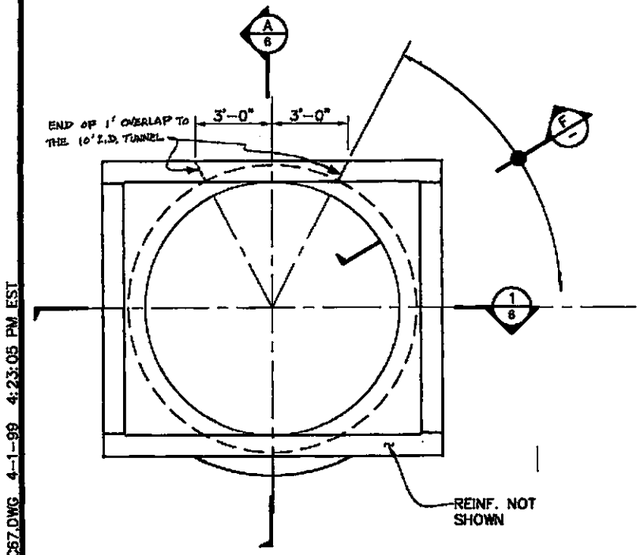
B — SECTION
SCALE: 1"=2'



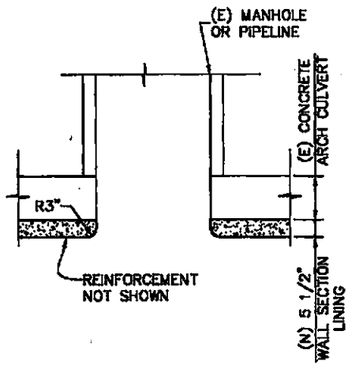
NOTE:

EXCAVATION AND CONSTRUCTION OF CULVERT LOWERED FLOW LINE SHALL BE IN SEGMENTS 4' OR LESS IN LENGTH. CONSTRUCTION CAN OCCUR SIMULTANEOUSLY ALONG CULVERT AT A 50' MINIMUM SPACING.

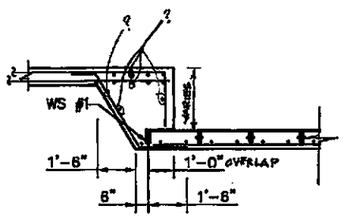
C — SECTION
SCALE: 1" = 2'



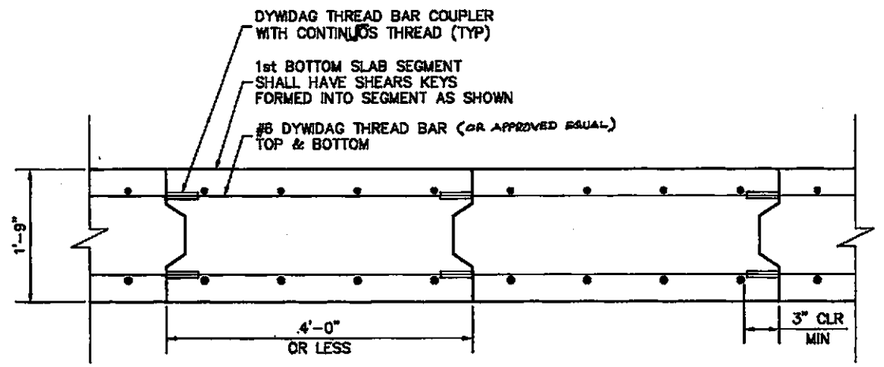
D — SECTION
SCALE: 1"=3'



E — LINING CONFORM AT (E) MANHOLE AND PIPELINE CONNECTION TO ARCH CULVERT
N.T.S.



F — SECTION
SCALE: 1"=3'



G — SECTION
SCALE: 1" = 1'

90% REVIEW
INCOMPLETE PLAN

PROJECT DESIGN ENGINEER
REVIEWED BY: DATE
DEPARTMENT

WORK ORDER NO. F12C56 SPECIFICATION NO. FC12-143

COUNTY OF ALAMEDA ☆ PUBLIC WORKS AGENCY
DONALD J. LABELLE - DIRECTOR

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97307502	FR	MLK	FR

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APPROVED
RALPH JOHNSON
DATE

ZONE No. 12 PROJECT LINE B

STRUCTURAL DETAILS

SCALE	FILE NO.	SHEET NO.	OF
AS SHOWN	CB-778	7	11

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28th STREET

RICHMOND AVENUE (PRIVATE STREET)

29th STREET

FAUSSNER
9-685-62-1

CHRISTIAN CHURCH HOMES OF NORTHEN CALIFORNIA
9-685-61

6053 TCE 4684± SQ FT
CASTILLO REVOCABLE TRUST
9-685-60

(CONSTRUCTION STAGING AREA)

HOLSER
9-685-52

SIMON
9-685-53

KIDANE
9-685-54

GOTT
9-685-55

MCMAHON
9-685-56

NEWSOME
9-685-57

LAGRIMAS ET AL
9-685-58

SMITH, TRUSTEE
9-685-59

HAGSTROM PROPERTIES, LP
9-702-1-1

PERMIT

EXISTING ACFC&WCD USDE
AZ32833 4/17/97

22+00

6957

EXISTING ACFC&WCD SDE

CHRISTIAN CHURCH HOMES OF NORTHEN CALIFORNIA
10-800-10-5

CHRISTIAN CHURCH HOMES OF NORTHEN CALIFORNIA
10-799-20-4

CHRISTIAN CHURCH HOMES OF NORTHEN CALIFORNIA
10-800-10-3

23+00

LIMITS OF EXCAVATION

ACCESS PIT

FIRST CHRISTIAN CHURCH OF OAKLAND
10-800-10-8

6054

EXISTING 20' WIDE, ACFC&WCD USDE
8675± SQ FT

25+00

ELEC BOX

6052
USDE
5345± SQ FT

6052-1
SDE
224± SQ FT

ACFC&WCD TO ENTER

6053
USDE
316± SQ FT

6052-1
SDE
151± SQ FT

FARAJ ET AL
10-803-1-2

CITY MON.
53/A

YLINEN
10-803-4

ERICKSON
10-803-3

MCCORMICK
0-799-20-2

BRASCH & LORBER
10-799-22-1

10-800-8-1

FAIRMOUNT AVENUE

FOR RIGHT OF WAY DETAILS SEE ALAMEDA COUNTY PUBLIC WORKS AGENCY RIGHT OF WAY DRAWINGS, ~~WAY DOCUMENTATION~~ RE-631 AND RE-640

LEGEND:

SDE - STORM DRAINAGE EASEMENT
TCE - TEMPORARY CONSTRUCTION EASEMENT
USDE - UNDERGROUND STORM DRAINAGE EASEMENT

90% REVIEW
INCOMPLETE PLAN

PROJECT DESIGN ENGINEER

REVIEWED BY: DATE

DEPARTMENT

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CONSULTING ENGINEERS
200 PINE STREET, SUITE 600, SAN FRANCISCO, CA 94104-2709
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97307502	MDK	MLK	FR

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DONALD J. LABELLE - DIRECTOR

REVISED

APPROVAL RECOMMENDED

APPROVED
RALPH JOHNSON

DATE | SCALE 1"=20'

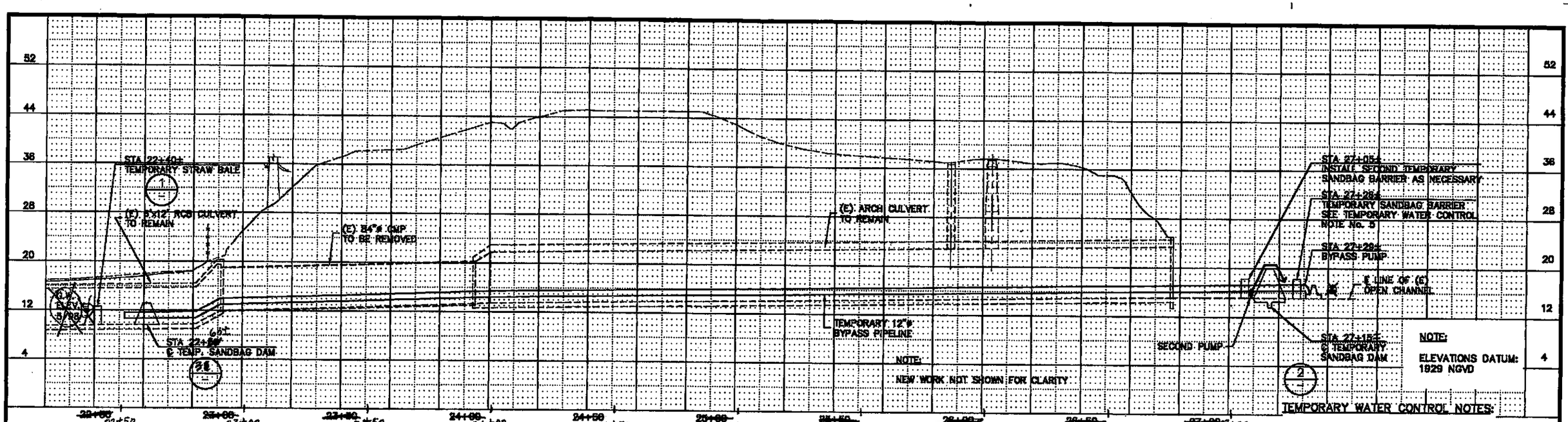
ZONE No. 12 PROJECT
LINE B

LANDS AND EASEMENTS
~~EASEMENT PLAN~~

FILE NO.	SHEET NO.	OF
CB-779	8	11

FOR REDUCED PLANS 0 1 2 3

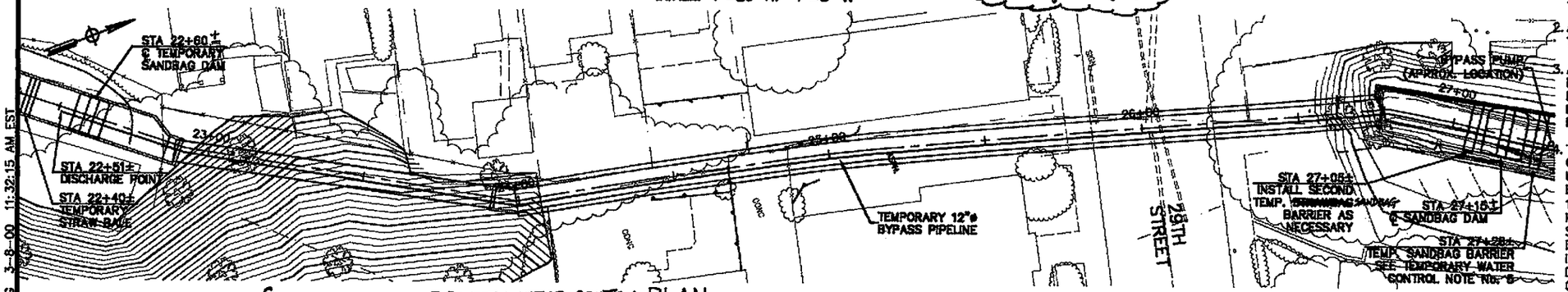
F:\CAD\97\307502.010 GLEN ECHO BRIDGE\MARCH-2000\307502C08.DWG 3-8-00 11:30:35 AM EST



PROFILE

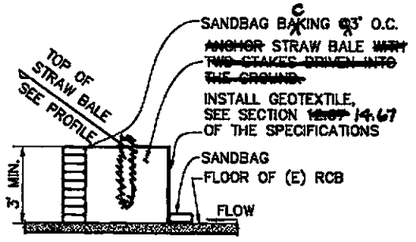
SCALE: 1"=20' H. 1"=8' V.

stationing is off !



DRAFT WATER CONTROL PLAN

SCALE: 1"=20'

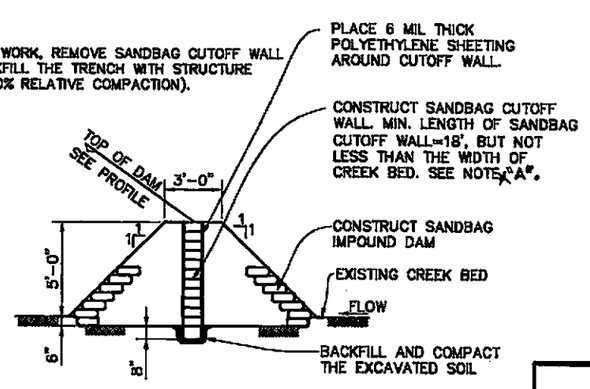


1 — STRAW BALE - FILTER FABRIC SEDIMENT BARRIER DETAIL

NO SCALE

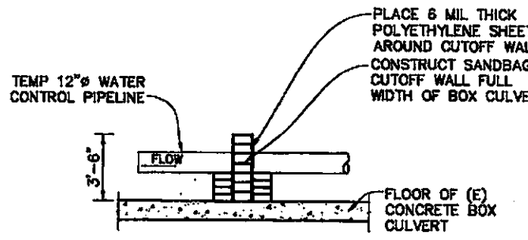
NOTE "A":

AS THE LAST ITEM OF WORK, REMOVE SANDBAG CUTOFF WALL COMPLETELY AND BACKFILL THE TRENCH WITH STRUCTURE BACKFILL MATERIAL (90% RELATIVE COMPACTION).



2 — TEMPORARY SANDBAG IMPOUND DAM AND SANDBAG CUTOFF WALL DETAIL

SCALE 1"=4'



3 — TEMPORARY SANDBAG IMPOUND DAM AT STA 22+60±

SCALE:1"=4'

TEMPORARY WATER CONTROL NOTES:

1. TEMPORARY BYPASS SHALL BE INSTALLED COMPLETE ~~AND~~ IN PLACE TO THE SATISFACTION OF THE ENGINEER PRIOR TO STARTING ANY STRUCTURAL EXCAVATION.
2. ALL WORK ON THE TEMPORARY BYPASS SHALL BE CONFINED TO THE DISTRICT'S EASEMENT OR RIGHT-OF-ENTRY.
3. ALL STREAM FLOW SHALL BE DIVERTED DURING CONSTRUCTION. DIVERSION SHALL BE BY ELECTRIC PUMP AND 12-INCH MINIMUM DIAMETER RESTRAINED JOINT PIPE DISCHARGE PIPELINE. POWER FOR PUMP SHALL BE FROM PG&E WITH EMERGENCY GENERATOR FOR STANDBY POWER.
4. THE CONTRACTOR SHALL BE RESPONSIBLE FOR ADEQUATELY CONTROLLING ALL SURFACE AND UNDERGROUND WATER IN, OVER, UNDER, AND THROUGH THE WORK AREA IN ADDITION TO THE BYPASS FACILITY SHOWN. THE SUGGESTED BYPASS FACILITY USING 12" RESTRAINED JOINT PIPE IS HYDRAULICALLY DESIGNED TO PASS 25 CUBIC FEET PER SECOND THROUGH THE CONSTRUCTION SITE, AND IS THE MINIMUM BYPASS FACILITY REQUIRED BY THE DISTRICT. THE DISTRICT ASSUMES NO RESPONSIBILITY WHATSOEVER IN RESPECT TO THE SUFFICIENCY OF THE BYPASS FACILITY, AND DOES NOT, EITHER EXPRESSLY OR IMPLIEDLY, MAKE ANY GUARANTY OF THE SAME. THE CONTRACTOR SHALL INVESTIGATE AND DETERMINE THE DEGREE OF ~~RISK~~ PROTECTION ~~NECESSARY~~ AND SHALL CONSTRUCT SUCH ADDITIONAL FACILITIES ~~REQUIRED~~ NECESSARY TO PROTECT THE CONSTRUCTION SITE FROM WATER DAMAGE OR INTERFERENCE. THE CONTRACTOR SHALL SUBMIT PLANS OF ADDITIONAL FACILITIES TO THE ENGINEER FOR APPROVAL. SEE SECTION 12.29 OF THE SPECIFICATIONS.
5. AS THE FIRST ITEM OF WORK, CONSTRUCT TEMPORARY SANDBAG BARRIER PRIOR TO CONSTRUCTING ANY TEMPORARY SANDBAG IMPOUND DAM AND CUTOFF WALL.
6. AS THE LAST ITEM OF WORK, ALL TEMPORARY PIPE SHALL BE REMOVED FROM THE JOB SITE AND ALL TEMPORARY STRUCTURES SHALL BE REMOVED TO THE SATISFACTION OF THE ENGINEER.
7. PAYMENT FOR THE TEMPORARY BYPASS AND FOR GROUND WATER CONTROL SHALL BE DEEMED TO BE INCLUDED IN THE LUMP SUM PRICE BID FOR DE-WATERING.

90% REVIEW
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FOR REDUCED PLANS 0 1 2 3

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ZONE No. 12 PROJECT
LINE B

TEMPORARY WATER CONTROL

SCALE	FILE NO.	SHEET NO.	OF
AS SHOWN	CB-779	9	11

Can we Combine this Sheet and Sheet No. 11 into One Sheet ?

GENERAL NOTES FOR TRAFFIC CONTROL:

1. NOTHING IN THESE NOTES OR PLANS SHALL RELIEVE THE CONTRACTOR OF THE RESPONSIBILITY FOR JOB SITE CONDITIONS DURING THE COURSE OF CONSTRUCTION OF THE PROJECT, INCLUDING SAFETY OF ALL PERSONS AND PROPERTY, AND THAT THIS REQUIREMENT SHALL APPLY CONTINUOUSLY AND NOT BE LIMITED TO WORKING HOURS.
2. THE ENGINEER SHALL ~~BE DEFINED AS THE ALAMEDA FLOOD CONTROL AGENCY ENGINEER OR HIS REPRESENTATIVE.~~ MEAN THE COUNTY ENGINEER OF THE ALAMEDA COUNTY PUBLIC WORKS AGENCY OR HIS AUTHORIZED REPRESENTATIVE.
3. THE ENGINEER SHALL HAVE THE RIGHT TO DEMAND THE INSTALLATION OF ADDITIONAL TRAFFIC CONTROL DEVICES OR MODIFICATIONS TO THESE PLANS AND NOTES, AS HE DEEMS NECESSARY, TO PROMOTE THE SAFE AND ORDERLY FLOW OF TRAFFIC AND PEDESTRIANS THROUGH THE CONSTRUCTION WORK ZONE. THE CONTRACTOR SHALL COMPLY WITH THESE ADDITIONAL REQUESTS OR MODIFICATIONS WITH DUE DILIGENCE AT NO ADDITIONAL COST TO THE DISTRICT.
4. CONSTRUCTION ACTIVITY IN THE ROADWAY SHALL BE LIMITED TO THE HOURS BETWEEN 9:00 AM AND 6:00 PM. ALL TRENCH EXCAVATIONS ON SIDEWALKS OR ROADWAY SHALL BE COVERED WITH STEEL PLATES OR TEMPORARILY BACKFILLED AND SURFACED FROM 6:00 PM TO 9:00 AM, UNLESS PRIOR WRITTEN APPROVAL IS OBTAINED FROM THE ENGINEER.
5. NO TEMPORARY CONSTRUCTION TRAFFIC CONTROL DEVICES SHALL BE PLACED IN THE ROADWAY (TO EXECUTE THE DAY'S CONSTRUCTION WORK) UNTIL AFTER 9:00 AM AND ALL TEMPORARY CONSTRUCTION TRAFFIC CONTROL DEVICES SHALL BE COMPLETELY REMOVED BY 6:00 PM, UNLESS PRIOR WRITTEN APPROVAL IS OBTAINED FROM THE ENGINEER. CONES OR DELINEATORS SHALL GENERALLY BE PLACED ON EXISTING LANE LINES, EXCEPT WHEN PLACED FOR LANE CLOSURE TAPERS.
6. ALL EXISTING TRAFFIC CONTROL SIGNS AND STREET SIGNS SHALL BE MAINTAINED IN VISIBLE LOCATIONS DURING CONSTRUCTION, UNLESS PRIOR WRITTEN APPROVAL IS OBTAINED FROM THE ENGINEER. THE CONTRACTOR SHALL RESTORE ANY STRIPING OR SIGNING DAMAGED DURING CONSTRUCTION OPERATIONS, INCLUDING RAISED PAVEMENT MARKERS, TO THE SATISFACTION OF THE ENGINEER.
7. WHEN ENTERING OR LEAVING ROADWAYS CARRYING PUBLIC TRAFFIC, THE CONTRACTOR'S EQUIPMENT, WHETHER EMPTY OR LOADED, SHALL IN ALL CASES YIELD TO PUBLIC TRAFFIC.
8. ACCESS TO DRIVEWAYS ADJACENT TO THE CONSTRUCTION WORK ZONE SHALL BE MAINTAINED AT ALL TIMES WITH A MINIMUM OF DELAY. ADDITIONAL TRAFFIC CONES OR DELINEATORS AND FLAGGERS MAY BE REQUIRED TO DELINEATE THE DRIVEWAY ACCESS ROUTE THROUGH THE CONSTRUCTION WORK ZONE. A MINIMUM OF ONE TRAVEL LANE SHALL BE ~~MAINTAINED~~ KEPT ACCESSIBLE ACROSS THE DRIVEWAYS, UNLESS PRIOR WRITTEN APPROVAL IS OBTAINED FROM THE ENGINEER.
9. THE CONTRACTOR SHALL MAINTAIN AT LEAST A 10-FOOT TRAVEL LANE ON ALL ROADWAYS UNLESS OTHERWISE NOTED.
10. ~~SPILLAGE~~ MATERIALS RESULTING FROM HAULING OPERATIONS ALONG OR ACROSS ANY PUBLIC TRAVELED WAY SHALL BE REMOVED IMMEDIATELY BY THE CONTRACTOR AT HIS EXPENSE.
11. "TEMPORARY NO PARKING BETWEEN 9:00 AM AND 6:00 PM" SIGNS SHALL BE INSTALLED ON TYPE II BARRICADES AT A MAXIMUM SPACING OF 25' ALONG TEMPORARY NO PARKING AREAS SHOWN ON PLANS.
12. ~~TEMPORARY NO PARKING SHALL BE ENFORCED ALONG 39TH STREET AND RICHMOND AVENUE ON BOTH SIDES OF THE ROADWAY WITHIN 100' OF THE WORK AREA DURING CONSTRUCTION STAGES 1 AND 2.~~
13. PORTABLE DELINEATORS AND CONES SHOWN ON PLANS SHALL BE INSTALLED AT A MAXIMUM SPACING OF 25'.

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100% REVIEW
NOT FOR CONSTRUCTION
PROJECT DESIGN ENGINEER
REVIEWED BY: DATE
DEPARTMENT

REGISTERED PROFESSIONAL ENGINEER
THOMAS J. KRAKOW
No. C48381
Exp. 6/30/00
CIVIL
STATE OF CALIFORNIA

DKS Associates
Traffic • Transportation • Engineering
411 W. FIFTH STREET, SUITE 500
LOS ANGELES, CALIFORNIA 90013
(213) 627-0419

W.O. NO. F12C56 SPEC. NO. FC12-143

COUNTY OF ALAMEDA ★ PUBLIC WORKS AGENCY

DESIGNED	DRAWN	CHECKED
RSS	OWC	TJK

APPROVED DATE

ZONE No. 12 PROJECT
~~GLEN ECHO CREEK DRAINAGE IMPROVEMENT PROJECT~~
TRAFFIC CONTROL
GENERAL NOTES

DATE	SCALE	FILE NO.	SHEET NO.	OF
4/99	NO SCALE	CB-779	10	11

TC-1

P:\CAD\97\307502.010 GLEN ECHO BRIDGE\DKS\SEPT99\GNOTES.DWG 10-7-99 1:05:46 PM EST

DELETE PHASE 2

~~PHASE 1 (THIS CONTRACT)~~ ~~PHASE 2 (N.I.C.)~~

28TH ST.

29TH ST.

30TH ST.

BROADWAY AVE.

BROOKS ST.

RICHMOND AVE.

C23 — 100' — C9A — 100' — 100' — 150'

FLAGGER SHALL ENFORCE REVERSIBLE ONE-WAY TRAVEL.

TEMPORARY NO PARKING

FLAGGER SHALL ENFORCE REVERSIBLE ONE-WAY TRAVEL.

C23 — 55'

LIMITS OF TEMPORARY NO PARKING AREA

PROVIDE PEDESTRIAN ACCESS AT ALL TIMES

MAINTENANCE HOLE GUARD BRACKET WITH FLAGS.

TRUCK AREA

14'

CONTRACTOR SHALL MAINTAIN MINIMUM 14' TRAVEL LANE FOR EACH DIRECTION.

78'

55'

C23

WORK AREA

10' MIN.

TYPE II BARRICADES SHALL BE INSTALLED AT A MAXIMUM SPACING OF 10' AROUND WORK AREA.

DELINEATORS SHALL BE INSTALLED AT A MAXIMUM DISTANCE OF 25'

12' MIN.

C18 — C9A — C36 — C13

80' — 80' — 80'

C2 "ROAD CLOSED SIGN" ON TYPE III BARRICADE

TYPE II BARRICADES SHALL BE PLACED AROUND OPEN EXCAVATION AREAS AT A MAXIMUM SPACING OF 25'.

WORK AREA SHALL BE CONSTRUCTED IN INCREMENTS OF 50' OR LESS.

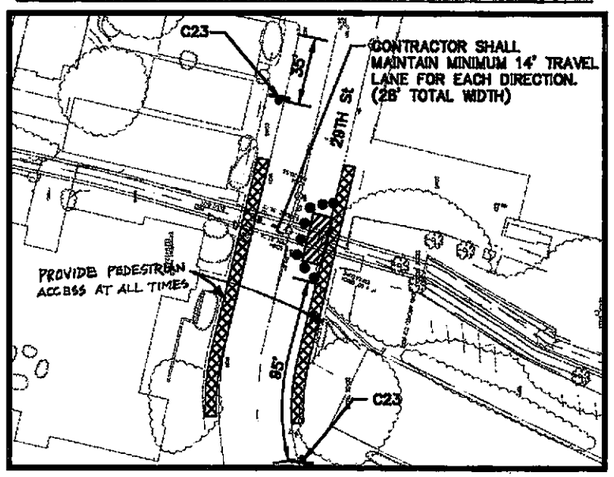
C36 — C9A — C18

75' — 45' — 115' — 160' — C13

WORK AREA

ACCESS TO CREEKSIDE APARTMENTS SHALL BE PROVIDED DURING NON-CONSTRUCTION HOURS. BRIDGE WORK SHALL BE PHASED SO THAT A MINIMUM OF 10' VERTICAL BRIDGE IS PROVIDED.

29TH STREET CONSTRUCTION WORK AREA AT CURB



LEGEND:

- TRAFFIC DELINEATORS OR CONES
- CONSTRUCTION SIGN
- FLAGGER
- TYPE II OR III BARRICADE
- TYPE II OR III BARRICADE WITH SIGN
- WORK AREA
- LIMITS OF TEMPORARY NO PARKING

CONSTRUCTION AREA SIGNS

TYPE	QUANTITY	DESCRIPTION	DIMENSION
C9A	1	—	36" x 36"
C23	3	ROAD WORK AHEAD	30" x 30"

90% REVIEW INCOMPLETE PLAN

PROJECT DESIGN ENGINEER

REVIEWED BY — DATE

DEPARTMENT

F:\CAD\87\307502.010 GLEN ECHO BRIDGE\MARCH-2000\307502C11.DWG 3-9-00 11:44:28 AM EST

FOR REDUCED PLOTS 0 1 2 3

WORK ORDER NO. F12C86 — SPECIFICATION NO. FC12-143

COUNTY OF ALAMEDA ☆ PUBLIC WORKS AGENCY

DONALD J. LABELLE - DIRECTOR

REVISED

APPROVAL RECOMMENDED

APPROVED

RALPH JOHNSON

DATE

SCALE 1" = 40'

ZONE No. 12 PROJECT LINE B

TRAFFIC CONTROL STAGE 1

FILE NO. CB-779

SHEET NO. 11 OF 11

WINZLER & KELLY
CONSULTING ENGINEERS
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WAK JOB NO. 97307502 | DESIGNED | DRAWN | CHECKED