



# Beta Associates Inc.

Consultants in Waste Management, Environmental Control and the Geotechnical Sciences

June 27, 1988  
Project 156-44.2

Lincoln Property Company  
248 Lincoln Centre Drive  
Foster City, California 94404

**RECEIVED**  
AUG 2 1988

Attention: Mr. John Young

HAZARDOUS MATERIALS/  
WASTE PROGRAM

Subject: Sediment Stockpile Analysis  
Elmhurst Business Park  
85th Avenue and San Leandro Street  
Oakland, California

Gentlemen:

On April 11, 1988, two samples of sediment were taken within the flood control channel and analyzed for priority pollutant metals and total petroleum hydrocarbons, as requested by the Regional Water Quality Control Board (ref: Beta Associates' letter to Lincoln Property Company dated May 9, 1988). Both samples revealed elevated concentrations of motor oil with one sample containing lead slightly above the State Department of Health Services (DHS)-established Soluble Threshold Limit Concentration (STLC) to consider the sediment a hazardous waste pursuant to section 66699 - Title 22 of the California Administrative Code.

On June 9, 1988 samples of the stockpiled sediment obtained from the Alameda County Flood Control Channel running through the subject site were obtained for laboratory analysis in order to confirm our initial findings.

Four samples were obtained; one from each side of the stockpile (HS-1SP: south, HS-2SP: east, HS-3SP: north, HS-4SP: west). All samples were obtained within two-inch diameter by four-inch long brass tubes, wrapped in foil, capped at both ends, labeled, and kept in a refrigerated container for transportation to California Water Labs of Modesto for analysis, accompanied by appropriate chain-of-custody documents. Analytical tests performed on the four samples included those previously run consisting of 1) total petroleum hydrocarbons using gasoline, paint thinner, diesel, kerosene, and motor oil as comparison standards, and 2) heavy metals on the Priority Pollutant List under Total Threshold Limit Concentration (TTLIC) conditions.

Results of the analyses for petroleum hydrocarbons revealed samples HS-2SP, HS-3SP, and HS-4SP to contain trace concentrations of motor oil. Motor oil was detected much higher in concentration in HS-1SP with a level of 1500 parts per million. The remainder of the petroleum hydrocarbon comparison standards were not detected (see Table 1). Results of the analyses for

heavy metals revealed all metals detected in HS-2SP, HS-3SP, and HS-4SP to be below State DHS-established levels to not be considered hazardous with respect to net weight of the individual metals in the soil. However, concentrations of lead and selenium from HS-1SP did exceed ten times the STLC warranting a Waste Extraction Test (WET) to be performed (see Table 1). The STLC determines the amount of extractable substance in a waste. The STLC values established by the DHS for lead and selenium are 5 ppm and 1 ppm, respectively.

Results of the WET on HS-1SP revealed the STLC concentration for selenium to be below the STLC limit, however, the STLC concentration for lead fell slightly above the STLC limit (see Table 1). Results of all laboratory analyses are attached.

#### Conclusions/Recommendations

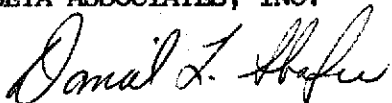
Laboratory analyses have revealed one sample obtained from the stockpiled flood control sediment to contain a moderately high concentration of motor oil, and lead exceeding the DHS-established STLC to be considered hazardous waste. These results confirm those of April 11, 1988. Since all four samples were obtained one foot deep on each side of the stockpile, we cannot precisely deduce how much of the stockpiled sediment is considered hazardous waste.

Generally, since the STLC has been exceeded, the sediment has to be hauled by a licensed hazardous waste hauler and disposed of as a hazardous waste at a Class 1 disposal site, accompanied by all appropriate manifests. In order to have it hauled to a Class I site, however, the sediment will have to undergo a waste analysis profile where additional priority pollutant analyses will have to be performed before the landfill will accept it.

If you have any questions regarding this matter, please do not hesitate to call.

Respectfully Submitted,

BETA ASSOCIATES, INC.



Daniel L. Shafer  
Project Geologist

reviewed by:



Jack E. McCollough  
Registered Geologist #1559  
Certified Engineering Geologist #905

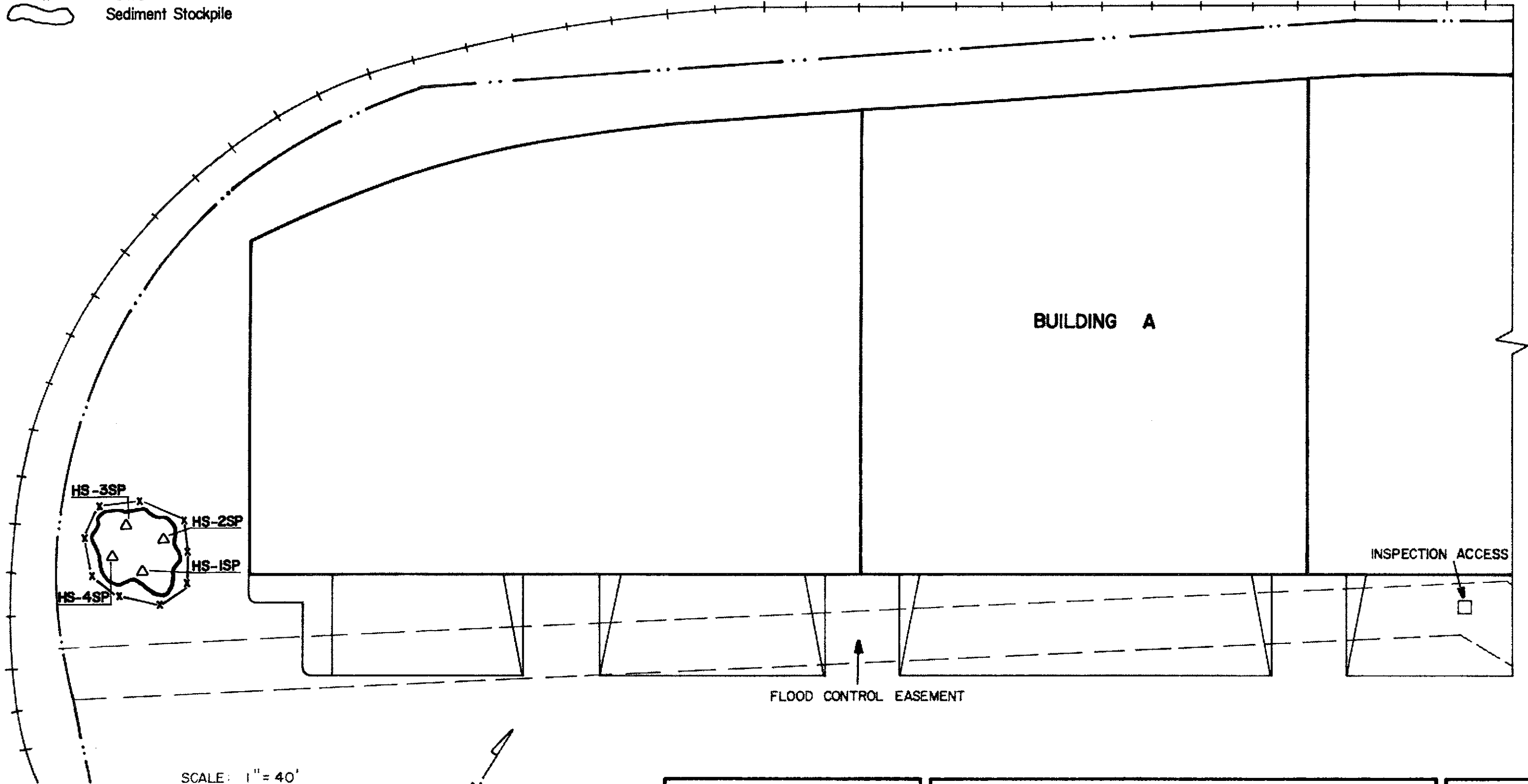
DLS/JEM/pcf

Attachments

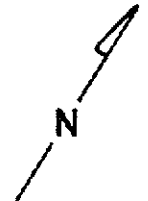


**LEGEND**

- $\Delta$  HS-ISP Hand Sample Location
- x— Fence
-  Sediment Stockpile



SCALE: 1" = 40'



**Beta Associates**

**SAMPLE LOCATIONS — SEDIMENT STOCKPILE**  
ELMHURST BUSINESS PARK  
OAKLAND, CALIFORNIA

FIGURE  
1  
156 - 44.2  
AUGUST 1968

TABLE 1

Results of Chemical Analyses  
Flood Control Channel Sediment Stockpile

Sample	Total Petroleum Hydrocarbons <sup>1</sup>				
	Gasoline	Diesel	Motor Oil	Paint Thinner	Kerosene
HS-1SP	ND	ND	1500	ND	ND
HS-2SP	ND	ND	22	ND	ND
HS-3SP	ND	ND	18	ND	ND
HS-4SP	ND	ND	14	ND	ND

Priority Pollutant Metals (TTLC)<sup>1</sup>

Sample	Lead	TTLC (Lead)	STLC <sup>2</sup> (Lead)	Selenium	TTLC (Selenium)	STLC <sup>2</sup> (Selenium)
HS-1SP	359	1000	5	18.0	100	1

Priority Pollutant Metals (STLC)<sup>2</sup>

Sample	Lead	STLC	Selenium	STLC
HS-1SP	16.9	5	0.066	1

<sup>1</sup> concentrations presented in mg/kg (ppm).

<sup>2</sup> concentrations presented in mg/l (ppm).

ND means none detected.

NA means not analyzed.



# California Water Labs, Inc.

P. O. BOX 4249  
 1430 CARPENTER LANE — SUITE G  
 MODESTO, CA 95352  
 PHONE (209) 527-4050

RUSH  
 (silver)

Purveyor Beta Associates  
 Street 2068 Lincoln  
 City San Jose Zip \_\_\_\_\_  
 Sample I.D. HS-1SP  
 Collected by: Dan Shafer/Chris Hickey

Lab I.D. P-65165  
 Purchase Order 156-44.2  
 Referring Lab \_\_\_\_\_  
 Date Collected 6-9-88  
 ELMHURST BUSINESS PARK

874 TLIC

Determination	Result mg/kg	State Allowable Limits mg/kg
Antimony	< 1.0	500
Arsenic	3.0	500
Barium	108.	10,000
Beryllium	< 0.5	75
Cadmium	1.3	100
Chromium	45.4	2,500
Cobalt	40.6	8,000
Copper	51.0	2,500
Lead *	359.	1,000
Mercury	0.12	20
Molybdenum	3.0	3,500
Nickel	58.7	2,000
Selenium *	18.0	100
Silver	< 1.0	500
Thallium	7.0	700
Vanadium	23.0	2,400
Zinc	339.	5,000

\* RUN STLC

Date Received 6-9-88  
 Date Started 6-9-88  
 Date Completed 6-13-88

By: Scott Foster

No cc Req.

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MODESTO, CA 95352  
PHONE (209) 527-4050

RUSH  
(silver)

Purveyor    Beta Associates  
Street      2068 Lincoln  
City        San Jose      Zip  
Sample I.D.      HS-1SP  
Collected by:    Dan Shafer

Lab I.D.                    P-65165  
Purchase Order  
Referring Lab  
Date Collected      6-9-88  
ELMHURST BUSINESS PARK

STLC

<u>Determination</u>	<u>Result (mg/L)</u>
Lead	16.9
Selenium	0.066

Date Received      6-13-88  
Date Started        6-13-88  
Date Completed      6-13-88

By: *Scott Drastis*

# California Water Labs, Inc.

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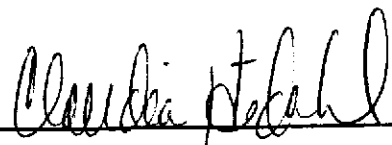
RUSH  
(silver)

Purveyor    Beta Associates  
Street      2068 Lincoln  
City        San Jose      Zip  
Sample I.D.    HS-1SP  
Collected by: Dan Shafer/Chris Hickey

Lab I.D.            P-65165  
Purchase Order    156-44.2  
Referring Lab  
Date Collected    6-9-88  
ELMHURST BUSINESS PARK

<u>Determination</u>	<u>Result (mg/kg)</u>	<u>Det. Limit (mg/kg)</u>
Gasoline	ND	0.50
Paint Thinner	ND	0.50
Diesel	ND	40.0
Kerosene	ND	40.0
Motoroil	1500	400.0

Date Received      6-9-88  
Date Started        6-9-88  
Date Completed    6-13-88

By: 

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RUSH  
(silver)

Purveyor Beta Associates  
Street 2068 Lincoln  
City San Jose Zip \_\_\_\_\_  
Sample I.D. HS-2SP  
Collected by: Dan Shafer/Chris Hickey

Lab I.D. P-65166  
Purchase Order 156-44.2  
Referring Lab \_\_\_\_\_  
Date Collected 6-9-88  
ELMHURST BUSINESS PARK

874 TLIC

Determination	Result mg/kg	State Allowable Limits mg/kg
Antimony	< 1.0	500
Arsenic	3.8	500
Barium	185.	10,000
Beryllium	0.6	75
Cadmium	< 1.0	100
Chromium	32.2	2,500
Cobalt	17.9	8,000
Copper	31.0	2,500
Lead	30.1	1,000
Mercury	0.06	20
Molybdenum	2.0	3,500
Nickel	47.6	2,000
Selenium	0.80	100
Silver	1.2	500
Thallium	5.0	700
Vanadium	11.0	2,400
Zinc	61.4	5,000

Date Received 6-9-88  
Date Started 6-9-88  
Date Completed 6-13-88

By: Scott Foster



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MODESTO, CA 95352  
PHONE (209) 527-4050

RUSH  
(silver)

Purveyor      Beta Associates

Lab I.D.                      P-65166

Street              2068 Lincoln

Purchase Order      156-44.2

City              San Jose      Zip

Referring Lab

Sample I.D.      HS-2SP

Date Collected      6-9-88

Collected by:      Dan Shafer/Chris Hickey

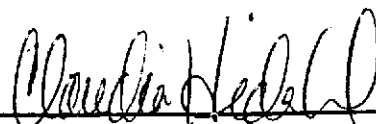
ELMHURST BUSINESS PARK

<u>Determination</u>	<u>Result (mg/kg)</u>	<u>Det. Limit (mg/kg)</u>
Gasoline	ND	0.50
Paint Thinner	ND	0.50
Diesel	ND	2.0
Kerosene	ND	2.0
Motoroil	22	20.0

Date Received      6-9-88

Date Started        6-9-88

Date Completed    6-13-88

By: 

Nocc Req.

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MODESTO, CA 95352  
PHONE (209) 527-4050

RUSH  
(silver)

Purveyor Beta Associates  
Street 2068 Lincoln  
City San Jose Zip \_\_\_\_\_  
Sample I.D. HS-35P  
Collected by: Dan Shafer/Chris Hickey

Lab I.D. P-65167  
Purchase Order 156-44,2  
Referring Lab \_\_\_\_\_  
Date Collected 6-9-88  
ELMHURST BUSINESS PARK

374 TLIC

Determination	Result mg/kg	State Allowable Limits mg/kg
Antimony	< 1.0	500
Arsenic	9.0	500
Barium	184.	10,000
Beryllium	0.6	75
Cadmium	< 1.0	100
Chromium	46.0	2,500
Cobalt	20.5	8,000
Copper	11.6	2,500
Lead	16.5	1,000
Mercury	0.08	20
Molybdenum	3.0	3,500
Nickel	82.0	2,000
Selenium	0.50	100
Silver	< 1.0	500
Thallium	7.5	700
Vanadium	19.0	2,400
Zinc	67.0	5,000

Date Received 6-9-88  
Date Started 6-9-88  
Date Completed 6-13-88

By: Scott Foster

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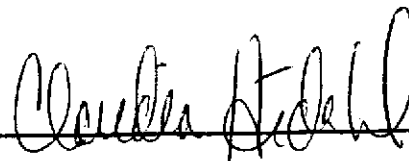
RUSH  
(silver)

Purveyor     Beta Associates  
Street       2068 Lincoln  
City         San Jose     Zip  
Sample I.D.     HS-3SP  
Collected by: Dan Shafer/Chris Hickey

Lab I.D.             P-65167  
Purchase Order     156-44.2  
Referring Lab  
Date Collected     6-9-88  
ELMHURST BUSINESS PARK

<u>Determination</u>	<u>Result (mg/kg)</u>	<u>Det. Limit (mg/kg)</u>
Gasoline	ND	0.50
Paint Thinner	ND	0.50
Diesel	ND	1.0
Kerosene	ND	1.0
Motoroil	18	10.0

Date Received     6-9-88  
Date Started      6-9-88  
Date Completed   6-13-88

By: 

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RUSH  
 (silver)

Purveyor Beta Associates  
 Street 2068 Lincoln  
 City San Jose Zip             
 Sample I.D. HS-4SP  
 Collected by: Dan Shafer/Chris Hickey

Lab I.D. P-65168  
 Purchase Order 156-44.2  
 Referring Lab                       
 Date Collected 6-9-88  
ELMHURST BUSINESS PARK

874 TILC

Determination	Result mg/kg	State Allowable Limits mg/kg
Antimony	< 1.0	500
Arsenic	10.1	500
Barium	282.	10,000
Beryllium	0.5	75
Cadmium	< 1.0	100
Chromium	31.2	2,500
Cobalt	17.0	8,000
Copper	29.0	2,500
Lead	8.0	1,000
Mercury	0.06	20
Molybdenum	3.0	3,500
Nickel	88.2	2,000
Selenium	0.40	100
Silver	1.0	500
Thallium	6.5	700
Vanadium	25.0	2,400
Zinc	62.0	5,000

Date Received 6-9-88  
 Date Started 6-9-88  
 Date Completed 6-13-88

By: *Chris Hickey*

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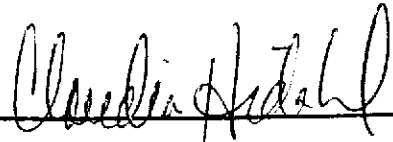
RUSH  
 (silver)

Purveyor    Beta Associates  
Street      2068 Lincoln  
City          San Jose      Zip  
Sample I.D.    HS-4SP  
Collected by: Dan Shafer/Chris Hickey

Lab I.D.            P-65168  
Purchase Order    156-44.2  
Referring Lab  
Date Collected    6-9-88  
ELMHURST BUSINESS PARK

<u>Determination</u>	<u>Result (mg/kg)</u>	<u>Det. Limit (mg/kg)</u>
Gasoline	ND	0.50
Paint Thinner	ND	0.50
Diesel	ND	1.0
Kerosene	ND	1.0
Motoroil	14	10.0

Date Received      6-9-88  
Date Started        6-9-88  
Date Completed    6-13-88

By: 

# California Water Labs, Inc.

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PHONE (209) 527-4050

## CHAIN OF CUSTODY RECORD

Analysis Required  
TPH (gas, diesel, oil  
lubricant, paint thinner) 801514  
Priority Pollutant Metals under TTLC

PROJECT NAME: <i>ELMHURST BUSINESS PARK #156-44.2</i>						Number of Containers	Analysis Required				REMARKS	
SAMPLERS (signature): <i>Dan [Signature]</i>							TPH (gas, diesel, oil lubricant, paint thinner)	Priority Pollutant Metals				
Station Number	Date	Time	Comp.	Grab	Station Location							
HS-1SP	6/9	9:45am			Sediment Stockpile	1	✓	✓				RUSH Analysis - Results by 6/15 please.  Note: If TTLC results exceed ten times the State DHS - established STLC limits, please run the WET for the metals that exceeded those limits. - Thanks, Dan
HS-2SP						1	✓	✓				
HS-3SP						1	✓	✓				
HS-4SP						1	✓	✓				
Relinquished by (signature): <i>[Signature]</i>			Date / Time 6/9/88 11:25 am		Received by (signature): <i>[Signature]</i> Company or Agency: CWL		Relinquished by (signature): Company or Agency:		Date / Time		Received by (signature): Company or Agency:	
Relinquished by (signature): Company or Agency:			Date / Time		Received by (signature): Company or Agency:		Relinquished by: Company or Agency:		Date / Time		Received by (signature): Company or Agency:	
Relinquished by (signature): Company or Agency:			Date / Time		Received for Laboratory by (signature)		Date / Time		Remarks/Shipping Information P.S. Please review file (156-44.2) for past results & analytical procedures. (P-62062 and P-62063)			

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