



ERICKSON Inc.

255 Parr Boulevard / Richmond, CA 94801 / (510) 235-1393 / Fax (510) 235-3709

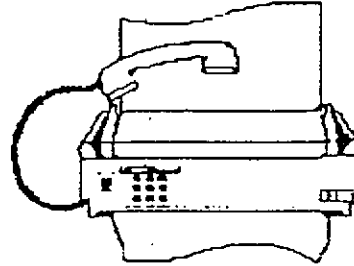
202656
Chromium
VAULT

93 OCT 29 AM 11:37

COVER SHEET

FAXED
10/28/93
9:29 AM

FACSIMILE SENT BY:



Please deliver the following pages to:

Date: OCTOBER 28, 1993

NAME: BRAIN OLIVA ALAMEDDA COUNTY HEALTH DEPT. DEPT. OF TOXICS

LOCATION: OAKLAND CA FAX NO: (510) 569-4757

NUMBER OF PAGES TO FOLLOW COVER SHEET: 46 remainder

HARD COPY TO FOLLOW: YES NO

FROM: MARY L. BOYD, ERICKSON, INC.

THE FOLLOWING IS: SUBSURFACE SOIL STUDY PERFORMED ON OCTOBER 1, 1992

COMMENTS: HARD COPY TO BE MAILED TODAY TO YOUR OAKLAND OFFICE.

FIRST FAX DIDN'T GO THROUGH
COMPLETELY. MB

IF YOU DO NOT RECEIVE ALL PAGES SENT, PLEASE CALL US AS SOON AS POSSIBLE SO THAT WE CAN RE-SEND THE FAX!

THANK YOU!



EXCEL TRANS, INC.

CAD981982663

290 West Channel Road, P.O. Box 866, Benicia, CA 94510-0866
1350 East Greg Street, Suite 3, Sparks, NV 89431
503 West 400 South, Salt Lake City, UT 84101

Phone (707) 745-8907

(800) 272-6899

FAX (707) 745-8024

Certified mail article No. p 225 524 097

November 4, 1992

Steve Slade, General Manager
Charles Lowe Company
1400 Park Avenue
Emeryville, CA 94608-0445

SUBJECT: SUMMARY OF SUBSURFACE INVESTIGATION
and
IMMEDIATE MITIGATION PROPOSAL
Chromex / Charles Lowe Company
1400 Park Avenue
Emeryville, California

Dear Mr. Slade:

This letter summarizes the findings of the October 1, 1992 subsurface investigation performed at the former Chromex facility in Emeryville, California. In addition, based on the results of the investigation, a proposal to immediately mitigate the chromium contamination in the vault is also presented in this letter. Results of the investigation indicate that there has been a release of chrome to the soil, a localized release of chromium to groundwater, and a limited release of zinc, copper, and silver to the soil. Moreover, potential offsite releases of halogenated hydrocarbons have contaminated the underlying groundwater.

SUMMARY OF SUBSURFACE INVESTIGATION

As part of the subsurface investigation, Excel Trans Inc. subcontracted Terratech to drill boreholes, classify the soil, and sample the soil and groundwater. Once drilling commenced, Terratech collected and prepared groundwater and soil samples for transfer to a DHS certified laboratory. Trace Analysis, a DHS certified laboratory, performed all laboratory work for the investigation. A copy of laboratory analysis, the geological report, and a sample location map are attached to this report.

Laboratory analysis of two soil samples reveal that some metal species are above typical background levels. In particular, the control boring appears to have elevated levels of copper, lead, and zinc at the 1 foot level. Boring B3 appears to have elevated chromium and silver levels at 1 foot. Table I lists sample locations and summarizes contaminants in the soil samples.

Certified mail article No. P 225 524 097

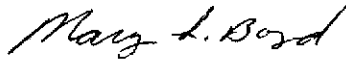
As noted in the attached Terratech "Summary of Environmental Services" (page 2, paragraph 2), borehole number B2 did not recharge quickly enough to obtain a groundwater sample.

IMMEDIATE MITIGATION PROPOSAL

It is our opinion that the most immediate concern at this time is mitigation of the chromium contamination in the vault. At present, there appears to be no migration of chrome from the vault to the groundwater. To prevent the possibility of future migration, we recommend that the soil in the vault be immediately excavated below the water table, and that the excavated hole be refilled with pea-gravel after analysis shows that soil chrome concentrations have dropped below a level of regulatory concern. After the soil has been excavated, we propose that the soil pile be analyzed for contamination and be labeled, transported, and disposed of according to all local, state, and federal regulations.

Thank you for your interest and willingness to move quickly on this project. If you have any questions, please do not hesitate to call me at (707) 745-8907.

Sincerely,



Mary L. Boyd
Excel Trans, Inc.



1365 VANDER WAY
7891 WESTWOOD DR., SUITE 101
12 THOMAS OWENS WAY
141 SUBURBAN RD., SUITE C2

SAN JOSE, CA 95112
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October 26, 1992
Project 5229

Excel Trans
290 West Channel Road
Benicia, California 94510-0866

Attention: Mary Boyd

Subject: Summary of Environmental Services
Charles Lowe Company
1400 Park Avenue
Emeryville, California

Dear Ms. Boyd:

This letter report summarizes our procedures and findings from the environmental services we provided on October 1, 1992, at the Charles Lowe Company, located at 1400 Park Avenue in Emeryville, California. We performed our work in accordance with tasks outlined in the "Request for Quotation" you supplied us on June 29, 1992, and the excerpts from the work plan you provided us on September 23, 1992 (except as noted in the fifth paragraph on page 2).

We sub-contracted with West Tek, Inc., a C57-licensed drilling company from San Jose, to drill and sample the soil. West Tek drilled four holes using steam-cleaned, 8-inch-outside-diameter, hollow-stem augers advanced by a CME 55 truck-mounted drill rig. The holes were advanced roughly at the locations indicated by the symbols B0, B2, and B3 on the attached drawing, which you provided; B1 was advanced about 5 feet north of the location shown on the drawing due to the drill rig's inability to climb a 2-foot-tall berm.

An environmental geologist with our firm was on site to direct the drilling crew, pack samples, and log the holes. We classified the soils using the Unified Soil Classification System with visual-manual procedures (ASTM D2488-84). Neither our geologist nor the drillers noted unusual odors or discoloration in soils from the drill holes. Exploration drill hole logs, which are appended to this letter, display details regarding types of soil encountered.

In accordance with your sampling plan, the drillers collected samples at depths of 1 to 2 feet, 5 feet, and 10 feet. The drillers sampled using an 18-inch-long, modified California, split-spoon sampler driven with an automatic hammer. Prior to each use, the drillers washed the sampler in a non-phosphate soap solution, rinsed it twice in potable water, and rinsed it once more with distilled water. We provided the drillers with unused, 6-inch-long, brass liners, which they placed in the sampler for each sampling drive.

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October 26, 1992

Project 5229

The drillers placed soil cuttings from each hole in separate, labelled, covered, 55-gallon, steel drums (total of four drums with soil). The drillers and our geologist placed rinse water in a fifth labelled, covered, 55-gallon, steel drum. The five drums and their contents were left in a fenced area on site and are the property of the Charles Lowe Company, which bears the responsibility of properly disposing of the drums and their contents, in accordance with regulatory guidelines.

Upon collection, we packed the bottom liner from each drive by placing Teflon sheets over the ends, placing plastic caps over the Teflon, and sealing the caps with masking tape. We then transferred the soil samples to you for labelling, storing with ice, and eventual analytical testing. Chain-of-custody procedures were followed to document sample collection and handling.

At the completion of drilling and soil sampling, the drillers placed PVC pipe (with 5 feet of factory slotting at the bottom) in each of the four drill holes. The drillers then placed about 7 feet of sand in the annular space around the slotted pipe. We allowed the holes to stand undisturbed for about 1 to 4 hours in order for ground water to accumulate in them. Water rose in holes B0, B1, and B3, but no water rose in B2, even after 3 hours.

We used pre-cleaned Teflon bailers to obtain samples of the ground water from each of the three holes that contained water. We transferred the water from the bailers into containers you supplied. For each of the three holes containing water, we filled one half-liter plastic container for analysis for metals, and two VOA vials for volatile-organic analysis. We filtered the water for metals analysis using a QED Sample Pro filter fitted with an unused, 0.45-micron filter cartridge. Before use at each hole, we cleaned the filter vessel and pump with a non-phosphate soap solution, rinsed it in running potable water, rinsed it again with distilled water, and fitted it with a new filter cartridge. We filled the VOA vials until a positive meniscus formed, sealed them with Teflon-faced silicone caps, and inverted and tapped the vials to verify that no bubbles had formed. We then transferred the water samples to you for labelling, storing with ice, and eventual analytical testing. Chain-of-custody procedures were followed to document sample collection and handling.

We let ground water levels equilibrate for at least one hour after water sampling and surveyed the elevations of the tops of the PVC pipes. As you know, the drillers removed the PVC pipes from the holes before we could measure all the water levels. Therefore, we could not obtain the information necessary to determine the ground-water gradient or flow direction.

After removing all PVC casings, the drillers sealed the holes using a slurry of cement and bentonite.

Our personnel (geologist and surveyor) and that of our subcontractor (drillers) were OSHA/SARA certified in compliance with the 29 CFR 1910.120 and California Title 8, GISO, Sec. 5192.



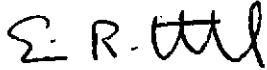
October 26, 1992

Project 5229

We appreciate the opportunity to assist on this project. If you have any questions regarding the information in this letter report, please call Shiela Chrisley or me at 408-297-6969.

Sincerely,

TERRATECH, INC.



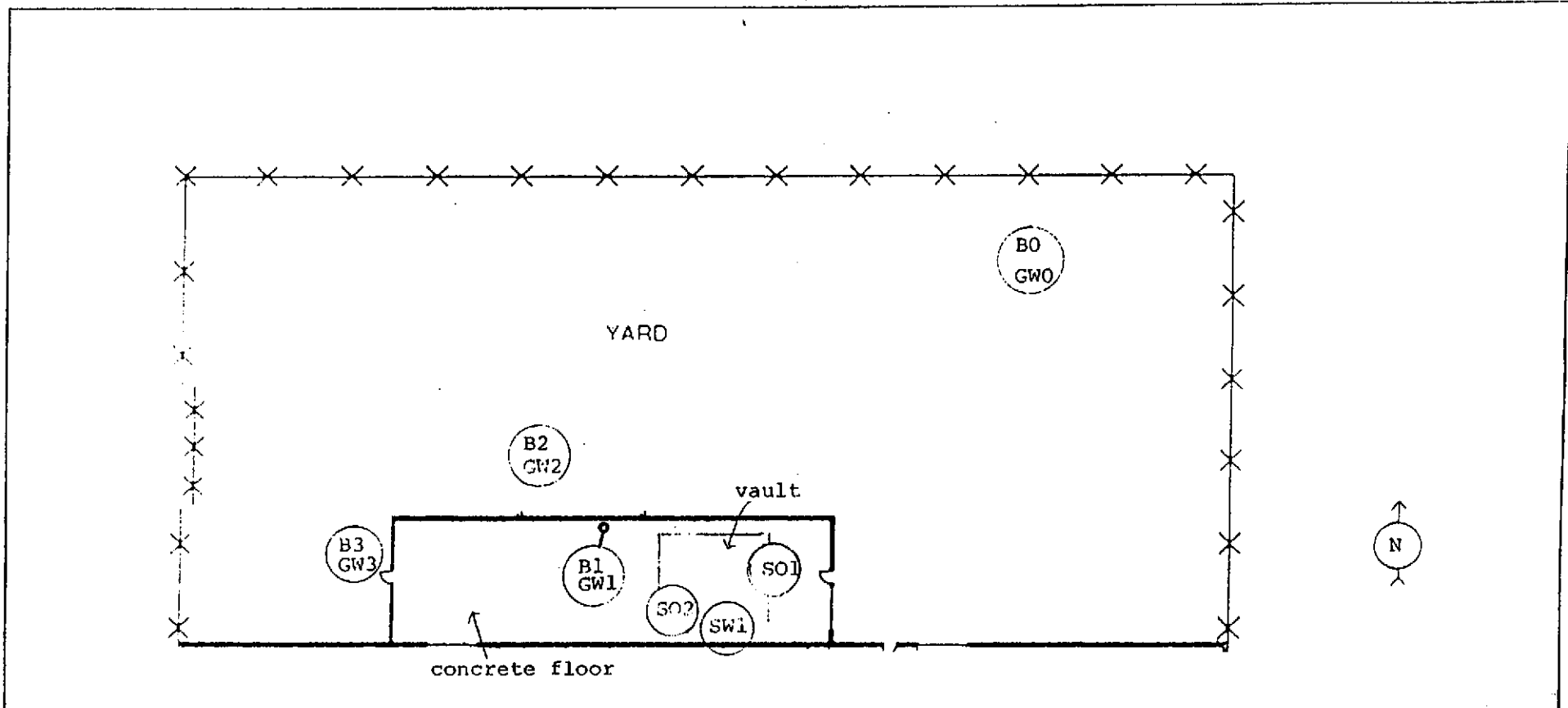
Eric Lautenbach
Registered Professional Engineer



FJG
smc

Attachments: Site Plan, exploration drill hole logs, key to exploration drill hole logs





BORE HOLE SITE MAP

MAP 6

CHARLES LOWE COMPANY

1400 PARK AVE

EMERYVILLE, CA 94608

KEY

B0	Bore hole soil sample site, control
GW0	Bore hole groundwater sample, control
B1	Bore hole soil sample site
GW1	Bore hole groundwater sample site
B2	Bore hole soil sample site
GW2	Bore hole groundwater sample site
B3	Bore hole soil sample site
GW3	Bore hole groundwater sample site
SO1	Soil sample from vault
SO2	Soil sample from vault
SW1	Surface water sample from vault

KEY TO EXPLORATION DRILL HOLE LOGS

SOIL CLASSIFICATION

PRIMARY DIVISIONS			GROUP SYMBOL	SECONDARY DIVISIONS
COARSE GRAINED SOILS More than half of material is larger than No. 200 sieve size	GRAVELS More than half of coarse fraction is larger than No. 4 sieve	Clean Gravels (less than 5% fines)	GW	Well graded gravels, gravel-sand mixtures, little or no fines.
		Gravel with fines	GP	Poorly graded gravels, gravel-sand mixtures, little or no fines.
			GM	Silty gravels, gravel-sand-silt mixtures, non-plastic fines.
		SANDS More than half of coarse fraction is smaller than No. 4 Sieve	Clean Sands (less than 5% fines)	SW
	SP			Poorly graded sands or gravelly sands, little or no fines.
	Sands with fines		SM	Silty sands, sand-silt mixtures, non-plastic fines.
			SC	Clayey sands, sand-clay mixtures, plastic fines.
	FINE GRAINED SOILS More than half of material is smaller than No. 200 sieve size	SILTS AND CLAYS Liquid Limit is less than 35 ("lean")		ML
SILTS AND CLAYS Liquid Limit is between 35 and 50		CL	Inorganic clays of low plasticity, gravelly clays of low plasticity.	
		OL	Organic silts and organic silty clays of low plasticity.	
		MI	Inorganic silts, clayey silts and silty fine sands of intermediate plasticity.	
SILTS AND CLAYS Liquid Limit is greater than 50 ("fat")		CI	Inorganic clays, gravelly clays, sandy clays and silty clays of intermediate plasticity.	
		OI	Organic clays and silty clays of intermediate plasticity.	
		MH	Inorganic silts, clayey silts, elastic silts, micaceous or diatomaceous silty or fine sandy soils.	
HIGHLY ORGANIC SOILS		CH	Inorganic clays of high plasticity.	
		OH	Organic clays and silts of high plasticity.	
			Pt	Peat, meadow mat, highly organic soils.

SOIL CONSISTENCY

SANDS and GRAVELS (non-cohesive)	BLOWS per FOOT
Very Loose	0 - 4
Loose	4 - 10
Medium Dense	10 - 30
Dense	30 - 50
Very Dense	over 50

SILTS and CLAYS	UNCONFINED SHEAR STRENGTH (PSF)
Very Soft	0 - 250
Soft	250 - 500
Firm	500 - 1000
Stiff	1000 - 2000
Very Stiff	2000 - 4000
Hard	4000+

See "Notes" and "Symbols & Abbreviations" on following page.

EXPLORATION DRILL HOLE LOG

HOLE No. B0

PROJECT: C. Lowe Company

DATE: 10-01-92

LOGGED BY: FJG

DRILL RIG: CME 55

HOLE DIA.: 8 inches

SAMPLER: MOD CAL

GROUND WATER DEPTH INITIAL: 8 feet

FINAL: 7 feet

HOLE ELEV.: 13 feet

DESCRIPTION	SOIL TYPE	DEPTH	SAMPLE	BLOWS PER FOOT	PID (ppmv)	WATER LEVEL	CASING	ANNULAR MATERIAL
WELL-GRADED GRAVEL WITH SAND; brown, moist, medium dense; base rock	GW	1	/	18				
		2	X					
FAT CLAY; dark gray, moist, stiff; alluvium	CH	3		12		▼ ▼	BLANK	
		4						
		5	/					
CLAYEY SAND; brown and gray, moist, medium dense; 40% clay; alluvium	SC	6	X					
		7						
		8						
POORLY GRADED GRAVEL WITH CLAY AND SAND alternating with FAT CLAY WITH GRAVEL; brown to dark gray, wet, medium dense (gravel) or stiff (clay); alluvium	GP-GC & CH	9	/				SCREEN	SAND: LONESTAR MEDIUM AQUARIUM
		10	X					
		11						
		12						
		13						
		14						
		15						
Bottom of hole at 15 feet below the ground surface.		16						
		17						
		18						
		19						
		20						

PROJECT NUMBER: 5229

TERRATECH, INC.

PAGE 1 OF 1

EXPLORATION DRILL HOLE LOG

HOLE No. 81

PROJECT: C. Lowe Company

DATE: 10-01-92

LOGGED BY: FJG

DRILL RIG: CME 55

HOLE DIA.: 8 inches

SAMPLER: MOD CAL

GROUND WATER DEPTH INITIAL: 10 feet

FINAL: Not det.

HOLE ELEV.: 13 feet

DESCRIPTION	SOIL TYPE	DEPTH	SAMPLE	BLOWS PER FOOT	PID (ppmv)	WATER LEVEL	CASING	ANNULAR MATERIAL
WELL-GRADED GRAVEL WITH CLAY AND SAND alternating with FAT CLAY; yellowish brown to dark gray, damp to moist, dense (gravel) or stiff (clay); alluvium	GW-GC&CH	1	// X					
		2						
		3						
SANDY CLAY; brown, moist, stiff; alluvium	CI	4	// X	10			BLANK	
		5						
		6						
		7						
		8						
		9						
POORLY GRADED SAND WITH CLAY AND GRAVEL; brown, wet, loose; interlayered with clay; coarse sand; fine gravel; alluvium	SP-SC	10	// X	7		▽	SCREEN	SAND: LONESTAR MEDIUM AQUARIUM
		11						
		12						
		13						
		14						
		15						
Bottom of hole at 15 feet below the ground surface.		16						
		17						
		18						
		19						
		20						

EXPLORATION DRILL HOLE LOG

HOLE No. B2

PROJECT: C. Lowe Company

DATE: 10-01-92

LOGGED BY: FJG

DRILL RIG: CME 55

HOLE DIA.: 8 inches

SAMPLER: MOD CAL

GROUND WATER DEPTH INITIAL: 8 feet

FINAL: Not det.

HOLE ELEV.: 13 feet

DESCRIPTION	SOIL TYPE	DEPTH	SAMPLE	BLOWS PER FOOT	PID (ppmv)	WATER LEVEL	CASING	ANNULAR MATERIAL
FAT CLAY; dark gray, damp to moist, stiff; alluvium	CH	1	X	14				
		2						
		3						
		4						
		5	X	11				
brown, with a few percent fine sand		6					BLANK	
		7						
wet, firm		8				▽		
		9						
		10	X					
		11						
		12						
		13					SCREEN	
		14						
		15						SAND: LONESTAR MEDIUM AQUARIUM
Bottom of hole at 15 feet below the ground surface.		16						
		17						
		18						
		19						
		20						

EXPLORATION DRILL HOLE LOG

HOLE No. B3

PROJECT: C. Lowe Company

DATE: 10-01-92

LOGGED BY: FJG

DRILL RIG: CME 55



HOLE DIA.: 8 inches

SAMPLER: MOD CAL

GROUND WATER DEPTH INITIAL: 8 feet

FINAL: ± 6.3 ft.

HOLE ELEV.: 13 feet

DESCRIPTION	SOIL TYPE	DEPTH	SAMPLE	BLOWS PER FOOT	PID (ppmv)	WATER LEVEL	CASING	ANNULAR MATERIAL	
FAT CLAY; dark gray, damp to moist, stiff; with 5-10% gravel; alluvium brown and dark gray, firm; with 20% sand and gravel	CH	1	/	11			BLANK		
		2	X						
		3	/						
		4	/	7					
		5	X						
		6	/						
		7	/	5					
		8	/						
		9	X						
SANDY CLAY; gray and brown, wet, soft to firm; with 40% sand and gravel; alluvium	CI	10	/	5			SCREEN	SAND: LONESTAR MEDIUM AQUARIUM	
		11	X						
		12	/						
		13	/						
		14	/						
		15	/						
Bottom of hole at 15 feet below the ground surface.		16							
		17							
		18							
		19							
		20							

KEY TO EXPLORATION DRILL HOLE LOGS (CONTINUED)

NOTES

1. FINES - Material smaller than No. 200 sieve size.
2. BLOWS per FOOT - Resistance to the advancement of the soil sampler - number of blows of a 140 pound hammer falling 30 inches to drive a split spoon sampler.
3. The stratification lines on the logs represent the approximate boundary between soil types, and the transition may be gradual.
4. Mod. Cal. - 2½ inch O.D. (1¾ inch I.D.) "Modified California" split spoon sampler.
5. Std. Pen. - 2 inch O.D. (1½ inch I.D.) "Standard Penetration" split spoon sampler (ASTM D1586-84).

SYMBOLS & ABBREVIATIONS

 - Initial ground water level

 - Final ground water level

PID - Photo Ionization Detector

ppmv - Parts per million by volume

/ - Soil sample collected

X - Soil sample transferred to client for analysis

S - Slough

N/R - No recovery

Trace Analysis Laboratory, Inc.

3423 Investment Boulevard, #8 • Hayward, California 94545

Telephone (510) 783-6960
Facsimile (510) 783-1512



October 16, 1992

Ms. Mary Boyd
Excel Trans, Inc.
P.O. Box 866
Benicia, California 94510-0866

Dear Ms. Boyd:

Trace Analysis Laboratory received twelve soil samples and six water samples on October 1, 1992 for your project, Chromex Subsurface Investigation (our custody log number 2553).

These samples were analyzed for Priority-13 Metals. The water samples were analyzed by EPA Method 8240. Our analytical report and the completed chain of custody form are enclosed for your review.

Trace Analysis Laboratory is certified under the California Environmental Laboratory Accreditation Program. Our certification number is 1199.

If you should have any questions or require additional information, please call me.

Sincerely yours

A handwritten signature in black ink, appearing to read 'Jennifer Pekol', is written over the typed name.

Jennifer Pekol
Project Specialist

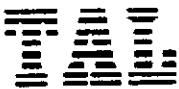
Enclosures

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Trace Analysis Laboratory, Inc.

3423 Investment Boulevard, #8 • Hayward, California 94545

Telephone (510) 783-6960
Facsimile (510) 783-1512



LOG NUMBER: 2553
DATE SAMPLED: 10/01/92
DATE RECEIVED: 10/01/92
DATE ANALYZED: 10/13/92
DATE REPORTED: 10/16/92

CUSTOMER: Excel Trans, Inc.
REQUESTER: Mary Boyd
PROJECT: Chromex Subsurface Investigation

Sample Type: Water

Method and Constituent:	Units	GWO		GW1		GW3	
		Concentration	Reporting Limit	Concentration	Reporting Limit	Concentration	Reporting Limit
EPA Method 8240:							
Chloromethane	ug/l	ND	10	ND	10	ND	10
Bromomethane	ug/l	ND	2.0	ND	2.0	ND	2.0
Vinyl Chloride	ug/l	ND	10	ND	10	ND	10
Chloroethane	ug/l	ND	2.0	ND	2.0	ND	2.0
Methylene Chloride	ug/l	ND	2.0	ND	2.0	ND	2.0
Trichlorofluoromethane	ug/l	ND	2.0	ND	2.0	ND	2.0
1,1-Dichloroethene	ug/l	ND	2.0	ND	2.0	ND	2.0
1,1-Dichloroethane	ug/l	ND	2.0	ND	2.0	ND	2.0
Trans-1,2-Dichloroethene	ug/l	ND	2.0	10	2.0	ND	2.0
Chloroform	ug/l	ND	2.0	ND	2.0	ND	2.0
1,2-Dichloroethane	ug/l	ND	2.0	ND	2.0	ND	2.0
1,1,1-Trichloroethane	ug/l	ND	2.0	ND	2.0	ND	2.0
Carbon Tetrachloride	ug/l	ND	2.0	ND	2.0	ND	2.0
Bromodichloromethane	ug/l	ND	2.0	ND	2.0	ND	2.0
1,2-Dichloropropane	ug/l	ND	2.0	ND	2.0	ND	2.0
Trans-1,3-Dichloropropene	ug/l	ND	2.0	ND	2.0	ND	2.0
1,1,2-Trichloroethane	ug/l	ND	3.0	ND	3.0	ND	3.0
Trichloroethene	ug/l	5.8	2.0	4.1	2.0	4.7	2.0
Benzene	ug/l	ND	2.0	ND	2.0	ND	2.0

Concentrations reported as ND were not detected at or above the reporting limit.



LOG NUMBER: 2553
 DATE SAMPLED: 10/01/92
 DATE RECEIVED: 10/01/92
 DATE ANALYZED: 10/13/92
 DATE REPORTED: 10/16/92
 PAGE: Two

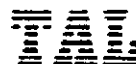
Sample Type: Water

Method and Constituent	Units	GWO		GW1		GW3	
		Concen- tration	Reporting Limit	Concen- tration	Reporting Limit	Concen- tration	Reporting Limit
EPA Method 8240 (Continued):							
2-Chloroethylvinyl Ether	ug/l	ND	10	ND	10	ND	10
Dibromochloromethane	ug/l	ND	2.0	ND	2.0	ND	2.0
Cis-1,3-Dichloropropene	ug/l	ND	2.0	ND	2.0	ND	2.0
Bromoform	ug/l	ND	2.0	ND	2.0	ND	2.0
1,1,2,2-Tetrachloroethane	ug/l	ND	3.0	ND	3.0	ND	3.0
Tetrachloroethene	ug/l	10.4	2.0	ND	2.0	3.6	2.0
Toluene	ug/l	ND	2.0	ND	2.0	ND	2.0
Chlorobenzene	ug/l	ND	2.0	ND	2.0	ND	2.0
Ethylbenzene	ug/l	ND	2.0	ND	2.0	ND	2.0
1,3-Dichlorobenzene	ug/l	ND	3.0	ND	3.0	ND	3.0
1,2-Dichlorobenzene	ug/l	ND	3.0	ND	3.0	ND	3.0
1,4-Dichlorobenzene	ug/l	ND	3.0	ND	3.0	ND	3.0

Surrogate % Recovery

Bromochloromethane	106	117	103
1-Chloro,2-Bromopropane	123	133	118
1,4-Dichlorobutane	105	102	102

Concentrations reported as ND were not detected at or above the reporting limit.



LOG NUMBER: 2553
DATE SAMPLED: 10/01/92
DATE RECEIVED: 10/01/92
DATE ANALYZED: 10/13/92
DATE REPORTED: 10/16/92
PAGE: Three

Sample Type: Water

<u>Method and Constituent:</u>	<u>Units</u>	<u>Method Blank</u>	
		<u>Concen- tration</u>	<u>Reporting Limit</u>
EPA Method 8240:			
Chloromethane	ug/l	ND	10
Bromomethane	ug/l	ND	2.0
Vinyl Chloride	ug/l	ND	10
Chloroethane	ug/l	ND	2.0
Methylene Chloride	ug/l	5.7	2.0
Trichlorofluoromethane	ug/l	ND	2.0
1,1-Dichloroethene	ug/l	ND	2.0
1,1-Dichloroethane	ug/l	ND	2.0
Trans-1,2-Dichloroethene	ug/l	ND	2.0
Chloroform	ug/l	ND	2.0
1,2-Dichloroethane	ug/l	ND	2.0
1,1,1-Trichloroethane	ug/l	ND	2.0
Carbon Tetrachloride	ug/l	ND	2.0
Bromodichloromethane	ug/l	ND	2.0
1,2-Dichloropropane	ug/l	ND	2.0
Trans-1,3-Dichloropropene	ug/l	ND	2.0
1,1,2-Trichloroethane	ug/l	ND	3.0
Trichloroethene	ug/l	ND	2.0
Benzene	ug/l	ND	2.0

Concentrations reported as ND were not detected at or above the reporting limit.



LOG NUMBER: 2553
DATE SAMPLED: 10/01/92
DATE RECEIVED: 10/01/92
DATE ANALYZED: 10/13/92
DATE REPORTED: 10/16/92
PAGE: Four

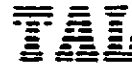
Sample Type: Water

<u>Method and Constituent</u>	<u>Units</u>	<u>Method Blank</u>	
		<u>Concen- tration</u>	<u>Reporting Limit</u>
EPA Method 8240 (Continued):			
2-Chloroethylvinyl Ether	ug/l	ND	10
Dibromochloromethane	ug/l	ND	2.0
Cis-1,3-Dichloropropene	ug/l	ND	2.0
Bromoform	ug/l	ND	2.0
1,1,2,2-Tetrachloroethane	ug/l	ND	3.0
Tetrachloroethene	ug/l	ND	2.0
Toluene	ug/l	ND	2.0
Chlorobenzene	ug/l	ND	2.0
Ethylbenzene	ug/l	ND	2.0
1,3-Dichlorobenzene	ug/l	ND	3.0
1,2-Dichlorobenzene	ug/l	ND	3.0
1,4-Dichlorobenzene	ug/l	ND	3.0

Surrogate % Recovery

Bromochloromethane	98
1-Chloro,2-Bromopropane	88
1,4-Dichlorobutane	102

Concentrations reported as ND were not detected at or above the reporting limit.

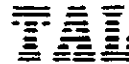


LOG NUMBER: 2553
DATE SAMPLED: 10/01/92
DATE RECEIVED: 10/01/92
DATE EXTRACTED: 10/12/92, 10/14/92 and 10/15/92
DATE ANALYZED: 10/13/92, 10/14/92 and 10/15/92
DATE REPORTED: 10/16/92
PAGE: Five

Sample Type: Soil

Method and Constituent:	Units	BO-1'		BO-5'		BO-10'	
		Concen- tration	Reporting Limit	Concen- tration	Reporting Limit	Concen- tration	Reporting Limit
EPA Method 7041: Antimony	ug/kg	ND	14,000	ND	14,000	ND	14,000
EPA Method 7060: Arsenic	ug/kg	16,000	120	15,000	120	11,000	120
EPA Method 7090: Beryllium	ug/kg	300	120	120	120	140	120
EPA Method 7130: Cadmium	ug/kg	1,400	250	ND	250	ND	250
EPA Method 7190: Chromium	ug/kg	43,000	1,200	27,000	1,200	29,000	1,200
EPA Method 7210: Copper	ug/kg	260,000	5,000	15,000	5,000	16,000	5,000
EPA Method 7420: Lead	ug/kg	270,000	2,500	3,500	2,500	3,000	2,500
EPA Method 7471: Mercury	ug/kg	180	50	95	50	ND	50

Concentrations reported as ND were not detected at or above the reporting limit.



LOG NUMBER: 2553
DATE SAMPLED: 10/01/92
DATE RECEIVED: 10/01/92
DATE EXTRACTED: 10/12/92, 10/13/92 and 10/14/92
DATE ANALYZED: 10/13/92, 10/14/92 and 10/15/92
DATE REPORTED: 10/16/92
PAGE: Six

Sample Type: Soil

Method and Constituent:	Units	BO-1'		BO-5'		BO-10'	
		Concen- tration	Reporting Limit	Concen- tration	Reporting Limit	Concen- tration	Reporting Limit
EPA Method 7520: Nickel	ug/kg	52,000	7,500	38,000	7,500	43,000	7,500
EPA Method 7741: Selenium	ug/kg	ND	120	ND	120	ND	120
EPA Method 7760: Silver	ug/kg	ND	250	ND	250	ND	250
EPA Method 7841: Thallium	ug/kg	ND	3,800	ND	3,800	ND	3,800
EPA Method 7950: Zinc	ug/kg	320,000	1,200	34,000	1,200	47,000	1,200

Concentrations reported as ND were not detected at or above the reporting limit.



LOG NUMBER: 2553
DATE SAMPLED: 10/01/92
DATE RECEIVED: 10/01/92
DATE EXTRACTED: 10/12/92, 10/14/92 and 10/15/92
DATE ANALYZED: 10/13/92, 10/14/92 and 10/15/92
DATE REPORTED: 10/16/92
PAGE: Thirteen

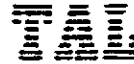
Sample Type: Soil

Method and Constituent:	Units	Method Blank		QC Summary	
		Concen- tration	Reporting Limit	% Recovery	% RPD
EPA Method 7041: Antimony	ug/kg	ND	14,000	94*	**
EPA Method 7060: Arsenic	ug/kg	ND	120	98*	3.3
EPA Method 7090: Beryllium	ug/kg	ND	120	70	4.3
EPA Method 7130: Cadmium	ug/kg	ND	250	88	14
EPA Method 7190: Chromium	ug/kg	ND	1,200	123*	1.2
EPA Method 7210: Copper	ug/kg	ND	5,000	78	1.1
EPA Method 7420: Lead	ug/kg	ND	2,500	75	12
EPA Method 7471: Mercury	ug/kg	ND	50	103	8.7

Concentrations reported as ND were not detected at or above the reporting limit.

* The Recovery is for the Laboratory Control Sample, due to interference in the spiked sample.

** The RPD is not reportable since the sample prepared in duplicate was not detectable.



LOG NUMBER: 2553
 DATE SAMPLED: 10/01/92
 DATE RECEIVED: 10/01/92
 DATE EXTRACTED: 10/12/92, 10/13/92 and 10/14/92
 DATE ANALYZED: 10/13/92, 10/14/92 and 10/15/92
 DATE REPORTED: 10/16/92
 PAGE: Fourteen

Sample Type: Soil

Method and Constituent:	Units	Method Blank		QC Summary	
		Concen- tration	Reporting Limit	% Recovery	% RPD
EPA Method 7520: Nickel	ug/kg	ND	7,500	83	1.9
EPA Method 7741: Selenium	ug/kg	ND	120	90*	**
EPA Method 7760: Silver	ug/kg	ND	250	50*	**
EPA Method 7841: Thallium	ug/kg	ND	3,800	89	**
EPA Method 7950: Zinc	ug/kg	ND	1,200	73	1.5

Concentrations reported as ND were not detected at or above the reporting limit.

* The Recovery is for the Laboratory Control Sample, due to interference in the spiked sample.

** The RPD is not reportable since the sample prepared in duplicate was not detectable.



LOG NUMBER: 2553
DATE SAMPLED: 10/01/92
DATE RECEIVED: 10/01/92
DATE EXTRACTED: 10/04/92 and 10/06/92
DATE ANALYZED: 10/05/92, 10/06/92 and 10/07/92
DATE REPORTED: 10/16/92
PAGE: Fifteen

Sample Type: Water

Method and Constituent:	Units	GW0-HNO3		GW1-HNO3		GW3-HNO3	
		Concen- tration	Reporting Limit	Concen- tration	Reporting Limit	Concen- tration	Reporting Limit
EPA Method 7041: Antimony	ug/l	ND	650	ND	650	ND	650
EPA Method 7060: Arsenic	ug/l	ND	5.0	ND	5.0	ND	5.0
EPA Method 7090: Beryllium	ug/l	ND	5.0	ND	5.0	ND	5.0
EPA Method 7130: Cadmium	ug/l	ND	10	ND	10	ND	10
EPA Method 7190: Chromium	ug/l	ND	50	ND	50	ND	50
EPA Method 7210: Copper	ug/l	ND	200	ND	200	ND	200
EPA Method 7420: Lead	ug/l	ND	100	ND	100	ND	100
EPA Method 7471: Mercury	ug/l	ND	1.0	ND	1.0	ND	1.0

Concentrations reported as ND were not detected at or above the reporting limit.

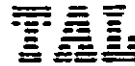


LOG NUMBER: 2553
DATE SAMPLED: 10/01/92
DATE RECEIVED: 10/01/92
DATE EXTRACTED: 10/04/92 and 10/06/92
DATE ANALYZED: 10/05/92, 10/06/92 and 10/07/92
DATE REPORTED: 10/16/92
PAGE: Sixteen

Sample Type: Water

Method and Constituent:	Units	GWO-HNO3		GW1-HNO3		GW3-HNO3	
		Concen- tration	Reporting Limit	Concen- tration	Reporting Limit	Concen- tration	Reporting Limit
EPA Method 7520: Nickel	ug/l	ND	300	ND	300	ND	300
EPA Method 7741: Selenium	ug/l	ND	5.0	ND	5.0	ND	5.0
EPA Method 7760: Silver	ug/l	ND	10	ND	10	ND	10
EPA Method 7841: Thallium	ug/l	ND	100	ND	100	ND	100
EPA Method 7950: Zinc	ug/l	ND	50	ND	50	ND	50

Concentrations reported as ND were not detected at or above the reporting limit.



LOG NUMBER: 2553
DATE SAMPLED: 10/01/92
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DATE EXTRACTED: 10/04/92 and 10/06/92
DATE ANALYZED: 10/05/92, 10/06/92 and 10/07/92
DATE REPORTED: 10/16/92
PAGE: Seventeen

Sample Type: Water

Method and Constituent:	Units	Method Blank		QC Summary	
		Concen- tration	Reporting Limit	% Recovery	% RPD
EPA Method 7041: Antimony	ug/l	ND	650	101	**
EPA Method 7060: Arsenic	ug/l	ND	5.0	107	**
EPA Method 7090: Beryllium	ug/l	ND	5.0	108	**
EPA Method 7130: Cadmium	ug/l	ND	10	101	**
EPA Method 7190: Chromium	ug/l	ND	50	91	**
EPA Method 7210: Copper	ug/l	ND	200	98	**
EPA Method 7420: Lead	ug/l	ND	100	95	14
EPA Method 7471: Mercury	ug/l	ND	1.0	95	**

Concentrations reported as ND were not detected at or above the reporting limit.

** The RPD is not reportable since the sample prepared in duplicate was not detectable.




LOG NUMBER: 2553
DATE SAMPLED: 10/01/92
DATE RECEIVED: 10/01/92
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DATE ANALYZED: 10/05/92, 10/06/92 and 10/07/92
DATE REPORTED: 10/16/92
PAGE: Eighteen

Sample Type: Water

Method and Constituent:	Units	Method Blank		QC Summary	
		Concen- tration	Reporting Limit	% Recovery	% RPD
EPA Method 7520: Nickel	ug/l	ND	300	98	**
EPA Method 7741: Selenium	ug/l	ND	5.0	90	**
EPA Method 7760: Silver	ug/l	ND	10	104	**
EPA Method 7841: Thallium	ug/l	ND	100	124	**
EPA Method 7950: Zinc	ug/l	ND	50	93	3.1

Concentrations reported as ND were not detected at or above the reporting limit.

** The RPD is not reportable since the sample prepared in duplicate was not detectable.


Louis W. DuPuis
Quality Assurance/Quality Control Manager



LOG NUMBER: 2553
 DATE SAMPLED: 10/01/92
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 DATE EXTRACTED: 10/12/92, 10/14/92 and 10/15/92
 DATE ANALYZED: 10/13/92, 10/14/92 and 10/15/92
 DATE REPORTED: 10/16/92
 PAGE: Seven

Sample Type: Soil

Method and Constituent:	Units	B1-2'		B1-5'		B1-10'	
		Concen- tration	Reporting Limit	Concen- tration	Reporting Limit	Concen- tration	Reporting Limit
EPA Method 7041: Antimony	ug/kg	ND	14,000	ND	14,000	ND	14,000
EPA Method 7060: Arsenic	ug/kg	5,400	120	9,100	120	11,000	120
EPA Method 7090: Beryllium	ug/kg	ND	120	200	120	150	120
EPA Method 7130: Cadmium	ug/kg	ND	250	ND	250	ND	250
EPA Method 7190: Chromium	ug/kg	2,200	1,200	46,000	1,200	27,000	1,200
EPA Method 7210: Copper	ug/kg	5,500	5,000	20,000	5,000	23,000	5,000
EPA Method 7420: Lead	ug/kg	ND	2,500	4,500	2,500	3,800	2,500
EPA Method 7471: Mercury	ug/kg	ND	50	91	50	100	50

Concentrations reported as ND were not detected at or above the reporting limit.



LOG NUMBER: 2553
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 DATE REPORTED: 10/16/92
 PAGE: Eight

Sample Type: Soil

Method and Constituent:	Units	B1-2'		B1-5'		B1-10'	
		Concentration	Reporting Limit	Concentration	Reporting Limit	Concentration	Reporting Limit
EPA Method 7520: Nickel	ug/kg	ND	7,500	67,000	7,500	35,000	7,500
EPA Method 7741: Selenium	ug/kg	ND	120	ND	120	ND	120
EPA Method 7760: Silver	ug/kg	ND	250	ND	250	ND	250
EPA Method 7841: Thallium	ug/kg	ND	3,800	ND	3,800	ND	3,800
EPA Method 7950: Zinc	ug/kg	21,000	1,200	50,000	1,200	47,000	1,200

Concentrations reported as ND were not detected at or above the reporting limit.



LOG NUMBER: 2553
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DATE EXTRACTED: 10/12/92, 10/14/92 and 10/15/92
DATE ANALYZED: 10/13/92, 10/14/92 and 10/15/92
DATE REPORTED: 10/16/92
PAGE: Nine

Sample Type: Soil

Method and Constituent:	Units	B2-1'		B2-5'		B2-10'	
		Concen- tration	Reporting Limit	Concen- tration	Reporting Limit	Concen- tration	Reporting Limit
EPA Method 7041: Antimony	ug/kg	ND	14,000	ND	14,000	ND	14,000
EPA Method 7060: Arsenic	ug/kg	16,000	120	12,000	120	14,000	120
EPA Method 7090: Beryllium	ug/kg	230	120	140	120	190	120
EPA Method 7130: Cadmium	ug/kg	320	250	ND	250	300	250
EPA Method 7190: Chromium	ug/kg	41,000	1,200	34,000	1,200	40,000	1,200
EPA Method 7210: Copper	ug/kg	24,000	5,000	25,000	5,000	24,000	5,000
EPA Method 7420: Lead	ug/kg	11,000	2,500	4,000	2,500	5,000	2,500
EPA Method 7471: Mercury	ug/kg	67	50	91	50	68	50

Concentrations reported as ND were not detected at or above the reporting limit.



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DATE ANALYZED: 10/13/92, 10/14/92 and 10/15/92
DATE REPORTED: 10/16/92
PAGE: Ten

Sample Type: Soil

Method and Constituent:	Units	B2-1'		B2-5'		B2-10'	
		Concen- tration	Reporting Limit	Concen- tration	Reporting Limit	Concen- tration	Reporting Limit
EPA Method 7520: Nickel	ug/kg	55,000	7,500	33,000	7,500	44,000	7,500
EPA Method 7741: Selenium	ug/kg	ND	120	ND	120	ND	120
EPA Method 7760: Silver	ug/kg	ND	250	ND	250	ND	250
EPA Method 7841: Thallium	ug/kg	ND	3,800	ND	3,800	ND	3,800
EPA Method 7950: Zinc	ug/kg	61,000	1,200	46,000	1,200	51,000	1,200

Concentrations reported as ND were not detected at or above the reporting limit.



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DATE SAMPLED: 10/01/92
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DATE EXTRACTED: 10/12/92, 10/14/92 and 10/15/92
DATE ANALYZED: 10/13/92, 10/14/92 and 10/15/92
DATE REPORTED: 10/16/92
PAGE: Eleven

Sample Type: Soil

Method and Constituent:	Units	B3-1'		B3-5'		B3-10'	
		Concen- tration	Reporting Limit	Concen- tration	Reporting Limit	Concen- tration	Reporting Limit
EPA Method 7041: Antimony	ug/kg	ND	14,000	ND	14,000	ND	14,000
EPA Method 7060: Arsenic	ug/kg	6,100	120	7,500	120	12,000	120
EPA Method 7090: Beryllium	ug/kg	220	120	130	120	150	120
EPA Method 7130: Cadmium	ug/kg	ND	250	ND	250	ND	250
EPA Method 7190: Chromium	ug/kg	88,000	1,200	37,000	1,200	29,000	1,200
EPA Method 7210: Copper	ug/kg	22,000	5,000	16,000	5,000	16,000	5,000
EPA Method 7420: Lead	ug/kg	6,500	2,500	3,000	2,500	4,000	2,500
EPA Method 7471: Mercury	ug/kg	91	50	200	50	160	50

Concentrations reported as ND were not detected at or above the reporting limit.



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DATE ANALYZED: 10/13/92, 10/14/92 and 10/15/92
DATE REPORTED: 10/16/92
PAGE: Twelve

Sample Type: Soil

Method and Constituent:	Units	B3-1'		B3-5'		B3-10'	
		Concen- tration	Reporting Limit	Concen- tration	Reporting Limit	Concen- tration	Reporting Limit
EPA Method 7520: Nickel	ug/kg	64,000	7,500	35,000	7,500	36,000	7,500
EPA Method 7741: Selenium	ug/kg	ND	120	ND	120	ND	120
EPA Method 7760: Silver	ug/kg	1,800	250	ND	250	ND	250
EPA Method 7841: Thallium	ug/kg	ND	3,800	ND	3,800	ND	3,800
EPA Method 7950: Zinc	ug/kg	56,000	1,200	39,000	1,200	39,000	1,200

Concentrations reported as ND were not detected at or above the reporting limit.



EXCELTRANS

AMPLERS (Signature)

Frank Grotte, Terratech, Inc.

10-1-92 for Boy 01/92

2553

10-1-92
SUBSURFACE INVESTIGATION / CHROMEX 1400 PARK AVE, EMERYVILLE, CA

CHAIN OF CUSTODY RECORD

PROJECT NAME
CHROMEX SUBSURFACE
INVESTIGATION

ANALYSES
REQ'D

13 EPA 913-3-77 REVIS
EPA Method 6010/7000

AMPLE	DATE	TIME	COMP	GRAB	SAMPLE LOCATION	MEDIA	ANALYSES REQ'D	DETECTION LIMIT	TURN-AROUND TIME	SUSPECTED CONTAMINANT
B1-2'	10-1-92	9:17		X	Borehole #1; two feet deep	SOIL	X		S.T.U.T.	Chromium
B1-5'	10-1-92	9:22		X	Borehole #1; five feet deep	SOIL	X			
B1-10'	10-1-92	9:28		X	Borehole #1; ten feet deep	SOIL	X			
B2-1'	10-1-92	10:36		X	Borehole #2; one foot deep	SOIL	X			
B2-5'	10-1-92	10:44		X	Borehole #2; five feet deep	SOIL	X			
B2-10'	10-1-92	10:48		X	Borehole #2; ten feet deep	SOIL	X			
B3-1'	10-1-92	11:44		X	Borehole #3; one foot deep	SOIL	X			
B3-5'	10-1-92	11:51		X	Borehole #3; five feet deep	SOIL	X			
B3-10'	10-1-92	11:55		X	Borehole #3; ten feet deep	SOIL	X			
BC-1'	10-1-92	12:56		X	Control, Borehole #0; one foot	SOIL	X			
BC-5'	10-1-92	13:03		X	Control, Borehole #0; five feet	SOIL	X			
BC-10'	10-1-92	13:08		X	Control Borehole #0; ten feet	SOIL	X			

Relinquished by: (Signature) <i>Jalwart</i>	Date / Time 10-1-92 2:10 P.M.	Received by: (Signature) <i>Frank Grotte</i>	Relinquished by: (Signature) Terratech, Inc Frank Grotte	Date / Time 10-1-92 2:10 P.M.	Received by: (Signature) <i>Jalwart</i>
Relinquished by: (Signature)	Date / Time	Received by: (Signature)	Relinquished by: (Signature)	Date / Time	Received by: (Signature)
Relinquished by: (Signature)	Date / Time	Received for Laboratory by: (Signature)	Date / Time	Remarks P/W, GW0, GW1, GW3 - 1-500ml HNO ₃ each and 2-40ml HCl each - green; B1, B2, B3, B0 - 1-BT each 4-5, ice. 10	



EXCELTRANS

253

10-1-92
 SUBSURFACE INVESTIGATION/ CHROMEX, 1400 PARK AVE, EMERYVILLE, CA.
 CHAIN OF CUSTODY RECORD

PROJECT NAME
 CHROMEX SUBSURFACE
 INVESTIGATION

ANALYSES
 REQ'D
 VOLATILE ORGANICS
 EPA 821.2-X
 SEMI-VOLATILE ORGANICS
 EPA 821.1-X
 TOXIC METALS
 EPA 821.3-X

LIPLERS (Signature)

Frank Grotke, Terratech, Inc.

AMPLE #	DATE	TIME	COMP.	GRAB	SAMPLE LOCATION	MEDIA	ANALYSES REQ'D	DETECTION LIMIT	TURN-AROUND TIME	SUSPECTED CONTAMINANT
GW0	10-1-92	13:57		X	Control Borehole #0 Preservative: HCl	Ground water	X		STANDARD	CHROMIUM
GW1	10-1-92	10:59		X	Borehole #1 Preservative: HCl	Ground water	X			
GW2	10-1-92	11:00		X	Borehole #2 Preservative: HCl	Ground water	X	DELETE		
GW3	10-1-92	12:34		X	Borehole #3 Preservative: HCl	Ground water	X			
GW0-HNO3	10-1-92	13:57		X	Control Borehole #0 Preservative: HNO3		X		STANDARD	CHROMIUM
GW1-HNO3	10-1-92	10:59		X	Borehole #1 Preservative: HNO3		X			
GW2-HNO3	10-1-92	11:00		X	Borehole #2 Preservative: HNO3		X	DELETE		
GW3-HNO3	10-1-92	12:34		X	Borehole #3 Preservative: HNO3		X			

Relinquished by: (Signature) *Frank Grotke* Date / Time 10-1-92 2:10 PM Received by: (Signature) *Jarwan Radhauer*

Relinquished by: (Signature) Date / Time Received by: (Signature)

Relinquished by: (Signature) Date / Time Received for Laboratory by: (Signature) Date / Time Remarks



EXCELTRANS

2553

10-1-92
SUBSURFACE INVESTIGATION/ CHROMEX, 1400 PARK AVE, EMERYVILLE, CA.
CHAIN OF CUSTODY RECORD

PROJECT NAME
CHROMEX SUBSURFACE
INVESTIGATION

ANALYSES
REQ'D
VOLATILE ORGANICS
EPH, S&M
13 Priority Metals

AMPLERS (Signature)

Frank Grotte, Terratech, Inc.

AMPL.	DATE	TIME	COMP.	GRAS	SAMPLE LOCATION	MEDIA	ANALYSES REQ'D	DETECTION LIMIT	TURN-AROUND TIME	SUSPECTED CONTAMINANT
GW0	10-1-92	13:57		X	Control Borehole #0 Preservative: HCL	Ground water	X		STANDARD	CHROMIUM
GW1	10-1-92	10:59		X	Borehole #1 Preservative: HCL	Ground water	X			
GW2	10-1-92	12:34		X	Borehole #2 Preservative: HCL	Ground water	X	DELETE		
GW3	10-1-92	12:34		X	Borehole #3 Preservative: HCL	Ground water	X			
GW0 - HNO3	10-1-92	13:57		X	Control Borehole #0 Preservative: HNO3		X		STANDARD	CHROMIUM
GW1 - HNO3	10-1-92	10:59		X	Borehole #1 Preservative: HNO3		X			
GW2 - HNO3	10-1-92	12:34		X	Borehole #2 Preservative: HNO3		X			
GW3 - HNO3	10-1-92	12:34		X	Borehole #3 Preservative: HNO3		X			

Relinquished by: (Signature) <i>Jarvis R. Riecke</i>	Date / Time 10/1/92 2:10 PM	Received by: (Signature) <i>Frank Grotte</i>	Relinquished by: (Signature) <i>Frank Grotte</i>	Date / Time 10-1-92 2:10 PM	Received by: (Signature) <i>Jarvis R. Riecke</i>
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Relinquished by: (Signature)	Date / Time	Received by: (Signature)	Relinquished by: (Signature)	Date / Time	Received by: (Signature)
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Relinquished by: (Signature)	Date / Time	Received for Laboratory by: (Signature)	Date / Time	Remarks
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EXCELTRANS

AMPLERS (Signature)

Frank Grotte, TerraTech, Inc.

10-1-92
SUBSURFACE INVESTIGATION / CHROMEX 1400 PARK AVE, EMERYVILLE,

CHAIN OF CUSTODY RECORD

PROJECT NAME
CHROMEX SUBSURFACE
INVESTIGATION

ANALYSES
REQ'D

IS EPA METHOD 8210
EPA Method 8010/8000

AMPLER #	DATE	TIME	COMP.	GRAB	SAMPLE LOCATION	MEDIA	DETECTION LIMIT	TURN-AROUND TIME	SUSPECTED CONTAMINANT
B1-2'	10-1-92	9:17		X	Borehole #1; two feet deep	SOIL	X	S.T.U.T.	Chromium
B1-5'	10-1-92	9:22		X	Borehole #1; five feet deep	SOIL	X		
B1-10'	10-1-92	9:28		X	Borehole #1; ten feet deep	SOIL	X		
B2-1'	10-1-92	10:36		X	Borehole #2; one foot deep	SOIL	X		
B2-5'	10-1-92	10:44		X	Borehole #2; five feet deep	SOIL	X		
B2-10'	10-1-92	10:48		X	Borehole #2; ten feet deep	SOIL	X		
B3-1'	10-1-92	11:44		X	Borehole #3; one foot deep	SOIL	X		
B3-5'	10-1-92	11:51		X	Borehole #3; five feet deep	SOIL	X		
B3-10'	10-1-92	11:55		X	Borehole #3; ten feet deep	SOIL	X		
B0-1'	10-1-92	12:56		X	Control, Borehole #0; one foot	SOIL	X		
B0-5'	10-1-92	13:03		X	Control, Borehole #0; five feet	SOIL	X		
B0-10'	10-1-92	13:08		X	Control Borehole #0; ten feet	SOIL	X		

Relinquished by: (Signature) <i>[Signature]</i>	Date / Time 10-1-92 2:10 PM	Received by: (Signature) <i>[Signature]</i>	Relinquished by: (Signature) TerraTech, Inc Frank Grotte	Date / Time 10-1-92 2:10 PM	Received by: (Signature) BAL Jalwart Panchay
Relinquished by: (Signature)	Date / Time	Received by: (Signature)	Relinquished by: (Signature)	Date / Time	Received by: (Signature)
Relinquished by: (Signature)	Date / Time	Received for Laboratory by: (Signature)	Date / Time	Remarks P/W, GWO, GW1, GW3 - 1-500ml HNO ₃ and 2-40ml HCl each - @green; B1, B2, B3, B0 - 1-BT each - Y-5,	

Traces Analysis Laboratory, Inc.

3423 Investment Boulevard, #8 • Hayward, California 94545

Telephone (510) 783-6960
Facsimile (510) 783-1512



LOG NUMBER: 2518
DATE SAMPLED: 09/22/92
DATE RECEIVED: 09/22/92
DATE EXTRACTED: 10/04/92 and 10/06/92
DATE ANALYZED: 10/05/92, 10/06/92 and 10/07/92
DATE REPORTED: 10/15/92

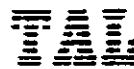
CUSTOMER: Excel Trans, Inc.
REQUESTER: Mary Boyd
PROJECT: No. 072027, Chromex Subsurface Investigation

Sample Type: Water

Method and Constituent:	Units	SW-1		Method Blank		QC Summary	
		Concentration	Reporting Limit	Concentration	Reporting Limit	% Recovery	% RPD
EPA Method 7041: Antimony	ug/l	ND	650	ND	650	101	*
EPA Method 7060: Arsenic	ug/l	ND	5.0	ND	5.0	107	*
EPA Method 7090: Beryllium	ug/l	ND	5.0	ND	5.0	108	*
EPA Method 7130: Cadmium	ug/l	ND	10	ND	10	101	*
EPA Method 7190: Chromium	ug/l	2,500	50	ND	50	91	*
EPA Method 7210: Copper	ug/l	ND	200	ND	200	98	*
EPA Method 7420: Lead	ug/l	ND	100	ND	100	95	14
EPA Method 7471: Mercury	ug/l	ND	1.0	ND	1.0	95	*

Concentrations reported as ND were not detected at or above the reporting limit.

The RPD is not reportable since the sample prepared in duplicate was not detectable.



LOG NUMBER: 2518
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DATE REPORTED: 10/15/92
PAGE: Three

Sample Type: Soil

Method and Constituent:	Units	S0-1		S0-2	
		Concen- tration	Reporting Limit	Concen- tration	Reporting Limit
EPA Method 7041: Antimony	ug/kg	ND	14,000	ND	14,000
EPA Method 7060: Arsenic	ug/kg	12,000	120	18,000	120
EPA Method 7090: Beryllium	ug/kg	190	120	180	120
EPA Method 7130: Cadmium	ug/kg	ND	250	260	250
EPA Method 7190: Chromium	ug/kg	540,000	1,200	1,300,000	1,200
EPA Method 7210: Copper	ug/kg	20,000	5,000	23,000	5,000
EPA Method 7420: Lead	ug/kg	7,000	2,500	26,000	2,500
EPA Method 7471: Mercury	ug/kg	68	50	130	50

Concentrations reported as ND were not detected at or above the reporting limit.

TABLE II
ANALYSIS OF VAULT SOIL SAMPLES

SURFACE SAMPLE FROM BOTTOM OF VAULT / LOCATION	CHROMIUM CONCENTRATION (mg/kg)
SO1 / Southeast corner of vault	Chromium: 540 mg/kg
SO2 / Northwest corner of vault	Chromium: 1,300 mg/kg

In addition to soil samples, groundwater samples from borings and a standing water sample from the floor of the vault were also analyzed. Significantly, metal analysis of all borehole groundwater samples showed nondetectable levels for all tested metals. In contrast, the standing water sample from the floor of the vault showed an elevated chromium concentration. Moreover, analysis of groundwater for volatile organics revealed trichloroethene from potential offsite locations may have migrated onto the Chromex site. Offsite migration is evidenced by the constant and ubiquitous level of trichloroethene in groundwater samples, including the control sample. Table III summarizes the contaminate levels for both the groundwater and the vault water samples.

TABLE III
GROUNDWATER AND VAULT WATER CONTAMINATES

GROUNDWATER SAMPLE / DEPTH	CONTAMINATE LEVEL (mg/l)
GW0 / 8 feet	Trichloroethene: .0058 mg/l Tetrachloroethene: .0104 mg /l
GW1 / 10 feet	Trichloroethene: .0041 mg/l
GW3 / 8 feet	Trichloroethene: .0047 mg/l Tetrachloroethene: .0036 mg/l
SW1 / Surface water from floor of vault	Chromium: 2.5 mg/l

TABLE I

SUMMARY OF BOREHOLE SOIL SAMPLING FOR METALS

BOREHOLE SAMPLE / DEPTH	METAL CONCENTRATION (mg/kg)
B0-1' / 1 foot	Copper: 260 mg/kg Lead: 270 mg/kg Zinc: 320 mg/kg
B0-5' / 5 feet	Typical background levels
B0-10' / 10 feet	Typical background levels
B1-2' / 2 feet	Typical background levels
B1-5' / 5 feet	Typical background levels
B1-10' / 10 feet	Typical background levels
B2-1' / 1 foot	Typical background levels
B2-5' / 5 feet	Typical background levels
B2-10' / 10 feet	Typical background levels
B3-1' / 1 foot	Chrome: 88 mg/kg Silver: 1.8 mg/kg
B3-5' / 5 feet	Typical background levels
B3-10' / 10 feet	Typical background levels

Further, two surface soil samples from the floor of the vault were also collected. Both vault soil samples showed elevated concentrations of chromium. Table II summarizes the chromium levels found in the vault soil samples.

Trace Analysis Laboratory, Inc.

3423 Investment Boulevard, #8 • Hayward, California 94545

Telephone (510) 783-6960

Facsimile (510) 783-1512



October 15, 1992

Ms. Mary Boyd
Excel Trans, Inc.
P.O. Box 866
Benicia, California 94510-0866

Dear Ms. Boyd:

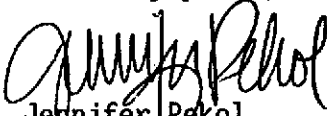
Trace Analysis Laboratory received one water sample and two soil samples on September 22, 1992 for your project No. 072027, Chromex Subsurface Investigation (our custody log number 2518).

These samples were analyzed for Priority-13 Metals. Our analytical report and the completed chain of custody form are enclosed for your review.

Trace Analysis Laboratory is certified under the California Environmental Laboratory Accreditation Program. Our certification number is 1199.

If you should have any questions or require additional information, please call me.

Sincerely yours,


Jennifer Pekol
Project Specialist

Enclosures

RECEIVED OCT 22 1992



LOG NUMBER: 2518
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 PAGE: Two

Sample Type: Water

Method and Constituent:	Units	SW-1		Method Blank		QC Summary	
		Concentration	Reporting Limit	Concentration	Reporting Limit	% Recovery	% RPD
EPA Method 7520: Nickel	ug/l	ND	300	ND	300	98	*
EPA Method 7741: Selenium	ug/l	ND	5.0	ND	5.0	90	*
EPA Method 7760: Silver	ug/l	ND	10	ND	10	104	*
EPA Method 7841: Thallium	ug/l	ND	100	ND	100	124	*
EPA Method 7950: Zinc	ug/l	ND	50	ND	50	93	3.1

Concentrations reported as ND were not detected at or above the reporting limit.

* The RPD is not reportable since the sample prepared in duplicate was not detectable.



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PAGE: Four

Sample Type: Soil

Method and Constituent:	Units	S0-1		S0-2		Method Blank	
		Concen- tration	Reporting Limit	Concen- tration	Reporting Limit	Concen- tration	Reporting Limit
EPA Method 7520: Nickel	ug/kg	38,000	7,500	39,000	7,500	ND	7,500
EPA Method 7741: Selenium	ug/kg	ND	120	ND	120	ND	120
EPA Method 7760: Silver	ug/kg	ND	250	ND	250	ND	250
EPA Method 7841: Thallium	ug/kg	ND	3,800	ND	3,800	ND	3,800
EPA Method 7950: Zinc	ug/kg	110,000	1,200	150,000	1,200	ND	1,200

Concentrations reported as ND were not detected at or above the reporting limit.



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 PAGE: Five

Sample Type: Soil

Method and Constituent:	Units	Method Blank		QC Summary	
		Concentration	Reporting Limit	% Recovery	% RPD
EPA Method 7041: Antimony	ug/kg	ND	14,000	94**	*
EPA Method 7060: Arsenic	ug/kg	ND	120	98**	3.3
EPA Method 7090: Beryllium	ug/kg	ND	120	70	4.3
EPA Method 7130: Cadmium	ug/kg	ND	250	88	14
EPA Method 7190: Chromium	ug/kg	ND	1,200	123	1.2
EPA Method 7210: Copper	ug/kg	ND	5,000	78	1.1
EPA Method 7420: Lead	ug/kg	ND	2,500	75	12
EPA Method 7471: Mercury	ug/kg	ND	50	103	8.7

Concentrations reported as ND were not detected at or above the reporting limit.

* The RPD is not reportable since the sample prepared in duplicate was not detectable.
 ** The Recovery is for the Laboratory Control Sample, due to interference in the spiked sample.




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 PAGE: Six

Sample Type: Soil

Method and Constituent:	Units	Method Blank		QC Summary	
		Concentration	Reporting Limit	% Recovery	% RPD
EPA Method 7520: Nickel	ug/kg	ND	7,500	83	1.9
EPA Method 7741: Selenium	ug/kg	ND	120	90**	*
EPA Method 7760: Silver	ug/kg	ND	250	50**	*
EPA Method 7841: Thallium	ug/kg	ND	3,800	89	*
EPA Method 7950: Zinc	ug/kg	ND	1,200	73	1.5

Concentrations reported as ND were not detected at or above the reporting limit.

* The RPD is not reportable since the sample prepared in duplicate was not detectable.
 ** The Recovery is for the Laboratory Control Sample, due to interference in the spiked sample.


 Louis W. DuPuis
 Quality Assurance/Quality Control Manager