

**Erler &
Kalinowski, Inc.**

ENVIRONMENTAL
PROTECTION
Consulting Engineers and Scientists

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4 November 1996

Mr. Ric Notini
Chiron Corporation
4560 Horton Street
Emeryville, California 94608-2916

Subject: Results of Residue Sampling on Interior
of South Wall of Rifkin Building
4525 Horton Street, Emeryville, California
(EKI 930028.82)

Dear Mr. Notini:

Erler & Kalinowski, Inc. ("EKI") is pleased to submit to Chiron Corporation ("Chiron") the results of residue sampling for arsenic and other metals at the Rifkin building located at 4525 Horton Street in Emeryville, California (Figure 1).

During a walk-through of the Rifkin building on 10 October 1996, Steve Johnson of Chiron requested that EKI collect and analyze a sample of residue present on the interior of the south wall of the Rifkin building. This letter report presents the results of residue sampling, as well as limited mortar and soil sampling, conducted on 14 October 1996 and 21 October 1996. The results indicate that high arsenic, lead, and zinc concentrations are present in the residue, and that the residue in some locations is corrosive (i.e., acidic). Samples of the mortar between bricks in the wall and the sample of soil outside the wall also contained high concentrations of arsenic and lead. Finally, high concentrations of both zinc and lead are present in a sample of paint collected from the wall.

FIELD PROCEDURES

Samples Collected on 14 October 1996

On 14 October 1996, EKI personnel collected 2 composite residue samples, a paint chip sample, and a soil sample from the south wall of the Rifkin building. Copies of photographs taken at these sampling locations are included (Attachment A).

Two composite residue samples (sample numbers RW-1 and RW-2) were collected from approximately 20 random locations in the area where clumped, whitish-colored residue extends out from the mortar between bricks in the south wall. The sampled area is approximately 70 to 105 feet from the Horton Street entrance at a height of 0 to 3.5 feet above the Rifkin building floor.

Approximately 0.8 and 0.4 liters of residue were collected for samples RW-1 and RW-2, respectively, by dislodging clumps of residue from the wall using a precleaned stainless steel putty knife and catching the residue in a 1-liter amber glass jar.

A sample of pink paint flakes (sample number RW-3) was also collected from the south wall at a location approximately 15 feet from the Horton Street entrance and a height of approximately 5 feet above the building floor. No residue was visible on the wall at this location. Large (approximately 2-inch diameter) paint flakes were dislodged from the wall using a precleaned stainless steel putty knife and collected in a 0.5-liter clear glass jar.

At a distance of approximately 35 feet from the Horton Street entrance, an area of the south brick wall approximately 2 feet wide by 5.3 feet high had been removed. Ground level on the adjoining property is approximately 3.5 feet above the Rifkin building floor, as viewed through this opening, and is covered with asphalt paving. A small amount of soil from the adjoining property had spread about 18 inches onto the Rifkin building floor. A 1-liter sample of this grayish-black, pea-gravel soil (sample number SW-1) was collected using a precleaned plastic scoop and placed in a 1-liter amber glass jar.

Samples Collected on 21 October 1996

On 21 October 1996, EKI personnel collected discrete residue samples from 18 locations on the south wall of the Rifkin building, as well as 2 samples of mortar between bricks in the area where residue is present. Prior to collecting these samples, a videotape was made of the south wall. A copy of this videotape will be provided at your request.

The 18 discrete residue samples (sample numbers W-1 through W-18) were collected from the south wall at distances of 15 to 165 feet from the Horton Street entrance and at heights of approximately 2, 4, 6, and 8 feet above the building floor. A precleaned geologist's pick was used to scrape and chip at residue on the mortar between bricks and the mortar itself. At each location, approximately 5 grams of residue or mortar were collected in a new zip-closure plastic bag and then transferred to a clean 40-milliliter clear glass vial. Prior to collection of each sample, an Alconox[®] soap solution and dilute hydrochloric acid solution were used in turn to clean the head of the geologist's pick. The pick head was then rinsed with distilled water and wiped dry with a clean paper towel.

At two locations where clumped residue is present (locations W-3 and W-4), samples of the mortar between bricks (sample numbers W-3B and W-4B, respectively) were collected from a depth of approximately 1/4 inch below the mortar surface. The

surface residue samples at these locations were identified as sample numbers W-3A and W-4A, respectively.

In addition, a sample was collected of white powder (sample number W-19) that had accumulated at the base of a concrete column located approximately 76 feet from the building entrance.

All sample jars and vials were labeled with unique sample identification numbers, as well as the time and date of collection. Field sampling notes are included as Attachment A. Chain-of-custody forms were initiated and the samples were placed in a cooler with ice for transport to analytical laboratories.

Laboratory Analyses

With the exception of sample RW-2, all samples were analyzed by Sequoia Analytical Laboratories, Inc. of Redwood City, California. Composite residue sample RW-1 was analyzed for calcium, magnesium, sodium, and Title 22 metals by EPA method 6010, sulfate by EPA Method 300.0, bicarbonate, carbonate, and hydroxide alkalinity by Standard Method 403, and corrosivity (i.e., pH) by EPA Method 9045. The paint chip sample (RW-3) was analyzed for arsenic, lead, and zinc by EPA method 6010. The soil sample (SW-1) was analyzed for Title 22 metals by EPA method 6010 and corrosivity by EPA Method 9045. Selected discrete residue, mortar, and powder samples (W-1 through W-13 and W-19) were analyzed for arsenic, lead, and zinc by EPA Method 6010 and corrosivity by EPA Method 9045. The corrosivity results for the discrete residue and mortar samples should be considered qualitative because insufficient sample mass was available for EPA Method 9045 analysis. The chain-of-custody forms and laboratory data sheets are included as Attachment B.

Samples RW-14 through RW-18 were taken at higher locations on the Rifkin South wall as shown on Figure 1. These samples were held in the laboratory pending the results of analyses of the other individual samples described above. On the basis of the results discussed below defining the general extent of residue containing elevated arsenic concentrations, it was decided that these five samples need not be analyzed at this time.

Composite residue sample RW-2 was analyzed for lead by EPA Method 7420 by K Prime Analytical Laboratories, Inc. of Richmond, California. Composite sample RW-2 was collected and sent to K-Prime for lead analyses by atomic absorption (AA) based on a concern that the EPA Method 6010 inductively coupled plasma (ICP) metal analyses may not provide adequately low detection levels for lead. Given the initial results showing

elevated metal concentrations, no additional analyses by AA at K-Prime were judged necessary.

RESULTS

Arsenic was detected at a concentration of 76,000 mg/kg in the composite residue sample RW-1 collected on 14 October 1996 (Table 1). This arsenic concentration exceeds the California Total Threshold Limit Concentration ("TTL") for classification as an extremely hazardous waste. The sample is also corrosive (i.e., acidic), with a measured pH of 1.6. Sulfate was a major constituent based on the results of inorganic anion and cation analyses presented in the laboratory data sheets (Attachment B).

Results of arsenic, lead, zinc, and pH analyses for discrete residue samples (W-1 through W-18) collected on 21 October 1996 are summarized on attached Figure 1 and Table 1. Arsenic concentrations detected in the discrete residue and mortar samples ranged from 21 to 170,000 mg/kg. Lead concentrations ranged from 170 mg/kg to 8,200 mg/kg. Zinc concentrations ranged from 680 mg/kg to 14,000 mg/kg.

The pH values measured for the discrete samples ranged from 2.8 to 9.2. Although these values are less corrosive than that measured for the initial composite sample (RW-1), these results should be considered qualitative because insufficient sample mass was available for EPA Method 9045 analysis.

The sample of white powder (W-19) collected at the base of a concrete column contained 4,700 mg/kg arsenic, 87 mg/kg lead, and 2,700 mg/kg zinc, respectively.

In the sample of paint (RW-3) collected from the south wall, arsenic, lead, and zinc were detected at concentrations of 590, 3,900, and 21,000 mg/kg, respectively.

Lastly, the soil sample (SW-1) collected from the base of the removed wall section contained 15,000 mg/kg arsenic, 17,000 mg/kg lead, and 1,900 mg/kg zinc.

CONCLUSIONS

The sampling completed on the south wall of the Rifkin building shows elevated arsenic concentrations in the exterior soil adjacent to the wall, the mortar in one of two sampled locations, and the whitish residue at several locations. Additionally, elevated lead and zinc concentrations were found in several samples, including the paint chip; therefore, the detection of lead and zinc in the whitish residue samples may

be related to the underlying paint. However, the soil sample (SW-1) taken from the soil located adjacent to the exterior of the wall contained elevated concentrations of lead and zinc, as well as arsenic.

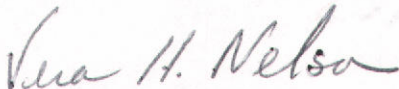
To the extent that lead and zinc in the residue and paint are the result of old paint on the building materials, it is our understanding that the current waste disposal policy of the California Environmental Protection Agency, Department of Toxic Substances Control ("DTSC") would allow such construction and demolition debris to be managed as a non-hazardous waste, unless the debris otherwise fails some characteristic in representative samples (see Attachment C).

The presence of residue containing significantly elevated arsenic concentrations necessitates further evaluation to determine the appropriate handling and disposal of these building materials, i.e., the brick wall and any other similarly arsenic contaminated building materials. Further characterization of the source and volume of material potentially containing these elevated arsenic concentrations is recommended, and the potential applicability of extremely hazardous waste disposal requirements should be investigated. Finally, it is our understanding that Chiron has taken measures to control access to this area of the Rifkin building and other appropriate worker exposure control measures.

If you have any questions or comments, please do not hesitate to call.

Very truly yours,

ERLER & KALINOWSKI, INC.



Vera H. Nelson, P.E.
Project Manager



Thomas W. Kalinowski, Sc.D.
Vice President

cc: Sum Arigala (RWQCB, San Francisco Bay Region)
Susan L. Hugo (ACDEH)
Ignacio Dayrit (City of Emeryville Redevelopment Agency)
David B. Gustafson (The Sherwin-Williams Company)

Attachments:

Table 1

Figure 1

Attachment A - Field Sampling Notes

Attachment B - Laboratory Data Sheets and Chain-of-Custody
Forms

Attachment C - DTSC Memoranda Concerning Lead Painted
Construction Debris

WET
 AS = 5 mg/l = 5
 Pb = 5 mg/l = 5
 Zn = 250 mg/l = ?
 TCLP

Table 1
Metals Concentration and pH in Residue, Mortar, and Soil Samples
 South Wall of Rifkin Building (a)
 Emeryville, California
 Chiron
 EKI 930028.82

Sample ID	Sample Description	Sample Date	Arsenic (mg/kg)	Lead (mg/kg)	Zinc (mg/kg)	pH (-)
RW-1	Residue composite (b)	10/14/96	76,000	390	11,000	1.6
RW-2	Residue composite	10/14/96	NA (c)	42	NA	NA
RW-3	Paint (d)	10/14/96	590	2,700	21,000	NA
SW-1	Soil/Pea Gravel (e)	10/14/96	15,000	17,000	1,900	8.7
W-1	Residue (f)	10/21/96	3,400	790	680	8.3
W-2	Residue	10/21/96	850	350	1,100	8.1
W-3A	Residue	10/21/96	170,000	3,200	13,000	3.0
W-3B	Mortar under Residue	10/21/96	8,800	170	830	7.8
W-4A	Residue	10/21/96	35	470	12,000	2.8
W-4B	Mortar under Residue	10/21/96	21	260	1,100	3.2
W-5	Residue	10/21/96	<100	1,200	5,300	6.4
W-6	Residue	10/21/96	<100	8,200	11,000	8.0
W-7	Residue	10/21/96	570	390	1,700	9.2
W-8	Residue	10/21/96	<100	270	1,200	8.4
W-9	Residue	10/21/96	170	790	790	8.2
W-10	Residue	10/21/96	<100	550	4,800	7.3
W-11	Residue	10/21/96	2,600	2,100	7,000	6.2
W-12	Residue	10/21/96	<100	3,300	11,000	3.8
W-13	Residue	10/21/96	29	720	14,000	7.0
W-14	Residue	10/21/96	NA	NA	NA	NA
W-15	Residue	10/21/96	NA	NA	NA	NA
W-16	Residue	10/21/96	NA	NA	NA	NA
W-17	Residue	10/21/96	NA	NA	NA	NA
W-18	Residue	10/21/96	NA	NA	NA	NA
W-19	White powder (g)	10/21/96	4,700	87	2,700	6.3

Notes:

- (a) Samples collected from interior of south wall of Rifkin Building (4525 Horton Street.)
 (b) Composite residue samples collected from an area approximately 70 to 105 feet from the Horton Street entrance, from the floor to a height of approximately 3.5 feet above the floor.
 (c) Not analyzed ("NA").
 (d) Sample of flaking paint from south wall in area without visible whitish residue.

Table 1
Metals Concentration and pH in Residue, Mortar, and Soil Samples
South Wall of Rifkin Building (a)
Emeryville, California
Chiron
EKI 930028.82

Notes (cont.):

- (e) Sample of pea-sized gravel that had spread approximately 18 inches onto Rifkin Building floor beneath a section of wall that had been removed.
- (f) Residue samples may also include mortar material.
- (g) Sample of white powder accumulated at the base of a deteriorated concrete column in the south wall.

Daily Inspection Report No. _____

Sheet: 1 of 2
Date: 10/14/96
Project: Chiron (Rifkin)
EKI Job No.: 930028.82

Contractor: NONE

EKI Staff On-site: JIM ANDERSON

Weather: SUNNY

Temperature: _____ F Max _____ F Min

Work Hours: 3 PM to 4 PM Memos Issued: _____

Photos: YES

Special Conditions, Delays, Changes: _____

Accidents, Damage: _____

Sampling, Testing: SAMPLED RESIDUE ON SOUTH INTERIOR BUILDING WALL AT 4525 HORTON STRE

Visitors to Site: GEORGE TEIBER (CHIRON)

Work Report (Work done, Personnel/Equipment working):

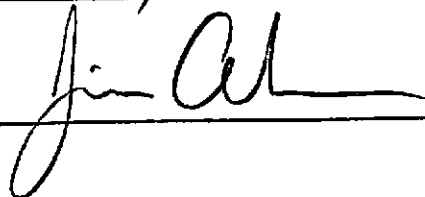
5:00 MET GEORGE TEIBER OF CHIRON AT 4525 HORTON STREET ("RIFKIN BUILDING"). BUILDING IS MADE OF BRICK WITH OPEN INTERIOR APPROX 2 STORIES HIGH. FLOOR IS A CONCRETE SLAB.

THE SOUTH WALL IS MADE OF HOLLOW BRICK IN AREA OF WHITE RESIDUE; BRICK DIMENSIONS 11 INCH BY 6 INCH. FARTHER FROM THE FRONT OF THE BUILDING, WALLS ARE MADE OF STANDARD RED BRICK (NOT HOLLOW). A SECTION OF THE HOLLOW BRICK WALL (FROM FLOOR TO AN APPROX 64 INCH HEIGHT, APPROX 26 INCH WIDE) HAD BEEN REMOVED FROM THE SOUTH BUILDING WALL. THIS REMOVED SECTION WAS APPROX 30 FEET FROM THE FRONT OF THE BUILDING ON HORTON STREET. GROUND LEVEL ON THE ADJOINING PROPERTY TO THE SOUTH WAS OBSERVED (THROUGH THE REMOVED WALL SECTION) TO BE APPROXIMATELY 40 INCHES ABOVE THE FLOOR OF THE RIFKIN BLDG. THERE WAS NO SEPARATE WALL RETAINING SOIL UNDER UNDER THE ASPHALT LAYER. SOIL UNDERNEATH THE ASPHALT HAD SPREAD ABOUT 18 INCHES ONTO THE RIFKIN BLDG FLOOR, PRIMARILY FROM THE BOTTOM 12 INCHES OF THE EXPOSED AREA. THE SOIL WAS A SANDY GRAVEL, COLOR WAS GRAYISH BLACK, PREDOMINANTLY PEA-

5:15 SIZED GRAVEL (1/4 INCH DIAMETER). I COLLECTED A 1-LITER SAMPLE OF THIS SOIL PER GEORGE'S REQUEST (SAMPLE NUMBER SW-1) USING A PLASTIC SCOOP WHICH HAD BEEN CLEANED WITH ALCONOX SOAP AND THOROUGHLY RINSED IN DI WATER PRIOR TO SAMPLING.

5:30 ON THIS SOUTH WALL A LOCALIZED AREA OF CLUMPY WHITISH/YELLOWISH SOLID MATERIAL

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Project Manager

By: 

Daily Inspection Report No. _____

Sheet: 2 of 2
Date: 10/14/96
Project: CHIRON (RIFKIN)
EKI Job No.: 930028.82

Contractor: _____

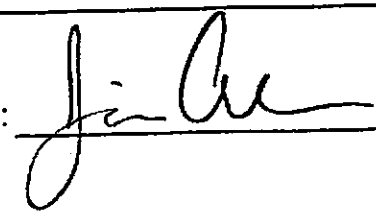
WAS VISIBLE, APPEARING ONLY AT THE MORTAR BETWEEN THE HOLLOW BRICKS. THE AREA OVER WHICH THE CLUMPED RESIDUE WAS OBSERVED BEGINS APPROX 70 FEET FROM THE FRONT OF THE BLDG AND EXTENDS FOR APPROX 35 FEET WEST ON THIS WALL. ONLY THE WALL AREA FROM THE FLOOR UP TO APPROX 40 INCHES ABOVE THE FLOOR CONTAINS THE SOLID RESIDUE MATERIAL. THE CLUMPED RESIDUE EXTENDS AS MUCH AS 1 INCH OUT FROM THE WALL AND IS MORE PREVALANT AT THE BASE OF THE WALL. TWO COMPOSITE SAMPLES OF THE RESIDUE WERE TAKEN FROM APPROX 20 LOCATIONS IN ORDER TO OBTAIN SUFFICIENT QUANTITIES FOR ANALYSIS. (SAMPLE NUMBERS RW-1 AND RW-2). I FIRST COLLECTED APPROX 0.8 LITERS OF RESIDUE FOR SAMPLE RW-1 AND THEN COLLECTED APPROX 0.4 LITERS OF RESIDUE FOR SAMPLE RW-2. I COLLECTED THE SAMPLES BY DISLODGING THE CLUMPS OF RESIDUE FROM THE WALL USING A PRECLEANED PUTTY KNIFE AND CATCHING THE RESIDUE IN THE 1-LITER AMBER GLASS JARS. A SMALL AMOUNT OF PAINT IS INCLUDED IN THE RESIDUE SAMPLES, LESS THAN APPROX 1% BY VOLUME BY OBSERVATION, LESSER QUANTITIES OF THE SOLID WERE VISIBLE ON THE SOUTH WALL CLOSER TO THE FRONT OF THE BLDG AND TOWARDS THE REAR.

FROM APPROX 100 FT FROM THE FRONT OF THE BLDG TO THE REAR OF THE BLDG, THE SOUTH WALL IS MADE OF SOLID RED BRICK, ALTHOUGH A WHITISH POWDER IS PRESENT ON THE MORTAR OF THIS SECTION, IT IS PRESENT IN FAR SMALLER QUANTITIES AND IT IS PRESENT OVER THE ENTIRE VERTICAL EXTENT OF THE WALL, THIS WHITISH POWDER APPEARED TO BE CONCRETE DEBRIS AND WAS NOT SAMPLED.

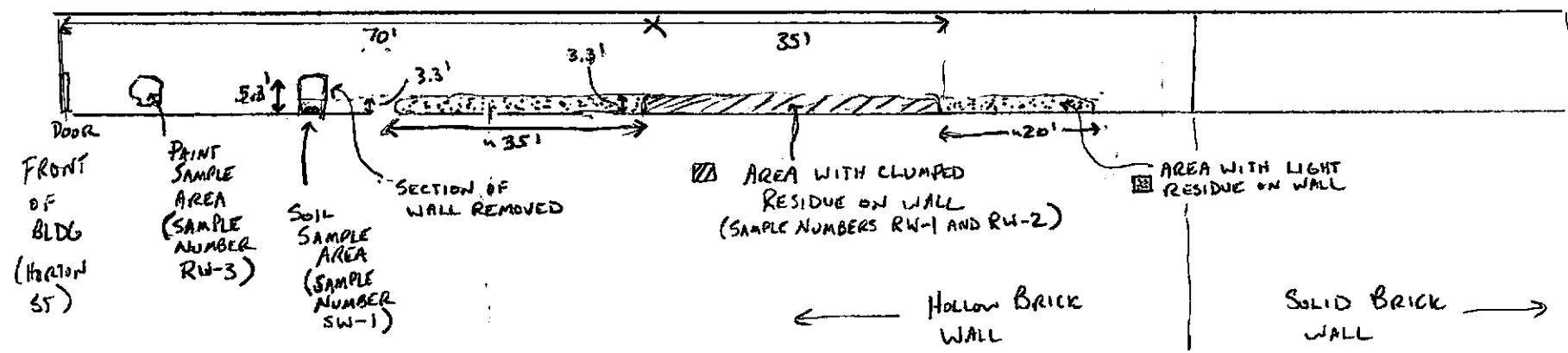
15:45; A SAMPLE OF PINK PAINT (SAMPLE NUMBER RW-3) WAS ALSO COLLECTED FROM THE SOUTH WALL APPROX 15 FEET FROM THE HORIZON STREET FRONT OF THE BLDG. PAINT WAS FLAKING AWAY FROM THE WALL AT THIS LOCATION.

SEE ATTACHED SKETCH OF SAMPLE LOCATIONS.

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By: 

VIEW OF SOUTH WALL



Primary affected area = $(35ft)(3.3ft) = 120 ft^2$
 Lesser deposits area = $(55ft)(3.3ft) = 180 ft^2$

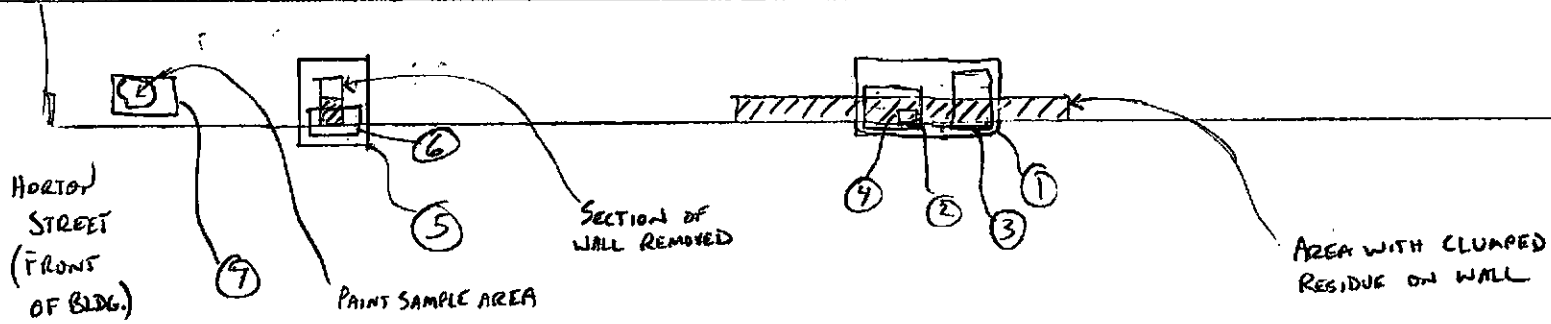
SAMPLE LOCATIONS

1" = 20'

JEA

VIEW OF SOUTH WALL

CHIRON
4525 HORTON ST
EMERYVILLE, CA
EX 930028.82



① PHOTO NUMBER

PHOTO LOCATIONS

1" = 20'

VEA

22-141 50 SHEETS
22-142 100 SHEETS
22-144 200 SHEETS



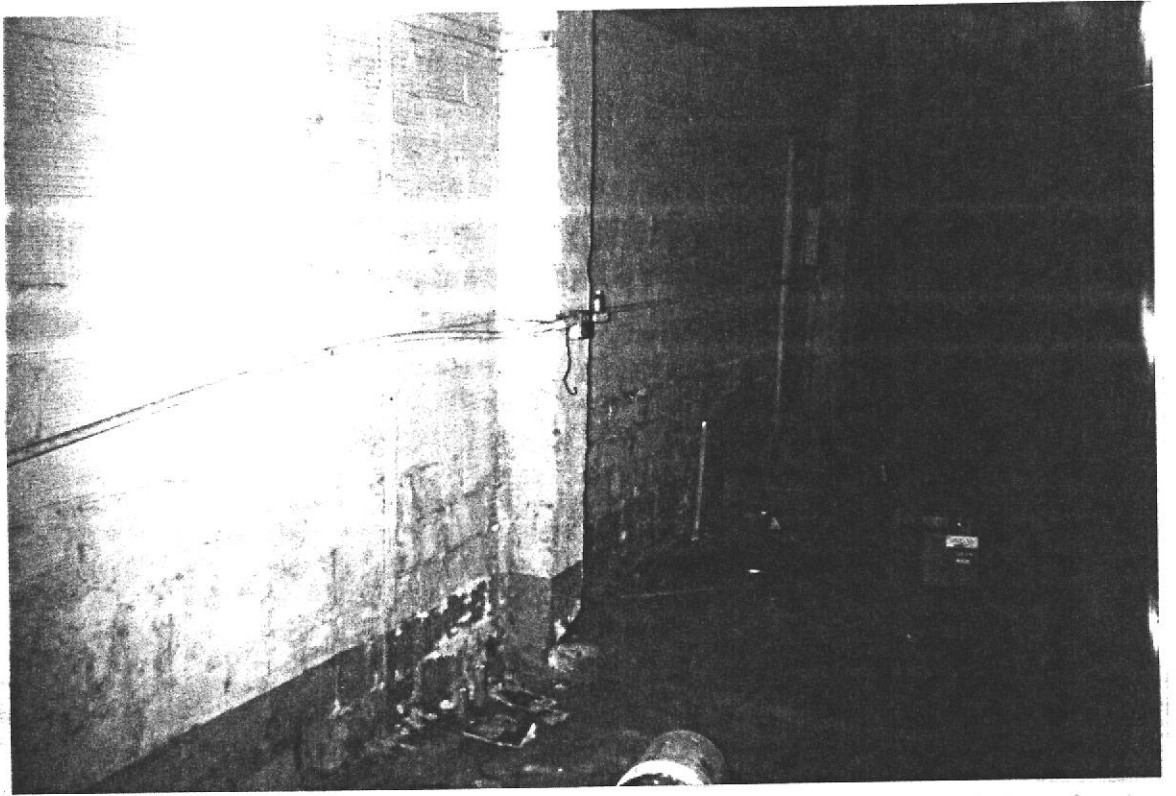


Photo 1:
View of South Wall Facing Southwest
4525 Horton Street, Emeryville, California
14 October 1996

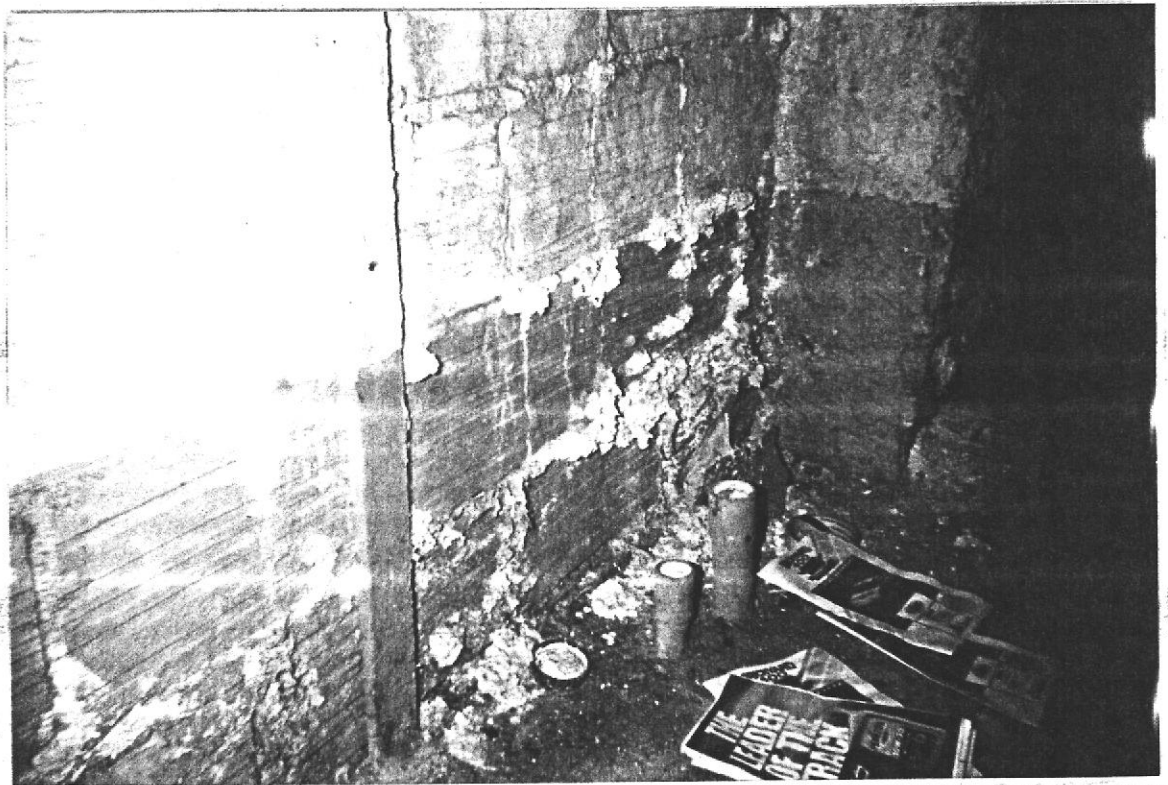


Photo 2:
View of South Wall, Foreground Area of Photo 1
4525 Horton Street, Emeryville, California
14 October 1996

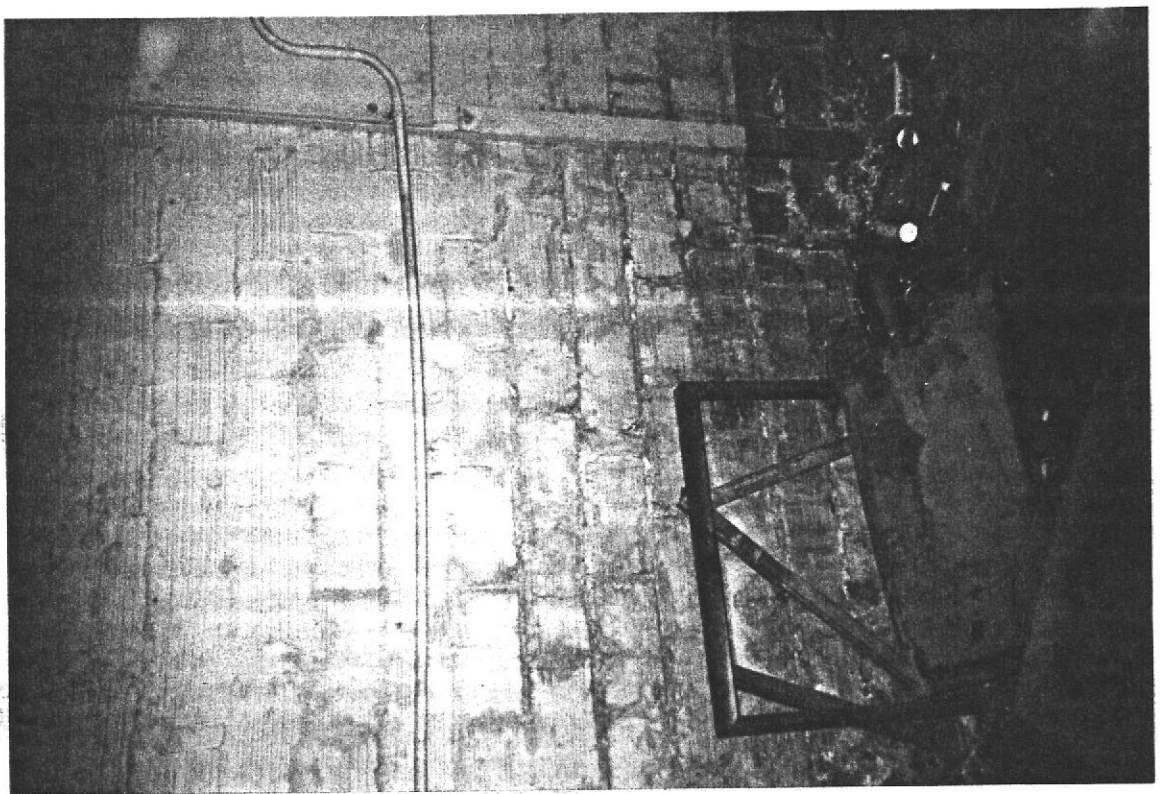


Photo 3:
View of South Wall, Background Area of Photo 1
4525 Horton Street, Emeryville, California
14 October 1996

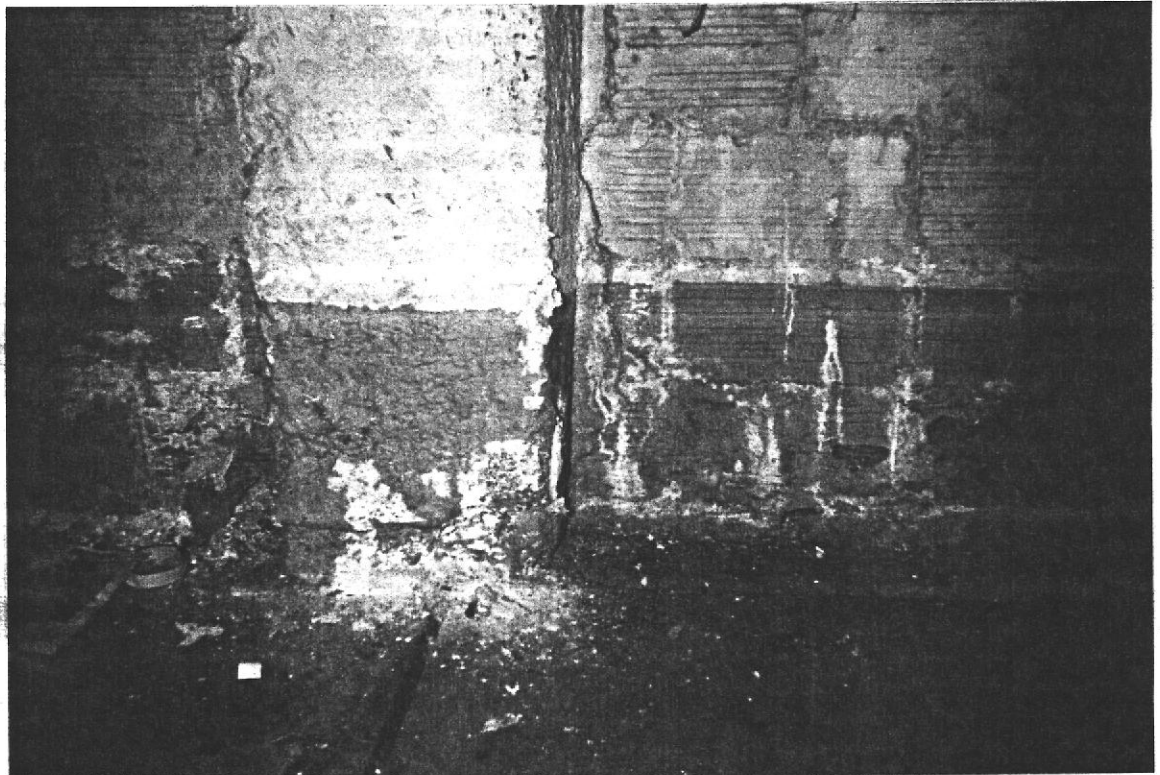


Photo 4:
Close-Up View of Column Base Shown on Photo 2,
Photo Taken after Sampling of Residue
4525 Horton Street, Emeryville, California
14 October 1996

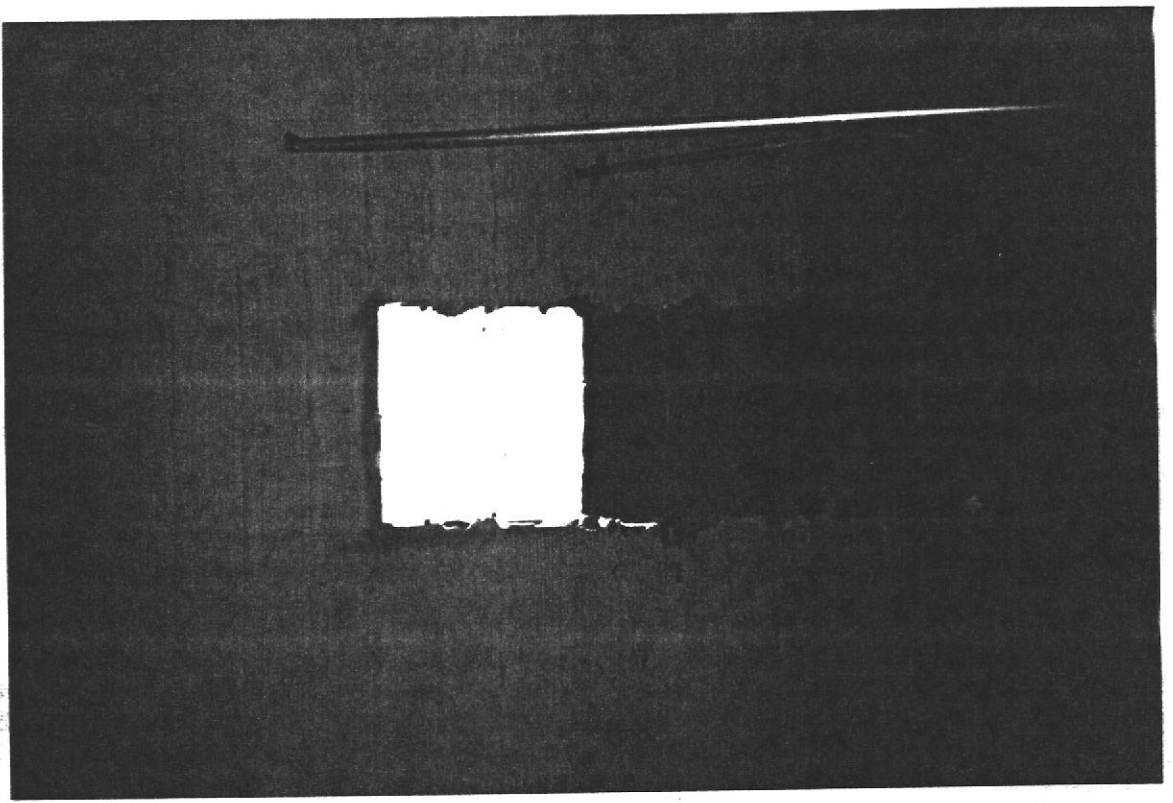


Photo 5:
View of Removed Section of South Wall
4525 Horton Street, Emeryville, California
14 October 1996

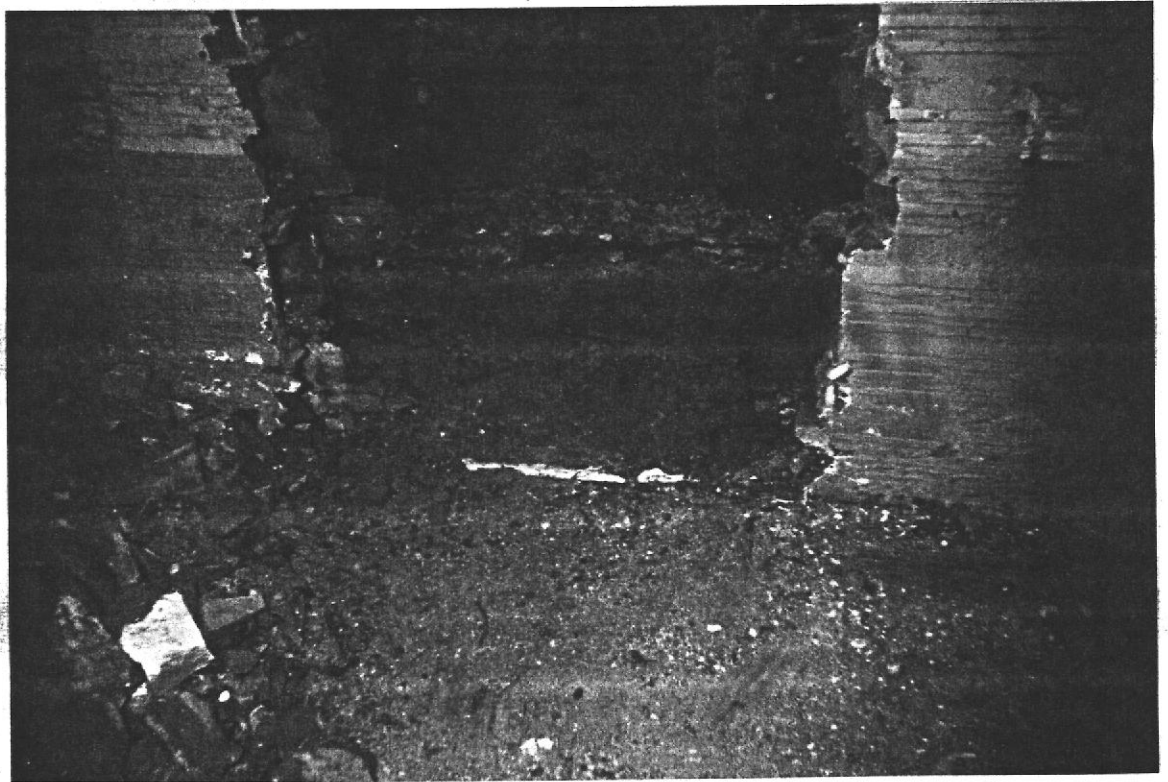


Photo 6:
Close-Up View of Base of Removed Section of South Wall
4525 Horton Street, Emeryville, California
14 October 1996

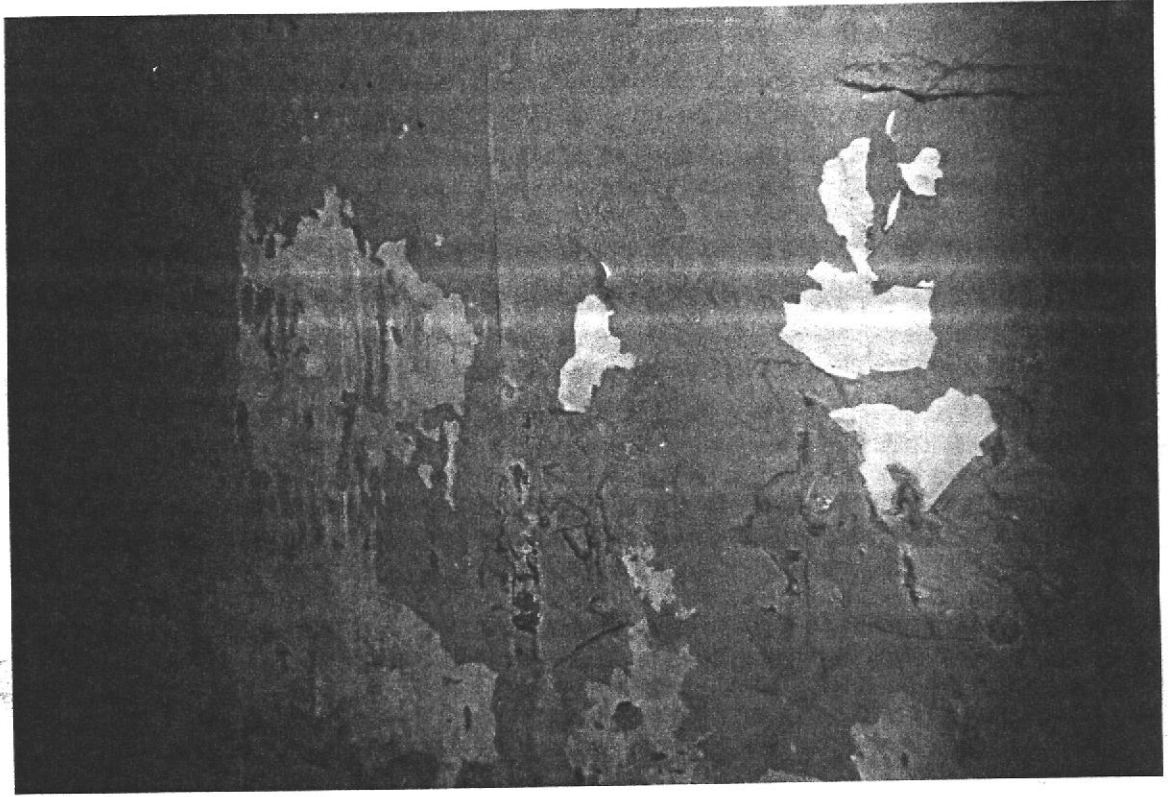


Photo 7:
View of South Wall after Sampling Paint Flakes on Wall
4525 Horton Street, Emeryville, California
14 October 1996

Daily Inspection Report No. _____

Sheet:	1	of	3
Date:	10/21/96		
Project:	CHIRON (RIFKIN)		
EKI Job No.:	930028.82		

Contractor: NONE

EKI Staff On-site: JIM ANDERSON

Weather: SUNNY

Temperature: _____ F Max _____ F Min

Work Hours: 14:45 to 19:00 Memos Issued: _____

Photos: VIDEOTAPING AND PHOTOGRAPHS OF SOUTH WALL

Special Conditions, Delays, Changes: _____

Accidents, Damage: _____

Sampling, Testing: SAMPLING OF RESIDUE AND MORTAR BETWEEN BRICKS ON INTERIOR OF SOUTH BUILDING WALL OF RIFKIN BLDG (4525 HORTON STREET, EMERYVILLE, CA).

Visitors to Site: GEORGE TEIBER (CHIRON)

Work Report (Work done, Personnel/Equipment working): _____

14:45 I ARRIVED AT SITE (4525 HORTON ST, EMERYVILLE). GEORGE TEIBER ALREADY PRESENT. I PUT ON MY TYVEK SUIT AND BOOTIES. GEORGE TURNED ON POWER TO THE OUTLETS ON THE S WALL. I HOOKED UP FLOOD LIGHTS AND FOCUSED THEM ON THE S WALL. I VIDEOTAPED THE S WALL OF THE RIFKIN BLDG FROM THE FRONT (HORTON ST) TO THE REAR. (APPROX 200 FT FROM FRONT OF BLDG.)

I PUT ON MY RESPIRATOR, GLOVES, SAFETY GLASSES, AND HARDHAT. I THEN EXAMINED THE OPENING IN THE S WALL LOCATED APPROX 36 FT FROM THE FRONT OF THE BLDG. AT GROUND LEVEL ON OTHER SIDE OF WALL, MATERIALS VISIBLE (FROM RIFKIN BLDG INTERIOR WALL OUTWARDS) ARE TWO LAYERS OF 1/2 INCH BLACK TAR-IMPREGNATED FABRIC, THEN A 1/2 INCH LAYER OF WOOD, 8 INCHES OF CONCRETE CURB, AND THEN ASPHALT. FROM THE RIFKIN CONCRETE FLOOR UP, MATERIALS VISIBLE OUTSIDE THE FORMER MASONRY WALL INCLUDE 12 INCHES OF PEA-SIZED GRAVELLY SOIL (APPROX 4 IN. THICK LAYER FROM FORMER RIFKIN WALL TO APPARENT CONCRETE BEHIND SOIL. GRAVELLY SOIL INCLUDES BROKEN GLASS (APPROX 1/8 IN. THICK, UP TO 4 IN. WIDE) AND CONCRETE FRAGMENTS (TO 1 INCH DIAM). ABOVE THE SOIL LAYER (APPROX 12 INCHES UP FROM FLOOR), A LAYER OF OLD CONCRETE RUBBLE (APPROX 3 INCH THICK OR MORE) IS PRESENT. ABOVE THIS LAYER THE BLACK FABRIC

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Project Manager

By: Jim Anderson

Daily Inspection Report No. _____

Sheet:	2	of	3
Date:	10/21/96		
Project:	HIRON (RIFRIN)		
EKI Job No.:	930028.82		

Contractor: NONE

CONCERNS THE LAYERING OF MATERIALS. I WAS UNABLE TO PUSH A SCREWDRIVER BLADE MORE THAN 1 IN. INTO THE FABRIC. AT 18 IN. AND 24 IN. FROM THE FLOOR, APPARENTLY CONCRETE UNDERLIES THE FABRIC.

15:30 BEGAN SAMPLING AT LOCATION W-1 (SEE SKETCH ATTACHED). I USED A PRECLEANED GEOLOGISTS PICK TO SCRAPE AND CHIP AT RESIDUE ON THE MORTAR BETWEEN BRICKS AND THE MORTAR ITSELF. I COLLECTED APPROX 5 GRAMS OF THE RESIDUE AND MORTAR IN A NEW PLASTIC BAG AND THEN TRANSFERRED THE RESIDUE AND MORTAR TO A CLEAN 40 ML GLASS VIAL (SAMPLE NUMBER W-1).

CLEANING OF THE GEOLOGISTS PICK AFTER COLLECTION OF EACH SAMPLE INCLUDED THE FOLLOWING STEPS:

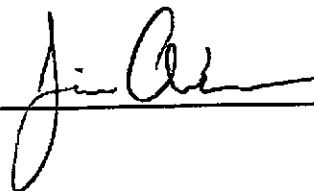
- (1) WIPE PICK HEAD WITH CLEAN PAPER TOWEL
- (2) RINSE WITH ALLONOX SOAP SOLUTION
- (3) RINSE WITH DILUTE HYDROCHLORIC ACID SOLUTION (APPROX 0.5% SOLUTION)
- (4) RINSE WITH DISTILLED WATER
- (5) WIPE WITH CLEAN PAPER TOWEL

I REPEATED THE SAMPLING AND DECON PROCEDURE AT LOCATIONS W-2 THROUGH W-18 WITH THE FOLLOWING EXCEPTIONS:

- (1) AT LOCATIONS W-3 AND W-4, I ALSO COLLECTED A SAMPLE OF THE MORTAR BETWEEN BRICKS, APPROX 1/4 INCH BELOW THE MORTAR SURFACE. THESE SAMPLES WERE IDENTIFIED AS SAMPLE NUMBERS W-3B AND W-4B, RESPECTIVELY. THE SURFACE RESIDUE SAMPLES AT THESE LOCATIONS WERE IDENTIFIED AS SAMPLE NUMBERS W-3A AND W-4A, RESPECTIVELY.
- (2) AT LOCATIONS WHERE SUFFICIENT AMOUNTS OF RESIDUE WERE PRESENT, I SCRAPED THE RESIDUE DIRECTLY INTO THE 40 ML GLASS VIALS.

18:35 FINISHED SAMPLING AT LOCATIONS W-1 THROUGH W-18. SEE ATTACHED SKETCH FOR SAMPLING LOCATIONS.

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Project Manager

By: 

Daily Inspection Report No. _____

Sheet: 3 of 3
Date: 10/21/96
Project: (HIRON (RIFKIN))
EKI Job No.: 930028.82

Contractor: NONE

18:45 COLLECTED A SAMPLE OF WHITE POWDER ACCUMULATED AT THE BASE OF CONCRETE COLUMN ON THE INTERIOR OF THE SOUTH WALL (SAMPLE NUMBER W-19). THIS LOCATION IS APPROX 76 FT FROM FRONT OF BLDG.

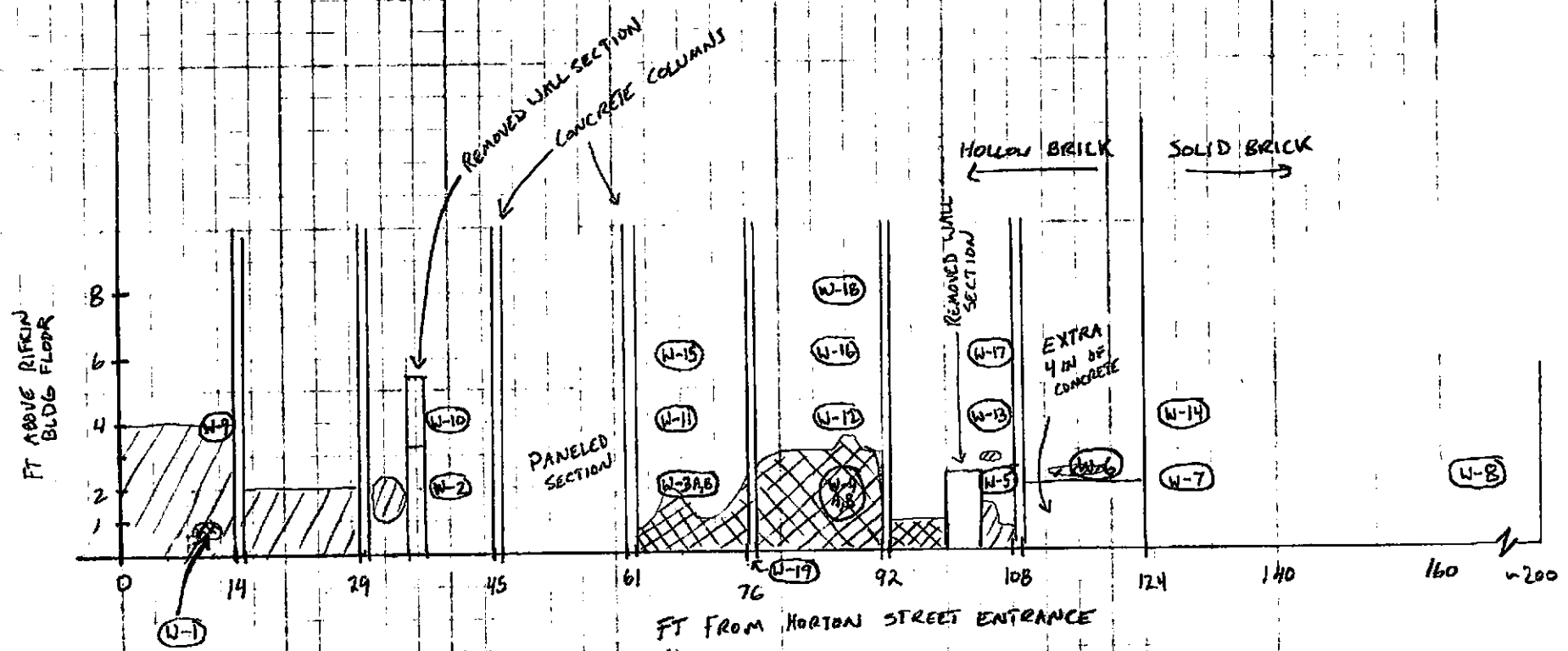
18:50 CLEANED UP WORK AREA AND DOUBLE-BAGGED MY TYVEK SUIT AND BOOTIES, GLOVES, A DISCARDED TYVEK SUIT FOUND AT THE SITE, WET PAPER TOWELS, AND EMPTY PLASTIC BAGS USED TO COLLECT RESIDUE AND MORTAR SAMPLES. I PUT THE BAG IN A CLEAN 55-GALLON DRUM THAT I BROUGHT TO THE SITE. I CLOSED THE DRUM LID, LABELED THE DRUM, AND LEFT THE DRUM ALONG THE SOUTH WALL, INSIDE THE DEMARCATED EXCLUSION ZONE APPROX 25 FT FROM THE HORTON ST ENTRANCE.

19:00 I LEFT THE SITE AND LOCKED THE ENTRANCE DOOR.



Distribution: Project Inspection File (orig)
Project Manager

By: Jim Alb

RESIDUE AND MORTAR SAMPLING LOCATIONS
 RIFCIN BLDG SOUTH WALL
 10/21/96 JEA
 EKI 930028,82



SEE ATTACHED TABLE FOR
 SAMPLING LOCATION
 COORDINATES

 AREA WITH MOST RESIDUE
 AREA WITH SLIGHT RESIDUE

RESIDUE AND MORTAR SAMPLING
LOCATION COORDINATES

RIFKIN BLDG SOUTH WALL

10/21/96 JEA

EKI 930028.82

SAMPLE NUMBER	DISTANCE FROM HORTON ST ENTRANCE (FEET)	HEIGHT ABOVE RIFKIN BLDG FLOOR (FEET)	DEPTH BELOW MORTAR SURFACE (INCHES)
W-1	12	1	0 (SURFACE)
W-2	38	2	0
W-3A	67	2	0
W-3B	67	2	1/4
W-4A	87	2	0
W-4B	87	2	1/4
W-5	101	2	0
W-6	117	2	0
W-7	128	2	0
W-8	164	2	0
W-9	12	4	0
W-10	38	4	0
W-11	67	4	0
W-12	87	4	0
W-13	101	4	0
W-14	128	4	0
W-15	67	6	0
W-16	87	6	0
W-17	101	6	0
W-18	87	8	0
W-19	76	0	0

2-14
22-142 100 SHEETS
22-144 200 SHEETS

INVESTIGATION DERIVED WASTE INVENTORY

CLIENT NAME:	<u>CHIRON</u>	FORM COMPLETED BY:	<u>JIM ANDERSON</u>
EKI JOB NUMBER:	<u>93002B.82</u>	DATE:	<u>10/21/96</u>
JOB NAME:	<u>RIFKIN</u>	DATES OF INVESTIGATION:	<u>10/21/96</u>
SITE LOCATION:	<u>4925 HORTON ST</u>	SITE ACTIVITIES:	<u>SAMPLING RESIDUE</u>
PROPERTY OWNER:	<u>CHIRON</u>		<u>ON INTERIOR OF SOUTH BUILDING WALL AND</u>
CONTRACTORS:	<u>NONE</u>		<u>MORTAR</u>

This inventory should be used to record investigation derived wastes at EKI jobsites.
 One sheet should be filled out after each stage of a project: drilling, well development, groundwater sampling.
 Any waste containers found onsite before EKI activities start should be noted.

1) Number of drums left on site:

	Number of Drums	Labels / Identification on Drums	Date Generated
Soil Cuttings			
Purge Water			
Decon Water			
PPE	<u>1</u>	<u>PPE, wet paper towels, plastic bags</u>	<u>10/21/96</u>
Uncontaminated Wastes (i.e., cement bags extra grout)			
Other Containers: Bins, Tanks			

3) Location of drums on site (Sketch map or attach marked-up site map)

Approx 25 feet from Horton Street entrance, along south wall inside bldg.

4) Possible chemicals of concern: (Attach analytical data if available)

Arsenic, lead, zinc, corrosivity.

5) Number of drums, bins or temporary tanks found on site:
 (Describe location, appearance, quantities, labels)

One plastic trash can without lid, unlabeled. Located approx 40 feet from Horton St entrance, approx 20 feet from south wall.

Attachment B

Laboratory Data Sheets and Chain-of-Custody Forms



Sequoia Analytical

680 Chesapeake Drive Redwood City, CA 94063 (415) 364-9600 FAX (415) 364-9233
 404 N. Wiget Lane Walnut Creek, CA 94598 (510) 988-9600 FAX (510) 988-9673
 819 Striker Avenue, Suite 8 Sacramento, CA 95834 (916) 921-9600 FAX (916) 921-0100

Erler & Kalinowski, Inc.
 1730 South Amphlett, Ste 320
 San Mateo, CA 94402

Client Proj. ID: 930028.81, Chiron
 Lab Proj. ID: 9610798

Sampled: 10/14/96
 Received: 10/14/96
 Analyzed: see below

Attention: Vera Nelson

Reported: 10/21/96

LABORATORY ANALYSIS

Analyte	Units	Date Analyzed	Detection Limit	Sample Results
Lab No:	9610798-01			
Sample Desc:	SOLID,RW-1			
Alkalinity: Bicarbonate	mg/Kg	10/16/96	50	N.D.
Alkalinity: Carbonate	mg/Kg	10/16/96	100	N.D.
Alkalinity: Hydroxide	mg/Kg	10/16/96	5.0	N.D.
Calcium	mg/Kg	10/16/96	25	25000
Magnesium	mg/Kg	10/16/96	5.0	11000
pH	pH Units	10/15/96	N/A	1.6
Sodium	mg/Kg	10/16/96	25	11000
Sulfate	mg/Kg	10/21/96	10000	220000

Analytes reported as N.D. were not present above the stated limit of detection.

SEQUOIA ANALYTICAL - ELAP #1210

Mike Gregory
 Project Manager





Erler & Kalinowski, Inc.
1730 South Amphlett, Ste 320
San Mateo, CA 94402

Client Proj. ID: 930028.81, Chiron

Sampled:
Received: 10/14/96
Analyzed: see below

Lab Proj. ID: 9610798

Attention: Vera Nelson

Reported: 10/21/96

LABORATORY ANALYSIS

Analyte	Units	Date Analyzed	Detection Limit	Sample Results
Lab No: 9610798-02				
Sample Desc: SOLID, Method Blank				
Alkalinity: Bicarbonate	mg/Kg	10/16/96	50	N.D.
Alkalinity: Carbonate	mg/Kg	10/16/96	100	N.D.
Alkalinity: Hydroxide	mg/Kg	10/16/96	5.0	N.D.
Calcium	mg/Kg	10/16/96	25	N.D.
Magnesium	mg/Kg	10/16/96	5.0	N.D.
pH	pH Units	10/15/96	N/A	N.D.
Sodium	mg/Kg	10/16/96	25	N.D.
Sulfate	mg/Kg	10/21/96	1.0	N.D.

Analyses reported as N.D. were not present above the stated limit of detection.

SEQUOIA ANALYTICAL - ELAP #1210

Mike Gregory
Project Manager





Erlar & Kalinowski, Inc.
1730 South Amphlett, Ste 320
San Mateo, CA 94402

Attention: Vera Nelson

Client Proj. ID: 930028.81, Chiron
Sample Descript: RW-1
Matrix: SOLID
Analysis Method: Title 22
Lab Number: 9610798-01

Sampled: 10/14/96
Received: 10/14/96
Extracted: 10/15/96
Analyzed: 10/16/96
Reported: 10/21/96

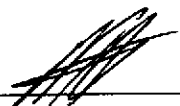
Instrument ID: MTJA-2

Inorganic Persistent and Bioaccumulative Toxic Substances : TTLC

Analyte	Max. Limit mg/Kg	Detection Limit mg/Kg	Sample Results mg/Kg
Antimony, Sb	500	5.0	33
Arsenic, As	500	50	76000
Barium, Ba	10000	5.0	79
Beryllium, Be	75	0.50	N.D.
Cadmium, Cd	100	0.50	38
Chromium, Cr	2500	0.50	24
Cobalt, Co	8000	2.5	14
Copper, Cu	2500	0.50	77
Lead, Pb	1000	5.0	390
Mercury, Hg	20	0.020	0.15
Molybdenum, Mo	3500	2.5	N.D.
Nickel, Ni	2000	2.5	51
Selenium, Se	100	5.0	N.D.
Silver, Ag	500	0.50	N.D.
Thallium, Tl	700	5.0	7.3
Vanadium, V	2400	2.5	15
Zinc, Zn	5000	0.50	11000

Analytes reported as N.D. were not present above the stated limit of detection.

SEQUOIA ANALYTICAL - ELAP #1210


Mike Gregory
Project Manager





Eter & Kalinowski, Inc.
730 South Amphlett, Ste 320
San Mateo, CA 94402

Client Proj. ID: 930028.81, Chiron
Sample Descript: Method Blank
Matrix: SOLID
Analysis Method: Title 22
Lab Number: 9610798-02

Sampled:
Received: 10/14/96
Extracted: 10/15/96
Analyzed: 10/16/96
Reported: 10/21/96

Attention: Vera Nelson


Instrument ID: MTJA-2

Inorganic Persistent and Bioaccumulative Toxic Substances : TTLC

Analyte	Max. Limit mg/Kg	Detection Limit mg/Kg	Sample Results mg/Kg
Antimony, Sb	500	5.0	N.D.
Arsenic, As	500	5.0	N.D.
Barium, Ba	10000	5.0	N.D.
Beryllium, Be	75	0.50	N.D.
Cadmium, Cd	100	0.50	N.D.
Chromium, Cr	2500	0.50	N.D.
Cobalt, Co	8000	2.5	N.D.
Copper, Cu	2500	0.50	N.D.
Lead, Pb	1000	5.0	N.D.
Mercury, Hg	20	0.020	N.D.
Molybdenum, Mo	3500	2.5	N.D.
Nickel, Ni	2000	2.5	N.D.
Selenium, Se	100	5.0	N.D.
Silver, Ag	500	0.50	N.D.
Thallium, Tl	700	5.0	N.D.
Vanadium, V	2400	2.5	N.D.
Zinc, Zn	5000	0.50	1.8

Analytes reported as N.D. were not present above the stated limit of detection.

SEQUOIA ANALYTICAL - ELAP #1210


Mike Gregory
Project Manager





Erler & Kalinowski, Inc. Client Project ID: 930028.81, Chiron
 1730 So. Amphlett Blvd., Suite 320 Matrix: SOLID
 San Mateo, CA 94402 Sample Descrip: RW-1
 Attention: Vera Nelson Work Order #: 9610798 -01, 02 Reported: Oct 28, 1996

QUALITY CONTROL DATA REPORT

Analyte:	Beryllium	Cadmium	Chromium	Nickel
QC Batch#:	ME1015966010MDF	ME1015966010MDF	ME1015966010MDF	ME1015966010MDF
Analy. Method:	EPA 6010	EPA 6010	EPA 6010	EPA 6010
Prep. Method:	EPA 3050	EPA 3050	EPA 3050	EPA 3050

Analyst:	C. Medefesser	C. Medefesser	C. Medefesser	C. Medefesser
MS/MSD #:	9610798-01-MSD	9610798-01-MSD	9610798-01-MSD	9610798-01-MSD
Sample Conc.:	N.D.	38	24	51
Prepared Date:	10/15/96	10/15/96	10/15/96	10/15/96
Analyzed Date:	10/16/96	10/16/96	10/16/96	10/16/96
Instrument I.D.#:	MTJA2	MTJA2	MTJA2	MTJA2
Conc. Spiked:	100 mg/Kg	100 mg/Kg	100 mg/Kg	100 mg/Kg
Result:	87	93	100	130
MS % Recovery:	87	55	76	79
Dup. Result:	84	110	110	150
MSD % Recov.:	84	72	86	99
RPD:	3.5	17	9.5	14
RPD Limit:	0-20	0-20	0-20	0-20

LCS #:	LCS101596-LCS	LCS101596-LCS	LCS101596-LCS	LCS101596-LCS
Prepared Date:	10/15/96	10/15/96	10/15/96	10/15/96
Analyzed Date:	10/16/96	10/16/96	10/16/96	10/16/96
Instrument I.D.#:	MTJA2	MTJA2	MTJA2	MTJA2
Conc. Spiked:	100 mg/Kg	100 mg/Kg	100 mg/Kg	100 mg/Kg
LCS Result:	95	89	93	96
LCS % Recov.:	95	89	93	96

MS/MSD LCS Control Limits	75-125	75-125	75-125	75-125
---------------------------	--------	--------	--------	--------

Please Note:
 The LCS is a control sample of known, interferent-free matrix that is analyzed using the same reagents, preparation, and analytical methods employed for the samples. The matrix spike is an aliquot of sample fortified with known quantities of specific compounds and subjected to the entire analytical procedure. If the recovery of analytes from the matrix spike does not fall within specified control limits due to matrix interference, the LCS recovery is to be used to validate the batch.

SEQUOIA ANALYTICAL

Mike Gregory
 Project Manager

** MS= Matrix Spike, MSD=MS Duplicate, RPD=Relative % Difference

9610798.ERL <1>





Erler & Kalinowski, Inc.
1730 So. Amphlett Blvd., Suite 320
San Mateo, CA 94402
Attention: Vera Nelson

Client Project ID: 930028.81, Chiron
Matrix: SOLID
Sample Descrip: XSD
Work Order #: 9610798-01, 02

Reported: Oct 28, 1996

QUALITY CONTROL DATA REPORT

Analyte: Mercury

QC Batch#: ME1016967471M4A
Analy. Method: EPA 7471
Prep. Method: EPA 7471

Analyst: T. H.
MS/MSD #: 9610571-01-XSD
Sample Conc.: 0.033
Prepared Date: 10/16/96
Analyzed Date: 10/17/96
Instrument I.D.#: MPE4
Conc. Spiked: 0.40 mg/Kg

Result: 0.37
MS % Recovery: 84

Dup. Result: 0.37
MSD % Recov.: 84

RPD: 0.0
RPD Limit: 0-20

LCS #: LCS101696-LCS

Prepared Date: 10/16/96
Analyzed Date: 10/17/96
Instrument I.D.#: MPE4
Conc. Spiked: 0.40 mg/Kg

LCS Result: 0.34
LCS % Recov.: 85

MS/MSD 60-140
LCS 70-130
Control Limits

SEQUOIA ANALYTICAL

Mike Gregory
Project Manager

Please Note:

The LCS is a control sample of known, interferent-free matrix that is analyzed using the same reagents, preparation, and analytical methods employed for the samples. The matrix spike is an aliquot of sample fortified with known quantities of specific compounds and subjected to the entire analytical procedure. If the recovery of analytes from the matrix spike does not fall within specified control limits due to matrix interference, the LCS recovery is to be used to validate the batch.

** MS = Matrix Spike, MSD = MS Duplicate, RPD = Relative % Difference

9610798.ERL <2>





Erler & Kalinowski, Inc. 1730 So. Amphlett Blvd., Suite 320 San Mateo, CA 94402 Attention: Vera Nelson	Client Project ID: 930028.81, Chiron Matrix: SOLID Sample Descrip: RW-1 Work Order #: 9610798-01, 02	Reported: Oct 28, 1996
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QUALITY CONTROL DATA REPORT

Analyte:	Sulfate	Alkalinity
QC Batch#:	IN1021963000ACA	IN10169640300B
Analy. Method:	EPA 300.0	EPA 403
Prep. Method:	N.A.	N.A.

Analyst:	R. Iverson	C. Bryant
MS/MSD #:	9610798-01-MSD	9610798-01-MSD
Sample Conc.:	220000	N.D.
Prepared Date:	10/21/96	10/16/96
Analyzed Date:	10/21/96	10/16/96
Instrument I.D.#:	INIC2	Manual
Conc. Spiked:	10000 mg/Kg	100 mg/Kg

Result:	230000	*
MS % Recovery:	100	

Dup. Result:	220000	*
MSD % Recov.:	0.0	

RPD:	4.4	0.0
RPD Limit:	0-20	0-20

* Matrix Interference

LCS #:	LCS102196-LCS	LCS101696-LCS
Prepared Date:	10/21/96	10/16/96
Analyzed Date:	10/21/96	10/16/96
Instrument I.D.#:	INIC2	Manual
Conc. Spiked:	5.0 mg/Kg	100 mg/Kg
LCS Result:	4.8	96
LCS % Recov.:	96	96

MS/MSD	60-140	60-140
LCS	70-130	70-130
Control Limits		

Please Note:

The LCS is a control sample of known, interferent-free matrix that is analyzed using the same reagents, preparation, and analytical methods employed for the samples. The matrix spike is an aliquot of sample fortified with known quantities of specific compounds and subjected to the entire analytical procedure. If the recovery of analytes from the matrix spike does not fall within specified control limits due to matrix interference, the LCS recovery is to be used to validate the batch.

SEQUOIA ANALYTICAL

Mike Gregory
Project Manager

** MS=Matrix Spike, MSD=MS Duplicate, RPD=Relative % Difference

9610798.ERL <3>





Erler & Kalinowski, Inc.
1730 So. Amphlett Blvd., Suite 320
San Mateo, CA 94402
Attention: Vera Nelson

Client Project ID: 930028.81, Chiron
Matrix: SOLID
Sample Descrip: RW-1
Work Order #: 9610798-01, 02

Reported: Oct 28, 1996

QUALITY CONTROL DATA REPORT

Analyte: pH

QC Batch: IN101596904500A

Analy. Method: EPA 9045

Prep Method: N.A.

Analyst: C. Bryant

Duplicate

Sample #: 9610798-01-MSD

Prepared Date: 10/15/96

Analyzed Date: 10/15/96

Instrument I.D.#: Manual

Sample
Concentration: 1.6

Dup. Sample
Concentration: 1.6

RPD: 0.0
RPD Limit: 0-20

SEQUOIA ANALYTICAL


Mike Gregory
Project Manager

** RPD = Relative % Difference

9610798.ERL <4>



K PRIME, INC.
LABORATORY REPORT

METHOD: TOTAL LEAD
REFERENCE: EPA 3050/7420

CLIENT PROJECT: EKI 930028.81
KPI PROJECT: 9115

UNITS: mg/Kg

SAMPLE ID	LAB ID #	DATE SAMPLED	DATE RECEIVED	SAMPLE CONC	REPORTING LIMIT	ANALYSIS DATE
RW-2	11721	10/14/96	10/14/96	42.3	1.0	10/16/96

NOTES:

ND - NOT DETECTED AT REPORTING LIMIT

PREPARED BY: SA
DATE: 10-16-96

APPROVED BY: AB
DATE: 10-16-96



Erler & Kalinowski, Inc.
1730 South Amphlett, Ste 320
San Mateo, CA 94402

Client Proj. ID: 930028.81/Chiron
Lab Proj. ID: 9610E90

Sampled: 10/14/96
Received: 10/14/96
Analyzed: see below

Attention: Vera Nelson

Reported: 10/25/96

LABORATORY ANALYSIS

Analyte	Units	Date Analyzed	Detection Limit	Sample Results
---------	-------	---------------	-----------------	----------------

Lab No: 9610E90-01
Sample Desc : SOLID,RW-3

Arsenic	mg/Kg	10/25/96	10	590
Lead	mg/Kg	10/25/96	10	2700
Zinc	mg/Kg	10/25/96	1.0	21000

Analytes reported as N.D. were not present above the stated limit of detection.

SEQUOIA ANALYTICAL - ELAP #1210


Mike Gregory
Project Manager





Erler & Kalinowski, Inc.
1730 South Amphlett, Ste 320
San Mateo, CA 94402

Client Proj. ID: 930028.81/Chiron

Lab Proj. ID: 9610E90

Sampled:
Received: 10/14/96
Analyzed: see below

Attention: Vera Nelson

Reported: 10/25/96

LABORATORY ANALYSIS

Analyte	Units	Date Analyzed	Detection Limit	Sample Results
Lab No: 9610E90-02				
Sample Desc: SOLID, Method Blank				
Arsenic	mg/Kg	10/25/96	5.0	N.D.
Lead	mg/Kg	10/25/96	5.0	N.D.
Zinc	mg/Kg	10/25/96	0.50	0.79

Analytes reported as N.D. were not present above the stated limit of detection.

SEQUOIA ANALYTICAL - ELAP #1210

Mike Gregory
Project Manager





Sequoia Analytical

680 Chesapeake Drive Redwood City, CA 94063 (415) 364-9600 FAX (415) 364-9233
 404 N. Wiget Lane Walnut Creek, CA 94598 (510) 988-9600 FAX (510) 988-9673
 819 Striker Avenue, Suite 8 Sacramento, CA 95834 (916) 921-9600 FAX (916) 921-0100

Erler & Kalinowski, Inc. Client Project ID: 930028.81/Chiron
 1730 So. Amphlett Blvd., Suite 320 Matrix: SOLID
 San Mateo, CA 94402 Sample Descrip: XSD
 Attention: Vera Nelson Work Order #: 9610E90 -01, 02 Reported: Oct 28, 1996

QUALITY CONTROL DATA REPORT

Analyte:	Beryllium	Cadmium	Chromium	Nickel
QC Batch#:	ME1024966010MDE	ME1024966010MDE	ME1024966010MDE	ME1024966010MDE
Analy. Method:	EPA 6010	EPA 6010	EPA 6010	EPA 6010
Prep. Method:	EPA 3050	EPA 3050	EPA 3050	EPA 3050

Analyst:	C. Medefeser	C. Medefeser	C. Medefeser	C. Medefeser
MS/MSD #:	9610C77-01-XSD	9610C77-01-XSD	9610C77-01-XSD	9610C77-01-XSD
Sample Conc.:	1.1	N.D.	15	14
Prepared Date:	10/24/96	10/24/96	10/24/96	10/24/96
Analyzed Date:	10/24/96	10/24/96	10/24/96	10/24/96
Instrument I.D.#:	MTJA2	MTJA2	MTJA2	MTJA2
Conc. Spiked:	100 mg/Kg	100 mg/Kg	100 mg/Kg	100 mg/Kg
Result:	95	91	110	100
MS % Recovery:	94	91	95	86
Dup. Result:	95	91	110	100
MSD % Recov.:	94	91	95	86
RPD:	0.0	0.0	0.0	0.0
RPD Limit:	0-20	0-20	0-20	0-20

LCS #:	LCS102496-LCS	LCS102496-LCS	LCS102496-LCS	LCS102496-LCS
Prepared Date:	10/24/96	10/24/96	10/24/96	10/24/96
Analyzed Date:	10/24/96	10/24/96	10/24/96	10/24/96
Instrument I.D.#:	MTJA2	MTJA2	MTJA2	MTJA2
Conc. Spiked:	100 mg/Kg	100 mg/Kg	100 mg/Kg	100 mg/Kg
LCS Result:	97	93	96	98
LCS % Recov.:	97	93	96	98

MS/MSD	LCS	75-125	75-125	75-125	75-125
Control Limits					

Please Note:
 The LCS is a control sample of known, interferent-free matrix that is analyzed using the same reagents, preparation, and analytical methods employed for the samples. The matrix spike is an aliquot of sample fortified with known quantities of specific compounds and subjected to the entire analytical procedure. If the recovery of analytes from the matrix spike does not fall within specified control limits due to matrix interference, the LCS recovery is to be used to validate the batch.

SEQUOIA ANALYTICAL

[Signature]
 Mike Gregory
 Project Manager

** MS=Matrix Spike, MSD=MS Duplicate, RPD=Relative % Difference

9610E90.ERL <1>



CHAIN OF CUSTODY / SAMPLE ANALYSIS REQUEST

Erler & Kalinowski, Inc.

Analytical Laboratory: SEQUOIA ANALYTICAL

Project Number: 930028.81

Page 1 of 1

Date Sampled: 10/14/96

Project Name: Chiron

Sampled By: JIM ANDERSON

Source of Samples: BUILDING WALL

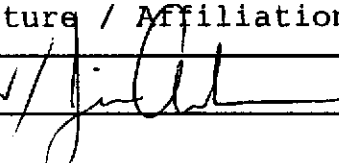

Report Results To: VERA NELSON

Location: EMERYVILLE, CA

Phone Number: (415) 578-1172

Lab Sample I D	Field Sample I D	Sample Type	Number and Type of Containers	Time Collected	Analyses Requested (EPA Method Number)	Results Required By (Date/Time)
	RW-3	SOLID	1 CLEAR GLASS JAR	15:45	LEAD BY ICP (EPA 6010)	HOLD

Special Instructions:

Relinquished By: Name / Signature / Affiliation	Date	Time	Received By: Name / Signature / Affiliation
JIM ANDERSON / 	10/14/96	6:50 PM	LDC Anderson /  / Sequoia

10-14-96
1850



**Sequoia
Analytical**

680 Chesapeake Drive
404 N. Wiget Lane
819 Striker Avenue, Suite 8

Redwood City, CA 94063
Walnut Creek, CA 94598
Sacramento, CA 95834

(415) 364-9600
(510) 988-9600
(916) 921-9600

FAX (415) 364-9233
FAX (510) 988-9673
FAX (916) 921-0100

Erler & Kalinowski, Inc.
730 South Amphlett, Ste 320
San Mateo, CA 94402

Client Proj. ID: 930028.81 / Chiron

Lab Proj. ID: 9610B23

Sampled: 10/14/96
Received: 10/14/96
Analyzed: see below

Attention: Vera Nelson

Reported: 10/22/96

LABORATORY ANALYSIS

Analyte	Units	Date Analyzed	Detection Limit	Sample Results
Lab No: 9610B23-01 Sample Desc: SOLID,SW-1				
pH	pH Units	10/18/96	N/A	8.7

analytes reported as N.D. were not present above the stated limit of detection.

SEQUOIA ANALYTICAL - ELAP #1210


Mike Gregory
Project Manager





Erler & Kalinowski, Inc.
730 South Amphlett, Ste 320
San Mateo, CA 94402

Client Proj. ID: 930028.81 / Chiron
Lab Proj. ID: 9610B23

Sampled:
Received: 10/14/96
Analyzed: see below
Reported: 10/22/96

Attention: Vera Nelson

LABORATORY ANALYSIS

Analyte	Units	Date Analyzed	Detection Limit	Sample Results
Lab No: 9610B23-02 Sample Desc: SOLID, Method Blank				
pH	pH Units	10/18/96	N/A	N/A

Analyses reported as N.D. were not present above the stated limit of detection.

SEQUOIA ANALYTICAL - ELAP #1210


Mike Gregory
Project Manager





Eler & Kallnowski, Inc.
1730 South Amphlett, Ste 320
San Mateo, CA 94402

Client Proj. ID: 930028.81 / Chiron
Sample Descript: SW-1
Matrix: SOLID
Analysis Method: Title 22
Lab Number: 9610B23-01

Sampled: 10/14/96
Received: 10/14/96
Extracted: 10/21/96
Analyzed: 10/21/96
Reported: 10/22/96

Attention: Vera Nelson

Batch Number: ME1021966010MDE
Instrument ID: MTJA-1

Inorganic Persistent and Bioaccumulative Toxic Substances : TTLC

Analyte	Max. Limit mg/Kg	Detection Limit mg/Kg	Sample Results mg/Kg
Antimony, Sb	500	5.0	63
Arsenic, As	500	5.0	15000
Barium, Ba	10000	5.0	1200
Beryllium, Be	75	0.50	N.D.
Cadmium, Cd	100	0.50	14
Chromium, Cr	2500	0.50	96
Cobalt, Co	8000	2.5	10
Copper, Cu	2500	0.50	180
Lead, Pb	1000	5.0	17000
Mercury, Hg	20	0.20	6.8
Molybdenum, Mo	3500	2.5	N.D.
Nickel, Ni	2000	2.5	59
Selenium, Se	100	5.0	N.D.
Silver, Ag	500	0.50	1.1
Thallium, Tl	700	5.0	5.1
Vanadium, V	2400	2.5	41
Zinc, Zn	5000	0.50	1900

Analytes reported as N.D. were not present above the stated limit of detection.

SEQUOIA ANALYTICAL - ELAP #1210


Mike Gregory
Project Manager





Erler & Kalinowski, Inc.
730 South Amphlett, Ste 320
San Mateo, CA 94402

Client Proj. ID: 930028.81 / Chiron
Sample Descript: Method Blank
Matrix: SOLID
Analysis Method: Title 22
Lab Number: 9610B23-02

Sampled:
Received: 10/14/96
Extracted: 10/21/96
Analyzed: 10/21/96
Reported: 10/22/96

Attention: Vera Nelson

Batch Number: ME1021966010MDE
Instrument ID: MTJA-2

Inorganic Persistent and Bioaccumulative Toxic Substances : TTLC

Analyte	Max. Limit mg/Kg	Detection Limit mg/Kg	Sample Results mg/Kg
Antimony, Sb	500	5.0	N.D.
Arsenic, As	500	5.0	N.D.
Barium, Ba	10000	5.0	N.D.
Beryllium, Be	75	0.50	N.D.
Cadmium, Cd	100	0.50	N.D.
Chromium, Cr	2500	0.50	N.D.
Cobalt, Co	8000	2.5	N.D.
Copper, Cu	2500	0.50	N.D.
Lead, Pb	1000	5.0	N.D.
Mercury, Hg	20	0.020	N.D.
Molybdenum, Mo	3500	2.5	N.D.
Nickel, Ni	2000	2.5	N.D.
Selenium, Se	100	5.0	N.D.
Silver, Ag	500	0.50	N.D.
Thallium, Tl	700	5.0	N.D.
Vanadium, V	2400	2.5	N.D.
Zinc, Zn	5000	0.50	N.D.

Analytes reported as N.D. were not present above the stated limit of detection.

SEQUOIA ANALYTICAL - ELAP #1210


Mike Gregory
Project Manager





Erler & Kalinowski, Inc. Client Project ID: 930028.81/Chiron
 1730 So. Amphlett Blvd., Suite 320 Matrix: SOLID
 San Mateo, CA 94402 Sample Description: SW-1
 Attention: Vera Nelson Work Order #: 9610B23 01, 02 Reported: Oct 22, 1996

QUALITY CONTROL DATA REPORT

Analyte:	Beryllium	Cadmium	Chromium	Nickel
QC Batch#:	ME1021966010MDE	ME1021966010MDE	ME1021966010MDE	ME1021966010MDE
Analy. Method:	EPA 6010	EPA 6010	EPA 6010	EPA 6010
Prep. Method:	EPA 3050	EPA 3050	EPA 3050	EPA 3050

Analyst:	R. Burton	R. Burton	R. Burton	R. Burton
MS/MSD #:	9610B23-01-MSD	9610B23-01-MSD	9610B23-01-MSD	9610B23-01-MSD
Sample Conc.:	N.D.	14	96	59
Prepared Date:	10/21/96	10/21/96	10/21/96	10/21/96
Analyzed Date:	10/21/96	10/21/96	10/21/96	10/21/96
Instrument I.D.#:	MTJA2	MTJA2	MTJA2	MTJA2
Conc. Spiked:	100 mg/Kg	100 mg/Kg	100 mg/Kg	100 mg/Kg
Result:	100	110	200	160
MS % Recovery:	100	96	104	101
Dup. Result:	100	110	200	160
MSD % Recov.:	100	96	104	101
RPD:	0.0	0.0	0.0	0.0
RPD Limit:	0-20	0-20	0-20	0-20

LCS #:	LCS102196-LCS	LCS102196-LCS	LCS102196-LCS	LCS102196-LCS
Prepared Date:	10/21/96	10/21/96	10/21/96	10/21/96
Analyzed Date:	10/21/96	10/21/96	10/21/96	10/21/96
Instrument I.D.#:	MTJA2	MTJA2	MTJA2	MTJA2
Conc. Spiked:	100 mg/Kg	100 mg/Kg	100 mg/Kg	100 mg/Kg
LCS Result:	98	92	98	100
LCS % Recov.:	98	92	98	100

MS/MSD	80-120	80-120	80-120	80-120
LCS	80-120	80-120	80-120	80-120
Control Limits				

Please Note:

The LCS is a control sample of known, interferent-free matrix that is analyzed using the same reagents, preparation, and analytical methods employed for the samples. The matrix spike is an aliquot of sample fortified with known quantities of specific compounds and subjected to the entire analytical procedure. If the recovery of analytes from the matrix spike does not fall within specified control limits due to matrix interference, the LCS recovery is to be used to validate the batch.

SEQUOIA ANALYTICAL

Mike Gregory
Project Manager

** MS = Matrix Spike, MSD = MS Duplicate, RPD = Relative % Difference

9610B23.ERL <1>





Erler & Kalinowski, Inc. 1730 So. Amphlett Blvd., Suite 320 San Mateo, CA 94402 Attention: Vera Nelson	Client Project ID: 930028.81/Chiron Matrix: SOLID Sample Description: XSD Work Order #: 9610B23-01, 02	Reported: Oct 22, 1996
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QUALITY CONTROL DATA REPORT

Analyte: Mercury
QC Batch#: ME1021967471M4A
Analy. Method: EPA 7471
Prep. Method: EPA 7471

Analyst: T. H.
MS/MSD #: 9610A20-01-XSD
Sample Conc.: 0.064
Prepared Date: 10/21/96
Analyzed Date: 10/21/96
Instrument I.D.#: MPE4
Conc. Spiked: 0.40 mg/Kg

Result: 0.42
MS % Recovery: 89

Dup. Result: 0.43
MSD % Recov.: 92

RPD: 2.4
RPD Limit: 0-20

LCS #: LCS102196-LCS
Prepared Date: 10/21/96
Analyzed Date: 10/21/96
Instrument I.D.#: MPE4
Conc. Spiked: 0.40 mg/Kg

LCS Result: 0.37
LCS % Recov.: 93

MS/MSD	75-125
LCS	70-130
Control Limits	

SEQUOIA ANALYTICAL

Mike Gregory
Project Manager

Please Note:

The LCS is a control sample of known, interferent-free matrix that is analyzed using the same reagents, preparation, and analytical methods employed for the samples. The matrix spike is an aliquot of sample fortified with known quantities of specific compounds and subjected to the entire analytical procedure. If the recovery of analytes from the matrix spike does not fall within specified control limits due to matrix interference, the LCS recovery is to be used to validate the batch.

** MS=Matrix Spike, MSD=MS Duplicate, RPD=Relative % Difference

9610B23.ERL <2>





**Sequoia
Analytical**

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FAX (510) 988-9673
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Erler & Kallnowski, Inc. Client Project ID: 930028.81/Chiron
1730 So. Amphlett Blvd., Suite 320 Matrix: SOLID
San Mateo, CA 94402 Sample Description: SW-1
Attention: Vera Nelson Work Order #: 9610B23-01, 02 Reported: Oct 22, 1996

QUALITY CONTROL DATA REPORT

Analyte: pH

QC Batch: IN101896904500D

Analy. Method: EPA 9045

Prep Method: N.A.

Analyst: C. Bryant

Duplicate
Sample #: 9610B23-01-MSD

Prepared Date: 10/18/96
Analyzed Date: 10/18/96
Instrument I.D.#: Manual

Sample
Concentration: 8.7

Dup. Sample
Concentration: 8.7

RPD: 0.0
RPD Limit: 0-20

SEQUOIA ANALYTICAL


Mike Gregory
Project Manager

** RPD = Relative % Difference

9610B23.ERL <3>





Erler & Kalinowski, Inc.
 730 South Amphlett, Ste 320
 San Mateo, CA 94402

Client Proj. ID: 930028.81, Chiron

Sampled: 10/22/96

Lab Proj. ID: 9610C87

Received: 10/22/96

Analyzed: see below

Attention: Vera Nelson

Reported: 10/23/96

LABORATORY ANALYSIS

Analyte	Units	Date Analyzed	Detection Limit	Sample Results
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Lab No: 9610C87-01
 Sample Desc: SOLID, W-1

Arsenic	mg/Kg	10/23/96	100	3400
Lead	mg/Kg	10/23/96	100	790
pH	pH Units	10/22/96	N/A	8.3
Zinc	mg/Kg	10/23/96	10	680

Lab No: 9610C87-02
 Sample Desc: SOLID, W-2

Arsenic	mg/Kg	10/23/96	100	850
Lead	mg/Kg	10/23/96	100	350
pH	pH Units	10/22/96	N/A	8.1
Zinc	mg/Kg	10/23/96	10	1100

Lab No: 9610C87-03
 Sample Desc: SOLID, W-3A

Arsenic	mg/Kg	10/23/96	50	170000
Lead	mg/Kg	10/23/96	50	3200
pH	pH Units	10/22/96	N/A	3.0
Zinc	mg/Kg	10/23/96	5.0	13000

Lab No: 9610C87-04
 Sample Desc: SOLID, W-4A

Arsenic	mg/Kg	10/23/96	10	35
Lead	mg/Kg	10/23/96	10	470
pH	pH Units	10/22/96	N/A	2.6
Zinc	mg/Kg	10/23/96	1.0	12000

Analytes reported as N.D. were not present above the stated limit of detection.

SEQUOIA ANALYTICAL - ELAP #1210

M. Gregory
 Project Manager





Erler & Kalinowski, Inc.
 730 South Amphlett, Ste 320
 San Mateo, CA 94402

Client Proj. ID: 930028.81, Chiron
 Lab Proj. ID: 9610C87

Sampled: 10/22/96
 Received: 10/22/96
 Analyzed: see below

Attention: Vera Nelson

Reported: 10/23/96

LABORATORY ANALYSIS

Analyte	Units	Date Analyzed	Detection Limit	Sample Results
Lab No: 9610C87-05 Sample Desc: SOLID,W-5				
Arsenic	mg/Kg	10/23/96	100	N.D.
Lead	mg/Kg	10/23/96	100	1200
pH	pH Units	10/22/96	N/A	6.4
Zinc	mg/Kg	10/23/96	10	5300
Lab No: 9610C87-06 Sample Desc: SOLID,W-6				
Arsenic	mg/Kg	10/23/96	100	N.D.
Lead	mg/Kg	10/23/96	100	8200
pH	pH Units	10/22/96	N/A	8.0
Zinc	mg/Kg	10/23/96	10	11000
Lab No: 9610C87-07 Sample Desc: SOLID,W-7				
Arsenic	mg/Kg	10/23/96	100	570
Lead	mg/Kg	10/23/96	100	390
pH	pH Units	10/22/96	N/A	9.2
Zinc	mg/Kg	10/23/96	10	1700
Lab No: 9610C87-08 Sample Desc: SOLID,W-8				
Arsenic	mg/Kg	10/23/96	100	N.D.
Lead	mg/Kg	10/23/96	100	270
pH	pH Units	10/22/96	N/A	8.4
Zinc	mg/Kg	10/23/96	10	1200

Analytes reported as N.D. were not present above the stated limit of detection.

SEQUOIA ANALYTICAL - ELAP #1210


 Mike Gregory
 Project Manager





Erler & Kalinowski, Inc.
1730 South Amphlett, Ste 320
San Mateo, CA 94402

Client Proj. ID: 930028.81, Chiron
Lab Proj. ID: 9610C87

Sampled: 10/22/96
Received: 10/22/96
Analyzed: see below

Attention: Vera Nelson

Reported: 10/23/96

LABORATORY ANALYSIS

Analyte	Units	Date Analyzed	Detection Limit	Sample Results
Lab No: 9610C87-09 Sample Desc: SOLID,W-3B				
Arsenic	mg/Kg	10/23/96	100	8800
Lead	mg/Kg	10/23/96	100	170
pH	pH Units	10/22/96	N/A	7.8
Zinc	mg/Kg	10/23/96	10	830
Lab No: 9610C87-10 Sample Desc: SOLID,W-4B				
Arsenic	mg/Kg	10/23/96	5.0	21
Lead	mg/Kg	10/23/96	5.0	260
pH	pH Units	10/22/96	N/A	3.2
Zinc	mg/Kg	10/23/96	0.50	1100
Lab No: 9610C87-11 Sample Desc: SOLID,W-9				
Arsenic	mg/Kg	10/23/96	100	170
Lead	mg/Kg	10/23/96	100	790
pH	pH Units	10/22/96	N/A	8.2
Zinc	mg/Kg	10/23/96	10	790
Lab No: 9610C87-12 Sample Desc: SOLID,W-10				
Arsenic	mg/Kg	10/23/96	100	N.D.
Lead	mg/Kg	10/23/96	100	550
pH	pH Units	10/22/96	N/A	7.3
Zinc	mg/Kg	10/23/96	10	4800

Analytes reported as N.D. were not present above the stated limit of detection.

SEQUOIA ANALYTICAL - ELAP #1210

Mike Gregory
Project Manager





Eler & Kalinowski, Inc.
730 South Amphlett, Ste 320
San Mateo, CA 94402

Client Proj. ID: 930028.81, Chiron
Lab Proj. ID: 9610C87

Sampled: 10/22/96
Received: 10/22/96
Analyzed: see below

Attention: Vera Nelson

Reported: 10/23/96

LABORATORY ANALYSIS

Analyte	Units	Date Analyzed	Detection Limit	Sample Results
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Lab No: 9610C87-13
Sample Desc: SOLID,W-11

Arsenic	mg/Kg	10/23/96	100	2600
Lead	mg/Kg	10/23/96	100	2100
pH	pH Units	10/22/96	N/A	6.2
Zinc	mg/Kg	10/23/96	10	7000

Lab No: 9610C87-14
Sample Desc: SOLID,W-12

Arsenic	mg/Kg	10/23/96	100	N.D.
Lead	mg/Kg	10/23/96	100	3300
pH	pH Units	10/22/96	N/A	3.8
Zinc	mg/Kg	10/23/96	10	11000

Lab No: 9610C87-15
Sample Desc: SOLID,W-13

Arsenic	mg/Kg	10/23/96	10	29
Lead	mg/Kg	10/23/96	10	720
pH	pH Units	10/22/96	N/A	7.0
Zinc	mg/Kg	10/23/96	1.0	14000

Lab No: 9610C87-16
Sample Desc: SOLID,W-19

Arsenic	mg/Kg	10/23/96	5.0	4700
Lead	mg/Kg	10/23/96	5.0	87
pH	pH Units	10/22/96	N/A	6.3
Zinc	mg/Kg	10/23/96	0.50	2700

Analyses reported as N.D. were not present above the stated limit of detection.

SEQUOIA ANALYTICAL - ELAP #1210


Mike Gregory
Project Manager





Eler & Kalinowski, Inc.
1730 South Amphlett, Ste 320
San Mateo, CA 94402

Client Proj. ID: 930028.81, Chiron
Lab Proj. ID: 9610C87

Sampled: 10/22/96
Received: 10/22/96
Analyzed: see below

Attention: Vera Nelson

Reported: 10/23/96

LABORATORY ANALYSIS

Analyte	Units	Date Analyzed	Detection Limit	Sample Results
Lab No: 9610C87-17 Sample Desc: SOLID,Method Blank				
Arsenic	mg/Kg	10/22/96	5.0	N.D.
Lab No: 9610C87-18 Sample Desc: SOLID,Method Blank				
Lead	mg/Kg	10/22/96	5.0	N.D.
Lab No: 9610C87-19 Sample Desc: SOLID,Method Blank				
Zinc	mg/Kg	10/22/96	0.50	0.59
Lab No: 9610C87-20 Sample Desc: SOLID,Method Blank				
pH	pH Units	10/22/96	N/A	N/A

Analytes reported as N.D. were not present above the stated limit of detection.

SEQUOIA ANALYTICAL - ELAP #1210


Mike Gregory
Project Manager





Sequoia Analytical

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 819 Striker Avenue, Suite 8 Sacramento, CA 95834 (916) 921-9600 FAX (916) 921-0100

Erler & Kalinowski, Inc. Client Project ID: 930028.81, Chiron
 1730 So. Amphlett Blvd., Suite 320 Matrix: SOLID
 San Mateo, CA 94402 Sample Descrip: W-2
 Attention: Vera Nelson Work Order #: 9610C87 01-19 Reported: Oct 24, 1996

QUALITY CONTROL DATA REPORT

Analyte:	Beryllium	Cadmium	Chromium	Nickel
QC Batch#:	ME1022966010MDE	ME1022966010MDE	ME1022966010MDE	ME1022966010MDE
Analy. Method:	EPA 6010	EPA 6010	EPA 6010	EPA 6010
Prep. Method:	EPA 3050	EPA 3050	EPA 3050	EPA 3050

Analyst:	C. Medefesser	C. Medefesser	C. Medefesser	C. Medefesser
MS/MSD #:	9610C87-02-MSD	9610C87-02-MSD	9610C87-02-MSD	9610C87-02-MSD
Sample Conc.:	N.D.	5.5	24	34
Prepared Date:	10/22/96	10/22/96	10/22/96	10/22/96
Analyzed Date:	10/22/96	10/22/96	10/22/96	10/22/96
Instrument I.D.#:	MTJA2	MTJA2	MTJA2	MTJA2
Conc. Spiked:	100 mg/Kg	100 mg/Kg	100 mg/Kg	100 mg/Kg
Result:	90	94	110	120
MS % Recovery:	90	89	86	86
Dup. Result:	90	93	110	120
MSD % Recov.:	90	88	86	86
RPD:	0.0	1.1	0.0	0.0
RPD Limit:	0-20	0-20	0-20	0-20

LCS #:	LCS102296-LCS	LCS102296-LCS	LCS102296-LCS	LCS102296-LCS
Prepared Date:	10/22/96	10/22/96	10/22/96	10/22/96
Analyzed Date:	10/22/96	10/22/96	10/22/96	10/22/96
Instrument I.D.#:	MTJA2	MTJA2	MTJA2	MTJA2
Conc. Spiked:	100 mg/Kg	100 mg/Kg	100 mg/Kg	100 mg/Kg
LCS Result:	98	98	99	100
LCS % Recov.:	98	98	99	100

MS/MSD	LCS	LCS	LCS	LCS
Control Limits	75-125	75-125	75-125	75-125

Please Note:
 The LCS is a control sample of known, interferent-free matrix that is analyzed using the same reagents, preparation, and analytical methods employed for the samples. The matrix spike is an aliquot of sample fortified with known quantities of specific compounds and subjected to the entire analytical procedure. If the recovery of analytes from the matrix spike does not fall within specified control limits due to matrix interference, the LCS recovery is to be used to validate the batch.

SEQUOIA ANALYTICAL

Mike Gregory
 Project Manager

** MS=Matrix Spike, MSD=MS Duplicate, RPD=Relative % Difference

9610C87.ERL <1>





Erler & Kalinowski, Inc. Client Project ID: 930028.81, Chiron
1730 So. Amphlett Blvd., Suite 320 Matrix: SOLID
San Mateo, CA 94402 Sample Descrip: W-13
Attention: Vera Nelson Work Order #: 9610C87 01-16, 20 Reported: Oct 24, 1996

QUALITY CONTROL DATA REPORT

Analyte: pH

QC Batch: IN102296904500B
Analy. Method: EPA 9045
Prep Method: N.A.

Analyst: C. Bryant

Duplicate
Sample #: 9610C87-15-MSD

Prepared Date: 10/22/96
Analyzed Date: 10/22/96
Instrument I.D.#: Manual

Sample
Concentration: 7.0

Dup. Sample
Concentration: 7.0

RPD: 0.0
RPD Limit: 0-20

SEQUOIA ANALYTICAL


Mike Gregory
Project Manager

** RPD = Relative % Difference

9610C87.ERL <2>





Erler & Kalinowski, Inc. 1730 So. Amphlett Blvd., Suite 320 San Mateo, CA 94402 Attention: Vera Nelson	Client Project ID: 930028.81, Chiron Matrix: SOLID Sample Descrip: W-2 Work Order #: 9610C87 01-19	Reported: Oct 24, 1996
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QUALITY CONTROL DATA REPORT

Analyte:	Beryllium	Cadmium	Chromium	Nickel
QC Batch#:	ME1022966010MDE	ME1022966010MDE	ME1022966010MDE	ME1022966010MDE
Analy. Method:	EPA 6010	EPA 6010	EPA 6010	EPA 6010
Prep. Method:	EPA 3050	EPA 3050	EPA 3050	EPA 3050

Analyst:	C. Medefesser	C. Medefesser	C. Medefesser	C. Medefesser
MS/MSD #:	9610C87-02-MSD	9610C87-02-MSD	9610C87-02-MSD	9610C87-02-MSD
Sample Conc.:	N.D.	5.5	24	34
Prepared Date:	10/22/96	10/22/96	10/22/96	10/22/96
Analyzed Date:	10/22/96	10/22/96	10/22/96	10/22/96
Instrument I.D.#:	MTJA2	MTJA2	MTJA2	MTJA2
Conc. Spiked:	100 mg/Kg	100 mg/Kg	100 mg/Kg	100 mg/Kg
Result:	90	94	110	120
MS % Recovery:	90	89	86	86
Dup. Result:	90	93	110	120
MSD % Recov.:	90	88	86	86
RPD:	0.0	1.1	0.0	0.0
RPD Limit:	0-20	0-20	0-20	0-20

LCS #:	LCS102296-LCS	LCS102296-LCS	LCS102296-LCS	LCS102296-LCS
Prepared Date:	10/22/96	10/22/96	10/22/96	10/22/96
Analyzed Date:	10/22/96	10/22/96	10/22/96	10/22/96
Instrument I.D.#:	MTJA2	MTJA2	MTJA2	MTJA2
Conc. Spiked:	100 mg/Kg	100 mg/Kg	100 mg/Kg	100 mg/Kg
LCS Result:	98	98	99	100
LCS % Recov.:	98	98	99	100

MS/MSD LCS Control Limits	75-125	75-125	75-125	75-125
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Please Note:

The LCS is a control sample of known, interferent-free matrix that is analyzed using the same reagents, preparation, and analytical methods employed for the samples. The matrix spike is an aliquot of sample fortified with known quantities of specific compounds and subjected to the entire analytical procedure. If the recovery of analytes from the matrix spike does not fall within specified control limits due to matrix interference, the LCS recovery is to be used to validate the batch.

SEQUOIA ANALYTICAL

Mike Gregory
Project Manager

** MS = Matrix Spike, MSD = MS Duplicate, RPD = Relative % Difference

9610C87.ERL <1>



CHAIN OF CUSTODY / SAMPLE ANALYSIS REQUEST

Erler & Kalinowski, Inc.

Analytical Laboratory: Sequoia Analytical

Project Number: EKI 930028.81

Page 1 of 2

Date Sampled: 10/21/96

Project Name: Chiron

Sampled By: Jim Anderson

Source of Samples: Residue on Building Wall

Report Results To: Vera Nelson

Location: Emeryville, CA

Phone Number: (415) 578-1172

Lab Sample I D	Field Sample I D	Sample Type	Number and Type of Containers	Time Collected	Analyses Requested (EPA Method Number)	Results Required By (Date/Time)
.	W-1	Solid	1 clear glass vial	15:40	See instructions below.	24 hour
.	W-2	↓	↓	15:50	↓	↓
.	W-3A			16:00		
.	W-4A			16:10		
.	W-5			16:20		
.	W-6			16:30		
.	W-7			16:40		
.	W-8			16:50		
.	W-3B			17:00		
.	W-4B			17:10		
.	W-9	17:15			(24 hour) 24 hour	

Special Instructions: All samples to be analyzed for arsenic, lead, and zinc with a target reporting limit of 1 mg/kg. All samples also to be analyzed for pH.

Relinquished By:

Received By:

Name / Signature Affiliation

Date Time

Name / Signature / Affiliation

Jim ANDERSON / <i>Jim Anderson</i>	/EKI	10/22/96	8:45	
		10/22/96	0845	<i>W. Hill / Sequoia</i>

CHAIN OF CUSTODY / SAMPLE ANALYSIS REQUEST

Erler & Kalinowski, Inc.

Analytical Laboratory: Sequoia Analytical

Project Number: EKI 930028.81

Page 2 of 2

Date Sampled: 10/21/96

Project Name: Chiron

Sampled By: Jim Anderson

Source of Samples: Residue on Building Wall

Report Results To: Vera Nelson

Location: Emeryville, CA

Phone Number: (415) 578-1172

Lab Sample I D	Field Sample I D	Sample Type	Number and Type of Containers	Time Collected	Analyses Requested (EPA Method Number)	Results Required By (Date/Time)
•	QW-10	Solid	1 clear glass vial	17:25	See instructions below.	24 hour
•	QW-11	↓	↓	17:35	↓	↓
•	QW-12			17:45		
•	QW-13			17:50		
•	QW-14			18:00		
•	QW-15			18:10		
•	QW-16			18:20		
•	QW-17			18:30		
•	QW-18			18:35		
•	QW-19			18:45		

Special Instructions: All samples to be analyzed for arsenic, lead, and zinc with a target reporting limit of 1 mg/kg. All samples also to be analyzed for pH.

Relinquished By:

Received By:

Name / Signature / Affiliation

Date Time

Name / Signature / Affiliation

Jim ANDERSON / <i>Jim Anderson</i> / EKI	10/22/96	8:45	
	10/22/96	09:15	Jim Nelson / <i>Jim Nelson</i> / Sequoia

Attachment C

DTSC Memoranda Concerning
Lead Painted Construction Debris

E WASTE N EVALUATION

Department of Toxic Substances Control

REGULATION GUIDANCE

LEAD PAINTED CONSTRUCTION DEBRIS

(RG Document #33; Revision #1; Revision Date: August 19, 1993)

The Department does not generally consider intact painted building materials to be hazardous wastes. As such, the Department would not require the disposal of the debris as a hazardous waste. The determination is dependent, in part, upon the physical state of the waste. If during the demolition or dismantling of the buildings, the paint is separated from the building material, (e.g., chemically or physically removed) then, the paint waste should be evaluated independently from the building material to determine its proper management.

In 1986, the Childhood Lead Poisoning Prevention Branch of the Department of Health Services (DHS) was mandated to adopt regulations governing the abatement of lead paint in and on housing, including, but not limited to, standards for enforcement, testing, abatement, disposal, and worker health and safety. In response to the upcoming DHS lead-based paint abatement regulations, the Department is proposing to write guidelines, based on current regulations, for the management and disposal of lead-based paint abatement waste.

See Also: No other references.

UPDATE #30 Page 30

Pursuant to Section 66262.11, Title 22, California Code of Regulations (22 CCR), it is the generator's responsibility to determine if his waste is hazardous or nonhazardous by testing representative samples of the waste using the methods set forth in Chapter 11, Division 4.5, 22 CCR and/or applying knowledge of the hazardous characteristics of the waste in light of the materials or processes used to generate the waste. If the waste exhibits any of these characteristics, it is classified as a hazardous waste and must be managed as such. The classification of wastes is not to be confused with the establishment of cleanup levels. Waste classification determines only whether a waste must be managed as a hazardous waste. To obtain further documents relating to the sampling and classification of wastes, call the waste evaluation helpline at (916) 322-7676. Copies of Division 4.5, Title 22, California Code of Regulations are available at most public libraries which contain a government publications section or are available for purchase by calling Barclays Law Publishers at (415) 244-6611.

California Environmental Protection Agency
Department of Toxic Substances Control

P. O. Box 806, Sacramento, California

Office of Scientific Affairs
Waste Evaluation Unit

95812-0806

DEPARTMENT OF TOXIC SUBSTANCES CONTROL

400 P Street, 4th Floor
P.O. Box 808
Sacramento, CA 95812-0808



(916) 323-6042

November 23, 1992

Lieutenant Colonel Dennis C. Green, USAF
Chief, Environmental Management
60 SPTG/DEV
420 Airmen Drive
Travis AFB, California 94535-2041

Dear Colonel Green:

PROPER DISPOSAL REQUIREMENTS FOR DEMOLITION DEBRIS CONTAINING
LEAD BASED PAINT

This letter is in response to your letter of October 13, 1992, requesting a regulatory interpretation of how to properly classify and dispose of lead painted demolition debris. As noted in a letter to the U.S. Navy dated July 23, 1992, the Department does not generally consider intact painted building materials to be hazardous wastes. As such, the Department would not require hazardous waste disposal. The determination is dependent, in part, upon the physical state of the waste. If during the demolition or dismantling of the buildings, the paint is separated from the building material, (e.g., chemically or physically removed) then the paint waste should be evaluated independently from the building material to determine proper management.

Recent conversations held with staff from both EPA Region IX and EPA Headquarters indicate that this is also the federal interpretation of how lead painted building debris should be managed. EPA's verbal guidance on this issue is to analyze the waste as it is going to be disposed of. In other words, if during the renovation/demolition project, materials such as stucco, insulation, wood siding, wood trim, drywall, tile, brick, glass, etc. are generated and destined for disposal, then if that entire wastestream could potentially exhibit a hazardous waste characteristic, that is what should be representatively sampled and characterized.

In response to your question of whether the lead contaminated debris must be tested by the Waste Extraction Test (WET) in addition to the Toxicity Characteristic Leaching Procedure (TCLP), it is the Department's experience that for inorganic wastestreams, the WET consistently extracts a greater amount of constituents than the TCLP, even after accounting for the difference in dilution factors. Enclosed, please find a copy of a letter the Department wrote to Vandenberg AFB which addresses this subject in depth. Also, please find a copy of a



Lieutenant Colonel Dennis C. Green, USAF
November 23, 1992
Page 2

study entitled, "Comparative Study of EPA TCLP and California WET for Metals in Different Matrices." This study was performed and published by the Hazardous Materials Laboratory, California Department of Health Services.

You also state in your letter that in Title 22, Section 66261.24(a)(2)(A) Table II, footnote "*" seems to indicate that the Soluble Threshold Limit Concentration (STLC) and Total Threshold Limit Concentration (TTLC) only apply to elemental metals such as lead if the substance is friable or in a finely divided state. You inquire further whether only the TCLP would apply if the lead based paint adheres to the wooden surfaces which will be removed and disposed. The lead in the paint is not in elemental form. The footnote to which you refer means that for metals which are in their elemental state, not alloys, compounds, or components of other products, then the regulatory thresholds would only apply if those elemental metals are in a friable, powdered or finely divided state. Since the lead based painted wood is not lead in its elemental state, the TTLC and STLC regulatory thresholds would apply.

I hope these responses have clarified the Department's position on how lead painted construction debris should be classified and managed. If you have any further questions, please contact me at the above letterhead address or telephone number.

Sincerely,

Diana Peebler

Diana Peebler
Associate Hazardous Materials
Specialist
Waste Evaluation Unit
Office of the Science Advisor

Enclosures

cc: Mr. Ronald Pilonin
Waste Evaluation Unit
Office of the Science Advisor
Department of Toxic Substances Control
P.O. Box 806
Sacramento California 95812-0806

Lieutenant Colonel Dennis C. Green, USAF
November 23, 1992
Page 3

Mr. Ronald Brown
Surveillance and Enforcement Branch
Department of Toxic Substances Control
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Surveillance and Enforcement
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Mr. Dave Topping
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