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Consulting Engineers and Scientists
1730 So. Amphlett Blvd., Suite 320
San Mateo, California 94402
(415) 578-1172
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LETTER OF TRANSMITTAL

TO: Susan Hugo
Alameda County Dept. of Environmental Health
1131 Harbor Bay Parkway, 2nd Floor
Alameda, CA 94502

DATE: 7 November 1996
PROJ. NO. 930028.82
SUBJECT: Chiron

WE ARE SENDING YOU THE FOLLOWING:

Work Plan for Collection of Soil and Groundwater Samples on the Sherwin-Williams Property, Emeryville, California, dated 22 October 1996

REMARKS:

Also provided to Sum Arigala at RWQCB

Very truly yours,

ERLER & KALINOWSKI, INC.

Vera H. Nelson

If enclosures are not as noted, please advise us at once at (415) 578-1172.

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22 October 1996

Richard Raushenbush, Esq.
Latham & Watkins
505 Montgomery Street, Suite 1900
San Francisco, California 94111-2586

Subject: Work Plan for Collection of Soil and Groundwater Samples on the Sherwin-Williams Property
Emeryville, California
(EKI 930028.82)

Dear Mr. Raushenbush:

Erler & Kalinowski, Inc. ("EKI") is pleased to present this work plan for limited soil and groundwater sampling on the Sherwin-Williams Property in Emeryville, California. This work plan has been prepared on behalf of Chiron Corporation ("Chiron"). The approximate location of the Sherwin-Williams Property is shown on Figure 1.

The purpose of the work proposed herein is to further investigate chemical concentrations in soil and groundwater on the Sherwin-Williams Property. The proposed investigations focus on characterizing chemical concentrations in soil and groundwater located immediately adjacent to and upgradient (i.e., southeast) of the Rifkin Property and which have or may have migrated onto the Rifkin Property. Historical information obtained from reports prepared on behalf of Sherwin-Williams and the former Receiver of the Rifkin Property, indicate that Sherwin-Williams operated a lead-arsenate manufacturing plant, an acid plant, and a lacquer plant immediately south of the Rifkin Property (see Sherwin-Williams historical facility map in Attachment A). Results of investigations performed on the Rifkin Property indicate that soil and groundwater beneath the Rifkin Property have been impacted by chemical migration from the Sherwin-Williams Property. Chiron recently discovered low pH and elevated concentrations of arsenic, lead, and zinc, apparently leaching through the south wall of the Rifkin Building, which abuts the Sherwin-Williams Property.

WORK PLAN ELEMENTS

This proposed work plan calls for completion of ten soil borings on the Sherwin-Williams Property. The proposed locations of these borings, designated SW-5 through SW-14, are shown on Figure 2. Five of these borings (i.e., SW-6, SW-7, SW-8, SW-11, and, SW-12) will be drilled to a total depth of 5.5 feet below ground surface ("ft bgs"). Five of the borings (i.e., SW-5, SW-9, SW-10, SW-13, and SW-14) will be drilled to the top of the first aquifer (i.e., approximately 15 to 20 ft bgs).

Two soil samples will be collected from each boring. All of the samples will be individually analyzed for arsenic, lead, zinc, and pH. Selected soil samples will also be analyzed for (1) other metals with TTLC criteria listed in California Title 22, Section 66261.24 ("Title 22 Metals"), (2) volatile organic compounds ("VOCs"), and/or (3) semivolatile organic compounds ("SVOCs"). Grab groundwater samples will be collected from borings SW-5, SW-9, SW-10, SW-13, and SW-14. These groundwater samples will be analyzed for Title 22 Metals, VOCs, and SVOCs. Grab groundwater samples will be laboratory filtered prior to metals analyses.

Table 1 summaries the proposed analyses for soil and grab groundwater samples that will be collected from each boring. Further descriptions of the proposed tasks are presented below.

Preparation for Field Work

Prior to the initiation of the field work, (1) a drilling permit will be obtained from the Alameda County Zone 7 Water Agency ("Zone 7") and (2) the drilling locations will be cleared through contact with Underground Services Alert ("USA") and a private utility locating company. EKI will also contact Sherwin-Williams and Chiron to request information regarding utility locations and to confirm the location of the Sherwin-Williams slurry wall. Any additional information that is provided by Sherwin-Williams or Chiron showing locations of underground utilities will also be utilized.

Prior to the initiation of field work, specific health and safety procedures will be defined in an amendment to the Chiron Health and Safety Plan previously prepared by EKI. We have assumed that work on the Sherwin-Williams Property will be conducted using Level C protection (e.g., coveralls, hard hat, steel-toed boots, and air-purifying respirators). We have also assumed that air quality within the breathing zone will be monitored with an

organic vapor meter ("OVM") while work is in progress. Any additional monitoring needed will be identified in the Health and Safety Plan amendment.

Soil Boring and Soil Sampling Procedures

A total of ten soil borings will be drilled on the Sherwin-Williams Property. The proposed locations of the borings, designated SW-5 through SW-14, are shown on Figure 2. As indicated on Figure 2, soil borings SW-5, SW-7, SW-10 and SW-14 are located between the Sherwin-Williams slurry wall and the Rifkin Property. Placement of these borings between the slurry wall and the Rifkin property is contingent upon adequate access between the Rifkin property and the actual slurry wall location. Information presented by Sherwin-Williams in their technical specifications for the Slurry Wall, dated 12 November 1993, indicates that the slurry wall is located a minimum of 10 feet from the Rifkin Property boundary. If this information is correct, there should be sufficient access to drill these borings. However, the actual location of the slurry wall will be verified with Sherwin-Williams representatives prior to drilling, and boring locations SW-5, SW-7, SW-10 and/or SW-14 may be moved accordingly.

The total depth of borings SW-6, SW-7, SW-8, SW-11, and SW-12 will be approximately 5.5 ft bgs. The remaining borings (i.e., SW-5, SW-9, SW-10, SW-13, and SW-14 will be drilled to the top of the first aquifer (i.e., approximately 15 to 20 ft bgs).

The borings will be drilled by a licensed drilling company using a hydraulically-operated sampling rig (e.g., Enviro-Core System). Each soil boring will be continuously cored to the total depth of the boring. Soil samples will be collected in six-inch long stainless steel liners. The borings will be logged by a qualified person using the Unified Soil Classification System.

Information presented on Sherwin-Williams' design drawings for the environmental cap, dated 30 June 1993, indicates that an 8-inch thick concrete slab is present approximately 2.5 ft bgs in the vicinity of the proposed boring locations. If encountered, the concrete slab will be cored to allow advancement of the borings. A concrete corer with an extension will be used to core through the concrete slab.

At each boring, one soil sample will be collected from approximately 1 to 2 ft bgs, and one soil sample will be

collected from approximately 4 to 5 ft bgs. Upon removal of the sampler from the borehole, the ends of the stainless steel tube containing the sample retained for laboratory analysis will be covered with Teflon sheets and plastic caps.

Grab groundwater samples will be collected from soil borings SW-5, SW-9, SW-10, SW-13, and SW-14. These grab groundwater samples will be collected by lowering a pre-cleaned Teflon or stainless steel bailer through the rods of the drill rig. Upon retrieval of the bailer, water samples will be transferred to the appropriate laboratory-supplied bottles and preserved as appropriate for the analyses to be performed.

A sample label, which will include a unique sample identification number, the sample depth, and time and date of sample collection will be attached to each brass liner and groundwater sample container. Each brass liner will be placed into a resealable plastic bag, which will then be sealed. Chain-of-Custody records will be initiated, and the soil and grab groundwater samples will immediately be placed in a chilled cooler containing ice for temporary storage and transport to a State-approved laboratory for analysis.

Following completion of drilling, the borings will be backfilled in accordance with Zone 7 permit requirements or any requirements imposed by the Regional Water Quality Control Board for maintenance of the Sherwin-Williams cap integrity. Cement grout will be used to seal the borings to ground surface. The top of each boring will be sealed with a hot asphalt patch.

Decontamination and Investigation-Derived Waste Management

The drilling and soil sampling equipment will be steam-cleaned prior to drilling each boring. Sampling equipment will be cleaned between sampling events to minimize the potential for sample cross-contamination. Equipment rinse water will be collected and placed in DOT-approved 55-gallon drums, which will be transferred to and left on the Rifkin Property. The drums will be labeled as to contents, date, and contact person and phone number.

Soil cuttings from the borings will be placed in one DOT-approved 55-gallon drum, which will be transferred to and left on the Rifkin Property. The drum will be labeled as to contents, date, and contact person and phone number. Upon receipt of analytical

results, EKI will assist Chiron in its selection of sites for off-site disposal of the investigation-derived wastes.

Laboratory Analysis of Soil and Groundwater Samples

Chemical analyses of soil and groundwater samples will be performed by Sequoia Analytical Laboratory ("Sequoia") in Redwood City, California. Sequoia is certified for hazardous waste analyses by the California Department of Toxic Substances Control. Results of the analyses will be reported by Sequoia on a standard two-week turnaround time from receipt of the samples at the laboratory.

Discrete soil and grab groundwater samples will be analyzed as follows:

- All soil samples will be analyzed for arsenic, total lead, and zinc using EPA Test Method 6010; and pH using EPA Method 9045.

- Soil samples from borings SW-5, SW-6, SW-7, SW-8, SW-9, SW-10, and SW-14 will also be analyzed for antimony, barium, beryllium, cadmium, total chromium, cobalt, copper, mercury, molybdenum, nickel, selenium, silver, thallium, and vanadium using EPA Test Method 6010.

- Soil samples from borings SW-5, SW-7, SW-10, SW-12, SW-13, and SW-14 will also be analyzed for VOCs and SVOCs using EPA Test Methods 8240 (open scan) and 8270 (open scan).

- All five grab groundwater samples from SW-5, SW-9, SW-10, SW-13, and SW-14 will be analyzed for Title 22 Metals using EPA Test Method 6010, VOCs using EPA Test Method 8240 (open scan), SVOCs using EPA Test Method 8270 (open scan) and pH using EPA method 9045.

All grab groundwater samples will be laboratory filtered prior to metals analyses.

Laboratory quality control ("QC") checks will be performed by the laboratory in adherence to laboratory QC procedures. The QC procedures listed in Revision 1 of Chapter 1 (dated July 1992) of SW-846 (USEPA, 1986) will be followed for each laboratory method. The laboratory QC samples will be analyzed at each laboratory for

all samples analyzed. Laboratory QC procedures include the following:

- For each EPA Method, one internal laboratory blank will be analyzed for every 20 samples analyzed or one per batch, whichever is more frequent.

- For each EPA Method, one matrix spike/matrix spike duplicate ("MS/MSD") will be analyzed for every 20 samples analyzed or one per batch, whichever is more frequent. The MS/MSD will be performed using standard spike compounds for each method specified under SW-846.

In addition, for field quality assurance/quality control purposes, (a) one duplicate groundwater sample will be collected, and (b) one equipment rinsate blank will be collected each day of field work that grab groundwater samples are collected. These samples will be tested for Title 22 Metals using EPA Test Methods 6010 and 7471, VOCs using EPA Test Method 8240, and SVOCs using EPA Test Method 8270, and pH.

Surveying

Following the completion of drilling, the locations of borings SW-5 through SW-14 will be surveyed. Horizontal coordinates will be surveyed relative to the California Coordinate System, Zone 3, and vertical coordinates will be surveyed relative to Mean Sea Level ("MSL").

Report Preparation

Following completion of the above tasks, a written report will be prepared by EKI. The report will present a summary and an evaluation of the results of the investigation conducted on the Sherwin-Williams Property. The report will also include a summary of the field sampling procedures and copies of boring logs and analytical data sheets.

SCHEDULE OF DRILLING AND REPORT PREPARATION

Drilling is anticipated to be completed in three working days and will be scheduled upon written or oral notification from Chiron to proceed. Samples collected on the Sherwin-Williams Property

will be submitted to the laboratory for analysis on a 10 working day turn-around-time. A draft data package will be submitted by EKI to Chiron within three working day following receipt of laboratory analytical results. A draft sampling report will be submitted by EKI to Chiron within 15 working days following receipt of the analytical results.

If you have any questions, please call.

Very truly yours,

ERLER & KALINOWSKI, INC.

Derby Davidson, P.E. for
Project Engineer

Vera H. Nelson, P.E.
Project Manager

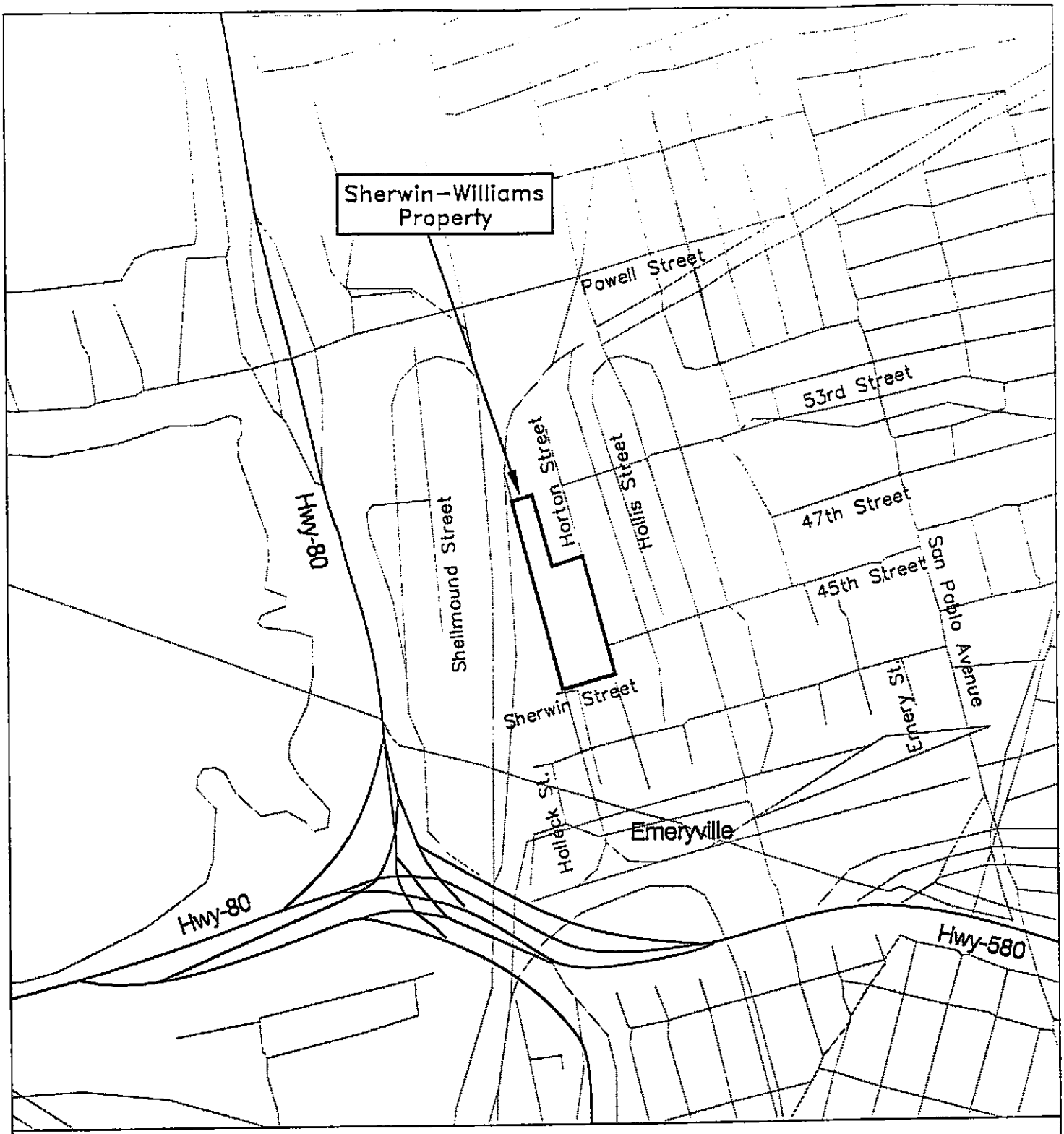
cc: Ric Notini, Chiron Corporation
Steve Johnson, Chiron Corporation

TABLE 1
PROPOSED ANALYTICAL SCHEDULE FOR SOIL SAMPLES

Chiron Corporation
Emeryville, California
(EKI 930028.82)

Soil Boring	Sample Type	Analyses To Be Performed			
		3 Metals and pH	Title 22 Metals	VOCs	SVOCs
SW-5	soil	X	X	X	X
SW-6	soil	X	X		
SW-7	soil	X	X	X	X
SW-8	soil	X	X		
SW-9	soil	X	X		
SW-10	soil	X	X	X	X
SW-11	soil	X			
SW-12	soil	X		X	X
SW-13	soil	X		X	X
SW-14	soil	X	X	X	X
SW-5	water	X	X	X	X
SW-9	water	X	X	X	X
SW-10	water	X	X	X	X
SW-13	water	X	X	X	X
SW-14	water	X	X	X	X

Notes:
Title 22 Metals = antimony, arsenic, barium, beryllium, cadmium, chromium, cobalt, copper, lead, mercury, molybdenum, nickel, selenium, silver, thallium, vanadium, and zinc
3 Metals and pH = arsenic, lead, zinc and pH
VOCs = volatile organic compounds (with open scan)
SVOCs = semivolatile organic compounds (with open scan)



Erler & Kalinowski, Inc.

Site Location Map

N

0 1000 2000

(Approximate Scale in Feet)

Chiron Corporation
Emeryville, CA
October 1996
EKI 930028.82
Figure 1

N 74°

0 40 80

(Approximate Scale in Feet)

HORTON

Rifkin

Sherwin–Williams

Slurry Wall

Warehouse

Former Tracks

Shop

Boiler House

Tank Storage

Former Oils Tank Storage Area

Loading Platform

SW–5 SW–6 SW–7 SW–8 SW–9 SW–10 SW–11 SW–12 SW–13 SW–14

SW–1 SW–2 SW–3 SW–4

LF–12 LF–B4 LF–1 LF–22 LF–B1 LF–B5 LF–2 LF–17 LF–3

SB–27 SB–28 SB–29 SB–30 SB–31 SB–32 SB–33 SB–34 SB–35 SB–36 SB–37 SB–38 SB–39 SB–40 SB–6 SB–7 SB–8

MW–4 MW–5 AA9104 EX–3

4525–6 4525–7 4525–8

LEGEND

- ■ Proposed Soil Boring Location
- ⊕ Existing Monitoring Well Location
- ⊞ Existing Extraction Well Location
- ⊕ Destroyed Monitoring Well Location
- ◇ Prior Soil Boring Location by EKI (1993)
- ⊙ Prior Soil/Grab Groundwater Location by TMC (1994)
- ⊕ Prior Soil/Grab Groundwater Location by Levine–Fricke (1990)
- —— Slurry Wall by Sherwin–Williams

Notes:

1. All locations are approximate.

Erler & Kalinowski, Inc.

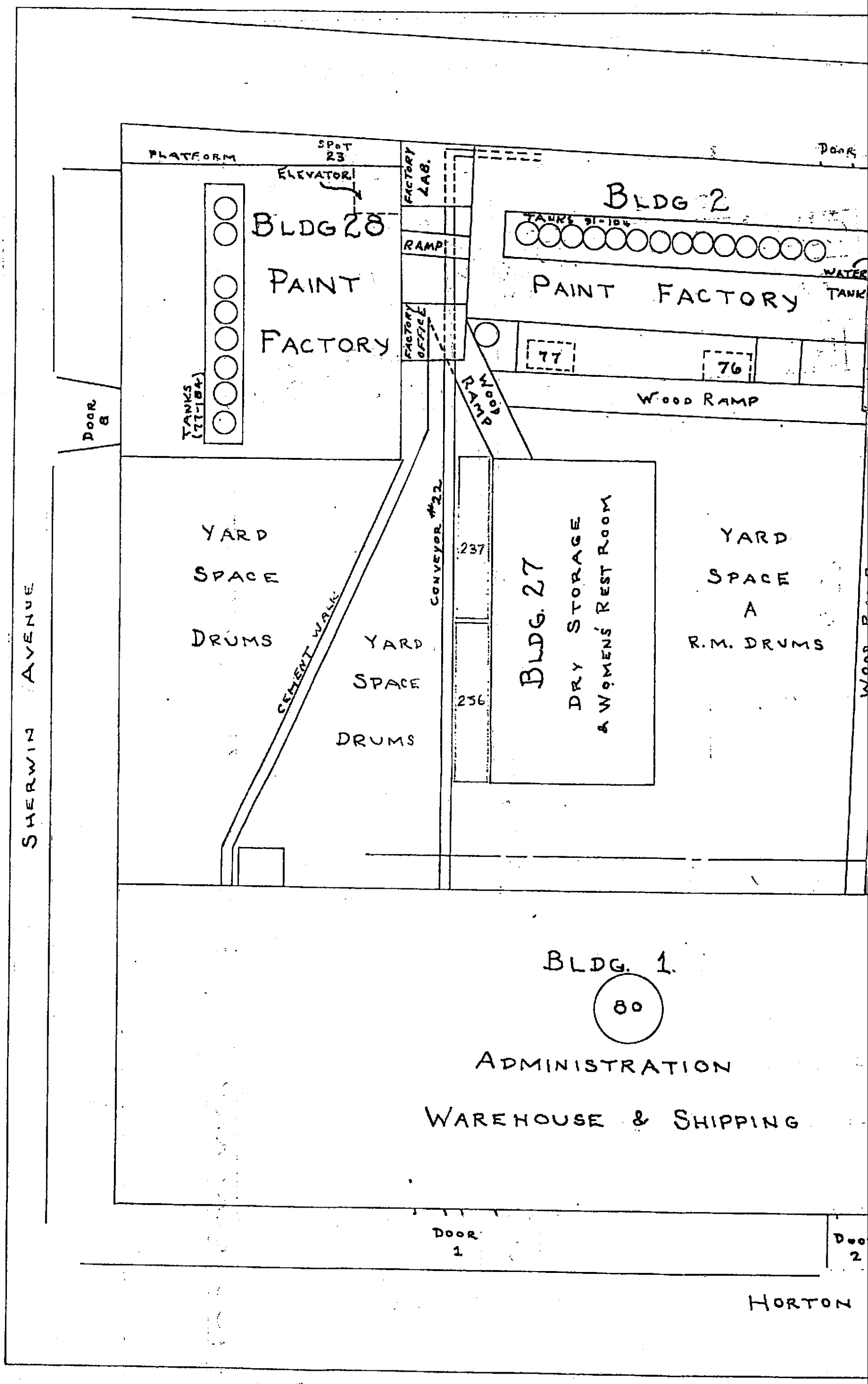
Proposed Boring Locations on Sherwin–Williams Site

Chiron Corporation
Emeryville, CA
October 1996
EKI 930028.82
Figure 2

96 Oct 22 11:39:35 C:\ACADR13\WORKING\CHIRON\930028.82\OCT96\OCT82-02

ATTACHMENT A

1947 PLANT LAYOUT OF SHERWIN-WILLIAMS COMPANY,
OAKLAND, CALIFORNIA


PLATFORM
SPOT 23
ELEVATOR
BLDG 28
PAINT FACTORY
TANKS (77-184)
DOOR 8
FACTORY LAB.
RAMP
FACTORY OFFICE
BLDG 2
TANKS 91-104
PAINT FACTORY
WATER TANK
77
76
WOOD RAMP
WOOD RAMP
YARD SPACE DRUMS
CEMENT WALK
YARD SPACE DRUMS
CONVEYOR #22
237
236
BLDG. 27
DRY STORAGE
& WOMENS REST ROOM
YARD SPACE A R.M. DRUMS
SHERWIN AVENUE
BLDG. 1.
80
ADMINISTRATION
WAREHOUSE & SHIPPING
DOOR 1
DOOR 2
HORTON

SPOT 22

SPOT 21

SPOT 20

SPOT 19

SPOT 18½

ELEVATOR

BLDG 4

RAW MATERIAL STORAGE

ELEVATOR

BLDG 30

VARNISH FILLING & BLENDING

193 198 197 196 195 194

BLDG 29

VARNISH COOKING

60

170

62 63

169

61

PUMP HOUSE

16

22

35

ROOFED PLATFORM

SCALE

DRUM STENCILING

TANKS 105-112

TANKS 113-121

TANKS 122-130

TANKS 131-139

TANKS 140-148

TANKS 149-157

WOOD PLATFORM

BLDG 30 VARNISH STORAGE

231

230

229

VARNISH REDUCING & PRESS

217

219

BLDG. 33

ALKYD PLANT

DOWTHERM VAPORIZER ROOM

234 233 232

SWITCH BOARD ROOM

OFFICE

ELEVATOR

UNLOADING PLATFORM

R. R. SPUR

H.O PUMP

COMP.

GEN.

BLDG 11

BLDG 1 BOILER HOUSE

BLDG. 17

72

YARD SPACE A

R. M. DRUMS

BLDG. 31

WAREHOUSE

DRIVEWAY BUILDING OVER

DOOR 5

DOOR 6

STREET

S. P. Co. RIGHT OF WAY

59 58 57

64 165

8

DYKE

50

308

BLOW 189 TANK

YARD SPACE B

SPOT 17

BLDG 32

LACQUER PLANT

168 176 175 174 173 172 171 186

DYKE

DRY R.M. SHED BLDG. 192

162

PIPE SHOP 193

BLDG 25 ACID PLANT

CONCRETE PLATFORM

WOOD PLATFORM

BLDG. 26

WAREHOUSE

ARSENATE OF LEAD

BLDG 9

LEAD ARSENATE PLANT

BLDG 10 A. OF L. PLANT

DOOR 7

DOOR

W E N

PLANT LAYOUT

SHERWIN-WILLIAMS CO., OAKLAND

2/47 SCALE 1" = 20' RWH