Wickham, Jerry, Env. Health

From: Conti, Ed [Ed.Conti@amec.com]
Sent: Tuesday, June 15, 2010 4:45 PM
To: Wickham, Jerry, Env. Health; Levi, Ariu, Env. Health; Drogos, Donna, Env. Health
Cc: Sean Svendsen (sean@alamedamarina.net); Croteau, Darren
Subject: Requested figures and VOC data, Pacific Shops, Inc.
Attachments: _fig_01.pdf; _fig_02.pdf; _fig_03.pdf

Ariu, Donna, Jerry,

Attached are the figures requested by Alameda County Environmental Health (ACEH) in the March 4, 2010 letter to Sean Svendsen of Pacific Shops Inc. We have also summarized data pertaining to historical analysis of soil samples for VOCs in response to questions raised at the May13, 2010 meeting by ACEH regarding the potential need for indoor air sampling

The attached Figure 1 shows the locations of former activities at 1829 Clement Avenue; Figures 2 shows pre-excavation and high efficiency vacuuming concentrations; and Figure 3 shows post-excavation and high efficiency vacuuming concentrations.

Only a few post soil cleanup (excavation and high efficiency vacuuming) samples exceed human health screening criteria. These exceedences are listed below.

- Cyanide exceeds the environmental screening level for residential land use, direct exposure shallow soil screening level (≤3 mbgs) of 34 parts per million, where groundwater is and is not a current or potential source of drinking water (ESL), at two locations: sample 2502 (2,300 parts per million) collected underneath the western portion of the building and composite sample B1&B2 (160 parts per million) collected underneath the eastern portion of the building. However, the cyanide concentration of 2,300 parts per million was qualified by the laboratory as having interferences that may have resulted in a higher reported concentration.

- Arsenic exceeds the ESL (0.39 mg/kg) and the California Human Health Screening Level for residential land use (CHHSL, 0.07 mg/kg) in three samples (B1&B2, B3, and B4) in the eastern area of the site and in six samples (B5 B7, B8&B9, B10&B11, B12&B13, and sample 2502) in the western portion of the site. However, these concentrations are below typical background concentrations for the East Bay and a local background concentration for Alameda[1].

- Vanadium exceeds the ESL (16 mg/kg) in one sample (sample 2502 at 35 parts per million).

While reviewing files for 1829 Clement Avenue, we identified 9 additional samples with some results exceeding screening criteria. These samples were collected before the remediation; however, the locations and depths of these samples are unknown. Some of the samples contain arsenic, copper, cyanide, molybdenum, and vanadium exceeding ESLs or CHHSLs. These data were collected in September 1988 and January 1990, prior to the soil cleanup activities. The September 1988 data are described in the Levine Fricke work plan dated October 28, 1988, and the 1990 data are in individual laboratory data sheets. It is possible that these data were removed by the soil cleanup activities performed at the site in April and May 1990.

As shown on Figure 3 and described above, very few post soil cleanup samples exceed the ESL. Of the exceedences, the highest cyanide concentration (2,300 parts per million) is likely due to laboratory interference, as described on the laboratory analytical report for this sample. In addition, the arsenic concentrations are below typical background concentrations for the East Bay and are also below a local arsenic background concentration of 9.1 parts per million calculated for the Alameda Naval Air Station[1].

Based on the comparison of soil data to the human health screening criteria and background levels (for arsenic), we do not believe that closure of this site warrants a deed restriction.

Regarding VOCs, three pre-remediation samples (samples 2500 and 2501/2502, collected from the western portion of the site and sample 2499, collected from the eastern portion of the site) were analyzed for volatile organic compounds (VOCs). All VOCs were non-detect. These data were collected by Blymyer Engineers in 1988 and are described on page 1 of the work plan prepared by Levine Fricke referenced above. The Levine Fricke work plan was already available on

the ACEH web site; we have uploaded the Blymyer report to the ACEH web site. The ACEH staff and Pacific Shops were not aware of these VOC data at the May 13, 2010. ACEH staff suggested there may be a need to collect indoor air samples due to the absence of VOC data. Given that VOC sampling was performed and that the results were non-detect, please confirm that indoor air sampling will not be required to proceed with closure of this case.

Please let me know if you have any questions. We look forward to moving expeditiously toward closure of this case.

Regards,
Ed Conti

Notes:

1. PRC Environmental Management, Inc. 1997. Samples for Use as Background, Naval Air Station Alameda, Alameda, California. Consultant's report to the United States Department of the Navy, February 2007.

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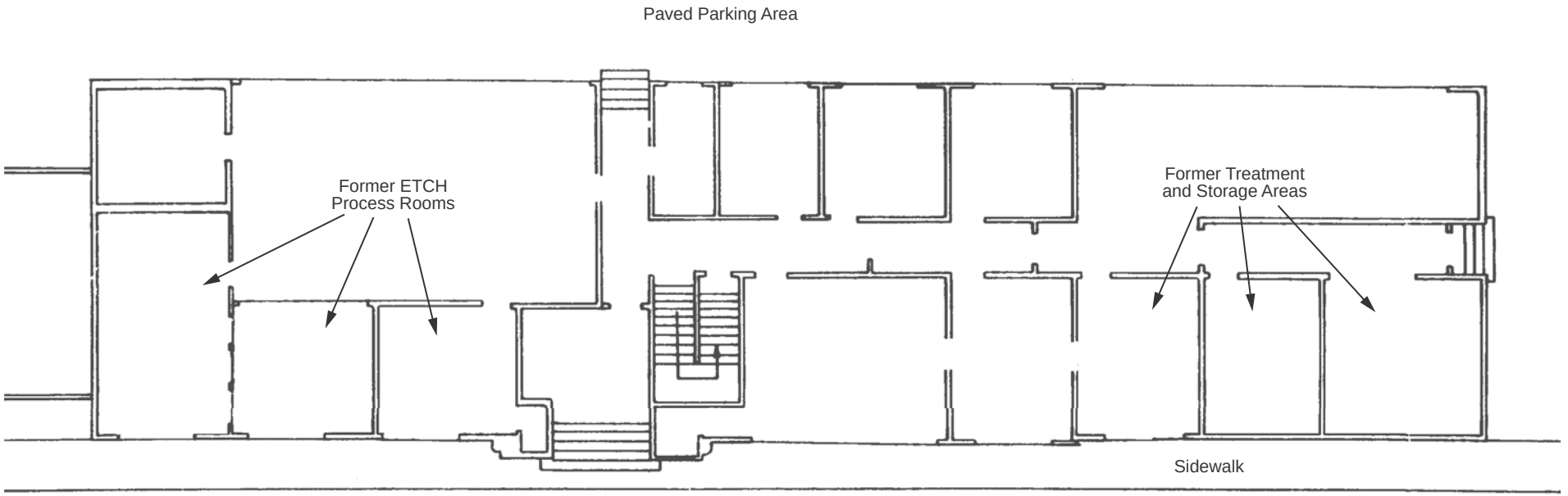

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(approximate)

SITE PLAN
Pacific Shops, Inc.
1829 Clement Avenue
Alameda, California

By: MM	06/02/2010	14740.000
AMEC Geomatrix	Figure **1**	

B5 (2/11/1990)			
Depth (ft bgs)	0.5	3	6
Total Cyanide	0.3	0.2	0.2
Arsenic	1.3	1.6	0.6
Beryllium	0.2	ND	ND
Chromium	24	23	26
Copper	6	3	7
Molybdenum	ND	ND	ND
Lead	9	ND	2
Phenol	ND	ND	ND

B10 & B11-Composite (2/11/1990)			
Depth (ft bgs)	0.5	3	6.5
Total Cyanide	3.5	0.6	0.8
Arsenic	14	0.6	ND
Beryllium	0.4	0.6	0.2
Chromium	42	35	31
Copper	51	15	10
Molybdenum	ND	ND	ND
Lead	52	2	2
Phenol	0.44	ND	ND

B6 (2/11/1990)			
Depth (ft bgs)	0.5	3	6.5
Total Cyanide	2.1	1.9	ND
Arsenic	4.9	ND	ND
Beryllium	0.3	0.5	0.2
Chromium	38	52	26
Copper	130	10	6
Molybdenum	ND	ND	ND
Lead	1100	2	2
Phenol	ND	2.82	ND

B7 (2/11/1990)			
Depth (ft bgs)	0.5	3	6.5
Total Cyanide	0.2	2	0.6
Arsenic	1.3	2.5	ND
Beryllium	ND	ND	0.3
Chromium	26	25	32
Copper	6	5	8
Molybdenum	ND	ND	ND
Lead	6	1	2
Phenol	0.65	ND	1.19

S-5 (2/11/1990)	
Depth (ft bgs)	Surface
Total Cyanide	270 (1100)
Chromium	260 (280)
Copper	9000 (900)
Molybdenum	170 (120)

B1 & B2-Composite (2/11/1990)			
Depth (ft bgs)	0.5	3	6
Total Cyanide	160	24	4.7
Arsenic	6.6	1	ND
Beryllium	ND	ND	ND
Chromium	28	42	35
Copper	4	13	8
Molybdenum	23	4	4
Lead	4	2	2
Phenol	ND	ND	ND
Soluble Cyanide - WET (mg/L)	4.2	5.8	NA

S-2 (2/11/1990)	
Depth (ft bgs)	Surface
Total Cyanide	240 (510)
Chromium	55 (61)
Copper	120 (100)
Molybdenum	11 (12)
Soluble Cyanide - WET (mg/L)	8.8

S-7 (2/11/1990)	
Depth (ft bgs)	Surface
Total Cyanide	1100
Chromium	120
Copper	480
Molybdenum	500
Soluble Cyanide - WET (mg/L)	18

B4 (2/11/1990)			
Depth (ft bgs)	0.5	3	7
Total Cyanide	7.1	1.5	3.2
Arsenic	ND	1.6	ND
Beryllium	ND	ND	ND
Chromium	30	33	37
Copper	8	7	13
Molybdenum	3	3	3
Lead	4	1	2
Phenol	ND	ND	0.52

B8 & B9-Composite (2/11/1990)			
Depth (ft bgs)	0.5	3	6.5
Total Cyanide	7.8	0.3	0.2
Arsenic	9.3	1.5	0.9
Beryllium	ND	0.3	0.3
Chromium	36	40	32
Copper	26	26	11
Molybdenum	ND	ND	ND
Lead	23	4	2
Phenol	ND	ND	0.72

S-6 (2/11/1990)	
Depth (ft bgs)	Surface
Total Cyanide	1300 (1200)
Chromium	80 (92)
Copper	320 (270)
Molybdenum	170 (160)

2499 (9/15/1988)	
Depth (ft bgs)	Soil on Asphalt
Cyanide	11000*
Antimony	<10
Arsenic	1500
Barium	90
Beryllium	1.8
Cadmium	1
Chromium	46
Cobalt	2.8
Copper	28
Lead	160
Mercury	0.7
Molybdenum	980
Nickle	5.2
Silver	5.8
Thallium	<0.1
Vanadium	31
Zinc	430
Iron	19000
TPHg	ND
BTEX	ND
Acetone	ND
PAHs	ND
VOCs	ND
Chloride	78
Nitrate	19
Phenolics	150

CS-9 (4/20/1990)	
Depth (ft bgs)	0 - 0.25
Total Cyanide	ND
Chromium	<0.050
Copper	360
Molybdenum	<2.5

2500 (9/15/1988)	
Depth (ft bgs)	Surface
Cyanide	28000*
Antimony	<10
Arsenic	130
Barium	<50
Beryllium	<0.5
Cadmium	<1
Chromium	70
Cobalt	<2
Copper	240
Lead	<5
Mercury	1
Molybdenum	58
Nickle	8.2
Silver	7.8
Thallium	<0.1
Vanadium	29
Zinc	70
Iron	21000
TPHg	ND
BTEX	ND
Acetone	ND
PAHs	ND
VOCs	ND
Chloride	0.5
Nitrate	16
Phenolics	<0.09

S-3 (2/11/1990)	
Depth (ft bgs)	Surface
Total Cyanide	120
Chromium	54
Copper	180
Molybdenum	ND
Soluble Cyanide - WET (mg/L)	2.7

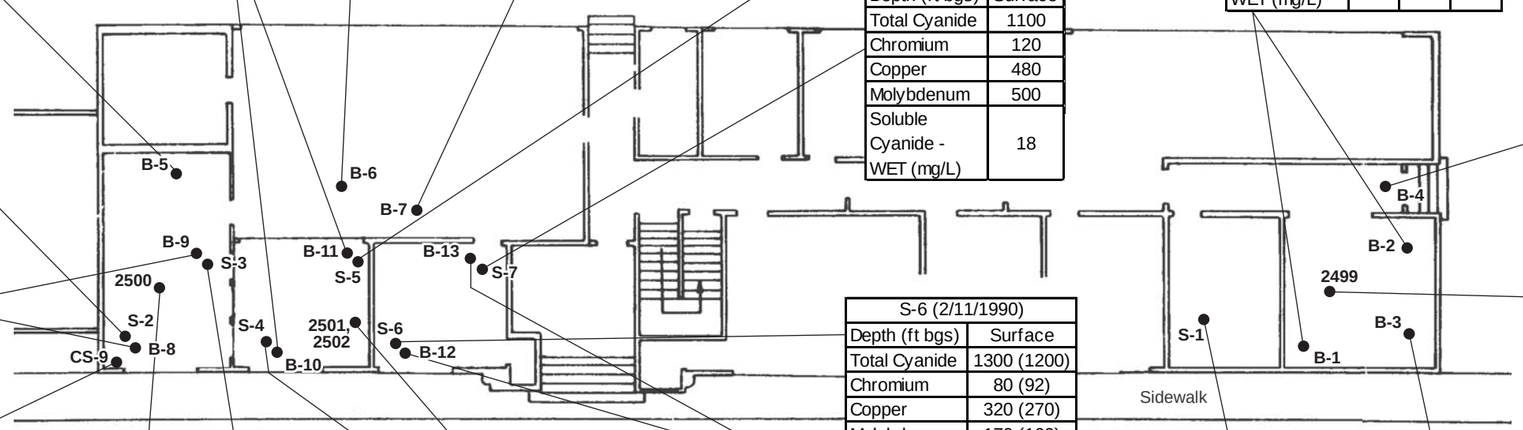
S-4 (2/11/1990)	
Depth (ft bgs)	Surface
Total Cyanide	650
Chromium	150
Copper	410
Molybdenum	140
Soluble Cyanide - WET (mg/L)	2.0

2501 / 2502 (9/15/1988)		
Depth (ft bgs)	Surface	4
Cyanide	3900*	2300*
Antimony	<10	<10
Arsenic	93	3
Barium	<50	55
Beryllium	75	0.5
Cadmium	<1	<1
Chromium	350	60
Cobalt	2.8	4.8
Copper	3000	13
Lead	90	<5
Mercury	1.4	0.067
Molybdenum	710	<20
Nickle	11	48
Silver	5.2	40
Thallium	<0.1	<0.1
Vanadium	280	35
Zinc	280	45
Iron	73000	16000
TPHg	ND	ND
BTEX	ND	ND
Acetone	ND	ND
PAHs	ND	ND
VOCs	ND	ND
Chloride	1.8	0.22
Nitrate	37	41
Phenolics	<0.09	71

B12 & B13-Composite (2/11/1990)			
Depth (ft bgs)	0.5	3	6.5
Total Cyanide	150	0.2	0.4
Arsenic	68	3.4	ND
Beryllium	ND	1.4	ND
Chromium	85	39	33
Copper	30	52	10
Molybdenum	ND	ND	ND
Lead	23	15	1
Phenol	ND	ND	2.23

S-1 (2/11/1990)	
Depth (ft bgs)	Soil on Asphalt
Total Cyanide	1100
Arsenic	14
Beryllium	53
Chromium	800
Copper	2900
Molybdenum	630
Lead	120
Phenol	0.94

B3 (2/11/1990)			
Depth (ft bgs)	0.5	3	6
Total Cyanide	26	13	22
Arsenic	ND	0.6	ND
Beryllium	ND	ND	ND
Chromium	31	47	28
Copper	4	18	9
Molybdenum	ND	5	3
Lead	3	2	2
Phenol	ND	ND	ND



EXPLANATION

● Soil sample location

NOTES
1. All concentrations are in mg/kg unless otherwise noted.
2. * - Matrix interference may have resulted in higher reported concentrations for samples 2499, 2500, 2501, and 2502 for Cyanide analysis.
3. Samples S-1 and 2499 were soil on asphalt prior to high efficiency vacuuming performed from April 16 - May 24, 1990.
4. Concentration in parenthesis denotes duplicate analysis.

Abbreviations
TPHg = Total Petroleum Hydrocarbons reported as gasoline
BTEX = benzene, toluene, ethylbenzene, and xylenes using EPA Method 8020
PAHs = Polycyclic Aromatic Hydrocarbons using EPA Method 8100
WET = Waste Extraction Test
ft bgs = Feet below ground surface
mg/L = Milligrams per liter
VOCs = Volatile organic compounds using EPA Method 8010
ND = Not detected

0 15 Feet
(approximate)

PRE-EXCAVATION AND VACUUMING SAMPLE LOCATIONS AND CHEMICAL CONCENTRATIONS
Pacific Shops, Inc.
1829 Clement Avenue
Alameda, California

By: MM	Date: 06/04/2010	Project No. 14740.000
AMEC Geomatrix	Figure 2	

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B5 (2/11/1990)		
Depth (ft bgs)	3	6
Total Cyanide	0.2	0.2
Arsenic	1.6	0.6
Beryllium	ND	ND
Chromium	23	26
Copper	3	7
Molybdenum	ND	ND
Lead	ND	2
Phenol	ND	ND

CS-10 (4/20/1990)	
Depth (ft bgs)	0 - 0.25
Lead	12

B6 (2/11/1990)		
Depth (ft bgs)	3	6.5
Total Cyanide	1.9	ND
Arsenic	ND	ND
Beryllium	0.5	0.2
Chromium	52	26
Copper	10	6
Molybdenum	ND	ND
Lead	2	2
Phenol	2.82	ND

CS-6 (4/18/1990)	
Depth (ft bgs)	0 - 0.25
Total Cyanide	6.5
Chromium	<0.050
Copper	100
Molybdenum	<2.5
Soluble Cyanide - WET (mg/L)	0.49
DI Water Soluble Cyanide (mg/L)	ND

B7 (2/11/1990)			
Depth (ft bgs)	0.5	3	6.5
Total Cyanide	0.2	2	0.6
Arsenic	1.3	2.5	ND
Beryllium	ND	ND	0.3
Chromium	26	25	32
Copper	6	5	8
Molybdenum	ND	ND	ND
Lead	6	1	2
Phenol	0.65	ND	1.19

B1 & B2-Composite (2/11/1990)			
Depth (ft bgs)	0.5	3	6
Total Cyanide	160	24	4.7
Arsenic	6.6	1	ND
Beryllium	ND	ND	ND
Chromium	28	42	35
Copper	4	13	8
Molybdenum	23	4	4
Lead	4	2	2
Phenol	ND	ND	ND
Soluble Cyanide - WET (mg/L)	4.2	5.8	NA

CS-7 (4/20/1990)	
Depth (ft bgs)	0 - 0.25
Total Cyanide	6.3
Chromium	<0.050
Copper	55
Molybdenum	<2.5
Soluble Cyanide - WET (mg/L)	0.18
DI Water Soluble Cyanide (mg/L)	1.7

B12 & B13-Composite (2/11/1990)		
Depth (ft bgs)	3	6.5
Total Cyanide	0.2	0.4
Arsenic	3.4	ND
Beryllium	1.4	ND
Chromium	39	33
Copper	52	10
Molybdenum	ND	ND
Lead	15	1
Phenol	ND	2.23

B4 (2/11/1990)			
Depth (ft bgs)	0.5	3	7
Total Cyanide	7.1	1.5	3.2
Arsenic	ND	1.6	ND
Beryllium	ND	ND	ND
Chromium	30	33	37
Copper	8	7	13
Molybdenum	3	3	3
Lead	4	1	2
Phenol	ND	ND	0.52

CS-8 (4/20/1990)	
Depth (ft bgs)	0 - 0.25
Total Cyanide	ND
Chromium	<0.050
Copper	91
Molybdenum	<2.5

CS-3 (4/18/1990)	
Depth (ft bgs)	0 - 0.25
Total Cyanide	1.4
Chromium	<0.050
Copper	9.7
Molybdenum	<2.5

B3 (2/11/1990)			
Depth (ft bgs)	0.5	3	6
Total Cyanide	26	13	22
Arsenic	ND	0.6	ND
Beryllium	ND	ND	ND
Chromium	31	47	28
Copper	4	18	9
Molybdenum	ND	5	3
Lead	3	2	2
Phenol	ND	ND	ND

CS-11 (6/15/1990)	
Depth (ft bgs)	0.5
Copper	17

B8 & B9-Composite (2/11/1990)		
Depth (ft bgs)	3	6.5
Total Cyanide	0.3	0.2
Arsenic	1.5	0.9
Beryllium	0.3	0.3
Chromium	40	32
Copper	26	11
Molybdenum	ND	ND
Lead	4	2
Phenol	ND	0.72

CS-1 (4/18/1990)	
Depth (ft bgs)	0 - 0.25
Total Cyanide	2.1
Chromium	<0.050
Copper	36
Molybdenum	<2.5

2502 (9/15/1988)	
Depth (ft bgs)	4
Cyanide	2300*
Antimony	<10
Arsenic	3
Barium	55
Beryllium	0.5
Cadmium	<1
Chromium	60
Cobalt	4.8
Copper	13
Lead	<5
Mercury	0.067
Molybdenum	<20
Nickle	48
Silver	40
Thallium	<0.1
Vanadium	35
Zinc	45
Iron	16000
TPHg	ND
BTEX	ND
Acetone	ND
PAHs	ND
VOCs	ND
Chloride	0.22
Nitrate	41
Phenolics	71

CS-2 (4/18/1990)	
Depth (ft bgs)	0 - 0.25
Total Cyanide	8.3
Chromium	<0.050
Copper	5.6
Molybdenum	<2.5
Soluble Cyanide - WET (mg/L)	0.78
DI Water Soluble Cyanide (mg/L)	0.41

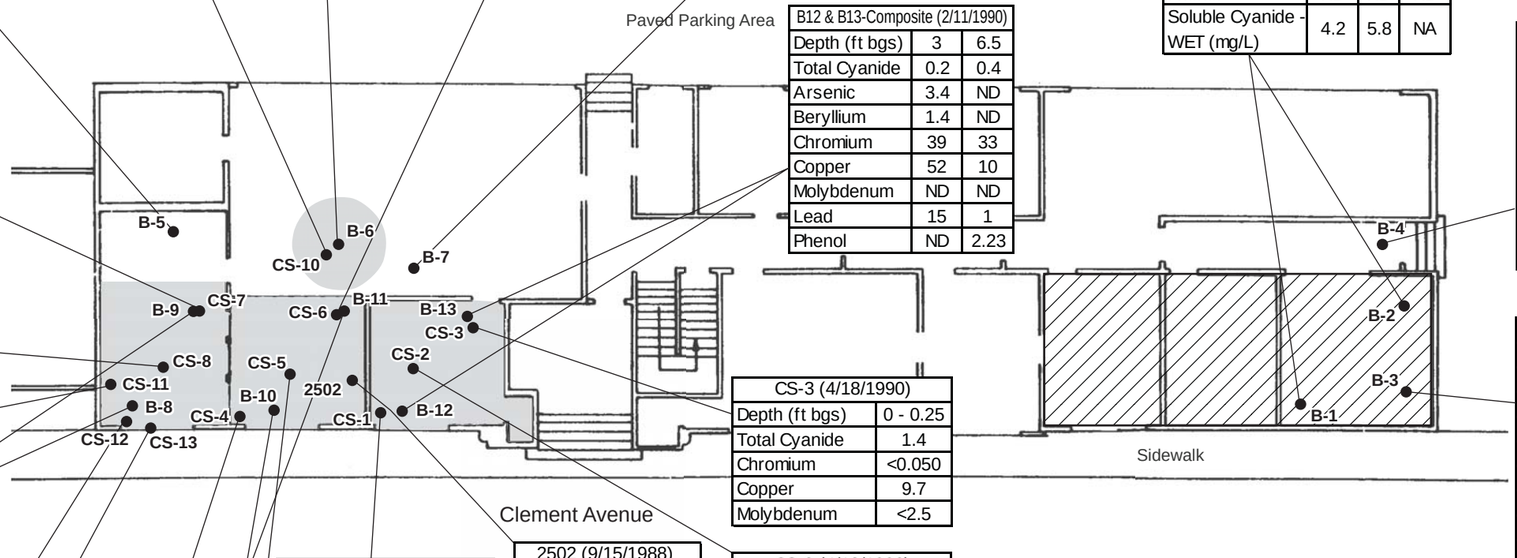
CS-12 (6/15/1990)	
Depth (ft bgs)	0.5
Copper	21

CS-13 (6/15/1990)	
Depth (ft bgs)	0.5
Copper	22

CS-4 (4/18/1990)	
Depth (ft bgs)	0 - 0.25
Total Cyanide	1.3
Chromium	<0.050
Copper	28
Molybdenum	<2.5

CS-5 (4/18/1990)	
Depth (ft bgs)	0 - 0.25
Total Cyanide	2.8
Chromium	<0.050
Copper	97
Molybdenum	<2.5

B10 & B11-Composite (2/11/1990)		
Depth (ft bgs)	3	6.5
Total Cyanide	0.6	0.8
Arsenic	0.6	ND
Beryllium	0.6	0.2
Chromium	35	31
Copper	15	10
Molybdenum	ND	ND
Lead	2	2
Phenol	ND	ND



EXPLANATION

- Soil sample location
- Area of excavation (April 16 - April 20, 1990)
- Area of high efficiency vacuuming (April 16 - May 24, 1990)

NOTES
1. All concentrations are in mg/kg unless otherwise noted.
2. * - Matrix interference may have resulted in higher reported concentrations for samples 2499, 2500, 2501, and 2502 for Cyanide analysis.

Abbreviations
TPHg = Total Petroleum Hydrocarbons reported as gasoline
BTEX = benzene, toluene, ethylbenzene, and xylenes using EPA Method 8020
PAHs = Polycyclic Aromatic Hydrocarbons using EPA Method 8100
WET = Waste Extraction Test
ft bgs = Feet below ground surface
mg/L = Milligrams per liter
VOCs = Volatile organic compounds using EPA Method 8010
ND = Not detected

0 15 Feet
(approximate)

POST-EXCAVATION AND VACUUMING SAMPLE LOCATIONS AND CHEMICAL CONCENTRATIONS
Pacific Shops, Inc.
1829 Clement Avenue
Alameda, California

By: MM	Date: 06/04/2010	Project No. 14740.000
AMEC Geomatrix		Figure 3

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