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February 14, 1994

Chevron

Chevron U.S.A. Products Company
2410 Camino Ramon
San Ramon, CA 94583
P.O. Box 5004
San Ramon, CA 94583-0804

Marketing Department
Phone 510 842 9500

Ms. Jennifer Eberle
Alameda County Health Care Services
80 Swan Way, Room 200
Oakland, CA 94621

Re: Former Chevron Service Station #9-4816
301 14th Street, Oakland

Dear Ms. Eberle:

Enclosed we are forwarding the Bimonthly Progress Report dated February 8, 1994, prepared by our consultant Weiss Associates (WA) for the above referenced site. This report presents an evaluation of the soil vapor extraction and treatment system operating at the referenced site during the period of December 1, 1993 to January 31, 1994. During this period approximately 166 lbs. of hydrocarbons were recovered resulting in a cumulative total recovery of 11,163 lbs.

A work plan was submitted to your office on February 2, 1994, proposing the installation of one (1) off-site ground water monitoring well down-gradient (northwest) of C-5. As you are aware the aquifer test was completed on January 27, 1994. A report presenting the results is currently being prepared and will be forwarded to you upon receipt. I expect to receive this document this week. Weiss has informally indicated that the well network proposed in the original work plan is appropriate. The proposed work will be initiated upon receipt of your formal concurrence.

If you have any questions or comments, please do not hesitate to contact me at (510) 842-9581.

Sincerely,
CHEVRON U.S.A. PRODUCTS COMPANY

Nancy Vukelich
Site Assessment and Remediation Engineer

Enclosure

cc: Mr. Rich Hiett, RWQCB
Mr. J.N. Robbins, CHVPKV/1156
Ms B.C. Owen
File (9-4816-12)

Ms. Beth D. Castleberry
Ware & Freidenrich
400 Hamilton Avenue
Palo Alto, CA 94301-1825

Weiss Associates
Environmental and Geologic Services
5500 Shellmound Street, Emeryville, CA 94608-2411 Fax: 510-547-5043 Phone: 510-450-6000

FEB 9 '94 J.M.M.

February 8, 1994

Nancy Vukelich
Chevron U.S.A. Products Company
P.O. Box 5004
San Ramon CA 94583-0804

Re: Bi-monthly Progress Report
December through January 1994
Former Chevron Service Station #9-4816
301-14th Street
Oakland, California
WA Job #4-582-53

Dear Ms. Vukelich,

As you requested, Weiss Associates (WA) is submitting this bi-monthly report covering remediation activities occuring between December 1993 and January 1994, for the soil vapor extraction (SVE) and emission treatment system operating at the above-referenced site (Figure 1). The SVE and emission treatment system extracts hydrocarbon vapors from wells VEW1, VEW2, VEW3, CR1 and C5 (Figure 2) and consists of a water knockout drum, a 5-hp blower and three 1,000-lb granulated activated carbon (GAC) vessels connected in series.

Background:

- On September 20, 1993, we restarted the SVE and emission treatment system.
- On October 7, 1993, we received Permit to Operate (PTO) #8271 and permission from BAAQMD to monitor the system semi-monthly.

Bimonthly Progress:

- On December 1, our technician detected breakthrough of the first carbon vessel.
- On December 15, Westates exchanged the carbon in the first vessel. good
- On January 12, our technician discovered the 5hp blower malfunctioning due to worn-out blower belts. We changed the belts, drained the water knockout drum and restarted the system.
- On January 31, our technician discovered the SVE system off due to high-water-level in the knockout drum. Due to a lack of proper equipment to drain the knockout drum, we left the system off until the next visit. when?

Comments:

Data collected during the semi-monthly visits in December and January is presented in Table 1. WA will continue bi-monthly reporting and semi-monthly monitoring activities for the activated carbon system as specified by the BAAQMD permit.

The SVE system shut down twice in January due to high-water-level in the knock-out drum. The high-water-level condition may be caused by the increase in precipitation from recent storms or by the ground water pump test conducted from January 26 to January 28. Both events could cause soil vapor moisture to increase and result in a high-water-level condition in the knock-out drum.

To solve this problem, we propose increasing site visit frequency to three per month. This extra site visit would be specifically to check the knock-out drum water level in the knock-out drum. We also recommend considering installing a transfer pump to pump the knock out drum water to the future ground water treatment system once it is installed.

Please call if you have any questions or require additional information.

Sincerely,
Weiss Associates

Rick Milelli
Staff Engineer

Michael Cooke
Project Geologist

MC:rjm

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Attachments: Figure 1 - Site Location Map
Figure 2 - Monitoring and Extraction Well Locations
Table 1 - SVE System Performance and Total Hydrocarbon Removal

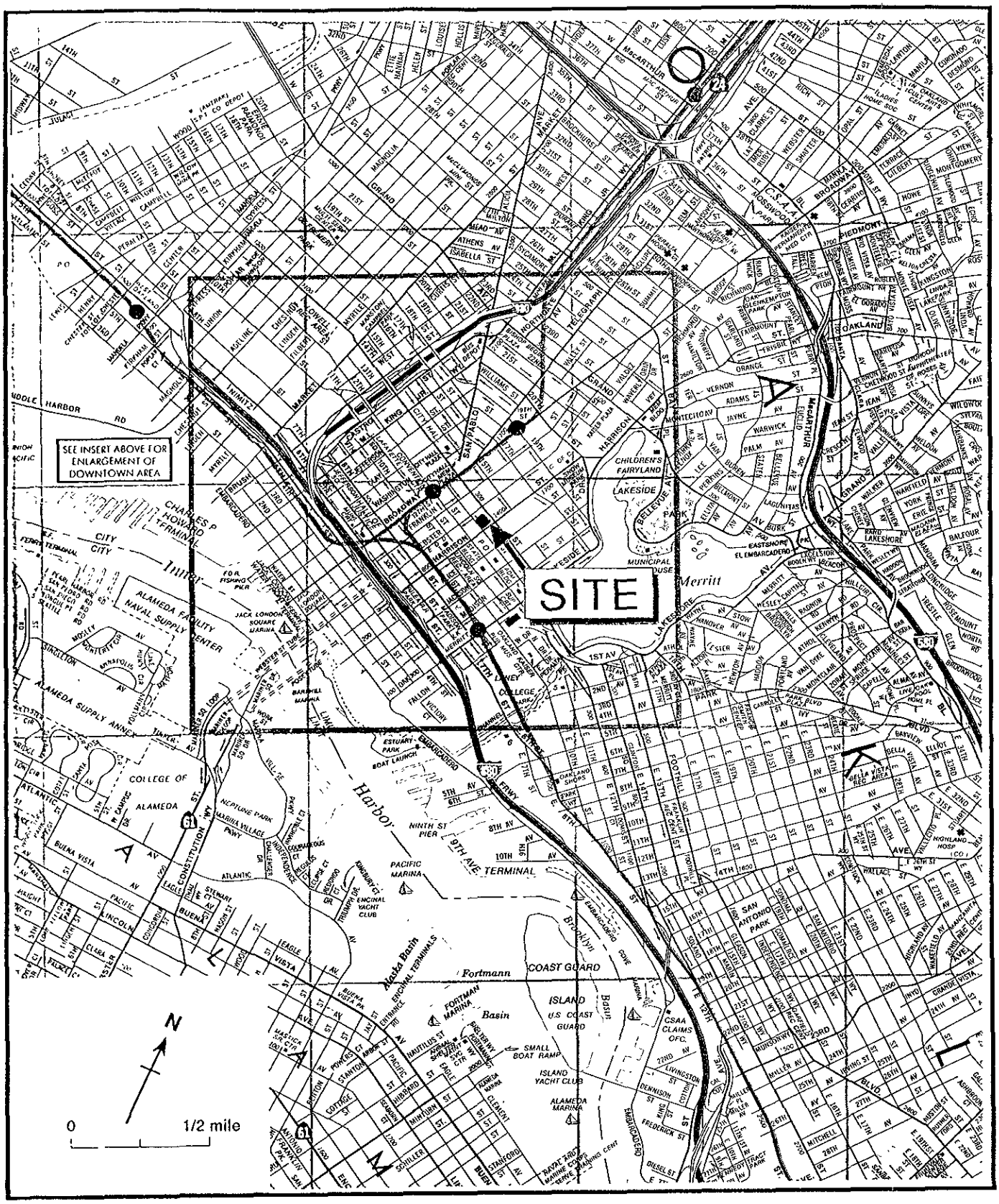

Figure 1. Site Location Map - Former Chevron Service Station #9-4816, 301 14th Street, Oakland, California

10/22/91

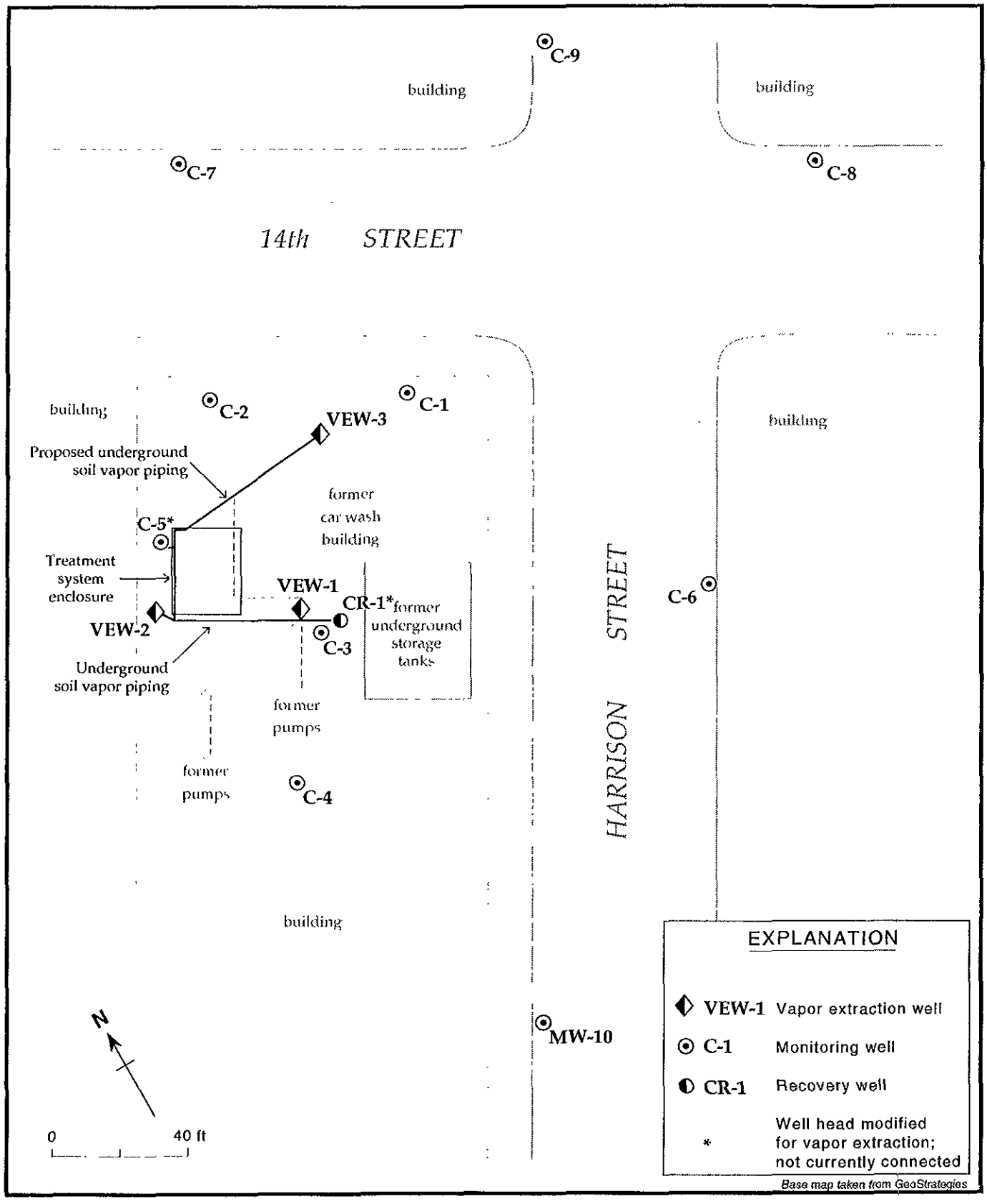

Figure 2. Monitoring and Extraction Well Locations - Former Chevron Service Station #9-4816, 301 14th Street, Oakland, California

6/16/93

Table 1. SVE System Performance and Total Hydrocarbon Removal, Former Chevron SS#9-4816, 301 14th Street, Oakland, California

Date		Exraction Well ID	Hours of Operation	a	Total Well Gas Flow Rate (scfm)	Influent Conc. ppmv	b	Removal Rate #TPH-G/hr	c	Interval Average #TPH-G/hr	Interval Hours	Interval TPH-G Pound Removed	Cumulative Total Pounds TPH-G Removed
03/12/92		CR1/C5	5		4.9	>46,000		6.54		6.54	5	33	33
03/13/92		CR1/C5	23		4.9	>47,800		6.42		6.48	18	117	150
03/16/92		CR1/C5	98		4.9	>50,000		5.04		5.73	75	430	579
04/14/92		CR1/C5	790		5.1	2,550		2.71		3.88	692	2,682	3,261
05/12/92		CR1/C5	1,465		2.7	6,500		1.08		1.90	675	1,279	4,541
06/17/93	d	CR1/C5/VEW1/VEW2	2,071		8.0	---		3.21	e	2.15	606	1,300	5,841
06/19/92		CR1/C5/VEW1/VEW2	2,077		25.6	2,100		3.75		3.75	6	23	5,864
07/20/92		CR1/C5/VEW1/VEW2	2,422		31.0	900		3.15		3.45	345	1,190	7,054
08/24/92		VEW1/VEW2	3,204		31.4	---		0.45		1.80	782	1,408	8,462
09/21/92		VEW1/VEW2	3,852		37.6	15,740		0.90		0.68	648	437	8,899
10/16/92	f	VEW1/VEW2	4,400		40.0	---		0.90		0.90	548	493	9,392
11/02/92	g	VEW1/VEW2	4,400		30.2	1,330		3.80		3.80	171	650	10,041
11/09/92	f	VEW1/VEW2	4,571										
11/16/92	g	VEW1/VEW2	4,571										
11/23/92	f	VEW1/VEW2	4,766		35.5	450		0.62		0.62	195	121	10,162
12/15/92		VEW1/VEW2	4,942		33.0	---		0.00		0.31	313	97	10,259
01/11/93		VEW1/VEW2/CR1	5,255		30.0	---		1.40		0.70	563	394	10,653
02/08/93		VEW1/VEW2/CR1	5,818		18.0	251		0.22		0.13	462	61	10,714
03/18/93		VEW1/VEW2/CR1	6,280		20.1	200		0.042		0.054	446	24	10,738
04/13/93		VEW1/VEW3/CR1/C5	6,726		12.5	515		0.067		0.033	446	15	10,753

--- Table 1 continues on next page ---

Table 1. SVE System Performance and Total Hydrocarbon Removal, Former Chevron SS#9-4816, 301 14th Street, Oakland, California

Date		Exraction Well ID	Hours of Operation a	Total Well Gas Flow Rate (scfm)	Influent Conc. ppmv b	Removal Rate #TPH-G/hr c	Interval Average #TPH-G/hr	Interval Hours	Interval TPH-G Pound Removed	Cumulative Total Pounds TPH-G Removed
********** SVE System switched from internal combustion engine to carbon absorption for emission abatement **********										
09/20/93		VEW1/VEW2/VEW3/CR1/C5	1	38.6	21,900	11.3	11.3	1	11.3	10,765
09/21/93		VEW1/VEW2/VEW3/CR1/C5	20	41.0	5,418	3.0	7.1	19	135.6	10,900
09/22/93		VEW1/VEW2/VEW3/CR1/C5	49	40.1	839	0.4	1.7	29	49.6	10,950
09/23/93		VEW1/VEW2/VEW3/CR1/C5	67	41.0	671	0.4	0.4	18	7.4	10,957
09/24/93		VEW1/VEW2/VEW3/CR1/C5	68	39.3	622	0.3	0.3	29	10.1	10,967
09/27/93		VEW1/VEW2/VEW3/CR1/C5	69	41.5	540	0.3	0.3	1	0.3	10,968
09/28/93		VEW1/VEW2/VEW3/CR1/C5	91	43.2	191	0.1	0.2	22	4.5	10,972
09/29/93		VEW1/VEW2/VEW3/CR1/C5	118	42.9	146	0.1	0.1	27	2.6	10,975
11/03/93	g	VEW1/VEW2/VEW3/CR1/C5	477	41.3	204	0.1	0.1	359	35.2	11,010
11/17/93		VEW1/VEW2/VEW3/CR1/C5	813	34.4	140	0.1	0.1	336	29.7	11,040
12/01/93	h	VEW1/VEW2/VEW3/CR1/C5	1,149	31.0	90	0.04	0.1	336	17.1	11,057
12/22/93	i	VEW1/VEW2/VEW3/CR1/C5	1,155	34.4	38	0.02	0.03	5	0.15	11,057
01/12/94		VEW1/VEW2/VEW3/CR1/C5	1,659	31.1	960	0.4	0.2	504	105.6	11,163
01/26/94	j	VEW1/VEW2/VEW3/CR1/C5	1,995	NM	NM	---	---	---	---	11,163

Notes:

a = Total hours of engine operation equals engine hours on computer printout minus 3050 hours.

b = Measured by flame ionization detector (FID).

c = removal rate (lbs/hr) = total well gas flow (scfm) * influent concentration (ppmv)/1,000,000 * 86 lbs TPH-G/lb-mole * 60 min/hr * 1lb-mole/386 ft ^3

d = First day of system operation with the two new vapor extraction wells (installed June 11, 1992).

e = Calculated estimates based on concentrations in samples collected June 12, 1992.

f = System shutdown upon departure to re-equilibrate subsurface vapors.

g = System restarted.

h = System shutdown due to breakthrough of the second carbon vessel.

i = Carbon in first vessel changed by Westates on December 15, 1993. System restarted.

j = System shut down due to ground water pump test.

scfm = Standard cubic feet per minute.

ppmv = Parts per million by volume.

TPH-G = Total petroleum hydrocarbons as gasoline.

NM = Not Measured