



Chevron

July 11, 1994

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

Marketing Department
Phone 510 842 9500

Ms. Jennifer Eberle
Alameda County Health Care Services
Department of Environmental Health
1131 Harbor Bay Parkway, Suite 250
Alameda, CA 94501

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

Dear Ms. Eberle:

Enclosed is the Bi-monthly Progress Report dated April 12, 1994, prepared by our consultant Weiss Associates for the above referenced site. The report presents an evaluation of the soil vapor extraction and treatment system operating at this site during the period of February 1, 1994 to March 31, 1994. The total quantity of hydrocarbons removed to date is approximately 12,420 pounds.

Construction of the remediation system modifications began on June 28 and is expected to be complete by July 8. We expect the system to be operational by the end of July, pending receipt of EBMUD permits.

If you have any questions or comments, please do not hesitate to contact me at (510) 842-8134.

Sincerely,
CHEVRON U.S.A. PRODUCTS COMPANY

Mark A. Miller
Site Assessment and Remediation Engineer

Enclosure

cc: Mr. Kevin Graves, RWQCB - Bay Area
Mr. J.N. Robbins, CHVPK/V1156
Ms. B.C. Owen

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



April 12, 1994

450-6150
Mike Cook

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

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

Dear Ms. Vukelich,

Weiss Associates (WA) is pleased to submit this bi-monthly report covering remediation activities occurring between February and March 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 February 8, 1994, WA discovered the SVE system off due to high-water-level in the knockout drum. We drained the water knockout drum, adjusted the blower and restarted the system.
- On February 22, 1994, WA performed maintenance work on the system. We also shut the system down when we discovered breakthrough on the first carbon vessel.
- On March 30, 1994, WA coordinated with Westates [★] to change out the carbon in the first carbon vessel. WA reconnected the carbon and restarted the system. WA shut off well VEW2 to increase the influent concentrations.

Comments:

Data collected during the semi-monthly visits in February and March 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.

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

Sincerely,
Weiss Associates



Paul Nuti
Staff Engineer



Michael Cooke
Project Geologist

MC:pmm

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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

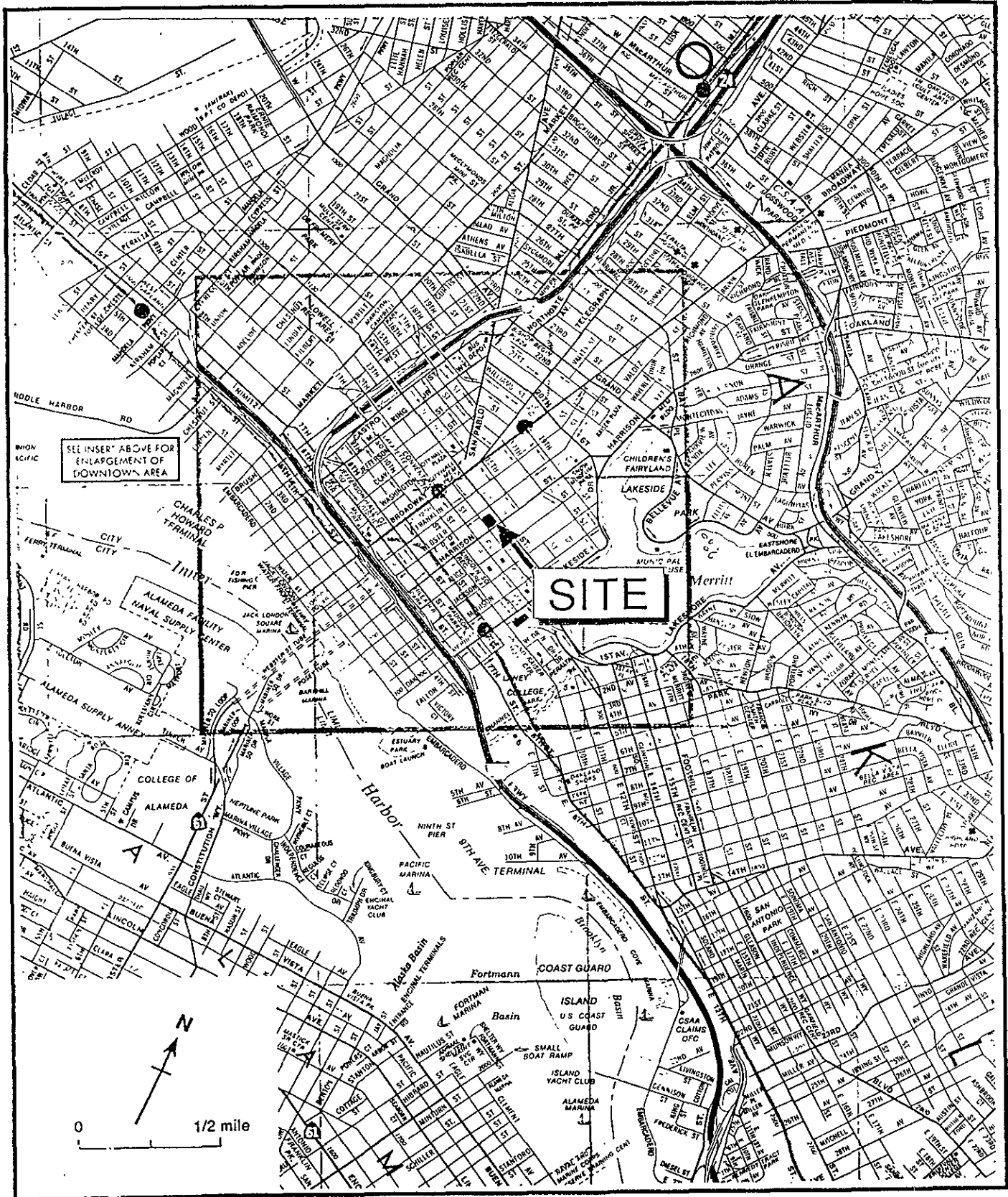


Figure 1. Site Location Map - Former Chevron Service Station #9-4816, 301 14th Street, Oakland, California

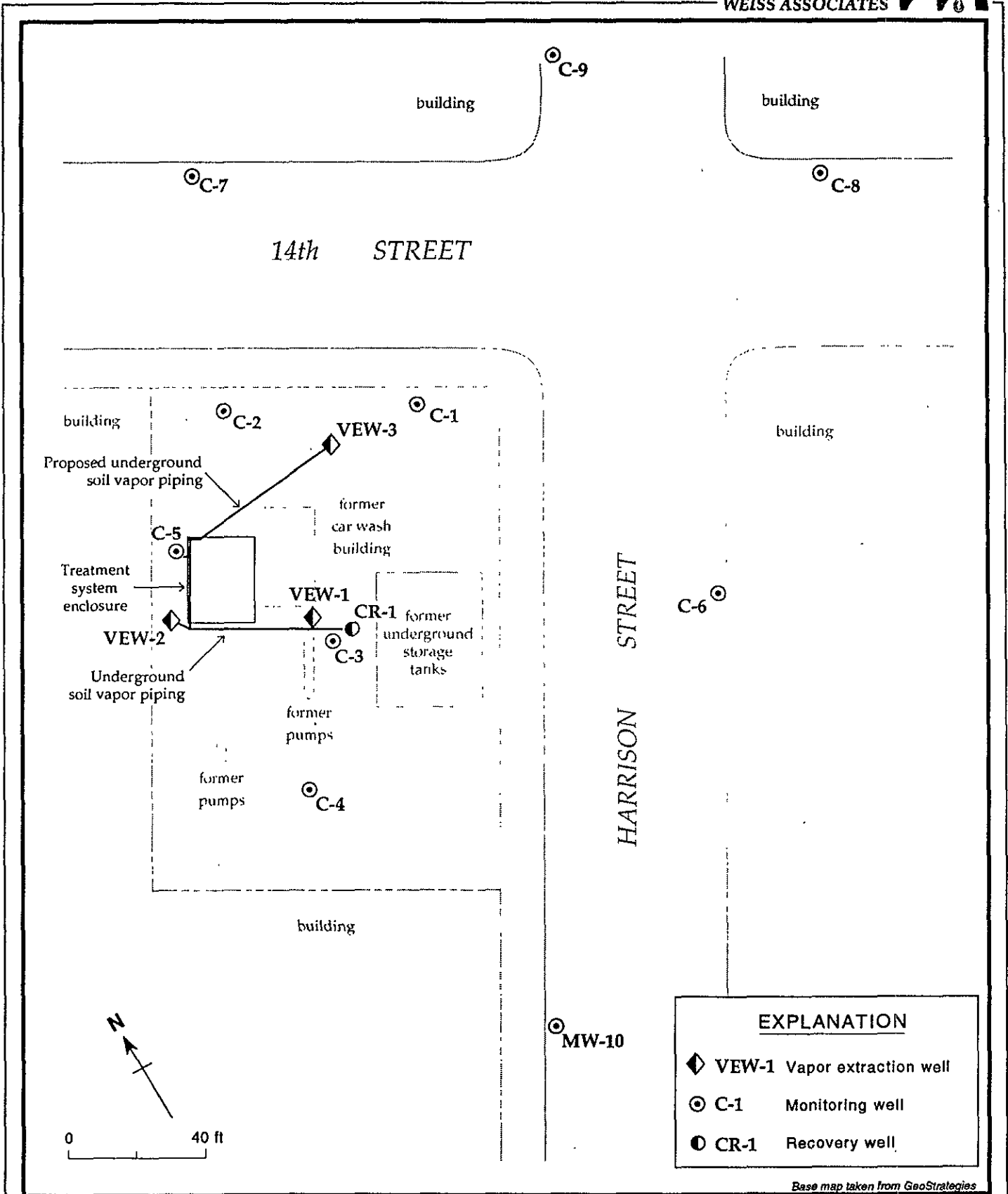


Figure 2. Monitoring and Extraction Well Locations - Former Chevron Service Station #9-4816, 301 14th Street, Oakland, California

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

Date	Extraction Well ID	Hours of Operation	Total Well Gas Flow Rate	Influent Conc.	Removal Rate	Interval Average	Interval Hours	Interval TPH-G Pounds Removed	Cumulative Total Pounds TPH-G Removed
(a)	(b)	(hrs) (c)	(scfm) (d)	(ppmv) (e)	(#TPH-G/hr) (f)	(#TPH-G/hr) (g)	(hrs) (h)	(#TPH-G) (i)	(#TPH-G) (j)
12-Mar-92	CR1/C5	5	4.9	> 46,000	3.01	15.07	5	15	15
13-Mar-92	CR1/C5	24	4.9	> 47,000	3.08	3.05	19	58	73
16-Mar-92	CR1/C5	96	4.9	> 50,000	3.28	3.18	72	229	302
14-Apr-92	CR1/C5	792	5.1	2,550	0.17	1.72	696	1,200	1,502
12-May-92	CR1/C5	1,464	2.7	6,500	0.23	0.20	672	137	1,639
17-Jun-92	k CR1/C5/VEW1/VEW2	2,328	8.0	6,500	0.70	e 0.46	864	402	2,041
19-Jun-92	CR1/C5/VEW1/VEW2	2,376	25.6	2,100	0.72	0.71	48	34	2,075
20-Jul-92	CR1/C5/VEW1/VEW2	3,120	31.0	900	0.37	0.55	744	406	2,481
24-Aug-92	VEW1/VEW2	3,960	31.4	900	0.38	0.38	840	315	2,796
21-Sep-92	VEW1/VEW2	4,632	37.6	15,740	7.91	4.14	672	2,785	5,581
16-Oct-92	m VEW1/VEW2	5,232	40.0	15,740	8.42	8.16	600	4,898	10,480
02-Nov-92	n VEW1/VEW2	5,232	30.2	1,330	0.54	4.48	0	0	10,480
09-Nov-92	m VEW1/VEW2	5,400	NM	NM	0.00	0.27	168	45	10,525
16-Nov-92	n VEW1/VEW2	5,400	NM	NM	0.00	0.00	0	0	10,525
23-Nov-92	m VEW1/VEW2	5,568	35.5	450	0.21	0.11	168	18	10,543
15-Dec-92	n VEW1/VEW2	5,568	33.0	450	0.20	0.21	0	0	10,543
11-Jan-93	VEW1/VEW2/CR1	6,216	30.0	450	0.18	0.19	648	123	10,665
08-Feb-93	VEW1/VEW2/CR1	6,888	18.0	251	0.06	0.12	672	81	10,746
18-Mar-93	VEW1/VEW2/CR1	7,800	20.1	200	0.05	0.06	912	52	10,798
13-Apr-93	VEW1/VEW3/CR1/C5	8,424	12.5	515	0.09	0.07	624	44	10,842

--- 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	Extraction Well ID	Hours of Operation	Total Well Gas Flow Rate	Influent Conc.	Removal Rate	Interval Average	Interval Hours	Interval TPH-G Pounds Removed	Cumulative Total Pounds TPH-G Removed
(a)	(b)	(hrs)	(scfm)	(ppmv)	(#TPH-G/hr)	(#TPH-G/hr)	(hrs)	(#TPH-G)	(#TPH-G)
***** SVE System switched from internal combustion engine to carbon absorption for emission abatement *****									
20-Sep-93	VEW1/VEW2/VEW3/CR1/C5	8,784	38.6	21,900	11.30	11.30	1	11.3	10,853
21-Sep-93	VEW1/VEW2/VEW3/CR1/C5	8,808	41.0	5,418	2.97	7.13	24	171.2	11,025
22-Sep-93	VEW1/VEW2/VEW3/CR1/C5	8,832	40.1	839	0.45	1.71	24	41.0	11,066
23-Sep-93	VEW1/VEW2/VEW3/CR1/C5	8,856	41.0	671	0.37	0.41	24	9.8	11,075
24-Sep-93	VEW1/VEW2/VEW3/CR1/C5	8,880	39.3	622	0.33	0.35	24	8.3	11,084
27-Sep-93	VEW1/VEW2/VEW3/CR1/C5	8,952	41.5	540	0.30	0.31	72	22.5	11,106
28-Sep-93	VEW1/VEW2/VEW3/CR1/C5	8,976	43.2	191	0.11	0.20	24	4.9	11,111
29-Sep-93	VEW1/VEW2/VEW3/CR1/C5	9,000	42.9	146	0.08	0.10	24	2.3	11,114
03-Nov-93	n VEW1/VEW2/VEW3/CR1/C5	9,840	41.3	204	0.11	0.10	840	84.0	11,198
17-Nov-93	VEW1/VEW2/VEW3/CR1/C5	10,176	34.4	140	0.06	0.10	336	33.6	11,231
01-Dec-93	o VEW1/VEW2/VEW3/CR1/C5	10,512	31.0	90	0.04	0.10	336	33.6	11,265
22-Dec-93	p VEW1/VEW2/VEW3/CR1/C5	11,016	34.4	38	0.02	0.03	504	15.1	11,280
12-Jan-94	VEW1/VEW2/VEW3/CR1/C5	11,520	31.1	960	0.40	0.21	504	105.0	11,385
26-Jan-94	q VEW1/VEW2/VEW3/CR1/C5	11,856	NM	NM	---	---	---	---	11,385
08-Feb-94	VEW1/VEW2/VEW3/CR1/C5	12,168	42.3	6,800	3.85	2.12	2	4.2	11,389
22-Feb-94	o VEW1/VEW2/VEW3/CR1/C5	12,504	18.3	271	0.07	1.96	336	657.1	12,046
30-Mar-94	r VEW1/VEW3/CR1/C5	13,368	27.2	2,200	0.80	0.43	864	374.2	12,420

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

Notes:

a = Date of site visit.

b = Well or wells contributing to the total well gas flow rate.

c = Total hours of engine operation equals engine hours on computer printout minus 3050 hours for internal combustion engine.

For GAC, total hours is the number of hours the system has been running including both ICE and GAC operation.

d = Calculated by using a differential pressure reading from the field.

e = Measured by flame ionization detector (FID). If no FID reading was taken, concentrations are assumed to be equal to the most recent reading.

f = 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 ft³

g = Interval average TPH-G pounds removed is the average of the previous and current removal rate.

h = The number of hours the system was operating between the previous and current readings.

i = The interval average TPH-G times the interval hours of operation.

j = The previous cumulative total pounds TPH-G removed plus the current interval pounds of TPH-G removed.

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

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

n = System restarted.

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

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

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

r = System Restart. Carbon in first vessel changed by Westates. VEW2 shut off to increase influent concentrations.

scfm = Standard cubic feet per minute.

ppmv = Parts per million by volume.

TPH-G = Total petroleum hydrocarbons as gasoline.

NM = Not Measured