

10383



We're gaining new ground.

October 16, 1998

Phil Briggs
Chevron Products Company
6001 Bollinger Canyon Road
Bldg. L, Room 1110
P.O. Box 5004
San Ramon, CA 94583-0804

Subject: August-September Operations Report
Former Chevron 9-0260
21995 Foothill Boulevard, Hayward

Dear Phil:

Terra Vac is pleased to submit the August to September Operations Report for the former Chevron Station located at 21995 Foothill Boulevard, Hayward. The enclosed report includes operating data, duration, rates of hydrocarbon removal and cumulative pounds removed to date.

If you have any questions, please do not hesitate to call me at (925) 363-7322.

Sincerely,


Robert A. Dahl
Project Manager

cc: 30-0236.20

**AUGUST-SEPTEMBER 1998 OPERATIONS REPORT
FORMER CHEVRON STATION 9-0260
21995 FOOTHILL BOULEVARD
HAYWARD, CALIFORNIA**

1.0 Background

At the request of Chevron Products Company, Terra Vac is operating a soil and groundwater remediation system at the subject site (Figure 1). Existing monitoring wells have been incorporated into the Dual Vacuum Extraction system design in addition to the installation of fifteen DVE wells. The purpose of this report is to provide data on system operation for the months of August through September, 1998.

2.0 Operations

Initial soil vapor extraction operations began on October 13, 1996. Data collected for operations conducted from startup through October 1 of 1998 are shown in Table 1.

Due to the high water table in the wake of the El Nino effect of the winter, the system was not operated from May to mid-July. The system was restarted when the water level had decreased such that no well screen intervals were submerged and saturated soils were began at greater than 11 feet deep. After starting again on July 16, 1998, hydrocarbon removal rates continued to increase, reflecting both the effect of system operations and continued seasonal drop of the water table. Extraction rates climbed to a peak of 215 pounds per day on August 27. As of October 1, 1998, the dual vapor extraction system was removing hydrocarbons from the subsurface at a rate of 107 pounds per day, and has accounted for the removal of a total of approximately 26,600 pounds of hydrocarbons. Chart 1 shows hydrocarbon removal rates and Chart 2 shows the cumulative hydrocarbon mass removal over time.

Table 2 shows extracted inlet vapor stream speciation, utilizing BTEX compounds for general differentiation. The proportion of lighter compounds ($<C_6$, benzene) actually rose between July and August, illustrating how hydrocarbon impacted soils continue to be exposed as the water level falls and further drying is achieved by operations. Generally, flows and concentration indicate 25-30 percent of the hydrocarbon extraction rate is coming from wells in Rex Road.

3.0 Groundwater Treatment

Over this operating period of July to September, over 320,000 gallons of groundwater have been extracted with the DVE system, treated with carbon, polished with alumina and discharged to the sewer. Sampling of the discharge as required by the Ora Loma Sanitary District, has been conducted and the results transmitted.. Appendix A contains laboratory reports for COD, Suspended Solids, pH and TPHg/BTEX, all of which were in compliance. TPHg/BTEX concentrations in the discharge stream remain below detection limits.

4.0 Air Permit Compliance

The following table shows collection dates and results of inlet and exhaust vapor samples. All samples were obtained in tedlar bags and transported to the Terra Vac office to be analyzed by GC-FID. Average destruction efficiency for the abatement unit was 97.8 percent. Average flow was 361 and 375 scfm for August and September respectively. Of the exhaust samples, only the August 24, 1998 sample indicated benzene at 0.002 mg/l, just above detection limits. The resulting benzene emission rate was 0.06 pounds per day, far below permit limits of 1.2 pounds per day.

Date	Inlet, TPH mg/l (ppmv)	Exhaust, TPH mg/l	Destruction Efficiency (%)
8/24/98	8.2mg/l(2460 ppm)	0.23mg/l	97.2
9/15/98	3.6mg/l(1080 ppm)	0.06mg/l	98.3

Table 1, Remediation System Operations Data
Former Chevron Service Station 9-0260
21995 Foothill Blvd.
Hayward, California

Date	Mode	run time (days)	bed temp.	delta temp.	flow (scfm)	LEL	#/day	total pounds
13 Oct 97	standby	0.0	1729	0	0	0.0%		0
14 Oct 97	#REF!	1.0	#REF!	#REF!	#REF!	#REF!	144	144
15 Oct 97	run	2.0	1885	145	437	6.4%	134	278
16 Oct 97	run	3.0	1891	136	440	6.4%	128	405
17 Oct 97	run	4.0	1883	192	401	10.5%	160	565
18 Oct 97	run	5.0	1878	210	404	11.6%	172	737
19 Oct 97	run	6.0	1880	205	409	11.2%	171	908
20 Oct 97	run	7.0	1880	193	414	10.6%	164	1,072
21 Oct 97	run	8.0	1880	267	448	14.5%	238	1,310
22 Oct 97	run	9.0	1888	259	460	13.6%	233	1,543
23 Oct 97	run	10.0	1890	227	462	12.1%	208	1,751
24 Oct 97	run	11.0	1889	210	464	11.3%	195	1,946
25 Oct 97	run	12.0	1893	195	460	9.6%	180	2,126
26 Oct 97	run	13.0	1895	185	463	9.3%	174	2,299
27 Oct 97	run	14.0	1896	176	463	9.0%	166	2,465
28 Oct 97	shutdown	14.5	1833	0	0		185	2,558
29 Oct 97	startup	15.4	1873	303	512	15.7%	277	2,801
30 Oct 97	down/up	16.3	1884	212	476	12.3%	237	3,018
31 Oct 97	run	17.3	1885	192	463	11.3%	179	3,197
1 Nov 97	shutdown	17.6	1803	0	0		175	3,255
2 Nov 97	standby	17.6	1739	0	0			3,255
3 Nov 97	standby	17.6	1748	0	0			3,255
4 Nov 97	up/down	17.9	1792	0	0		139	3,295
5 Nov 97	up/down	18.0	1758	0	0			3,323
6 Nov 97	up/down	18.5	1843	0	0		186	3,417
7 Nov 97	up/down	19.0	1847	0	0		218	3,525
8 Nov 97	startup	19.9	1879	184	502	10.4%	179	3,682
9 Nov 97	run	20.9	1890	171	476	9.9%	165	3,847
10 Nov 97	run	21.9	1896	156	472	9.5%	153	4,000
11 Nov 97	run	22.9	1894	156	472	9.9%	153	4,153
12 Nov 97	run	23.9	1894	154	476	9.5%	152	4,305
13 Nov 97	shutdown	24.5	1843	0	0		153	4,394
14 Nov 97	up/down	24.7	1779	0	0			4,414
15 Nov 97	startup	25.4	1863	188	492	11.8%	171	4,543
16 Nov 97	shutdown	26.4	1894	0	0		179	4,714
17 Nov 97	standby	26.4	1731	0	0			4,714
18 Nov 97	startup	27.2	1863	244	502	13.7%	215	4,885
19 Nov 97	run	28.2	1885	157	465	9.2%	149	5,033
20 Nov 97	run	29.2	1893	123	467	8.1%	124	5,157
21 Nov 97	shutdown	29.3	1726	0	0			5,167
22 Nov 97	startup	29.9	1863	135	481	8.2%	118	5,246
23 Nov 97	run	30.9	1883	131	479	8.8%	133	5,379
24 Nov 97	run	31.9	1892	132	481	8.8%	134	5,513
25 Nov 97	run	32.9	1883	307	429	19.7%	253	5,767

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Date	Mode	run time (days)	bed temp.	delta temp.	flow (scfm)	LEL	#/day	total pounds
26 Nov 97	run	33.9	1878	436	396	26.6%	328	6,095
27 Nov 97	run	34.9	1879	452	386	27.1%	331	6,426
28 Nov 97	run	35.9	1878	398	390	23.6%	296	6,722
29 Nov 97	run	36.9	1876	364	391	21.6%	273	6,995
30 Nov 97	run	37.9	1870	345	389	20.6%	260	7,255
1 Dec 97	shutdown	38.6	1860	0	0		226	7,415
2 Dec 97	startup	39.5	1886	55	502	4.2%	95	7,498
3 Dec 97	run	40.5	1883	55	495	5.0%	69	7,568
4 Dec 97	run	41.5	1883	54	488	5.1%	68	7,636
5 Dec 97	shutdown	41.7	1680	0	0			7,647
6 Dec 97	standby	41.7	1740	0	0			7,647
7 Dec 97	standby	41.7	1688	0	0			7,647
8 Dec 97	standby	41.7	1734	0	0			7,647
9 Dec 97	startup	42.4	1863	118	437	9.6%	82	7,705
10 Dec 97	shutdown	42.8	1824	0	0		126	7,758
11 Dec 97	startup	43.5	1853	157	427	12.1%	126	7,842
12 Dec 97	run	44.5	1870	215	444	14.0%	194	8,035
13 Dec 97	run	45.5	1883	259	448	15.7%	228	8,263
14 Dec 97	run	46.5	1884	259	446	15.8%	226	8,490
15 Dec 97	run	47.5	1880	263	448	16.4%	231	8,721
16 Dec 97	run	48.5	1881	253	444	15.7%	220	8,942
17 Dec 97	run	49.5	1881	244	446	15.4%	215	9,157
18 Dec 97	run	50.5	1878	255	450	16.0%	226	9,383
19 Dec 97	run	51.5	1879	259	451	15.9%	230	9,613
20 Dec 97	run	52.5	1881	264	458	15.9%	236	9,849
21 Dec 97	run	53.5	1881	264	459	16.0%	236	10,085
22 Dec 97	run	54.5	1881	258	456	15.8%	230	10,315
23 Dec 97	run	55.5	1878	314	452	19.5%	276	10,591
24 Dec 97	run	56.5	1871	367	443	22.2%	310	10,901
25 Dec 97	run	57.5	1869	363	447	22.2%	309	11,210
26 Dec 97	shutdown	57.9	1831	0	0		310	11,352
27 Dec 97	standby	57.9	1751	0	0			11,352
28 Dec 97	standby	57.9	1727	0	0			11,352
29 Dec 97	standby	57.9	1747	0	0			11,352
30 Dec 97	startup	58.6	1838	308	447	19.9%	221	11,509
31 Dec 97	run	59.6	1854	324	441	20.2%	276	11,784
1 Jan 98	run	60.6	1863	351	448	21.6%	302	12,086
2 Jan 98	run	61.6	1864	359	451	22.3%	309	12,396
3 Jan 98	run	62.6	1863	356	448	22.2%	305	12,701
4 Jan 98	run	63.6	1861	351	449	21.9%	301	13,002
5 Jan 98	run	64.6	1861	339	443	21.2%	288	13,289
6 Jan 98	run	65.6	1861	309	441	19.6%	263	13,552
7 Jan 98	run	66.6	1862	292	438	18.7%	248	13,800

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Date	Mode	run time (days)	bed temp.	delta temp.	flow (scfm)	LEL	#/day	total pounds
8 Jan 98	run	67.6	1863	280	445	18.2%	243	14,043
9 Jan 98	run	68.6	1863	269	441	17.7%	231	14,275
10 Jan 98	run	69.6	1862	264	434	17.7%	226	14,500
11 Jan 98	run	70.6	1860	258	432	17.6%	219	14,720
12 Jan 98	run	71.6	1870	155	471	11.9%	145	14,865
13 Jan 98	run	72.6	1880	75	485	8.2%	86	14,951
14 Jan 98	run	73.6	1870	59	475	7.1%	71	15,022
15 Jan 98	run	74.6	1843	72	369	10.7%	68	15,090
16 Jan 98	run	75.6	1838	94	324	10.8%	75	15,165
17 Jan 98	run	76.6	1834	80	337	10.1%	70	15,234
18 Jan 98	down/up	77.3	1817	80	324	11.3%	66	15,278
19 Jan 98	shutdown	77.9	1801	60	0		56	15,314
20 Jan 98	startup	78.8	1802	35	296	8.0%	44	15,351
21 Jan 98	run	79.8	1809	45	324	8.6%	48	15,399
22 Jan 98	run	80.8	1829	60	337	9.5%	58	15,456
23 Jan 98	run	81.8	1834	67	339	9.6%	62	15,518
24 Jan 98	run	82.8	1834	73	339	10.2%	65	15,584
25 Jan 98	run	83.8	1835	99	339	11.4%	82	15,665
26 Jan 98	down/up	84.6	1834	124	365	11.8%	95	15,745
27 Jan 98	down/up	85.4	1830	124	338	12.1%	98	15,826
28 Jan 98	down/up	86.3	1833	126	339	12.7%	96	15,907
29 Jan 98	run	87.3	1837	122	345	12.7%	96	16,003
30 Jan 98	run	88.3	1845	124	355	12.2%	99	16,102
31 Jan 98	run	89.3	1847	113	348	11.7%	91	16,194
1 Feb 98	run	90.3	1845	110	353	11.7%	90	16,284
2 Feb 98	run	91.3	1843	107	348	11.7%	87	16,371
3 Feb 98	run	92.3	1842	96	334	11.5%	78	16,450
4 Feb 98	shutdown	92.4	1727	0	0			16,461
5 Feb 98	standby	92.4	1689	0	0			16,461
6 Feb 98	up/down	92.5	1679	0	0			16,471
7 Feb 98	startup	93.3	1683	19	311	7.3%	43	16,503
8 Feb 98	run	94.3	1708	17	324	7.2%	27	16,531
9 Feb 98	run	95.3	1708	20	332	7.2%	36	16,567
10 Feb 98	run	96.3	1709	22	343	7.0%	24	16,592
11 Feb 98	shutdown	96.4	1744	0	0			16,596
12 Feb 98	standby	96.4	1738	0	0			16,596
13 Feb 98	standby	96.4	1679	0	0			16,596
14 Feb 98	startup	97.2	1739	8	296	6.7%	34	16,621
15 Feb 98	run	98.2	1709	11	299	6.8%	27	16,648
16 Feb 98	run	99.2	1708	11	299	6.8%	18	16,666
17 Feb 98	run	100.2	1709	10	298	6.8%	23	16,689

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Date	Mode	run time (days)	bed temp.	delta temp.	flow (scfm)	LEL	#/day	total pounds
18 Feb 98	run	101.2	1707	11	300	7.2%	22	16,711
19 Feb 98	down/up	102.1	1733	25	324	9.3%	30	16,739
20 Feb 98	down/up	103.0	1775	28	339	8.5%	37	16,773
21 Feb 98	run	104.0	1782	28	324	9.2%	38	16,811
22 Feb 98	run	105.0	1788	29	323	9.2%	38	16,849
23 Feb 98	run	106.0	1783	28	316	9.2%	37	16,887
24 Feb 98	down/up	106.8	1759	39	333	9.5%	41	16,919
25 Feb 98	down/up	107.5	1751	35	329	10.0%	42	16,947
26 Feb 98	down/up	108.0	1750	38	324	9.4%	41	16,966
27 Feb 98	shutdown	108.3	1719	0	0		39	16,980
28 Feb 98	standby	108.3	1743	0	0			16,980
1 Mar 98	standby	108.3	1679	0	0			16,980
2 Mar 98	standby	108.3	1702	0	0			16,980
3 Mar 98	standby	108.3	1729	0	0			16,980
4 Mar 98	startup	109.0	1697	14	287	1.6%	18	16,993
5 Mar 98	run	110.0	1706	11	293	1.7%	9	17,003
6 Mar 98	run	111.0	1707	12	299	2.1%	14	17,017
7 Mar 98	run	112.0	1703	12	300	2.1%	14	17,031
8 Mar 98	run	113.0	1699	14	300	2.3%	10	17,041
9 Mar 98	run	114.0	1697	15	303	2.5%	4	17,044
10 Mar 98	run	115.0	1688	14	300	2.5%	7	17,051
11 Mar 98	run	116.0	1702	14	299	2.7%	3	17,054
12 Mar 98	run	117.0	1697	14	295	2.9%	3	17,057
13 Mar 98	run	118.0	1697	16	299	3.2%	5	17,063
14 Mar 98	run	119.0	1697	13	297	2.7%	4	17,067
15 Mar 98	run	120.0	1705	12	291	2.7%	4	17,071
16 Mar 98	run	121.0	1703	11	292	2.8%	3	17,074
17 Mar 98	run	122.0	1706	12	289	2.8%	7	17,081
18 Mar 98	shutdown	122.8	1711	0	0		4	17,084
19 Mar 98	standby	122.8	1732	0	0			17,084
20 Mar 98	standby	122.8	1720	0	0			17,084
21 Mar 98	standby	122.8	1683	0	0			17,084
22 Mar 98	standby	122.8	1704	0	0			17,084
23 Mar 98	standby	122.8	1730	0	0			17,084
15 Apr 98	startup	123.7	1686	0	273	2.6%	4	17,088
16 Apr 98	run	124.7	1708	1	264	2.5%	0	17,088
17 Apr 98	run	125.7	1703	0	262	2.9%	-4	17,084
18 Apr 98	run	126.7	1707	0	261	2.9%	0	17,084
19 Apr 98	run	127.7	1707	1	261	3.3%	-3	17,080
20 Apr 98	run	128.7	1706	1	260	3.5%	-1	17,079
21 Apr 98	run	129.7	1704	1	260	3.2%	6	17,085
22 Apr 98	shutdown	130.1	1703	0	0		14	17,091
23 Apr 98	standby	130.1	1741	0	0			17,091

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Date	Mode	run time (days)	bed temp.	delta temp.	flow (scfm)	LEL	#/day	total pounds
24 Apr 98	standby	130.1	1744	0	0			17,091
25 Apr 98	standby	130.1	1701	0	0			17,091
26 Apr 98	standby	130.1	1688	0	0			17,091
27 Apr 98	standby	130.1	1701	0	0			17,091
28 Apr 98	standby	130.1	1722	0	0			17,091
29 Apr 98	startup	130.4	1736	23	301	4.2%	36	17,101
30 Apr 98	down/up	131.3	1707	18	296	4.8%	9	17,110
16 Jul 98	down/up	132.3	1767	28	313	8.5%	31	17,138
17 Jul 98	run	133.3	1778	31	302	8.4%	33	17,172
18 Jul 98	run	134.3	1811	52	310	9.4%	44	17,216
19 Jul 98	run	135.3	1827	74	311	10.4%	55	17,270
20 Jul 98	shutdown	136.1	1827	0	0		65	17,324
21 Jul 98	startup	136.4	1775	62	320	6.7%	59	17,344
22 Jul 98	shutdown	137.2	1831	96	0		61	17,392
23 Jul 98	startup	138.2	1835	110	339	12.6%	72	17,461
24 Jul 98	down/up	139.1	1836	125	330	13.2%	80	17,534
25 Jul 98	run	140.1	1838	120	327	12.7%	79	17,613
26 Jul 98	down/up	141.0	1834	121	312	13.5%	79	17,689
27 Jul 98	down/up	141.9	1828	121	339	12.7%	82	17,757
28 Jul 98	run	142.9	1838	119	339	12.2%	81	17,838
29 Jul 98	run	143.9	1845	111	347	11.9%	66	17,904
30 Jul 98	run	144.9	1846	112	347	12.3%	79	17,982
31 Jul 98	down/up	145.8	1841	159	348	14.0%	99	18,078
1 Aug 98	run	146.8	1843	157	349	14.0%	109	18,186
2 Aug 98	run	147.8	1842	156	346	13.7%	107	18,293
3 Aug 98	run	148.8	1842	153	345	13.6%	105	18,398
4 Aug 98	run	149.8	1842	151	350	13.4%	106	18,504
5 Aug 98	run	150.8	1848	139	376	13.3%	104	18,608
6 Aug 98	run	151.8	1848	145	382	14.0%	110	18,718
7 Aug 98	run	152.8	1849	149	390	14.1%	113	18,831
8 Aug 98	run	153.8	1853	134	401	13.5%	107	18,938
9 Aug 98	run	154.8	1856	131	407	13.2%	106	19,045
10 Aug 98	run	155.8	1852	141	387	13.8%	108	19,153
11 Aug 98	run	156.8	1842	177	378	15.3%	128	19,281
12 Aug 98	run	157.8	1841	197	374	16.2%	140	19,421
13 Aug 98	run	158.8	1842	204	389	16.8%	148	19,569
14 Aug 98	run	159.8	1846	193	398	16.6%	144	19,713
15 Aug 98	run	160.8	1848	188	398	16.3%	141	19,854
16 Aug 98	run	161.8	1848	189	399	16.4%	143	19,997
17 Aug 98	down/up	162.3	1789	236	339	20.7%	132	20,057
18 Aug 98	run	163.3	1811	266	339	22.0%	183	20,240

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Date	Mode	run time (days)	bed temp.	delta temp.	flow (scfm)	LEL	#/day	total pounds
19 Aug 98	shutdown	164.1	1830	0	0		204	20,401
20 Aug 98	startup	164.4	1788	137	446	15.7%	114	20,435
21 Aug 98	down/up	165.0	1787	254	321	21.4%	135	20,513
22 Aug 98	down/up	165.9	1818	306	339	24.4%	183	20,689
23 Aug 98	down/up	166.9	1827	343	330	27.0%	212	20,892
24 Aug 98	down/up	167.8	1831	346	321	27.8%	216	21,099
25 Aug 98	run	168.8	1834	340	325	27.1%	218	21,317
26 Aug 98	run	169.8	1832	335	325	26.4%	215	21,532
27 Aug 98	run	170.8	1831	331	329	26.1%	215	21,747
28 Aug 98	run	171.8	1829	328	328	25.9%	212	21,959
29 Aug 98	run	172.8	1828	323	328	25.7%	209	22,168
30 Aug 98	run	173.8	1826	315	332	25.4%	208	22,376
31 Aug 98	run	174.8	1826	308	331	24.9%	203	22,579
1 Sep 98	run	175.8	1824	299	330	24.5%	197	22,775
2 Sep 98	run	176.8	1824	297	331	24.5%	196	22,972
3 Sep 98	run	177.8	1824	306	326	25.2%	199	23,170
4 Sep 98	run	178.8	1824	303	324	25.3%	196	23,366
5 Sep 98	run	179.8	1823	290	325	24.6%	189	23,555
6 Sep 98	run	180.8	1824	270	327	23.5%	178	23,733
7 Sep 98	run	181.8	1825	255	321	22.8%	166	23,900
8 Sep 98	run	182.8	1826	240	328	22.9%	161	24,061
9 Sep 98	run	183.8	1830	220	344	22.1%	156	24,216
10 Sep 98	run	184.8	1835	207	353	20.9%	151	24,367
11 Sep 98	run	185.8	1836	197	354	20.4%	148	24,516
12 Sep 98	run	186.8	1836	189	353	20.0%	140	24,655
13 Sep 98	run	187.8	1835	187	357	20.0%	140	24,795
14 Sep 98	run	188.8	1836	184	357	20.3%	138	24,933
15 Sep 98	run	189.8	1836	181	361	20.4%	138	25,071
16 Sep 98	run	190.8	1836	176	365	20.1%	136	25,207
17 Sep 98	run	191.8	1836	168	384	19.4%	136	25,343
18 Sep 98	run	192.8	1864	98	471	15.9%	103	25,446
19 Sep 98	run	193.8	1873	85	467	15.4%	96	25,542
20 Sep 98	run	194.8	1870	75	472	15.2%	84	25,626
21 Sep 98	run	195.8	1865	68	473	14.8%	82	25,708
22 Sep 98	run	196.8	1859	63	474	14.5%	77	25,785
23 Sep 98	run	197.8	1855	59	472	14.6%	74	25,859
24 Sep 98	run	198.8	1844	61	407	16.0%	65	25,924
25 Sep 98	run	199.8	1835	99	354	17.7%	84	26,008
26 Sep 98	run	200.8	1839	107	361	17.9%	90	26,098
27 Sep 98	run	201.8	1840	115	366	18.6%	96	26,195
28 Sep 98	run	202.8	1840	120	366	18.7%	100	26,294

Table 1, Remediation System Operations Data
 Former Chevron Service Station 9-0260
 21995 Foothill Blvd.
 Hayward, California

Date	Mode	run time (days)	bed temp.	delta temp.	flow (scfm)	LEL	#/day	total pounds
29 Sep 98	run	203.8	1840	123	365	18.9%	101	26,395
30 Sep 98	run	204.8	1841	126	373	19.2%	105	26,501
1 Oct 98	run	205.8	1841	129	373	19.4%	107	26,608

Table 2
Extracted Vapor Speciation

Inlet sample date	11/18/97	12/22/97	1/14/98	7/31/98	8/26/98
Benzene and Lighter	53.1%	42.9%	31%	29.8%	45.4%
Benzene to Toluene	34.8%	41.1%	26.2%	26.8%	29.1%
Toluene to Xylenes	9.1%	11.1%	26.9%	30.7%	19.1%
Heavier than Xylenes	3%	4.9%	9.5%	12.7%	6.4%

Chart 1, Mass Removal Rate

Chevron 0260
21995 Foothill Boulevard
Hayward

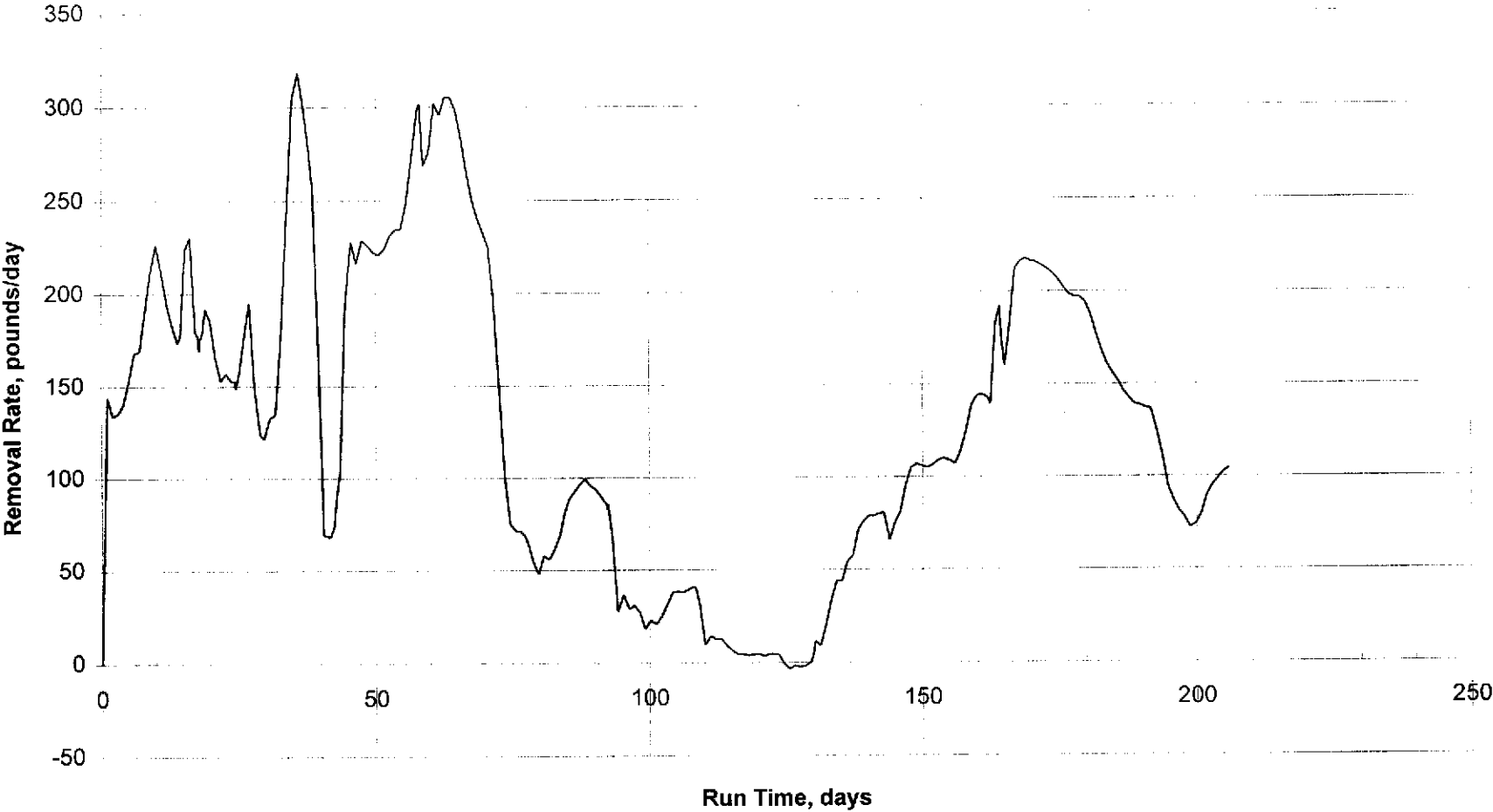
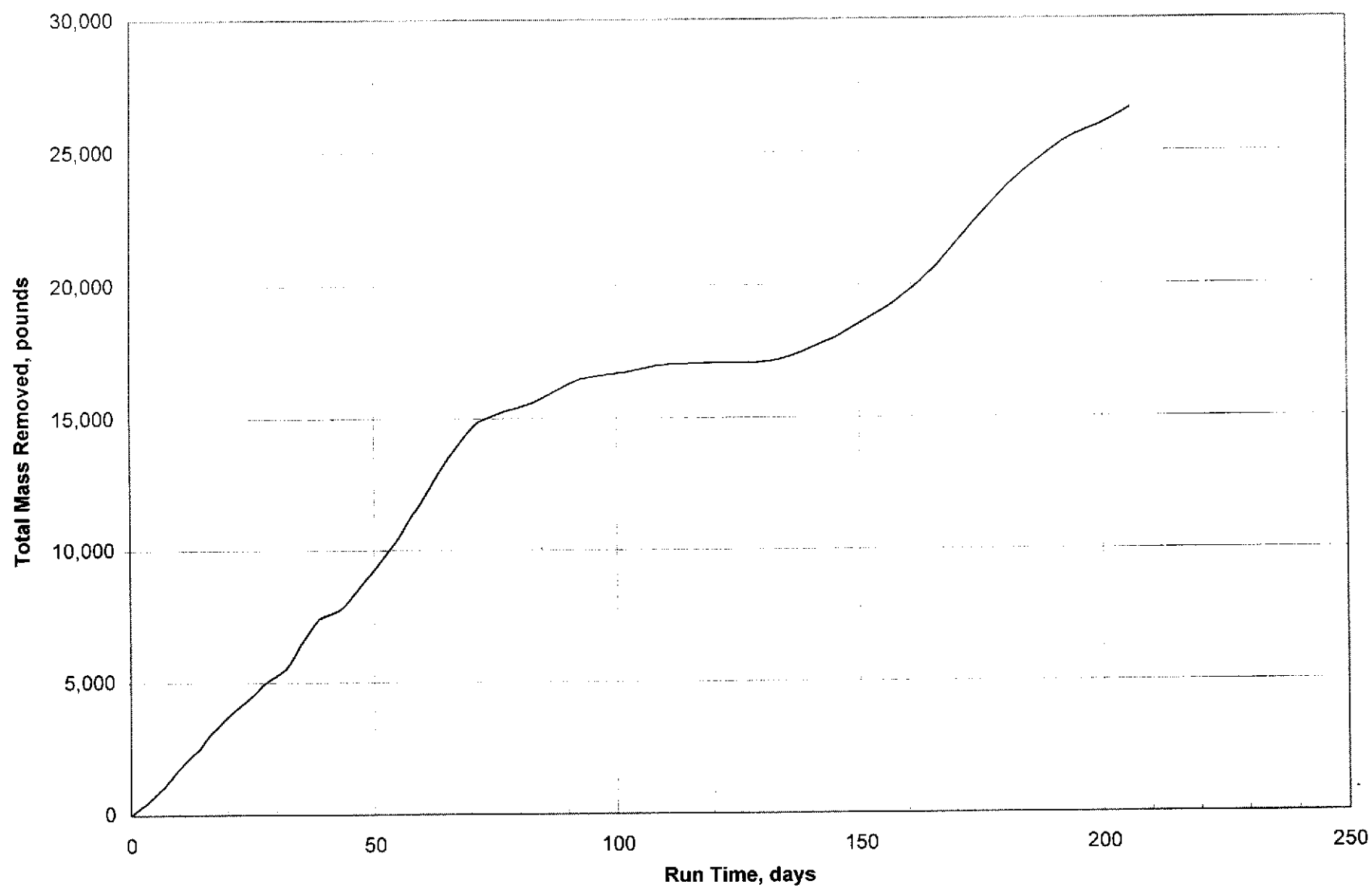


Chart 2, Cumulative Mass Removed

Chevron 0260
21995 Foothill Boulevard
Hayward





VAC

~~1651 Alvarado Street, San Leandro, CA 94577-2636~~
Tel (510) 351-8900 □ Fax (510) 351-0221

October 7, 1998

Attn: Ms. Susan Keach
Ora Loma Sanitary District
2600 Grant Avenue
San Lorenzo, CA 94580
FAX 510-276-1528

RE: September 1998 Discharge flows, Permit 90-025-91
21995 Foothill Boulevard, Hayward

Dear Ms. Keach:

Please find attached a table showing total discharge flows at the above site. The system was operated throughout September.

Monthly samples were collected for TPHg/ BTEX, COD, SS and pH from the effluent discharge on September 15, 1998. The laboratory reports follow, indicating no detectable TPHg/BTEX in the discharge, COD of 170 mg/L, and non-detectable TSS. The pH was measured in the field at 7.25.

Terra Vac has moved, please note our new address :
5075 Commercial Circle, Suite A
Concord, CA 94520

If you have any questions, please call me at (925) 363-7322.

Sincerely,
Terra Vac

Robert A. Dahl
Project Manager

cc: Phil Briggs, Chevron
file 30-0236.16.03

Table 1
Sewer Discharge Flows
Permit 90-025-91
Chevron Corporation
21995 Foothill Boulevard
Hayward, CA

Date	Totalizer Rdg.	Gallons discharged/month	Total gallons discharged
November 5, 1997	1,070,524	0	0
December 1, 1997	1,084,405	13,881	13,881
December 29, 1997	1,139,690	55,285	69,166
January 29, 1998	1,313,330	173,640	242,806
March 3, 1998	1,549,400	236,070	478,876
April 14, 1998	1,647,667	98,267	577,143
May 1, 1998	1,691,330	43,663	620,806
July 16, 1998	1,692,341		621,817
July 31, 1998	1,760,576	68,235	690,052
August 24, 1998	1,872,757	112,181	802,233
October 2, 1998	2,017,362	144,605	946,838



**Sequoia
Analytical**

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FAX (707) 792-0342

Terra Vac
5075 Commercial Circle, Unit A
Concord, CA 94520

Client Proj. ID: Chevron 9-0260

Lab Proj. ID: 9809A28

Attention: Tory Dahl

Sampled: 09/15/98

Received: 09/16/98

Analyzed: see below

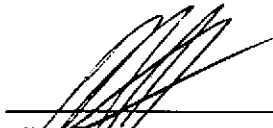
Reported: 09/29/98

LABORATORY ANALYSIS

Analyte	Units	Date Analyzed	Detection Limit	Sample Results
Lab No: 9809A28-01				
Sample Desc: LIQUID, EFF				
Chemical Oxygen Demand	mg/L	09/18/98	20	170
Total Suspended Solids	mg/L	09/22/98	1.0	N.D.

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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Terra Vac
5075 Commercial Circle, Unit A
Concord, CA 94520

Client Proj. ID: Chevron 9-0260
Sample Descript: EFF
Matrix: LIQUID
Analysis Method: 8015Mod/8020
Lab Number: 9809A28-01

Sampled: 09/15/98
Received: 09/16/98
Analyzed: 09/21/98
Reported: 09/29/98

Attention: Tory Dahl

QC Batch Number: GC092198802005A

Instrument ID: HP5

Total Purgeable Petroleum Hydrocarbons (TPPH) with BTEX

Analyte	Detection Limit ug/L	Sample Results ug/L
TPPH as Gas	50	N.D.
Benzene	0.50	N.D.
Toluene	0.50	N.D.
Ethyl Benzene	0.50	N.D.
Xylenes (Total)	0.50	N.D.
Chromatogram Pattern:		
Surrogates	Control Limits %	% Recovery
Trifluorotoluene	70 130	104

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

SEQUOIA ANALYTICAL - ELAP #1271


Mike Gregory
Project Manager

Page:

2



**Sequoia
Analytical**

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Terra Vac
5075 Commercial Circle, Unit A
Concord, CA 94520
Attention: Tory Dahl

Client Proj. ID: Chevron 9-0260

Received: 09/16/98

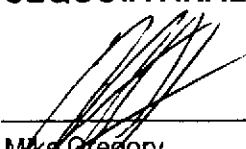
Lab Proj. ID: 9809A28

Reported: 09/29/98

LABORATORY NARRATIVE

In order to properly interpret this report, it must be reproduced in its entirety. This report contains a total of 7 pages including the laboratory narrative, sample results, quality control, and related documents as required (cover page, COC, raw data, etc.).

SEQUOIA ANALYTICAL


Mike Gregory
Project Manager



Sequoia Analytical

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Terra Vac
5075 Commercial Circle, Unit A
Concord, CA 94520
Attention: Tony Dahl

Client Project ID: Chevron 9-0260

QC Sample Group: 9809A28-01

Reported: Sep 29, 1998

QUALITY CONTROL DATA REPORT

Matrix: Liquid
Method: EPA 410.4
Analyst: L. DeCardenas

ANALYTE Chemical Oxygen Demand

QC Batch #: IN091898410400A

Sample No.: 9809A08-02
Date Prepared: 9/18/98
Date Analyzed: 9/18/98
Instrument I.D.#: Manual

Sample Conc., mg/L: N.D.
Conc. Spiked, mg/L: 100

Matrix Spike, mg/L: 94
% Recovery: 94

Matrix
Spike Duplicate, mg/L: 110
% Recovery: 110

Relative % Difference: 16

RPD Control Limits: 0-20

LCS Batch#: LCS091898A

Date Prepared: 9/18/98
Date Analyzed: 9/18/98
Instrument I.D.#: Manual

Conc. Spiked, mg/L: 100

LCS Recovery, mg/L: 110
LCS % Recovery: 110

Percent Recovery Control Limits:

MS/MSD	75-125
LCS	80-120

Quality Assurance Statement: All standard operating procedures and quality control requirements have been met.

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.



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Terra Vac
5075 Commercial Circle, Unit A
Concord, CA 94520
Attention: Tony Dahl

Client Project ID: Chevron 9-0260

QC Sample Group: 9809A28-01

Reported: Sep 29, 1998

QUALITY CONTROL DATA REPORT

Matrix: Liquid
Method: EPA 160.2
Analyst: RDave

ANALYTE Total Suspended Solids

QC Batch #: IN092298160200A

Sample No.: 9809A28-01F
Date Prepared: 9/22/98
Date Analyzed: 9/23/98
Instrument I.D.#: Manual

Sample
Concentration, mg/L: < 1.0

Duplicate
Concentration, mg/L: < 1.0

Relative % Difference: N/A

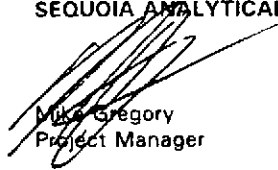
RPD Control Limits: 0-20

Percent Recovery Control Limits:

LCS 80-120

Quality Assurance Statement: All standard operating procedures and quality control requirements have been met.

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.



**Sequoia
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Terra Vac
5075 Commercial Circle, Unit A
Concord, CA 94520
Attention: Tony Dahl

Client Project ID: **Chevron 9-0260**
Matrix: **Liquid**

Work Order #: **9809A28 -01**

Reported: **Sep 29, 1998**

QUALITY CONTROL DATA REPORT

Analyte:	Benzene	Toluene	Ethyl Benzene	Xylenes	BTEX as TPH
QC Batch#:	GC092198802006A	GC092198802006A	GC092198802006A	GC092198802006A	GC092198802006A
Analy. Method:	EPA 8020	EPA 8020	EPA 8020	EPA 8020	EPA 8015M
Prep. Method:	EPA 5030	EPA 5030	EPA 5030	EPA 5030	EPA 5030

Analyst:	D. Newcomb	D. Newcomb	D. Newcomb	D. Newcomb	D. Newcomb
MS/MSD #:	8091562	8091562	8091562	8091562	8091562
Sample Conc.:	N.D.	N.D.	N.D.	N.D.	N.D.
Prepared Date:	9/21/98	9/21/98	9/21/98	9/21/98	9/21/98
Analyzed Date:	9/21/98	9/21/98	9/21/98	9/21/98	9/21/98
Instrument I.D.#:	HP5	HP5	HP5	HP5	HP5
Conc. Spiked:	20 µg/L	20 µg/L	20 µg/L	60 µg/L	270 µg/L
Result:	18	19	19	59	220
MS % Recovery:	90	95	95	98	81
Dup. Result:	20	21	21	63	200
MSD % Recov.:	100	105	105	105	74
RPD:	10.5	10	10	6.6	9.5
RPD Limit:	0-20	0-20	0-20	0-20	0-50

LCS #:	LCS092198	LCS092198	LCS092198	LCS092198	LCS092198
Prepared Date:	9/21/98	9/21/98	9/21/98	9/21/98	9/21/98
Analyzed Date:	9/21/98	9/21/98	9/21/98	9/21/98	9/21/98
Instrument I.D.#:	HP5	HP5	HP5	HP5	HP5
Conc. Spiked:	20 µg/L	20 µg/L	20 µg/L	60 µg/L	270 µg/L
LCS Result:	18	19	18	57	240
LCS % Recov.:	90	95	90	95	89

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

SEQUOIA ANALYTICAL
Elap #1271

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

9809A28.TTT <1>

Chevron Facility Number 9-0260
Facility Address 21995 Foothill Blvd
Consultant Project Number 30-0236
Consultant Name Terra Vac
Address 1651 Alvarado St.
Project Contact (Name) Tommy Nath
(Phone) 510 351 8900 (Fax Number) 510 351 8221

Chevron Contact (Name) _____
(Phone) 925 842 9136
Laboratory Name Segvoid
Laboratory Release Number 9706 E 64
Samples Collected by (Name) Mike Lynch
Collection Date 9/15/90
Signature Mike Lynch

[illegible]

Relinquished By (Signature) 	Organization Terra Vac	Date/Time 7/16 0910	Received By (Signature) 	Organization SEQUA	Date/Time 7.16.98 2:10 PM	Turn Around Time (Circle Choice) 24 Hrs. 48 Hrs. 5 Days 10 Days <u>As Contracted</u>
Relinquished By (Signature) 	Organization SEQUA	Date/Time 7.16.98 1315	Received By (Signature) _____	Organization	Date/Time	
Relinquished By (Signature) _____	Organization	Date/Time	Received For Laboratory By (Signature) 	Date/Time 7/16/98 1315		