

ENVIRONMENTAL
PROTECTION

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June 21, 1996
SCI 820.001

Ms. Susan Hugo
Alameda County Health Care Services Agency
Department of Environmental Health
1131 Harbor Bay Parkway
Alameda, California 94501

**Groundwater Monitoring - May 1996 Event
Request For "No Further Action"
6767 Bay Street
Emeryville, California**

Dear Ms. Hugo:

This letter transmits the results of the fourth additional groundwater monitoring event performed by Subsurface Consultants, Inc. (SCI) at the referenced site in May 1996. The events were performed at the request of the Alameda County Health Care Services Agency (ACHCSA) and Regional Water Quality Control Board (RWQCB) to provide additional data which would be used by the agencies to consider a "No Further Action" status for the site.

BACKGROUND

Three underground tanks which previously stored methyl isobutyl ketone and possibly methyl ethyl ketone were removed from the site in October 1989 by others. Studies conducted following tank removal indicated that soil and groundwater adjacent to the previous tanks had been impacted by past organic chemical releases. Soil vapor extraction and groundwater treatment systems were subsequently installed in 1990 to remediate contaminated soil and groundwater. The treatment systems were in operation until early 1991. Since 1991, no additional remediation has been performed.

SCI implemented groundwater monitoring on a quarterly basis from May 1993 to August 1994. The monitoring data indicated that the plume was not migrating nor changing significantly. On September 23, 1994, site findings were discussed with the ACHCSA and RWQCB in light of the RWQCB's proposed guidelines regarding alternative compliance points. SCI submitted a Work Plan and Revised Request for "No Further Action" Alternative Compliance Points Monitoring Program dated October 18, 1994 (the "Work Plan") to the ACHCSA for its review. The Work Plan indicated that the site was

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appropriate for consideration under the RWQCB's guidelines. The Work Plan outlined two action steps which would be undertaken to contain and manage any remaining risks posed by residual groundwater contamination. The action steps were as follows:

1. Filing a "special notice" regarding the presence of soil and groundwater contamination at the site and containing an acknowledgment of the residual contamination by the current owner (Nady Systems, Inc.), and
2. Performing 2 additional quarterly groundwater monitoring events, followed by 2 semi-annual events.

The Work Plan further requested that if the results of monitoring indicated that chemicals of concern were non-detectable in well MW-1 and that concentrations either decreased or remained relatively stable in wells MW-9 and MW-10, then the site would be deemed by the RWQCB and the ACHCSA to require "No Further Action".

Based on ACHCSA comments presented in a letter dated December 30, 1994, an Addendum No. 1 to the Work Plan, dated January 17, 1995 was submitted by SCI ("Addendum No. 1") to the ACHCSA for its review. Addendum No. 1 provided additional detail to the Work Plan, as requested by ACHCSA, including a provision that groundwater sampling at the site should be coordinated at the adjacent site located at 1650-65th Street. The submission of the Addendum No. 1 satisfied all conditions specified by the ACHCSA for approval of the Work Plan.

SCI has performed the required additional monitoring events. The events were performed during the months of February, May and November 1995, concluding with the current event which was performed in May 1996.

RESULTS OF MAY 1996 SAMPLING

Groundwater Level Measurements

Prior to sampling, water levels were measured in on-site monitoring wells MW-1, MW-3, MW-5, MW-8, MW-9, and MW-10 using an electric well sounder. Water levels were also measured by SCI in wells PES-2 through PES-8 on an adjacent property. Monitoring well locations are shown on the attached Site Plan, Plate 1. Groundwater was not present in monitoring well MW-7 during this event. The groundwater level measurements for the site are presented in Table 1. Groundwater surface contours for this event are presented on Plate 1.

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Sampling and Analysis

For this event, on-site monitoring wells MW-1, MW-8, MW-9 and MW-10 were sampled. The wells were purged with a clean disposable bailer until measurements of water pH, conductivity and temperature stabilized. A minimum of 3 well volumes were removed from each well. The purged water was placed in 55 gallon drums and left on-site.

After the wells had recharged to within 80 percent of their initial volume, they were sampled using a pre-cleaned sampling device. The water samples were retained in pre-cleaned containers, placed in an iced cooler, and kept refrigerated until delivery to the analytical laboratory. Chain-of-Custody documents accompanied the samples to the laboratory.

Analytical testing was performed by Curtis & Tompkins, Ltd., a California Department of Health Services certified analytical laboratory for the tests performed. The samples were analytically tested for the following:

1. Volatile organic compounds (VOC) - EPA 8240,
2. Total volatile hydrocarbons (TVH) - EPA 8015/5030, and
3. Total extractable hydrocarbons (TEH) - EPA 8015/3550.

A summary of the current and previous analytical test results are presented in Tables 2 and 3. Analytical test reports and Chain-of-Custody documents are attached for the most recent on-site monitoring event.

CONCLUSIONS

The groundwater level data continues to indicate that the general groundwater flow direction is toward the southwest at a gradient of approximately 0.012. Locally, near the former tank area at 6707 Bay Street, the gradient is toward the west. Water levels have fluctuated 1 to 2.5 feet since monitoring began in 1993.

4-methyl-2 pentanone was detected in well MW-8 at a concentration of 15,000 ug/l which is the lowest measured concentration during the last year. 4-methyl-2 pentanone was not detected in the other sampled wells during this event.

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Benzene and chlorobenzene were detected in monitoring well MW-10 during this event. Benzene was detected at a concentration of 7.5 ug/L which is within the range of values detected at the site (6.6 to 31 ug/L). Chlorobenzene was detected at a concentration of 3.5 ug/L, which is below the method detection limit. Chlorobenzene has been detected in well MW-10 previously at similar concentrations. Benzene and chlorobenzene were not detected in the other sampled wells during this event.

Monitoring wells MW-1, MW-8, MW-9, and MW-10 detected the presence of TEH ranging from 1.0 to 5.7 mg/L and TVH ranging from 0.05 to 3.6 mg/l; however, the compounds identified do not exhibit the typical diesel chromatograph standard as they have unknown peaks within the gasoline standard range of the chromatograph.

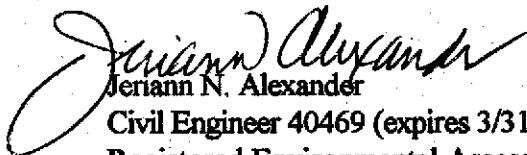
"NO FURTHER ACTION" REQUEST

With the completion of the most recent monitoring event, all measures required under the Work Plan, as amended by Addendum No. 1 have been completed. Based on over 6 years of groundwater monitoring data, it is our opinion that the contaminant plume is stabilized and that contaminant levels at the site are within the guidelines set forth in the approved Work Plan. There is no indication that plume concentrations are increasing nor that the plume is migrating off-site. Hence, in our opinion further mitigation measures are not warranted. On-behalf of MRCP Realty, SCI respectfully requests confirmation that No Further Action is required at the site and that the site may be closed. We appreciate your cooperation in this matter and look forward for your prompt review and comment.

If you have any questions, please call.

Yours very truly,

Subsurface Consultants, Inc.


Jeriann N. Alexander

Civil Engineer 40469 (expires 3/31/99)
Registered Environmental Assessor 03130 (exp. 6/30/96)



R. William Rudolph
Geotechnical Engineer 741 (exp. 12/31/96)
Registered Environmental Assessor 03291 (exp. 6/30/96)

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SCW:JNA:RWR:sld

Attachments: **Table 1 - Groundwater Elevation Data**
Table 2 - Volatile Organic Chemical Concentrations in Groundwater
Table 3 - Petroleum Hydrocarbon Concentrations in Groundwater
Plate 1 - Site Plan
Analytical Test Reports
Chain-of-Custody Records
Groundwater Sampling Forms

cc: Maureen Bennett - Graham & James
James McClay - MRCP Realty

Table 1
Groundwater Elevation Data

Well	Date	TOC Elevation (feet)	Depth to Groundwater (feet)	Groundwater Elevation (feet)	
SCI MW-1	9/7/89	20.61	11.60	9.01	
	5/20/93		10.25	10.36	
	6/4/93		11.45	9.16	
	8/25/93		11.20	9.41	
	11/18/93		11.65	8.96	
	2/25/94		10.04	10.57	
	4/20/94		10.54	10.07	
	4/22/94		10.56	10.05	
	4/26/94		20.39	10.38	10.01
	8/8/94			11.02	9.37
	2/9/95		7.48	12.91	
	5/9/95		8.92	11.47	
	11/13/95		11.25	9.14	
	5/9/96	9.59	10.80		
SCI MW-3	9/7/89	20.09	9.83	10.26	
	5/20/93		8.55	11.54	
	6/4/93		9.36	10.73	
	8/25/93		9.42	10.67	
	11/18/93		10.03	10.06	
	2/25/94		7.29	12.80	
	4/20/94		8.56	11.53	
	4/22/94		8.65	11.44	
	4/26/94		8.21	11.88	
	8/8/94		9.31	10.78	
	2/9/95		7.15	12.94	
	5/9/95		7.90	12.19	
	11/13/95		9.40	10.69	
	5/9/96	8.50	11.59		
SCI MW-5	9/7/89	18.06	10.27	7.79	
	4/22/94		9.26	8.80	
	4/26/94		9.24	8.82	
	8/8/94		9.96	8.10	
	2/9/95		6.68	11.38	
	5/9/95		7.12	10.94	
	11/13/95		9.65	8.41	
	5/9/96	8.08	9.98		
SCI MW-7	6/4/93	20.36	12.67	7.69	
	8/25/93		12.44	7.92	
	11/18/93		13.13	7.23	
	2/25/94		11.80	8.56	
	4/20/94		12.21	8.15	
	4/22/94		12.26	8.10	
	4/26/94		12.21	8.15	
	8/8/94		12.65	7.71	
	2/9/95		10.20	10.16	
	5/9/95		10.55	9.81	
	11/13/95	12.65	7.71		

**Table 1
Groundwater Elevation Data**

Well	Date	TOC Elevation (feet)	Depth to Groundwater (feet)	Groundwater Elevation (feet)
SCI MW-7	5/9/96		Dry	
SCI MW-8	5/20/93	20.72	9.55	11.17
	6/4/93		10.81	9.91
	8/25/93		10.93	9.79
	11/18/93		11.72	9.00
	2/25/94		9.05	11.67
	4/20/94		10.18	10.54
	4/22/94		10.48	10.24
	4/26/94		10.13	10.59
	8/8/94		10.99	9.73
	2/9/95		7.85	12.87
	5/9/95		9.05	11.67
	11/13/95		11.00	9.72
	5/9/96		9.71	11.01
SCI MW-9	4/20/94	20.69	10.26	10.43
	4/22/94		10.31	10.38
	4/26/94		10.26	10.43
	8/8/94		11.24	9.45
	2/9/95		7.55	13.14
	5/9/95		8.88	11.81
	11/13/95		10.46	10.23
	5/9/96		9.60	11.09
SCI MW-10	4/20/94	20.42	10.72	9.70
	4/22/94		10.73	9.69
	4/26/94		10.72	9.70
	8/8/94		11.60	8.82
	2/9/95		7.10	13.32
	5/9/95		8.70	11.72
	11/13/95		11.70	8.72
	5/9/96		9.54	10.88
PES MW-2	2/9/95	15.79	10.64	5.15
	5/9/95		10.60	5.19
	11/13/95		11.18	4.61
	5/9/96		10.78	5.01
PES MW-3	2/9/95	12.43	6.86	5.57
	5/9/95		7.16	5.27
	11/13/95		8.44	3.99
	5/9/96		7.72	4.71
PES MW-4	2/9/95	12.24	8.11	4.13
	5/9/95		7.76	4.48
	11/13/95		7.95	4.29
	5/9/96		7.84	4.60

Table 1
Groundwater Elevation Data

Well	Date	TOC Elevation (feet)	Depth to Groundwater (feet)	Groundwater Elevation (feet)
PES MW-5	2/9/95	12.82	5.68	7.14
	5/9/95		5.36	7.46
	11/13/95		6.89	5.93
	5/9/96		6.00	6.82
PES MW-6	2/9/95	12.03	7.66	4.37
	5/9/95		8.57	3.46
	11/13/95		8.15	3.88
	5/9/96		7.64	4.39
PES MW-7	2/9/95	12.90	7.57	5.33
	5/9/95		5.15	7.75
	11/13/95		5.98	6.92
	5/9/96		6.11	6.79
PES MW-8	2/9/95	15.01	10.23	4.78
	5/9/95		10.48	4.53
	11/13/95		11.02	3.99
	5/9/96		10.50	4.51

7 Reference Elevation: MSL

Table 2
Volatile Organic Chemical Concentrations in Groundwater

Well	Date	4-Methyl-2 Pentanone ($\mu\text{g/l}$) ¹	Vinyl Chloride ($\mu\text{g/l}$)	Acetone ($\mu\text{g/l}$)	2-Butanone ($\mu\text{g/l}$)	4-Methyl-2 Pentanol ($\mu\text{g/l}$)	Benzene ($\mu\text{g/l}$)	Toluene ($\mu\text{g/l}$)	Ethyl benzene ($\mu\text{g/l}$)	Xylene ($\mu\text{g/l}$)	Trans-1,2 Dichloro-ethene ($\mu\text{g/l}$)	Other EPA 8240 Compounds ($\mu\text{g/l}$)
Sump-Well	8/21/89	<20	<4	<20	<20	NR ²	<2	<2	<3	<3	<3	ND ³
MW1	7/6/89	<20	<4	<20	<20	NR	<2	<2	<3	<3	<3	ND
	9/7/89	<20	<4	<20	<20	NR	<2	<2	<3	<3	<3	ND
	1/10/90	NR	<30	NR	NR	NR	<5	<5	<5	<5	<5	ND
	9/5/91	<10	<10	<20	<20	NR	7	8	<5	3	<5	ND
	5/20/93	<10	<10	<20	<10	NR	<5	<5	<5	<5	<5	ND
	8/25/93	<10	<10	<20	<10	NR	<5	<5	<5	<5	<5	ND
	11/18/93	<10	<10	<40	<10	NR	<5	<5	<5	<5	<5	ND
	2/25/94	<10	<10	<10	<10	NR	<5	<5	<5	<5	<5	ND
	8/8/94	<10	<10	<10	<10	NR	<5	<5	<5	<5	<5	ND
	2/9/95	<10	<10	<20	<10	NR	<5	<5	<5	<5	<5	ND
	5/9/95	<10	<10	<20	<10	NR	<5	<5	<5	<5	<5	ND
	11/13/95	<10	<10	<20	<10	NR	<5	<5	<5	<5	<5	ND
5/9/96	<10	<10	<20	<10	NR	<5	<5	<5	<5	<5	ND	
MW3	9/7/89	<20	<4	<20	<20	NR	<2	<2	<3	<3	<3	ND
	1/10/90	NR	<30	NR	NR	NR	<5	<5	<5	<5	<5	ND
	9/5/91	<10	<10	<20	<20	NR	<5	<5	<5	<5	<5	ND
	5/20/93	<10	<10	<20	<10	NR	<5	<5	<5	<5	<5	ND
	8/25/93	<10	<10	<20	<10	NR	<5	<5	<5	<5	<5	ND
	11/18/93	<10	<10	<20	<10	NR	<5	<5	<5	<5	<5	ND
	2/25/94	<10	<10	<20	<10	NR	<5	<5	<5	<5	<5	ND
8/8/94	<10	<10	<20	<10	NR	<5	<5	<5	<5	<5	ND	
MW8	1/10/90	160,000 ⁴	<6,000	NR	NR	NR	2,100	<1,000	<1,000	<1,000	<1,000	ND
	12/10/90	47,000 ⁴	<150	3,200 ⁴	10,000 ⁴	130,000 ⁴	160	<25	<25	<25	<25	ND
	9/5/91	150,000	<10,000	<5,000	<20,000	NR	<10,000	<10,000	<5,000	<5,000	<5,000	ND
	5/20/93	100,000	<5,000	<10,000	<5,000	NR	<3,000	<3,000	<3,000	<3,000	<3,000	ND
	8/25/93	48,000	<3,000	<5,000	<3,000	NR	<1,000	<1000	<1000	<1000	<1000	ND
	11/18/93	840	<50	<100	<50	NR	<25	<25	<25	<25	<25	ND
	2/25/94	14,000	<1,000	<2,000	<1,000	NR	<500	<500	<500	<500	<500	ND
	4/21/94	19,000	<1,000	<2,000	<1,000	NR	<500	<500	<500	<500	<500	ND
	5/11/94	140,000	<5,000	<10,000	<3,000	NR	<3,000	<3,000	<3,000	<3,000	<3,000	ND
	8/8/94	61,000	<1,000	<2,000	<1,000	NR	<500	<500	<500	<500	<500	ND
	2/9/95	62,000	<10	40	78	NR	64	<5	<5	<5	<5	7.9 ⁵ , 10 ⁶
5/9/95	<10	<10	<20	<10	NR	69	<5	<5	<5	<5	11 ⁶	
11/13/95	85,000	<100	<200	<100	NR	63	<50	<50	<50	<50	ND	
5/9/96	15,000	<500	<1000	<500	NR	<250	<250	<250	<250	<250	ND	

Table 2
Volatile Organic Chemical Concentrations in Groundwater

Well	Date	<i>MIBK</i> Hexanone 4-Methyl- 2 Pentanone	Vinyl Chloride ($\mu\text{g/l}$)	Acetone ($\mu\text{g/l}$)	<i>MEK</i> 2-Butanone	4-Methyl- 2 Pentanol ($\mu\text{g/l}$)	Benzene ($\mu\text{g/l}$)	Toluene ($\mu\text{g/l}$)	Ethyl benzene ($\mu\text{g/l}$)	Xylene ($\mu\text{g/l}$)	Trans-1,2 Dichloro- ethene ($\mu\text{g/l}$)	Other EPA 8240 Compounds ($\mu\text{g/l}$)
		($\mu\text{g/l}$) ¹			($\mu\text{g/l}$)							
MW9	4/21/94	120	<10	<20	<10	NR	<5	<5	<5	<5	<5	ND
	8/8/94	<10	<10	<20	<10	NR	<5	<5	<5	<5	<5	ND
	2/9/95	<10	<10	<20	<10	NR	<5	<5	<5	<5	<5	ND
	5/9/95	<10	<10	<20	<10	NR	<5	<5	<5	<5	<5	ND
	11/13/95	<10	<10	<20	<10	NR	<5	<5	<5	<5	<5	ND
	5/9/96	<10	<10	<20	<10	NR	<5	<5	<5	<5	<5	ND
MW10	4/21/94	23	<10	<20	<10	NR	22	<5	<5	<5	<5	ND
	8/8/94	<10	<10	<20	<10	NR	14	<5	<5	<5	<5	ND
	2/9/95	<10	<10	<20	<10	NR	6.6	<5	<5	<5	<5	3.2 ⁶
	5/9/95	<10	<10	<20	<10	NR	12	<5	<5	<5	<5	3.0 ⁶ , 3.0 ⁷
	11/13/95	<10	<10	<20	<10	NR	31	<5	<5	<5	<5	ND
	5/9/96	<10	<10	<10	<10	NR	7.5	<5	<5	<5	<5	3.5 ⁶

- 1 micrograms per liter
- 2 Not reported
- 3 Not detected at concentrations above the reporting limits
- 4 Tentatively identified compound concentrations
- 5 2-Hexanone (reporting limit = 10 $\mu\text{g/l}$)
- 6 Chlorobenzene (Reporting Limit = 5.0 $\mu\text{g/l}$)
- 7 Carbon Disulfide (Reporting Limit = 5.0 $\mu\text{g/l}$)

Table 3
Petroleum Hydrocarbon Concentrations in Groundwater

Date	Well	Total Recoverable Hydrocarbons (mg/l)	Oil and Grease (mg/l)	TEH (mg/l)	TVH (mg/l)
7/6/89	MW-1	--	--	<0.5	<0.5
9/7/89		--	<10	<0.5	<0.5
1/10/90		0.5	--	<10	<10
5/20/93		--	<5	--	--
8/25/93		--	<5	--	--
11/18/93		--	<5	--	--
2/25/94		--	<5	--	--
8/8/94		--	--	<0.05	<0.05
2/9/95		--	--	1.0 ^b	<0.05
5/9/95		--	--	1.2 ^b	0.95 ^a
11/13/95		--	--	<0.05	<0.05
5/9/96	--	--	1 ^b	0.05 ^a	
9/7/89	MW-3	--	<10	<0.5	<0.5
1/10/90		0.6	--	<10	<10
5/20/93		--	<5	--	--
8/25/93		--	<5	--	--
11/18/93		--	<5	--	--
2/25/94		--	<5	--	--
4/21/94		--	<5	0.43	0.06
8/8/94		--	--	<5	1.2
1/10/90	MW-8	103	--	<10	<10
12/10/90		10.5	--	--	--
5/20/94		--	<5	--	--
8/25/93		--	<5	--	--
11/18/93		--	--	14	--
2/25/94		--	<5	--	--
4/21/94		--	<5	2.8	• 5.9
8/8/94		--	<5	3.6	7.2
2/9/95		--	--	2.8 ^b	9.1 ^a
5/9/95		--	--	4.9 ^b	0.95 ^a
11/13/95		--	--	1.9 ^b	16 ^a
5/9/96	--	--	4.9 ^b	3.6 ^a	
4/21/94	MW-9	--	<5	0.68	0.92
8/8/94		--	<5	1.2	0.86
2/9/95		--	--	0.730 ^b	0.400 ^a
5/9/95		--	--	0.900 ^b	0.440 ^a
11/13/95		--	--	0.340 ^b	0.430 ^a
5/9/96	--	--	5.7 ^b	0.2 ^a	
4/21/94	MW-10	--	<5	2.1	0.68
8/8/94		--	<5	4.4	0.61
2/9/95		--	--	1.3 ^b	0.150 ^a
5/9/95		--	--	2.8 ^b	0.280 ^a
11/13/95		--	--	2.2 ^b	0.860 ^a
5/9/96	--	--	3.3 ^b	0.3 ^a	

-- = Test not requested

^a = Sample chromatogram does not resemble gas standard

^b = Sample chromatogram does not resemble diesel standard

^c = Sample exhibits unknown single peak or peaks