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April 1, 1994
719-3A, MV032903

Ms. Juliet Shin
ALAMEDA COUNTY HEALTH CARE SERVICES AGENCY
DEPARTMENT OF ENVIRONMENTAL HEALTH
80 Swan Way, Room 200
Oakland, California 94612

RE: WORK PLAN TO EVALUATE SITE CONDITIONS FOR PACIFIC INTERNATIONAL STEEL SAN LORENZO, CALIFORNIA

Dear Ms. Shin:

Introduction

This work plan has been prepared to continue an on-going ground water quality evaluation at Pacific International Steel located at 16526 Worthley Drive in San Lorenzo, California.

Site Background

Two underground fuel storage tanks (USTs) were removed from the site in 1987. Subsequent environmental investigations have resulted in the excavation of impacted soil, collection and analysis of soil samples, and the installation of several ground water monitoring wells.

In January 1991, a ground water extraction and treatment system was installed at the site. The system is currently extracting ground water from one well (RW-1) at a rate of approximately 0.1 gallon per minute (gpm) and treating the water with activated carbon beds prior to discharge. Laboratory analysis of influent samples collected from the treatment system indicates that petroleum hydrocarbon concentrations have decreased over the past several years, except for a low total petroleum hydrocarbon (TPH) as gasoline concentration (57 parts per billion) detected in August 1993. TPH as gasoline has not been detected in the system influent (well RW-1) during the past seven sampling events. Benzene concentrations have been typically near or below the drinking water standard of 1 part per billion (ppb). In addition, quarterly sampling of ground water from well MW-2, located near the former USTs, has historically detected only low levels of TPH as

gasoline. Benzene, toluene, ethylbenzene, and xylenes (BTEX) concentrations detected in well MW-2 have been below drinking water standards since May 1993. Petroleum hydrocarbons typically have not been detected in the other on-site monitoring wells. A summary of previous sampling results from monitoring well MW-2 and extraction well RW-1 are presented in Table 1.

TABLE 1. Ground Water Sampling Results
(concentrations in ppb)

Well	Date	TPHg	Benzene	Toluene	Ethyl-benzene	Total Xylenes
MW-2	07/14/87	110	1.2	1.9	--	2
	11/24/87	3,600	82	47	--	13
	02/29/88	800	ND	ND	--	ND
	05/25/88	250	ND	ND	--	ND
	08/10/88	260	ND	ND	--	ND
	11/29/88	870	9	ND	1	1
	02/07/89	710	16	ND	ND	ND
	05/12/89	260	2.8	0.76	1.3	3
	08/04/89	360	ND	ND	ND	0.48
	11/14/89	85	ND	3.5	0.36	2.5
	02/22/90	120	ND	ND	1.5	0.55
	05/17/90	240	ND	ND	ND	ND
	08/17/90	130	ND	2.9	1.2	0.68
	11/06/90	170	0.37	1.2	2	1.5
	02/01/91	57	ND	ND	ND	0.73
	05/01/91	220	1.5	0.42	0.43	0.54
	08/08/91	710	4.1	0.84	ND	0.71
	11/15/91	630	2.3	ND	3.1	0.86
	02/12/92	580	5 9	1.2	0.52	ND
	05/21/92	790	26	5.4	ND	ND
	11/13/92	230	ND	ND	ND	ND
	02/24/93	400	17	ND	ND	ND
	05/28/93	110	<0.50	<0.50	<0.50	<0.50
	08/20/93	1,000	<0.50	0.75	1.1	5.4
	11/30/93	590	<0.50	<0.50	3.8	2.3
RW-1	01/16/91	78	17.0	2.7	7.7	1.3
	04/20/91	<30	<0.30	<0.30	<0.30	<0.30
	05/01/91	160	40	0.79	14	6.1
	05/24/91	<30	<0.30	<0.30	<0.30	<0.30
	06/14/91	57	12	<0.30	4.3	0.84
	07/03/91	<30	<0.30	<0.30	<0.30	<0.30
	07/22/91	18	<0.30	2.7	0.4	<0.30
	08/08/91	89	41	0.31	4.6	0.73
	11/15/91	140	41	<0.30	1.3	0.44
	12/18/91	<50	12	<0.50	0.78	<0.50
	02/12/92	260	78	.073	6.6	8.2

continued

TABLE 1. Ground Water Sampling Results
(concentrations in ppb)
(continued)

Well	Date	TPHg	Benzene	Toluene	Ethyl-benzene	Total Xylenes
RW-1	03/06/92	480	81	1.2	21	21
	04/02/92	300	52	1.2	13	15
	05/21/92	57	20	ND	1.7	0.85
	06/30/92	<50	7.7	<0.50	<0.50	<0.50
	07/17/92	79	7.4	<0.50	1.2	1.4
	09/01/92	<50	4.2	<0.50	<0.50	<0.50
	11/13/92	ND	ND	ND	ND	ND
	01/08/93	ND	8	ND	0.78	0.59
	01/29/93	64	22	ND	4.8	3.7
	03/18/93	2,400	330	3.3	51	17
	04/22/93	<50	13	<0.50	1.5	<0.50
	05/28/93	<50	0.76	<0.50	<0.50	<0.50
	08/20/93	57	16	<0.50	0.70	1.92
	09/15/93	<50	1.5	<0.50	<0.50	<0.50
	10/08/93	<50	<0.50	<0.50	0.50	<0.50
	10/26/93	<50	<0.50	<0.50	0.50	<0.50
	12/16/93	<50	0.73	2.6	1.1	<0.50

Scope of Work

We propose to shut down the current ground water extraction system and evaluate ground water quality on a quarterly basis for up to one year.

TASK A: EXTRACTION SYSTEM SHUT-DOWN

As discussed above, the petroleum hydrocarbon concentrations present in the ground water near the former tank area appear to have decreased over the past several years likely due to the combined effects of ground water extraction (0.1 gpm) and natural attenuation. Sampling data collected over the past year indicate that only low to nondetectable concentrations of TPH as gasoline are present in the ground water. In addition, BTEX levels have typically been below drinking water standards.

Because of the low rate of ground water extraction by the treatment system, the minimal reported capture radius, and low levels of petroleum hydrocarbons present in the ground water below the site, the potential benefits of additional ground water extraction are minimal and do not justify further expenditures associated with continued system

operation, in our opinion. Therefore, the extraction system will be shut down.

TASK B: QUARTERLY SAMPLING

To evaluate ground water quality after system shut-down, quarterly monitoring of the two on-site wells located near the former fuel tank area (MW-2 and RW-1) would be performed for a period of up to one year. If no significant changes in ground water quality are observed, we will request that the Alameda County Department of Environmental Health (ACDEH) consider case closure for the site.

Well Sampling

- Prior to sampling, the static water levels will be measured in the wells to evaluate the current ground water gradient at the site. Several well casing volumes of ground water will then be purged using a submersible pump or teflon bailer so that samples collected would be representative. Field water quality tests will consist of measuring the pH, conductivity, and temperature of the ground water after each well volume. After purging a minimum of three well volumes and stabilization of measured parameters is observed, ground water samples will be collected. Each of the two wells will be sampled once per quarter for a period of up to one year using state and Environmental Protection Agency (EPA) approved sampling techniques.

  Purged ground water will be stored on-site in EPA approved drums.

Laboratory Analyses

- Each quarter, one ground water sample from each of the two wells will be analyzed at a Department of Health Services certified analytical laboratory for TPH as gasoline, with additional scans for BTEX (EPA Test Method 8015/8020). These analyses will be performed on a standard two-week laboratory response time.

Sampling Protocol

- All sampling equipment will be thoroughly cleaned with an aqueous solution of tri-sodium phosphate and distilled water or steam cleaned. Ground water samples will be collected in the appropriate bottles, labeled, and placed on ice

for transportation to a state certified laboratory. Chain of custody documentation will be maintained for all samples.

- As part of our sampling program, we will prepare quarterly ground water quality reports presenting the results of our investigation, summarizing the field and laboratory data, and presenting our conclusions and recommendations. Our conclusions and recommendations will be based on available information, observations of existing conditions, and our interpretation of the analytical data. A vicinity map, site plan, and copies of all laboratory reports will be included in each report.

Conclusions, Recommendations, and Report

If you have any questions regarding this work plan, please call.

Very truly yours,

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