

*Memorandum: Analytical Results Exceeding Remediation
Goals or Trigger Levels, First Quarter 2011 (1Q2011),
Hunters Point Shipyard, San Francisco, CA*

May 2011
CEKA-2627-0003-0010

To: Base Realignment and Closure Cleanup Team

From: Hamide Kayaci
Project Manager
Hunters Point Shipyard

Date: May 3, 2011

Subject: Groundwater Analytical Results Exceeding Remediation Goals
or Trigger Levels
First Quarter 2011 (1Q2011)
Hunters Point Shipyard, San Francisco, California

Introduction

This memorandum presents a summary of validated analytical results that exceeded Remediation Goals or Trigger Levels in groundwater samples collected during the First Quarter 2011 (January to March 2011 (1Q2011)) at Hunters Point Shipyard in San Francisco, California. This sampling event was conducted in accordance with the *Draft Amended Final Sampling and Analysis Plan (Field Sampling Plan and Quality Assurance Project Plan) for Basewide Groundwater Monitoring Program, Hunters Point Shipyard, San Francisco, California* (CE2-Kleinfelder Joint Venture, December 2010).

Remediation Goals

Remediation Goals are analyte-specific and location-specific numerical criteria specified in Comprehensive Environmental Response and Compensation Liability Act of 1980 (CERCLA) documents prepared for HPS including: Feasibility Study (FS) reports, Records of Decision (RODs), and/or Remedial Action Monitoring Plans (RAMPs). The remediation goals are based on exposure scenarios (i.e., residential, industrial, and/or construction worker) presented in these documents.

Groundwater Trigger Levels

Groundwater Trigger Levels are analyte-specific and location specific numerical criteria derived for the protection of the environment (e.g. surface water quality), and are derived from nomographs based on distance of the well from the point of surface water discharge. HPS CERCLA documents also refer to the following other numerical criteria which are grouped herein into the Trigger Level category of action limits: "Protection of the Environment," "Migration of Surface Water to the Bay," "Screening Levels," and "Aquatic Evaluation Criteria."

Current Remediation Goals and Trigger Levels

Current (as of the date of this Memorandum) Remediation Goals and Trigger Levels are as specified in the following HPS CERCLA documents:

- *Final Remedial Action Monitoring Plan – Parcel B - Excluding Installation Restoration Sites 7 and 18, Hunters Point Shipyard* (December 10, 2010)

- *Final Remedial Action Monitoring Plan – Installation Restoration Sites 7 and 18 - Parcel B, Hunters Point Shipyard (January 8, 2010)*
- *Final Record of Decision for Parcel C, Hunters Point Shipyard (September 30, 2010)*
- *Final Remedial Action Monitoring Plan, Parcel D-1, Hunters Point Shipyard (February 11, 2011)*
- *Draft Feasibility Study Report for Parcel E, Hunters Point Shipyard (July 2009)*
- *Draft Final Remedial Investigation/Feasibility Study Report for Parcel E-2, Hunters Point Shipyard (February 2009)*
- *Final Remedial Action Monitoring Plan - Parcel G, Hunters Point Shipyard (October 4, 2010)*
- *Final Remedial Action Monitoring Plan, Parcels UC-1 and UC-2, Hunters Point Shipyard (December 22, 2010)*

Table 1 presents the analytical results that exceeded Remediation Goals or Trigger Levels in the referenced sampling event.

Table 1. Exceedances of Remediation Goals and Trigger Levels (1Q2011).

Well ID	Parcel	Target Analyte	Remediation Goal ¹ (ug/L)	Trigger Level ^{1,2} (ug/L)	Result Exceeding RG or TL (ug/L)
IR10MW13A1	B	Trichloroethylene	2.9		3.6
IR10MW59A	B	Vinyl chloride	0.5		12
IR10MW61A	B	Vinyl chloride	0.5		15
IR10MW71A	B	Trichloroethylene	2.9		8.1
IR20MW17A	B	Vinyl chloride	0.5		4.9
IR26MW49A	B	Mercury	0.68	0.6	2.2
IR06MW22A	C	1,2-Dichloroethylene (total)	6.0		28
		Benzene	0.5		0.83
		Tetrachloroethylene	0.54		0.59
		Trichloroethylene	2.9		6.2
		Vinyl chloride	0.5		91
IR06MW32A	C	Trichloroethylene	2.9		3.1
IR06MW40A	C	Vinyl chloride	0.5		42
IR06MW59A1	C	1,2-Dichloroethylene (total)	6.0		51
		Benzene	0.5		0.94
		Naphthalene	3.6		11
		Tetrachloroethylene	0.54		13
		Trichloroethylene	2.9		45
		Vinyl chloride	0.5		37
IR25MW16A	C	1,2-Dichloroethylene (total)	6.0		7.8
		Vinyl chloride	0.5		4.5
IR28MW125A	C	Chromium (hexavalent)		50	245

Table 1. Exceedances of Remediation Goals and Trigger Levels (1Q2011).

Well ID	Parcel	Target Analyte	Remediation Goal ¹ (ugL)	Trigger Level ^{1,2} (ugL)	Result Exceeding RG or TL (ug/L)
IR28MW151A	C	1,2-Dichloroethylene (total)	6.0		11
		Vinyl chloride	0.5		15
IR28MW190F	C	Carbon tetrachloride	0.5		38
		Chloroform	0.7		16
		Trichloroethylene	2.9		4.9
IR28MW200A	C	Trichloroethylene	2.9		5.5
IR28MW211F	C	1,2-Dichloroethane	2.3		7
		Benzene	0.5		0.62
		Trichloroethylene	2.9		4.2
		Vinyl chloride	0.5		93
IR28MW355F	C	Chloroform	0.7		1.7
		Trichloroethylene	2.9		16
IR28MW407	C	1,4-Dichlorobenzene	2.1		19 J
		Trichloroethylene	2.9		7.9
		Vinyl chloride	0.5		180
PA28MW52A	C	Tetrachloroethylene	0.9		4.7
IR02MW373A	E	Copper		28	842
		Lead		14.4	23.2
		Nickel		96.5	615
		Zinc		81	5,120
IR02MWB-2	E	Nickel		96.5	682
IR03MW218A1	E	Total PCBs		0.03	2.7
		Total TPH		3,216	15,025

Table 1. Exceedances of Remediation Goals and Trigger Levels (1Q2011).

Well ID	Parcel	Target Analyte	Remediation Goal ¹ (ugL)	Trigger Level ^{1,2} (ugL)	Result Exceeding RG or TL (ug/L)
IR03MW218A2	E	Total TPH		3,216	15,575
IR03MW371A	E	Total PCBs		0.03	0.33
		Total TPH		2,092	2,360
IR03MWO-1	E	Arsenic		36	133
		Total PCBs		0.03	2.4
IR04MW39A	E	Trichloroethylene	2.9		4.9
IR12MW19A	E	1,1-Dichloroethane	6.5		22
		Tetrachloroethylene	0.5		3
		Trichloroethylene	2.9		5.6
IR36MW237A	E	Vinyl chloride	0.5		270
IR36MW239A	E	Trichloroethylene	4.8		11
IR01MW38A	E-2	Ammonia (un-ionized)		25	19,200
IR01MW403B	E-2	1,2-Dichloroethane	0.5		1.4
IR01MW48A	E-2	Ammonia (un-ionized)		25	17,400 J
IR01MW60A	E-2	Ammonia (un-ionized)		25	8,200
IR01MW63A	E-2	Cyanide		1.0	12.4
IR01MW64A	E-2	Ammonia (un-ionized)		25	2,300
IR09MW07A	G	Trichloroethylene	2.9		3.5
IR71MW03A	G	Tetrachloroethylene	0.54		11
		Trichloroethylene	2.9		3.3
IR06MW54F	UC-2	Carbon tetrachloride	0.5		6.1
		Chloroform	1.0		2.4

Notes

¹ Remediation Goals and Trigger Levels are current as of the date of this Memorandum.

² Includes the following numerical criteria identified in HPS CERCLA documents: "Protection of the Environment," "Migration to Surface Water of the Bay," "Screening Levels," and "Aquatic Evaluation Criteria."

Abbreviations

J: Detected below the practical quantitation limit but above the method detection limit; estimated value

PCBs: Polychlorinated biphenyls (comprising one or more Aroclor congeners)

RG: Remediation Goal

TL: Trigger Level

TPH: Total Petroleum Hydrocarbons (comprising gasoline-, diesel, and motor oil-ranges)