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DECISION DOCUMENT
50 GROUP PITS, SWMU J-22
Hawthorne Army Depot
Hawthorne, Nevada
October 1999

1. PURPOSE of DECISION DOCUMENT

1.1 Introduction

This decision document describes the rationale for the remedial action at, and closure of, Solid Waste Management Unit (SWMU) J-22, 50 Group Pits, at the Hawthorne Army Depot (HWAD), Hawthorne, Nevada. This decision document was developed by the U.S. Army Corps of Engineers, Sacramento District (USACE), HWAD, and Day & Zimmermann Hawthorne Corporation, with support from the Nevada Department of Conservation and Natural Resources, Division of Environmental Protection (NDEP).

1.2 Site Description and Background

SWMU J-22 was reported to consist of eight to 10 pits, approximately 15-20 feet in diameter, containing at least one 55-gallon drum. The pits contain mostly household debris and some asbestos-containing materials (RAI, 1992). The site is visible in a 1980 aerial photograph that identified the pits as "small excavations" (EMSL, 1981). The site is located southwest of Group 50, northwest of West Road, and southeast of the drainage canal that runs north of Group 50.

Tetra Tech reviewed all previous work done for the Group B SWMUs and compiled an annotated bibliography for past work (Tetra Tech, 1993).

Tetra Tech performed an inspection of the site in November 1993. According to Mr. Chet Sergent (personal communication November 4, 1994), the site may have been used as a camp or settlement prior to or during construction of NAD Hawthorne in 1928. The ground surface is littered with fragments of pottery, rusted metal parts, and other household debris. There are many scattered fragments of transite roofing material throughout the area.

Two dirt roads that extend radially southeast from the southeast corner of the town of Hawthorne, appear to mark the northeast and southwest boundaries of the site, and a shallow drainage channel marks the approximate northwest boundary. Debris is scattered throughout this area and north of West Road.

There are numerous small pits and concentrations of debris, perhaps marking individual habitation sites. Five or six of the pits were larger and deeper than the others, and one empty, corroded metal drum was observed in the largest pit, located about 250 feet southeast of the water tower for Group 50.

The elevation of the site is about 4,400 feet above mean sea level (msl), and the water table was at an elevation of about 4,070 feet above msl in 1974 (Van Denburgh and Rush, 1975). Tetra Tech conducted a

basewide ground water level survey in March, 1994. Based on this survey, ground water at SWMU J-22 was estimated at an elevation of 4,075 feet msl (325 ft bgs).

1.3 Chemicals of Concern

The potential chemicals of concern are listed in Table 1.

TABLE 1 - SUMMARY OF CHEMICALS OF CONCERN

Chemical of Concern	Rationale Behind Designation	Reference
Petroleum Hydrocarbons	Possible petroleum hydrocarbon disposal	Tetra Tech, 1993
Metals	Possible disposal of metal debris	USACE 1993
Asbestos (removed)	Based upon inspection of site materials, no friable asbestos observed.	USACE 1993

2. SUMMARY of SITE RISK

Samples collected at SWMU J-22 by near surface soil sampling had no detectable concentrations above the laboratory method detection limits for total petroleum hydrocarbons as diesel (TPH-d), and no detectable concentrations above 2 mg/kg BTEX (benzene, toluene, ethylbenzene, and xylene) by the field screening analyses. All metals concentrations were below closure goals.

3. SUMMARY of REMEDIAL INVESTIGATIONS and REMEDIAL ACTIONS

3.1 Remedial Investigations

3.1.1 Objectives

The objectives of the investigation at SWMU J-22 were:

- To determine the presence of petroleum hydrocarbons, metals, and asbestos in the near surface soils at the site, and
- To identify, remove and properly dispose of asbestos-containing material exposed on the ground surface.

These objectives were met.

3.1.2 Planned and Actual Investigation

Planned and actual field investigation activities are described in Table 2. Figure J-22-2 shows the location of the actual field investigation activities at SWMU J-22. A permanent monument was installed and surveyed, and SWMU boundaries delineated, at the locations shown on this

figure. The appendices of this report include HWAD proposed closure goals for soils, lab results and detection limits, survey results, and photographs. All activities were conducted based on the Work Plan (Tetra Tech, 1994a), Site Safety and Health Plan (Tetra Tech, 1994b) and the Chemical Data Acquisition Plan (Tetra Tech, 1994c).

TABLE 2 - SUMMARY OF PLANNED AND ACTUAL FIELD INVESTIGATION

Planned Investigation	Actual Investigation	Comments
Site Preparation - Manually collect transite or other ACM[a], place in drums, and arrange for disposal	**Site Preparation** - Representative materials inspected. No removal.	AHERA certified inspector observed no friable asbestos materials.
Near Surface Sampling - Hand auger sampling at 5 locations; samples collected at 2 and 5 ft depths	**Near Surface Sampling** - Hand auger sampling at 5 locations; samples collected at 2 and 5 ft depths at all locations except HA01 which was only at 2 feet.	Refusal in hardpan at HA01, only sampled at 2 feet.
Surveying - GPS[b] at auger locations and boundaries of the larger pits where sampling was conducted	**Surveying** - GPS at auger locations and boundaries of the larger pits where sampling was conducted	

[a]ACM = Asbestos-containing material
[b]GPS = Global positioning system

Soil samples collected and analyses performed include the following:

Sample Locations	Depth (ft)	Metals Analyses	BTEX Analyses	TPH-d Analyses
Near Surface				
HA01 through HA05 (HA01 sampled at 2 feet only)	2 and 5	Y	Y	Y

3.1.3 Results

Tables 3 and 4 list soil analytical results for metals, and benzene, toluene, ethylbenzene, and xylene (BTEX) and total petroleum hydrocarbons as diesel (TPH-d), respectively. The associated background levels and proposed closure goals of metals are also shown in Table 4.

TABLE 3 - SUMMARY OF METALS ANALYTICAL RESULTS

Sample Number	Sampled Date	Sample Depth	Metals (mg/kg) EPA Method 6010 (Method 7471 for Hg)							
			As	Ba	Cd	Cr	Pb	Hg	Se	Ag
Near Surface Sampling										
J22-HA01-1-S	29-Jul-94	2.0	ND[a]	58	0.83	8.1	7.6	ND	ND	ND
J22-HA02-1-S	29-Jul-94	2.0	ND	160	2.8	8.6	58.0	0.042	32	4.2
J22-HA02-2-S	29-Jul-94	5.0	ND	50	0.74	3.0	12	ND	ND	1.0
J22-HA03-1-S	29-Jul-94	2.0	ND	82	1.2	4.9	9.2	ND	ND	ND
J22-HA03-2-S	29-Jul-94	5.0	ND	78	1.3	99.0	10	ND	ND	ND
J22-HA04-1-S	29-Jul-94	2.0	ND	78	1.4	6.6	8.7	ND	ND	ND
J22-HA04-2-S	29-Jul-94	5.0	ND	64	1.3	9.2	8.8	ND	ND	ND
J22-HA05-1-S	29-Jul-94	2.0	ND	94	1.6	5.7	34	ND	ND	ND
J22-HA05-2-S	29-Jul-94	5.0	ND	73	1.6	7.3	12	ND	ND	ND
Associated Background Samples	**Soil Series**	**Mappable Unit**	**As**	**Ba**	**Cd**	**Cr**	**Pb**	**Hg**	**Se**	**Ag**
B1	Inmo	121	ND	200	1.4	6.1	12	ND	ND	ND
B2	Inmo	121	ND	86	0.57	4.9	5.2	ND	ND	ND
Proposed Closure Goals			30	5600	40	80,000	1000	24	400	400

[a]ND = Below laboratory method detection limit for all analytes

TABLE 4 - SUMMARY OF BTEX AND TPH-DIESEL ANALYTICAL RESULTS

Sample Number	Sampled Date	Sample Depth (ft)	BTEX (mg/kg) Immunoassay Test	TPH-Diesel (mg/kg) EPA Method 8015-M
Near Surface Sampling				
J22-HA01-1-S	29-Jul-94	2.0	<2	ND[a]
J22-HA02-1-S	29-Jul-94	2.0	<2	ND
J22-HA02-2-S	29-Jul-94	5.0	<2	ND
J22-HA03-1-S	29-Jul-94	2.0	<2	ND
J22-HA03-2-S	29-Jul-94	5.0	<2	ND
J22-HA04-1-S	29-Jul-94	2.0	<2	ND
J22-HA04-2-S	29-Jul-94	5.0	<2	ND
J22-HA05-1-S	29-Jul-94	2.0	<2	ND
J22-HA05-2-S	29-Jul-94	5.0	<2	ND

[a]ND = Below laboratory method detection limit for all analytes

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3.2 Remedial Actions

3.2.1 Summary of Remedial Alternatives

The remedial alternative for this site is the removal of all surface debris from the site.

3.2.2 Summary of Remedial Actions

By letter dated January 15, 1998, following a field inspection of this site, the State Historical Preservation Officer advised that the 50 Group Pits area should be preserved and should not be disturbed (this letter is included at Appendix E). The HWAD Environmental Coordinator concurred with this decision. Therefore, this site was not disturbed and no debris has been removed. A photograph of the site's present condition is included at Appendix D.

4. CONCLUSIONS and RECOMMENDATIONS

The HWAD proposed closure goals for soil are listed in Appendix A. These closure goals were used in evaluating the detected chemicals of concern.

Samples collected at SWMU J-22 by near surface soil sampling had no detectable concentrations for TPH-d, and no detectable concentrations of BTEX by the field screening analyses, which have a detection limit of 2 mg/kg. All metals concentrations were below the proposed closure goals.

It is recommended that no further investigation be performed at this SWMU and that the site be closed with regard to these contaminants of concern. Land use restrictions will apply as a result of the SWMU being closed in place without remedial action due to the historical significance of the site.

5. PUBLIC/COMMUNITY INVOLVEMENT

It is U.S. Department of Defense and Army policy to involve the local community throughout the investigation process at an installation. To initiate this involvement, HWAD has established a repository in the local public library which includes final copies of all past studies and documents regarding environmental issues at the facility. This repository will be maintained and updated with all future final documents as they are issued to HWAD.

HWAD has solicited community participation in establishment of the restoration advisory board (RAB). However, because of insufficient public response, HWAD has not formed a RAB. HWAD will continue to solicit community involvement.

6. DECLARATION

The selected remedy is protective of human health and the environment. It has been shown that a complete exposure pathway to human health and the environment does not exist, and there is no potential for such an exposure pathway to be completed in the future.

U.S. ARMY

25 OCT 1999
Date

James A. Piner
Lieutenant Colonel, U.S. Army
Commanding

STATE OF NEVADA

22 Nov 1999
Date

Paul Liebendorfer
Chief, Bureau of Federal Facilities

REFERENCES

EMSL. 1981. Aerial Reconnaissance of Hazardous Waste Sites, Weed Heights and Hawthorne, Nevada. TS-AMD-8106. (Environmental Monitoring Systems Laboratory, Las Vegas, NV). Prepared for U.S. EPA Region 9 by Lockheed Engineering and Management Services Co., Inc., Las Vegas, NV.

RAI. 1992. Site Screening Inspection (SSI) for the Hawthorne Army Ammunition Plant, Hawthorne, NV. Prepared for the U.S. Army Corps of Engineers Toxic and Hazardous Materials Agency by Resource Applications, Inc., Falls Church, VA. December, 1992. Contract No. DAAA 15-90-D-003, Task 5.

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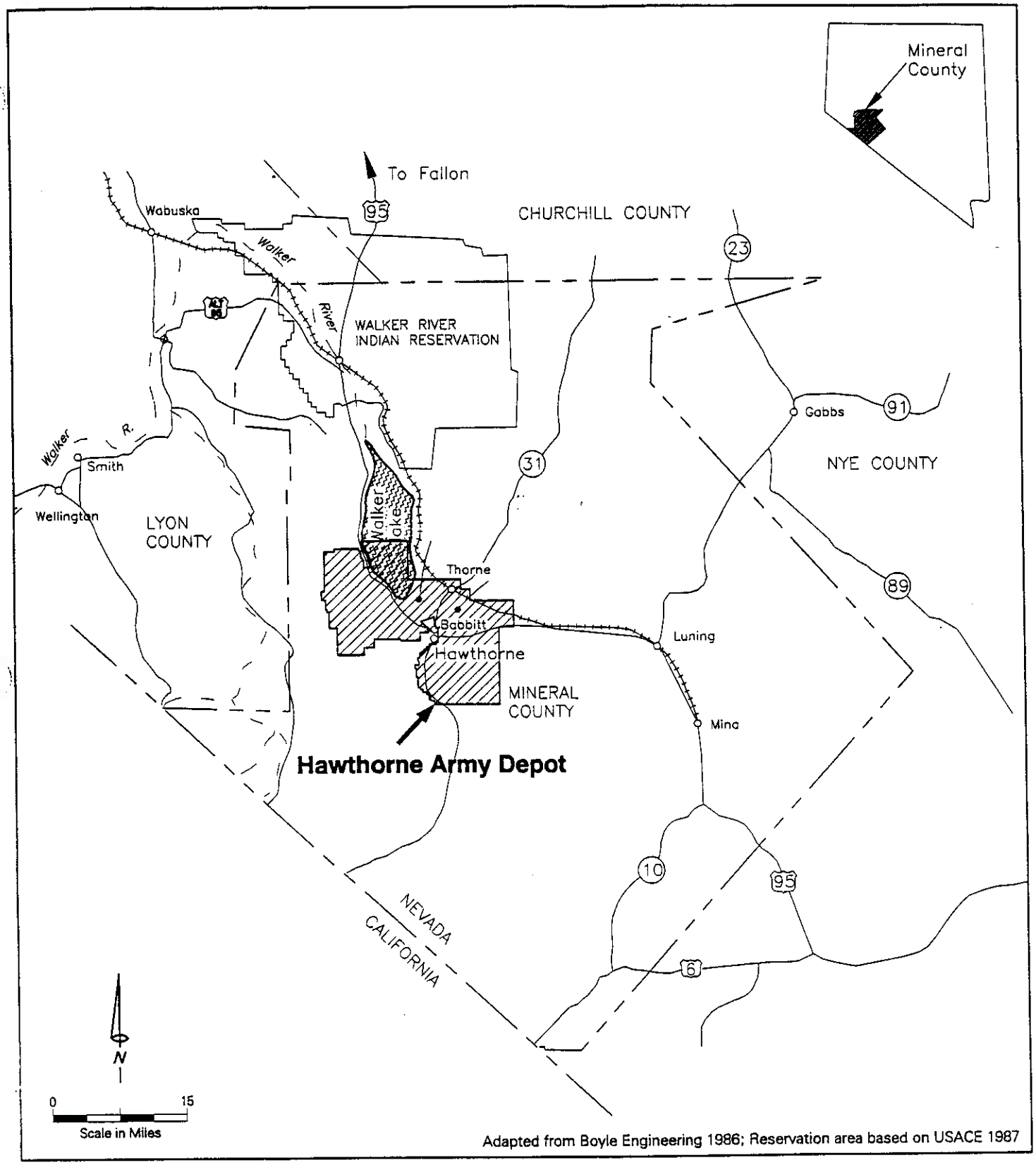
SWMU J-10 Dock 6 Landfill, SWMU J-13 WADF South Dump, SWMU J-17 Thorne Drum Area, SWMU J-21 Bldg 97 Old Dock Area, SWMU J-22 50 Group Pits, SWMU J-24 Trench near 50-60.

Figures



Adapted from Boyle Engineering 1986; Reservation area based on USACE 1987

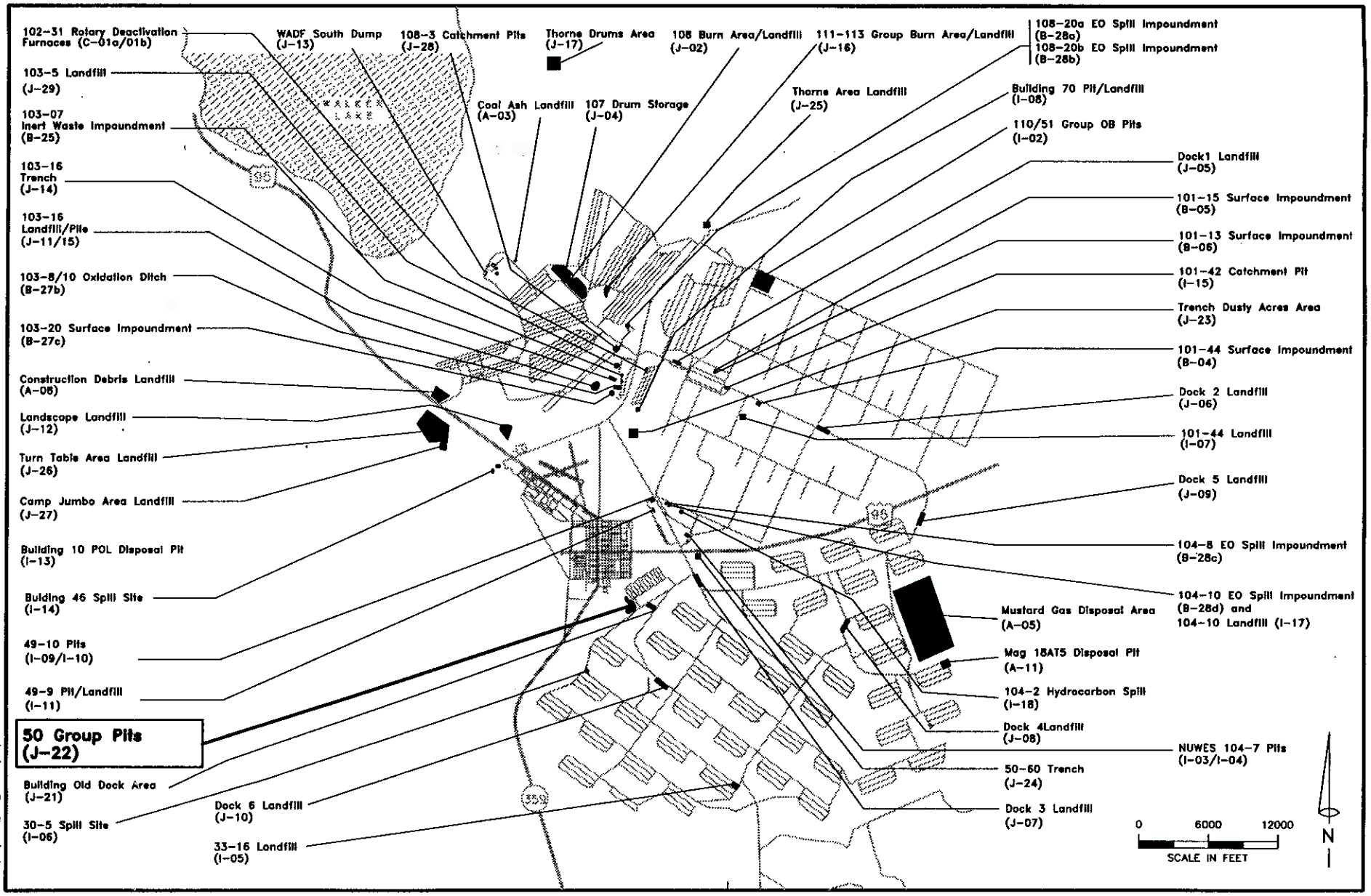
Location Map

Legend

Hawthorne Army Depot

Hawthorne Army Depot
Hawthorne, Nevada

Tetra Tech, Inc.



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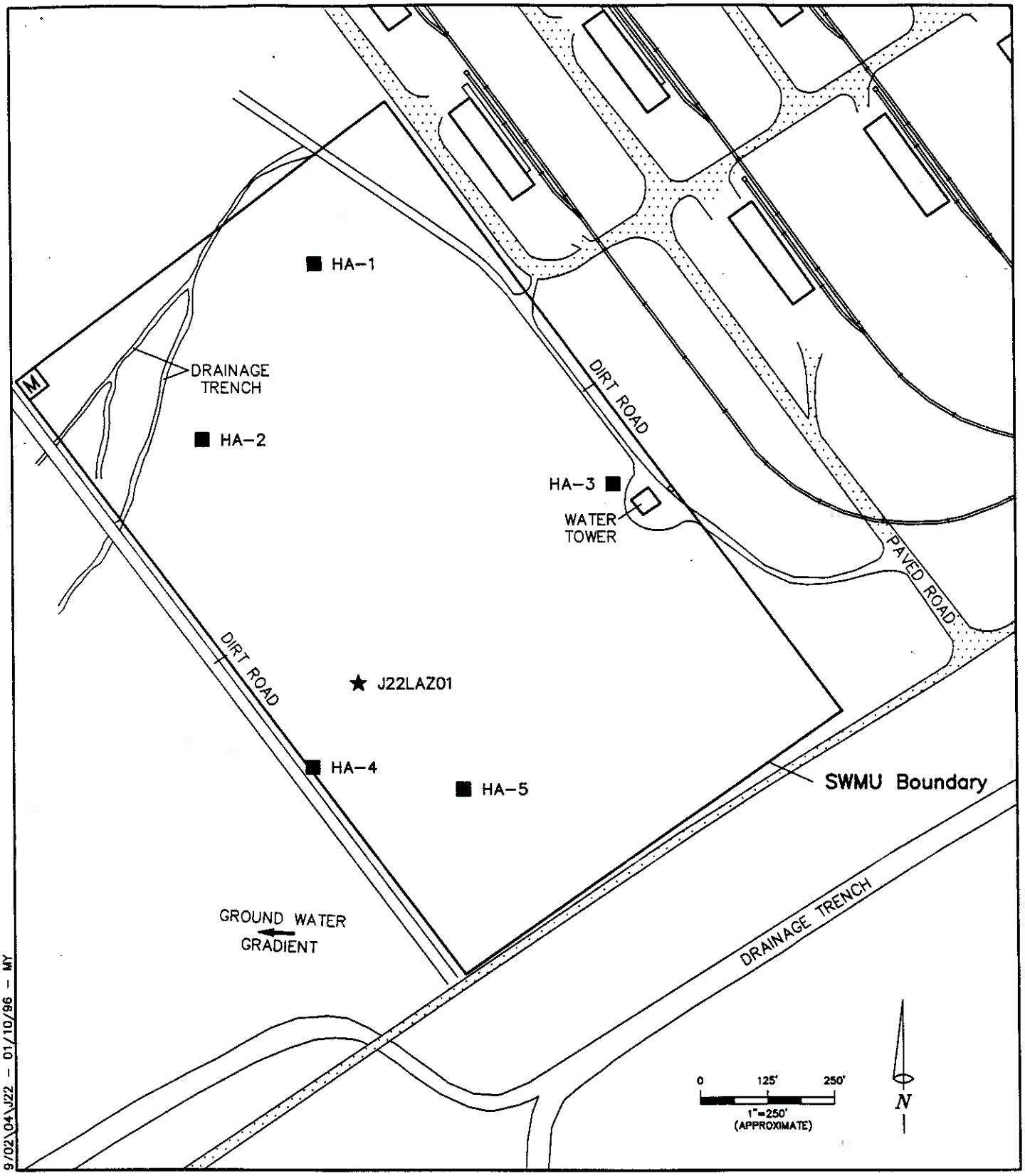
Location Map
Hawthorne Army Depot

Hawthorne, Nevada

Figure SWMU-J-22-1



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LEGEND:

★ SWMU Reference point

■ HA-X Hand auger sample location and number

M Monument location

TETRA TECH

Activity Map
SWMU J-22
50 Group Pits

Hawthorne Army Depot
Hawthorne, Nevada

Source: Base map digitized from Aerial Photo Survey, June 1994. Geophysical data from Geophysical Survey, NORCAL, August 1994.

Figure J-22-2

Appendix A

Proposed Closure Goals
Hawthorne Army Depot
Hawthorne, Nevada

Constituent of Concern	Chemical Classification	Carcinogenic (C) or Non-carcinogenic (NC)	HWAD Proposed Closure Goals for Soil (mg/kg)	HWAD Proposed Closure Goal Source
Nitrate	Anion	NC	128,000	Calculated Subpart S[a]
2-Amino-dinitrotoluene	Explosive	NC	-	NA[b]
4-Amino-dinitrotoluene	Explosive	NC	-	NA
1,3-Dinitrobenzene	Explosive	NC	8	Calculated Subpart S
2,4-Dinitrotoluene	Explosive	NC	160	Calculated Subpart S
2,6-Dinitrotoluene	Explosive	NC	80	Calculated Subpart S
HMX	Explosive	NC	4,000	Calculated Subpart S
Nitrobenzene	Explosive	NC	40	Calculated Subpart S
Nitrotoluene (2-, 3-, 4-)	Explosive	NC	800	Calculated Subpart S
RDX	Explosive	NC	64	Calculated Subpart S
Tetryl	Explosive	NC	800	Calculated Subpart S
1,3,5-Trinitrobenzene	Explosive	NC	4	Calculated Subpart S
2,4,6-Trinitrotoluene	Explosive	C	233	Calculated Subpart S
Aluminum	Metal	NC	80,000	Calculated Subpart S
Arsenic (cancer endpoint)	Metal	C & NC	30	Background[c]
Barium and compounds	Metal	NC	5,600	Calculated Subpart S
Beryllium and compounds	Metal	C	1	Background
Cadmium and compounds	Metal	NC	40	Calculated Subpart S
Chromium III and compounds	Metal	NC	80,000	Calculated Subpart S
Lead	Metal	NC	1000	PRG[d]
Mercury and compounds (inorganic)	Metal	NC	24	Calculated Subpart S
Selenium	Metal	NC	400	Calculated Subpart S
Silver and compounds	Metal	NC	400	Calculated Subpart S
Acenaphthene	PAH	NC	4,800	Calculated Subpart S
Benzo[a]anthracene	PAH	C	0.96	Calculated Subpart S
Benzo[a]pyrene	PAH	C	0.10	Detection Limit[e]
Benzo[b]fluoranthene	PAH	C	0.96	Calculated Subpart S
Benzo[k]fluoranthene	PAH	C	10	Calculated Subpart S
Chrysene	PAH	C	96	Calculated Subpart S
Dibenz[ah]anthracene	PAH	C	0.96	Calculated Subpart S
Fluoranthene	PAH	NC	3,200	Calculated Subpart S
Fluorene	PAH	NC	3,200	Calculated Subpart S
Indeno[1,2,3-cd]pyrene	PAH	C	-	NA
Naphthalene	PAH	NC	3,200	Calculated Subpart S
Pyrene	PAH	NC	2,400	Calculated Subpart S
Total Petroleum Hydrocarbons as Diesel (TPH-d)	PAH	C	100	NDEP Level Clean-up[f]
Polychlorinated biphenyls (PCBs)	PCBs	C	25	TSCA[g]
Bis(2-ethylhexyl)phthalate (DEHP)	SVOC	C	1,600	Calculated Subpart S
Bromoform (tribromomethane)	SVOC	C	89	Calculated Subpart S

Proposed Closure Goals
Hawthorne Army Depot
Hawthorne, Nevada

Constituent of Concern	Chemical Classification	Carcinogenic (C) or Non-carcinogenic (NC)	HWAD Proposed Closure Goals for Soil (mg/kg)	HWAD Proposed Closure Goal Source
Butyl benzyl phthalate	SVOC	NC	16,000	Calculated Subpart S
Dibromochloromethane	SVOC	C	83	Calculated Subpart S
Dibutyl-phthalate	SVOC	NC	8,000	Calculated Subpart S
Diethyl phthalate	SVOC	NC	64,000	Calculated Subpart S
Phenanthrene	SVOC		-	NA
Phenol	SVOC	NC	48,000	Calculated Subpart S
Acetone	VOC	NC	800	Calculated Subpart S
Anthracene	VOC	NC	24,000	Calculated Subpart S
Benzene	VOC	C	24	Calculated Subpart S
Bis(2-chloroisopropyl)ether	VOC	C	3,200	Calculated Subpart S
Bromomethane	VOC	NC	112	Calculated Subpart S
Carbon tetrachloride	VOC	C	5	Calculated Subpart S
Chlorobenzene	VOC	NC	1,600	Calculated Subpart S
Chloroform	VOC	C	115	Calculated Subpart S
Chloromethane	VOC	C	538	Calculated Subpart S
Dibromomethane	VOC	C	0.008	Calculated Subpart S
1,2-Dichlorobenzene	VOC	NC	7,200	Calculated Subpart S
1,4-Dichlorobenzene	VOC	C	18,300	Calculated Subpart S
Dichlorodifluoromethane	VOC	C	16,000	Calculated Subpart S
Ethylbenzene	VOC	NC	8,000	Calculated Subpart S
Methylene bromide	VOC	NC	800	Calculated Subpart S
Methylene chloride	VOC	C	4,800	Calculated Subpart S
2-Methylnaphthalene	VOC		-	NA
1,1,2,2-Tetrachloroethane	VOC	C	35	Calculated Subpart S
Tetrachloroethylene (PCE)	VOC	C & NC	800	Calculated Subpart S
Toluene	VOC	NC	16,000	Calculated Subpart S
1,1,1-Trichloroethane	VOC	NC	7,200	Calculated Subpart S
Trichloroethylene (TCE)	VOC	C & NC	480	Calculated Subpart S
Trichlorofluoromethane	VOC	NC	24,000	Calculated Subpart S
1,2,3-Trichloropropane	VOC	C	480	Calculated Subpart S
Vinyl chloride	VOC	C	0.37	Calculated Subpart S
Xylene Total (m-, o-, p-)	VOC	NC	160,000	Calculated Subpart S
2,3,7,8-TCDD	Dioxin	C	0.000005	Calculated Subpart S

[a] RCRA 55 FR 30870

[b] Not available

[c] Highest background concentration detected in 50 background soil samples

[d] Smucker, Stanford J. USEPA Rgion IX, Preliminary Remedial Goals, Second Half, Sep. 1995

[e] Method detection limit for Volatile Organic Compounds by EPA Method 8260 or Semi-Volatile Organic Compounds analyzed by EPA Method 8270

[f] Nevada Division of Environmental Protection

[g] Cleanup level for PCB spills in accordance with Toxic Substance and Control Act Spill Policy Guidelines 40 CFR 761

Appendix B

Summary Table of Analytical Data

SWMU J22 - 50 Group Pits

Hawthorne Army Depot
Hawthorne, Nevada
January 1996

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Sample ID	Sample Depth (ft)	Sample Date	Method	Analyte	Value	Units	Flag
J22-HA01-1-S	2.0	7/29/94	6010	Arsenic	< 4	mg/kg	
J22-HA01-1-S	2.0	7/29/94	6010	Barium	58	mg/kg	
J22-HA01-1-S	2.0	7/29/94	6010	Cadmium	0.83	mg/kg	U
J22-HA01-1-S	2.0	7/29/94	6010	Chromium	8.1	mg/kg	
J22-HA01-1-S	2.0	7/29/94	6010	Lead	7.6	mg/kg	J
J22-HA01-1-S	2.0	7/29/94	6010	Selenium	< 5	mg/kg	
J22-HA01-1-S	2.0	7/29/94	6010	Silver	< 1	mg/kg	
J22-HA01-1-S	2.0	7/29/94	7471	Mercury	< 0.04	mg/kg	
J22-HA01-1-S	2.0	7/29/94	8015M	TPH (as diesel)	< 1	mg/kg	
J22-HA01-1-S	2.0	7/29/94	D2216	Moisture/TNFR	6.2	percent	
J22-HA01-1-S	2.0	7/29/94	D4031	Immunoassay BTEX	<2	mg/kg	
J22-HA01-1-SD (DP175	2.0	7/29/94	6010	Arsenic	< 4	mg/kg	
J22-HA01-1-SD (DP175	2.0	7/29/94	6010	Barium	97	mg/kg	
J22-HA01-1-SD (DP175	2.0	7/29/94	6010	Cadmium	1.7	mg/kg	
J22-HA01-1-SD (DP175	2.0	7/29/94	6010	Chromium	4.6	mg/kg	J
J22-HA01-1-SD (DP175	2.0	7/29/94	6010	Lead	17	mg/kg	J
J22-HA01-1-SD (DP175	2.0	7/29/94	6010	Selenium	< 5	mg/kg	
J22-HA01-1-SD (DP175	2.0	7/29/94	6010	Silver	0.9	mg/kg	
J22-HA01-1-SD (DP175	2.0	7/29/94	7471	Mercury	0.16	mg/kg	
J22-HA01-1-SD (DP174	2.0	7/29/94	8260	1,1,1,2-Tetrachloroethane	< 0.4	ug/kg	
J22-HA01-1-SD (DP174	2.0	7/29/94	8260	1,1,1-Trichloroethane	< 0.6	ug/kg	
J22-HA01-1-SD (DP174	2.0	7/29/94	8260	1,1,2,2-Tetrachloroethane	< 0.2	ug/kg	
J22-HA01-1-SD (DP174	2.0	7/29/94	8260	1,1,2-Trichloroethane	< 0.4	ug/kg	
J22-HA01-1-SD (DP174	2.0	7/29/94	8260	1,1-Dichloroethane	< 0.2	ug/kg	
J22-HA01-1-SD (DP174	2.0	7/29/94	8260	1,1-Dichloroethene	< 0.2	ug/kg	
J22-HA01-1-SD (DP174	2.0	7/29/94	8260	1,2,3-Trichloropropane	< 0.8	ug/kg	
J22-HA01-1-SD (DP174	2.0	7/29/94	8260	1,2-Dichlorobenzene	< 0.2	ug/kg	
J22-HA01-1-SD (DP174	2.0	7/29/94	8260	1,2-Dichloroethane	< 0.6	ug/kg	
J22-HA01-1-SD (DP174	2.0	7/29/94	8260	1,2-Dichloropropane	< 0.8	ug/kg	
J22-HA01-1-SD (DP174	2.0	7/29/94	8260	1,3-Dichlorobenzene	< 0.2	ug/kg	
J22-HA01-1-SD (DP174	2.0	7/29/94	8260	1,4-Dichlorobenzene	< 0.4	ug/kg	
J22-HA01-1-SD (DP174	2.0	7/29/94	8260	2-Chloroethylvinylether	< 0.6	ug/kg	
J22-HA01-1-SD (DP174	2.0	7/29/94	8260	Benzene	< 0.2	ug/kg	
J22-HA01-1-SD (DP174	2.0	7/29/94	8260	Benzyl chloride	< 0.6	ug/kg	
J22-HA01-1-SD (DP174	2.0	7/29/94	8260	Bromobenzene	< 0.4	ug/kg	
J22-HA01-1-SD (DP174	2.0	7/29/94	8260	Bromodichloromethane	< 0.2	ug/kg	
J22-HA01-1-SD (DP174	2.0	7/29/94	8260	Bromoform	< 0.2	ug/kg	
J22-HA01-1-SD (DP174	2.0	7/29/94	8260	Bromomethane	< 0.2	ug/kg	
J22-HA01-1-SD (DP174	2.0	7/29/94	8260	Carbon Tetrachloride	< 0.6	ug/kg	
J22-HA01-1-SD (DP174	2.0	7/29/94	8260	Chlorobenzene	< 0.2	ug/kg	
J22-HA01-1-SD (DP174	2.0	7/29/94	8260	Chloroethane	< 0.2	ug/kg	
J22-HA01-1-SD (DP174	2.0	7/29/94	8260	Chloroform	< 0.2	ug/kg	
J22-HA01-1-SD (DP174	2.0	7/29/94	8260	Chloromethane	< 0.6	ug/kg	
J22-HA01-1-SD (DP174	2.0	7/29/94	8260	cis-1,3-Dichloropropene	< 0.2	ug/kg	

Sample ID	Sample Depth (ft)	Sample Date	Method	Analyte	Value	Units	Flag
J22-HA01-1-SD (DP174	2.0	7/29/94	8260	Dibromochloromethane	< 0.6	ug/kg	
J22-HA01-1-SD (DP174	2.0	7/29/94	8260	Dibromomethane	0.6	ug/kg	J
J22-HA01-1-SD (DP174	2.0	7/29/94	8260	Dichlorodifluoromethane	< 0.1	ug/kg	
J22-HA01-1-SD (DP174	2.0	7/29/94	8260	Ethylbenzene	< 0.2	ug/kg	
J22-HA01-1-SD (DP174	2.0	7/29/94	8260	Methylene chloride	8.1	ug/kg	
J22-HA01-1-SD (DP174	2.0	7/29/94	8260	Tetrachloroethene	< 0.6	ug/kg	
J22-HA01-1-SD (DP174	2.0	7/29/94	8260	Toluene	< 0.4	ug/kg	
J22-HA01-1-SD (DP174	2.0	7/29/94	8260	Total Xylene Isomers	< 0.6	ug/kg	
J22-HA01-1-SD (DP174	2.0	7/29/94	8260	trans-1,2-Dichloroethene	< 0.2	ug/kg	
J22-HA01-1-SD (DP174	2.0	7/29/94	8260	trans-1,3-Dichloropropene	< 0.2	ug/kg	
J22-HA01-1-SD (DP174	2.0	7/29/94	8260	Trichloroethene	< 1	ug/kg	
J22-HA01-1-SD (DP174	2.0	7/29/94	8260	Trichlorofluoromethane	< 0.1	ug/kg	
J22-HA01-1-SD (DP174	2.0	7/29/94	8260	Vinyl chloride	< 0.2	ug/kg	
J22-HA01-1-SD (DP174	2.0	7/29/94	D2216	Moisture/TNFR	7.7	percent	
J22-HA01-1-SD (DP175	2.0	7/29/94	D2216	Moisture/TNFR	3.3	percent	
J22-HA01-1-SD (DP173	2.0	7/29/94	D4031	Immunoassay BTEX	<2	mg/kg	
J22-HA02-1-S	2.0	7/29/94	6010	Arsenic	< 4	mg/kg	
J22-HA02-1-S	2.0	7/29/94	6010	Barium	160	mg/kg	
J22-HA02-1-S	2.0	7/29/94	6010	Cadmium	2.8	mg/kg	
J22-HA02-1-S	2.0	7/29/94	6010	Chromium	8.6	mg/kg	
J22-HA02-1-S	2.0	7/29/94	6010	Lead	58	mg/kg	
J22-HA02-1-S	2.0	7/29/94	6010	Selenium	32	mg/kg	J
J22-HA02-1-S	2.0	7/29/94	6010	Silver	4.2	mg/kg	J
J22-HA02-1-S	2.0	7/29/94	7471	Mercury	0.042	mg/kg	J
J22-HA02-1-S	2.0	7/29/94	8015M	TPH (as diesel)	< 1	mg/kg	
J22-HA02-1-S	2.0	7/29/94	D2216	Moisture/TNFR	1.1	percent	
J22-HA02-1-S	2.0	7/29/94	D4031	Immunoassay BTEX	<2	mg/kg	
J22-HA02-1-SD (DP178	2.0	7/29/94	6010	Arsenic	< 4	mg/kg	
J22-HA02-1-SD (DP178	2.0	7/29/94	6010	Barium	180	mg/kg	
J22-HA02-1-SD (DP178	2.0	7/29/94	6010	Cadmium	1.4	mg/kg	U
J22-HA02-1-SD (DP178	2.0	7/29/94	6010	Chromium	6	mg/kg	
J22-HA02-1-SD (DP178	2.0	7/29/94	6010	Lead	75	mg/kg	
J22-HA02-1-SD (DP178	2.0	7/29/94	6010	Selenium	< 5	mg/kg	
J22-HA02-1-SD (DP178	2.0	7/29/94	6010	Silver	1.7	mg/kg	J
J22-HA02-1-SD (DP178	2.0	7/29/94	7471	Mercury	0.044	mg/kg	J
J22-HA02-1-SD (DP177	2.0	7/29/94	8260	1,1,1,2-Tetrachloroethane	< 0.4	ug/kg	
J22-HA02-1-SD (DP177	2.0	7/29/94	8260	1,1,1-Trichloroethane	< 0.6	ug/kg	
J22-HA02-1-SD (DP177	2.0	7/29/94	8260	1,1,2,2-Tetrachloroethane	< 0.2	ug/kg	
J22-HA02-1-SD (DP177	2.0	7/29/94	8260	1,1,2-Trichloroethane	< 0.4	ug/kg	
J22-HA02-1-SD (DP177	2.0	7/29/94	8260	1,1-Dichloroethane	< 0.2	ug/kg	
J22-HA02-1-SD (DP177	2.0	7/29/94	8260	1,1-Dichloroethene	< 0.2	ug/kg	
J22-HA02-1-SD (DP177	2.0	7/29/94	8260	1,2,3-Trichloropropane	< 0.8	ug/kg	
J22-HA02-1-SD (DP177	2.0	7/29/94	8260	1,2-Dichlorobenzene	< 0.2	ug/kg	

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J22-HA02-1-SD (DP177	2.0	7/29/94	8260	1,2-Dichloroethane	< 0.6	ug/kg	
J22-HA02-1-SD (DP177	2.0	7/29/94	8260	1,2-Dichloropropane	< 0.8	ug/kg	
J22-HA02-1-SD (DP177	2.0	7/29/94	8260	1,3-Dichlorobenzene	< 0.2	ug/kg	
J22-HA02-1-SD (DP177	2.0	7/29/94	8260	1,4-Dichlorobenzene	< 0.4	ug/kg	
J22-HA02-1-SD (DP177	2.0	7/29/94	8260	2-Chloroethylvinylether	< 0.6	ug/kg	
J22-HA02-1-SD (DP177	2.0	7/29/94	8260	Benzene	< 0.2	ug/kg	
J22-HA02-1-SD (DP177	2.0	7/29/94	8260	Benzyl chloride	< 0.6	ug/kg	
J22-HA02-1-SD (DP177	2.0	7/29/94	8260	Bromobenzene	< 0.4	ug/kg	
J22-HA02-1-SD (DP177	2.0	7/29/94	8260	Bromodichloromethane	< 0.2	ug/kg	
J22-HA02-1-SD (DP177	2.0	7/29/94	8260	Bromoform	< 0.2	ug/kg	
J22-HA02-1-SD (DP177	2.0	7/29/94	8260	Bromomethane	< 0.2	ug/kg	
J22-HA02-1-SD (DP177	2.0	7/29/94	8260	Carbon Tetrachloride	< 0.6	ug/kg	
J22-HA02-1-SD (DP177	2.0	7/29/94	8260	Chlorobenzene	< 0.2	ug/kg	
J22-HA02-1-SD (DP177	2.0	7/29/94	8260	Chloroethane	< 0.2	ug/kg	
J22-HA02-1-SD (DP177	2.0	7/29/94	8260	Chloroform	< 0.2	ug/kg	
J22-HA02-1-SD (DP177	2.0	7/29/94	8260	Chloromethane	< 0.6	ug/kg	
J22-HA02-1-SD (DP177	2.0	7/29/94	8260	cis-1,3-Dichloropropene	< 0.2	ug/kg	
J22-HA02-1-SD (DP177	2.0	7/29/94	8260	Dibromochloromethane	< 0.6	ug/kg	
J22-HA02-1-SD (DP177	2.0	7/29/94	8260	Dibromomethane	< 0.2	ug/kg	
J22-HA02-1-SD (DP177	2.0	7/29/94	8260	Dichlorodifluoromethane	< 0.1	ug/kg	
J22-HA02-1-SD (DP177	2.0	7/29/94	8260	Ethylbenzene	< 0.2	ug/kg	
J22-HA02-1-SD (DP177	2.0	7/29/94	8260	Methylene chloride	1.2	ug/kg	J
J22-HA02-1-SD (DP177	2.0	7/29/94	8260	Tetrachloroethene	< 0.6	ug/kg	
J22-HA02-1-SD (DP177	2.0	7/29/94	8260	Toluene	< 0.4	ug/kg	
J22-HA02-1-SD (DP177	2.0	7/29/94	8260	Total Xylene Isomers	< 0.6	ug/kg	
J22-HA02-1-SD (DP177	2.0	7/29/94	8260	trans-1,2-Dichloroethene	< 0.2	ug/kg	
J22-HA02-1-SD (DP177	2.0	7/29/94	8260	trans-1,3-Dichloropropene	< 0.2	ug/kg	
J22-HA02-1-SD (DP177	2.0	7/29/94	8260	Trichloroethene	< 1	ug/kg	
J22-HA02-1-SD (DP177	2.0	7/29/94	8260	Trichlorofluoromethane	< 0.1	ug/kg	
J22-HA02-1-SD (DP177	2.0	7/29/94	8260	Vinyl chloride	< 0.2	ug/kg	
J22-HA02-1-SD (DP177	2.0	7/29/94	D2216	Moisture/TNFR	1.4	percent	
J22-HA02-1-SD (DP178	2.0	7/29/94	D2216	Moisture/TNFR	1.3	percent	
J22-HA02-1-SD (DP176	2.0	7/29/94	D4031	Immunoassay BTEX	<2	mg/kg	

J22-HA02-2-S	5.0	7/29/94	6010	Arsenic	< 4	mg/kg	
J22-HA02-2-S	5.0	7/29/94	6010	Barium	50	mg/kg	
J22-HA02-2-S	5.0	7/29/94	6010	Cadmium	0.74	mg/kg	U
J22-HA02-2-S	5.0	7/29/94	6010	Chromium	3	mg/kg	J
J22-HA02-2-S	5.0	7/29/94	6010	Lead	12	mg/kg	J
J22-HA02-2-S	5.0	7/29/94	6010	Selenium	< 5	mg/kg	
J22-HA02-2-S	5.0	7/29/94	6010	Silver	1	mg/kg	J
J22-HA02-2-S	5.0	7/29/94	7471	Mercury	< 0.04	mg/kg	
J22-HA02-2-S	5.0	7/29/94	8015M	TPH (as diesel)	< 1	mg/kg	
J22-HA02-2-S	5.0	7/29/94	D2216	Moisture/TNFR	1.2	percent	
J22-HA02-2-S	5.0	7/29/94	D4031	Immunoassay BTEX	<2	mg/kg	

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J22-HA03-1-S	2.0	7/29/94	6010	Arsenic	< 4	mg/kg	
J22-HA03-1-S	2.0	7/29/94	6010	Barium	82	mg/kg	
J22-HA03-1-S	2.0	7/29/94	6010	Cadmium	1.2	mg/kg	U
J22-HA03-1-S	2.0	7/29/94	6010	Chromium	4.9	mg/kg	J
J22-HA03-1-S	2.0	7/29/94	6010	Lead	9.2	mg/kg	J
J22-HA03-1-S	2.0	7/29/94	6010	Selenium	< 5	mg/kg	
J22-HA03-1-S	2.0	7/29/94	6010	Silver	< 0.9	mg/kg	
J22-HA03-1-S	2.0	7/29/94	7471	Mercury	< 0.04	mg/kg	
J22-HA03-1-S	2.0	7/29/94	8015M	TPH (as diesel)	< 1	mg/kg	
J22-HA03-1-S	2.0	7/29/94	D2216	Moisture/TNFR	2	percent	
J22-HA03-1-S	2.0	7/29/94	D4031	Immunoassay BTEX	<2	mg/kg	
J22-HA03-1-SD (DP170	2.0	7/29/94	6010	Arsenic	< 4	mg/kg	
J22-HA03-1-SD (DP170	2.0	7/29/94	6010	Barium	88	mg/kg	
J22-HA03-1-SD (DP170	2.0	7/29/94	6010	Cadmium	1.2	mg/kg	U
J22-HA03-1-SD (DP170	2.0	7/29/94	6010	Chromium	5.6	mg/kg	
J22-HA03-1-SD (DP170	2.0	7/29/94	6010	Lead	13	mg/kg	J
J22-HA03-1-SD (DP170	2.0	7/29/94	6010	Selenium	< 5	mg/kg	
J22-HA03-1-SD (DP170	2.0	7/29/94	6010	Silver	< 0.9	mg/kg	
J22-HA03-1-SD (DP170	2.0	7/29/94	7471	Mercury	< 0.04	mg/kg	
J22-HA03-1-SD (DP169	2.0	7/29/94	8015M	TPH (as diesel)	< 1	mg/kg	
J22-HA03-1-SD (DP171	2.0	7/29/94	8260	1,1,1,2-Tetrachloroethane	< 0.4	ug/kg	
J22-HA03-1-SD (DP171	2.0	7/29/94	8260	1,1,1-Trichloroethane	< 0.6	ug/kg	
J22-HA03-1-SD (DP171	2.0	7/29/94	8260	1,1,2,2-Tetrachloroethane	1.1	ug/kg	
J22-HA03-1-SD (DP171	2.0	7/29/94	8260	1,1,2-Trichloroethane	0.5	ug/kg	J
J22-HA03-1-SD (DP171	2.0	7/29/94	8260	1,1-Dichloroethane	< 0.2	ug/kg	
J22-HA03-1-SD (DP171	2.0	7/29/94	8260	1,1-Dichloroethene	< 0.2	ug/kg	
J22-HA03-1-SD (DP171	2.0	7/29/94	8260	1,2,3-Trichloropropane	< 0.8	ug/kg	
J22-HA03-1-SD (DP171	2.0	7/29/94	8260	1,2-Dichlorobenzene	0.5	ug/kg	J
J22-HA03-1-SD (DP171	2.0	7/29/94	8260	1,2-Dichloroethane	< 0.6	ug/kg	
J22-HA03-1-SD (DP171	2.0	7/29/94	8260	1,2-Dichloropropane	< 0.8	ug/kg	
J22-HA03-1-SD (DP171	2.0	7/29/94	8260	1,3-Dichlorobenzene	< 0.2	ug/kg	
J22-HA03-1-SD (DP171	2.0	7/29/94	8260	1,4-Dichlorobenzene	0.4	ug/kg	
J22-HA03-1-SD (DP171	2.0	7/29/94	8260	2-Chloroethylvinylether	< 0.6	ug/kg	
J22-HA03-1-SD (DP171	2.0	7/29/94	8260	Benzene	0.3	ug/kg	J
J22-HA03-1-SD (DP171	2.0	7/29/94	8260	Benzyl chloride	< 0.6	ug/kg	
J22-HA03-1-SD (DP171	2.0	7/29/94	8260	Bromobenzene	< 0.4	ug/kg	
J22-HA03-1-SD (DP171	2.0	7/29/94	8260	Bromodichloromethane	< 0.2	ug/kg	
J22-HA03-1-SD (DP171	2.0	7/29/94	8260	Bromoform	0.4	ug/kg	J
J22-HA03-1-SD (DP171	2.0	7/29/94	8260	Bromomethane	1.7	ug/kg	
J22-HA03-1-SD (DP171	2.0	7/29/94	8260	Carbon Tetrachloride	< 0.6	ug/kg	
J22-HA03-1-SD (DP171	2.0	7/29/94	8260	Chlorobenzene	0.3	ug/kg	J
J22-HA03-1-SD (DP171	2.0	7/29/94	8260	Chloroethane	1.3	ug/kg	
J22-HA03-1-SD (DP171	2.0	7/29/94	8260	Chloroform	< 0.2	ug/kg	
J22-HA03-1-SD (DP171	2.0	7/29/94	8260	Chloromethane	1.5	ug/kg	J

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J22-HA03-1-SD (DP171	2.0	7/29/94	8260	cis-1,3-Dichloropropene	< 0.2	ug/kg	
J22-HA03-1-SD (DP171	2.0	7/29/94	8260	Dibromochloromethane	< 0.6	ug/kg	
J22-HA03-1-SD (DP171	2.0	7/29/94	8260	Dibromomethane	< 0.2	ug/kg	
J22-HA03-1-SD (DP171	2.0	7/29/94	8260	Dichlorodifluoromethane	< 0.1	ug/kg	
J22-HA03-1-SD (DP171	2.0	7/29/94	8260	Ethylbenzene	0.4	ug/kg	J
J22-HA03-1-SD (DP171	2.0	7/29/94	8260	Methylene chloride	6.8	ug/kg	
J22-HA03-1-SD (DP171	2.0	7/29/94	8260	Tetrachloroethene	< 0.6	ug/kg	
J22-HA03-1-SD (DP171	2.0	7/29/94	8260	Toluene	0.5	ug/kg	J
J22-HA03-1-SD (DP171	2.0	7/29/94	8260	Total Xylene Isomers	0.8	ug/kg	J
J22-HA03-1-SD (DP171	2.0	7/29/94	8260	trans-1,2-Dichloroethene	< 0.2	ug/kg	
J22-HA03-1-SD (DP171	2.0	7/29/94	8260	trans-1,3-Dichloropropene	< 0.2	ug/kg	
J22-HA03-1-SD (DP171	2.0	7/29/94	8260	Trichloroethene	< 1	ug/kg	
J22-HA03-1-SD (DP171	2.0	7/29/94	8260	Trichlorofluoromethane	< 0.1	ug/kg	
J22-HA03-1-SD (DP171	2.0	7/29/94	8260	Vinyl chloride	1.7	ug/kg	
J22-HA03-1-SD (DP170	2.0	7/29/94	D2216	Moisture/TNFR	1.9	percent	
J22-HA03-1-SD (DP171	2.0	7/29/94	D2216	Moisture/TNFR	1.9	percent	
J22-HA03-1-SD (DP168	2.0	7/29/94	D4031	Immunoassay BTEX	<2	mg/kg	
J22-HA03-2-S	5.0	7/29/94	6010	Arsenic	< 4	mg/kg	
J22-HA03-2-S	5.0	7/29/94	6010	Barium	78	mg/kg	
J22-HA03-2-S	5.0	7/29/94	6010	Cadmium	1.3	mg/kg	U
J22-HA03-2-S	5.0	7/29/94	6010	Chromium	99	mg/kg	
J22-HA03-2-S	5.0	7/29/94	6010	Lead	10	mg/kg	J
J22-HA03-2-S	5.0	7/29/94	6010	Selenium	< 5	mg/kg	
J22-HA03-2-S	5.0	7/29/94	6010	Silver	< 0.9	mg/kg	
J22-HA03-2-S	5.0	7/29/94	7471	Mercury	< 0.04	mg/kg	
J22-HA03-2-S	5.0	7/29/94	8015M	TPH (as diesel)	< 1	mg/kg	
J22-HA03-2-S	5.0	7/29/94	D2216	Moisture/TNFR	1.6	percent	
J22-HA03-2-S	5.0	7/29/94	D2216	Moisture/TNFR	1.5	percent	
J22-HA03-2-S	5.0	7/29/94	D4031	Immunoassay BTEX	<2	mg/kg	
J22-HA04-1-S	2.0	7/29/94	6010	Arsenic	< 4	mg/kg	
J22-HA04-1-S	2.0	7/29/94	6010	Barium	78	mg/kg	
J22-HA04-1-S	2.0	7/29/94	6010	Cadmium	1.4	mg/kg	U
J22-HA04-1-S	2.0	7/29/94	6010	Chromium	6.6	mg/kg	
J22-HA04-1-S	2.0	7/29/94	6010	Lead	8.7	mg/kg	J
J22-HA04-1-S	2.0	7/29/94	6010	Selenium	< 5	mg/kg	
J22-HA04-1-S	2.0	7/29/94	6010	Silver	< 0.9	mg/kg	
J22-HA04-1-S	2.0	7/29/94	7471	Mercury	< 0.04	mg/kg	
J22-HA04-1-S	2.0	7/29/94	8015M	TPH (as diesel)	< 1	mg/kg	
J22-HA04-1-S	2.0	7/29/94	D2216	Moisture/TNFR	1.6	percent	
J22-HA04-1-S	2.0	7/29/94	D4031	Immunoassay BTEX	<2	mg/kg	
J22-HA04-2-S	5.0	7/29/94	6010	Arsenic	< 4	mg/kg	
J22-HA04-2-S	5.0	7/29/94	6010	Barium	64	mg/kg	

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J22-HA04-2-S	5.0	7/29/94	6010	Cadmium	1.3	mg/kg	U
J22-HA04-2-S	5.0	7/29/94	6010	Chromium	9.2	mg/kg	
J22-HA04-2-S	5.0	7/29/94	6010	Lead	8.8	mg/kg	J
J22-HA04-2-S	5.0	7/29/94	6010	Selenium	< 5	mg/kg	
J22-HA04-2-S	5.0	7/29/94	6010	Silver	< 0.9	mg/kg	
J22-HA04-2-S	5.0	7/29/94	7471	Mercury	< 0.04	mg/kg	
J22-HA04-2-S	5.0	7/29/94	8015M	TPH (as diesel)	< 1	mg/kg	
J22-HA04-2-S	5.0	7/29/94	D2216	Moisture/TNFR	1.3	percent	
J22-HA04-2-S	5.0	7/29/94	D4031	Immunoassay BTEX	<2	mg/kg	
J22-HA05-1-S	2.0	7/29/94	6010	Arsenic	< 4	mg/kg	
J22-HA05-1-S	2.0	7/29/94	6010	Barium	94	mg/kg	
J22-HA05-1-S	2.0	7/29/94	6010	Cadmium	1.6	mg/kg	U
J22-HA05-1-S	2.0	7/29/94	6010	Chromium	5.7	mg/kg	
J22-HA05-1-S	2.0	7/29/94	6010	Lead	34	mg/kg	J
J22-HA05-1-S	2.0	7/29/94	6010	Selenium	< 5	mg/kg	
J22-HA05-1-S	2.0	7/29/94	6010	Silver	< 0.9	mg/kg	
J22-HA05-1-S	2.0	7/29/94	7471	Mercury	< 0.04	mg/kg	
J22-HA05-1-S	2.0	7/29/94	8015M	TPH (as diesel)	< 1	mg/kg	
J22-HA05-1-S	2.0	7/29/94	D2216	Moisture/TNFR	0.93	percent	
J22-HA05-1-S	2.0	7/29/94	D4031	Immunoassay BTEX	<2	mg/kg	
J22-HA05-2-S	5.0	7/29/94	6010	Arsenic	< 4	mg/kg	
J22-HA05-2-S	5.0	7/29/94	6010	Barium	73	mg/kg	
J22-HA05-2-S	5.0	7/29/94	6010	Cadmium	1.6	mg/kg	U
J22-HA05-2-S	5.0	7/29/94	6010	Chromium	7.3	mg/kg	
J22-HA05-2-S	5.0	7/29/94	6010	Lead	12	mg/kg	J
J22-HA05-2-S	5.0	7/29/94	6010	Selenium	< 5	mg/kg	
J22-HA05-2-S	5.0	7/29/94	6010	Silver	< 0.9	mg/kg	
J22-HA05-2-S	5.0	7/29/94	7471	Mercury	< 0.04	mg/kg	
J22-HA05-2-S	5.0	7/29/94	8015M	TPH (as diesel)	< 1	mg/kg	
J22-HA05-2-S	5.0	7/29/94	D2216	Moisture/TNFR	0.95	percent	
J22-HA05-2-S	5.0	7/29/94	D4031	Immunoassay BTEX	<2	mg/kg	

Appendix C

Survey Data at SWMU J-22
Hawthorne Army Depot
Hawthorne, Nevada

Point Name	Northing	Easting
J22LAZ01	491138.58	1369045.57
HA-1	491061	1369834
HA-2	490848	1369506
HA-3	491615.69	1369421.58
HA-4	491052.68	1368886.83
HA-5	491333.07	1368845.22

Footnote: Survey data in Nevada State Plane West, 1927 coordinates.

Appendix D

SWMU J-22
50 Group pits

Appendix E

STATE OF NEVADA
DEPARTMENT OF MUSEUMS, LIBRARY AND ARTS
STATE HISTORIC PRESERVATION OFFICE
100 N. Stewart Street
Carson City, Nevada 89701-4285

BOB MILLER
Governor

JOAN G. KERSCHNER
Department Director

RONALD M. JAMES
State Historic Preservation Officer

January 15, 1998

Mr. Vernon L. Shankle, P.E.
Chief, Operations Review Division
Department of the Army
Hawthorne Army Depot
P.O. Box 5000
Hawthorne NV 89415-5000

RE: Proposed Cleanup of Solid Waste Management Units (Landfill Turntable Area HWAAP-J26; Landfill Camp Jumbo Area HWAAP-J27), Hawthorne Army Depot, Mineral County.

Dear Mr. Shankle:

The Nevada State Historic Preservation Office (SHPO) reviewed the two proposed cleanup sites. The Army identified the unevaluated remanent of the CCC and early World War II site of Camp Jumbo within the area of potential effect (APE) for the subject undertaking. The Army determined that the proposed undertaking will not pose an effect to this site for the following reasons:

> The Army will remove asbestos-containing pipe insulation materials from the Camp Jumbo area. A majority of the asbestos will be carefully removed from the site by hand. In one location, it appears that a larger pile of asbestos material is present within a debris pile. Tests will be conducted on this pile to determine its composition. If asbestos is identified, the pile will need to be removed within a larger piece of equipment. The Army will ensure that this equipment remains on the existing road and no additional disturbance, beyond the asbestos removal, will occur at this location.

> The Army will also close a trench and temporary disposal area adjacent to the Camp Jumbo site. Given the distance between this feature and the Camp Jumbo site, it is unlikely that the closure will pose an effect to its potential National Register eligibility.

The Army has determined that no work will occur at the 50 Group Pits (HWAAP-J22) located southwest of Group 50. The SHPO supports the Army's efforts to preserve what appears to be a significant deposit associated with the early occupation of Hawthorne.

If you have any questions concerning this correspondence, please feel free to contact Rebecca Lynn Palmer by phone at (702) 687-5138 or by e-mail at rlpalmer@clan.lib.nv.us.

Sincerely,

Alice M Baldrica

Alice M. Baldrica, Deputy
State Historic Preservation Officer

cc: Art Gravenstein, Waste Management.