

Five-Year Review Report

**Second Five-Year Review Report
for
Cal West Metals Superfund Site
Lemitar
Socorro County, New Mexico**

September 2005

PREPARED BY:

**Region 6
United States Environmental Protection Agency
Dallas, Texas**



197128

FIVE-YEAR REVIEW

Cal West Metals Superfund Site Lemitar, Socorro County, New Mexico

Summary of Five-Year Review Findings

The results of the second Five-Year Review at the Cal West Metals site, located in Lemitar, Socorro County, New Mexico, indicate that the response action is protective of human health and the environment. The implemented remedy is functioning as designed and the site is properly maintained.

Actions Needed

There were no deficiencies noted that could impact the protectiveness of the remedy.

Determinations

The response action implemented for the Cal West Metals site continues to be protective of human health and the environment.

Approved by:

Date:



9/19/05

for
Samuel Coleman, P.E.
Director, Superfund Division
U.S. Environmental Protection Agency
Region 6

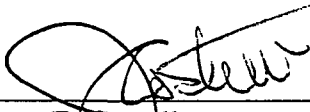
CONCURRENCES

SECOND FIVE-YEAR REVIEW FOR
CAL WEST METALS SUPERFUND SITE
EPA ID# NMD097960272



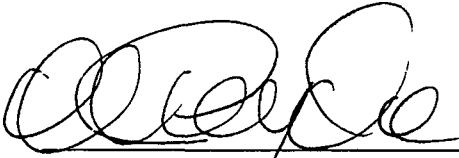
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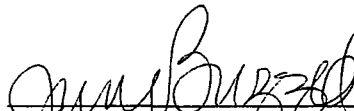
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CAL WEST METALS
SECOND FIVE-YEAR REVIEW REPORT

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List of Acronyms

ARARs	Applicable or Relevant and Appropriate Requirements
BOR	Bureau of Land Reclamation
CERCLA	Comprehensive Environmental Response, Compensation, and Liability Act
CFR	Code of Federal Regulations
EPA	United States Environmental Protection Agency
GWQB	Groundwater Quality Bureau
IC	Institutional Controls
MG/KG	Milligrams per Kilogram
NCP	National Oil and Hazardous Substances Pollution Contingency Plan
NMED	New Mexico Environment Department
NPL	National Priorities List
O&M	Operation and Maintenance
OU	Operable Units
RI/FS	Remedial Investigation/Feasibility Study
ROD	Record of Decision
SI	Site Inspection
SIF	Site Inspection Follow Up
SOS	Superfund Oversight Section
SSC	Superfund State Contract

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Executive Summary

This is the second Five-Year Review of the Cal West Metals site located in Lemitar, Socorro County, New Mexico, and was completed in September 2005. The results of the five-year review indicate that the remedy is protective of human health and the environment. Overall, the remedial actions performed appear to be functioning as designed, and the site has been maintained appropriately. Two follow up actions were noted that do not directly impact the protectiveness of the remedy.

The requirements of the Cal West Metals Record of Decision (ROD) included On-site stabilization, On-site Disposal and Capping and performing groundwater monitoring by sampling four groundwater wells annually for the first five years. The wells will then be sampled once every five years thereafter for 25 years. In May 1996, New Mexico Environment Department (NMED) initiated the groundwater monitoring program. The first five-year review for the site was completed in September 2000.

The remedial action at the site, as originally set forth in the Record of Decision, has been implemented as planned and continues to be protective of human health and the environment.

Five-Year Review Summary Form		
SITE IDENTIFICATION		
Site name (from WasteLAN): Cal West Metals		
EPA ID (from WasteLAN): NMD 097960272		
Region: EPA Region 6	State: NM	City/County: Lemitar, Socorro
SITE STATUS		
NPL Status: <input type="checkbox"/> Final <input checked="" type="checkbox"/> Deleted <input type="checkbox"/> Other (specify):		
Remediation status (choose all that apply): <input type="checkbox"/> Under Construction <input type="checkbox"/> Operating <input checked="" type="checkbox"/> Complete		
Multiple OUs? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	Construction completion date: April 1995	
Has site been put into reuse? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No Current occupant: truck bed fabrication co.		
REVIEW STATUS		
Reviewing agency: <input checked="" type="checkbox"/> EPA <input checked="" type="checkbox"/> State <input type="checkbox"/> Tribe <input type="checkbox"/> Other Federal Agency:		
Authors: Sabino Rivera		
Review period: 2000-2005		
Date(s) of site inspection: May 19, 2005		
Type of review: <input checked="" type="checkbox"/> Statutory <input type="checkbox"/> Policy <input type="checkbox"/> Post-SARA <input type="checkbox"/> Pre-SARA <input type="checkbox"/> NPL-Removal only <input type="checkbox"/> Non-NPL Remedial Action Site <input checked="" type="checkbox"/> NPL State/Tribe-lead <input type="checkbox"/> Regional Discretion		
Review number: <input type="checkbox"/> 1 (first) <input checked="" type="checkbox"/> 2 (second) <input type="checkbox"/> 3 (third) <input type="checkbox"/> Other (specify):		
Triggering action: <input type="checkbox"/> Actual RA Onsite Construction at OU# _____ <input type="checkbox"/> Actual RA Start at OU# _____ <input checked="" type="checkbox"/> Construction Completion <input type="checkbox"/> Recommendation of Previous Five-Year Review Report <input type="checkbox"/> Other (specify):		
Triggering action date (from WasteLAN): Construction completion; April 1995		
Due date (five years after triggering action date): Second Five Year Review due September 2005		

Five-Year Review Summary Form

Deficiencies:

No deficiencies were noted.

Recommendations and Follow-up Actions:

- The NMED Office of General Council is currently reviewing the draft language for the deed notice. NMED will follow-up and with the City of Socorro to implement the deed notice as the institutional control.
- Supply well CWSW-1 has not been plugged and abandoned. NMED will follow-up to determine the time frame when this supply well will be plugged and abandoned.

Protectiveness Statement(s):

The results of the five-year review indicate that the remedial action at the Site is protective of human health and the environment. The remedial action is functioning as designed, and the Site has been maintained properly. Two follow-up actions were noted; however, none of these follow-up actions directly impact the protectiveness of the remedy.

All the completion requirements for this site have been met as specified in OSWER Directive 9320.2-3C. Specifically the contaminated soil and sediments have been rendered immobile by solidification/stabilization and the possibility of contact to future residents at the site has been eliminated. The solidified material passed TCLP tests for leachate at levels below RCRA regulatory level. The groundwater, which was not contaminated at the time of the RI, is being further protected by the solidification/stabilization and capping of the waste. Routine groundwater monitoring shows groundwater has not been impacted.

Cal West Metals Superfund Site Second Five-Year Review Report

The United States Environmental Protection Agency (EPA) Region 6 and the NMED/Superfund Oversight Section (SOS) has conducted this five-year review of the remedial actions implemented at the Cal West Metals Superfund Site (Site) located in Lemitar, Socorro, New Mexico for the period 2000 to 2005. The purpose of a five-year review is to determine whether the remedy at a site is protective of human health and the environment. This report documents the results of the review for this site.

1. Introduction

This second five-year review for Cal West Metals Superfund Site is required by statute. This five-year review was conducted pursuant to the Comprehensive Environmental Response Compensation and Liability Act (CERCLA) Section 121(c), 42 U.S.C. § 9621(c), the National Contingency Plan (NCP) (40 CFR § 300.430 (f)(4)(ii)), Office of Solid Waste and Emergency Response (OSWER) Directive 9355.7-02 (May 23, 1991), OSWER Directive 9355.7-02A (July 26, 1994), OSWER Directive 9355.7-03A (December 21, 1995), and OSWER Directive 9355.7-03B-P Comprehensive Five-Year Review Guidance (June 2001).

Section 121(c) of CERCLA requires that *"If the President selects a remedial action that results in any hazardous substances, pollutants, or contaminants remaining at the site, the President shall review such remedial action no less often than each 5 years after initiation of such remedial action to assure that human health and the environment are being protected by the remedial action being implemented."* Under the NCP, the Federal regulations which implement CERCLA, EPA is required to conduct five-year reviews of a remedial action whenever, under the remedial action, *"hazardous substances, pollutants, or contaminants are remaining at the site above levels that allow unlimited use and unrestricted exposure."*

This five-year review has been approved by the Director of the Superfund Division, U.S. EPA Region 6. Although CERCLA Section 121(c) authorizes "the President" to undertake five year reviews, the President's authority was delegated to the Administrator of the EPA by Executive Order 12580 (52 Fed. Reg. 2926, January 29, 1987), and this authority was further delegated to the EPA's Regional Administrators on September 13, 1987, by EPA Delegation No. 14-8-A. Finally, the authority was delegated to the Director of the Superfund Division by EPA Region 6 Delegation No. R6-14-8-A on August 4, 1995.

This is the second five-year review for the Site. The triggering action for this statutory review is the date of construction completion, April 1995. The first five year review was completed in September 2000. This review is required because hazardous substances, pollutants, or contaminants remain in the subsurface at concentrations that are above levels that allow for unlimited use and unrestricted exposure.

1. Site Chronology

A chronology of significant site events and dates are included in Table 1, provided at the end of the report text. Sources of this information are listed in Attachment 1, Documents Reviewed.

Date	Event
7/01/81	Initial discovery of the problem
8/85	NMED conducted Site Inspection (SI)
10/86	NMED conducted CERCLA Site Inspection follow-up (SIF)
1/86	EPA conducted a Resource Conservation and Recovery Act (RCRA) Compliance Monitoring Inspection
6/24/88	Proposed inclusion in NPL
3/31/89	Officially listed in NPL
10/90	NMED/EPA initiate in-house RI/FS phase II
9/91	NMED/EPA began comprehensive RI Phase II
9/29/92	ROD signed
5/94	Construction of remedy begins
4/95	Remediation construction completed
4/96	Annual groundwater sampling program initiated
12/96	Deletion from NPL
9/00	First five year review completed

2. Background

The Cal West Metals site is located one-half mile northwest of Lemitar and approximately eight miles north of Socorro in Socorro County, New Mexico, as shown in Figure 1. The site is bounded on the east by a frontage road for US Interstate 25. The Interstate is located approximately 250 feet east of the site. The facility is located at an elevation of approximately 4,700 feet above mean sea level (msl) within the northwest quadrant of the southwest quadrant of Section 2, Township 2 South, Range 1 West (EPA, 1992). Land use in the area is predominately

agricultural and residential, with three households located within 1,100 feet south of the site (EPA, 2000).

The Cal West Metals site is a former battery breaking and recycling facility. The Cal West property includes approximately 43.8 acres, of which 12.5 acres are fenced. Site operations were located within the fenced area. Layout of the Cal West facility is shown in Figure 2. The site consisted of two evaporation ponds, three facility buildings, earth berms, soil and battery waste piles, a concrete surface pad, and a salvage area (EPA, 1992).

Cal West Metals facility operated as a cotton gin facility prior to it becoming a battery recycling facility. No information is available on specific dates that the cotton gin operated but, New Mexico State Highway Department aerial photographs indicate it was active at least between 1961 and 1972 (EPA, 1992).

Cal West Metals also operated as a small scale battery recycling facility and secondary lead smelter. Cal West Metals was operated by Albert and James LaPoint. From 1979 to 1981 the facility processed an estimated 20,000 automobile batteries to recover lead, plastics, and hard rubber components for commercial sale. Lead acid batteries were crushed on site and the batteries were separated into plastics, hard rubber, and lead oxides. The plastics, hard rubber, and lead fractions were separated by flotation and centrifugation in a rotating separator drum. Water was recycled through the separator drum and ultimately discharged to the lined pond along with waste discharges (Figure 2). After the discharge line became plugged, sludges were disposed of on the concrete surface pad adjacent to the cotton gin building. Piles of crushed battery components, in various stages of separation were stored outdoors from the start of the operation to approximately 1989 (EPA, 1992).

The LaPoints declared bankruptcy in 1985 and the property was foreclosed by the Small Business Administration (SBA). SBA took ownership of the property until the fall of 1997 when the City of Socorro bought the property. The site was vacant from approximately 1990 to 1998. The metal warehouse on the south end of the Cal West Site is being leased by Ezell Aluminum Fabrication to build truck aluminum tool boxes and gasoline tanks. This company cuts and bends aluminum sheets and then welds them into a combination tool box/gasoline tank accessory for truck beds. New Mexico Tech University has inquired about using the middle building as a mining museum.

The Cal West site has been the subject of numerous State and Federal investigations and regulatory actions since 1979 (EPA, 1992). From 1979 to 1985, the state conducted investigations to assess air and ground water quality on-site (EPA, 2000). Preliminary investigations were conducted by NMED, the EPA and the LaPoints from 1981 through 1989 (EPA, 1992). Based on site investigations conducted by EPA and NMED, the site was proposed for inclusion in the CERCLA National Priorities list (NPL) on June 24, 1988, and officially listed on March 31, 1989 (EPA, 1996).

NMED conducted a CERCLA Site Inspection (SI) during August 1985 to characterize on-site wastes. This investigation showed elevated levels of lead in soil and sediment (NMED, 1985). Surface soils and drainages adjacent to the Cal West site were sampled during a CERCLA Site Inspection follow-up (SIF) performed by NMED during October 1986 (NMED, 1986). The Remedial Investigation/Feasibility Study (Phase I) was conducted in October 1990 to determine if there were contaminants other than metal (NMED, 1990). The Remedial Investigation (RI) Phase II was conducted in September 1991 to fully characterize the site and determine the extent of contamination (NMED, 1992). The primary contaminants of concern affecting the battery waste pile, soil, sediment, and debris are metals, including primarily lead and arsenic, and polyaromatic hydrocarbons (PAHs). Lead concentrations in sediments were detected up to 211,000 ppm (NMED, 1992). NMED and the EPA determined ground water contamination associated with a release from the site had not occurred, although unfiltered ground water samples from three on-site monitoring wells (CWMW-1, -3, and -9) and the supply well CWSW-1 exceeded regulatory standards. However, the filtered samples from these locations did not exceed standards, therefore no dissolved-phase metal contamination from site activities have reached groundwater. Background lead concentrations in soils were determined to be between 10-15 ppm, further supporting the theory that the lead concentrations found in some of the unfiltered ground water samples came from native soils.

Remediation goals are medium-specific chemical concentrations that are protective of human health and the environment. The chemical-specific soil and sediment remediation goals used for cleanup at the site are health-based concentrations recommended in the EPA Baseline Human Health Risk Assessment and selected in the ROD. The remediation goals address carcinogenic and noncarcinogenic risks. Table 2 lists the chemical-specific soil and sediment remediation goals.

Table 2 Chemical-Specific Soil and Sediment Remediation Goals	
Chemical of Concern	Clean-up Goal
Arsenic	0.37 mg/Kg
Antimony	110 mg/Kg
Cadmium	140 mg/Kg
Lead	640 mg/Kg
Mercury	82 mg/Kg
Total PAHs	3 mg/Kg benzo(a)pyrene equivalents

The ROD for the Cal West Metals site was signed in September 1992. Remedial actions took place between May 1994 and April 1995. Contaminated materials with lead concentrations exceeding 640 mg/Kg were treated to meet the RCRA TCLP standard of 5 mg/Kg leachable lead prior to on-site disposal (EPA, 2000). The site was deleted from the NPL in December 1996. The first Five-Year Review was completed in September 2000.

3. Remedial Actions

The remedial action completed at Cal West Metals Site included on-site stabilization, on-site disposal and capping. Included in this section is a description of the remedy selection process employed at the Cal West Metals Site, the implementation of the remedy, the operations/O&M, and the progress made at the site since initiation of remedial action/construction completion.

3.1 Remedy Selection

The remedial action objectives were to:

- Prevent direct contact with or ingestion of contaminated soils and ground water;
- Eliminate contaminant loading to the ground water;
- Prevent migration of contaminants via ground water;

The EPA and NMED selected on-site stabilization, on-site disposal and capping as the most appropriate and protective remedy for this site. The remedial action involved approximately 15,000 cubic yards of contaminated soils, sediments, and source waste materials with lead concentrations exceeding the health-based remediation goals of 640 mg/Kg. These contaminated materials were treated by stabilization/solidification with cement and disposed of in an on-site excavation. The disposal (repository) area was capped and covered with 12 inches of clean site soils. NMED noted during the site inspection on July 31, 2000, that approximately 18 inches of top soil covered the cap at two test pits that were excavated to determine the integrity of the repository cap. In the May 2005 site inspection, NMED dug three test pits and found there was approximately 14"-20" of soil cover before the stabilized material was encountered.

3.2 Remedy Implementation

The remedial design for the site was started on May 10, 1994 and completed by Eagle Environmental Service, Inc, a subcontractor of the U. S. Bureau of Reclamation (BOR), in April 1995 (EPA, 1996). The selected remedy includes the following:

- Excavation and treatment by stabilization/solidification to meet the health-based cleanup level for lead of 640 mg/Kg of approximately 15,000 cubic yards of

contaminated soils, sediments, and source waste materials.

- Disposal of the treated contaminated material in an on-site excavation, and capping of the disposal area with cement and a 12-inch soil cover, and;
- Monitoring of site groundwater with existing wells down-gradient of the disposal site area.

Contaminated material was mixed with cement and water and was then deposited in an on-site repository cell. A total of 49,723 tons of material was treated: 1,028 tons of battery parts, 212 tons of sediment, and 48,483 tons of contaminated soil. The repository cell was covered with a three-inch thick concrete cap. The concrete cap had an average comprehensive strength of 4,317 psi (EPA, 1996). The disposal area was covered with a minimum of 12 inches of clean site soils. NMED observed in two test pits dug in July 2000 that approximately 18 inches of soil cover exists. In the May 2005 site inspection NMED dug three test pits and there was approximately 14"-20" of soil cover before concrete was encountered.

3.3 System Operations/O&M

Operation and Maintenance (O&M) activities are performed to protect the integrity of the remedy at the site. Pursuant to 40 CFR § 300.510, the State (NMED) has assumed all responsibility for Operation and Maintenance (O&M) at the site. In accordance with the Superfund State Contract (SSC), one year after the completion of the remedy, NMED began sampling four ground water wells annually. Annual sampling continued for five years. After the first five years, the wells are to be sampled once every five years for 25 years.

In 1997, NMED wrote an O&M Manual for the site (NMED, 1997). The first year of annual sampling and water level measurements took place in 1996 and included all nine wells on-site to create a baseline for groundwater. Thereafter, NMED collected groundwater level measurements and samples from four monitoring wells. After September 2000, NMED began sampling four monitoring wells every five years. The monitoring wells that are used are CWMW-7, CWMW-8, CWMW-9, and CWMW-10. CWMW-10 was installed in September 2002 because the groundwater flow direction had changed and there were no monitoring wells directly downgradient from the repository cell. The remaining wells CWMW-1 through 6 were plugged and abandoned. Table 3 summarizes the construction details and water level data for the monitoring wells located at the Cal West Metals site. The ground water gradient over time is shown in in Figure 4. The 2002 ground water data indicate that ground water flow shifted to the south-southeast (Figure 5). The 2005 ground water flow direction is towards the south-southwest (Figure 6). This flow direction is not toward the Rio Grande, which is located to the east of the site. NMED believes local geologic faulting and nearby pumping are influencing the flow direction at the site.

Table 3
Well Completion and Water Level Data

Well ID	Borehole Depth (ft bgs)	Well Depth (ftbgs)	Screened Interval	Casing Diameter (in)	Top of Casing Elevation (ft amsl)	Measured Date	Depth to Water (ft bgs)	Water Table Elevation (ft amsl)
CWMW-7	108	99	79-99	2	4703.78	Oct-96	86.71	4617.07
						Apr-97	87.39	4616.39
						Apr-98	87.16	4616.62
						Apr-99	87.15	4616.63
						Apr-00	87.3	4616.48
						Aug-02	86.40	4617.38
						Feb-05	87.21	4616.57
CWMW-8	103	97	77-92	2	4699.13	Oct-96	82.06	4617.07
						Apr-97	82.8	4616.33
						Apr-98	82.52	4616.61
						Apr-99	82.51	4616.62
						Aug-02	81.76	4617.37
						Feb-05	82.61	4616.52
CWMW-9	121	108	88-103	2	4716.21	Oct-96	99.48	4616.73
						Apr-97	100.02	4616.01
						Apr-98	99.85	4616.36
						Apr-99	99.88	4616.33
						Apr-00	99.99	4616.22
						Aug-05	99.24	4616.97
						Feb-05	100	4616.21
CWMW-10	118	118	96-116	2	#	Sep-02	99	#
						Feb-05	103.9	#

#=Well has not been surveyed

The ROD required that four existing monitoring wells be sampled to verify the protectiveness of the remedy. NMED selected monitoring wells CWMW-7, CWMW-8, CWMW-9 as part of the ground water monitoring program. CWMW-10, was installed in September 2002 directly down gradient from the repository cell. CWMW-7 was selected to monitor groundwater beneath the former battery pile and sludge pond. Ground water samples were collected from CWMW-8 to provide information as to whether contamination migrated off-site in the event that the groundwater flow direction would change to flow toward the Rio Grande. CWMW-9, located cross-gradient of the southeast corner of the repository cell, was installed to verify that the stabilization/on-site disposal remedy continued to be effective if the ground water gradient should move towards the Rio Grande. The remaining wells CWMW-1, CWMW-2, CWMW-3, CWMW-4, CWMW-5, and CWMW-6 were plugged and abandoned in September 2002.

Prior to abandoning the above mentioned wells, NMED sampled all monitoring wells in August 2002. NMED sampled for total metals, dissolved metals, volatile organic compounds (VOCs), and general water chemistry. Field sampling procedures followed those outlined in NMED's Standard Operating Procedures (SOP) document and the O&M manual for the site. Strict health and safety measures were followed throughout the field program. Prior to purging, the static water level of a given well was measured with a decontaminated water level probe. A minimum of three well casing volumes were purged prior to sample collection using dedicated polyvinylchloride (PVC) bailers. Total and dissolved samples were collected and preserved with nitric acid. VOC samples were collected and preserved with hydrochloric acid. General water chemistry samples were not preserved. Samples collected for dissolved metal analysis were filtered with a .45 micron filter prior to preservation. The water samples were stored and shipped in ice. NMED delivered the samples to the New Mexico Scientific Laboratory for analysis of total and dissolved metals, VOCs, and general water chemistry. Groundwater sampling results are discussed in Section 5.4.

In February 2005, NMED sampled CWMW 7, CWMW-8, CWMW-9, and CWMW-10 for total and dissolved metals. Field sampling procedures were followed as outlined above with one exception. NMED used a Monsoon™ low flow sampling pump to collect groundwater samples in monitor wells CWMW-7, CWMW-8 and CWMW-9. Purging was considered complete when the field parameters had stabilized (as detailed in the NMED SOP). The pump and tubing were decontaminated between wells using a five minute wash with liquinox/tap water, five minute rinse with tap water, and a five minute rinse with deionized water. CWMW-10 was sampled using a disposable bailer because the Monsoon™ pump became inoperative. Groundwater samples were sent to a designated laboratory in the Contract Laboratory Program. Groundwater sampling results are discussed in Section 5.4.

The First Five-Year Review completed in September 2000 made some recommendations and follow up actions. Noted below are the recommendations and followup corrective actions.

Fencing on southeast corner of property damaged.

The City of Socorro repaired the barbed wire fence. Access to the property is restricted to the main gate located on the southeast side of the property.

No warning signs marking the boundaries of the repository cell.

Eight aluminum signs with the words "CAUTION Repository Cell, Do Not Dig or Trench, For information Call 827-2911" were installed around the perimeter of the repository cell. The signs were secured to channel posts (channel posts were spray painted with a green fluorescent paint for high visibility). The signs are highly visible with red lettering on a yellow background. Six signs were installed on the eastern and western boundaries and two signs were installed on the northern and southern boundaries.

No down gradient monitoring well.

A new monitoring well CWMW-10 was installed down gradient from the repository cell. Rodgers and Company, a New Mexico licensed drilling contractor, installed CWMW-10 on September 9, 2002. CWMW-10 is a two-inch monitoring well and was completed at a depth of 118 feet.

No continuous data from all monitoring wells.

On August 7-8, 2002, NMED sampled monitoring wells CWMW 1 through 9. The New Mexico Scientific Laboratory Division analyzed the ground water sample for total and dissolved metals, volatile organic compounds, and general water chemistry. Ground water results are discussed in Section 5.4. See Table 5 for ground water analytical data for total and dissolved metals.

Unlocked monitoring well.

Monitoring well CWMW-3 was plugged and abandoned in September 2002.

No Institutional control.

On May 19, 2005 the EPA and NMED met with the Mayor and City Clerk from the City of Socorro to discuss the implementation of a Restrictive Covenant. This Restrictive Covenant specified that the repository cell is not to be tampered with. The City of Socorro provided draft language to be used in the Restrictive Covenant. The draft language is currently being reviewed by the NMED Office of General Council. See Attachment 2 for a copy of the draft Restrictive Covenant.

Monitoring well abandonment.

There was a concern that six monitoring wells that were no longer required for monitoring could be potential conduits for contaminants. Accordingly, NMED plugged CWMW 1 through 6 on September 9-10, 2002. The six monitoring wells were plugged as per NMED procedures outlined in NMED's SOP document. The six monitoring wells were plugged by Rodgers and Company, a New Mexico licensed drilling contractor. The monitoring wells were plugged by using a high pressure grouting system that pressure fed the grout through a tremie pipe from the bottom of the well to the top. A well cap was then installed and grout was further pressurized down the well to ensure better penetration from the well screen into the formation.

Table 4 provides a summary of the annual O&M costs recorded to date. The costs for 1996 are higher than for subsequent years because all nine monitoring wells were sampled that year, rather than just four of the wells as required by the ROD. In addition, a second site visit and water level measurement event was conducted in fall of 1996 when a new NMED project manager was assigned to the site. In general, the actual annual O&M costs (average \$4,280 per year) are less than the estimated annual O&M cost (estimated \$5,000 per year). The costs for the O&M are higher from 9/00 to 9/05 than previous years because a new monitoring well, CWMW-10 was installed, all nine monitoring wells were sampled in 2002 for volatile organic analysis, general water chemistry, and total and dissolved metals. In February 2005, four monitoring wells were sampled for total and dissolved metals. Additionally, six monitoring wells were plugged and abandoned.

DATES		TOTAL COST ROUNDED TO NEAREST \$100
FROM	TO	
1/96	12/96	\$6,800
1/97	12/97	\$3,800
1/98	12/98	\$3,500
1/99	12/99	\$3,800
1/00	9/00	\$3,500
9/00	9/05	\$14,370

4. FIVE-YEAR REVIEW PROCESS

This five-year review has been conducted in accordance with EPA's current guidance, including the Comprehensive Five-Year Review Guidance (EPA, June 2001). Interviews were conducted

with relevant parties, a site inspection was conducted, and applicable data and documentation covering the period of the review was evaluated. The findings of the review are described in the following section.

5. Five-Year Review Findings

The information collected during the interviews, the site inspection, the standards review, and the data review are described in the following subsections.

5.1 Interviews

The following individuals were interviewed in person on May 19, 2005 or on July 7, 2005, as part of the five-year review process:

- The Honorable Ravi Bhashker, Mayor of Socorro
- Mr. Patrick Salome, City of Socorro Clerk
- Mr. Steve Steinbach, Citizen

Ms. Jody Gutierrez, citizen, was interviewed on July 18, 2005, via telephone.

Interview Record Forms, which document the issues discussed during these interviews, are provided in Attachment 3.

Mayor Bhasker and Mr. Salome, mayor and city clerk, respectively, stated that the close proximity of the site to the truck stop has made the site attractive to prospective tenants. New Mexico Tech has inquired about using the middle building as a mining museum. Mr. Salome indicated at the pump house and northern building had been graffitied.

Mayor Bhasker and Mr Salome also noted that about eight new jobs were created when Ezell Aluminum Fabrication moved onto the site after the remedy was completed.

Mr. Steinback, a citizen, stated that there was great deal of money spent on the project but that the job was done well. He said that there are earthquakes in the area. He was concerned that the earthquakes might affect the repository cell. He also stated that it is NMED's job to determine whether or not the site is safe for the public.

Ms. Gutierrez, a citizen, noted that it was a great idea to get the site cleaned up and to put the buildings back to use.

5.2 Site Inspection

A site inspection was conducted by NMED staff on May 19, 2005. The site inspection checklist is provided in Attachment 4 along with NMED field log book entries. Photographs taken during

the site visit are provided in Attachment 5.

During the site inspection the repository cell and monitoring wells were inspected. The inspection evaluated the integrity of the cell, soil cover, site fencing, access, building condition, and monitoring well condition. Figure 3 shows the location of the repository cell and monitoring well locations. A summary of inspection findings is presented below.

Conditions during the inspection were hot with a temperature of 96° Fahrenheit, sunny and no precipitation.

NMED dug three test pits (1, 2, and 3) to determine the integrity of the repository cell. It was noted that the soil was extremely rocky and compacted. After digging approximately 14 to 18 inches, the cell cover was encountered (Photos 1, 2). NMED noted that the vegetation growing on the repository cell was like the surrounding vegetation. NMED noted approximately eight different species of vegetation. On the southern edge of the repository cell it was noted that an animal attempted to burrow (Photo 3) approximately eight inches into the surface soil of the repository cell. NMED covered the burrow with loose dirt.

NMED installed eight warning signs (Photo 4) around the perimeter of the repository cell in April 2003. The signs are secure and the fluorescent paint is still visible.

All monitoring wells (CWMW 7-10) were locked and the concrete pads were in good condition. The rope for the dedicated bailers on CWMW 7 through 9 is becoming frayed and will require replacement. CWSW-1 is a former pump house and supply well. The well house has fallen off its foundation and has exposed a concrete slab with a 3-inch PVC pipe, a 2-inch black hose, and a spigot (Photo 5). NMED had previously notified the City of Socorro by correspondence regarding the condition of this well in October 2003. The production well that is located on the southeast corner of the site (CWSW-2) had the pump house removed by the City of Socorro. To protect the well, a steel cover with lock has been installed over the well (Photo 6).

The middle building (Photo 7) is being used for welding operations. NMED noted barrels being stored on the concrete pad. There were four black drums and two blue drums (Photo 8). The black barrels are partially full and it was noted that there is a white residue staining the concrete pad. There is a partially legible label on the black barrels that states "acid." The black barrels were not capped and did not appear to be bulging. The blue drums were empty and are stenciled "motor oil." NMED notified the City of Socorro.

The fencing around the perimeter of the property was in good condition. Ingress and egress are limited to the main gate. It was noted that the gate was secured with a padlock and chain.

5.3 Standards Review

Applicable or Relevant and Appropriate Requirements (ARARs) for this site were identified in the ROD dated September 1992 (EPA, 1992). This Five-Year Review included an analysis of ARARs to determine whether there were any changes that may affect the protectiveness of the selected remedy. We found no changes in the ARARs.

5.4 Data Review

The data reviewed for the development of this Five-Year Review are listed in Attachment 1 and include the 1985 CERCLA Site Inspection, the 1986 Site Inspection Followup, the 1990 Remedial Investigation/Feasibility Study Phase I, the 1991 Remedial Investigation/Feasibility Study Phase II, the 1992 ROD, the 1995 Preliminary Closeout Report, the 1996 Final Closeout Report, the 1996 O&M Manual, the 2000 First Five-Year Review, the Scientific Laboratory Division (SLD) and Contract Laboratory Program analytical results forms, and NMED field logbook notes.

NMED has reviewed the ground water data from the August 2002 and February 2005 sampling events. Results are provided in Table 5 and discussed below.

In the ground water samples collected during the August 2002 and February 2005 sampling events, the following metals were detected at concentrations that exceeded regulatory standards: aluminum, barium, iron, and manganese. The exceedances occurred in total metal analysis, but not in dissolved metal samples, except as noted below.

Total aluminum in all monitoring wells exceeded the EPA secondary maximum contaminant level (SMCL), but not New Mexico ground water quality standards, in the August 2002 sampling event. Aluminum was not detected in dissolved phase in the August 2002 and February 2005 sampling event. Concentrations do not show any trends.

In an unfiltered sample in monitoring well CWMW-9, barium exceeded both state and EPA regulatory standards in the February 2005 sampling event. No dissolved-phase barium concentrations exceeded regulatory standards. Barium concentrations were detected below federal and state standards in CWMW-8, CWMW-9, and CWMW-10 in the August 2002 sampling event barium.

Iron, in total suspended form, exceeded both state and Federal SMCLs in samples taken from two monitoring wells (CWMW-9 and CWMW-10) during the February 2005 sampling event. No contaminant trends in iron levels were observed.

Manganese, in total metal form, exceeded SMCLs for the February 2005 sampling event in monitoring wells CWMW-8, CWMW-9, and CWMW-10. No dissolved-phase manganese concentrations exceeded regulatory standards. No contaminant trends were observed from

samples taken over time.

Monitoring wells CWMW-2 and CWMW-4, located upgradient, from the repository cell were sampled in August 2002. These two wells showed detectable concentrations of aluminum, barium, chromium, cobalt, lead, uranium, vanadium, and zinc. This indicates that these metals are naturally occurring in soils at the site.

In summary, the EPA and NMED have not observed ground water contamination above background concentrations since the last five year review. In general, there were no clear trends in total-phase metal concentrations that could be determined. Metal contamination associated with the site does not appear to have impacted ground water. The repository cell contents do not appear to have leached into ground water.

6. Assessment

The following conclusions support the determination that the remedy at the site is functioning as designed and is expected to continue to be protective of human health and the environment.

The remedy is functioning as intended by the decision documents. The repository cell is intact and no ground water contamination is associated with the site.

The assumptions used at the time of remedy selection are still valid. The risk-based level of 640 mg/Kg for lead is protective. No new ARARs have been developed since the completion of the first Five-Year Review.

No additional information has been identified that would call into question the protectiveness of the remedy.

7. DEFICIENCIES

There were no deficiencies noted.

8. Recommendations and Follow-up Actions

Recommendations and follow-up activities are summarized in Table 6.

Table 6 Recommendations and Follow-up Actions				
Deficiencies	Recommendations/ Follow-up Actions	Party Responsible	Oversight Agency	Follow-up Actions: Affects Protectiveness (Y/N)
Institutional control	Follow up with NMED Office of General Council and work with the City of Socorro.	NMED	NMED	No -
Supply well (CWSW-1) has not been plugged and abandoned	Follow-up with City of Socorro to determine when this well will be plugged and abandoned	City of Socorro	NMED	No

When the NMED Office of General Council has reviewed the Institutional Control (IC) language NMED will work with the City of Socorro to implement the IC. NMED will follow up with the City of Socorro regarding the deed modification.

To prevent a potential conduit for contaminants, CWSW-1 should be properly plugged and abandoned. NMED will follow up with the City of Socorro regarding a time frame as to when this supply well can be plugged and abandoned.

9. PROTECTIVENESS STATEMENT(S)

The remedy at Cal West Metals is protective of human health and the environment. Soils with lead concentrations exceeding 640 mg/Kg have been stabilized with grout, disposed on-site and capped. Ground water has been sampled annually for five years to verify that contaminated soils disposed on-site have not impacted the ground water. Ground water sampling will continue every five years for the next 25 years. Institutional controls to prevent damage to the repository cell are in place. Access restrictions are also in place.

10. NEXT REVIEW

The next review will be conducted within five years of the completion of this five-year review. The completion date is the date of the signature shown on the signature page attached to this report.

FIGURES

Figure 1: Cal West Metals Location Map

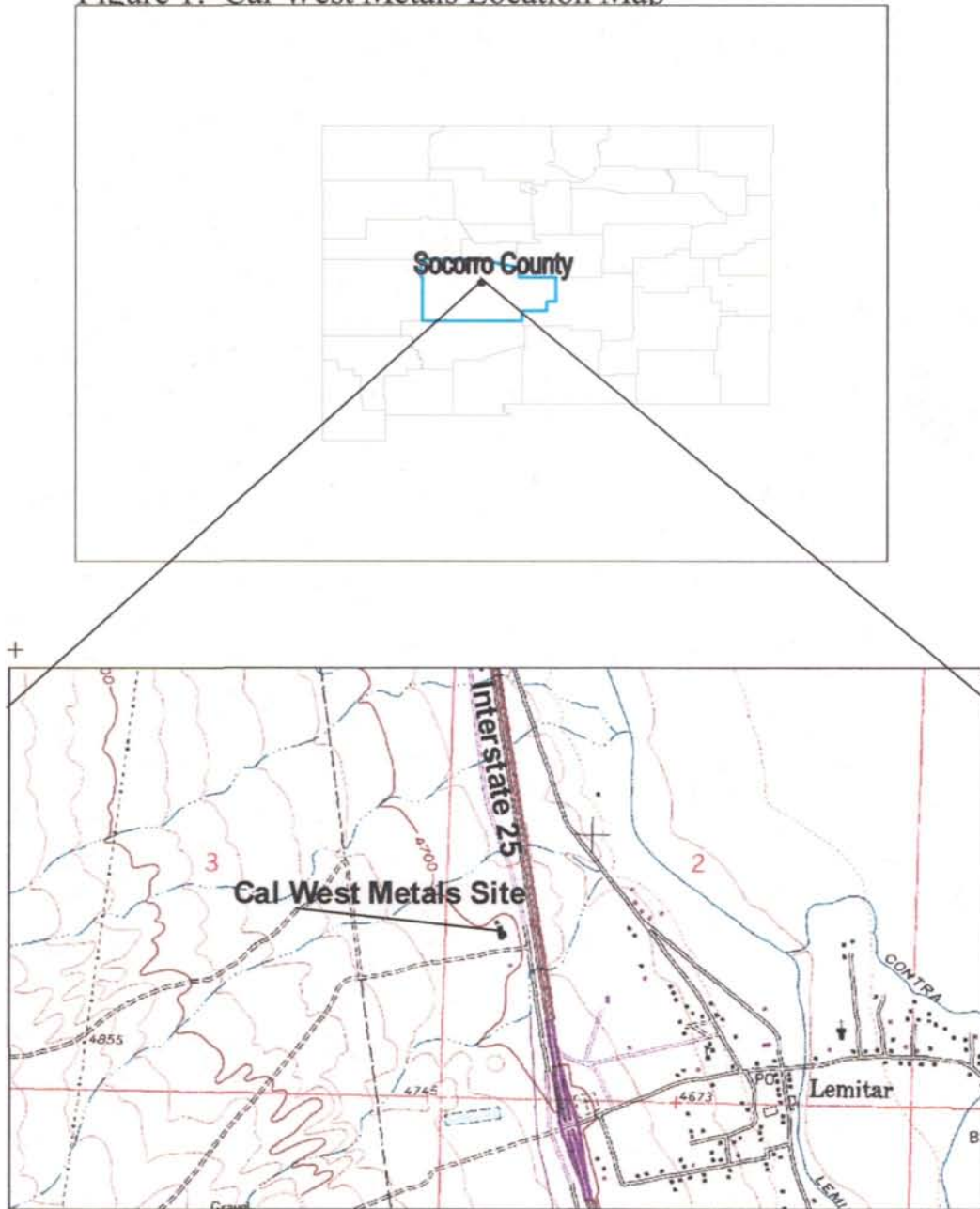
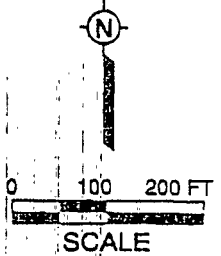
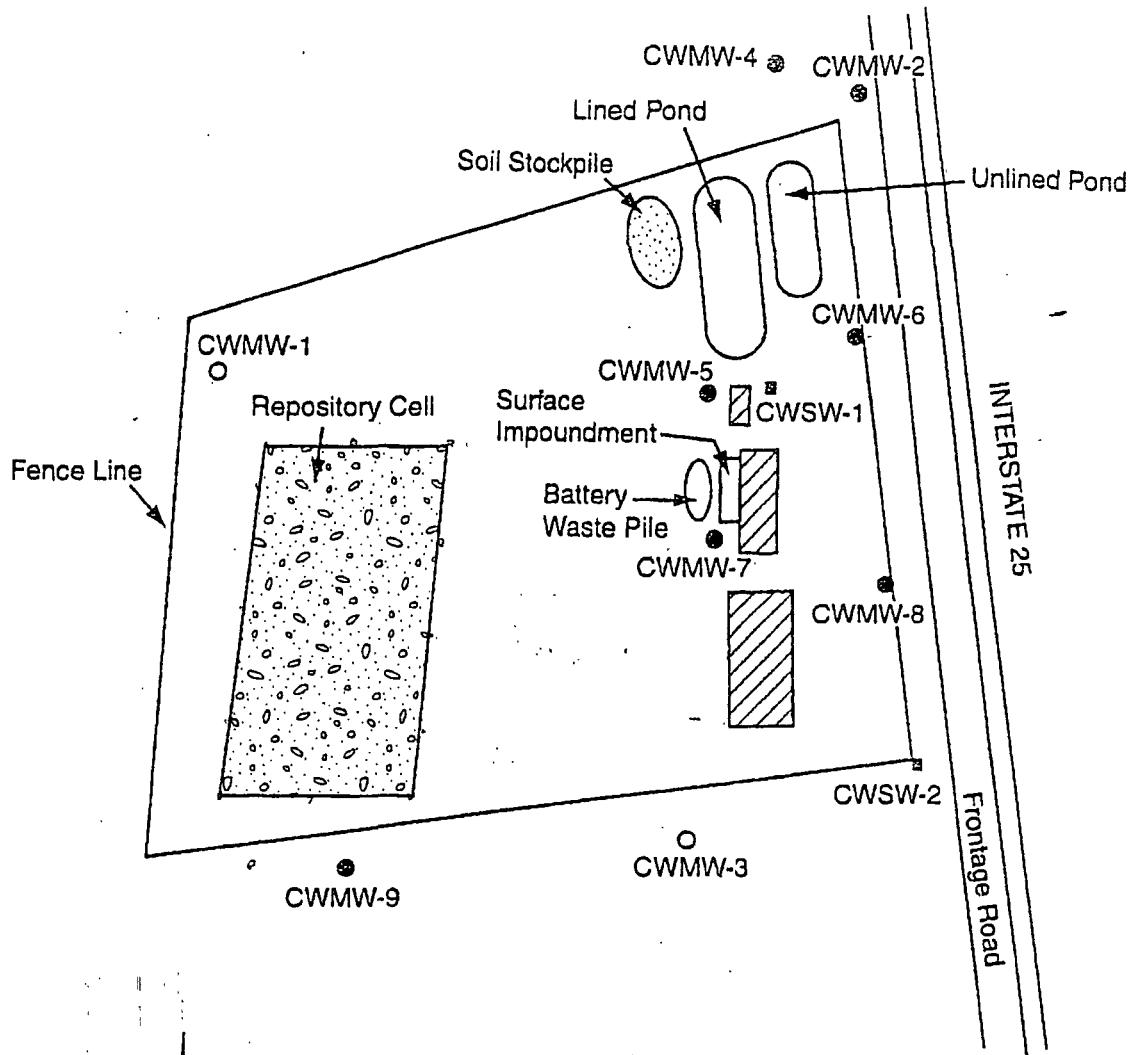


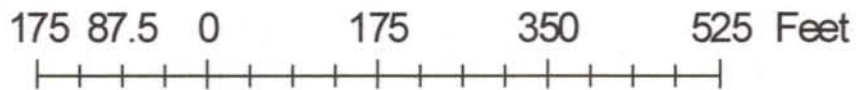
Figure 2: Cal West Metals Site Layout



LEGEND	
○	Previously Constructed Monitoring Well
●	Phase II Monitoring Well
■	Pump House and Supply Well Location
▨	Facility Building
▨	Repository Cell

Note: Monitoring wells CWMW 1-6 were plugged and abandoned in August 2002.

Figure 3: Cal West Metals Repository and Monitoring Well Location



Legend



-  Monitoring Well Location
-  Repository Cell Boundary

Figure 4: Cal West Metals Hydrograph

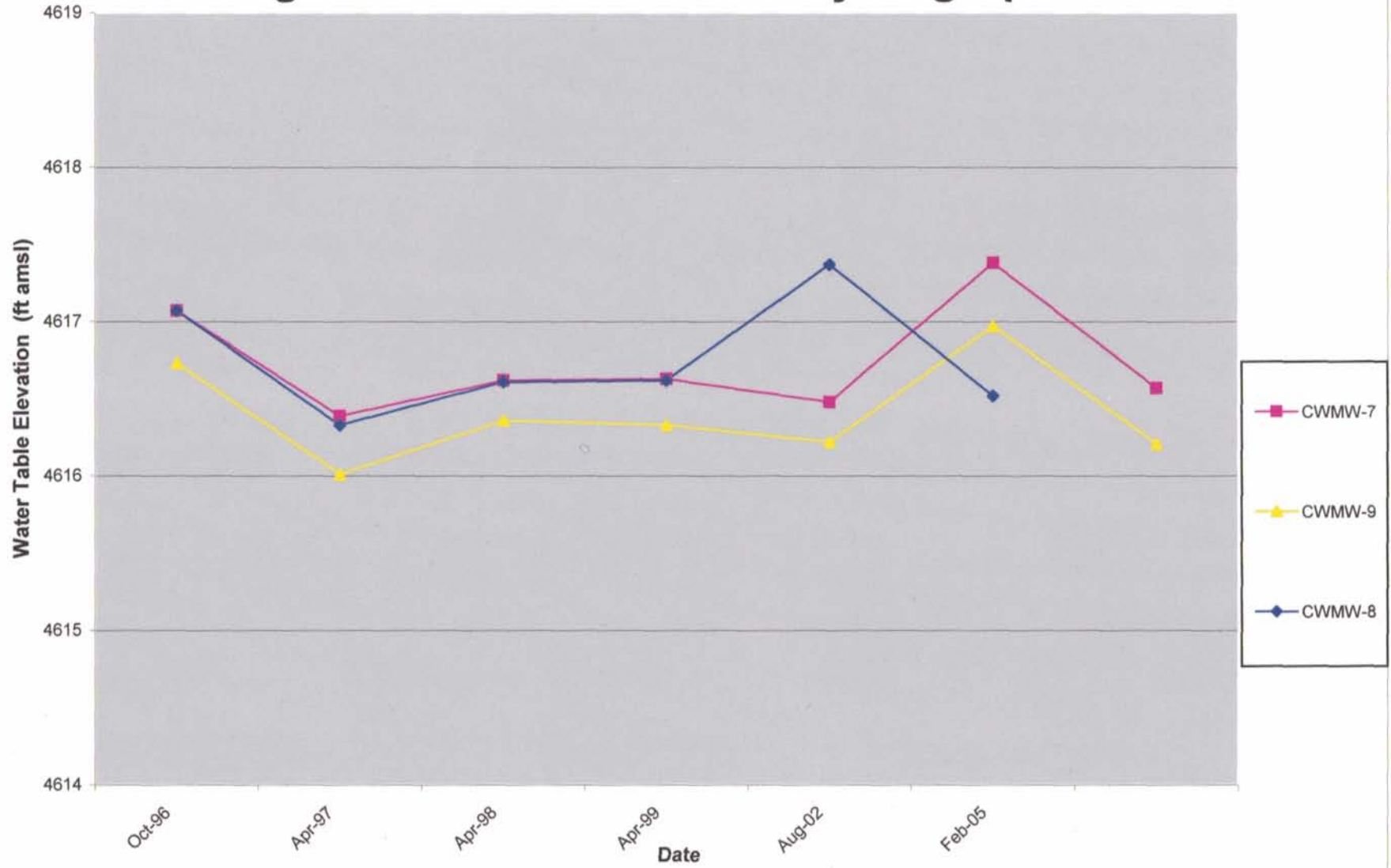
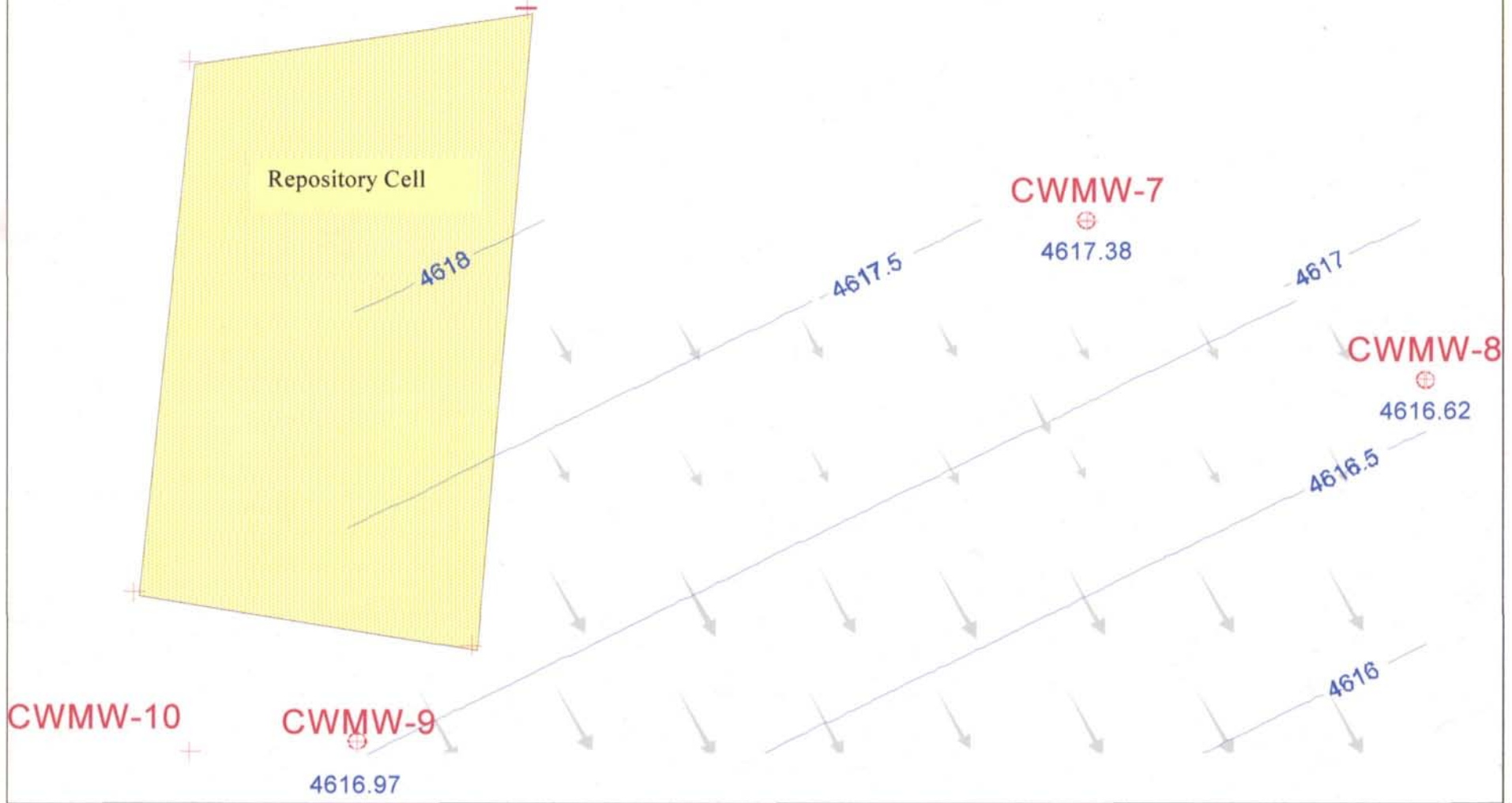


Figure 5: 2002 Potentiometric Contour for the Cal West Metals Site



Legend:

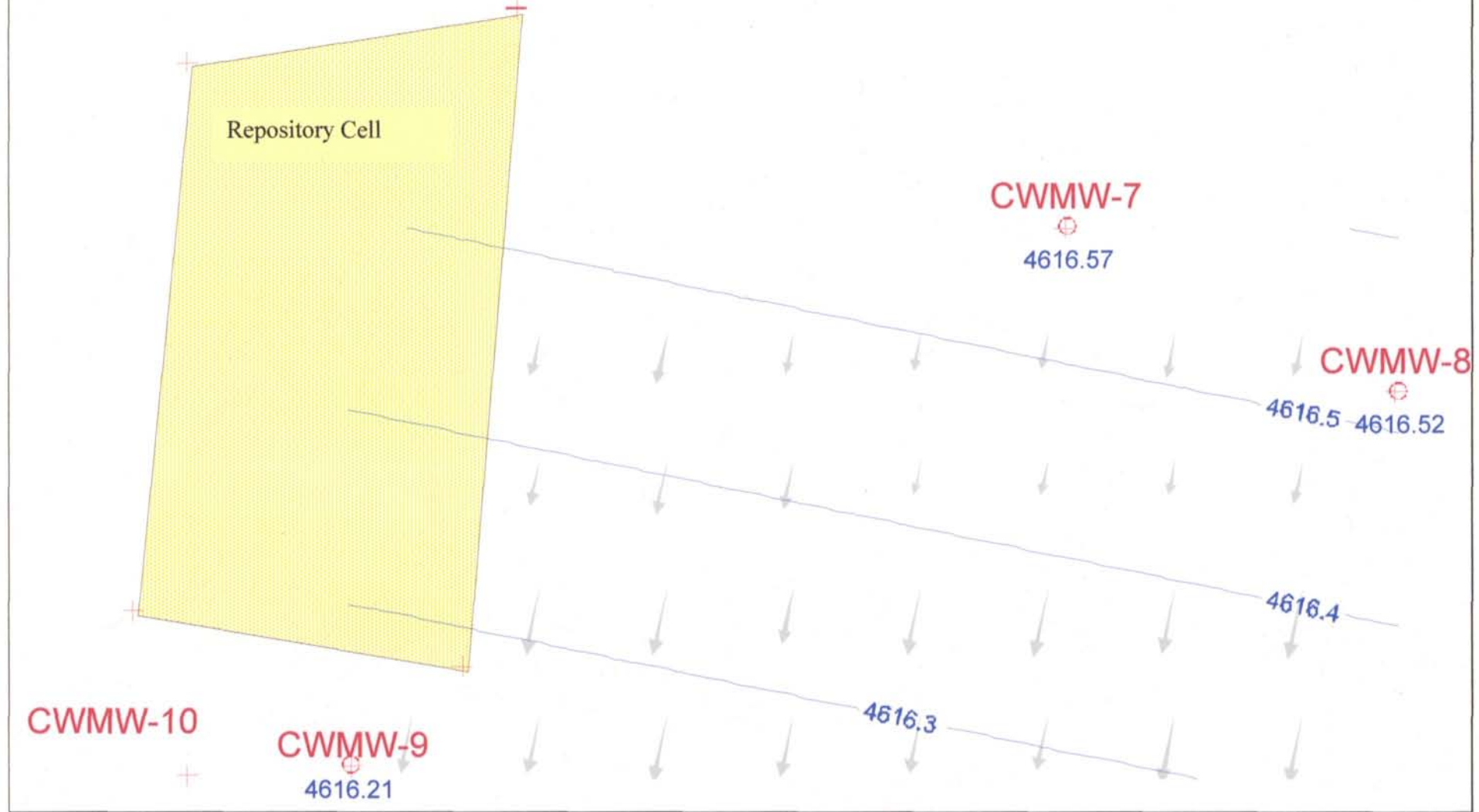
↘ Direction of groundwater flow

CWMW-7 (monitoring well id)

⊕ (Monitoring well location)

4617.38 (water table elevation)

Figure 6: 2005 Potentiometric Contour Map for the Cal West Metals Site



Legend:

Direction of groundwater flow



CWMW-9



4616.21

(monitoring well id)

(monitoring well location)

(water table elevation)

ATTACHMENT I
DOCUMENTS REVIEWED

EPA, 2000. web site for Record of Decision Abstracts Cal West Metals (USSBA).
www.epa.gov/superfund/sites/rodsites.0604050.htm. April 20, 2000.

EPA, 2001. Comprehensive Five-Year Review Guidance. EPA540R-98-050, OSWER Directive
9355.7-03B-P. June 2001.

EPA, 2000. First Five Year Review Report. September 20, 2000.

NMED, 1997. Operation and Maintenance Manual. March 21, 1997.

EPA, 1995. Preliminary Closeout Report Cal West Metals. September 1995.

EPA 1996. Final Closeout Report For Cal West Metals. June 1996.

EPA, 1992. September 29, 1992 Record of Decision For the Cal West Metals Superfund Site.
September 29, 1992.

NMED, Field Log Book entries 1996 to 2005.

NMED, 1992. Remedial Investigation/Feasibility Study Phase II. April 23, 1992.

NMED, 1990. Remedial Investigation/Feasibility Study Phase I

NMED, 1986. Site Inspection Follow-up.

NMED, 1985. CERCLA Site Inspection. August 1985.

WasteLan (CERCLIS)

ATTACHMENT 2
DRAFT RESTRICTIVE COVENANT

JERRY A. ARMIJO, P.A.
ATTORNEY AT LAW
205 FISHER N.W.
P.O. BOX 773
SOCORRO, NEW MEXICO 87801
(505) 835-1400
FAX (505) 835-0319

RECEIVED
AUG 04 2005

BY:

August 2, 2005

Sabino Rivera
New Mexico Environment Department
Ground Water Quality Bureau
Superfund Oversight Section
P.O. Box 26110
Santa Fe, NM 87502

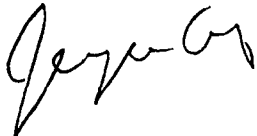
RE: Restrictive Covenant

Dear Mr. Rivera:

As City Attorney for Socorro, I have drafted the enclosed Restrictive Covenant which we would record with the Clerk of Socorro County in accordance with your request.

Please review the same and advise whether my document is sufficient for your purposes. Thank you.

Sincerely yours,



Jerry A. Armijo

enclosure

cc: City of Socorro

jg

RECEIVED
AUG 04 2005
BY:

RESTRICTIVE COVENANT

THIS RESTRICTIVE COVENANT is executed this _____ day of August, 2005, by the CITY OF SOCORRO, a municipality formed and existing under the laws of the State of New Mexico ("Declarant").

WHEREAS, pursuant to a Special Warranty Deed executed May 29, 1997 and recorded with the Clerk of Socorro County, New Mexico, at Book 452, Pages 1191-1192, the United States Small Business as Grantor conveyed to Declarant a tract of land in Socorro County, New Mexico containing 43.641 acres, more or less, commonly known as the Cal West Metals Superfund Site; and

WHEREAS, a particular portion of the Cal West Metals Superfund Site is subject to certain restrictions, as evidenced by the existence of a remedial encapsulation ("Cap") designed to permanently insulate certain contaminants; and

WHEREAS, the New Mexico Environment Department Ground Water Quality Bureau Superfund Oversight Section ("NMED") has requested that Declarant file for record a notice to any and all subsequent owners, lessors or holders in due course of the Cal West Metals Superfund Site that certain activities of disturbance shall not occur; and

WHEREAS, Declarant hereby provides notice in recordable form to comply with the NMED request.

NOW THEREFORE Declarant hereby declares the following covenant, condition and restriction which shall run with and be appurtenant to the Cal West Metals Superfund Site:

1. **Notice.** This document shall serve as notice to any and all subsequent owners, lessors or holders in due course of the Cal West Metals Superfund Site, that all such parties shall not disturb said concrete Cap nor excavate under, or within ten feet (10') about, or under, the outer perimeters of such encasement, for any reason. The foregoing shall not prevent or preclude construction above said encasement, so long as the subsistence of the Cap is ensured against a breach. The Cap is more particularly described as Exhibit "A" incorporated herein and attached hereto.

DATED this _____ day of August, 2005.

CITY OF SOCORRO

By: _____
Ravi Bhasker, Mayor

ATTESTED BY:

George Patrick Salome, City Clerk

STATE OF NEW MEXICO)
)ss.
COUNTY OF SOCORRO)

This instrument was acknowledged before me on August _____, 2005, by Ravi Bhasker, Mayor of the City of Socorro, a municipality formed and existing under the laws of the State of New Mexico.

Notary Public
My commission expires: _____

RECEIVED
AUG 04 2005
BY:

RESTRICTIVE COVENANT

THIS RESTRICTIVE COVENANT is executed this _____ day of August, 2005, by the CITY OF SOCORRO, a municipality formed and existing under the laws of the State of New Mexico ("Declarant").

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DATED this _____ day of August, 2005.

CITY OF SOCORRO

By: _____
Ravi Bhasker, Mayor

ATTESTED BY:

George Patrick Salomé, City Clerk

STATE OF NEW MEXICO)
)ss.
COUNTY OF SOCORRO)

This instrument was acknowledged before me on August _____, 2005, by Ravi Bhasker, Mayor of the City of Socorro, a municipality formed and existing under the laws of the State of New Mexico.

Notary Public
My commission expires: _____

ATTACHMENT 3
INTERVIEW RECORD FORMS

INTERVIEW RECORD

Site Name: Cal West Metals		EPA ID No.: NMD097960272	
Subject: Site Status/2 nd Five-Year Review		Time: 2:45 p.m.	Date: 5/19/05
Type: Telephone <input checked="" type="checkbox"/> Visit Other:			
Location of Visit: Cal West Metals			
Contact Made By			
Name: Sabino Rivera		Title: Environmental Scientist	Organization: NMED/SOS
Individual Contacted			
Name: Ravi Bhasker/Patrick Salome		Title: Mayor/City Clerk	Organization: City of Socorro
Telephone No.: 505-838-7526 Fax No.: 505-838-1606 E-Mail Address: cityofsocorro@hotmail.com Street Address: P.O. Box K, 302 Main Street City, State, Zip: Socorro, NM 87801			
Summary Of Conversation			
Question 1: What is your impression of the project? (general sentiment) It was a great project, it got the site cleaned up.			
Question 2: What effect have site operations had on the surrounding community? There are about eight jobs at the Site due to the current tenant, Ezell Aluminum Fabrication. New Mexico Tech has inquired about the site for constructing a mining museum. The site's close proximity to the truck stop has made it attractive for prospective tenants.			
Question 3: Are you aware of any community concerns regarding the site or its operation and administration? None			
Question 4: Are you aware of any events, incidents, or activities at the site such as vandalism, trespassing, or emergency responses from local authorities? If so please give details. Graffiti on the pump house.			
Question 5: Do you feel well informed about the site's activities and progress? Yes.			
Question 6: Do you have any comments, suggestions, or recommendations regarding the site's management or operation? None.			

INTERVIEW RECORD

Site Name: Cal West Metals		EPA ID No.: NMD097960272	
Subject: Site Status/2 nd Five-Year Review	Time:	Date: July 7, 2005	
Type: Telephone	<input checked="" type="checkbox"/> Visit	Other:	
Location of Visit: Cal West Metals			
Contact Made By			
Name: Sabino Rivera	Title: Environmental Scientist	Organization: NMED/SOS	
Individual Contacted			
Name: Steve Steinbach	Title: Owner of Coyote Moon Cafe	Organization:	
Telephone No.: 505-835-2536 Fax No.: E-Mail Address: Street Address: Frontage Road City, State, Zip: Lemitar, NM 87823			
Summary Of Conversation			
<p>Question 1: What is your impression of the project? (general sentiment) There was a lot of money spent on the project although a good job was done. There was nothing spared to get the job done right. Mr. Steinbach mentioned that there are earthquakes in the Socorro area that might affect the repository cell.</p> <p>Question 2: What effect have site operations had on the surrounding community? None</p> <p>Question 3: Are you aware of any community concerns regarding the site or its operation and administration? None</p> <p>Question 4: Are you aware of any events, incidents, or activities at the site such as vandalism, trespassing, or emergency responses from local authorities? If so please give details. Don't know of any.</p> <p>Question 5: Do you feel well informed about the site's activities and progress? It's the states job to determine if the Site is safe.</p> <p>Question 6: Do you have any comments, suggestions, or recommendations regarding the site's management or operation? None</p>			

INTERVIEW RECORD

Site Name: Cal West Metals		EPA ID No.: NMD097960272	
Subject: Site Status/2 nd Five-Year Review		Time: 10:58 am	Date: 7/28/05
Type: <input checked="" type="checkbox"/> Telephone <input type="checkbox"/> Visit <input type="checkbox"/> Other:			
Location of Visit: Cal West Metals			
Contact Made By			
Name: Sabino Rivera		Title: Environmental Scientist	Organization: NMED/SOS
Individual Contacted			
Name: Jody Gutierrez		Title: Citizen	Organization:
Telephone No.: (505) 835-8940			
Fax No.:			
E-Mail Address:			
Street Address:			
City, State, Zip: Lemitar, NM			
Summary Of Conversation			
Question 1: What is your impression of the project? (general sentiment) It was a great idea to get it cleaned up.			
Question 2: What effect have site operations had on the surrounding community? No idea, although she remembers concerns from the community regarding birth defects.			
Question 3: Are you aware of any community concerns regarding the site or its operation and administration? None			
Question 4: Are you aware of any events, incidents, or activities at the site such as vandalism, trespassing, or emergency responses from local authorities? If so please give details. None			
Question 5: Do you feel well informed about the site's activities and progress? I suppose.			
Question 6: Do you have any comments, suggestions, or recommendations regarding the site's management or operation? It was great to put the site back to use instead of letting the buildings deteriorate.			

ATTACHMENT 4
SITE INSPECTION CHECKLIST

Cal West Metals Five-Year Review Site Inspection Checklist

Please note that "O&M" is referred to throughout this checklist. At sites where Long-Term Response Actions are in progress, O&M activities may be referred to as "system operations" since these sites are not considered to be in the O&M phase while being remediated under the Superfund program. N/A means "not applicable."

I. SITE INFORMATION	
Site Name: Cal West Metals	EPA ID: NMD097960272
City/State: Lemitar, New Mexico	Date of Inspection: 5/19/05
Agency Completing 5 Year Review: NMED	Weather/temperature: sunny, 96° Fahrenheit
Remedy Includes: (Check all that apply) <input checked="" type="checkbox"/> Landfill cover/containment <input type="checkbox"/> Access controls <input type="checkbox"/> Institutional controls <input type="checkbox"/> Groundwater pump and treatment <input type="checkbox"/> Surface water collection and treatment <input type="checkbox"/> Other:	
Attachments: <input type="checkbox"/> Inspection team roster attached <input checked="" type="checkbox"/> Site map attached	
II. INTERVIEWS (Check all that apply)	
1. O&M site manager: Name: Title: Date: Interviewed: <input type="checkbox"/> at site <input type="checkbox"/> at office <input type="checkbox"/> by phone Phone Number: <u>Problems, suggestions:</u> <input type="checkbox"/> Additional report attached (if additional space required).	
2. O&M staff: Name: Title: Date: Interviewed: <input type="checkbox"/> at site <input type="checkbox"/> at office <input type="checkbox"/> by phone Phone Number: <u>Problems, suggestions:</u> <input type="checkbox"/> Additional report attached (if additional space required).	

3. **Local regulatory authorities and response agencies** (i.e., State and Tribal offices, emergency response office, police department, office of public health or environmental health, zoning office, recorder of deeds, or other city and county offices, etc.) Fill in all that apply.

Agency: City of Socorro Waste Water Treatment Plant

Contact:

Name: Richard Sanchez

Title: Superintendent

Date: May 19, 2005

Phone Number: (505) 835-0240

Problems, suggestions: Additional report attached (if additional space required).

Agency: City of Socorro City Clerk

Contact:

Name: Patrick Salome Jr.

Title: City Clerk

Date: May 19, 2005

Phone Number: (505) 835-0240

Problems, suggestions: Additional report attached (if additional space required).

Agency:

Contact:

Name:

Title:

Date:

Phone Number:

Problems, suggestions: Additional report attached (if additional space required).

Agency:

Contact:

Name:

Title:

Date:

Phone Number:

Problems, suggestions: Additional report attached (if additional space required).

4. **Other interviews** (optional) N/A Additional report attached (if additional space required).

Mayor Ravi Bhasker and City Clerk Patrick Salome ;Steve Steinbach, citizen; Jody Gutierrez, citizen

III. ONSITE DOCUMENTS & RECORDS VERIFIED (Check all that apply)			
1. O&M Documents	<input checked="" type="checkbox"/> O&M Manual	<input checked="" type="checkbox"/> Readily available	<input checked="" type="checkbox"/> Up to date
	<input checked="" type="checkbox"/> As-Built Drawings	<input type="checkbox"/> Readily available	<input checked="" type="checkbox"/> Up to date
	<input type="checkbox"/> Maintenance Logs	<input type="checkbox"/> Readily available	<input type="checkbox"/> Up to date
Remarks: In NMED site files			
2. Health and Safety Plan Documents	<input checked="" type="checkbox"/> Site-Specific Health and Safety Plan	<input checked="" type="checkbox"/> Readily available	<input checked="" type="checkbox"/> Up to date
	<input type="checkbox"/> Contingency plan/emergency response plan	<input type="checkbox"/> Readily available	<input type="checkbox"/> Up to date
Remarks: In NMED site files.			
3. O&M and OSHA Training Records	<input type="checkbox"/> Readily available	<input type="checkbox"/> Up to date	<input type="checkbox"/> N/A
Remarks:			
4. Permits and Service Agreements	<input type="checkbox"/> Air discharge permit	<input type="checkbox"/> Readily available	<input type="checkbox"/> Up to date
	<input type="checkbox"/> Effluent discharge	<input type="checkbox"/> Readily available	<input type="checkbox"/> Up to date
	<input type="checkbox"/> Waste disposal, POTW	<input type="checkbox"/> Readily available	<input type="checkbox"/> Up to date
	<input type="checkbox"/> Other permits	<input type="checkbox"/> Readily available	<input type="checkbox"/> Up to date
Remarks:			
5. Gas Generation Records	<input type="checkbox"/> Readily available	<input type="checkbox"/> Up to date	<input type="checkbox"/> N/A
Remarks:			
6. Settlement Monument Records	<input type="checkbox"/> Readily available	<input type="checkbox"/> Up to date	<input type="checkbox"/> N/A
Remarks:			
7. Groundwater Monitoring Records	<input checked="" type="checkbox"/> Readily available	<input checked="" type="checkbox"/> Up to date	<input type="checkbox"/> N/A
Remarks: In NMED site files			
8. Leachate Extraction Records	<input type="checkbox"/> Readily available	<input type="checkbox"/> Up to date	<input type="checkbox"/> N/A
Remarks:			
9. Discharge Compliance Records	<input type="checkbox"/> Readily available	<input type="checkbox"/> Up to date	<input type="checkbox"/> N/A
Remarks:			
10. Daily Access/Security Logs	<input type="checkbox"/> Readily available	<input type="checkbox"/> Up to date	<input type="checkbox"/> N/A
Remarks:			

IV. O&M Costs				<input checked="" type="checkbox"/> Applicable	<input type="checkbox"/> N/A
1. O&M Organization					
<input checked="" type="checkbox"/> State in-house		<input type="checkbox"/> Contractor for State			
<input type="checkbox"/> PRP in-house		<input type="checkbox"/> Contractor for PRP			
<input type="checkbox"/> Other:					
2. O&M Cost Records					
<input checked="" type="checkbox"/> Readily available		<input type="checkbox"/> Up to date		<input type="checkbox"/> Funding mechanism/agreement in place	
<u>Original O&M cost estimate:</u>			<input type="checkbox"/> Breakdown attached		
\$5000/year					
<u>Total annual cost by year for review period if available</u>					
<u>From (Date):</u>	<u>To (Date):</u>	<u>Total cost:</u>	<input type="checkbox"/> Breakdown attached		
January 1996	December 1996	\$6,800			
<u>From (Date):</u>	<u>To (Date):</u>	<u>Total cost:</u>	<input type="checkbox"/> Breakdown attached		
January 1997	December 1997	\$3,800			
<u>From (Date):</u>	<u>To (Date):</u>	<u>Total cost:</u>	<input type="checkbox"/> Breakdown attached		
January 1998	December 1998	\$3,500			
<u>From (Date):</u>	<u>To (Date):</u>	<u>Total cost:</u>	<input type="checkbox"/> Breakdown attached		
January 1999	December 1999	\$3,800			
<u>From (Date):</u>	<u>To (Date):</u>	<u>Total cost:</u>	<input type="checkbox"/> Breakdown attached		
January 2000	September 2000	\$3,500			
<u>From (Date):</u>	<u>To (Date):</u>	<u>Total cost:</u>	<input type="checkbox"/> Breakdown attached		
September 2000	September 2005	\$14,370			
3. Unanticipated or Unusually High O&M Costs During Review Period					<input checked="" type="checkbox"/> N/A
<u>Describe costs and reasons:</u>					
Six monitoring well were plugged and abandoned. Monitoring well CWMW-10 was installed in August 2005. All on-site monitoring wells were sampled for total metals, dissolved metals, volatile organic compounds, and general water chemistry in August 2002. Four monitoring wells were sampled for total metals and dissolved metals in February 2005.					
V. ACCESS AND INSTITUTIONAL CONTROLS				<input checked="" type="checkbox"/> Applicable	<input type="checkbox"/> N/A
A. Fencing					
1.		<input checked="" type="checkbox"/> Gates secured		<input type="checkbox"/> N/A	
<u>Remarks:</u>					
Fencing in good condition					
B. Other Access Restrictions					

1.	Signs and other security measures	<input type="checkbox"/> N/A
	<u>Remarks:</u> Signs in good condition. Warning signs were secured and visible from a distance.	
C. Institutional Controls		
1.	Implementation and enforcement	
	Site conditions imply ICs not properly implemented:	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A
	Site conditions imply ICs not being fully enforced:	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A
	Type of monitoring (e.g, self-reporting, drive by):	
	Frequency: As needed	
	Responsible party/agency: City of Socorro	
	Contact: Patrick Salome	
	Name:	
	Title: City Clerk	
	Date:	
	Phone Number: (505) 835-0240	
	Reporting is up-to-date:	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> N/A
	Reports are verified by the lead agency:	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> N/A
	Specific requirements in deed or decision documents have been met:	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> N/A
	Violations have been reported:	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> N/A
	<u>Other problems or suggestions:</u>	<input type="checkbox"/> Additional report attached (if additional space required).
2.	Adequacy	<input checked="" type="checkbox"/> ICs are adequate <input type="checkbox"/> ICs are inadequate <input type="checkbox"/> N/A
	<u>Remarks:</u> ICs are adequate if enforced. The NMED Office of General Counsel is reviewing draft language for a deed notice as the institutional control.	
D. General		
1.	Vandalism/trespassing	<input type="checkbox"/> Location shown on site map <input checked="" type="checkbox"/> vandalism evident
	<u>Remarks:</u> Graffiti noted on north building	
2.	Land use changes onsite	<input type="checkbox"/> N/A
	<u>Remarks:</u> Warehouse on southeast corner of fenced area is currently being utilized as a fabrication area for aluminum toolboxes and external gas tanks for pickup trucks.	
3.	Land use changes offsite	<input checked="" type="checkbox"/> N/A
	<u>Remarks:</u>	
VI. GENERAL SITE CONDITIONS		
A.	Roads	<input type="checkbox"/> Applicable <input checked="" type="checkbox"/> N/A
B.	Roads damaged	<input type="checkbox"/> Location shown on site map <input type="checkbox"/> Roads adequate <input type="checkbox"/> N/A
	<u>Remarks:</u>	

B. Other Site Conditions		
<u>Remarks:</u> It was noted that an animal burrowed 8" on the repository cell soil cover.		
VII. LANDFILL COVERS		
		<input checked="" type="checkbox"/> Applicable <input type="checkbox"/> N/A
A. Landfill Surface		
1. Settlement (Low spots) Areal extent: Depth: <u>Remarks:</u>	<input type="checkbox"/> Location shown on site map <input type="checkbox"/> Depth:	<input checked="" type="checkbox"/> Settlement not evident
2. Cracks Lengths: Widths: Depths: <u>Remarks:</u>	<input type="checkbox"/> Location shown on site map <input type="checkbox"/> Widths: <input type="checkbox"/> Depths:	<input checked="" type="checkbox"/> Cracking not evident
3. Erosion Areal extent: Depth: <u>Remarks:</u>	<input type="checkbox"/> Location shown on site map <input type="checkbox"/> Depth:	<input checked="" type="checkbox"/> Erosion not evident
4. Holes Areal extent: Depth: <u>Remarks:</u>	<input type="checkbox"/> Location shown on site map <input type="checkbox"/> Depth:	<input checked="" type="checkbox"/> Holes not evident
5. Vegetative Cover <input checked="" type="checkbox"/> Cover properly established <input type="checkbox"/> No signs of stress <input type="checkbox"/> Grass <input type="checkbox"/> Trees/Shrubs <u>Remarks:</u> Vegetation missing where recently excavated around edge of cell.		
6. Alternative Cover (armored rock, concrete, etc.) <u>Remarks:</u>		<input checked="" type="checkbox"/> N/A
7. Bulges Areal extent: Height: <u>Remarks:</u>	<input type="checkbox"/> Location shown on site map <input type="checkbox"/> Height:	<input checked="" type="checkbox"/> Bulges not evident

B Wet Areas/Water Damage <input type="checkbox"/> Wet areas <input type="checkbox"/> Ponding <input type="checkbox"/> Seeps <input type="checkbox"/> Soft subgrade <u>Remarks:</u>		<input type="checkbox"/> Location shown on site map <input type="checkbox"/> Location shown on site map <input type="checkbox"/> Location shown on site map <input type="checkbox"/> Location shown on site map	<input checked="" type="checkbox"/> Wet areas/water damage not evident Areal extent: Areal extent: Areal extent: Areal extent:
B Slope Instability Areal extent: <u>Remarks:</u>		<input type="checkbox"/> Slides <input type="checkbox"/> Location shown on site map	<input checked="" type="checkbox"/> No evidence of slope instability
B Benches (Horizontally constructed mounds of earth placed across a steep landfill side slope to interrupt the slope in order to slow down the velocity of surface runoff and intercept and convey the runoff to a lined channel.) <input type="checkbox"/> Applicable <input checked="" type="checkbox"/> N/A			
1. Flows Bypass Bench <u>Remarks:</u>		<input type="checkbox"/> Location shown on site map	<input type="checkbox"/> N/A or okay
2. Bench Breached <u>Remarks:</u>		<input type="checkbox"/> Location shown on site map	<input type="checkbox"/> N/A or okay
3. Bench Overtopped <u>Remarks:</u>		<input type="checkbox"/> Location shown on site map	<input type="checkbox"/> N/A or okay
C Letdown Channels (Channel lined with erosion control mats, riprap, grout bags, or gabions that descend down the steep side slope of the cover and will allow the runoff water collected by the benches to move off of the landfill cover without creating erosion gullies.) <input type="checkbox"/> Applicable <input checked="" type="checkbox"/> N/A			
1. Settlement Areal extent: <u>Remarks:</u>		<input type="checkbox"/> Location shown on site map Depth:	<input type="checkbox"/> No evidence of settlement
2. Material Degradation Material type: <u>Remarks:</u>		<input type="checkbox"/> Location shown on site map Areal extent:	<input type="checkbox"/> No evidence of degradation
3. Erosion Areal extent: <u>Remarks:</u>		<input type="checkbox"/> Location shown on site map Depth:	<input type="checkbox"/> No evidence of erosion

<p>4. Undercutting Areal extent: Depth: Remarks:</p>	<p><input type="checkbox"/> Location shown on site map <input type="checkbox"/> No evidence of undercutting</p>	
<p>5. Obstructions Type: Areal extent: Height: Remarks:</p>	<p><input type="checkbox"/> Location shown on site map</p>	<p><input type="checkbox"/> N/A</p>
<p>6. Excessive Vegetative Growth <input type="checkbox"/> Evidence of excessive growth <input type="checkbox"/> Location shown on site map Remarks:</p>	<p><input checked="" type="checkbox"/> No evidence of excessive growth <input type="checkbox"/> Vegetation in channels but does not obstruct flow Areal extent:</p>	
<p>D. Cover Penetrations</p>		<p><input type="checkbox"/> Applicable <input checked="" type="checkbox"/> N/A</p>
<p>1. Gas Vents <input type="checkbox"/> Active <input type="checkbox"/> Passive <input type="checkbox"/> Properly secured/locked <input type="checkbox"/> Evidence of leakage at penetration Remarks:</p>	<p><input type="checkbox"/> Routinely sampled <input type="checkbox"/> Functioning <input type="checkbox"/> Needs O&M</p>	<p><input type="checkbox"/> Good condition <input type="checkbox"/> N/A</p>
<p>2. Gas Monitoring Probes <input type="checkbox"/> Routinely sampled <input type="checkbox"/> Properly secured/locked <input type="checkbox"/> Evidence of leakage at penetration Remarks:</p>	<p><input type="checkbox"/> Functioning <input type="checkbox"/> Needs O&M</p>	<p><input type="checkbox"/> Good condition <input type="checkbox"/> N/A</p>
<p>3. Monitoring Wells (within surface area of landfill) <input checked="" type="checkbox"/> Routinely sampled <input type="checkbox"/> Properly secured/locked <input type="checkbox"/> Evidence of leakage at penetration Remarks: CWMW-7, CWMW-8, CWMW-9 have been routinely sample since 4/96. CWMW-10 was sampled on 2/2005. Rope on dedicated bailers will have to be replaced at the next sampling event.</p>	<p><input type="checkbox"/> Functioning <input type="checkbox"/> Needs O&M</p>	<p><input checked="" type="checkbox"/> Good condition <input type="checkbox"/> N/A</p>
<p>4. Leachate Extraction Wells <input type="checkbox"/> Routinely sampled <input type="checkbox"/> Properly secured/locked <input type="checkbox"/> Evidence of leakage at penetration Remarks:</p>	<p><input type="checkbox"/> Functioning <input type="checkbox"/> Needs O&M</p>	<p><input type="checkbox"/> Good condition <input type="checkbox"/> N/A</p>
<p>5. Settlement Monuments Remarks:</p>	<p><input type="checkbox"/> Located <input type="checkbox"/> Routinely surveyed</p>	<p><input type="checkbox"/> N/A</p>

E. Gas Collection and Treatment		<input type="checkbox"/> Applicable	<input checked="" type="checkbox"/> N/A
1. Gas Treatment Facilities		<input type="checkbox"/> N/A	
<input type="checkbox"/> Flaring <input type="checkbox"/> Thermal destruction <input type="checkbox"/> Collection for reuse <input type="checkbox"/> Good condition <input type="checkbox"/> Needs O& M <u>Remarks:</u>			
2. Gas Collection Wells, Manifolds and Piping		<input type="checkbox"/> N/A	
<input type="checkbox"/> Good condition <input type="checkbox"/> Needs O& M <u>Remarks:</u>			
3. Gas Monitoring Facilities (e.g., gas monitoring of adjacent homes or buildings)		<input type="checkbox"/> N/A	
<input type="checkbox"/> Good condition <input type="checkbox"/> Needs O& M <u>Remarks:</u>			
F. Cover Drainage Layer		<input type="checkbox"/> Applicable	<input checked="" type="checkbox"/> N/A
1. Outlet Pipes Inspected		<input type="checkbox"/> Functioning	<input type="checkbox"/> N/A
<u>Remarks:</u>			
2. Outlet Rock Inspected		<input type="checkbox"/> Functioning	<input type="checkbox"/> N/A
<u>Remarks:</u>			
G. Detention/Sedimentation Ponds		<input type="checkbox"/> Applicable	<input checked="" type="checkbox"/> N/A
1. Siltation		<input type="checkbox"/> Siltation evident	<input type="checkbox"/> N/A
Areal extent: Depth:			
<u>Remarks:</u>			
2. Erosion		<input type="checkbox"/> Erosion evident	<input type="checkbox"/> N/A
Areal extent: Depth:			
<u>Remarks:</u>			
3. Outlet Works		<input type="checkbox"/> Functioning	<input type="checkbox"/> N/A
<u>Remarks:</u>			
4. Dam		<input type="checkbox"/> Functioning	<input type="checkbox"/> N/A
<u>Remarks:</u>			
H. Retaining Walls		<input type="checkbox"/> Applicable	<input checked="" type="checkbox"/> N/A

1. Deformations	<input type="checkbox"/> Location shown on site map	<input type="checkbox"/> Deformation not evident
Horizontal displacement:	Vertical displacement:	Rotational displacement:
<u>Remarks:</u>		
2. Degradation	<input type="checkbox"/> Location shown on site map	<input type="checkbox"/> Degradation not evident
<u>Remarks:</u>		
I. Perimeter Ditches/Off-site discharge		<input checked="" type="checkbox"/> Applicable <input type="checkbox"/> N/A
1. Siltation	<input type="checkbox"/> Location shown on site map	<input checked="" type="checkbox"/> Siltation not evident
Areal extent:	Depth:	
<u>Remarks:</u>		
2. Vegetative Growth	<input type="checkbox"/> Location shown on site map	<input checked="" type="checkbox"/> Vegetation does not impede flow
Areal extent:	Type:	
<u>Remarks:</u>		
3. Erosion	<input type="checkbox"/> Location shown on site map	<input checked="" type="checkbox"/> Erosion not evident
Areal extent:	Depth:	
<u>Remarks:</u>		
4. Discharge Structure	<input checked="" type="checkbox"/> Location shown on site map	<input type="checkbox"/> N/A
<input type="checkbox"/> Functioning	<input checked="" type="checkbox"/> Good Condition	
<u>Remarks:</u>		
Berm on west side of cell to prevent catastrophic flooding.		
VIII. VERTICAL BARRIER WALLS		<input type="checkbox"/> Applicable <input checked="" type="checkbox"/> N/A
1. Settlement	<input type="checkbox"/> Location shown on site map	<input type="checkbox"/> Settlement not evident
Areal extent:	Depth:	
<u>Remarks:</u>		
2. Performance Monitoring		<input type="checkbox"/> N/A
<input type="checkbox"/> Performance not monitored		
<input type="checkbox"/> Performance monitored	Frequency:	
<input type="checkbox"/> Evidence of breaching	Head differential:	
<u>Remarks:</u>		
IX. GROUNDWATER/SURFACE WATER REMEDIES		<input type="checkbox"/> Applicable <input checked="" type="checkbox"/> N/A
A. Groundwater Extraction Wells, Pumps, and Pipelines		<input type="checkbox"/> Applicable <input type="checkbox"/> N/A

1.	Pumps, Wellhead Plumbing, and Electrical	<input type="checkbox"/> N/A
	<input type="checkbox"/> All required wells located <input type="checkbox"/> Good condition <input type="checkbox"/> Needs O& M	
	<u>Remarks:</u>	
2.	Extraction System Pipelines, Valves, Valve Boxes, and Other Appurtenances	<input type="checkbox"/> N/A
	<input type="checkbox"/> System located <input type="checkbox"/> Good condition <input type="checkbox"/> Needs O& M	
	<u>Remarks:</u>	
3.	Spare Parts and Equipment	<input type="checkbox"/> N/A
	<input type="checkbox"/> Readily available <input type="checkbox"/> Good condition	
	<input type="checkbox"/> Requires Upgrade <input type="checkbox"/> Needs to be provided	
	<u>Remarks:</u>	
B.	Surface Water Collection Structures, Pumps, and Pipelines	<input type="checkbox"/> Applicable <input checked="" type="checkbox"/> N/A
1.	Collection Structures, Pumps, and Electrical	<input type="checkbox"/> N/A
	<input type="checkbox"/> Good condition <input type="checkbox"/> Needs O& M	
	<u>Remarks:</u>	
2.	Surface Water Collection System Pipelines, Valves, Valve Boxes, and Other Appurtenances	<input type="checkbox"/> N/A
	<input type="checkbox"/> Good condition <input type="checkbox"/> Needs O& M	
	<u>Remarks:</u>	
3.	Spare Parts and Equipment	<input type="checkbox"/> N/A
	<input type="checkbox"/> Readily available <input type="checkbox"/> Good condition	
	<input type="checkbox"/> Requires Upgrade <input type="checkbox"/> Needs to be provided	
	<u>Remarks:</u>	
C.	Treatment System	<input type="checkbox"/> Applicable <input checked="" type="checkbox"/> N/A
1.	Treatment Train (Check components that apply)	
	<input type="checkbox"/> Metals removal <input type="checkbox"/> Oil/water separation <input type="checkbox"/> Bioremediation	
	<input type="checkbox"/> Air stripping <input type="checkbox"/> Carbon adsorbers <input type="checkbox"/> Filters (list type):	
	<input type="checkbox"/> Additive (list type, e.g., chelation agent, flocculent)	
	<input type="checkbox"/> Others (list):	
	<input type="checkbox"/> Good condition <input type="checkbox"/> Needs O&M	
	<input type="checkbox"/> Sampling ports properly marked and functional	
	<input type="checkbox"/> Sampling/maintenance log displayed and up to date	
	<input type="checkbox"/> Equipment properly identified	
	<input type="checkbox"/> Quantity of groundwater treated annually (list volume):	
	<input type="checkbox"/> Quantity of surface water treated annually (list volume):	
	<u>Remarks:</u>	

<p>2. Electrical Enclosures and Panels (properly rated and functional) <input type="checkbox"/> Good condition <input type="checkbox"/> Needs O & M Remarks:</p>	<p><input type="checkbox"/> N/A</p>
<p>3. Tanks, Vaults, Storage Vessels <input type="checkbox"/> Good condition <input type="checkbox"/> Proper secondary containment <input type="checkbox"/> Needs O&M Remarks:</p>	<p><input type="checkbox"/> N/A</p>
<p>4. Discharge Structure and Appurtenances <input type="checkbox"/> Good condition <input type="checkbox"/> Needs O & M Remarks:</p>	<p><input type="checkbox"/> N/A</p>
<p>5. Treatment Building(s) <input type="checkbox"/> Good condition (esp. roof and doorways) <input type="checkbox"/> Needs Repair <input type="checkbox"/> Chemicals and equipment properly stored Remarks:</p>	<p><input type="checkbox"/> N/A</p>
<p>6. Monitoring Wells (pump and treatment remedy) <input type="checkbox"/> All required wells located <input type="checkbox"/> Properly secured/locked <input type="checkbox"/> Functioning <input type="checkbox"/> Routinely sampled <input type="checkbox"/> Good condition <input type="checkbox"/> Needs O&M Remarks:</p>	<p><input type="checkbox"/> N/A</p>
<p>D. Monitored Natural Attenuation</p>	<p><input type="checkbox"/> Applicable <input checked="" type="checkbox"/> N/A</p>
<p>1. Monitoring Wells (natural attenuation remedy) <input type="checkbox"/> All required wells located <input type="checkbox"/> Properly secured/locked <input type="checkbox"/> Functioning <input type="checkbox"/> Routinely sampled <input type="checkbox"/> Good condition <input type="checkbox"/> Needs O&M Remarks:</p>	<p><input type="checkbox"/> N/A</p>
<p>X. OTHER REMEDIES <input type="checkbox"/> Applicable <input checked="" type="checkbox"/> N/A</p>	
<p>If there are remedies applied at the site which are not covered above, attach an inspection sheet describing the physical nature and condition of any facility associated with the remedy. An example would be soil vapor extraction.</p>	

XI. OVERALL OBSERVATIONS

A. Implementation of the Remedy

The remedy will eliminate the threat of exposure to the contaminants of concern through direct contact with or ingestion of contaminated site materials. Observed ground water monitoring results indicated that the remedy is functioning as designed.

B. Adequacy of O&M

Four monitoring wells sampled annually for the first five years, then every five years afterward for a total of 30 years. Results from second five year review of monitoring indicate no ground water contamination due to the site.

C. Early Indicators of Potential Remedy Failure

There were no indicators noted that would impact the remedy. Repository cell is in good condition.

D. Opportunities for Optimization

Implement institutional controls in property deeds prohibiting tampering with repository cell. Wells that are no longer required for O&M should be plugged to prevent conduits for contamination. Repository cell boundaries should be clearly marked and labeled to prevent digging or tampering with cell.

ATTACHMENT 5
SITE INSPECTION PHOTOGRAPHS



PHOTO 1 - PHOTO OF TEST PIT 1



PHOTO 2 - TEST PIT 2 SHOWING SOIL COVER AND TOP OF CEMENT COVER ON REPOSITORY



PHOTO 3 - PHOTO OF LOCATION WHERE ANIMAL BURROWED ON SURFACE OF REPOSITORY CELL



PHOTO 4 - Repository warning sign. Sign states "Repository cell, Do Not Dig or Trench, For Information Call 827-2911"



Photo 5 - Supply Well CWSW-1 with exposed two inch black PVC pipe and spigot.



Photo 6 - Supply well CWSW-2 with steel cover and lock installed



Photo 7 -
Middle building
being used for
welding operations.



Photo 8 - Four black drums with partially legible label that states "acid". The two blue drums are empty.